



## 253rd American Chemical Society National Meeting & Exposition

April 2-6, 2017 • San Francisco, CA  
#acsSanFran • [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)



Download the ACS  
San Francisco Mobile App or  
access the Digital Meeting Program  
at [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017) for up-to-date meeting information.

[www.acs.org/meetingapp](http://www.acs.org/meetingapp)



*\*Online version is also available for internet enabled devices*

# 253rd American Chemical Society National Meeting & Exposition

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## ACS OPERATIONS OFFICES

- Grand Hyatt Hotel San Francisco, Sausalito: 415-848-6227
- Hilton San Francisco Union Square, Nob Hill 1: 415-923-7550
- Hotel Nikko San Francisco, Lincoln Boardroom: 415-403-1813
- InterContinental San Francisco, Mission Room: 415-616-6576
- Marriott Union Square, City Suite: 415-398-8900 x7519
- San Francisco Marriott Marquis, Willow: 415-284-8053
- San Francisco Marriott Marquis, Awards Office, Laurel: 415-284-8013
- Moscone Center, South Lobby: 415-978-3600
- Moscone Center/West Building, Lobby: 415-348-4400
- Parc 55 San Francisco, Davidson: 415-403-6670
- Park Central San Francisco, Press Room: 415-618-6812

## INFORMATION CONTACTS

- Attendee Registration, Moscone Center, North Lobby: 415-978-3609
- Career Fair Information Center, Moscone Center, Halls B/C:  
415-978-3613
- Exhibitor Registration, Moscone Center, South Lobby: 415-978-3611
- Finance Office - Moscone Center, Room 110: 415-978-3608
- Host Local Section Booth, Moscone Center, North Lower Lobby:  
415-978-3616
- Housing Assistance, Moscone Center, North Lobby: 415-978-3610
- Member Services, Moscone Center, North Lobby: 415-978-3615
- Press Center, Moscone Center, South Lobby: 415-978-3605
- Shuttle Desk Moscone Center, Outside West Lobby: 415-348-4406
- Society Program Office, Mason Room: 415-923-7551
- Governance Office, Union Square 22: 415-923-7549

## ACS OFFICERS

Allison A. Campbell, President  
Peter K. Dorhout, President-Elect  
Donna J. Nelson, Immediate Past President  
Pat N. Confalone, Chair, Board of Directors  
Thomas M. Connelly, Executive Director & CEO  
Flint H. Lewis, Secretary & General Counsel  
Brian A. Bernstein, Treasurer & CFO

## American Chemical Society

1155 16th Street, NW, Washington, DC 20036  
Tel: 800-227-5558 (US only) or 202-872-4600

Fax: 202-872-4615 E-mail: [help@acs.org](mailto:help@acs.org) Website: [www.acs.org](http://www.acs.org)

The American Chemical Society is a self-governed individual membership organization of members at all degree levels and in all fields of chemistry. The Society provides a broad range of opportunities for peer interaction and career development, regardless of professional or scientific interests. The programs and activities conducted by ACS today are the products of a tradition of excellence in meeting member needs that dates from the Society's founding in 1876.

This On-site Meeting Program is published by the American Chemical Society as a service to its attendees. Information contained herein is subject to change without notice. While every effort is made to ensure accuracy, ACS makes no warranties, expressed or implied, related to the information. For the official technical program for the 253rd National Meeting & Exposition, refer to [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017). All San Francisco photos in this program are courtesy of the San Francisco Convention and Visitors Bureau and Shutterstock.



## Welcome to San Francisco and the 253rd ACS National Meeting

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**W**elcome to beautiful San Francisco for the 253rd ACS National Meeting. It is my pleasure to join all of you in this vibrant city, and a favorite location for our meetings.

Advanced Materials, Technologies, Systems & Processes is the theme of this meeting. Twenty nine technical divisions and six committees are hosting original programming, including 1,100 half-day oral sessions and 144 poster sessions. More than 14,500 papers and nearly 5,700 posters will be presented at the meeting. In addition to symposia, there are a number of special events planned throughout the week.

There are three Presidential Symposia that I encourage you to attend, as well as 14 symposia that I am recommending. Organized by the Division of Professional Relations, the LGBT Graduate & Postdoctoral Student Chemistry Research Symposium on Sunday and Monday will include scientific talks by LGBT graduate and postdoctoral students and a panel discussion on issues that affect LGBT students (Hotel Nikko San Francisco, Nikko Ballroom III). Sunday afternoon, Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal will assess the progress made in critical areas of chemistry since first highlighted in a 1995 issue of the journal (San Francisco Marriott Marquis, Golden Gate A). On Monday, Science for a Sustainable Energy Future will focus on scientific advances in energy storage and chemical and biological approaches to energy conversion (Moscone Center, Room 133).

On Sunday afternoon, please join your colleagues at noon for the ACS Board of Directors Regular Session as we hear from two renowned guest speakers: Joseph M. DeSimone presenting on the Future Fabricated with Light: The Launching of Carbon, and Anne Milasinic Andrews, talking about The Brain is More



**Allison A. Campbell**  
ACS President

Than a Computer (Moscone Center, Gateway Ballroom 103/104).

On Monday afternoon, Bradley D. Olsen from the Massachusetts Institute of Technology will present the Kavli Foundation Emerging Leader in Chemistry Lecture on Classical challenges in the physical chemistry of polymer networks. Following his presentation, Jennifer A. Doudna of the University of California, Berkeley will give the Fred Kavli Innovations in Chemistry Lecture on CRISPR systems: Nature's toolkit for genome engineering (Moscone Center, Gateway Ballroom 103/104).

Throughout the meeting, many education-focused programs for high school teachers, undergraduate and graduate students, postdocs, and chemical professionals will be offered. For job seekers and employers, the career fair will feature on-site interviews, one-on-one career assistance, and workshops. Please find time to walk the expo hall where more than 400 booths will showcase services, instruments, books, and lab equipment of more than 250 companies.

My personal thanks to the members of the Santa Clara Valley Section and California Section; the divisional program chairs and symposium chairs responsible for organizing the technical sessions; and the ACS staff for making it all happen. Thanks to you for contributing to the success of this meeting, and of course for attending.



Allison A. Campbell  
ACS President

## Welcome Message from Kathryn Beers, San Francisco Thematic Program Chair

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The Spring 2017 ACS National Meeting will be held April 2–6 in San Francisco, CA. The theme for the meeting is Advanced Materials, Technologies, Systems, and Processes.

The plenary session on Sunday afternoon, April 2, includes four invited lectures: Dr. Peter Green (National Renewable Energy Laboratory) will discuss “Clean energy challenge: An integrated approach involving basic research, innovation and human factors;” Dr. Jeffrey Linhardt (Verily Life Sciences) will discuss “Technology at the interface of microelectronics, life sciences, and big data: Materials challenges;” Dr. Ann-Christine Albertsson will discuss “From design and synthesis to advanced properties and sustainable polymeric materials;” Dr. Keith Watson (The Dow Chemical Company) will discuss “Fostering industrial and academic partnerships.”

The Kavli Foundation Lecture Series will be held Monday, April 3. The Kavli Foundation Emerging Leader in Chemistry Lecture by Prof. Bradley Olsen (Massachusetts Institute of Technology) on “Classical challenges in the physical chemistry of polymer networks” and the Fred Kavli Innovations in Chemistry Lecture by Dr. Jennifer Doudna (UC Berkeley, Lawrence



**Kathryn Beers**  
San Francisco Thematic  
Program Chair

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Berkeley National Lab) on “CRISPR systems: Nature’s toolkit for genome engineering”.

The technical program constructed by the ACS divisions includes 134 symposia that support the theme of the meeting. Divisions and committees with symposia supporting the theme include AGFD, ANYL, BIOT, CATL, CELL, CHED, CINF, COLL, COMP, ENFL, ENVR, HIST, I&EC, INOR, NUCL, ORGN, PHYS, PMSE, POLY, SCHB, and YCC. MPPG is cosponsoring a total of 27 symposia.

The program for the meeting and other information is available online at the website of the meeting, [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017).

I am very grateful to the members of the local section, the program chairs of the divisions and committees listed above, the thematic symposia chairs, and the ACS staff for their work in supporting the theme of this meeting. I look forward to meeting you in San Francisco!



*Kathryn Beers*  
Thematic Program Chair





## OFFICE OF THE GOVERNOR

April 2, 2017

### *American Chemical Society*

On behalf of the State of California, I am pleased to welcome you to the 253rd American Chemical Society (ACS) National Meeting & Exposition.

Since its inception in 1876, the ACS has supported chemists and the chemical enterprise by providing professional and academic support to a growing network of members. Scientific research and emerging technologies continue to spur economic growth in California and in the broader global community. I commend all those who have come together to discuss the power of chemistry and I applaud your efforts to foster the innovators and innovations of tomorrow.

Best wishes for a memorable and productive meeting.

Sincerely,

  
EDMUND G. BROWN JR.



## **GREETINGS FROM THE MAYOR OF SAN FRANCISCO**

On behalf of the City and County of San Francisco, it is my pleasure to welcome you to the 253<sup>rd</sup> National Meeting of the American Chemical Society, focused on *Advanced Materials, Technologies, Systems and Processes*, held on April 2-6, 2017

The American Chemical Society (ACS) is the world's largest scientific society and one of the world's leading sources of authoritative scientific information. ACS is at the forefront of the evolving worldwide chemical enterprise and the premier professional home for chemists, chemical engineers and related professions around the globe.

San Francisco is proud to host this valuable event as our City continues to be a leader in scientific innovation, and we welcome the gathering of the brightest minds in the chemical sciences.

Congratulations to the American Chemical Society for their dynamic and visionary commitment to improving the lives of others through the transforming power of chemistry. I commend all the individuals who helped make this event a true success, and I wish you all the best in your future endeavors!

With warmest regards,

A handwritten signature in black ink that reads "Edwin M. Lee".

Edwin M. Lee  
Mayor

# GENERAL MEETING INFORMATION

**YOUR MEETING REGISTRATION** entitles you to a range of programming, including scientific sessions, invited symposia, poster sessions, special lectures and events, award presentations, workshops, and the exposition. Interact with chemical scientists from around the world by participating in social events, networking opportunities, exhibitor sessions, and educational activities, with many events offered at no additional charge. Certain workshops, short courses, and ticketed events require a separate entry fee, as indicated in this program.

## REGISTRATION

All attendees, including speakers and poster presenters, must register for the meeting to participate in the technical sessions. Sponsored speakers should contact their symposium organizer or division program chair to clarify the terms of their invitation and to determine who will complete the speaker's registration. Attendees must display their badge at all times for admission to all official ACS sessions and events.

**Early registration.** U.S. residents who registered by February 20 received their badge credentials by mail. International registrants (this includes Canada and Mexico) must pick up their badge credentials at ACS Attendee Registration.

**Standard & on-site registration.** Attendees who registered after February 20 must pick up their badge credentials on-site.

**Registration changes.** Attendees can modify their existing registration or generate a receipt from the registra-

tion website by following the instructions in their confirmation message. Attendees can also contact the ACS National Meeting Registration Center or update their registration on-site at ACS Attendee Registration. Bring your confirmation and/or badge credentials with you to the meeting for faster processing.

**Registration methods.** All registrants received a confirmation via the original method of registration.

**Internet.** Register online at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017) until April 6. A valid credit card is required to register online, and online registrations are real-time transactions.

**Telephone.** Call the ACS National Meeting Registration Center at 800-251-8629 (U.S./Canada only) or 508-743-0192 (international), Monday through Friday, 9:00 AM to 5:00 PM ET.

**Fax/mail.** Submit the registration form via fax by April 6 at 508-743-9604, or mail it to ACS Registration, c/o CDS, 107 Waterhouse Rd., Bourne, MA 02532.

**On-site.** Register during the meeting at ACS Attendee Registration at standard registration rates. ACS Attendee Registration will be open at the Moscone Center, North Lobby, on Saturday, 3:00 to 6:00 PM; Sunday, 7:30 AM to 7:30 PM; Monday, 7:30 AM to 9:00 PM; Tuesday, 7:30 AM to 5:00 PM; Wednesday, 7:30 AM to 4:00 PM; and Thursday, 7:30 AM to 1:00 PM.

**REGISTRATION PAYMENTS.** Registration fees can be paid by check, money order, credit card (American Express, Discover, MasterCard, or VISA), or bank wire transfer. Make checks payable in U.S. dollars to the American Chemical Society, and include a completed registration form with each payment. Registration fees should not be combined with any other payment (such as membership dues). Purchase orders and training requests are not accepted. For wire transfer payments, contact the ACS Finance Department at 202-872-6106 or e-mail [bankwires@acs.org](mailto:bankwires@acs.org). **Registration forms received without payment will not be processed.**

**REGISTRATION ASSISTANCE.** The ACS National Meeting Registration Center will be available from 9:00 AM

## BADGES

All attendees are required to wear their badges for all technical sessions, poster sessions, and other official meeting events. Our badge holders are recyclable and biodegradable. Please discard appropriately.

REGISTRATION CATEGORY	FEE	
	EARLY BY FEB. 20	STANDARD FEB. 21
<b>MEMBERS</b>		
ACS affiliate	\$445	\$535
Postdoctoral member	445	535
Emeritus or retired member	225	270
50-year member	No fee	No fee
Unemployed member (Dues waiver required)	No fee	No fee
Precollege teacher	110	110
Graduate student	225	225
Undergraduate	110	110
One-day registrant	225	270
<b>NONMEMBERS</b>		
Chemical scientist	\$780	\$935
Postdoctoral scientist	780	935
Visitor: Nonchemical scientist or chemical technician	445	535
Precollege teacher	110	110
Graduate student	445	445
Undergraduate	225	225
One-day registrant	445	535
Guest of registrant*	45	45
<b>EXPOSITION-ONLY VISITORS</b>		
Adult, exposition only	\$60	\$60
Student, exposition only	30	30

\* Registration is restricted to a spouse or family member of registered attendee having no affiliation with the field of chemical science and who is not eligible to become an ACS member. Only one guest registration is allowed per registering attendee, and the guest registration must be completed and paid by the registering attendee at time of original registration.

### ACS BADGE REPRINT POLICY

**1st badge reprint:** no charge, upon proper identification and confirmation of registration payment, a duplicate badge is issued.

**2nd badge reprint:** attendee completes a duplicate badge request, shows identification (which we copy), a charge of \$25 is paid (cash/credit card), a duplicate badge is issued.

**3rd badge reprint:** attendee completes a duplicate badge request, shows identification (which we copy), a charge of \$50 is paid (cash/credit card), a duplicate badge is issued.

**For any badge beyond the 3rd:** attendee completes a duplicate badge request, shows identification (which we copy), a charge of \$100 is paid (cash/credit card), a duplicate badge is issued.

## MEETING INFO ON THE WEB

Registration, housing, technical programming, special events, participating exhibitors, and other meeting details are available at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017).

## GENERAL INFORMATION

to 5:00 PM ET by telephone, fax, mail, or e-mail. Service representatives can be reached by phone at 800-251-8629 (U.S./Canada only) or 508-743-0192 (international), by fax at 508-743-9604, by e-mail at [acs@xpressreg.net](mailto:acs@xpressreg.net), or by mail at ACS Registration, c/o CDS, 107 Waterhouse Rd., Bourne, MA 02532.

### Registration cancellations/refunds.

All cancellations and refund requests must be submitted in writing by March 6 to guarantee the registrant a full refund less a \$50 administrative fee. Refund requests made after March 6 will not be honored. Your registration badge credentials and a copy of your registration confirmation must be attached to your request. All refunds will be issued via the original payment method, and refunds will be processed within 30 days after the meeting. Send your request to ACS Registration Cancellation, c/o CDS, 107 Waterhouse Rd., Bourne, MA 02532, or fax it to 508-743-9604 (save your fax confirmation sheet).

### ONSITE PROGRAM BOOK NO LONGER FREE

Copies of the on-site program book will be available for \$10 until February 20 through the online registration process. The standard fee of \$20 will apply after February 20. In response to numerous requests, the author index will be included in the printed program booklet. Satellite registration and on-site program purchase/pickup locations will be located at the Moscone Center, North Lobby; Hilton Union Square, West Lounge; and Grand Hyatt San Francisco, Theater Level. Credit cards, debit cards, and checks will be accepted at these locations. We encourage meeting attendees to download the ACS San Francisco mobile app or access the ACS San Francisco digital meeting program with author index in early April. These digital options will provide quick access to the full technical program, along with special features so you can easily build your schedule.

### Social event ticket cancellations/refunds.

Social event cancellations received by March 6 entitle the registrant to a full refund. Refund requests made after March 6 will not be honored. Event tickets and a copy of your registration confirmation must be attached to your request.

**Abstract cancellations/refunds.** Abstract USB flash drives (thumb drives) and their shipping costs are nonrefundable.

**MEMBER REGISTRATION.** You must enter a valid ACS membership number during registration to register as a member and receive your ACS member discount on registration fees. Your registration options will automatically appear in accordance with your current membership status in the ACS membership database. Your ACS membership number can be found on your ACS membership card or your *Chemical & Engineering News* address label. Address questions about your membership status to ACS Member Services at 800-333-9511 (U.S./Canada only) or 614-447-3776 (international) or by e-mail at [service@acs.org](mailto:service@acs.org).

**NONMEMBER REGISTRATION.** Save money on discounted registration fees by joining ACS. You can join ACS now through the online ACS membership application at [www.acs.org/join](http://www.acs.org/join) or by contacting ACS Member Services and then registering for the meeting at your member rate. To receive your meeting discount, you must join the society before you register for the meeting. New memberships or questions about membership status should be handled through ACS Member Services at 800-333-9511 (U.S./Canada only) or 614-447-3776 (international) or by e-mail at [service@acs.org](mailto:service@acs.org).

**PRESS/MEDIA REGISTRATION.** Press registration is complimentary for credentialed members of the news media who are approved by the ACS Office of Communications (restricted to reporters and editors working full-time for print or broadcast news). Press badges may be picked up with valid media credentials from the Press Room at the Moscone Center. For more information, visit [www.acs.org/pressroom](http://www.acs.org/pressroom).

**EXPO-ONLY ADMISSION.** All meeting attendees with a valid badge receive complimentary admittance into the exposition as part of their registration. Individuals who want to visit the exposi-

tion without registering for the meeting's technical sessions can register for an expo-only adult badge for \$60 or \$30 for students with school identification. Register online or in person at ACS Attendee Registration.

**EXHIBITOR REGISTRATION.** Exhibitor registration is handled exclusively through ACS National Expositions at [www.acs.org/expositions](http://www.acs.org/expositions).

**CAREER FAIR EMPLOYER REGISTRATION.** ACS Career Fair Employer registration is handled exclusively through ACS Careers at [www.acs.org/careers](http://www.acs.org/careers).

## ACCOMMODATIONS

**CONFERENCE DIRECT** is the official housing bureau for the ACS National Meeting in San Francisco. ACS does not endorse booking hotel reservations through any other sources. All attendees who made their reservation through ConferenceDirect will receive complimentary internet access in their sleeping rooms and will be automatically entered in the ACS Housing Drawing.

**ON-SITE HOUSING.** An onsite housing desk will be available during the meeting in the registration area of the Moscone Convention Center to assist with last-minute housing changes or needs.

**RESERVATION.** All registrants received confirmation for reservations made directly through ConferenceDirect. Each confirmation contains a unique number that is proof of your reservation through ConferenceDirect.

Published ACS rates apply to hotel stays from March 28 – April 8. To extend your stay beyond these dates, you must reserve additional nights directly through the hotel.

## ACS GREENER MEETINGS

The ACS Department of Meetings & Expositions Services and the Committee on Meetings & Expositions are committed to greener meetings. For each national meeting, we collaborate with the destination city, the convention center, and our hotel and vendor partners to reduce our environmental footprint and raise the bar for industry sustainability practices.



## GENERAL INFORMATION

Interested in learning more about how we're leading the way? Go to [www.acs.org/greenermeetings](http://www.acs.org/greenermeetings) to read about our greener meeting initiatives and access our annual Event Sustainability Report.

For its efforts, ACS has been recognized as a cowinner of the 2016 UFI Sustainable Development Award. Here are a few reasons why:

- ACS seeks sustainable convention center venues to track energy, waste, and water data for each meeting.
- ACS offsets staff event emissions in partnership with American Forests (over 16,000 trees planted since 2014) and shuttle emissions in partnership with Transportation Management Services (TMS) and carbonfund.org. In 2016, ACS and its partners indirectly offset 3,270 metric tons of CO<sub>2</sub>.
- ACS engages hotel partners to survey and collect information on sustainability initiatives and perform on-site walkthroughs of hotel room block properties to encourage hotels to increase sustainability efforts and validate said efforts. These sustainability initiatives are provided to meeting attendees through the Hotel Sustainability Green Grid, published on the ACS housing page. ACS collaborates with catering partners to bring as many local food items to all food and beverage functions during the meeting.

### TAKE THE ACS GREENER MEETINGS

**PLEDGE.** In 2016, 13,842 meeting attendees took the Greener Meetings Pledge, representing 47% of total attendees. As a result of attendee donations through American Forests, 3,714 trees were planted. Do your part and take the Greener Meetings Pledge during registration!

#### I pledge to:

- Take advantage of linen reuse initiatives at my hotel, turn off the lights when away from my room, and participate in any incentive programs for declining housekeeping service during my stay, such as Starwood's Make a Green Choice program.
- Responsibly dispose of recyclable materials (paper, plastic, glass, aluminum) in the Moscone Center and hotels.

- Use the meeting mobile app and digital program instead of the printed on-site program.
- Enjoy the city, burn calories, and reduce my carbon footprint by walking to and from my hotel.
- Use the ACS carbon-offset shuttle service provided by TMS when walking isn't an option.
- Bring a reusable water bottle to avoid the cost and waste associated with disposable, petroleum-based plastic water bottles.

Suggestions? Send them to the ACS Committee on Meetings & Expositions at [greenermeetings@acs.org](mailto:greenermeetings@acs.org).

## TRAVEL & TRANSPORTATION

**TRANSPORTATION DISCOUNTS.** ACS has negotiated special travel discounts with the following partners. To get the best rates and avoid service fees, we recommend making reservations online (except for Amtrak).

#### AIRLINES:

##### Delta

[delta.com/meeting](http://delta.com/meeting); 800-328-1111

Discount code: NMPBR

##### United Airlines

[united.com](http://united.com); 800-426-1122

Discount code: ZXMC508834

#### TRAIN:

##### Amtrak

800-872-7245

Discount code: X90C-958

(phone reservations only)

#### CAR RENTAL:

##### Avis

[avis.com](http://avis.com); 800-331-1600

Discount code: B923099

##### Hertz

[hertz.com](http://hertz.com); 800-654-2240

Discount code: 02UZ0016

#### AIRPORT GROUND TRANSPORTATION.

San Francisco International Airport is located 13 miles south of downtown San Francisco.

**Public transportation.** San Francisco has a comprehensive public transportation system that includes the Bay Area Rapid Transit (BART) system, Caltrain commuter rail, and SamTrans public bus service. For more information please visit [bit.ly/2jueoyY](http://bit.ly/2jueoyY).

**Taxi services.** Taxis depart from the designated taxi zones located at the roadway center islands on the arrivals and baggage claim level. Fares range from \$46.16–\$66.16. A \$2.00 exit surcharge is included in all San Francisco taxicab meter fares for rides originating from San Francisco International Airport.

**TRAVELING TO MEETING VENUES.** The Moscone Center is located at 747 Howard St., San Francisco, CA 94103.

**ACS shuttle.** Complimentary shuttle service will be provided between the Moscone Center and official ACS hotels, with the exception of hotels within walking distance.

**Parking.** There is no parking provided at the Moscone Center for attendees or exhibitors. Nearby parking garages are listed on the Moscone Center website.

## ACS MEMBER SERVICES

**ACS MEMBER SERVICES.** ACS staff can assist you on-site with joining ACS, renewing memberships, completing adjustments to member records, and answering general membership questions. ACS members receive discounted rates when registering for the meeting.

ACS Member Services is located in the North Lobby near attendee registration in the Moscone Center and is open Saturday, April 1, 3:00 to 6:00 PM; Sunday, April 2, 7:30 AM to 7:30 PM; Monday, April 3, 7:30 AM to 9:00 PM; Tuesday, April 4, 7:30 AM to 5:00 PM; Wednesday, April 5, 7:30 AM to 4:00 PM; and Thursday, April 6, 7:30 AM to 1:00 PM.

#### ONLINE SOCIAL NETWORKING TOOLS.

Start discussions and connect with other attendees at the ACS Network and the ACS Facebook page. Follow ACS national meetings on Twitter. Read, comment on, and share C&EN's coverage of ACS meetings.

#### ATTENDEE NATIONAL MEETING

**E-NEWSLETTER.** Receive official updates on ACS national meetings, including locations, registration and accommodation dates, information and discounts, resources, and event details. You can sign up and manage your subscriptions with your free ACS ID. E-mail [meetingnews@acs.org](mailto:meetingnews@acs.org) to subscribe.

**BUSINESS CENTER.** The Moscone Business Center provides full service business needs for your convenience, including photocopying, faxing, computer workstations, and printing services. Shipping is provided through UPS. Office supplies and souvenirs are also available for purchase.

**MEMBER INSURANCE PROGRAM.** Do you need help in determining the right amount of financial protection for you and your loved ones? Are you confused about how to plan for your family's financial future? Do you have student debt or a mortgage? Visit the ACS Member Insurance kiosk at exposition booth 725 and learn how we can help you protect the elements you've built your life around with plans ranging from Life & Health Insurance, International Term Life, Auto & Homeowners Plus, Disability Income, Long-Term Care, Professional Liability, and more. Also learn about our latest addition: Chemical Educators' Legal Liability.

If you are a chemistry educator, visit us for a complimentary 15-minute consultation about Chemical Educators' Legal Liability, and learn how this policy provides the unique coverage necessary for you. Visit [haysconsult.setmore.com](http://haysconsult.setmore.com) to schedule your complimentary consultation.

To learn more about the insurance plans available to you, visit [www.acs.org/insurance](http://www.acs.org/insurance)

### ON-SITE MEETING ARRANGEMENTS

**ADA-COMPLIANT MEETING.** The Moscone Center provides service ramps to entrances and elevated areas, braille instructions and directions throughout the building, and pay phones on each level of the facility with (TDD) hearing-impaired functions. More information is available at [moscone.com](http://moscone.com).

ACS is dedicated to ensuring that no individual with a disability is excluded, denied services, segregated, or otherwise treated differently because of the absence of auxiliary aids and services identified in the Americans with Disabilities Act. If you require special accommodations to participate in the meeting, communicate your needs to ACS Meeting Services by e-mail at [nationalmeetings@acs.org](mailto:nationalmeetings@acs.org), by fax

at 202-872-6128, or by phone at 202-872-6111 by February 20 to allow enough time to fulfill your request. Keep in mind that ACS may not be able to accommodate last-minute requests.

If you have an emergency or need immediate assistance during the meeting, contact any ACS Operations Office.

**ASSISTANCE.** Our greeters will be positioned throughout the meeting and can help you navigate the on-site program, find a particular session or room, and answer questions. Lost-and-found items at the convention center should be directed to the ACS Operations Office located in the South Lobby. Messages left at the ACS Operations Office will be conveyed to attendees via the Meeting Mail system, but ACS cannot accept responsibility for the delivery of any messages, mail, or packages.

**ATTENDEE BADGES.** Attendees and guests must be registered and display their badges at all times to be admitted to all official ACS sessions and events.

**ATTENDEE MESSAGING/MEETING MAIL.** After registering for the meeting, you will be assigned a temporary electronic mailbox to exchange personal messages with other registered attendees via Meeting Mail. Meeting Mail will be available before, during, and after the meeting at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017). Use the Meeting Mail terminals located in the Moscone Center. Telephone messages left at the ACS Information Booths will be conveyed to attendees via the electronic message center, but the society cannot accept responsibility for the delivery of any messages. No one will be paged in meeting rooms.

**AUDIO TAPING, PHOTOGRAPHY & VIDEO-TAPING.** The use of any device to capture images (e.g., cameras and camera phones) or sound (e.g., tape and digital rebroadcast) of speakers or presentations is strictly prohibited at all ACS meetings and events without express written consent from ACS.

**CHILD CARE.** Camp ACS will be available to all meeting attendees free of charge from 7:00 AM to 6:00 PM on Sunday, April 2, through Thursday, April 6. At Camp ACS, children two (and potty-trained) to 16 years of age can participate in age-appropriate activities, including arts and crafts and active games, while you enjoy the meeting. For your child's safety, the location of Camp

### TIPS FOR A SAFE STAY IN SAN FRANCISCO

- Be aware of your surroundings at all times.
- Don't wear your meeting badge outside the convention center or hotels.
- Don't wear fancy jewelry or carry expensive technology in plain sight.
- Carry your briefcase, tote bag, purse, or laptop carrier close to your body.
- Don't leave valuables in your hotel room. Get a hotel safe deposit box.
- Walk in open and well-lit areas at night.
- Travel in groups. Don't be a loner, particularly in the evening.
- Use common sense. If someone or someplace looks suspicious, report it and/or avoid it.
- If an emergency occurs during a meeting event, refer to detailed instructions placed by ACS staff inside each meeting room to follow in case of emergencies. Report emergencies to the nearest security guard or to any ACS Operations Office during the meeting.
- If an emergency occurs outside an ACS event, contact police or emergency assistance by dialing 911 or seeking assistance from the facility where the emergency has occurred.
- Should a catastrophic event occur while the meeting is under way, follow safety and security instructions issued by the facility where you are located at the time of the event.

ACS will not be communicated until your registration is confirmed. On-site registration will be accepted on a space-available basis.

**ELECTRONIC DEVICES.** As a courtesy to other meeting attendees, electronic devices must be operated in silent or vibrate mode in technical or educational sessions. Cell phone conversations are not permitted in meeting rooms.

**EMERGENCIES DURING ACS MEETING EVENTS.** ACS will place detailed instructions in each meeting room to be used if an emergency occurs during an ACS meeting event. These instructions will

## GENERAL INFORMATION

revolve around following the established emergency guidelines of the facility where the emergency occurs. Report emergencies to the nearest security guard or to any ACS Operations Office during the meeting. Should a catastrophic event occur, attendees should follow safety and security instructions issued by the facility where they are located at the time of the event.

**HOST LOCAL SECTION.** ACS gratefully acknowledges the cooperation and assistance of the ACS California and Santa Clara Valley Local Sections and their members in handling local arrangements. Volunteers have planned many interesting activities; the Host Local Sections booth will be located in the Lower North Lobby.

**INTERNATIONAL REGISTRANTS.** Many international visitors are required to hold a visa prior to being admitted to the U.S. because of security measures in place at airports and other border crossings. All visa applicants are advised to apply for their visa in their home country as soon as possible. Detailed information for international attendees can be found at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017).

**INTERNET & COMPUTER SERVICES.** Use our electronic communication services before, during, and after the meeting. Once you get to the meeting, you can access your e-mail and the internet as well as your personal Meeting Mail mailbox from Meeting Mail terminals, which will be located throughout the Moscone Center.

**LITERATURE & PRODUCT DISTRIBUTION.** Promotions, posters, and literature distribution by attendees,

exhibitors, or other groups during the meeting must be done within their own contracted meeting space or exhibit booth and not in public meeting space, with the exception of designated marketing opportunities. No one is authorized to place any promotional items in public meeting space except the ACS Operations Office at a given location. Items left in violation of this policy will be removed and discarded. Literature distribution at specific division tables is under the control of that division, and permission must be secured from the division before placing any items on its table.

**LUGGAGE & COAT CHECK.** A luggage and coat check station will be available during registration hours from Sunday through Thursday in the North Lobby. Items left beyond published hours of operation will be turned over to building security at the end of each day.

**MEETING OFFICES.** The following ACS offices will be located in the Moscone Center:

**Attendee Registration:** North Lobby

**Career Fair:** Halls B & C

**Exhibitor Registration:** South Lobby

**Exposition:** Halls B & C

**Finance Office:** Room 110

**Host Local Section Center:** Lower North Lobby

**Member Services:** North Lobby

**Press Center:** South Lobby

**Shuttle Desk:** Outside West Lobby

The following offices are located at the identified properties:

### THANK YOU

The society thanks the many volunteers of the ACS California and Santa Clara Valley Sections who are contributing to the 253rd ACS National Meeting & Exposition as division officers or program chairs, symposium organizers, session or award presiders, oral and poster presenters, short course or workshop instructors, career consultants, and society governance members.

**Operations Offices:** Grand Hyatt San Francisco, Hilton San Francisco Union Square, Hotel Nikko San Francisco, InterContinental San Francisco, Palace Hotel, Parc 55 San Francisco, Park Central San Francisco, San Francisco Marriott Marquis, San Francisco Marriott Union Square, Sir Francis Drake Hotel, W San Francisco, Moscone Center.

**Governance Office:** San Francisco Union Square, Union Square 22

**Society Programs:** San Francisco Union Square, Nob Hill 2/3

**MOTHERS ROOM.** For your convenience and privacy, ACS will provide a room for nursing mothers at the Moscone Center. Please see the ACS Operations Office, South Lobby, for access to the room.

**SMOKING.** ACS policy prohibits smoking in all rooms during ACS functions at the convention center and official hotels. Additionally, the convention center and many of the official hotels are designated as smoke-free environments at all times.



# GOVERNANCE & BUSINESS MEETINGS

**MANY MEMBERS PARTICIPATE** in meetings concerning the business of the Society, technical divisions, and governance committees in conjunction with the meeting. On the following pages, you will find a listing of the open meetings scheduled for San Francisco. ACS encourages its members to get active in governance at all levels in order to contribute their vision to the direction of the Society. You can share ideas and insights into the Society and the chemical profession, network with peers, and catch up with friends through these volunteer connections. With nearly thirty national governance committees and leadership opportunities in technical divisions and local sections to choose from, there are many opportunities for

members to become actively involved in ACS at the national level. If you are an ACS member interested in volunteering for a governance committee, contact the Office of the Secretary by email at [secretary@acs.org](mailto:secretary@acs.org) or by phone 202-872-4461. Someone will put you

in contact with the ACS Committee on Committees to discuss your desire to volunteer for a committee assignment. If you wish to volunteer with a specific technical division or local section, contact the officers listed at [www.acs.org](http://www.acs.org) to explore your specific interests.

## ACS COUNCIL

The ACS Council meeting will begin at 8:00 AM, Wednesday, April 5, at the Hilton San Francisco Union Square. The meeting will be preceded by a continental breakfast for councilors beginning at 7:00 AM. Councilors are asked to check in beginning at 7:00 AM and proceed to the breakfast area, keeping in mind that the meeting starts promptly at 8:00 AM. Space will be available for ACS members and nonmembers to observe the council in action. We hope that many will take advantage of this opportunity to learn firsthand of the society's operation. Alternate councilors and division and local section officers are particularly urged to attend.



Golden Gate Bridge. SHUTTERSTOCK



# GOVERNANCE MEETINGS

## BOARD & COUNCIL MEETINGS

**ACS Board of Directors.** The ACS Board of Directors meeting, open to members who wish to participate, will be held in the Moscone Convention Center from noon to 1:00 PM on Sunday, April 2.

**ACS Council.** The ACS Council meeting will begin at 8:00 AM, Wednesday, April 5, at the Hilton San Francisco Union Square Hotel. The meeting will be preceded by a continental breakfast for councilors beginning at 7:00 AM. Councilors are asked to check in beginning at 7:00 AM and proceed to the breakfast area, keeping in mind that the meeting starts promptly at 8:00 AM. Space will be available for ACS members and nonmembers to observe the council in action. We hope that many will take advantage of this opportunity to learn firsthand of the society's operation. Alternate councilors and division and local section officers are particularly urged to attend.

## COUNCILOR CAUCUS MEETINGS

**District I Councilor Caucus**  
Sunday, April 2, 6:00 to 7:00 PM  
Hilton San Francisco Union Square  
Union Square 1/2

**District II Councilor Caucus**  
Sunday, April 2, 6:00 to 7:00 PM  
Hilton San Francisco Union Square  
Union Square 3/4

**District III Councilor Caucus**  
Sunday, April 2, 6:00 to 7:00 PM  
Hilton San Francisco Union Square  
Union Square 5/6

**District IV Councilor Caucus**  
Sunday, April 2, 6:00 to 7:00 PM  
Hilton San Francisco Union Square  
Union Square 15/16

**District V Councilor Caucus**  
Sunday, April 2, 6:00 to 7:00 PM  
Hilton San Francisco Union Square  
Union Square 17/18

**District VI Councilor Caucus**  
Sunday, April 2, 6:00 to 7:00 PM  
Hilton San Francisco Union Square  
Union Square 19/20

**Division Officers/Councilors Caucus**  
Tuesday, April 4, 4:00 to 6:00 PM  
Moscone Convention Center  
Room 132

## COMMITTEE AGENDA

**THE COMMITTEE ON COMMITTEES** has clarified three types of committee meetings:

**Open.** May be attended by any ACS member. At these sessions, members are encouraged to voice concerns, issue compliments, offer suggestions, express interest in, or raise questions about matters over which the committee has purview. The assumption is that participation is welcomed and will be orderly and courteous. Only committee members can vote.

**Executive.** Attendance and participation are limited to officially appointed/ elected committee members, associates, advisers, consultants, staff liaisons, and the appointed Committee on Committees liaison. Liaisons from other groups and ex officio and elected councilors may attend; participation by these groups would be at the invitation of the chair. Only committee members can vote.

**Closed.** The committee chair must declare any executive session closed when confidential or sensitive personnel, financial, or legal matters of the society are discussed. At that point, only officially appointed/elected committee members, associates, consultants, staff liaisons, and the

### COUNCIL POLICY COMMITTEE

The Council Policy Committee will open the floor during its meeting at 11:30 AM on Tuesday, April 4, to councilors who would like to raise issues of concern that affect them and/or their local sections or divisions. For further information, contact

appointed Committee on Committees liaison shall remain in the session. Others may stay in the session at the discretion of the chair. Once these discussions have been completed, the committee should return to executive mode. During the open and executive committee meetings, ACS members are given a chance to express their views on issues under consideration before these issues are acted on by the board or the council, or to bring up other subjects that deserve attention.

Members are urged to examine the agenda and make known any opinions or ideas they may have. If you cannot attend the particular sessions involved, write to the officers listed or ask someone attending the session to speak on your behalf. For further information, contact the officers listed.

## GOVERNANCE & BUSINESS MEETINGS

For the complete list of committee meetings and agendas, please consult [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017) or the on-site program for the meeting.

### Budget & Finance

*Joseph A. Heppert, chair; b\_ffeedback@acs.org*

#### Open Meeting

Saturday, April 1, 8:00 to 10:30 AM  
Hilton San Francisco Union Square,  
Imperial Ballroom B

1. Report of the Chair
2. Report of the Treasurer & CFO:
  - a. Budgetary Performance Report for the Year Ended December 31, 2016
3. Reports from the Subcommittees:
  - a. Financial Impact of Constitution & Bylaw Changes
  - b. Communications
  - c. Program Funding Requests
  - d. Program Review

### Chemical Safety

*Elizabeth M. Howson, chair; safety@acs.org*

#### Open Executive Session

Monday, April 3, 8:30 to 11:30 AM  
Hilton San Francisco Union Square,  
Continental Ballroom 6

1. Welcome
2. Minutes of August 22 Meeting
3. Reports of Chair/Staff Liaison
4. Report of Subcommittees and Task Forces:
5. New and Old Business

## Chemistry & Public Affairs

Raymond E. Forslund, chair; [reforslund@me.com](mailto:reforslund@me.com)

### Open Meeting

Saturday, April 1, 3:00 to 4:30 PM  
Hilton San Francisco Union Square,  
Continental Ballroom 4

1. Reports from the Subcommittees:
  - a. Member Advocacy
  - b. Public Policy
  - c. Fellowships
2. Committee Liaison Reports
3. Public Comment
4. Closing Comments

## Chemists with Disabilities

John J. Johnston, chair; USDA-FSIS, 2150 Centre Ave, Fort Collins, CO 80526-8116

### Open Executive Session

Sunday, April 2, 8:30 AM to 4:30 PM  
Hilton San Francisco Union Square,  
Continental 1/2

1. Welcome
2. Chair Report
  - a. Update of CWD Activities/Events, and Collaborative Opportunities
  - b. Diversity & Inclusion Advisory Group Report
  - c. Minutes from (Philadelphia 2016)
3. Strategic Planning Group Updates
4. Discussion on Gender Neutral/Gender Inclusive Pronouns
5. Discussion on Awards and Travel Grants
6. CWD Poster Project
7. ACS Fellows Program
8. CWD Visibility (Social Media)
9. Other Action Items from Philadelphia Meeting
10. Staff Report
11. Future Event and Programming Planning
12. Subcommittee Progress Reports
13. Reports of Liaisons to/from other committees
14. Ongoing Business
15. New Business

## Committees

Wayne E. Jones Jr., chair; Department of Chemistry, Binghamton University, SUNY, 4400 Vestal Pkwy. East, Binghamton, NY 13902-6000

### Open Meeting

Monday, April 3, 1:30 to 2:15 PM  
Hilton San Francisco Union Square,  
Continental 8/9

1. Welcome
2. Minutes of August 22-24, 2016
3. Reports of chair/staff liaison
4. Report of Subcommittees and Task Forces:
  - a. Diversity
  - b. Leadership Development
  - c. Society Committee Bylaws
5. Topics from floor

## Community Activities

Michael B. McGinnis, chair; dean, College of Science & Mathematics, Norwich University, 158 Harmon Dr., Northfield, VT 05663

### Executive Session

Sunday, April 2, 10:00 AM to noon  
Hilton San Francisco Union Square,  
Grand Ballroom A

1. Chair's welcome and comments
2. Reports from liaisons
3. Reports from subcommittees on:
  - a. Program Development and Promotion
  - b. Tools & Training
  - c. Volunteer Engagement and Recognition
4. New business

### CCA/LSAC Joint Open Meeting

Tuesday, April 4, 2:00 to 3:30 PM  
Hilton San Francisco Union Square

1. Report from the LSAC and CCA Executive Sessions
2. Interactive session: questions, answers and best practices

## Constitution & Bylaws

James C. Carver, chair, the Carver Law Firm, 451 Florida St., Ste. 750, Baton Rouge, LA; [bylaws@acs.org](mailto:bylaws@acs.org)

### Open Meeting

Sunday, April 2, 1:30 to 1:45 PM  
Hilton San Francisco Union Square,  
Golden Gate 8

Open forum to discuss bylaws, petitions, and other issues that may arise

### Executive Session

Sunday, April 2, 9:30 to 11:15 AM and 1:45 to 4:30 PM

Hilton San Francisco Union Square,  
Golden Gate 8

1. Petition on International Chemical Sciences Chapters
2. Petitions, procedures, IAC Charter bylaws, and other items for action by Council
3. Bylaw Templates, questions document, and model bylaws
4. Bulletin 5 review and discussion
5. Reports from liaisons
6. Status of unit bylaws
7. Other business

## Corporation Associates

Diane Grob Schmidt, chair; [d\\_schmidt@acs.org](mailto:d_schmidt@acs.org)

### Open Meeting

Monday, April 3, 8:00 AM to noon  
Hilton San Francisco Union Square,  
Continental Ballroom 4

1. Welcome
2. Approval of Minutes from San Diego, March 14, 2016
3. Chair's Report
4. Reports from Subcommittee Chairs
  - a. Strategic Investment and Awards
  - b. Public Policy
  - c. CA Relations
  - d. CA Member Value
5. Staff liaison report
6. New Business

## Council Policy

Mary K. Carroll, vice chair; [cpc@acs.org](mailto:cpc@acs.org)

### Open Executive Session

Tuesday, April 4, 9:30 AM to noon  
Hilton San Francisco Union Square,  
Imperial Ballroom A

1. Committee and Officer Reports
2. Report of CPC vice chair
3. Reports of Subcommittees on:

- a. Petitions, Constitution & Bylaws
- b. Long-Range Planning
- c. Nominations
4. Schedule of business sessions, fall 2017
5. Review of Council agenda
6. Open forum
7. Old and new business

## Divisional Activities

Rodney M. Bennett, chair; [rodbennetttdac@gmail.com](mailto:rodbennetttdac@gmail.com)

### Open Meeting

Sunday, April 2, 8:00 AM to noon  
Hilton San Francisco Union Square,  
Yosemite B

1. Welcome
2. Review San Francisco agenda
3. Minutes from 252nd ACS National Meeting in Philadelphia, PA
4. Allocation formula
5. DAC Chair Report
6. Subcommittee Reports

## Economic & Professional Affairs

Rick Ewing, chair; [ewingwre@comcast.net](mailto:ewingwre@comcast.net)

### Executive Session

Saturday, April 1, 8:00 to 10:30 AM  
Hotel Nikko San Francisco,  
Nikko Ballroom I/II

1. Opening Remarks
2. Invited Guest Reports
3. Staff Reports

### Open Meeting

Saturday, April 1, 10:30 AM to noon  
Hotel Nikko San Francisco,  
Nikko Ballroom I/II

1. Subcommittee Reports
  - a. Public Policy
  - b. Events, Volunteers and Employment Services
  - c. Marketing and Research
  - d. Standards and Ethics
2. Reports from Liaisons to and from CEPA
3. Ongoing Business/New Business

## Education

Diane Krone, chair; [kroned@alumni.stevens.edu](mailto:kroned@alumni.stevens.edu)

### Open Meeting

Monday, April 3, 3:00 to 4:00 PM  
Hilton San Francisco Union Square,  
Golden Gate 8

Review of meeting, as below, plus items from the floor.

### Executive Session

Friday, March 31, 1:00 to 5:30 PM  
Hotel Nikko San Francisco,  
Nikko Ballroom I/II

1. K-12 science topics, including ChemCom, ChemMatters, the American Association of Chemistry Teachers, High School Chemistry Clubs, Chemistry Olympiad, ACS-Hach programs, and teacher professional development
2. College/university topics, including undergraduate programs, graduate and postdoctoral education, ChemIDP, Chemistry in Context, and faculty development

Items 1-2 open to all Councilors with prior approval of the Chair

**Environmental Improvement**

Anthony "Tony" Noce, chair; cei@acs.org

**Breakfast/Open Meeting**

Monday, April 3, 7:45 to 9:00 AM

San Francisco Marriott Marquis, Nob Hill D

1. Review of the Saturday-Sunday CEI Executive Session
2. Overview of CEI activities in San Francisco
3. Planning of CEI activities in Washington
4. Preview of 2017 policy statement development (sustainability, scientific integrity)
5. Open discussion period

**Ethics**

Keith Vitense, chair; Cameron University, Physical Science Department, 2800 West Gore Blvd., Lawton, OK 73505-6320

**Open Executive Session**

Sunday, April 2, 9:00 AM to 4:30 PM

Hilton San Francisco Union Square, Golden Gate 7

1. Welcome & Introductions
2. Approval of Minutes from Philadelphia Meeting
3. Review of Committee on Ethics Charge
4. Chair/Staff Liaison Reports
5. Liaison Reports
6. Subcommittee Progress Reports
7. Committee Discussion
8. Subcommittee Working Sessions
9. Programming
10. Old Business/New Business/Action Items
11. Adjourn

**International Activities**

Ellene Tratras Contis, chair; c/o ACS Office of International Activities, 1155 16th St., N.W., Washington, D.C. 20036

**Open Meeting**

Saturday, April 1, 1:00 to 3:00 PM

Hilton San Francisco Union Square, Continental 1/2

1. Welcome
2. Minutes of August 20, 2016 IAC Meeting in Philadelphia
3. Reports of Chair/Staff Liaison
4. Report of Subcommittees:
  - a. Subcommittee on Africa and the Americas
  - b. Subcommittee on Europe and the Middle East
  - c. Subcommittee on Asia/Pacific Rim
5. New Business

**Local Section Activities**

Jason E. Ritchie, chair; University of Mississippi Department of Chemistry & Biochemistry; 222 Coulter Hall, University, MS 38677; jritchie@olemiss.edu

**LSAC/CCA Joint Open Meeting**

Tuesday, April 4, 2:00 to 3:30 PM

Hilton San Francisco Union Square, Continental 1-3

1. Report from the LSAC and CCA Executive Sessions
2. Interactive session: questions, answers and best practices

**Open Executive Session**

Sunday, April 2, 8:00 AM to noon

Hilton San Francisco Union Square

1. Report of chair, subcommittee chairs, staff liaison
2. Review of petitions for Council consideration
3. Reports of committee liaisons

**Meetings & Expositions**

Kevin J. Edgar, chair; M&E@acs.org

**Open Executive Session**

Sunday, April 2, 7:30 to 10:00 AM

Moscone Center, Room 134

1. Welcome
2. Minutes from Philadelphia
3. Chair's Report
4. Subcommittee Reports
  - a. Expositions
  - b. Technical Programming
  - c. Regional Meetings

**Closed Executive Session**

Sunday, April 2, 10:00 AM to noon

Moscone Center, Room 134

1. Operations Subcommittee & Financial Report
2. Staff Liaison Report
3. New Business

**Membership Affairs**

Margaret J. Schooler, chair; 5 Alexander Court, Hockessin, DE 19707-9797; margaret.j.schooler@axaltacs.com

**Open Executive Session**

Sunday, April 2, 3:00 to 4:00 PM

Hilton San Francisco Union Square, Grand Ballroom B

1. Welcome
2. Minutes of August 21, 2016
3. Reports of Chair/Staff Liaison
4. Committee Strategic Planning Conference
5. Reports of Subcommittees
  - a. Categories & Dues
  - b. Retention, Benefits & Services
  - c. Recruitment & Admissions
6. International Chapter Recruiting Trial Extension
7. Board "Collaborative for Re-Imagining a Diverse ACS Membership"
8. Topics from floor

**Minority Affairs**

Madeleine Jacobs, chair; madeleine.s.jacobs@gmail.com

**Closed Executive Session**

Sunday, April 2, 8:00 AM to 12:30 PM

Hilton San Francisco Union Square, Continental Ballroom 4

1. Opening Remarks
2. Staff Report
3. Fall Meeting Minutes
4. Subcommittee Meetings

**Open Meeting**

Sunday, April 2, 12:30 to 2:00 PM

Hilton San Francisco Union Square, Continental Ballroom 4

1. Subcommittee Reports
2. Old Business
3. New Business

**Nomenclature, Terminology & Symbols**

Michael D. Mosher, chair; University of Northern Colorado; michael.mosher@unco.edu

**Open Meeting**

Monday, April 3, 2:00 to 5:00 PM

Hilton San Francisco Union Square, Continental Ballroom 5

1. Review minutes from 2016 Fall National Meeting
2. Chair/Staff Liaison reports
3. Subcommittee Reports
  - a. Communication/Outreach
  - b. Education
  - c. Liaison
  - d. Long Range Planning
4. IUPAC Reports
5. New Business

**Nominations & Elections**

Les W. McQuire, chair; nomelect@acs.org

**Open Executive Session**

Monday, April 3, 11:30 AM to noon

Hilton San Francisco Union Square, Imperial Ballroom A

1. Report of the Executive Session
2. Vote 2020 Task Force
3. Topics from floor

**Patents & Related Matters**

Sadiq Shah, chair; sadiq@utpa.edu

**Open Meeting**

Saturday, April 1, 9:00 AM to 5:00 PM

Hilton San Francisco Union Square, Imperial Ballroom A

1. Legislation & Regulation Subcommittee.
2. Education and Outreach Subcommittee.
3. Awards Subcommittee.
4. Executive Session

**Professional Training**

Thomas J. Wenzel, chair; Department of Chemistry, Bates College; cpt@acs.org

**Open Meeting**

Sunday, April 2, 4:00 to 5:00 PM

Hotel Nikko San Francisco, Peninsula

1. Macromolecular curriculum requirement
2. Value of ACS approval of chemistry programs
3. Value of ACS certification to students
4. Applying for ACS approval
5. CPT survey of online instruction and virtual labs
6. CPT symposium on undergraduate research
7. Topics from floor

**Project SEED**

Anna G. Cavinato, chair; department of chemistry, Eastern Oregon University, One University Blvd., LaGrande, OR 97850-2807

**Open Meeting**

Sunday, April 2, 9:30 to 10:30 AM

Hilton San Francisco Union Square, Union Square 15/16

1. Report from executive session
2. Topics from the floor

## GOVERNANCE & BUSINESS MEETINGS

### Closed Executive Session

Saturday, April 1, 10:30 AM to 5:00 PM

Hilton San Francisco Union Square,  
Union Square 17/18

1. Subcommittee meetings 10:30 AM to 12:00 noon
2. Minutes of August 20, 2016
3. Reports of Chair/Staff Liaison
4. Report of Subcommittees:
5. Old and new business

### Publications

Nicole S. Sampson, chair; Department of  
Chemistry, Stony Brook University, Stony Brook,  
NY 11794-3400

### Open Meeting

Friday, March 31, 4:30 to 5:00 PM

Hotel Nikko San Francisco, Golden Gate

1. Updates from ACS Publications Division
2. Open Discussion

### Science

Mark C. Cesa, chair; markcesa@comcast.net

### Open Meeting

Saturday, April 1, 8:30 AM to 4:30 PM

Hilton San Francisco Union Square,  
Continental 3

1. Welcome
2. Approval of Minutes
3. Reports of Chair/Staff Liaison
4. Report of Subcommittees:
  - a. Science and Technology,
  - b. Awards,
  - c. Public Policy and Communication
5. Subcommittee Breakouts
6. Subcommittee Reports from Breakouts

### Senior Chemists

Thomas R. Beattie, chair; silvercircle@acs.org

### Open Executive Session

Monday, April 3, 8:00 AM to 1:00 PM

Hilton San Francisco Union Square,  
Yosemite B

1. Welcome and Introductions
2. Minutes from November 2016 & February 2017 Meetings
3. Reports of Chair/Staff Liaison
4. Report of Subcommittees and Task Forces:
  - a. Newsletter of Senior Chemists
  - b. Programming for Senior Chemists
  - c. Consulting and Mentoring
  - d. SCC Group on the ACS Network
  - e. ACS Local Section Subcommittee
  - f. Community Education Subcommittee
  - g. ChemLuminary Award Nominations 2017
  - h. ACS Fellows Nomination Subcommittee
5. Senior Chemists Breakfast in San Francisco
6. Open Discussion/General Information

### Technician Affairs

Kara M. Allen, chair; cta@acs.org

### Closed Executive Session

Sunday, April 2, 8:00 AM to 12:30 PM

Hilton San Francisco Union Square,  
Continental Ballroom 6

### Open Executive Session

Sunday, April 2, 12:30 to 1:00 PM

Hilton San Francisco Union Square,  
Continental Ballroom 6

1. Welcome and Introductions
2. Review of Philadelphia Minutes, August 21, 2016
3. Reports of Chair/Staff Liaison
4. Report of Subcommittees and Task Forces:
  - a. Communications Subcommittee
  - b. Awards & Recognition Subcommittee
  - c. Professional Development Subcommittee
5. Topics from floor/Meeting feedback/Wrap-up
6. Open Executive Session

### Women Chemists

Laura Sremaniak, chair; wcc@acs.org

### Closed Executive Session

Saturday, April 1, 8:00 AM to 5:00 PM

Hilton San Francisco Union Square,  
Continental Ballroom 6

1. Welcome
2. Review of Fall Action Items & Minutes
3. Reports of Chair/Staff Liaison
4. Subcommittee Meetings
5. Reports of Subcommittees and Task Forces:
  - a. Awards & Recognition
  - b. Communications & Technology
  - c. Professional Development
  - d. Programs & Events
6. New Business

### Younger Chemists

Natalie A. LaFranzo, chair; nlafranzo@gmail.com

### Open Meeting

Sunday, April 2, 8:00 AM to noon

Hilton San Francisco Union Square,  
Continental Ballroom 5

1. Welcome
2. Staff Report
3. Subcommittee Reports
  - a. Communications
  - b. Governance Interface and Outreach
  - c. Membership Engagement
4. Liaison Reports
5. Petitions (CLOSED)
6. New Business
7. Visitors
8. Adjourn

### Executive Session

Sunday, April 2, noon to 1:00 PM

Hilton San Francisco Union Square,  
Continental Ballroom 5

Closed



# DIVISION MEETINGS & SOCIAL EVENTS

## Division of Agricultural & Food Chemistry — AGFD

AGFD Poster Session Reception	Sunday, April 2	5:00 PM - 7:00 PM	West Hall, Moscone Convention Center
AGFD Future Program Meeting	Monday, April 3	12:00 PM - 1:00 PM	Yoskemite A, Hilton San Francisco Union Square
AGFD Executive Committee Meeting (CLOSED)	Monday, April 3	5:00 PM - 8:00 PM	Yoskemite A, Hilton San Francisco Union Square
AGFD Business Meeting	Tuesday, April 4	12:00 PM - 1:00 PM	Yoskemite A, Hilton San Francisco Union Square

## Division of Analytic Chemistry — ANYL

ANYL Division Reception	Tuesday, April 4	5:00 PM - 7:30 PM	Golden Gate 2, Hilton San Francisco Union Square
ANYL Chemical Forensics International Technical Working Group Workshop	Wednesday, April 5	8:30 AM - 5:00 PM	Continental 4, Hilton San Francisco Union Square
ANYL Poster Session	Sunday, April 2	7:00 AM - 9:00 PM	West Hall, Moscone Convention Center

## Division of Biochemical Technology — BIOT

Registration Table	Sunday, April 2	7:00 AM - 9:00 PM	SoMa, InterContinental San Francisco
Lunch Seminar	Sunday, April 2	12:30 PM - 2:00 PM	Intercontinental A, InterContinental San Francisco
Registration Table	Monday, April 3	7:00 AM - 9:00 PM	SoMa, InterContinental San Francisco
Lunch Seminar	Monday, April 3	12:30 PM - 2:00 PM	Intercontinental A, InterContinental San Francisco
Executive Committee Meeting (CLOSED)	Monday, April 3	7:00 PM - 10:00 PM	Marina, InterContinental San Francisco
Registration Table	Tuesday, April 4	7:00 AM - 9:00 PM	SoMa, InterContinental San Francisco
Lunch Seminar	Tuesday, April 4	12:30 PM - 2:00 PM	Intercontinental A, InterContinental San Francisco
BIOT Poster Session Social	Tuesday, April 4	6:00 PM - 8:00 PM	West Hall, Moscone Convention Center
Registration Table	Wednesday, April 5	7:00 AM - 9:00 PM	SoMa, InterContinental San Francisco
Lunch Seminar	Wednesday, April 5	12:30 PM - 2:00 PM	Intercontinental A, InterContinental San Francisco
Program Chair Meeting (CLOSED)	Wednesday, April 5	12:30 PM - 2:00 PM	Russian Hill, InterContinental San Francisco
Future Programming Meeting	Wednesday, April 5	12:30 PM - 2:00 PM	Intercontinental B, InterContinental San Francisco
Registration Table	Thursday, April 6	7:00 AM - 9:00 PM	SoMa, InterContinental San Francisco

## Division of Biological Chemistry — BIOL

BIOL Poster Session/Social	Sunday, April 2	7:00 PM - 9:00 PM	West Hall, Moscone Convention Center
BIOL Poster Session/Social	Tuesday, April 4	7:00 PM - 9:00 PM	West Hall, Moscone Convention Center

## Division of Business Development & Management — BMGT

Governance Meeting	Sunday, April 2	12:00 PM - 1:00 PM	Carmel I, Hotel Nikko San Francisco
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## GOVERNANCE & BUSINESS MEETINGS

### Division of Catalysis & Surface Science — CATL

CATL Business Meeting	Monday, April 3	5:30 PM - 7:30 PM	Market Street, Parc 55 San Francisco
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### Division of Cellulose & Renewable Materials — CELL

Executive Committee Meeting (CLOSED)	Saturday, April 1	4:00 PM - 7:30 PM	Room 262, Moscone Convention Center
Awards Banquet (TICKETED EVENT))	Tuesday, April 4	6:30 PM - 10:00 PM	Chart House @ Pier 39
Governance Meeting	Wednesday, April 5	5:30 PM - 7:30 PM	Room 274, Moscone Convention Center
Technical Program Meeting	Wednesday, April 5	7:30 PM - 8:00 PM	Room 274, Moscone Convention Center

### Division of Chemistry & Law — CHAL

Drug & Power Luncheon (TICKETED EVENT)	Monday, April 3	12:00 PM - 1:30 PM	Mourad, 140 New Montgomery Street
CHAL Reception	Monday, April 3	6:00 PM - 8:00 PM	Jillian's, 175 Fourth Street

### Division of Chemical Health & Safety — CHAS

Laboratory <del>CANCELLED</del> ment Workshop	Friday, March 31	8:00 AM - 5:00 PM	Room 120, Moscone Convention Center
The Laboratory Safety Workshop	Friday, March 31	8:00 AM - 5:00 PM	Room 121, Moscone Convention Center
Cannabis <del>CANCELLED</del> lysis Workshop	Saturday, April 1	8:00 AM - 5:00 PM	Room 120, Moscone Convention Center
How to be an Effective Chemical Hygiene Officer	Saturday, April 1	8:00 AM - 5:00 PM	Room 121, Moscone Convention Center
Reactive Chemical Management for Laboratories & Pilot Plants	Saturday, April 1	8:00 AM - 5:00 PM	Room 125, Moscone Convention Center
Using ACS <del>CANCELLED</del> each Lab Safety	Saturday, April 1	8:00 AM - 5:00 PM	Room 124, Moscone Convention Center
Executive Committee Meeting	Sunday, April 2	8:00 AM - 12:00 PM	Franciscan I, Park Central San Francisco
Cannabis Subdivision Lunch (CLOSED)	Monday, April 3	11:45 AM - 1:15 PM	Concordia, Parck Central San Francisco

### Division of Chemical Education — CHED

CHED Meeting - (CLOSED)	Friday, March 31	2:00 PM - 6:00 PM	Sierra A, San Francisco Marriott Marquis
Exams Institute Board of Trustees	Saturday, April 1	7:30 AM - 12:00 PM	Sierra A, San Francisco Marriott Marquis
Board of Publication	Saturday, April 1	7:30 AM - 12:00 PM	Sierra B, San Francisco Marriott Marquis
Biennial Conference on Chemical Education Meeting	Sunday, April 2	8:00 AM - 9:30 AM	Golden Gate Ballroom C3, San Francisco Marriott Marquis
GC18F Exams (CLOSED)	Saturday, April 1	8:00 AM - 5:00 PM	Sierra J, San Francisco Marriott Marquis
PH19 Exams (CLOSED)	Saturday, April 1	8:00 AM - 5:00 PM	Sierra H, San Francisco Marriott Marquis
GC18 Exams (CLOSED)	Saturday, April 1	8:00 AM - 5:00 PM	Sierra F, San Francisco Marriott Marquis
GC17PQ Exams (CLOSED)	Saturday, April 1	8:00 AM - 5:00 PM	Sierra E, San Francisco Marriott Marquis
Program Committee Meeting	Saturday, April 1	10:30 AM - 12:30 PM	Sierra C, San Francisco Marriott Marquis
Executive Committee Meeting	Saturday, April 1	1:00 PM - 5:30 PM	Golden Gate Ballroom B, San Francisco Marriott Marquis
International Activities Committee Meeting	Sunday, April 2	8:00 AM - 9:30 AM	Salon 1, San Francisco Marriott Marquis
OR17F Exams (CLOSED)	Sunday, April 2	8:00 AM - 5:00 PM	Sierra E, San Francisco Marriott Marquis
ACS Exams Workshop	Sunday, April 2	8:00 AM - 5:00 PM	Sierra F, San Francisco Marriott Marquis
Finance Committee Meeting (CLOSED)	Sunday, April 2	9:30 AM - 11:30 AM	Sierra H, San Francisco Marriott Marquis
Research Committee Meeting	Sunday, April 2	12:00 PM - 1:30 PM	Sierra H, San Francisco Marriott Marquis
High School/College Interface Luncheon (TICKETED EVENT)	Sunday, April 2	12:00 PM - 1:00 PM	Salon 7, San Francisco Marriott Marquis
Regional Meeting Committee	Sunday, April 2	12:00 PM - 2:00 PM	Sierra G, San Francisco Marriott Marquis

## GOVERNANCE & BUSINESS MEETINGS

Long Range Planning Committee	Sunday, April 2	2:30 PM - 4:30 PM	Sierra G, San Francisco Marriott Marquis
CHED Safety Committee Meeting	Sunday, April 2	4:00 PM - 5:30 PM	Sierra H, San Francisco Marriott Marquis
Social Reception	Sunday, April 2	5:30 PM - 7:00 PM	Room 130, Moscone Convention Center
Younger Chemistry Education Scholars Committee Meeting	Monday, April 3	9:30 AM - 5:00 PM	Sierra H, San Francisco Marriott Marquis
New Member Committee Meeting	Monday, April 3	12:00 PM - 12:30 PM	Salon 1/2
Business Meeting	Monday, April 3	12:00 PM - 12:30 PM	Salon 1/2, San Francisco Marriott Marquis
ACS Exams Workshop (CLOSED)	Monday, April 3	12:30 PM - 1:00 PM	Sierra F, San Francisco Marriott Marquis

### Division of Chemical Information — CINF

Awards Committee Meeting (CLOSED)	Saturday, April 1	12:30 PM - 2:30 PM	City Room, Pack Central San Francisco
Education Committee Meeting (CLOSED)	Saturday, April 1	12:30 PM - 2:30 PM	Franciscan II, Park Central San Francisco
Program/Executive Committee Meeting (CLOSED)	Saturday, April 1	12:30 PM - 6:00 PM	Franciscan I, Park Central San Francisco
Chemical Structure Association (CSAT) Meeting (CLOSED)	Sunday, April 2	12:00 PM - 2:00 PM	Franciscan II, Park Central San Francisco
Welcome Reception and Poster Session	Sunday, April 2	6:30 PM - 8:30 PM	Franciscan I & II, Park Central San Francisco
Luncheon (TICKETED EVENT)	Tuesday, April 4	12:00 PM - 1:30 PM	Franciscan I, Park Central San Francisco
Chemistry Research Data Interest Group (Research Data Alliance)	Wednesday, April 5	1:00 PM - 5:00 PM	Franciscan I, Park Central San Francisco

### Division of Colloid & Surface Chemistry — COLL

Program & Executive Committee Meeting (CLOSED)	Saturday, April 1	4:00 PM - 7:00 PM	Room 133, Moscone Convention Center
Poster Session/Social Hour	Sunday, April 2	5:30 PM - 8:00 PM	Halls B/C, Moscone Convention Center
Division Luncheon (TICKETED)	Tuesday, April 4	12:00 PM - 1:30 PM	Great Room I, W San Francisco

### Division of Computers in Chemistry — COMP

Executive Committee Meetings	Saturday, April 1	3:00 PM - 6:00 PM	Grand Ballroom B, InterContinental San Francisco
Poster Session	Tuesday, April 4	6:00 PM - 8:00 PM	West Hall, Mocone Convention Center

### Division of Energy & Fuel — ENFL

Energy and Fuels Program Meeting	Sunday, April 2	12:00 PM - 2:00 PM	Redwood B, Grand Hyatt San Francisco
ENFL Executive Meeting	Sunday, April 2	4:00 PM - 7:00 PM	Sunset A/B, Grand Hyatt San Francisco
Energy and Fuel Business Meeting	Monday, April 3	5:00 PM - 7:00 PM	Grand Ballroom West, Grand Hyatt San Francisco
ENFL Dinner (TICKETED)	Tuesday, April 4	6:30 PM - 9:00 PM	Le Colonial, 20 Cosmo Place

### Division of Environmental Chemistry — ENVR

Program Planning Committee Meeting	Sunday, April 2	2:00 PM - 3:00 PM	Golden Gate Blrm C3, San Francisco Marriott Marquis
Long Range Planning Committee	Sunday, April 2	3:00 PM - 5:00 PM	Golden Gate Blrm C3, San Francisco Marriott Marquis
Executive Committee Meeting	Sunday, April 2	7:00 PM - 10:00 PM	Golden Gate Blrm C3, San Francisco Marriott Marquis
Division Reception (TICKETED EVENT)	Tuesday, April 4	6:00 PM - 8:00 PM	Thirsty Brewery Company, 661 Howard Street

### Division of Geochemistry — GEOC

Executive Committee Meeting (CLOSED)	Sunday, April 2	6:00 PM - 8:00 PM	Russian Hill, San Francisco Marriott Union Square
Social Event (CLOSED)	Tuesday, April 4	5:30 PM - 7:30 PM	Empire Ballroom, Sir Francis Drake

## GOVERNANCE & BUSINESS MEETINGS

### Division of History of Chemistry — HIST

Executive Committee Meeting (CLOSED)	Sunday, April 2	5:00 PM - 8:00 PM	Redwood B, Grand Hyatt San Francisco
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### Division of Industrial & Engineering Chemistry — I&EC

I&EC Subdivision, Steering & Programming Meeting (CLOSED)	Saturday, April 1	11:00 AM - 3:00 PM	Russian Hill, San Francisco Marriott Union Square
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### Division of Inorganic Chemistry — INOR

INOR Poster Session/Social	Sunday, April 2	5:30 PM - 7:30 PM	Hall D, Moscone Convention Center
INOR Poster Session/Social	Tuesday, April 4	5:30 PM - 7:30 PM	Hall D, Moscone Convention Center

### Division of Medicinal Chemistry — MEDI

Executive Committee Meeting (CLOSED)	Sunday, April 2	8:30 AM - 1:00 PM	Room 133, Moscone Convention Center
Business Meeting (CLOSED)	Sunday, April 2	5:30 PM - 6:30 PM	Room 133, Moscone Convention Center
General Poster Session	Sunday, April 2	7:00 PM - 9:00 PM	West Hall, Moscone Convention Center
MEDI Long Range Planning Committee (CLOSED)	Monday, April 3	5:30 PM - 10:00 PM	Great Room 1, W San Francisco
MEDI & ORGN General Poster Session	Wednesday, April 5	7:00 PM - 11:00 PM	West Hall, Moscone Convention Center

### Division of Nuclear Chemistry & Technology — NUCL

Executive Committee Meeting (CLOSED)	Sunday, April 2	5:00 PM - 7:00 PM	Esplanade Blrm 308, Moscone Convention Center
Business Meeting	Tuesday, April 4	5:00 PM - 6:00 PM	Room 134, Moscone Convention Center
NUCL Social Hour	Tuesday, April 4	6:00 PM - 8:00 PM	Room 130, Moscone Convention Center

### Division of Organic Chemistry — ORGN

Executive Committee Meeting (CLOSED)	Sunday, April 2	1:00 PM - 6:00 PM	Room 134, Moscone Convention Center
ORGN Poster Session/Social	Sunday, April 2	5:30 PM - 7:30 PM	West Hall, Moscone Convention Center

### Division of Physical Science — PHYS

Executive Committee Meeting (CLOSED)	Sunday, April 2	4:30 PM - 7:30 PM	Powell Room, Parc 55 San Francisco - A Hilton Hotel
Molssi Kick-Off Reception	Tuesday, April 4	5:30 PM - 7:30 PM	Bayview, Hotel Nikko San Francisco
Division Poster Session	Wednesday, April 5	6:00 PM - 8:00 PM	Hall D, Moscone Convention Center

### Division of Polymeric Materials — PMSE

Membership Desk	Sunday, April, 2	8:00 AM - 5:00 PM	Esplanade Ballroom Foyer, Moscone Convention Center
Executive Committee Meeting (CLOSED)	Sunday, April 2	4:30 PM - 7:00 PM	Room 132, Moscone Convention Center
Membership Desk	Monday, April 3	8:00 AM - 5:00 PM	Esplanade Ballroom Foyer, Moscone Convention Center
Business Meeting and PMSE/POLY Coordination	Monday, April 3	5:00 PM - 6:00 PM	2nd Floor, Area 2, Moscone Center West
Membership Desk	Tuesday, April 4	8:00 AM - 5:00 PM	Esplanade Ballroom Foyer, Moscone Convention Center
PMSE/POLY Joint Poster Session/Social	Tuesday, April 4	6:00 PM - 8:00 PM	Hall A, Moscone Center
Membership Desk	Wednesday, April 5	8:00 AM - 5:00 PM	Esplanade Ballroom Foyer, Moscone Convention Center
Membership Desk	Thursday, April 6	8:00 AM - 5:00 PM	Esplanade Ballroom Foyer, Moscone Convention Center



## GOVERNANCE & BUSINESS MEETINGS

### Division of Polymer Chemistry — POLY

Membership Desk	Sunday, April 2	8:00 AM - 5:00 PM	Rooms 120-123 Foyer, Moscone Convention Center
Workshop Committee (CLOSED)	Sunday, April 2	11:00 AM - 12:00 PM	Room 132, Moscone Convention Center
Board Meeting	Sunday, April 2	12:00 PM - 2:00 PM	Room 132, Moscone Convention Center
International Committee Meeting (CLOSED)	Sunday, April 2	2:00 PM - 4:00 PM	2nd Floor, Area 1, Moscone Center West
Strategic & Long Range Planning Meeting (CLOSED)	Sunday, April 2	4:00 PM - 5:30 PM	2nd Floor, Area 1, Moscone Center West
Membership Desk	Monday, April 3	8:00 AM - 5:00 PM	Rooms 120-123 Foyer, Moscone Convention Center
Financial/Executive Planning Meeting (CLOSED)	Monday, April 3	12:00 PM - 2:00 PM	2nd Floor, Area 1, Moscone Center West
Industrial Advisory Board Meeting (CLOSED)	Tuesday, April 4	8:00 AM - 10:00 AM	Room 133, Moscone Convention Center
Membership Desk	Tuesday, April 4	8:00 AM - 5:00 PM	Rooms 120-123 Foyer, Moscone Convention Center
POLY/IPEC Meeting (CLOSED)	Tuesday, April 4	9:00 AM - 12:00 PM	2nd Floor, Area 1, Moscone Center West
Programming Committee Meeting	Tuesday, April 4	1:00PM - 2:00 PM	Room 2000, Moscone Convention Center West
Membership Committee Meeting (CLOSED)	Tuesday, April 4	2:00 PM - 3:00 PM	2nd Floor, Area 1, Moscone Center West
PMSE/POLY Joint Poster Session/Social	Tuesday, April 4	6:00 PM - 8:00 PM	Hall A, Moscone Center
Membership Desk	Wednesday, April 5	8:00 AM - 5:00 PM	Rooms 120-123 Foyer, Moscone Convention Center
POLY/PMSE Award Lecture & Reception	Wednesday, April 5	5:30 PM - 8:00 PM	Room 134, Moscone Convention Center
Membership Desk	Thursday, April 6	8:00 AM - 5:00 PM	Rooms 120-123 Foyer, Moscone Convention Center

### Division of Professional Relations — PROF

Executive Committee Meeting	Tuesday, April 4	3:00 PM - 5:00 PM	Nikko Ballroom II, Hotel Nikko San Francisco
Henry Hill & Lou Sacco Award Reception	Tuesday, April 4	5:00 PM - 7: 00 PM	Nikko Ballroom II, Hotel Nikko San Francisco

### Division of Small Chemical Business — SCHB

Executive Committee	Sunday, April 2	8:00 AM - 11:30 AM	Monterey II, Hotel Nikko San Francisco
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## SOCIAL & EDUCATIONAL EVENTS

### PRESIDENTIAL EVENTS

**ACS President Allison Campbell** welcomes attendees to the 253rd ACS National Meeting. The presidential and cosponsored event symposia will focus on areas of significant importance: the health of our planet, the safe practice of science, and strong technical programming.

The first symposium, "**LGBT Graduate & Postdoctoral Student Chemistry Research**," is organized by the Division of Professional Relations. This two-day symposium on Sunday, April 2 and Monday, April 3 will consist of scientific talks by LGBT graduate and postdoctoral students and will conclude with a panel discussion on issues that affect LGBT students and postdocs. Later Sunday afternoon at 1:20 PM, the symposium "**Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal**" will focus on a 1995 issue in the journal that sought to spotlight critical areas of chemistry and will assess the progress in these areas since then.

On Monday, April 3, from 8:30 AM to 4:30 PM, the symposium "**Science for a Sustainable Energy Future**" will highlight scientific advances for creating and storing sustainable, low-carbon energy. The symposium will focus on advances in energy storage in the morning session and chemical and biological approaches to energy conversion in the afternoon.

Thirteen **president-recommended** symposia focus on issues of safety, communicating science, highlighting up-and-coming graduate researchers, and celebrating diverse practitioners of chemistry. Details of these presidential events and other recommended symposia can be found at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017).

### ACS 2017 NATIONAL AWARD WINNERS

**THE ACS NATIONAL AWARDS** recognize individual and team accomplishments in diverse fields of the chemical sciences. Award recipients traditionally receive their national award in person during the ACS awards dinner and general meeting and deliver an award address on the scientific work that is being recognized to an appropriate division.

This year's event will be held on the evening of Tuesday, April 4, at the San Francisco Marriott Marquis, Yerba Buena Ballroom, Salons 8/9. Dinner begins at 7:30 PM, and the general meeting begins at 8:30 PM.

Tobin J. Marks will deliver the Priestley Medal Address at the general meeting. See Ticketed Events on page 38 for ticket information.

Several awards, such as the Arthur C. Cope Scholar Awards and the Arthur C. Cope Award, will be presented at the Arthur C. Cope Symposium in conjunction with the 254th ACS National Meeting in Washington, D.C. in August.

**ACS Award for Achievement in Research for the Teaching & Learning of Chemistry**, sponsored by the ACS Exams Institute, **Marcy H. Towns**, Purdue University. Address to be presented before the Division of Chemical Education. April 3; San Francisco Marriott Marquis; Salons 1/2; 3:55 PM.

**ACS Award for Affordable Green Chemistry**, sponsored by Dow Chemical Co. and endowed by Rohm and Haas, **Peter J. Dunn**, Pfizer (retired). Address to be presented before the Division of Industrial & Engineering Chemistry. April 4; Grand Hyatt San Francisco; Fillmore C; 11:35 AM.

**ACS Award for Computers in Chemical & Pharmaceutical Research**, sponsored by the ACS Division of Computers in Chemistry, **Yvonne Connolly Martin**, Abbott Laboratories, AbbVie. Address to be presented before the Division of Computers in Chemistry. April 4; InterContinental San Francisco; Laurel Hill; 4:15 PM.

**ACS Award for Creative Advances in Environmental Science & Technology**, sponsored by the ACS Division of Environmental Chemistry and the ACS Publications journals Environmental Sci-

ence & Technology and Environmental Science & Technology Letters, **Douglas R. Worsnop**, Aerodyne Research and University of Helsinki, Finland. Address to be presented before the Division of Environmental Chemistry. April 4; San Francisco Marriott Marquis; Salons 10/11; 4:15 PM.

**ACS Award for Creative Invention**, sponsored by ACS Corporation Associates, **Richard B. Silverman**, Northwestern University. Address to be presented before the Division of Medicinal Chemistry. April 4; Moscone Center; 3002/3004; 10:30 AM.

**ACS Award for Creative Work in Fluorine Chemistry**, sponsored by the ACS Division of Fluorine Chemistry, **Antonio Togni**, Swiss Federal Institute of Technology, (ETH) Zurich. Address to be presented before the Division of Fluorine Chemistry. April 3; Grand Hyatt San Francisco; Sequoia; 11:15 AM.

**ACS Award for Creative Work in Synthetic Organic Chemistry**, sponsored by MilliporeSigma, **Matthew S. Sigman**, University of Utah. Address to be presented before the Division of Organic Chemistry. April 4; Moscone Center; 3018/3022; 11:15 AM.

**ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry**, sponsored by Strem Chemicals, **William B. Tolman**, University of Minnesota, Twin Cities. Address to be presented before the Division of Inorganic Chemistry. April 3; Moscone Center; Gateway Ballroom 103/104; 8:15 AM.

**ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences**, sponsored by the Camille and Henry Dreyfus Foundation, **Sandra Yancy McGuire**, Louisiana State University. Address to be presented before the Division of Chemical Education. April 4; San Francisco Marriott Marquis; Salons 3/4; 10:35 AM.

**ACS Award for Encouraging Women into Careers in the Chemical Sciences**, sponsored by the Camille and Henry Dreyfus Foundation, **Judith M. Iriarte-Gross**, Middle Tennessee State University. Address to be presented before the ACS Women Chemists Committee and the Division of Chemical Education. April 4; Hotel Nikko San Francisco; Monterey II; 10:50 AM.

**ACS Award for Research at an Undergraduate Institution**, sponsored by Research Corporation for Science Advancement, **Maria R. Hepel**, SUNY at Potsdam. Address to be presented before the Division of Colloid and Surface Chemistry. April 4; Moscone Center; 2002; 3:45 PM.

**ACS Award for Team Innovation**, sponsored by ACS Corporation Associates, **Robert A. DeVries**, R DeVries Consulting, LLC; **Philip E. Garrou**, Microelectronic Consultants of North Carolina; **Carol E. Mohler** and **Theodore M. Stokich, Jr. (Ted)**, Dow Chemical; **Eric Scott Moyer**, LORD Corporation. Address to be presented before the Division of Polymeric Materials: Science & Engineering. April 5; Moscone Center; Esplanade Ballroom 307; 3:40 PM.

**ACS Award in Analytical Chemistry**, sponsored by the Battelle Memorial Institute, **Donald Frederick Hunt**, University of Virginia. Address to be presented before the Division of Analytical Chemistry. April 3; Hilton San Francisco Union Square; Franciscan D; 4:00 PM.

**ACS Award in Applied Polymer Science**, sponsored by Eastman Chemical, **Zhenan Bao**, Stanford University. Address to be presented before the Division of Polymeric Materials: Science & Engineering. April 3; Moscone Center; Esplanade Ballroom 304; 4:30 PM.

**ACS Award in Chromatography**, sponsored by MilliporeSigma, **Robert T. Kennedy**, University of Michigan. Address to be presented before the Division of Analytical Chemistry. April 3; Hilton San Francisco Union Square; Franciscan D; 10:55 AM.

**ACS Award in Colloid Chemistry**, sponsored by Colgate-Palmolive Co., **Nicholas Alexander Kotov**, University of Michigan. Address to be presented before the Division of Colloid & Surface Chemistry. April 4; Moscone Center; 2002; 2:05 PM.

**ACS Award in Industrial Chemistry**, sponsored by the ACS Division of Industrial & Engineering Chemistry, **Jane Frommer**, IBM Research. Address to be presented before the Division of Industrial & Engineering Chemistry

and the Division of Organic Chemistry. April 3; Grand Hyatt San Francisco; Fillmore C; 1:35 PM.

**ACS Award in Inorganic Chemistry**, sponsored by Aldrich Chemical Co., LLC, **Lawrence Que, Jr.**, University of Minnesota, Twin Cities. Address to be presented before the Division of Inorganic Chemistry. April 3; Moscone Center; Gateway Ballroom 103/104; 9:20 AM.

**ACS Award in Organometallic Chemistry**, sponsored by the Dow Chemical Co. Foundation, **Marcetta Y. Darensbourg**, Texas A&M University. Address to be presented before the Division of Inorganic Chemistry. April 3; Moscone Center; Gateway Ballroom 103/104; 10:10 AM.

**ACS Award in Polymer Chemistry**, sponsored by ExxonMobil Chemical, **Murugappan Muthukumar**, University of Massachusetts, Amherst. Address to be presented before the Division of Polymer Chemistry. April 5; Moscone Center; Esplanade Ballroom 310; 4:30 PM.

**ACS Award in Pure Chemistry**, sponsored by the Alpha Chi Sigma Fraternity and the Alpha Chi Sigma Educational Foundation, **Neal K. Devaraj**, University of California, San Diego. Address to be presented before the Division of Biological Chemistry. April 2; Moscone Center; 3014/3016; 4:30 PM.

**ACS Award in Separations Science & Technology**, sponsored by Waters Corp., **Rakesh Agrawal**, Purdue University. Address to be presented before the Industrial & Engineering Chemistry Separations Science & Technology Symposium at the fall ACS national meeting in Washington, D.C.

**ACS Award in Surface Chemistry**, sponsored by the ACS Division of Colloid & Surface Chemistry, **Cynthia M. Friend**, Harvard University. Address to be presented before the Division of Colloid & Surface Chemistry. April 4; Moscone Center; 2002; 2:55 PM.

**ACS Award in the Chemistry of Materials**, sponsored by DuPont, **Douglas A. Keszler**, Oregon State University. Address to be presented before the Division of Inorganic Chemistry. April 3; Moscone Center; Gateway Ballroom 103/104; 11:40 AM.

**ACS Award in Theoretical Chemistry**, sponsored by the ACS Division of Physical Chemistry, **Peter Pulay**, University of Arkansas. Address to be presented before the Division of Physical Chemistry. April 4; Parc 55 San Francisco; Embarcadero; 11:00 AM.

**Award for Volunteer Service to the American Chemical Society**, sponsored by ACS, **D. Richard Cobb**, Eastman Kodak Company (retired). Address to be presented before the ACS ChemLuminary Awards at the fall ACS national meeting in Washington, D.C.

**Roger Adams Award in Organic Chemistry**, sponsored by Organic Reactions, Inc. and Organic Syntheses, Inc., **Hisashi Yamamoto**, Chubu University, Japan. Address to be presented before the National Organic Chemistry Symposium in Davis, CA.

**Alfred Bader Award in Bioinorganic or Bioorganic Chemistry**, sponsored by the Alfred R. Bader Fund, **Kim D. Janda**, Scripps Research Institute. Address to be presented before the Division of Organic Chemistry at the fall ACS national meeting in Washington, D.C.

**Earle B. Barnes Award for Leadership in Chemical Research Management**, sponsored by the Dow Chemical Co. Foundation, **Laurie E. Locascio**, National Institute of Standards & Technology. Address to be presented before the Division of Analytical Chemistry at the fall ACS national meeting in Washington, D.C.

**Ronald Breslow Award for Achievement in Biomimetic Chemistry**, sponsored by the Ronald Breslow Award Endowment, **Benjamin G. Davis**, University of Oxford, England. Address to be presented before the Division of Biological Chemistry. April 2; Moscone Center; 131; 11:40 AM.

**Herbert C. Brown Award for Creative Research in Synthetic Methods**, sponsored by the Purdue Borane Research Fund and the Herbert C. Brown Award Endowment, **Bruce H. Lipshutz**, University of California, Santa Barbara. Address to be presented before the Division of Organic Chemistry. April 2; Moscone Center; 3018/3022; 4:00 PM.

**James Bryant Conant Award in High School Chemistry Teaching**, sponsored by the Journal of Chemical Education and ChemEd X, **Laura Elizabeth Slocum**, Heathwood Hall Episcopal School, South Carolina. Address to be presented before the Division of Chemical Education. April 2; San Francisco Marriott Marquis; Golden Gate C2/C3; 1:10 PM.

**Arthur C. Cope Award**, sponsored by the Arthur C. Cope Fund, **Carolyn R. Bertozzi**, Stanford University and Howard Hughes Medical Institute. Address to be presented before the Division of Organic Chemistry at the fall ACS national meeting in Washington, D.C.

**Arthur C. Cope Scholar Awards**, sponsored by the Arthur C. Cope Fund, **Alejandro L. Briseno**, University of Massachusetts, Amherst; **Sherry R. Chemler**, University of Buffalo, SUNY; **Guangbin Dong**, University of Texas at Austin and University of Chicago; **P. Andrew Evans**, Queen's University; **M.G. Finn**, Georgia Institute of Technology; **Paul J. Hergenrother**, University of Illinois, Urbana-Champaign; **Thomas R. Hoye**, University of Minnesota, Twin Cities; **Kathlyn A. Parker**, Stony Brook University, SUNY; **Mikiko Sodeoka**, RIKEN, Japan; **Christopher D. Vanderwal**, University of California, Irvine. Address to be presented before the Division of Organic Chemistry at the fall ACS national meeting in Washington, D.C.

**Elias J. Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator** sponsored by the Pfizer Endowment Fund, **Neil K. Garg**, University of California, Los Angeles. Address to be presented before the Division of Organic Chemistry. April 3; Moscone Center; 3018/3022; 11:00 AM.

**F. Albert Cotton Award in Synthetic Inorganic Chemistry**, sponsored by the F. Albert Cotton Endowment Fund, **Pingyun Feng**, University of California, Riverside. Address to be presented before the Division of Inorganic Chemistry. April 3; Moscone Center; Gateway Ballroom 103/104; 10:40 AM.

**Peter Debye Award in Physical Chemistry**, sponsored by DuPont, **Bruce J. Berne**, Columbia University. Address to be presented before the Division of Physical Chemistry. April 3; Parc 55 San Francisco; Embarcadero; 8:00 AM.

**Frank H. Field & Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry**, sponsored by Waters Corp., **Vicki Hopper Wysocki**, Ohio State University. Address to be presented before the Division of Analytical Chemistry. April 4; Hilton San Francisco Union Square; Union Square 19/20; 1:35 PM.

**Francis P. Garvan–John M. Olin Medal**, sponsored by the Francis P. Garvan–John M. Olin Medal Endowment, **Barbara J. Finlayson-Pitts**, University of California, Irvine. Address to be presented before the Division of Physical Chemistry. April 5; Parc 55 San Francisco; Embarcadero; 8:05 AM.

**James T. Grady–James H. Stack Award for Interpreting Chemistry for the Public**, sponsored by ACS, **Thomas A. Hager**, University of Oregon. Address to be presented before the ACS Office of Public Affairs, Division of Chemical Education and the Division of the History of Chemistry at the fall ACS national meeting in Washington, D.C.

**Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator**, sponsored by the Gray Award Endowment, **Nilay Hazari**, Yale University. Address to be presented before the Division of Inorganic Chemistry. April 3; Moscone Center; Gateway Ballroom 103/104; 8:50 AM.

**Ernest Guenther Award in the Chemistry of Natural Products**, sponsored by Givaudan, **Stephen F. Martin**, University of Texas at Austin. Address to be presented before the Division of Organic Chemistry. April 3; Moscone Center; 3018/3022; 3:45 PM.

**Kathryn C. Hach Award for Entrepreneurial Success**, sponsored by the Kathryn C. Hach Award Fund, **David R. Walt**, Tufts University. Address to be presented before the Division of Analytical Chemistry and the Division of Biochemical Technology. April 4; Hilton San Francisco Union Square; Union Square 19/20; 10:55 AM.

**E. B. Hershberg Award for Important Discoveries in Medicinally Active Substances**, sponsored by Merck Research Laboratories, **Stanley T. Croke**, Ionis Pharmaceuticals. Address to be presented before the Division of Medicinal Chemistry. April 4; Moscone Center; 3002/3004; 9:45 AM.

**Joel Henry Hildebrand Award in the Theoretical & Experimental Chemistry of Liquids**, sponsored by ExxonMobil Research & Engineering, **Salvatore Torquato**, Princeton University. Address to be presented before the Division of Physical Chemistry. April 3; Parc 55 San Francisco; Embarcadero; 4:30 PM.

**E. V. Murphree Award in Industrial & Engineering Chemistry**, sponsored by ExxonMobil Research & Engineering, **Eleftherios Terry Papoutsakis**, University of Delaware. Address to be presented before the Division of Biochemical Technology. April 5; InterContinental San Francisco; Grand Ballroom B/C; 11:30 AM.

**Nakanishi Prize**, sponsored by the Nakanishi Prize Endowment, **Martin Gruebele**, University of Illinois, Urbana-Champaign. Address to be presented before the Division of Physical Chemistry. April 3; Parc 55 San Francisco; Powell I/II; 9:00 AM.

**Nobel Laureate Signature Award for Graduate Education in Chemistry**, sponsored by Avantor Performance Materials, **Junqi Li (student)** and **Martin D. Burke (preceptor)**, University of Illinois, Urbana-Champaign. Address to be presented before the Division of Organic Chemistry. April 5; Moscone Center; 3018/3022; 11:15 AM & 10:30 AM.

**James Flack Norris Award in Physical Organic Chemistry**, sponsored by the ACS Northeastern Section, **Robert A. Moss**, Rutgers University. Address to be presented before the Division of Organic Chemistry. April 4; Moscone Center; 3018/3022; 4:00 PM.

**George A. Olah Award in Hydrocarbon or Petroleum Chemistry**, sponsored by the George A. Olah Award Endowment, **Robert Howard Grubbs**, California Institute of Technology. Address to be presented before the Division of Organic Chemistry. April 2; Moscone Center; 3018/3022; 11:10 AM.

**Charles Lathrop Parsons Award**, sponsored by ACS, **John I. Brauman**, Stanford University. Address to be presented before the ACS Board of Directors. April 2; Moscone Center; 130; 1:30 PM.

**George C. Pimentel Award in Chemical Education**, sponsored by Cengage Learning and the ACS Division of Chem-



ical Education, **Thomas A. Holme**, Iowa State University. Address to be presented before the Division of Chemical Education. April 4; San Francisco Marriott Marquis; Salons 1/2; 3:55 PM.

**Priestley Medal**, sponsored by ACS, **Tobin J. Marks**, Northwestern University. Address to be presented at the ACS National Awards Banquet Ceremony & General Meeting of the Society at the spring national meeting in San Francisco.

**Glenn T. Seaborg Award for Nuclear Chemistry**, sponsored by the ACS Division of Nuclear Chemistry & Technology, **David L. Clark**, Los Alamos National Laboratory. Address to be presented before the Division of Nuclear Chemistry & Technology. April 2; Moscone Center; Esplanade Ballroom 302; 1:20 PM.

**Gabor A. Somorjai Award for Creative Research in Catalysis**, sponsored by the Gabor A. & Judith K. Somorjai Endowment Fund, **John E. Bercaw**, California Institute of Technology. Address to be presented before the Division of Inorganic Chemistry. April 3; Moscone Center; Gateway Ballroom 103/104; 11:10 AM.

**E. Bright Wilson Award in Spectroscopy**, sponsored by the ACS Division of Physical Chemistry, **David John Nesbitt**, Joint Institute for Lab Astrophysics/National Institute of Standards & Technology and University of Colorado. Address to be presented before the Division of Physical Chemistry. April 4; Parc 55 San Francisco; Embarcadero; 2:40 PM.

**Ahmed Zewail Award in Ultrafast Science & Technology**, sponsored by the Ahmed Zewail Endowment Fund established by the Newport Corp., **Stephen R. Leone**, University of California, Berkeley. Address to be presented before the Division of Physical Chemistry. April 2; Parc 55 San Francisco; Embarcadero; 9:40 AM.

**National Fresenius Award**, sponsored by Phi Lambda Upsilon, the National Chemistry Honor Society, **Neal K. Devaraj**, University of California, San Diego. Address to be presented before the Division of Organic Chemistry. April 2; Moscone Center; 3014/3016; 11:05 AM.

## STUDENT & EDUCATOR ACTIVITIES

Education-focused programs and specialty activities are being held for undergraduate students, graduate students, high school teachers, and chemical professionals. Explore these opportunities in depth at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017).

**Undergraduate Program.** A vibrant program designed especially for undergraduate students has been planned by the Society Committee on Education's Undergraduate Programs Advisory Board. This educational and career-oriented program includes technical symposia and workshops on essential skills for employment in chemistry and success in graduate school. Eminent scientist Dr. Carolyn Bertozzi of Stanford University will present, "What life and research share in common: Finding opportunity in failure."

### Sunday, April 2

**Undergraduate Hospitality Center**, 8:00 AM to 5:00 PM, SF Marriott Marquis, Salon 7

**Making the Most of your First National Meeting**, 8:30 to 9:15 AM, SF Marriott Marquis, Salon 7

**Undergraduate Research Oral Session**, 8:30 AM to 5:00 PM, SF Marriott Marquis, Nob Hill C

**Symposium: Frontiers in Nanoscience** (cosponsored by POLY), 9:30 to 11:30 AM, SF Marriott Marquis, Golden Gate A

**Chem Demo Exchange**, 11:00 AM to 12:30 PM

**Graduate School Reality Check, Step I: Getting In** (cosponsored by YCC), 10:00 to 11:30 AM, SF Marriott Marquis, Golden Gate A

**Graduate School Reality Check, Step II: You're In—Now What?** (cosponsored by YCC), 11:30 AM to 12:45 PM

**Networking Social with Graduate School Recruiters**, 1:00 to 5:00 PM

**Networking 101** (cosponsored by YCC and PROF), 1:30 to 3:00 PM, SF Marriott Marquis, Golden Gate A

**Two-Year to Four-Year College Transfer Survival Guide** (cosponsored by YCC), 2:30 to 3:30 PM, SF Marriott Marquis, Golden Gate B

**SciBabe, Ten Rules to Surviving Fake News**, 4:00 to 5:30 PM, SF Marriott Marquis, Golden Gate A

**Student Awards Ceremony**, 7:00 to 8:30 PM, Hilton Union Square, Grand Ballroom B

**Undergraduate Social**, 8:30 to 11:00 PM, Hilton Union Square, Continental Ballroom 1–6

### Monday, April 3

**Undergraduate Hospitality Center**, 8:00 AM - 4:00 PM, SF Marriott Marquis, Salon 7

**Undergraduate Research Oral Session**, 8:30 AM to 5:00 PM, SF Marriott Marquis, Nob Hill C

**Improving Scientific Communications**, 9:00 to 10:15 AM, SF Marriott Marquis, Golden Gate B

**Symposium: The Chemistry of Fermented Beverages** (cosponsored by AGFD), 10:00 to 11:30 AM, SF Marriott Marquis, Golden Gate A

**Workshop: Chemists Celebrate Earth Day** (sponsored by CCA), 10:30 to 11:45 AM

**Undergraduate Research Poster Session** (cosponsored by CHED, AGFD, ENVR, INOR, MEDI, PHYS, POLY, GEOC, and BIOT), noon to 2:00 PM

**Eminent Scientist Lecture with Dr. Carolyn Bertozzi, Stanford University** (cosponsored by MEDI), 2:30 to 4:00 PM, SF Marriott Marquis, Golden Gate A

**Student Speed Networking with Chemistry Professionals**, 4:00 to 5:15 PM

**Sci-Mix/Successful Student Chapter Posters**, 8:00 to 10:00 PM

### Tuesday, April 4

**NSF Graduate School Fellowships**, 9:00 to 9:45 AM, SF Marriott Marquis, Golden Gate A

**Chemistry & the Environment Film Series** (cosponsored by CEI), noon to 2:00 PM, SF Marriott Marquis, Golden Gate A

**GRADUATE & POSTDOCTORAL SCHOLARS OFFICE.** The Graduate & Postdoctoral Scholars Office, with support from the Graduate Education Advisory Board, provides and promotes programs and resources for graduate students and postdoctoral scholars.

**Sunday, April 2**

**ChemIDP™: Planning for Your Career,** 11:30 AM to 1:15 PM

**Graduate & Postdoctoral Scholars Focus Group,** 2:00 to 4:00 PM

**Faculty & Postdoc Afternoon Networking Coffee Break,** 4:00 to 6:00 PM

**Monday, April 3**

**Student Speed Networking with Chemistry Professionals,** 4:00 to 5:15 PM

**Graduate & Postdoctoral Scholars Reception,** 7:00 to 8:30 PM

For more information about these events and other ACS programs offered to graduate students and postdocs, visit [www.acs.org/grad](http://www.acs.org/grad) or contact the ACS Graduate & Postdoctoral Scholars Office at [graded@acs.org](mailto:graded@acs.org) or at 800-227-5558 ext. 4588.

**CHEMISTRY TEACHER PROGRAM.** The Division of Chemical Education and the ACS Education Division are sponsoring the Chemistry Teacher Program. It will include presentations on current pedagogies, resources, and activities. The 2017 recipient of the James Bryant Conant Award in High School Chemistry Teaching will be a featured presenter during the program. The High School-College Interface Luncheon will bring together educators from all grade levels with the goal of facilitating an exchange of ideas and networking among teachers and professors.

High school and middle school teachers can register for the program directly through Attendee Registration as a pre-college teacher; the reduced registration fee includes program materials, lunch, access to the full ACS meeting, and entry to the exposition. Teachers can receive a certificate documenting up to 24 professional development hours for attending sessions.

**Sunday, April 2**

**Chemistry Teacher Program,** 8:30 AM to 4:30 PM

**Monday, April 3**

**High School Polymer Program** (cosponsored by POLY), 5:00 to 8:30 PM  
For more information, contact the Office of High School Chemistry at [education@acs.org](mailto:education@acs.org) or at 800-227-5558 ext. 2105

**SOCIAL & TICKETED EVENTS**

**Friday, March 31**

**CHAS Laboratory Waste Management** 8:00 AM to 5:00 PM, Moscone Center, Room 120

**CHAS Laboratory Safety Workshop** 8:00 AM to 5:00 PM, Moscone Center, Room 121

**Saturday, April 1**

**CHAS Cannabis Extraction & Analysis Workshop** 8:00 AM to 5:00 PM, Moscone Center, Room 120

**CHAS How to be a More Effective Chemical Hygiene Officer** 8:00 AM to 5:00 PM, Moscone Center, Room 121

**CHAS Using ACS Lab Safety Resources in the Classroom** 8:00 AM to 5:00 PM, Moscone Center, Room 124

**CHAS Reactive Chemical Management for Laboratories & Pilot Plants** 8:00 AM to 5:00 PM, Moscone Center, Room 125

**COACHing Strong Women in the Art of Strategic Persuasion** 8:00 AM to 5:00 PM, SF Marriott Union Square, Sutter 1

**COACH: Uping the Game: Refresher Workshop for Past COACH Alums** 8:00 AM to 5:00 PM, SF Marriott Union Square, Sutter 2

**ACS Presidential Outreach Event — OPEN** Noon to 4:00 PM, Exploratorium, Pier 15

**COACH Reception** 5:00 to 7:00 PM, SF Marriott Union Square, Russian Hill

**Sunday, April 2**

**Career Pathways Workshops** 8:00 AM to 5:30 PM, W San Francisco, Great Room 2

**Career Pathways II** 8:00 AM to 5:30 PM, W San Francisco, Workroom 2

**Career Pathways III** 8:00 AM to 5:30 PM, W San Francisco, Workroom 3

**Career Pathways I** 8:00 AM to 5:30 PM, W San Francisco, Workroom 1

**Undergraduate Hospitality Center** 8:00 AM to 5:00 PM, SF Marriott Marquis, Salon 7

**Making the Most of Your First National Meeting** 8:30 to 9:15 AM, SF Marriott Marquis, Salon 7

**Graduate School Reality Check, Part 1: Getting in** 10:00 to 11:30 AM, SF Marriott Marquis, Golden Gate Blrm B

**Chem Demo Exchange Household Chemicals** 11:00 AM to noon, Moscone Center, Hall A

**Graduate School Reality Check, Part II: You're in- Now What?** 11:30 AM to 12:45 PM, SF Marriott Marquis, Golden Gate Blrm B

**ACS Board Luncheon & Meeting** Noon to 1:00 PM, Moscone Center, Gateway Ballroom 103/104

**CHED (Division of Chemical Education) High School/College Interface Luncheon/SE-01/\$45** Noon to 1:00 PM, SF Marriott Marquis, Salon 7

**POLY Board Meeting** Noon to 1:00 PM, Moscone Center, 132

**Developing Communication Strategies** Noon to 5:30 PM, Park Central San Francisco, Commonwealth

**BIOT Lunch Seminars** 12:30 to 2:00 PM, InterContinental San Francisco, InterContinental B

**CTA (Committee on Technician Affairs) Awards Luncheon/SE-02/\$45** 1:00 to 3:00 PM, Hilton SF Union Square, Continental Parlor 3

## SOCIAL & EDUCATIONAL EVENTS

### **Networking Social with Graduate School Recruiters**

1:00 to 5:00 PM, Moscone Center, Hall A

### **Networking 101**

1:30 to 3:00 PM, SF Marriott Marquis, Golden Gate Blrm A

### **Graduate & Postdoc Focus Group**

2:00 to 4:00 PM, Moscone Center West, 2nd Floor, Area 2

### **Two-Year to Four-Year College**

#### **Transfer Survival**

2:30 to 3:30 PM, SF Marriott Marquis, Golden Gate Blrm B

### **Advanced Materials, Technologies, Systems & Processes Plenary Session**

3:00 to 6:00 PM, Moscone Center, Gateway Ballroom 103 & 104

### **McGraw-Hill Education Learning Technologies Workshop**

Sponsor: McGraw-Hill Education  
3:30 to 6:00 PM, Moscone Center, Room 250

### **SciBabe: Chemistry Blogging**

4:00 to 5:30 PM, SF Marriott Marquis, Golden Gate Blrm A

### **IAC (Committee on International Activities) Networking Globally: Helping Chemistry Students Find Success in Careers and Study Abroad/SE-03/ no charge**

4:00 to 5:30 PM, Hilton SF Union Square, Yosemite C

### **Faculty and Postdoc Afternoon**

#### **Coffee Break**

4:00 to 6:00 PM, Hotel Nikko San Francisco, Monterey I

### **Diversity Reception**

5:00 to 7:00 PM, Hilton Union Square, Yosemite A & B

### **AGFD Poster Session Reception**

5:00 to 7:00 PM, Moscone Center, West Hall

### **University of Wisconsin @ Madison Alumni & Friends Social Hour**

5:00 to 7:00 PM, Park Central San Francisco, Concordia Park

### **University of California, San Diego Alumni & Friends**

5:00 to 7:00 PM, SF Marriott Marquis, Salon 1

### **University of Illinois @ Urbana-**

**Champaign Alumni & Friends Reception**  
5:00 to 8:00 PM, InterContinental San Francisco, Sutter

### **District I Councilor Caucus**

5:30 to 7:00 PM, Hilton SF Union Square, Union Square 1 & 2

### **CHED Social Reception**

5:30 to 7:00 PM, Moscone Center, 134

### **COLL Social Hour/Poster Session**

5:30 to 8:00 PM, Moscone Center, Hall B/C

### **INOR Poster Session**

5:30 to 7:30 PM, Moscone Center, Hall D

### **ORGN Poster Session**

5:30 to 7:30 PM, Moscone Center, West Hall

### **Joint Research Corporation Petroleum Research Fund Reception in Honor of the Awardee for Research at an Undergraduate Institution**

5:30 to 7:30 PM, Hilton Union Square, Golden Gate 4 & 5

### **International Welcome Reception/ SE-04/no charge**

5:30 to 7:30 PM, Hilton Union Square, Grand Ballroom A

### **District IV Councilor Caucus**

6:00 to 7:00 PM, Hilton SF Union Square, Union Square 15 & 16

### **District V Councilor Caucus**

6:00 to 7:00 PM, Hilton SF Union Square, Union Square 17 & 18

### **District VI Councilor Caucus**

6:00 to 7:00 PM, Hilton SF Union Square, Union Square 19 & 20

### **District II Councilor Caucus**

6:00 to 7:00 PM, Hilton SF Union Square, Union Square 3 & 4

### **District III Councilor Caucus**

6:00 to 7:00 PM, Hilton SF Union Square, Union Square 5 & 6

### **SCHB Entrepreneurs' Poster Session**

6:00 to 8:00 PM, Moscone Center, Hall B/C

### **University of Washington Alumni & Friends/SE-27/\$5**

6:00 to 8:00 PM, W San Francisco, Great Room 1

### **Attendee Welcome Reception**

6:00 to 8:30 PM, Moscone Center, Halls B/C

### **CINF Welcoming Reception and Poster Session**

6:30 to 8:30 PM, Park Central San Francisco, Franciscan I & II

### **PROF General Posters**

6:30 to 8:30 PM, Moscone Center, Expo Hall B/C

### **Student Chapter Awards Ceremony**

7:00 to 8:30 PM, Hilton SF Union Square, Grand Ballroom B

### **Analytical Division Poster Session**

7:00 to 9:00 PM, Moscone Center, West Hall

### **MEDI General Posters**

7:00 to 9:00 PM, Moscone Center, West Hall

### **CHED Poster Session**

7:00 to 9:00 PM, Moscone Center, Hall D

### **BIOL Poster Session**

7:00 to 9:00 PM, Moscone Center, West Hall

### **FLUO Poster Session**

8:00 to 10:00 PM, Moscone Center, Hall D

### **Undergraduate Social**

8:30 to 11:00 PM, Hilton SF Union Square, Continental Ballroom 1-6

## **Monday, April 3**

### **Women in the Chemical Enterprise Breakfast/SE-05/\$40 (regular)/ SE-06/\$20**

7:30 to 9:00 AM, Hilton Union Square, Imperial B

### **YCC Fun run/SE-07/\$30 (regular)/ SE-08/\$15 (undergraduates)**

8:00 to 10:00 AM, Moscone Center West, Outside West Lobby

### **Career Pathways II**

8:00 AM to 5:30 PM, W San Francisco, Workroom 2

### **Career Pathways III**

8:00 AM to 5:30 PM, W San Francisco, Workroom 3

### **Career Pathways I**

8:00 AM to 5:30 PM, W San Francisco, Workroom 1

### **Undergraduate Hospitality Center**

8:00 AM to 4:00 PM, SF Marriott Marquis, Salon 7

### **Engaging Colleagues in Dialogue**

8:00 AM to noon, Park Central San Francisco, Commonwealth

### **Improving Scientific Communications**

9:00 to 10:15 AM, SF Marriott Marquis, Golden Gate Blrm B

## SOCIAL & EDUCATIONAL EVENTS

### ACS Exposition

9:00 AM to 5:00 PM, Moscone Center, Halls B/C

### Teaching Laboratory Safety in the Undergraduate Chemistry Curriculum,

Sponsor: Flinn Scientific Inc.

9:30 AM to noon, Moscone Center, Room 250

### Solutions for Innovation

Sponsor: JEOL USA, Inc.

9:30 AM to noon, Moscone Center, Hall B, Exhibitor Workshop Room 2

### Advancing Material Science Research through Spectroscopy

Sponsor: ThermoFisher Scientific

9:30 AM to noon, Moscone Center, Hall B, Exhibitor Workshop Room 1

### Getting Real with Organic Chemistry

Sponsor: CAS

9:30 AM to noon, Moscone Center, Exhibit Hall B, Exhibitor Workshop Room 3

### CCA Outreach Workshop

10:30 to 11:45 AM, Moscone Center, Hall A

### Women Chemists of Color Networking/ SE-09/no charge

10:30 AM to noon, Hilton SF Union Square, Yosemite C

### PROF Speaker Luncheon

11:30 AM to 1:30 PM, Hotel Nikko San Francisco, Carmel II

### CRC Handbook Discussion Forum

11:30 AM to 3:00 PM, Moscone Center, 134

### Committee on Minority Affairs Luncheon/ SE-10/\$50 (regular)/ SE-11/\$25 (student)

11:30 AM to 1:30 PM, Hilton Union Square, Grand Ballroom A

### CHAL (Chemistry & the Law Division)

Drug & Power Luncheon/SE-12/\$40  
Noon to 1:30 PM, Mourad, 140 New Montgomery Street

### Undergraduate Research Poster Session

Noon to 2:00 PM, Moscone Center, Hall D

### BIOT Lunch Seminars

12:30 to 2:00 PM, InterContinental San Francisco, InterContinental B

### How to Make LC Method Development and Peptide Mapping Simpler / Part 2: Tackle Interferences with Advanced Triple Quadrupole Technology

Sponsor: ThermoFisher Scientific

12:30 to 3:00 PM, Moscone Center, Hall B, Exhibitor Workshop Room 1

### What can NMR do for the chemist?

### Introduction to experiments beyond 1D proton and carbon spectra

Sponsor: Bruker

12:30 to 3:00 PM, Moscone Center, Room 250

### Leading Change

1:00 to 5:00 PM, Park Central San Francisco, Commonwealth

### Graduate and Postdoc Focus Group

2:00 to 5:00 PM, Moscone Convention Center West, 2nd floor, Area 3

### Seamless Integration of 2D to 3D SAR to Guide Multi-parameter Optimisation

Sponsor: Optibrium Ltd.

3:30 to 6:00 PM, Moscone Center, Hall B, Exhibitor Workshop Room 1

### The Kavli Foundation Emerging Leader in Chemistry Lecture

4:00 to 5:10 PM, Moscone Center, Gateway Ballroom 103/104

### Women Chemists Committee Open Meeting and 'Just Cocktails' Reception

4:00 to 5:00 PM, Hotel Nikko San Francisco, Nikko Ballroom II

### The Fred Kavli Innovations in Chemistry Lecture

5:15 to 6:30 PM, Moscone Center, Gateway Ballroom 103/104

### CHAL Reception

6:00 to 8:00 PM, Jillian's, 175 Fourth Street

### CACS (Chinese-American Chemical Society) Dinner Banquet/SE-13/\$37

6:30 to 9:00 PM, Far East Café, 631 Grant Avenue

### ACS Graduate & Postdoctoral Scholars Reception/SE-14/no charge

7:00 to 8:30 PM, Moscone Center, Room 134

### UC Berkeley Dept of Chemistry Alumni & Friends Reception

7:00 to 8:30 PM, InterContinental San Francisco, Grand Ballroom C

### Sci-Mix Interdivisional Poster Session (Drink ticket with Registration)

8:00 to 10:00 PM, Moscone Center, Hall D

### Tuesday, April 4

### University of Minnesota Alumni & Friends Breakfast/SE-16/\$5

7:30 to 9:30 AM, Moscone Center, Room 2000

### Senior Chemists Breakfast/SE-15/\$20

7:30 to 9:30 AM, Hilton SF Union Square, Grand Ballroom A

### Career Pathways II

8:00 AM to 5:30 PM, W San Francisco, Workroom 2

### Career Pathways III

8:00 AM to 5:30 PM, W San Francisco, Workroom 3

### Career Pathways I

8:00 AM to 5:30 PM, W San Francisco, Workroom 1

### Coaching & Feedback

8:00 AM to noon, Park Central San Francisco, Commonwealth

### NSF Graduate School Fellowships

9:00 to 9:45 AM, SF Marriott Marquis, Golden Gate Blrm A

### ACS Exposition

9:00 AM to 5:00 PM, Moscone Center, Halls B/C

### Mass Spec Inlet Versatility to Maximize Productivity

Sponsor: Advion

9:30 AM to noon, Moscone Center, Hall B, Exhibitor Workshop Room 1

### Innovative HPLC Solutions to Increase Efficiency and Productivity in the Lab

Sponsor: Agilent Technologies

9:30 AM to noon, Moscone Center, Hall B, Exhibitor Workshop Room 2

### McGraw-Hill Education Learning Technologies Workshop

Sponsor: McGraw-Hill Education

3:30 PM to 6:00 PM, Moscone Center, Room 250

### Women Chemists Committee/Eli Lilly Travel Award Poster Session

11:00 AM to noon, Hilton Union Square, Grand Ballroom A

### PROF & SCHB Speaker Luncheon

11:30 AM to 1:30 PM, Hotel Nikko San Francisco, Nikko Carmel II

### CINF (Chemical Information Division)

### Division Luncheon/SE-20/\$30

Noon to 1:30 PM, Park Central San Francisco, Franciscan I

### COLL (Division of Colloid & Surface) Luncheon/SE-19/\$45

Noon to 1:30 PM, W San Francisco, Great Room 1

### WCC (Women Chemists Committee)

### Luncheon/SE-17/\$50 (regular)/

### SE-18/\$25 (student)

Noon to 1:30 PM, Hilton Union Square, Grand Ballroom A

### Chemistry & the Environment Film Series

Noon to 2:00 PM, SF Marriott Marquis, Golden Gate Blrm B



## SOCIAL & EDUCATIONAL EVENTS

### BIOT Lunch Seminars

12:30 to 2:00 PM, InterContinental  
San Francisco, InterContinental B

### Advancing HPLC and GC Separations

Sponsor: Agilent Technologies  
12:30 to 3:00 PM, Moscone Center, Hall  
B, Exhibitor Workshop Room 2

### Vibrational Spectroscopy for Pharmaceutical Applications

Sponsor: Bruker  
12:30 to 3:00 PM, Moscone Center, Hall  
B, Exhibitor Workshop Room 1

### Raman inVia Qontor and LiveTracking

Sponsor: Renishaw  
12:30 PM to 3:00 PM, Moscone Center,  
Exhibit Hall B, Exhibitor Workshop  
Room 3

### Leading Without Authority

1:00 to 5:00 PM, Park Central San  
Francisco, Commonwealth

### Local Section Officers, Outreach Coordinator and Speakers Reception

3:30 to 5:30 PM, Hilton SF Union  
Square, Continental Ballroom 4

### Division Officers & Councilors Caucus

4:00 to 5:30 PM, Moscone Center,  
Room 132

### ANYL (Division of Analytical Chemistry) Dinner/SE-21/\$25 (regular)/SE-22/\$15 (student)

5:00 to 7:30 PM, Hilton SF Union  
Square, Golden Gate 2

### Henry Hill & Lou Sacco Award Reception

5:00 to 7:00 PM, Hotel Nikko San  
Francisco, Nikko Ballroom III

### UCLA Research Showcase

5:00 to 7:00 PM, Moscone Center,  
Room 135

### Sacramento Region Meet & Greet Reception

5:00 to 7:00 PM, W San Francisco,  
Great Room 1

### INOR Poster Session

5:30 to 7:30 PM, Moscone Center,  
Hall D

### ORGN Poster Session

5:30 to 7:30 PM, Moscone Center,  
Hall D

### Moissi Kick-Off Reception

5:30 to 7:30 PM, Hotel Nikko San  
Francisco, Bay View

### Division Officers & Councilors Caucus (DOC/DCC) Reception

5:30 to 6:30 PM, Moscone Center, 133

### COMP Poster Session

6:00 to 8:00 PM, Moscone Center,  
West Hall

### ENVR (Division of Environmental Chemistry) Division Reception/ SE-23/\$20

6:00 to 8:00 PM, Thirsty Bear Brewing  
Co., 661 Howard St.

### NUCL Social Hour

6:00 to 8:00 PM, Moscone Center, 130

### CATL Poster Session

6:00 to 8:00 PM, Moscone Center,  
Hall D

### BIOT Poster Session/Social

6:00 to 8:00 PM, Moscone Center,  
West Hall

### ENFL (Division of Energy and Fuel) Awards Dinner/SE-24/\$60

6:30 to 9:00 PM, LeColonial, 20  
Cosmo Pl.

### CELL (Division of Cellulose and Renewable Materials) Awards Banquet/SE-25/\$65

6:00 to 10:00 PM, The Chart House,  
Pier 39, San Francisco, CA 94119

### ACS National Awards Banquet Ceremony & General Meeting/SE-26/\$130

6:30 to 10:00 PM, SF Marriott Marquis,  
Salon 8/9

### BIOL Poster Session/Social

7:00 to 9:00 PM, Moscone Center,  
West Hall

## Wednesday, April 5

### Career Pathways II

8:00 AM to 5:30 PM, W San Francisco,  
Workroom 2

### Career Pathways III

8:00 AM to 5:30 PM, W San Francisco,  
Workroom 3

### Career Pathways I

8:00 AM to 5:30 PM, W San Francisco,  
Workroom 1

### Chemical Forensics International Technical Working Group

8:30 AM to 5:00 PM, Hotel Union  
Square, Continental Ballroom 4

### Electrochemistry 101: Experiments For Use In Undergraduate Labs

Sponsor: Gamry Instruments  
9:30 AM to noon, Moscone Center,  
Room 250

### BIOT Lunch Seminars

Noon to 2:00 PM, InterContinental  
San Francisco, InterContinental B

### Structure-Based Drug Design and Ligand Modification

Sponsor: Chemical Computing Group  
3:30 to 6:00 PM, Moscone Center,  
Room 250

### POLY/PMSE Lecture & Awards Reception

5:30 PM to 8:00 PM, Moscone Center,  
134

### ENVR Poster Session

6:00 to 8:00 PM, Moscone Center,  
Hall D

### GEOC Poster Session

6:00 to 8:00 PM, Moscone Center,  
Hall D

### I&EC Poster Session

6:00 to 8:00 PM, Moscone Center,  
Hall D

### PHYS Poster Session

7:00 to 9:00 PM, Moscone Center,  
Hall D

### NUCL Poster Session

7:00 to 9:00 PM, Moscone Center,  
Hall D

### MEDI & ORGN General Poster Social

7:00 to 11:00 PM, Moscone Center,  
West Hall

## WORKSHOPS

The following workshops require a separate registration process and/or entry fee to participate in the event, as indicated in this listing. Participation is open to all interested registrants.

### Division of Chemical Health & Safety (CHAS)-sponsored workshop fees

(unless otherwise indicated). CHAS member: full registration \$375/early registration \$300; non-CHAS member: full registration \$425/early registration \$350. Early registration ends February 17. K-12 science teachers who are American Association of Chemistry Teacher members: \$99. Need-based scholarships are available for K-12 science teachers; contact scholarships@labsafetyinstitute.org.

**Half-day workshops fees.** CHAS member: \$175 early registration/\$200 after February 17; non-CHAS member: \$200 early registration/\$225 after February 17.

Registration is required for all CHAS workshops. Register online at [dchas.org/workshop-registration-page](http://dchas.org/workshop-registration-page).

**Laboratory Safety—Beyond the Fundamentals.** Friday, March 31, 8:00 AM to 5:00 PM. Moscone Center, Room 121. Presenter: James Kaufman. The Laboratory Safety Institute will present a new course at the ACS national meetings which is designed to meet the needs of scientists and science educators wanting to learn more about laboratory safety. “Lab Safety— Beyond the Fundamentals” continues where LSI’s introductory course (The Laboratory Safety Workshop) leaves off and explores new areas in lab safety. There is an emphasis on simple and inexpensive steps to create more effective lab safety programs and grow the culture of lab safety.

There is extensive opportunity for questions during the workshop with follow-up by phone and e-mail. This includes a one-hour conference call to help with the implementation of course concepts. Course participants are encouraged to submit in advance five questions or topics they wish to be sure are covered in the course: [jim@labsafetyinstitute.org](mailto:jim@labsafetyinstitute.org).

**Laboratory Waste Management.**

Friday, March 31, 8:00 AM to 5:00 PM. Moscone Center, Room 120. Presenter: Russ Phifer. CHAS offers this workshop to assist participants with the various regulatory requirements that apply to laboratories that generate hazardous waste, as well as to provide insight into the options for on-site management and off-site disposal. Focus will include discussion on recycling/reclamation techniques, economical handling of waste, and liability issues. There is extensive opportunity for questions during the workshop with follow-up by phone and e-mail.

**Cannabis Extraction Workshop.** Saturday, April 1. Moscone Center, Room 120. Presenters: Ezra Pryor, Jahan Marcu, and Melissa Wilcox. 8:00 AM to noon. CHAS and CANN (Cannabis Chemistry Subdivision) present a Cannabis Extraction Workshop, which is a comprehensive review of current methodologies and best practices in the extraction and processing of cannabis. Participants will learn the latest developments in extraction technologies, how to comply with regulations, and how to operate safely. There is extensive opportunity for questions during the workshop with follow-up by phone and e-mail.

**Cannabis Analysis Workshop.** Saturday, April 1. Moscone Center, Room 120. Presenters: Ezra Pryor, Jahan Marcu, and Melissa Wilcox. 1:00 to 5:00 PM. CHAS and CANN (Cannabis Chemistry Subdivision) present a Cannabis Analysis Workshop, which is a comprehensive review of current testing requirements, methodologies, and best practices in the analysis of cannabis and cannabis-infused products. Participants will learn how to overcome testing challenges, how to comply with standards, and how to operate safely. There is extensive opportunity for questions during the workshop with follow-up by phone and e-mail.

**Reactive Chemical Management for Laboratories & Pilot Plants.** Saturday, April 1, 8:00 AM to 5:00 PM. Moscone Center, Room 125. Sponsored by CHAS. Presenters: Neal Langerman and Harry Elston. Chemical reactivity hazards contribute to a significant number of incidents in laboratories and pilot plants. This workshop will provide participants with the knowledge and skill to screen processes for potential hazards, recognize when reactive hazards are present, and implement appropriate controls to reduce the risk of an incident associated with the hazards. Workshop attendees will review case studies of actual incidents and do screening examples in order to understand the screening and recognition process. Group discussions of control methods will allow participants to share their experiences and to evaluate methods for controlling reactivity risks.

**How to Be a More Effective Chemical Hygiene Officer.** Saturday, April 1, 8:00 AM to 5:00 PM. Moscone Center, Room 121. Sponsored by CHAS. Presenters: Russ Phifer and Jim Kaufman. CHAS offers the How to Be a More Effective Chemical Hygiene Officer workshop to provide participants with a detailed analysis of the CHO position and to prepare for the CHO Certification exam. Participants receive a clear perspective on safety issues in the laboratory, focusing on what the CHO does and how to do it better. The workshop covers the content areas of the certification exam, including a sample test in the same format as the real one. Whether you are a new Chemical Hygiene Officer or an old one, you will find something to put to real use in this

fast-paced presentation. There is extensive opportunity for questions during the workshop with follow-up by phone and e-mail.

**Using ACS Resources to Teach Lab Safety** (replacing Meeting New Chemical Safety Expectation in Instructional Laboratories). Saturday, April 1, 8:00 AM to 5:00 PM. Moscone Center, Room 124. Presenters: Samuella Sigmann and Ralph Stuart. Over the last few years, ACS has released several important new resources and updated others to support teaching laboratory safety at a variety of academic levels from secondary school to undergraduate and research settings. They are built around the RAMP paradigm supported by the ACS Committee on Professional Training guidelines. This two-part workshop will discuss how the ACS publications can be used to support chemical safety education and to promote a proactive safety culture in these settings. Each module, which has separate but complementary content, can be taken individually or both can be taken on the same day.

**Part 1: ACS Safety Tools for Secondary School and Undergraduate Labs.** 8:00 AM to noon. This module will use a variety of tools available from ACS to cover topics such as hazard recognition, basic risk assessment, understanding the Globally Harmonized System of Labeling (GHS), selecting personal protective equipment, engineering controls, safe chemical management and storage, and basic chemical waste management principles. The information presented in this module is appropriate for secondary school teachers (including those who are preservice) as well as undergraduate faculty.

**Part 2: ACS Safety Tools for Chemistry Majors and Research Laboratories.** 1:00 to 5:00 PM. In 2016, ACS released an updated web version of its *Identifying and Evaluating Hazards in Research Laboratories* document. The methods outlined in this document are designed to address operations in research laboratory settings, which are less defined and more changeable than those in teaching settings. The workshop focuses on the Job Hazard Analysis and Control Banding tools, which are appropriate for most laboratory research at the undergraduate level. Examples of Lessons Learned programs in the research setting will also be reviewed.

**COACHing Strong Women in the Art of Strategic Performance.** Saturday, April 1, 8:00 AM to 5:00 PM. San Francisco Marriott Union Square, Sutter 2. Workshop facilitators: Lee Warren and Nancy Houfek. Open to women in academia, industry, national labs, and government. This workshop is designed to provide powerful women with skills to succeed in accomplishing their goals in negotiations and meetings. Participants will be introduced to performance techniques that people in the theater and in leadership training understand about how to be effective, such as body language and nonverbals. They will learn how to articulate a clear purpose, land their message, be heard, enhance personal presence, depersonalize attacks, and manage hot moments. Participants are asked to bring examples of past challenging negotiations or meetings. These moments are examined in the workshop through the use of role plays. Discussion, coaching, and the replay of scenarios creates highly interactive, personal, and powerful learning of the wide range of tactics available for success. Travel assistance is available for women in academia and national labs. Preregister at [coach.uoregon.edu](http://coach.uoregon.edu). For more information, contact Priscilla Lewis at [coach@uoregon.edu](mailto:coach@uoregon.edu).

**Upping your Game: Refresher Workshop for Past Workshop Alums.** Saturday, April 1, 8:00 AM to 5:00 PM. San Francisco Marriott Union Square, Sutter 1. Workshop facilitators: Barbara Butterfield and Jane Tucker. This workshop is designed to be a refresher of what is learned in COACHing Strong Women in the Power of Strategic Persuasion. It begins with a preview of essential negotiation skills and moves into examination of Cialdini's six principles of influence, dealing with abrasive people, mentoring influence strategies, and dealing with difficult people. Factors contributing to personal success and failure are examined and applied to case studies. You will also be given refresher tools and concepts for making change happen where it needs to happen through exercises and role-plays, learn how to make effective interventions, and get your voice heard at the table. Travel assistance is available for women in academia and national labs. Preregister at [coach.uoregon.edu](http://coach.uoregon.edu). For more information, contact Priscilla Lewis at [coach@uoregon.edu](mailto:coach@uoregon.edu).



## ACS CAREER NAVIGATOR

**ACS Career Navigator** is your home for career services, leadership development, professional education, and market intelligence resources. We offer comprehensive and easily identified tools to help you to achieve your career goals by landing a new job, finding a new career path, comparing your salary, and viewing current trends in the chemistry enterprise to make more informed decisions. Opportunities abound at the ACS national meeting in San Francisco for career development. Take advantage of the resources and tools the ACS Career Navigator offers to help you succeed in the global scientific enterprise.

Are you ready to get started? Refresh your skills and branch into new areas of science and advanced applications with an ACS short course.

Take an ACS Leadership Development System course to gain skills that can be immediately applied in school or on the job.

If you are an ACS member, stop by the ACS Career Fair in the Moscone Center and speak to a career consultant or get a professional head shot taken.

In short, whatever your career goals, the ACS Career Navigator is here to help you achieve and exceed them. We'll see you in San Francisco!

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### ACS CAREER FAIR

**Job seekers**, are you looking to jumpstart your job search or enhance your professional development?

**Employers**, are you looking to hire scientists and engineers? Then you need to attend the ACS Career Fair, open Sunday, April 2, from 6:00 to 8:30 PM; Monday, April 3, from 9:00 AM to 5:00 PM, and Tuesday, April 4, from

9:00 AM to 5:00 PM. The career fair is the place where the best talent and the best employers in chemistry meet.

The ACS Career Fair provides on-site activities for job seekers to help them reach their career goals. ACS will help you prepare for your next career move by providing resources that make it possible to map out your personal job search strategy, strengthen your résumé, and build your interview skills, all with the support of career consultants. During the career fair, participants can take full advantage of the following:

- Networking opportunities
- Résumé reviews
- One-on-one career consulting
- Interview practice and skills building
- More than 30 career-related workshops
- Keynote speakers presented live and via webcast
- Live, on-site interviews on request

**The ACS Career Fair** is a free event with a national meeting registration. All attendees are free to visit recruiters' booths and drop off their résumés. ACS members interested in a private interview must create a profile and upload their résumés in the ACS Career Fair database. The ACS Career Fair will be held in conjunction with the ACS National Exposition, Sunday through Tuesday.

**Please note:** We cannot guarantee that you will secure interviews at the ACS Career Fair. Interviewing is strictly contingent on the availability of positions and the credentials and qualifications that employers are seeking.

**One-on-one career consulting.** Individual 30-minute appointments with career consultants are available both on-site and online. These consults can help you strengthen your résumé, improve your interviewing skills, and design a job search or comprehensive professional growth strategy. Please bring a copy of your résumé or CV to all appointments. All one-on-one on-site career consulting sessions will take place in the Résumé Review/ Mock Interview area in the Moscone Center. Sign-up begins at 9:00 AM on Sunday, April 2, on a first-come, first-served basis.



**Career and professional development workshops.** More than 20 career-related workshops will help you with everything from improving your résumé to optimizing job performance or acing an interview. Workshop times are subject to change. Please consult the online workshop schedule at [www.acs.org/careerfair](http://www.acs.org/careerfair) for locations.

**Sunday, April 2**

**New Technologies to Find Jobs and Manage Your Career,** 10:00 to 11:30 AM

**ChemIDP: Planning for Your Career,** 11:30 AM to 1:15 PM

**Setting Yourself Up for Success in an Interview,** 1:00 to 3:00 PM

**Careers in Industrial Chemistry: Identifying Your Role in the Industrial Value Chain,** 1:00 to 3:00 PM

**Finding Yourself: Identifying a Career That Matches Your Strengths and Values,** 1:00 to 4:00 PM

**Foreign National Scientist Obtaining a Job in the US,** 1:30 to 3:00 PM

**Writing Excellent Proposals,** 3:30 to 5:00 PM

**Making the Most of Your Interview: Outshine the Competition,** 3:30 to 5:30 PM

**Résumé Development: Marketing Your Brand for an Industrial Chemistry Position,** 3:30 to 5:30 PM

**Networking: How to Get Started,** 4:30 to 5:30 PM

**Monday, April 3**

**Opportunities for Chemists in the Federal Government,** 8:00 to 10:00 AM

**Working in Higher Education,** 8:00 AM to noon

**Working for Yourself,** 8:00 AM to noon

**How to Find and Apply for a Chemistry Position in the Federal Government,** 10:30 AM to 12:30 PM

**Careers in Industrial Chemistry: Identifying Your Role in the Industrial Value Chain,** 1:00 to 3:00 PM

**Setting Yourself Up for Success in an Interview,** 1:00 to 3:00 PM

**Finding Yourself: Identifying a Career that Matches your Strengths and Values,** 1:00 to 4:00 PM

**Making the Most of Your Interview: Outshine the Competition,** 3:30 to 5:30 PM

**Résumé Development: Marketing Your Brand for an Industrial Chemistry Position,** 3:30 to 5:30 PM

**Networking: How to Get Started,** 4:30 to 5:30 PM

**Tuesday, April 4**

**Careers in Industrial Chemistry: Identifying Your Role in the Industrial Value Chain,** 8:00 to 10:00 AM

**Setting Yourself Up for Success in an Interview,** 8:00 to 10:00 AM

**Finding Yourself: Identifying a Career That Matches Your Strengths and Values,** 8:00 to 11:00 AM

**Making the Most of Your Interview: Outshine the Competition,** 10:30 AM to 12:30 PM

**Résumé Development: Marketing Your Brand for an Industrial Chemistry Position,** 10:30 AM to 12:30 PM

**Networking: How to Get Started,** 11:30 AM to 12:30 PM

**Opportunities for Chemists in the Federal Government,** 1:00 to 3:00 PM

**Working for Yourself,** 1:00 to 5:00 PM

**Working in Higher Education,** 1:00 to 5:00 PM

**How to Find and Apply for a Chemistry Position in the Federal Government,** 3:30 to 5:30 PM

**Wednesday, April 5**

**Careers in Industrial Chemistry: Identifying Your Role in the Industrial Value Chain,** 8:00 to 10:00 AM

**Setting Yourself Up for Success in an Interview,** 8:00 to 10:00 AM

**Finding Yourself: Identifying a Career That Matches Your Strengths and Values,** 8:00 to 11:00 AM

**Making the Most of Your Interview: Outshine the Competition,** 10:30 AM to 12:30 PM

**Résumé Development: Marketing Your Brand for an Industrial Chemistry Position,** 10:30 AM to 12:30 PM

**Networking: How to Get Started,** 11:30 AM to 12:30 PM

**Employers—Find the talent you need at the ACS Career Fair.** Leading employers around the world trust and depend on ACS to provide them with the talent they need to innovate and excel. At our most recent event, approximately 1,000 global job seekers—from recent grads to seasoned professionals—met with recruiters seeking to fill positions in all facets of chemistry, pharmaceuticals, and biotechnology.

The ACS Careers Database can help manage your employer account, post jobs, search for qualified candidates, and schedule career fair interviews. Moreover, participating in the ACS Career Fair enables you to accomplish the following:

- Connect with top talent via on-site interviews.
- Screen candidates, and make appointments in advance.
- Find the personnel your company needs to thrive, from entry- to executive-level positions.
- Meet qualified candidates informally via networking forums.
- Extend your presence for 30 days after the career fair via the ACS jobs database.

Looking for a more traditional career fair experience? Employers can purchase booth space inside the exposition hall, enabling your company to maximize its ability to showcase products and services and connect with job seekers. Employers can sign up for the ACS Career Fair Recruiters Row package online at [www.acs.org/careers](http://www.acs.org/careers).

Employers will receive an e-mail confirmation and must visit the ACS Career Fair Information Booth to pick up their blue badge. For more information, please visit [www.acs.org/careerfair](http://www.acs.org/careerfair). You can also contact Heather McNeill at 202-452-8918 or e-mail her at [h\\_mcneill@acs.org](mailto:h_mcneill@acs.org).

**ACS SHORT COURSES**

The following short courses, specifically designed to improve the skills and marketability of chemical scientists and technicians, are offered in conjunction with the national meeting. ACS member, early registration, and group discount rates are available. A course fee and registration sepa-



rate from the national meeting are required. For more information on ACS Short Courses, to obtain pricing details, or to view a full course catalog, visit [www.proed.acs.org](http://www.proed.acs.org). If you have questions, call 202-872-4508, fax 202-872-6336, or e-mail [proed@acs.org](mailto:proed@acs.org)

**ANALYTICAL**

**1-D & 2-D NMR Spectroscopy: Structure Determination of Small-Molecule Organic Compounds**, April 1–2

**Fundamentals of High-Performance Liquid Chromatography**, April 3–4

**BIOLOGICAL/PHARMACEUTICAL/MEDICINAL CHEMISTRY**

**Application of Pharmacokinetics & Safety Pharmacology for Chemists in Drug Development**, April 2

**COMPUTERS/STATISTICS/ENGINEERING**

**Chemical Engineering for Chemists**, April 1–2

**Statistical Analysis of Laboratory Data**, April 2–4

**ORGANIC/PHYSICAL CHEMISTRY**

**1-D & 2-D NMR Spectroscopy: Structure Determination of Small-Molecule Organic Compounds**, April 1–2

**Dispersions in Liquids: Suspensions, Emulsions & Foams**, April 2–3

**Organic Synthesis: Methods & Strategies for the 21st-Century Chemist**, April 4–5

**POLYMER CHEMISTRY**

**Polymeric Coatings**, April 1–2

**Polymer Science & Technology**, April 1–2

**PROFESSIONAL DEVELOPMENT**

**Effective Technical Writing**, April 4–5

**Chemistry for Non-Chemists: The Basics, Language, and Function of Chemistry**, April 2

**Write Your Own Patent Applications**, April 2

**REGULATORY/ENVIRONMENTAL**

**Intellectual Property Strategies for Technical Professionals**, April 2

**Methods Development, Validation Procedures & Regulatory Compliance Issues**, April 3–4

**Write Your Own Patent Applications**, April 2

**Highlights of FDA and Other cGMP Regulations**, April 5

**2017 LEADERSHIP DEVELOPMENT SYSTEM COURSE OFFERINGS**

Whether you are a manager, experienced professional, or new to the workforce, we invite you to attend an ACS Leadership Development System course held at the ACS national meeting. The following four-hour facilitated courses require a fee of \$150 each for ACS members and \$300 each for nonmembers. Register for these courses when you register for the meeting. For more information and full course descriptions, visit [www.acs.org/leadershipdevelopment](http://www.acs.org/leadershipdevelopment).

**Engaging Colleagues in Dialogue.** Monday, April 3, 8:00 AM to noon. Engaging Colleagues in Dialogue is a four-hour, hands-on interactive course that helps you develop your one-on-one communication skills. You will learn how to improve both sides of the communication exchange: first working to understand how to better communicate your messages, and second working on listening and acknowledging others' messages. You will even have an opportunity to assess your own communication skills through conversations with colleagues.

**Developing Communication Strategies.** Sunday, April 2, 1:00 to 5:00 PM. With the skills that you'll gain from this half-day workshop, you'll be a better communicator in your role as an ACS leader and as a leader in your workplace and in your community. Working in small interactive groups, you'll have the chance to develop and practice your own effective communication strategy. Plan to attend this workshop and discover how a comprehensive communication strategy can make both your goals and the goals of ACS possible.

**Leading Change.** Monday, April 3, 1:00 to 5:00 PM. If you are involved in

shifting team priorities, changing the direction of a project, or reconfiguring teams, understanding how people react to change and how to help yourself and others effectively deal with the changes is key to increasing your professional success.

**Coaching and Feedback.** Tuesday, April 4, 8:00 AM to noon. This hands-on, four-hour course will provide you with a proven process and practical tools to help coach team members, project groups, employees, and volunteers more regularly and effectively. As a participant, you will work on real coaching opportunities to help you practice addressing the development and performance issues you have identified.

**Leading Without Authority.** Tuesday, April 4, 1:00 to 5:00 PM. Whether in a lab, the office, the classroom, or on a volunteer committee, you will likely find yourself leading others without formal or "positional" authority and need to be able to influence them to accomplish the project. This four-hour interactive workshop provides practical tools to help you gain cooperation and engage others in accomplishing project and team goals.

**EXHIBITOR SPONSORED WORKSHOPS**

**Exhibiting companies** will host free education sessions for attendees to introduce new products and services, build skills with specific tools and techniques, and highlight applications for existing instrumentation. Visit [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017) to register for workshops.

**Sunday, April 2**

**McGraw-Hill Education Learning Technologies Workshop.** Sponsor: McGraw-Hill Education, 3:30 to 6:00 PM, Moscone Center, Room 250.

3:30 to 4:30 PM. Tactics for Facilitating Flipped Learning — Dr. Danae Quirk Dorr, Minnesota State University, Mankato. During this workshop, participants will actively explore various strategies that may be utilized in building a student need-based flipped learning environment. By the end of the workshop, participants should be equipped

with tools that they can incorporate into their own classrooms to help bridge content delivery and assessment of student learning.

4:45 to 6:00 PM. Using ALEKS as a Tool for General Chemistry Preparation and Blended Instructional Design—Dr. Tracy McGill, Emory University

### Monday, April 3

**Solutions for Innovation.** *Sponsor:* JEOL, USA, Inc., 9:30 AM to noon, Moscone Center, Hall B, Exhibitor Workshop Room 2.

Ambient Ionization Mass Spectrometry, Scanning Electron Microscopy.

NMR Structure. Learn how the latest innovations from JEOL integrate together to enhance your science.

**Getting Real with Organic Chemistry.** *Sponsor:* CAS, 9:30 AM to noon, Moscone Center, Exhibit Hall B, Exhibitor Workshop Room 3.

Students are often left wondering—why should I care? How does this apply to me and my future career? Professors are tasked with trying to connect the real world with the concepts taught in textbooks. Come hear how Chemistry Class Advantage™, a new digital learning solution from CAS, will help you teach the relevance of organic chemistry, as well as bridge the gap between memorization and conceptual understanding.

**Advancing Material Science Research through Spectroscopy.** *Sponsor:* Thermo Fisher Scientific, 9:30 AM to noon, Moscone Center, Hall B, Exhibitor Workshop Room 1. New materials present new analytical challenges. Like many labs today, you need to stay ahead of the curve. This workshop will show you how FTIR and Raman spectroscopy can be applied in your lab; from the discovery of new materials, to solving production problems and assuring product quality. Industry expert will guide you through the latest trends and techniques to solve your toughest challenges.

**How to Make LC Method Development and Peptide Mapping Simpler/Part 2: Tackle Interferences with Advanced Triple Quadrupole Technology.** *Sponsor:* Thermo Fisher Scientific, 12:30 to 3:00 PM, Moscone Center, Hall B, Exhibitor Workshop Room 1. Part I: How to Make LC Method Development and Peptide Mapping Simpler Abstract: Why should method development and

peptide mapping be a challenge? Come and see how the latest developments in UHPLC afford method transfer from any LC with higher levels of reproducibility as well as resolution, and how when it comes to peptide mapping, we haven't just revolutionized one part of your workflow, we have revolutionized them all!

Part II: Title: Tackle Interferences with Advanced Triple Quadrupole Technology

Abstract: Kick interference to the curb, achieve better detection limits and maximize lab efficiency in the face of any sample matrix. Challenging applications are no match for new triple-quadrupole ICP-MS technology with unprecedented interference removal capabilities.

**New Reaxys: Help Shape the Future of Chemistry Search.** *Sponsor:* Elsevier, 12:30 to 3:00 PM, Moscone Center, Hall C, Exhibitor Workshop Room 4. The Reaxys/Elsevier team invites you to join this session to help share your experiences and thoughts on what makes the ideal chemistry search. Combining a mix of pre-defined testing, surveys and an open discussion, the product team would like to get your perspective on what makes a good search and discovery experience throughout your chemistry research workflow. Apply your real-life experiences to this session and help shape the future of chemistry search. We look forward to seeing you there.

**Wiley Workshop: Technology in the Modern General Chemistry Classroom.** *Sponsor:* Wiley, 12:30 to 3:00 PM, Moscone Center, Hall B, Exhibitor Workshop Room 2. Please join Wiley as we explore the trends and challenges of teaching general chemistry utilizing technology. Collaborate with your peers on what's working well and what's needed to improve student engagement and performance in this course.

Share your feedback on a forthcoming, digital general chemistry project from Jason Kautz, University of Nebraska-Lincoln. Lunch will be served! We look forward to seeing you in San Francisco.

**Seamless Integration of 2D to 3D SAR to Guide Multi-parameter Optimisation.** *Sponsor:* Optibrium, 3:30 to 6:00 PM, Moscone Center, Hall B, Exhibitor Workshop Room 1. This hands-on workshop in collaboration with BioSolveIT will explore how the combination of 2D structure activity relationships (SAR) with

3D structure-based design can be used to guide the optimisation of novel, high-quality compounds. Practical examples will be illustrated using both Optibrium's StarDrop and BioSolveIT's SeeSAR software

**Teaching Laboratory Safety in the Undergraduate Chemistry Curriculum.** *Sponsor:* Flinn Scientific, Inc., 9:30 AM to noon, Moscone Center, Room 250. Many faculty and lab managers at undergraduate institutions often find it difficult to incorporate laboratory safety throughout their courses. Join us as we discuss how to integrate Flinn Scientific's new engaging online student laboratory safety course and other valuable safety resources into your curriculum and learn how these resources can be used to build a positive safety culture in your department and school.

**What can NMR Do For The Chemist? Introduction to Experiments Beyond 1D Proton and Carbon Spectra.** *Sponsor:* Bruker, 12:30 to 3:00 PM, Moscone Center, Room 250. With the modern NMR hardware and software available today, many of the experiments that used to be considered complicated and unnecessary are now quite routine and extremely beneficial to the chemist. This workshop will present an introduction to the alphabet soup of NMR experiments and explain what they are, what information can be obtained from them, and when to use one over another. Topics will include:

- 2D experiments commonly used for structure verification and elucidation such as COSY, TOCSY, HSQC, and HMBC.
- Examination of NMR active nuclei that might be of interest to the inorganic chemist and important things to consider when running these experiments.
- Brief introduction to Magic Angle Spinning (HR-MAS and MAS) methods
- Quick look into the possibilities of triple resonance bio-molecular NMR.

**McGraw-Hill Education Learning Technologies Workshop.** *Sponsor:* McGraw-Hill Education, 3:30 to 6:00 PM, Moscone Center, Room 250.

3:30 to 4:30 PM. Implementing Connect and its Adaptive Learning Tools in the General Chemistry Classroom—Dr. Jason Overby, College of Charleston. While the online homework paradigm has been a regular component of

chemistry instruction for many years, the addition of adaptive learning tools presents a new challenge to instructors. This workshop will provide an overview of the ways that Connect and its adaptive learning tools can effectively be incorporated into any general chemistry classroom.

4:45 to 6:00 PM. The Many Faces of ALEKS in General and Elementary Chemistry at the University of Toledo—Dr. Andy Jorgensen, University of Toledo University of Toledo has utilized assessment and learning technology to better place students into introductory chemistry courses, as well as increase mastery and retention throughout those introductory courses. During this session, Professor Jorgensen will share their implementation details, results, and overall experience

### Tuesday, April 4

**Mass Spec Inlet Versatility to Maximize Productivity.** *Sponsor:* Advion, 9:30 AM to noon, Moscone Center, Exhibit Hall B, Exhibitor Workshop Room 1. With the daily need to analyze liquids, solids, vapor-phase compounds and even air-sensitive samples, the ability to change sample inlets is indispensable. Learn how a single instrument can be adapted to each of these sample requirements and rapidly changed to accommodate back-to-back assays. Listen to users in the field speak about the innovative sample inlets that have cut down on prep and streamlined their everyday work flow.

**Innovative HPLC Solutions to Increase Efficiency and Productivity in the Lab.** *Sponsor:* Agilent Technologies, 9:30 AM to noon, Moscone Center, Exhibit Hall B, Exhibitor Workshop Room 2. This workshop will focus on 2 topics: Increasing productivity of biotherapeutic characterization in drug development and developing rapid HPLC methods with sufficient resolution and speed. Detailed discussion utilizing novel HPLC instrumentation, software, and column chemistries will be discussed— with

time for Q&A with Agilent Application Scientists.

### **Engaging Millennials in the Classroom: A Panel Discussion with Dr. Neil Garg.**

*Sponsor:* Top Hat, 11:00 AM to noon, Moscone Center, Hall B, Exhibitor Workshop Room 3. With millennials demanding a more engaging learning experience, higher education instructors have had to evolve their teaching methods. Through this lively panel discussion moderated by Dr. Neil Garg, hear about tips and tricks that experts in the field are using to foster active learning both inside and outside the classroom.

### **Raman inVia Qontor and LiveTracking.**

*Sponsor:* Renishaw, 12:30 to 3:00 PM, Moscone Center, Exhibit Hall B, Exhibitor Workshop Room 3. inVia Qontor—Accurate Raman imaging of rough samples and/or those with complex surface topographies, now even faster with the new Renishaw ultra-fast Centrus detector.

### **Advancing HPLC and GC Separations.**

*Sponsor:* Agilent Technologies, 12:30 to 3:00 PM, Moscone Center, Exhibit Hall B, Exhibitor Workshop Room 2. QbD solutions for analytical method development in HPLC: Real-world data will be presented demonstrating unique ways to overcome analytical challenges. Plus, Agilent will provide an introduction to modern 2D-HPLC across multiple sample types. See the latest developments on this exciting work-flow that you can implement today. Plus witness a new era in Gas Chromatography, the Intuvo 9000 GC. Resolve Your Search for More Ions by discovering the advantages of Agilent's GCMS solutions.

### **Vibrational Spectroscopy for Pharmaceutical Applications.**

*Sponsor:* Bruker, Tuesday, 12:30 to 3:00 PM, Moscone Center, Exhibit Hall B, Exhibitor Workshop Room 1. The latest advances in the FT-IR and Raman instrumentation and applications will be reviewed on this seminar with a thorough discussion of the following topics:

- Contaminations in pharmaceutical products

- Reverse engineering
- Structural changes in proteins
- Maximization of protein stability
- Chemical imaging of biological tissues

Examples of applications will include analysis of proteins secondary structure, protein melting point determination, bacteria recognition, analysis of tablets. Seminar will include live demonstration of new Bruker FTIR microscope and hands-on session. Attendees are encouraged to bring samples of interest for analysis during the hands-on session.

### Wednesday, April 5

### **Electrochemistry 101: Experiments For Use In Undergraduate Labs.**

*Sponsor:* Gamry Instruments, 9:30 AM to noon, Moscone Center, Room 250. Gamry Instruments has developed a complete laboratory course in electrochemistry for undergraduate facilities. The course includes experiments designed to engage the students and provide them the opportunity to explore various disciplines in chemistry; such as, analyte characterization, aqueous sample testing, digital simulations, electrosynthesis, sensors, batteries, and corrosion. The complete educational bundle includes the instrument, teaching and student manuals with eleven separate experiments, as well as all cells and electrodes needed to complete a semester course for 20 students. This workshop will be an introduction to all aspects of the course material via the performance of select experiments.

### **Structure-Based Drug Design and Ligand Modification.**

*Sponsor:* Chemical Computing Group, 3:30 to 6:00 PM, Moscone Center, Room 250. The course covers MOE applications for interactive structure based design. Examples include active site visualization, protein-ligand contact analysis and ligand modification/optimization in the receptor pocket. Conformational searching and analysis of the ligand to assess ligand flexibility will be discussed. A protocol for aligning and superposing protein complexes in the context of protein selectivity will be studied.



## SPEAKER INSTRUCTIONS

**ALL SPEAKERS** and poster presenters must register and pay the appropriate registration fee to attend the meeting. Invited speakers should contact their symposium organizer or division program chair to clarify terms of their invitation.

As a speaker, you should prepare for your presentation by verifying the following details: the status of your abstract at [abstracts.acs.org](http://abstracts.acs.org) (using your ACS ID to log in to the system); mode of presentation (oral or poster); and the time, length, and location of your presentation. You should arrive in your presentation room at least 30 minutes before your scheduled speaking time. Poster presenters should set up posters at least one hour before the start of the poster session. If you need to withdraw your presentation, please send a withdrawal notice to [maps@acs.org](mailto:maps@acs.org) and contact your symposium organizer immediately.

**TECHNICAL SESSION EQUIPMENT.** Each technical session meeting room will be equipped with the following: LCD projector, screen, podium, podium microphone or lapel microphone, and laser pointer. As a speaker, you will need to provide your own laptop or arrange for specialty equipment directly with your symposium organizer and/or division program chair. To request other specialty equipment (at the standard fee), contact an ACS Operations Office during the meeting.

**SPEAKER READY ROOMS & AUDIOVISUAL SERVICE CENTERS.** As a presenter, you may use the speaker ready rooms to preview your presentation, ensure compatibility with our LCD projectors, or fulfill last-minute audiovisual equipment orders. We strongly recommend that all presenters come to the speaker ready room the day before their presentation to check for con-

nectivity and resolution. The hours of operation will be from 3:00 to 5:00 PM Saturday and 7 AM to 6 PM Sunday through Thursday. Visit the ACS Operations Office at any ACS property for speaker ready room locations. Speaker ready rooms are not equipped with copy machines. There are business centers located in each building of the Moscone Center that provide a range of services including copying, incoming and outgoing faxes, computer access, laser printing, and shipping: in the North Hall on the lower level under the escalators, adjacent to Room 130; in the South Hall, on the lower level, adjacent to Hall C; and in the West Hall, on the lobby level near the Howard St. entrance.

**POSTER SESSIONS.** All materials must be confined to a 4-foot-high by 8-foot-wide display board in the convention center and a 4-foot-high by 6-foot-wide display board in hotels. Presenters must mount their poster one hour before the scheduled session start time. Poster numbers supplied by ACS will be in the upper corner of each poster board; this number corresponds with the number assigned to each poster in the technical program. Pushpins will be available at the poster session. Presenters must remain with their posters for the duration of their scheduled session as indicated in the technical program. All posters must remain up until the session ends and then must be removed within one hour. ACS cannot assume responsibility for materials beyond these time limits.

**SCI-MIX POSTER SESSION ONLY.** Sci-Mix presenters may begin poster setup at 7:15 PM (45 minutes before the session begins). Each presenter may be accompanied by one assistant only, and both people are required to arrive together when entering the hall. After exiting, presenters will not be permitted to reenter the hall until the session begins at 8:00 PM.

## ABSTRACTS & PREPRINTS

**ONLINE TECHNICAL PROGRAM.** The technical program for the 253rd ACS National Meeting is now available at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017). You can search by divisions or committees, symposia, speakers, or keywords from abstracts as well as presidential events and the multidisciplinary theme of "Advanced Materials, Technologies, Systems & Processes."

**ABSTRACTS (USB FLASH DRIVE).** Abstracts of all scientific sessions at the meeting can be purchased in USB flash drive (thumb drive) format through ACS Attendee Registration either online before February 20 or on-site in San Francisco from April 2–6. The ACS member fee is \$65 each; the nonmember fee is \$90 each. Attendees can pick up their abstracts on-site at ACS Attendee Registration at the Moscone Center. You can have a USB flash drive shipped to you if you place your order before February 20, pay an \$8.00 postage fee per item, and provide a valid street address within the U.S. If you are not attending the meeting, you can purchase abstracts only from the ACS Office of Society Services, 1155 16th St. N.W., Washington, D.C. 20036; 800-227-5558. Abstract USB flash drives and their shipping costs are nonrefundable.

**GRAPHICAL ABSTRACTS.** Graphical abstracts from the polymer chemistry division may be ordered directly from the division. You can purchase them by e-mailing Kathy Mitchem ([kathyl@vt.edu](mailto:kathyl@vt.edu)) or inquiring about these products at the hospitality table for the division near their meeting rooms.



# TECHNICAL PROGRAM SUMMARY

## Presidential Events

PRES

A. Campbell, Program Chair

San Francisco Marriott Marquis/ Moscone Center	S	M	Tu	W	Th
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research</i> Journal**	PE				
Science for a Sustainable Energy Future**		D			
PHYS Division Awards Symposium *(PHYS)	D	D	D	A	
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Best Practices in Selecting & Presenting Safety Training Content *(CHAS)	P				
ACS Award in the Chemistry of Materials: Symposium in Honor of Douglas A. Keszler *(INOR)	E		D		
Celebrating 90 years of the WCC: Reflections of Past Chairs *(WCC)		A			
Chemical Forensics *(ANYL)		D	D		
Excellence in Graduate Polymer Research *(POLY)		D	DE		
Teaching, Researching & Community Building in the Global Chemical Enterprise *(IAC)		D			
Rising Star Award Symposium *(WCC)		P			
Producing Knowledgeable, Well-Rounded, T-Shaped Chemists for the 21st Century: Current Perspectives from High School, Undergraduate & Graduate Educators *(PROF)			A		
GSSPC: Water Sustainability *(CHED)			D		
Communicating Science in the 21st Century to Diversified Audiences *(CHED)				D	
What Have We Learned & Where Are We Going: Post-Settlement in the University of California *(CHAS)				D	
Current Best Practices for Chemistry REU Programs *(CHED)					A

\*Cosponsored symposium with primary organizer shown in parentheses; located with primary organizer.

\*\*Primary organizer of a cosponsored symposium.

AMTSP: Advanced Materials, Technologies, Systems & Processes

A = AM AE = AM/EVE P = PM D = AM/PM

E = EVE DE = AM/PM/EVE PE = PM/EVE

## Multidisciplinary Program Planning Group (continued)

MPPG

K. Beers, Program Chair

Moscone Center	S	M	Tu	W	Th
Spotlight on Advanced Materials, Technologies, Systems & Processes in the <i>Journal of the American Chemical Society</i>	A				
Advanced Materials, Technologies, Systems & Processes Plenary Session	P				
Advanced Materials, Technologies, Systems & Processes: Implementation of Chemistry into Practice		A			
The Kavli Foundation Emerging Leader in Chemistry Lecture		P			
The Fred Kavli Innovations in Chemistry Lecture		P			
Nanoscience & Nanotechnology for Advanced Materials & Technologies		P			
Next Generation Smart Materials *(POLY)	A	D	D	D	A
Catalysis for Unconventional Energy Sources *(ENFL)	D	A			
Polymeric Materials for Performance & Sustainability *(POLY)	D	D	AE	D	A
Catalytic Materials from Molecular Insight *(COMP)	D	D	D		
Advanced Materials & Technologies for Solar Energy Conversion & Storage *(ENFL)	D	D	D		
Computations for CO <sub>2</sub> Capture, Conversion & Sequestration *(ENFL)	D	D			
Janus Particles: Synthesis, Characterization & Applications *(PMSE)	D	D			
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Incorporating Polymer Science into the Classroom *(POLY)	D				
Innovative Chemistry & Materials for Electrochemical Energy Storage *(ENFL)	P	D	D	D	A
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research</i> Journal *(PRES)	PE				
ACS Award in the Chemistry of Materials: Symposium in Honor of Douglas A. Keszler *(INOR)	E		D		
Support & Activator Effects on Metal-Mediated Polymerization *(PMSE)		D	D		
50th Anniversary Celebration of Macromolecules *(POLY)		D			
Science for a Sustainable Energy Future *(PRES)		D			
Industrial Innovations in Polymer Chemistry *(POLY)		P			

## PROGRAM SUMMARY

### Multidisciplinary Program Planning Group

M P P G

*K. Beers, Program Chair*

Moscone Center	S	M	Tu	W	Th
Chemistry Is Central to Applied Materials *(INOR)			AE	A	
Functional Porous Materials for Sustainable Energy *(ENFL)			D	D	A
Biomass & Biofuel Processing *(ENFL)			D	D	
Polymers Under Deformation *(PMSE)			D	D	
State-of-the-Art Methods for Modeling Materials Chemistry *(COMP)			D	D	
Polymer Chemistry (RSC) Lectureship *(POLY)			D		
Advances in Polysaccharides: Practice & Applications *(CELL)			P	D	D
Undergraduate Laboratory Experiments Involving Advanced Materials *(CHED)				D	
Frontiers in Glycoanalytics *(CELL)				P	A
Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry *(CELL)				P	D

### Division of Agricultural & Food Chemistry

A G F D

*N. Seeram, Program Chair*

Hilton San Francisco Union Square	S	M	Tu	W	Th
Chemistry & Biological Effects of Maple Food Products	D				
Chemistry of Korean Foods & Beverages **	D				
Withycombe-Charalambous Graduate Student Symposium **	P				
General Posters	E				
Structure & Chemistry of Proteins of Food Safety & Food Manufacturing Interest		A			
Artisanal Foods <small>AMTSP</small>		D	A		
Chemistry & Biological Activities of Phenolic Compounds from Fruits & Vegetables		D	D	D	
General Papers		P	P	D	D
Sci-Mix		E			
Chemistry of Tree Nuts			D		
Bliss Point: Food Satiety & Food Mood Effects					A
Chemistry of Cellulosic Natural Products				P	
Synthetic Biology in Food & Agriculture					A
Coffee & Cocoa Products					D
Nanocellulose Processing & Analysis *(CELL)	D	D			

### Division of Agricultural & Food Chemistry

A G F D

*N. Seeram, Program Chair*

Hilton San Francisco Union Square	S	M	Tu	W	Th
Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems *(CELL)	D	P	D	D	D
Undergraduate Research Posters *(CHED)		P			
Developments in the Fields of Celluloses & Lignocelluloses: In Honor of Dr. Rajai Atalla *(CELL)			D	D	D
Advances in Polysaccharides: Practice & Applications *(CELL)			P	D	D
Biobased Gels & Porous Materials *(CELL)				D	D
Advances in Resource Recovery & Conservation in Water Systems *(ENVR)				PE	D

### Division of Agrochemicals

A G R O

*S. Jackson, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
Contaminants of Emerging Concern in Natural & Engineered Systems *(ENVR)	D	D		E	
Hollyweird Chemistry *(CPRC)	P	D			
Contaminants in Urban & Coastal Estuarine Ecosystems *(ENVR)				PE	D

### Division of Analytical Chemistry

A N Y L

*L. Baker, K. Phimney, Program Chairs*

Hilton San Francisco Union Square	S	M	Tu	W	Th
Synthesis & Characterization of Materials for Energy Applications ** <small>AMTSP</small>	D	D	D	D	
Coherent Multidimensional Spectroscopy in Materials Science ** <small>AMTSP</small>	D	D			
Advances in Separations	D				
Analytical Neuroscience	D				
New Analytical Advances in Accelerator Mass Spectrometry (AMS)	D				
Analytical Division Poster Session	E				
ACS Award in Chromatography: Symposium in Honor of Robert T. Kennedy		A			
Chemical Forensics **		D	D		
Biomedical Advances in Cancer Detection & Therapeutics Using Advanced Analytical Techniques		D			
ACS Award in Analytical Chemistry: Symposium in Honor of Donald F. Hunt		P			

## PROGRAM SUMMARY

### Division of Analytical Chemistry

A N Y L

*L. Baker, K. Phinney, Program Chairs*

Hilton San Francisco Union Square	S	M	Tu	W	Th
Sci-Mix		E			
Metamorphosis of Supercritical Fluid Chromatography to Chromatographic Systems Using Carbon Dioxide			A		
Kathryn C. Hach Award for Entrepreneurial Success: Symposium in Honor of David R. Walt **			A		
Advanced Materials, Discovery, Characterization & Safety			D		
New Applications of Supercritical Fluid Chromatography			P		
Frank H. Field & Joe L. Franklin Award for Outstanding Achievement: Symposium in Honor of Vicki H. Wysocki **			P		
Hierarchical Characterization of Materials Using Atomic Spectrometry & Related Techniques <i>AMTSP</i>				A	
Active Learning in the Undergraduate Analytical Chemistry Curriculum **				D	
Recent Innovations in Nano-Biosensing Applications of Wearable or Implantable Sensors for Systems in Biology <i>AMTSP</i>				D	
Advances in Analytical Electrochemistry				P	D
Advances in Analytical Mass Spectrometry					D
Advances in Analytical Spectroscopy					D
Accurate Mass/High-Resolution Mass Spectrometry for Environmental Monitoring & Remediation *(ENVR)	D	A		E	
Contaminants of Emerging Concern in Natural & Engineered Systems *(ENVR)	D	D		E	
Nanocellulose Processing & Analysis *(CELL)	D	D			
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Separation of Macromolecules & Particulates *(POLY)	D				
Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences *(ENVR)		P		E	
Undergraduate Research Posters *(CHED)		P			
ACS Award in Industrial Chemistry: Symposium in Honor of Jane Frommer *(I&EC)		P			
Developments in the Fields of Celluloses & Lignocelluloses: In Honor of Dr. Rajai Atalla *(CELL)			D	D	D
Applications of X-Ray & Neutron Scattering Techniques in Energy Technologies *(ENFL)			D	D	
Frontiers in Glycoanalytics *(CELL)				P	A

### Division of Biochemical Technology

B I O T

*M. O'Malley, V. Roy, Program Chairs*

InterContinental San Francisco	S	M	Tu	W	Th
Biosimilars	A				
David Perlman Memorial Lectureship	A				
Biophysical & Biomolecular Processes <i>AMTSP</i>	D	D	D	A	
Upstream Processes <i>AMTSP</i>	D	D	D	D	A
Downstream Processes <i>AMTSP</i>	D	D	D	D	D
Biobased Products	D	D	D	P	
Start-up Road <i>AMTSP</i>	E	D			
Emerging Technologies <i>AMTSP</i>		A	D	D	A
James M. Van Lanen Distinguished Service Award & Marvin J. Johnson Award in Microbial & Biochemical Technology		A			
Sci-Mix		E			
W. H. Peterson Awards & BIOT Young Investigator Award			A		
Poster Session <i>AMTSP</i>			E		
Alan S. Michaels Award in the Recovery of Biological Products			E		
Quality by Design				A	D
2017 E.V. Murphree Award in Industrial & Engineering Chemistry: Symposium in Honor of Eleftherios T. Papoutsakis **				A	
Drug Product & Delivery				D	D
D.I.C. Wang Award Lecture				E	
Biotechnology & Bioengineering Elmer Gaden Award Lecture					A
Biotechnology & Bioengineering Daniel IC Wang Award					E
Cellulose Structure & Biosynthesis *(CELL)	D	D	A		
Science for a Sustainable Energy Future: Energy Storage *(PRES)		D			
Undergraduate Research Posters *(CHED)		P			
Kathryn C. Hach Award for Entrepreneurial Success: Symposium in Honor of David R. Walt *(ANYL)			A		

## PROGRAM SUMMARY

### Division of Biological Chemistry

# B I O L

*L. Hedstrom, Program Chair*

Moscone Center	S	M	Tu	W	Th
Graduate Student & Postdoctoral Fellow Symposium	A			P	A
Ronald Breslow Award for Achievement in Biomimetic Chemistry: Symposium in Honor of Benjamin G. Davis	A				
ACS Award in Pure Chemistry: Symposium in Honor of Neal K. Devaraj	P				
Goodman Award: Symposium in Honor of Jennifer Doudna	P				
Current Topics in Biochemistry	E		E		
Early Career Investigators in Biological Chemistry		A			
Nucleic Acid Therapeutics: Mechanisms & Applications		D			
Sci-Mix		E			
Metalloprotein-Initiated Signaling Transduction Response to Redox Stress **			A		
Chemical Epigenetics			A		
ACS Chemical Biology Award Symposium **			P		
Mid-Career Investigators in Biological Chemistry				A	
Self-Assembly of Small Molecules in the Cellular Milieu <i>AMTSP</i>				A	
Chemical Probes for Bacterial Imaging **				P	
National Fresenius Award: Symposium in Honor of Neal K. Devaraj *(ORGN)	A				
Cellulose Structure & Biosynthesis *(CELL)	D	D	A		
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges *(INOR)	P		D		
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research Journal</i> *(PRES)	PE				
Science for a Sustainable Energy Future *(PRES)		D			
Undergraduate Research Posters *(CHED)		P			
Rising Star Award Symposium *(WCC)		P			
ACS Award in Industrial Chemistry: Symposium in Honor of Jane Frommer *(I&EC)		P			
ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in Honor of Yvonne C. Martin *(COMP)			D		
Chemical Biology: Enabling Drug Discovery *(ORGN)				A	

### Division of Business Development & Management

# B M G T

*J. Bryant, Program Chair*

Hotel Nikko San Francisco	S	M	Tu	W	Th
Chemical Angel Network: Chemists Investing in Chemical Companies **	P				
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research Journal</i> *(PRES)	PE				
ACS Award in the Chemistry of Materials: Symposium in Honor of Douglas A. Keszler *(INOR)	E		D		
Entrepreneurial Opportunities in Chemistry *(YCC)	E				
Teaching, Researching & Community Building in the Global Chemical Enterprise *(IAC)		D			
Science for a Sustainable Energy Future *(PRES)		D			
Producing Knowledgeable, Well-Rounded, T-Shaped Chemists for the 21st Century: Current Perspectives from High School, Undergraduate & Graduate Educators *(PROF)			A		
Looking Beyond Your Current Boundaries: What's the Next Step? *(PROF)				D	

### Division of Carbohydrate Chemistry

# C A R B

*N. Snyder, Program Chair*

Grand Hyatt San Francisco	S	M	Tu	W	Th
Wolfrom Award	A				
Isbell Award	P				
Gin New Investigator Award	P				
Hudson Award		A			
Carbohydrate-Based Hybrid Materials for Nanomedicine **		P	A		
Sci-Mix		E			
LPS: Chemistry, Synthesis & Applications **			D		
General Posters			E		
Carbohydrate-Based Nanomaterials & Drug-Delivery Vehicles **				D	
Cellulose Structure & Biosynthesis *(CELL)	D	D	A		

\*Cosponsored symposium with primary organizer shown in parentheses; located with primary organizer.

\*\*Primary organizer of a cosponsored symposium.

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## PROGRAM SUMMARY

### Division of Carbohydrate Chemistry

C A R B

*N. Snyder, Program Chair*

Grand Hyatt San Francisco	S	M	Tu	W	Th
Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in Honor of Kevin J. Edgar *(CELL)	D	D	D		
Hollyweird Chemistry *(CPRC)	P	D			
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research</i> Journal *(PRES)	PE				
Functional Lignocellulosics & Nanotechnology *(CELL)		D	D	D	D
Science for a Sustainable Energy Future *(PRES)		D			
Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials *(CATL)		P	D		
Advances in Polysaccharides: Practice & Applications *(CELL)			P	D	D
Biobased Gels & Porous Materials *(CELL)				D	D
Frontiers in Glycoanalytics *(CELL)				P	A

### Division of Catalysis Science & Technology

C A T L

*E. Nikolla, S. Scott, Program Chairs*

Parc 55 San Francisco	S	M	Tu	W	Th
Amorphous Catalytic Materials <i>AMTSP</i>	D	A			
Advanced X-Ray Techniques for Catalyst Characterization ** <i>AMTSP</i>	D	D	A		
Elucidation of Mechanisms & Kinetics on Surfaces ** <i>AMTSP</i>	D	D	D	D	D
Electrocatalysis for Energy Generation & Storage ** <i>AMTSP</i>	D	D			
ACS Award in Surface Chemistry: Symposium in Honor of Cynthia M. Friend ** <i>AMTSP</i>	D	D			
Synthesis of Catalysts by Nontraditional Methods ** <i>AMTSP</i>	D				
Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis ** <i>AMTSP</i>		D	D	D	
Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials ** <i>AMTSP</i>		P	D		
Operando Methodology at the Junction Between Fundamental Chemistry & Chemical Engineering ** <i>AMTSP</i>			D	D	D
Designed Catalysis: Materials Genome Approach to Heterogeneous Processes ** <i>AMTSP</i>			D	D	D
General Papers <i>AMTSP</i>			P	P	P

### Division of Catalysis Science & Technology

C A T L

*E. Nikolla, S. Scott, Program Chairs*

Parc 55 San Francisco	S	M	Tu	W	Th
Poster Session <i>AMTSP</i>			E		
Single-Site Heterogeneous Catalysts <i>AMTSP</i>				D	A
Subsurface Technologies for Recovery of Fossil & Geothermal Energy *(ENFL)	A				
Catalysis for Unconventional Energy Sources *(ENFL)	D	A			
Molecular Surface Science, Nanomaterials & Catalysis: Symposium in Honor of Gabor Somorjai at 80 *(COLL)	D	D	A	D	
Synthesis & Characterization of Materials for Energy Applications *(ANYL)	D	D	D	D	
Catalytic Materials from Molecular Insight *(COMP)	D	D	D		
Advanced Materials & Technologies for Solar Energy Conversion & Storage *(ENFL)	D	D	D		
C1 Catalysis *(ENFL)	D	D			
Computations for CO <sub>2</sub> Capture, Conversion & Sequestration *(ENFL)	D	D			
Sustainability in Electrocatalytic Fuel & Chemical Production *(INOR)	DE	P			
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research</i> Journal *(PRES)	PE				
Support & Activator Effects on Metal-Mediated Polymerization *(PMSE)		D	D		
Science for a Sustainable Energy Future *(PRES)		D			
Functional Porous Materials for Sustainable Energy *(ENFL)			D	D	A
State-of-the-Art Methods for Modeling Materials Chemistry *(COMP)			D	D	
ACS Award Lectures *(COLL)			P		
13th International Symposium on Heavy Oil Upgrading, Production & Characterization *(ENFL)				D	A

## PROGRAM SUMMARY

### Division of Cellulose & Renewable Materials CELL

*M. Roman, Program Chair*

Moscone Center	S	M	Tu	W	Th
Cellulose Structure & Biosynthesis **	D	D	A		
Processing & Properties of Biobased Composites & Blends	D	D	D	A	
Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in Honor of Kevin J. Edgar **	D	D	D		
Nanocellulose Processing & Analysis **	D	D			
Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems **	D	P	D	D	D
New Horizons in Sustainable Materials **	D				
General Posters	E				
Chemistry & Physical Chemistry of Thermal Processes for the Circular Carbon Economy ** <small>AMTSP</small>		A			
Functional Lignocellulosics & Nanotechnology ** <small>AMTSP</small>		D	D	D	D
Sci-Mix		E			
Developments in the Fields of Celluloses & Lignocelluloses: In Honor of Dr. Rajai Atalla **			D	D	D
Advances in Polysaccharides: Practice & Applications **			P	D	D
Biobased Gels & Porous Materials ** <small>AMTSP</small>				D	D
Frontiers in Glycoanalytics ** <small>AMTSP</small>				P	A
Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry ** <small>AMTSP</small>				P	D
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research</i> Journal *(PRES)	PE				
Science for a Sustainable Energy Future: Energy Storage *(PRES)		D			
Carbohydrate-Based Hybrid Materials for Nanomedicine *(CARB)		P	A		
Biomass & Biofuel Processing *(ENFL)			D	D	
LPS: Chemistry, Synthesis & Applications *(CARB)			D		
Carbohydrate-Based Nanomaterials & Drug-Delivery Vehicles *(CARB)				D	

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### Division of Chemical Education CHED

*T. Miller, I. Levy, C. Muzzi, Program Chairs*

San Francisco Marriott Marquis	S	M	Tu	W	Th
Eye Tracking Research in Chemistry Education	A				
Undergraduate Research Papers **	D	D			
Research in Chemistry Education	D			D	
Citizens First! **	D				
Green Chemistry: Theory & Practice **	D				
High School Program **	D				
NMR Spectroscopy in the Undergraduate Curriculum	D				
State of the Art: Applying Chemistry Education Research to Practice	D				
Celebrating Chemistry Through Outreach: Honoring the Legacy of Christine Jaworek-Lopes	P				
General Posters	E				
ACS-CEI Award for Incorporating Sustainability into Chemistry Education		A			
Chemistry Education Research: Graduate Student Research Forum		A			
Advances in e-Learning & Online Chemical Education		D	A		
ACS Award for Achievement in Research for the Teaching & Learning of Chemistry: Symposium in Honor of Marcy H. Towns **		D			
Curricular Innovations in Undergraduate Chemical Education Impacted by NSF		D			
Fundamentals of Chemistry		D			
Outreach Education: From Program Design to Assessment **		P			
International & Multicultural Perspective **		P			
Process-Oriented Guided Inquiry Learning (POGIL)		P			
Undergraduate Research Posters **		P			
Innovating Materials for the Next Generation: Bringing Practical Applications into the Chemistry Classroom ** <small>AMTSP</small>		E			
Successful Student Chapters **		E			
Sci-Mix		E			
Perspectives on Climate Change Literacy & Education: Local to International **			A		
ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences: Symposium in Honor of Sandra Y. McGuire **			A		
Advancing Undergraduate Research ** <small>AMTSP</small>			D	A	
Advances in Teaching Organic Chemistry			D		
George C. Pimentel Award in Chemical Education: Symposium to Honor Thomas A. Holme			D		
GSSPC: Water Sustainability **			D		
Course-Based Undergraduate Research Experiences (CUREs) in Chemistry			P	D	

## PROGRAM SUMMARY

### Division of Chemical Education

C H E D

*T. Miller, I. Levy, C. Muzzi, Program Chairs*

San Francisco Marriott Marquis	S	M	Tu	W	Th
Simulations, Animations & Other Visualizations in Educating about Chemistry Save Chemistry!			P		
The Role of Research Experiences in the ACS Certified Degree			P		
Writing in Chemistry			P		
Research on Learning in the Lab**				A	
Communicating Science in the 21st Century to Diversified Audiences**				D	
Strategies Promoting Success of Two-Year College Students				D	
Undergraduate Laboratory Experiments Involving Advanced Materials**				D	
Using Chemistry Education Research to Inform the Design & Use of Assessment Materials				D	
General Papers				P	A
Eliciting Attentiveness from Cyber-Savvy Students Without Using Electronic Tools				P	
How Do We Teach Collaboration? Best Practices for Educating Future Researchers & Innovators**					A
Instructors & Researchers: Advancing Graduate Student Education					A
The General Chemistry Course for a Changing World					A
Engaging Students in Physical Chemistry**					A
Current Best Practices for Chemistry REU Programs**					A
Undergraduate Symposium*(AGFD)	A				
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium*(PROF)	D	D			
Incorporating Polymer Science into the Classroom*(POLY)	D				
Blending Chemistry & Culture: Undergraduate Research Abroad Through ACS IREU Program*(IAC)	D				
Textbooks & the Practice of Science: Before, During & After Gutenberg*(CINF)	P	D			
Hollyweird Chemistry*(CPRC)	P	D			
The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross*(WCC)	P		A		
Withycombe-Charalambous Graduate Student Symposium*(AGFD)	P				
Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences*(ENVR)		P		E	
The Write Thing to Do: Ethical Considerations in Authorship & the Assignment of Credit*(CINF)		P			

### Division of Chemical Education

C H E D

*T. Miller, I. Levy, C. Muzzi, Program Chairs*

San Francisco Marriott Marquis	S	M	Tu	W	Th
Processes, Technologies & Sensors for Food-Energy-Water Nexus Research*(ENVR)			A		
Producing Knowledgeable, Well-Rounded, T-Shaped Chemists for the 21st Century: Current Perspectives from High School, Undergraduate & Graduate Educators*(PROF)			A		
Science & Perception of Climate Change*(ENVR)			P	E	
Active Learning in the Undergraduate Analytical Chemistry Curriculum*(ANYL)				D	
How Do We Teach Collaboration? Best Practices for Educating Future Researchers & Innovators*(CHED)					A

### Division of Chemical Health & Safety

C H A S

*D. Decker, J. Pickel, F. Wood-Black, Program Chairs*

Park Central San Francisco	S	M	Tu	W	Th
Ask Dr. Safety: Chemical & Occupational Safety in the Cannabis Industry**	P				
Best Practices in Selecting & Presenting Safety Training Content**	P				
Cannabis: Emerging Challenges in Regulations, Product Analysis & Processing**		D			
Sci-Mix		E			
Information Flow in Environmental Health & Safety**			D		
What Have We Learned & Where Are We Going: Post-Settlement in the University of California**				D	
Nanocellulose Processing & Analysis*(CELL)	D	D			
Recent Developments in TSCA Regulation: New Requirements for Chemicals in Commerce*(CHAL)			P		
Cannabis: A Growing Sector for Business & Employment*(SCHB)				A	

\*Cosponsored symposium with primary organizer shown in parentheses; located with primary organizer.

\*\*Primary organizer of a cosponsored symposium.

AMTSP: Advanced Materials, Technologies, Systems & Processes

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## PROGRAM SUMMARY

### Division of Chemical Information C I N F

*E. Alvaro, Program Chair*

Park Central San Francisco	S	M	Tu	W	Th
Careers in Chemical Information	A				
Open Access: Current Landscape, Challenges & Future Directions	D		D		
Materials Informatics & Computational Modeling** <i>AMTSP</i>	D				
Textbooks & the Practice of Science: Before, During & After Gutenberg**	P	D			
CINF Scholarships for Scientific Excellence: Student Poster Competition	E				
Advances in Data Visualization		A			
Advances in High-Throughput Screening**		D			
The Write Thing to Do: Ethical Considerations in Authorship & the Assignment of Credit**		P			
Sci-Mix		E			
Advanced Materials: Issues in Nanoinformatics & Nanosafety Data <i>AMTSP</i>			A		
Text-Mining & Natural Language Processing for Chemical Information: From Documents to Knowledge			D		
Assessment of Chemistry Collections & Services				A	
General Papers				D	
Public-Private Partnerships: Fostering Drug Discovery & Data Sharing**				D	
Should I Move My Computational Chemistry or Informatics Tools to the Cloud?*(COMP)	D	D			
Computer-Aided Peptide Design*(COMP)	D				
Data Science Challenges in Computational Chemistry*(COMP)		P			
Information Flow in Environmental Health & Safety*(CHAS)			D		

### Division of Chemistry & the Law C H A L

*K. Bianco, J. Kennedy, Program Chairs*

Park Central San Francisco	S	M	Tu	W	Th
Strengthening Your Patent Rights in Light of Recent Federal Circuit Court Decisions	P				
Patent Challenges & Chocolate: A Sweet & Sour Symposium		A			
Nontraditional Careers in Chemistry		A			
The Use of Scientific Information in IP-Related Matters		P			
Sci-Mix		E			
An International Perspective: Patent Eligible Subject Matter & Opposition Procedures			A		
Protecting & Capitalizing on Your Intellectual Property			P		
Recent Developments in TSCA Regulation: New Requirements for Chemicals in Commerce**			P		

### Division of Chemistry & the Law C H A L

*K. Bianco, J. Kennedy, Program Chairs*

Park Central San Francisco	S	M	Tu	W	Th
Cannabis Law: Navigating Complex Regulatory & Legal Issues in States with Legal Cannabis Programs				A	
The Many Faces of CHAL: Where Chemistry Meets the Law					P
A Decade of U.S. Supreme Court Patent Jurisprudence					P
Chemical Forensics*(ANYL)		D	D		

### Division of Colloid & Surface Chemistry C O L L

*R. Nagarajan, Program Chair*

Moscone Center	S	M	Tu	W	Th
Basic Research in Colloids, Surfactants & Nanomaterials	AE			D	A
Applied Biosensing Based on Functional Colloids <i>AMTSP</i>	D	D	A	A	
Biomembrane Synthesis, Structure, Mechanics & Dynamics	D	D	A	D	A
Molecular Surface Science, Nanomaterials & Catalysis: Symposium in Honor of Gabor Somorjai at 80**	D	D	A	D	
Coacervation: Physics, Chemistry & Biology <i>AMTSP</i>	D	D			
Chemistry & Physics of Tribology <i>AMTSP</i>	D		A	D	
Colloidal Nanoparticle Synthesis & Assembly	DE	D	A	D	A
Interfacial Phenomena & the Oil-Water Interface <i>AMTSP</i>	DE	D			
Nanoscale Chemical Patterning & Characterization	DE	D			
Deposition & Etching of Nanostructures** <i>AMTSP</i>	DE		D		
Nanostructure Engineering & Surface Chemistry for Spectroscopy, Imaging & Alternative Energy Harvesting & Conversion <i>AMTSP</i>	P	D	A		
Hierarchical Self-Assembly of Organic Monolayers, Bilayers & Films: Theory & Experiment	E	D	A	D	A
Fundamental Research in Colloids, Surfaces & Nanomaterials	E				
ACS Award in Colloid Chemistry: Symposium in Honor of Nicholas A. Kotov		D	A		
Sci-Mix		E			
ACS Award for Research at an Undergraduate Institution: Symposium in Honor of Maria Hepel			A		
ACS Award Lectures**			P		
Mineral-Water Interface Chemistry*(GEOC)	D	A	D	AE	



PROGRAM SUMMARY

Division of Colloid & Surface Chemistry

COLL

R. Nagarajan, Program Chair

Moscone Center	S	M	Tu	W	Th
Elucidation of Mechanisms & Kinetics on Surfaces *(CATL)	D	D	D	D	D
Janus Particles: Synthesis, Characterization & Applications *(PMSE)	D	D			
ACS Award in Surface Chemistry: Symposium in Honor of Cynthia M. Friend *(CATL)	D	D			
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Separation of Macromolecules & Particulates *(POLY)	D				
Synthesis of Catalysts by Nontraditional Methods *(CATL)	D				
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research</i> Journal *(PRES)	PE				
Functional Lignocellulosics & Nanotechnology *(CELL)		D	D	D	D
Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis *(CATL)		D	D	D	
Science for a Sustainable Energy Future *(PRES)		D			
ACS Award in Industrial Chemistry: Symposium in Honor of Jane Frommer *(I&EC)		P			
Chemical Principles of Environmental, Cellular & Organismal Nanotoxicology *(ENVR)				AE	
Biobased Gels & Porous Materials *(CELL)				D	D
Deposition & Etching of Nanostructures *(INOR)				D	
Evolving Nanoparticle Reactivity Throughout Nucleation, Growth & Dissolution *(GEOC)				D	

Division of Computers in Chemistry

COMP

H. Woodcock, M. Feig, J. Shen, Program Chairs

InterContinental San Francisco	S	M	Tu	W	Th
Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling**	A	D	A	D	D
Computational Studies of Water	D	A			
Catalytic Materials from Molecular Insight** <small>AMTSP</small>	D	D	D		
Strong Electron Correlation & Nonadiabatic Dynamics**	D	D	D		
Should I Move My Computational Chemistry or Informatics Tools to the Cloud? **	D	D			
Computer-Aided Peptide Design**	D				

Division of Computers in Chemistry

COMP

H. Woodcock, M. Feig, J. Shen, Program Chairs

InterContinental San Francisco	S	M	Tu	W	Th
Undergraduate Research & National Meeting Roundtable	P				
Drug Design		D		D	D
Data Science Challenges in Computational Chemistry**		P			
Sci-Mix		E			
Molecular Mechanics			A	D	D
State-of-the-Art Methods for Modeling Materials Chemistry**			D	D	
ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in Honor of Yvonne C. Martin**			D		
Material Science			P	D	D
Quantum Mechanics			P	D	D
Chemical Computing Group			E		
Graduate Student Travel Awards			E		
COMP Poster Session			E		
NVIDIA GPU Award			E		
OpenEye Outstanding Junior Faculty Award			E		
Wiley Computers in Chemistry Outstanding Postdoc Award			E		
Quantum Dynamics in Large-Scale Systems *(PHYS)	D	D	D		
Computations for CO <sub>2</sub> Capture, Conversion & Sequestration *(ENFL)	D	D			
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Materials Informatics & Computational Modeling *(CINF)	D				
Advances in High-Throughput Screening *(CINF)		D			
Undergraduate Research Posters *(CHED)		P			
Designed Catalysis: Materials Genome Approach to Heterogeneous Processes *(CATL)			D	D	D
Public-Private Partnerships: Fostering Drug Discovery & Data Sharing *(CINF)				D	

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## PROGRAM SUMMARY

### Division of Energy & Fuels

E N F L

*D. Heldebrant, Program Chair*

Grand Hyatt San Francisco	S	M	Tu	W	Th
Subsurface Technologies for Recovery of Fossil & Geothermal Energy** <i>AMTSP</i>	A				
Catalysis for Unconventional Energy Sources** <i>AMTSP</i>	D	A			
Advanced Materials & Technologies for Solar Energy Conversion & Storage**	D	D	D		
CI Catalysis**	D	D			
Computations for CO <sub>2</sub> Capture, Conversion & Sequestration** <i>AMTSP</i>	D	D			
Advanced Analytical Techniques for Determination of Minor & Trace Elements in Petroleum Value Chain <i>AMTSP</i>	D				
Innovative Chemistry & Materials for Electrochemical Energy Storage** <i>AMTSP</i>	P	D	D	D	A
Advances in Chemistry of Energy & Fuels <i>AMTSP</i>		D	D	D	A
ENFL Distinguished Researcher Award: Symposium in Honor of Mieczyslaw M. Boduszynski		P			
Sci-Mix		E			
Functional Porous Materials for Sustainable Energy** <i>AMTSP</i>			D	D	A
Applications of X-Ray & Neutron Scattering Techniques in Energy Technologies** <i>AMTSP</i>			D	D	
Biomass & Biofuel Processing**			D	D	
13th International Symposium on Heavy Oil Upgrading, Production & Characterization**				D	A
Cellulose Structure & Biosynthesis *(CELL)	D	D	A		
Electrocatalysis for Energy Generation & Storage *(CATL)	D	D			
Hollyweird Chemistry *(CPRC)	P	D			
Chemistry & Physical Chemistry of Thermal Processes for the Circular Carbon Economy *(CELL)		A			
Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis *(CATL)		D	D	D	
Science for a Sustainable Energy Future *(PRES)		D			
Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials *(CATL)		P	D		
Rising Star Award Symposium *(WCC)		P			

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### Division of Environmental Chemistry

E N V R

*S. Obare, S. Al-Abed, Program Chairs*

San Francisco Marriott Marquis (Thursday only: Moscone Center)	S	M	Tu	W	Th
Have Great Lakes Restoration Programs Been Successful? The Case of Legacy & Emerging Pollutants	A			E	
Accurate Mass/High-Resolution Mass Spectrometry for Environmental Monitoring & Remediation** <i>AMTSP</i>	D	A		E	
Oxidation Processes, Nanoparticles & Membranes in Water & Wastewater Treatment: A Symposium in Honor of Prof. Jun Ma <i>AMTSP</i>	D	D	D	A	
Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse <i>AMTSP</i>	D	D	D	DE	
Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium Honoring the Contributions of Mel Suffet	D	D	D	E	
Understanding Dissolved Organic Matter Reactivity: Honoring George Aiken, the DOM Whisperer	D	D	D		
Contaminants of Emerging Concern in Natural & Engineered Systems** <i>AMTSP</i>	D	D		E	
Tribute to Jerry Schnoor	D	D			
Green Chemistry & the Environment**	D			E	
Integrated & Sustainable Environmental Remediation**	P			E	
Advances & Applications in Water Sensing Technologies for Drinking Water, Re-Use, Agri-Tech & Research		A		E	
Sulfidation of Metal-Based Engineered & Natural Nanomaterials: Implications for Their Fate & Effects in the Environment <i>AMTSP</i>		D		E	
Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences**		P		E	
Nanomaterials in Consumer Products: Formulation, Characterization & Applications Across the Product Life Cycle		P		E	
Sci-Mix		E			
Processes, Technologies & Sensors for Food-Energy-Water Nexus Research** <i>AMTSP</i>			A		
Innovative Materials & Technologies for Sustainable Water Purification** <i>AMTSP</i>			D	DE	D

## PROGRAM SUMMARY

### Division of Environmental Chemistry

E N V R

*S. Obare, S. Al-Abed, Program Chairs*

San Francisco Marriott Marquis (Thursday only: Moscone Center)	S	M	Tu	W	Th
From the Bench to the Field: Evaluating Innovative Remediation & Detection Technologies			D	E	
ACS Award for Creative Advances in Environmental Science & Technology: Symposium in Honor of Dr. Douglas R. Worsnop <i>AMTSP</i>			D		
Green Chemistry Adoption: Progressive Changes by Different Industry Sectors**			D		
Science & Perception of Climate Change**			P	E	
Great Achievements in Environmental Science & Technology: James J. Morgan Award Symposium				A	
Chemical Principles of Environmental, Cellular & Organismal Nanotoxicology**				AE	
Whole Organism Metrology to Support Nanotoxicology Research in the Environment				D	
Poly- & Per-Fluoroalkyl Substances: Where, What, When, Why, Who & How <i>AMTSP</i>				DE	A
Aquatic Photochemistry**				DE	D
Novel Membrane Materials & Processes for Water Purification <i>AMTSP</i>				DE	D
Advances in Resource Recovery & Conservation in Water Systems** <i>AMTSP</i>				PE	D
Contaminants in Urban & Coastal Estuarine Ecosystems** <i>AMTSP</i>				PE	D
Pesticides in Surface Water: Monitoring, Modeling, Mitigation, Risk Assessment & Regulation				PE	D
Applications of Cheminformatics & Computational Chemistry in Environmental Health				E	D
Bioprocesses for Engineered Nanomaterials in Soil-Plant Systems <i>AMTSP</i>				E	D
Clay Minerals Selectivity & Its Environmental Applications				E	
New Challenges in Environmental Chemistry: Marine Ecosystems & Microplastics				E	
General Posters				E	
Mineral-Water Interface Chemistry*(GEOC)	D	A	D	AE	
Elucidation of Mechanisms & Kinetics on Surfaces*(CATL)	D	D	D	D	D

### Division of Environmental Chemistry

E N V R

*S. Obare, S. Al-Abed, Program Chairs*

San Francisco Marriott Marquis (Thursday only: Moscone Center)	S	M	Tu	W	Th
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium*(PROF)	D	D			
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research Journal</i> *(PRES)	PE				
Advances in Treatment Processes for Metals & Metalloids*(GEOC)		A		E	
Chemistry & Physical Chemistry of Thermal Processes for the Circular Carbon Economy*(CELL)		A			
Teaching, Researching & Community Building in the Global Chemical Enterprise*(IAC)		D			
Science for a Sustainable Energy Future*(PRES)		D			
Undergraduate Research Posters*(CHED)		P			
Operando Methodology at the Junction Between Fundamental Chemistry & Chemical Engineering*(CATL)			D	D	D
Recent Developments in TSCA Regulation: New Requirements for Chemicals in Commerce*(CHAL)			P		
Evolving Nanoparticle Reactivity Throughout Nucleation, Growth & Dissolution*(GEOC)				D	
Environmental Challenges & Solutions in Unconventional Oil & Gas Development*(GEOC)				E	D
Contaminants Transport, Uptake & Remediation at Contaminated Sites*(GEOC)				E	D

### Division of Fluorine Chemistry

F L U O

*N. Vasdev, Program Chair*

Grand Hyatt San Francisco	S	M	Tu	W	Th
ACS Award for Creative Work in Fluorine Chemistry: Symposium in Honor of Antonio Togni	DE	D	D		
Sci-Mix		E			
General Papers			P		
General Posters			E		

## PROGRAM SUMMARY

### Division of Geochemistry

G E O C

*A. Ilgen, Program Chair*

San Francisco Marriott Union Square	S	M	Tu	W	Th
Mineral-Water Interface Chemistry**	D	A	D	AE	
Redox-Driven Environmental	D	A	D	E	
Geochemical Reactions for Metals, Major Elements & Organic Pollutants					
Pore-Scale Geochemical Processes & the Implications for CO <sub>2</sub> Geologic Storage	D				
Structure, Properties & Applications of Minerals with Layered Structure	D				
Advances in Treatment Processes for Metals & Metalloids**		A		E	
Formation, Structure & Reactivity of Biogenic Minerals		A		E	
2017 Geochemistry Division Medal Symposium		P			
Sci-Mix		E			
2017 Geochemistry Division Medal: Symposium in Honor of Dr. Susan Brantley			D	AE	
Microbially Driven Geochemical Reactions: Kinetics & Communities			D	DE	
Evolving Nanoparticle Reactivity Throughout Nucleation, Growth & Dissolution**				D	
Structure & Reactivity of Cementitious Materials from Advanced Characterization Techniques				PE	A
General Geochemistry				PE	
Environmental Challenges & Solutions in Unconventional Oil & Gas Development**				E	D
Contaminants Transport, Uptake & Remediation at Contaminated Sites**				E	D
Mineral Nucleation: Transient Intermediates & Phase Transitions				E	D
Subsurface Technologies for Recovery of Fossil & Geothermal Energy*(ENFL)	A				
Computations for CO <sub>2</sub> Capture, Conversion & Sequestration*(ENFL)	D	D			
Science for a Sustainable Energy Future*(PRES)		D			
Undergraduate Research Posters*(CHED)		P			
Aquatic Photochemistry*(ENVR)				DE	D
Advances in Resource Recovery & Conservation in Water Systems*(ENVR)				PE	D

### Division of the History of Chemistry

H I S T

*S. Rasmussen, Program Chair*

Grand Hyatt San Francisco	S	M	Tu	W	Th
General Papers	A			A	
Golden Age of Industrial Chemistry**	P				
Chemistry Through the Eyes of Non-Chemists: Evolution of the Public Perception of Chemistry		D	A		
Sci-Mix		E			
Chemistry & the Design of Physical Objects: Innovation from 1950 to the Present <i>AMTSP</i>			P		
Textbooks & the Practice of Science: Before, During & After Gutenberg*(CINF)	P	D			
Hollyweird Chemistry*(CPRC)	P	D			
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research Journal</i> *(PRES)	PE				

### Division of Industrial & Engineering Chemistry

I & E C

*E. Rosenberg, Program Chair*

Grand Hyatt San Francisco	S	M	Tu	W	Th
I&EC International Fellow Symposium: Honoring Prof. Kew-Ho Lee	A				
Ionic Liquids in Separations & Analysis	P				
I&EC Division Fellow Award Symposium: Honoring Prof. Klavs Jensen	P				
2017 ACS Sustainable Chemistry & Engineering Lectureship Awards: Symposium in Honor of Gregg Beckham		A			
Symposium in Honor of Michelle Cummings, ACT Fellow <i>AMTSP</i>		A			
ACS Award in Industrial Chemistry: Symposium in Honor of Jane Frommer** <i>AMTSP</i>		P			
2017 ACS Sustainable Chemistry & Engineering Lectureship Awards: Symposium in Honor of Jinlong Gong		P			
Sci-Mix		E			
2017 ACS Sustainable Chemistry & Engineering Lectureship Awards: Symposium in Honor of Helen Sneddon			A		
2016 E.V. Murphree Award in Industrial & Engineering Chemistry: Symposium in Honor of Michael M. Thackeray			D		
I&EC Division Early Career Fellow Symposium: Honoring Dr. Leigh Martin				D	
General Posters				E	
General Papers					D



## PROGRAM SUMMARY

### Division of Industrial & Engineering Chemistry

I & E C

*E. Rosenberg, Program Chair*

Grand Hyatt San Francisco	S	M	Tu	W	Th
Nanocellulose Processing & Analysis *(CELL)	D	D			
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research Journal</i> *(PRES)	PE				
Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis *(CATL)		D	D	D	
Teaching, Researching & Community Building in the Global Chemical Enterprise *(IAC)		D			
Science for a Sustainable Energy Future *(PRES)		D			
Operando Methodology at the Junction Between Fundamental Chemistry & Chemical Engineering *(CATL)			D	D	D
Recent Developments in TSCA Regulation: New Requirements for Chemicals in Commerce *(CHAL)			P		
2017 E.V. Murphree Award in Industrial & Engineering Chemistry: Symposium in Honor of Eleftherios T. Papoutsakis *(BIOT)				A	

### Division of Inorganic Chemistry

I N O R

*S. Koch, N. Radu, Program Chairs*

Moscone Center	S	M	Tu	W	Th
Lanthanide & Actinide Chemistry **	A		E	A	D
Bioinorganic Chemistry	A		PE	A	A
Organometallic Chemistry	AE	P	PE	D	D
Coordination Chemistry	AE		E	P	D
Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions	D	P	AE		
Chemistry of Materials	D		DE	D	D
Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator: Symposium in Honor of Nilay Hazari	D				
Undergraduate Research at the Frontiers of Inorganic Chemistry	DE	P	A		
Celebrating 60 Years of the Division of Inorganic Chemistry	DE	P	D	D	
Sustainability in Electrocatalytic Fuel & Chemical Production **	DE	P			
F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in Honor of Pingyun Feng	DE	P			

### Division of Inorganic Chemistry

I N O R

*S. Koch, N. Radu, Program Chairs*

Moscone Center	S	M	Tu	W	Th
ACS Award in Inorganic Chemistry: Symposium in Honor of Lawrence Que Jr.	DE				
2017 Priestley Medalist: Symposium in Honor of Tobin J. Marks **	P	P	D	D	
ACS Award in Organometallic Chemistry: Symposium in Honor of Marcetta Y. Darensbourg	P	P			
Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges **	P		D		
Inorganic Catalysts	P		E		D
Gabor A. Somorjai Award for Creative Research in Catalysis: Symposium in Honor of John E. Bercaw	E	P	A		
Switchable Catalysts	E	P	D	A	
ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in Honor of William B. Tolman	E		D		
ACS Award in the Chemistry of Materials: Symposium in Honor of Douglas A. Keszler ** <small>AMTSP</small>	E		D		
Nanoscience	E			A	P
ACS Awards in Inorganic Chemistry: Plenary Session		A			
ACS Awards: Symposium in Honor of Lawrence Que Jr. & William B. Tolman	P				
Sci-Mix	E				
Chemistry Is Central to Applied Materials **			AE	A	
Emergent Phenomena in the Solid State			DE		
Solid-State Inorganic Chemistry			E	A	A
Main Group Chemistry			E	P	P
Environmental & Energy-Related Inorganic Chemistry			E	P	
Inorganic Spectroscopy			E	P	
Electrochemistry			E		A
Deposition & Etching of Nanostructures **				D	
Frontiers in Heavy Element Electronic Structure **				D	
Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory *(PHYS)	D	D	D	D	
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Synthesis of Catalysts by Nontraditional Methods *(CATL)	D				
Deposition & Etching of Nanostructures *(COLL)	DE		D		
Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in Honor of David L. Clark *(NUCL)	P	D	D		

## PROGRAM SUMMARY

### Division of Inorganic Chemistry I N O R

*S. Koch, N. Radu, Program Chairs*

Moscone Center	S	M	Tu	W	Th
Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis *(CATL)		D	D	D	
Support & Activator Effects on Metal-Mediated Polymerization *(PMSE)		D	D		
Undergraduate Research Posters *(CHED)		P			
ACS Award in Industrial Chemistry: Symposium in Honor of Jane Frommer *(I&EC)		P			
Metalloprotein-Initiated Signaling Transduction Response to Redox Stress *(BIOL)			A		
Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten *(NUCL)			D		

### Division of Medicinal Chemistry M E D I

*A. Stamford, Program Chair*

Moscone Center	S	M	Tu	W	Th
Macrocycles & Cyclopeptides in Medicinal Chemistry	A				
General Orals	D		P	P	
Medicinal Chemists' Toolbox: Factors Influencing Oral Bioavailability & Case Studies	P				
General Posters	E			E	
Actually, It Does Work: Success with Allosteric Kinase Ligands & Phosphatase Modulators		A			
Residence Time: Not Just Affinity for Drug Design		A			
Kinase Inhibitors for Immuno-Inflammatory Diseases		P			
Misfolded Proteins in Neurodegenerative Diseases		P			
Sci-Mix		E			
Antibiotic Drug Discovery: The Next Frontier			A		
MEDI Awards Symposium			A		
Drug Discovery for ALS: Putting the Ice Bucket to Work			P		
Targeting Epigenetic Writers & Erasers				A	
First-Time Disclosures				D	
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research Journal</i> *(PRES)	PE				

### Division of Medicinal Chemistry M E D I

*A. Stamford, Program Chair*

Moscone Center	S	M	Tu	W	Th
Advances in High-Throughput Screening *(CINF)		D			
Science for a Sustainable Energy Future: Energy Storage *(PRES)		D			
Undergraduate Research Posters *(CHED)		P			
Eminent Scientist Lecture with Dr. Carolyn Bertozzi *(SOCED)		P			
ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in Honor of Yvonne C. Martin *(COMP)			D		
Green Chemistry Adoption: Progressive Changes by Different Industry Sectors *(ENVR)			D		
Entrepreneurship in Biotechnology, Advanced Materials, Drug Discovery & Information Systems *(SCHB)			P		

### Division of Nuclear Chemistry & Technology N U C L

*A. Hixon, Program Chair*

Moscone Center	S	M	Tu	W	Th
Nuclear Fission	D				
Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in Honor of David L. Clark **	P	D	D		
Nuclear & Radiochemistry Summer School: Past, Present & Future		D			
Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten **			D		
Advanced Actinide Materials: Nanostructure, Complexity & Extreme Environments <i>AMTSP</i>				D	
General Topics in Nuclear Chemistry & Technology				DE	A
Young Investigators in Nuclear & Radiochemistry **					D
Hollyweird Chemistry *(CPRC)	P	D			
Evolving Nanoparticle Reactivity Throughout Nucleation, Growth & Dissolution *(GEOC)				D	
Frontiers in Heavy Element Electronic Structure *(INOR)				D	

\*Cospponsored symposium with primary organizer shown in parentheses; located with primary organizer.

\*\*Primary organizer of a cospponsored symposium.

AMTSP: Advanced Materials, Technologies, Systems & Processes  
 A = AM AE = AM/EVE P = PM D = AM/PM  
 E = EVE DE = AM/PM/EVE PE = PM/EVE

## PROGRAM SUMMARY

### Division of Organic Chemistry

ORGN

*R. Broene, S. Silverman, Program Chairs*

Moscone Center	S	M	Tu	W	Th
National Fresenius Award: Symposium in Honor of Neal K. Devaraj**	A				
George A. Olah Award in Hydrocarbon or Petroleum Chemistry: Symposium in Honor of Robert H. Grubbs	A				
Biologically Related Molecules & Processes	D	D	E		
Metal-Mediated Reactions & Syntheses	DE	D	A		
New Reactions & Methodology	DE	D	D	D	A
Asymmetric Reactions & Syntheses	DE	D			
Herbert C. Brown Award for Creative Research in Synthetic Methods: Symposium in Honor of Bruce H. Lipshutz	P				
Elias J. Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator: Symposium in Honor of Neil K. Garg		A			
Computer-Guided Organic Synthesis		A			
Ernest Guenther Award in the Chemistry of Natural Products: Symposium in Honor of Stephen F. Martin		P			
Application of Physical Organic Chemistry to Challenges in Industry		P			
Sci-Mix		E			
ACS Award for Creative Work in Synthetic Organic Chemistry: Symposium in Honor of Matthew S. Sigman			A		
Heterocycles & Aromatics			D	DE	
Advances in Organic Synthesis: Successes from Academia-Industry Partnerships			D		
Molecular Recognition & Self-Assembly			DE	A	
Total Synthesis of Complex Molecules			P	DE	A
James Flack Norris Award in Physical Organic Chemistry: Symposium in Honor of Robert A. Moss			P		
Materials, Devices & Switches <i>AMTSP</i>			E	P	A
Peptides, Proteins & Amino Acids			E	P	
Advanced Materials Technologies, Systems & Processes <i>AMTSP</i>			E		P
Chemistry of Fullerenes, Carbon Nanotubes & Graphene			E		
Nanomaterials			E		
Chemical Biology: Enabling Drug Discovery**				A	
Nobel Laureate Signature Award for Graduate Education in Chemistry: Symposium in Honor of Junqi Li & Martin D. Burke**				A	
Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species				PE	D
Flow Chemistry & Continuous Processes				E	A

### Division of Organic Chemistry

ORGN

*R. Broene, S. Silverman, Program Chairs*

Moscone Center	S	M	Tu	W	Th
Chemistry of Nanomaterials, Fullerenes, Carbon Nanotubes & Graphene					A
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research Journal</i> *(PRES)	PE				
Science for a Sustainable Energy Future *(PRES)		D			
ACS Award in Industrial Chemistry: Symposium in Honor of Jane Frommer *(I&EC)		P			
Green Chemistry Adoption: Progressive Changes by Different Industry Sectors *(ENVR)			D		

### Division of Physical Chemistry

PHYS

*J. Shea, Program Chair*

Parc 55 San Francisco	S	M	Tu	W	Th
Sunlight-Driven Processes: Exposing the Mechanisms Underlying Productive Photoactivities	D	A	P	D	A
Long-Range Correlated Motions in Proteins	D	D	A		
PHYS Division Awards Symposium	D	D	D	A	
Dynamics & Structure of Molecular Fluids: Honoring the Work & Life of Branka Ladanyi	D	D	D	D	
Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory** <i>AMTSP</i>	D	D	D	D	
Quantum Dynamics in Large-Scale Systems** <i>AMTSP</i>	D	D	D		
Expanding the Frontiers in Condensed Phase Astrochemistry: Electron Transfer Processes in Ices & Catalysis on Interstellar Grains		D	D	D	A
Spectroscopy of Complex Systems <i>AMTSP</i>		P	D	D	A
Sci-Mix		E			
Plasmonic Nanomaterials: From Physical Chemistry Fundamentals to Societal Impacts <i>AMTSP</i>				D	D
PHYS Poster Session				E	
Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling *(COMP)	A	D	A	D	D
Advanced X-Ray Techniques for Catalyst Characterization *(CATL)	D	D	A		

## PROGRAM SUMMARY

### Division of Physical Chemistry

P H Y S

*J. Shea, Program Chair*

Parc 55 San Francisco	S	M	Tu	W	Th
Synthesis & Characterization of Materials for Energy Applications *(ANYL)	D	D	D	D	
Catalytic Materials from Molecular Insight *(COMP)	D	D	D		
Strong Electron Correlation & Nonadiabatic Dynamics *(COMP)	D	D	D		
Coherent Multidimensional Spectroscopy in Materials Science *(ANYL)	D	D			
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Engaging Students in Physical Chemistry *(CHED)					A

### Division of Polymer Chemistry

P O L Y

*C. Lipscomb, T. White, T. Epps, Program Chairs*

Moscone Center	S	M	Tu	W	Th
Next Generation Smart Materials ** <i>AMTSP</i>	A	D	D	D	A
General Topics: New Synthesis & Characterization of Polymers	D	A	DE	D	A
Contributions of IBM Almaden to Polymer Science ** <i>AMTSP</i>	D	A			
Polymeric Materials for Performance & Sustainability **	D	D	AE	D	A
Polymer Applications & Characterization in the Biomedical Industry <i>AMTSP</i>	D		E		
Incorporating Polymer Science into the Classroom **	D				
Separation of Macromolecules & Particulates ** <i>AMTSP</i>	D				
Carl S. Marvel Creative Polymer Chemistry Award in Honor of Theresa M. Reineke	P				
Excellence in Graduate Polymer Research ** <i>AMTSP</i>		D	DE		
Undergraduate Research in Polymer Science	D	E			
50th Anniversary Celebration of Macromolecules ** <i>AMTSP</i>		D			
Industrial Innovations in Polymer Chemistry **		P			
Sci-Mix		E			
Polymer Chemistry (RSC) Lectureship **			D		
Structure to Function in Supramolecular Polymers & Materials <i>AMTSP</i>			DE	D	A
Polymers & Biomimicry <i>AMTSP</i>			P	D	A
Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications ** <i>AMTSP</i>			E	D	A
ACS Award in Polymer Chemistry: Symposium in Honor of Murugappan Muthukumar **				P	

### Division of Polymer Chemistry

P O L Y

*C. Lipscomb, T. White, T. Epps, Program Chairs*

Moscone Center	S	M	Tu	W	Th
POLY/PMSE Plenary Lecture & Awards **				E	
Frontiers in Nanoscience *(SOCED)	A				
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium *(PROF)	D	D			
Materials Informatics & Computational Modeling *(CINF)	D				
New Horizons in Sustainable Materials *(CELL)	D				
Hollyweird Chemistry *(CPRC)	P	D			
Undergraduate Research Posters *(CHED)		P			
ACS Award in Industrial Chemistry: Symposium in Honor of Jane Frommer *(I&EC)		P			
Innovating Materials for the Next Generation: Bringing Practical Applications into the Chemistry Classroom *(CHED)		E			
Developments in the Fields of Celluloses & Lignocelluloses: In Honor of Dr. Rajai Atalla *(CELL)			D	D	D
Polymers Under Deformation *(PMSE)			D	D	
Recent Advances in Multiblock Copolymers *(PMSE)			P	D	A
Advances in Polysaccharides: Practice & Applications *(CELL)			P	D	D
Biobased Gels & Porous Materials *(CELL)				D	D
Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry *(CELL)				P	D

### Division of Polymeric Materials Science & Engineering

P M S E

*A. Tsou, M. Grunlan, B. Olsen, X. Jia, C. Snyder, Program Chairs*

Moscone Center	S	M	Tu	W	Th
Nanoscale Spectroscopic Characterization of Catalysts & Polymers <i>AMTSP</i>	D	D			
Young Investigators Symposium ** <i>AMTSP</i>	D	D			
Janus Particles: Synthesis, Characterization & Applications ** <i>AMTSP</i>	D	D			
ACS Award in Applied Polymer Science: Symposium in Honor of Zhenan Bao ** <i>AMTSP</i>	D	D			
General Papers/New Concepts in Polymeric Materials <i>AMTSP</i>	D		D	D	D
1D Nanomaterials: Synthesis, Assembly, Properties & Applications <i>AMTSP</i>	D				
Molecular Engineering of Peptide Assembly <i>AMTSP</i>		D	D	D	
Synthesis, Processing & Device Engineering of Polymeric Electronic Materials <i>AMTSP</i>		D	D	D	
Support & Activator Effects on Metal-Mediated Polymerization ** <i>AMTSP</i>		D	D		



## PROGRAM SUMMARY

### Division of Polymeric Materials Science & Engineering

P M S E

*A. Tsou, M. Grunlan, B. Olsen, X. Jia, C. Snyder, Program Chairs*

Moscone Center	S	M	Tu	W	Th
Sci-Mix <i>AMTSP</i>		E			
Cooperative Research Award: Symposium in Honor of Paul A. Kohl & Edmund Elce <i>AMTSP</i>			A		
Biomaterials for Immunotherapy <i>AMTSP</i>			D	D	A
Innovations in Drug Delivery Systems & Combination Products <i>AMTSP</i>			D	D	
Polymers Under Deformation** <i>AMTSP</i>			D	D	
Recent Advances in Multiblock Copolymers** <i>AMTSP</i>			P	D	A
Joint PMSE/POLY Poster Session <i>AMTSP</i>			E		
Contributions of IBM Almaden to Polymer Science*(POLY) <i>AMTSP</i>	D	A			
Advanced Materials & Technologies for Solar Energy Conversion & Storage*(ENFL)	D	D	D		
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium*(PROF)	D	D			
Incorporating Polymer Science into the Classroom*(POLY)	D				
Separation of Macromolecules & Particulates*(POLY)	D				
Innovative Chemistry & Materials for Electrochemical Energy Storage*(ENFL)	P	D	D	D	A
2017 Priestley Medalist: Symposium in Honor of Tobin J. Marks*(INOR)	P	P	D	D	
50th Anniversary Celebration of Macromolecules*(POLY)		D			
Industrial Innovations in Polymer Chemistry*(POLY)		P			
Undergraduate Research Posters*(CHED)		P			
ACS Award in Industrial Chemistry: Symposium in Honor of Jane Frommer*(I&EC)		P			
Innovating Materials for the Next Generation: Bringing Practical Applications into the Chemistry Classroom*(CHED)		E			
Advances in Polysaccharides: Practice & Applications*(CELL)			P	D	D
Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications*(POLY)			E	D	A
Biobased Gels & Porous Materials*(CELL)				D	D
ACS Award in Polymer Chemistry: Symposium in Honor of Murugappan Muthukumar*(POLY)				P	
POLY/PMSE Plenary Lecture & Awards*(POLY)				E	

### Division of Professional Relations

P R O F

*R. D. Libby, Program Chair*

Hotel Nikko San Francisco	S	M	Tu	W	Th
LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**	D	D			
General Posters	E				
Sci-Mix		E			
Producing Knowledgeable, Well-Rounded, T-Shaped Chemists for the 21st Century: Current Perspectives from High School, Undergraduate & Graduate Educators**			A		
REU Chemistry in Action: Student Perspectives			P		
Looking Beyond Your Current Boundaries: What's the Next Step? **				D	
The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross*(WCC)	P		A		
Starting a Successful Research Program at a PUI*(YCC)	P				
Chemical Angel Network: Chemists Investing in Chemical Companies*(BMGT)	P				
Holy Grails in Chemistry: Celebrating the 50th Anniversary of <i>Accounts of Chemical Research Journal</i> *(PRES)	PE				
ACS Award in the Chemistry of Materials: Symposium in Honor of Douglas A. Keszler*(INOR)	E		D		
Entrepreneurial Opportunities in Chemistry*(YCC)	E				
Celebrating 90 years of the WCC: Reflections of Past Chairs*(WCC)		A			
Excellence in Graduate Polymer Research*(POLY)		D	DE		
Teaching, Researching & Community Building in the Global Chemical Enterprise*(IAC)		D			
Science for a Sustainable Energy Future*(PRES)		D			
Space Chemistry: How It Helps Space Exploration*(YCC)		D			
Rising Star Award Symposium*(WCC)		P			
Chemists & Writing for Fun & Profit: Write Your Own Career*(SCHB)			A		
Advancing Undergraduate Research*(CHED)			D	A	
Entrepreneurship in Biotechnology, Advanced Materials, Drug Discovery & Information Systems*(SCHB)			P		

## PROGRAM SUMMARY

### Division of Small Chemical Businesses

S C H B

*J. Sabol, Program Chair*

Hotel Nikko San Francisco	S	M	Tu	W	Th
Entrepreneurs' Poster Session	A				
Sci-Mix		E			
Chemists & Writing for Fun & Profit: Write Your Own Career**			A		
Entrepreneurship in Biotechnology, Advanced Materials, Drug Discovery & Information Systems** <i>AMTSP</i>			P		
Cannabis: A Growing Sector for Business & Employment**				A	
Hollyweird Chemistry*(CPRC)	P	D			
Chemical Angel Network: Chemists Investing in Chemical Companies*(BMGT)	P				
Entrepreneurial Opportunities in Chemistry*(YCC)	E				
Cannabis: Emerging Challenges in Regulations, Product Analysis & Processing*(CHAS)		D			
Green Chemistry Adoption: Progressive Changes by Different Industry Sectors*(ENVR)			D		

### Committee on Chemists with Disabilities

C W D

*J. Johnston, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
Communicating Science in the Twenty-First Century to Diversified Audiences*(CHED)				D	

### Committee on Community Activities

C C A

*M. McGinnis, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
Fundamentals of Chemistry		D			
Outreach Education: From Program Design to Assessment*(CHED)					

### Committee on Divisional Activities

D A C

*R. Bennett, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
Young Investigators Symposium*(PMSE)	D	D			

### Committee on Chemical Safety

C C S

*E. Howson, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
Ask Dr. Safety: Chemical & Occupational Safety in the Cannabis Industry*(CHAS)	P				
Best Practices in Selecting & Presenting Safety Training Content*(CHAS)	P				
Cannabis: Emerging Challenges in Regulations, Product Analysis & Processing*(CHAS)		D			
Information Flow in Environmental Health & Safety*(CHAS)			D		
What Have We Learned & Where Are We Going: Post-Settlement in the University of California*(CHAS)				D	

### Committee on Chemistry and Public Affairs

C C P A

*S. Butts, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
Hollyweird Chemistry*(CPRC)	P	D			

### Committee on Environmental Improvement

C E I

*C. Middlecamp, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
Contaminants of Emerging Concern in Natural & Engineered Systems*(ENVR)	D	D		E	
Green Chemistry & the Environment*(ENVR)	D			E	
Citizens First!*(CHED)	D				
Green Chemistry: Theory & Practice*(CHED)	D				
Hollyweird Chemistry*(CPRC)	P	D			
Integrated & Sustainable Environmental Remediation*(ENVR)	P			E	
Science for a Sustainable Energy Future*(PRES)		D			
Undergraduate Research Posters*(CHED)		P			
Processes, Technologies & Sensors for Food-Energy-Water Nexus Research*(ENVR)			A		
Perspectives on Climate Change Literacy & Education: Local to International*(CHED)			A		
Innovative Materials & Technologies for Sustainable Water Purification*(ENVR)			D	DE	D
Green Chemistry Adoption: Progressive Changes by Different Industry Sectors*(ENVR)			D		
GSSPC: Water Sustainability*(CHED)			D		
Science & Perception of Climate Change*(ENVR)			P	E	
Advances in Resource Recovery & Conservation in Water Systems*(ENVR)				PE	D

## PROGRAM SUMMARY

### Committee on Ethics

**ETHX**

*K. Vitense, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
The Write Thing to Do: Ethical Considerations in Authorship & the Assignment of Credit *(CINF)		P			

### Committee on Patents & Related Matters

**CPRM**

*S. Shah, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
The Write Thing to Do: Ethical Considerations in Authorship & the Assignment of Credit *(CINF)		P			

### International Activities Committee

**IAC**

*E. Contis, Program Chair*

Hotel Nikko San Francisco	S	M	Tu	W	Th
Blending Chemistry & Culture: Undergraduate Research Abroad Through ACS IREU Program **	D				
Teaching, Researching & Community Building in the Global Chemical Enterprise **		D			
Chemistry of Korean Foods & Beverages *(AGFD)	D				
International & Multicultural Perspective *(CHED)		P			
Perspectives on Climate Change Literacy & Education: Local to International *(CHED)			A		
Research on Learning in the Lab *(CHED)				A	

### Committee on Public Relations and Communications

**CPRC**

*D. Nelson, Program Chair*

Moscone Center	S	M	Tu	W	Th
Hollyweird Chemistry **	P	D			
Space Chemistry: How It Helps Space Exploration *(YCC)		D			
Chemists & Writing for Fun & Profit: Write Your Own Career *(SCHB)			A		
Communicating Science in the 21st Century to Diversified Audiences *(CHED)				D	

### Committee on Local Section Activities

**LSAC**

*M. Rudd, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
Hollyweird Chemistry *(CPRC)	P	D			
Fundamentals of Chemistry		D			
Outreach Education: From Program Design to Assessment *(CHED)					

### Committee on Science

**COMSCI**

*M. Kociolek, Program Chair*

Moscone Center	S	M	Tu	W	Th
Chemical Innovation Partnerships: Industry-University Success Stories		P			

### Senior Chemists Committee

**SCC**

*T. Beattie, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
Golden Age of Industrial Chemistry *(HIST)	P				

### Committee on Minority Affairs

**CM A**

*J. Sarquis, Program Chair*

Located with Primary Sponsor	S	M	Tu	W	Th
The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross *(WCC)	P		A		
ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences: Symposium in Honor of Sandra Y. McGuire *(CHED)			A		
Advancing Undergraduate Research *(CHED)			D	A	

### Society Committee on Education

**SOCED**

*M. Roslonowski, Program Chair*

San Francisco Marriott Marquis	S	M	Tu	W	Th
Frontiers in Nanoscience **	A				
Chemistry of Fermented Beverages		A			
Eminent Scientist Lecture with Dr. Carolyn Bertozzi **		P			
Undergraduate Research Papers *(CHED)	D	D			
Hollyweird Chemistry *(CPRC)	P	D			
Excellence in Graduate Polymer Research *(POLY)		D	DE		
Fundamentals of Chemistry		D			
Outreach Education: From Program Design to Assessment *(CHED)					
Undergraduate Research Posters *(CHED)		P			
Successful Student Chapters *(CHED)		E			

## PROGRAM SUMMARY

### Women Chemists Committee

W C C

*K. Woznick, R. Cole, Program Chairs*

Hotel Nikko San Francisco	S	M	Tu	W	Th
The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross **	P		A		
Celebrating 90 years of the WCC: Reflections of Past Chairs **		A			
Rising Star Award Symposium **		P			
Lanthanide & Actinide Chemistry *(INOR)	A		E	A	D
ACS Award in Surface Chemistry: Symposium in Honor of Cynthia M. Friend *(CATL)	D	D			
ACS Award in Applied Polymer Science: Symposium in Honor of Zhenan Bao *(PMSE)	D				
High School Program *(CHED)	D				
F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in Honor of Pingyun Feng *(INOR)	DE	P			
ACS Award for Achievement in Research for the Teaching & Learning of Chemistry: Symposium in Honor of Marcy H. Towns *(CHED)		D			
ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences: Symposium in Honor of Saundra Y. McGuire *(CHED)			A		
Advancing Undergraduate Research *(CHED)			D	A	
Biomass & Biofuel Processing *(ENFL)			D	D	
ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in Honor of Yvonne C. Martin *(COMP)			D		
ACS Award Lectures *(COLL)			P		
ACS Chemical Biology Award Symposium *(BIOL)			P		
Frank H. Field & Joe L. Franklin Award for Outstanding Achievement: Symposium in Honor of Vicki H. Wysocki *(ANYL)			P		
Nobel Laureate Signature Award for Graduate Education in Chemistry: Symposium in Honor of Junqi Li & Martin D. Burke *(ORGN)				A	
Chemical Probes for Bacterial Imaging *(BIOL)				P	

### Younger Chemists Committee

Y C C

*D. Williams, Program Chair*

Moscone Center	S	M	Tu	W	Th
Starting a Successful Research Program at a PUI **	P				
Entrepreneurial Opportunities in Chemistry **	E				
Space Chemistry: How It Helps Space Exploration ** <i>AMTSP</i>		D			
Hollyweird Chemistry *(CPRC)	P	D			
Golden Age of Industrial Chemistry *(HIST)	P				
Excellence in Graduate Polymer Research *(POLY)		D	DE		
Fundamentals of Chemistry Outreach Education: From Program Design to Assessment *(CHED)		D			
Looking Beyond Your Current Boundaries: What's the Next Step? *(PROF)				D	
Young Investigators in Nuclear & Radiochemistry *(NUCL)					D

\*Cosponsored symposium with primary organizer shown in parentheses; located with primary organizer.

\*\*Primary organizer of a cosponsored symposium.

AMTSP: Advanced Materials, Technologies, Systems & Processes

A = AM AE = AM/EVE P = PM D = AM/PM

E = EVE DE = AM/PM/EVE PE = PM/EVE



# TECHNICAL PROGRAM

## How to Read the Technical Program

**1.**  
**Search for the Division—**  
listed in alphabetical order

**3.**  
**Locate the session name**

**4.**  
**Locate the time or poster #**

### GEOC

#### Division of Geochemistry

A. Ilgen, Program Chair

#### SUNDAY MORNING

##### Section A

San Francisco Marriott Union Square  
Union Square North

##### Mineral-Water Interface Chemistry

##### A Tribute to Glenn Waychunas

*Cosponsored by COLL and ENVR*

C. S. Kim, P. A. O'Day, Organizers

B. Gilbert, Organizer, Presiding

8:30 Introductory Remarks.

8:35 **GEOC 1.** X-ray absorption spectroscopy studies of sorption reactions at mineral-aqueous

#### Note:

Times represent the start of oral presentations and numbers represent poster numbers.

**2.**  
**Locate the day**

**5.**  
**Locate the venue and room for each session**

# FULL TECHNICAL PROGRAM

**TWENTY-NINE OF THE SOCIETY'S** technical divisions and six committees are hosting original technical programming during the meeting. More than 14,000 papers have been accepted for this meeting.

Each organizing group's programming is detailed on the following pages. Nearly 4,000 chemical professionals and students are expected to attend the ever-popular Sci-Mix Inter-divisional Poster Session & Mixer on

Monday, April 3 from 8:00 to 10:00 PM at Moscone Center, Hall D. More than 1,000 noteworthy poster presentations, networking with colleagues, and light refreshments make up this enjoyable event.

Organizing Group	Acronym	Page
<b>PRESIDENTIAL &amp; CROSS-DIVISION PROGRAMMING</b>		
Presidential Events	PRES	TECH-76
Multidisciplinary Program Planning Group	MPPG	TECH-77
<b>DIVISION PROGRAMMING</b>		
Agricultural & Food Chemistry	AGFD	TECH-79
Agrochemicals	AGRO	TECH-85
Analytical Chemistry	ANYL	TECH-85
Biochemical Technology	BIOT	TECH-95
Biological Chemistry	BIOL	TECH-108
Business Development and Management	BMGT	TECH-114
Carbohydrate Chemistry	CARB	TECH-115
Catalysis Science and Technology	CATL	TECH-118
Cellulose and Renewable Materials	CELL	TECH-131
Chemical Education	CHED	TECH-142
Chemical Health & Safety	CHAS	TECH-175
Chemical Information	CINF	TECH-177
Chemistry and the Law	CHAL	TECH-180
Colloid and Surface Chemistry	COLL	TECH-181
Computers in Chemistry	COMP	TECH-198
Energy and Fuels	ENFL	TECH-209
Environmental Chemistry	ENVR	TECH-218
Fluorine Chemistry	FLUO	TECH-240
Geochemistry	GEOC	TECH-241
History of Chemistry	HIST	TECH-249
Industrial and Engineering Chemistry	I&EC	TECH-249
Inorganic Chemistry	INOR	TECH-253
Medicinal Chemistry	MEDI	TECH-281

Organizing Group	Acronym	Page
Nuclear Chemistry and Technology	NUCL	TECH-290
Organic Chemistry	ORGN	TECH-294
Physical Chemistry	PHYS	TECH-309
Polymer Chemistry	POLY	TECH-320
Polymeric Materials Science and Engineering	PMSE	TECH-333
Professional Relations	PROF	TECH-346
Rubber	RUBB	TECH-348
Small Chemical Businesses	SCHB	TECH-348

## COMMITTEE PROGRAMMING (In order of appearance)

Committee on Chemical Safety	CCS	TECH-349
Committee on Chemistry and Public Affairs	CCPA	TECH-349
Chemists with Disabilities	CWD	TECH-349
Committee on Community Activities	CCA	TECH-350
Committee on Divisional Activities	DAC	TECH-350
Committee on Environmental Improvement	CEI	TECH-350
Committee on Ethics	ETHC	TECH-351
International Activities Committee	IAC	TECH-351
Committee on Local Section Activities	LSAC	TECH-351
Committee on Minority Affairs	CMA	TECH-351
Committee on Patents and Related Matters	CPRM	TECH-352
Committee on Public Relations and Communications	CPRC	TECH-352
Committee on Science	COMSCI	TECH-352
Senior Chemists Committee	SCC	TECH-352
Society Committee on Education	SOCED	TECH-353
Women Chemists Committee	WCC	TECH-353
Younger Chemists Committee	YCC	TECH-355

## PRES

## Presidential Events

A. Campbell, Program Chair

## SUNDAY MORNING

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis &amp; Spectroscopy

Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC

## PHYS Division Awards Symposium

## Ahmed Zewail Award in Ultrafast Science &amp; Technology: Symposium in honor of Stephen R. Leone

Sponsored by PHYS, Cosponsored by PRES

## SUNDAY AFTERNOON

## Section A

San Francisco Marriott Marquis  
Salon 8

## Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&amp;EC, MEDI, MPPG‡, ORGN and PROF

A. Campbell, Organizer

C. J. Burrows, Organizer, Presiding

1:20 Introductory Remarks.

1:30 PRES 1. New opportunities for using light in energy conversion. A. Alivisatos

2:00 PRES 2. Challenges and opportunities for synthetic chemists in grid-scale energy storage. M.S. Sanford

2:30 PRES 3. Electrochemical and chemical storage of electrons at nanoscale for sustainable future. Y. Cui

3:00 PRES 4. Defining the glycome, the final omics frontier. C.R. Bertozzi

3:30 PRES 5. Controlling silica in its crystalline and amorphous states: A problem in surface science. H. Freund

## Best Practices in Selecting &amp; Presenting Safety Training Content

Sponsored by CHAS, Cosponsored by CCS and PRES

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

## Novel Reactions, Methodologies &amp; Syntheses in Organic Chemistry

Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC

## PHYS Division Awards Symposium

## Ahmed Zewail Award in Ultrafast Science &amp; Technology: Symposium in Honor of Stephen R. Leone

Sponsored by PHYS, Cosponsored by PRES

## MONDAY MORNING

## Section A

Moscone Center  
133

## Science for a Sustainable Energy Future

## Energy Storage

Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&amp;EC, MEDI, MPPG‡, ORGN and PROF

Financially supported by Chemical Sciences Roundtable; SSURF

A. Campbell, Organizer, Presiding

8:30 Introductory Remarks: A. Campbell.

8:40 Discussion: Energy Research: S. Binkley.

9:05 PRES 7. Challenges for large scale energy storage and transmission. J. Liu

9:35 PRES 8. How flexible long-duration storage is changing the way energy storage is used. J. Song

10:05 PRES 9. Developing and applying new tools to understand how materials for Li and beyond-Li battery technologies function. C.P. Grey

10:35 PRES 10. Innovation in stationary electricity storage: The liquid metal battery. D.R. Sadoway

11:05 PRES 11. Storing energy in lithium batteries for a sustainable energy future. M. Whittingham

11:35 Panel Discussion.

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Frontiers in Analytical &amp; Physical Chemistry: From Atmospheric to Atomic Discoveries

Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC

## Teaching, Researching &amp; Community Building in the Global Chemical Enterprise

Sponsored by IAC, Cosponsored by BMGT‡, ENVR‡, I&amp;EC, PRES‡ and PROF

## Celebrating 90 years of the WCC: Reflections of Past Chairs

Sponsored by WCC, Cosponsored by PRES and PROF

## Chemical Forensics

## Investigations of Alleged Use &amp; Source Attribution of Chemical Weapons

Sponsored by ANYL, Cosponsored by CHAL and PRES

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## PHYS Division Awards Symposium

## Peter Debye Award in Physical Chemistry: Symposium in honor of Bruce J. Berne

Sponsored by PHYS, Cosponsored by PRES

## MONDAY AFTERNOON

## Section A

Moscone Center  
133

## Science for a Sustainable Energy Future

## Chemical &amp; Biological Conversions Approaches to Energy Conversion

Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&amp;EC, MEDI, MPPG‡, ORGN and PROF

A. Campbell, Organizer, Presiding

1:30 Introductory Remarks.

1:40 PRES 12. Exploiting anaerobes for biomass breakdown and sustainable chemistry. M.A. O'Malley

2:10 PRES 13. Driving the future: The development of advanced biomass conversion technologies at the Joint BioEnergy Institute. B.A. Simmons

2:40 PRES 14. Designer interfaces for energy storage and recovery. Y. Surendranath

3:10 PRES 15. Novel strategies to enhance catalytic vectors. J.A. Lercher

3:40 PRES 16. Role of innovation in enabling a sustainable energy future. D.E. Arvizu

4:10 Panel Discussion.

## Teaching, Researching &amp; Community Building in the Global Chemical Enterprise

Sponsored by IAC, Cosponsored by BMGT‡, ENVR‡, I&amp;EC, PRES‡ and PROF

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Advances in Medicinal &amp; Biological Chemistry: From Therapeutics to Education

Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC

## Chemical Forensics

## Chemical Attribution Signatures of Illicit Drugs &amp; Toxic Chemicals

Sponsored by ANYL, Cosponsored by CHAL and PRES

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## PHYS Division Awards Symposium

## Joel Henry Hildebrand Award in the Theoretical &amp; Experimental Chemistry of Liquids: Symposium in honor of Salvatore Torquato

Sponsored by PHYS, Cosponsored by PRES

## Rising Star Award Symposium

Sponsored by WCC, Cosponsored by BIOL and PRES

## TUESDAY MORNING

## Producing Knowledgeable, Well-Rounded, T-Shaped Chemists for the 21st Century: Current Perspectives from High School, Undergraduate &amp; Graduate Educators

Sponsored by PROF, Cosponsored by BMGT, CHED and PRES

## Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten

Sponsored by NUCL, Cosponsored by INOR and PRES

## Chemical Forensics

## Chemometrics &amp; Statistics for Signature Discovery &amp; Exploitation

Sponsored by ANYL, Cosponsored by CHAL and PRES

## GSSPC: Water Sustainability

## Chemists in Pursuit of Clean Water

Sponsored by CHED, Cosponsored by CEI and PRES

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## PHYS Division Awards Symposium

## ACS Award in Theoretical Chemistry: Symposium in honor of Peter Pulay

Sponsored by PHYS, Cosponsored by PRES

## TUESDAY AFTERNOON

## Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten

Sponsored by NUCL, Cosponsored by INOR and PRES

## Chemical Forensics

## Isotopic &amp; Elemental Profiling for the Source Attribution of Materials

Sponsored by ANYL, Cosponsored by CHAL and PRES

## GSSPC: Water Sustainability

## Chemists in Pursuit of Clean Water

Sponsored by CHED, Cosponsored by CEI and PRES

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## PHYS Division Awards Symposium

## E. Bright Wilson Award: Symposium in honor of David J. Nesbitt

Sponsored by PHYS, Cosponsored by PRES

## ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler

## Chemists Leading the Charge: Chemists Using Business Acumen &amp; Transformative Research to Address Societal Needs

Sponsored by INOR, Cosponsored by BMGT‡, MPPG, PRES and PROF‡

‡Cooperative Cosponsorship

## TUESDAY EVENING

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## WEDNESDAY MORNING

## What Have We Learned &amp; Where Are We Going: Post-Settlement in the University of California

Sponsored by CHAS, Cosponsored by CCS and PRES

## Communicating Science in the Twenty-First Century to Diversified Audiences

Sponsored by CHED, Cosponsored by CPRC, CWD and PRES

## PHYS Division Awards Symposium

## Francis P. Garvan–John M. Olin Medal: Symposium in honor of Barbara J. Finlayson-Pitt

Sponsored by PHYS, Cosponsored by PRES

## WEDNESDAY AFTERNOON

## What Have We Learned &amp; Where Are We Going: Post-Settlement in the University of California

Sponsored by CHAS, Cosponsored by CCS and PRES

## Communicating Science in the Twenty-First Century to Diversified Audiences

Sponsored by CHED, Cosponsored by CPRC, CWD and PRES

## THURSDAY MORNING

## Current Best Practices for Chemistry REU Programs

Sponsored by CHED, Cosponsored by PRES

## MPPG

## Multidisciplinary Program Planning Group

K. Beers, Program Chair

## SUNDAY MORNING

## Section A

Moscone Center  
Esplanade Ballroom 302

## Spotlight on Advanced Materials, Technologies, Systems &amp; Processes in the Journal of the American Chemical Society

S. Krane, Organizer, Presiding

P. J. Stang, Presiding

8:30 Introductory Remarks.

8:35 MPPG 1. Advanced bioelectrocatalytic materials for fuel cells and electrosynthesis. S.D. Minter

9:10 MPPG 2. Surface coordination chemistry of metal nanomaterials. N. Zheng

9:45 MPPG 3. From upconverting nanoparticles to graphene: When surfaces matter. M. Cerruti

10:20 MPPG 4. Semiconductor nanowires for energy conversion. P. Yang

10:55 MPPG 5. Fluorescent nanodiamonds for precision sensing & drug delivery applications. T. Weil

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis &amp; Spectroscopy

Sponsored by PROF, Cosponsored by ANYL†, BIOL†, CHED, CMA, COLL, COMP, CWD, ENVR, INOR†, MEDI, MPPG, ORGN, PHYS, PMSE†, POLY, PRES† and WCC

## Next Generation Smart Materials

Sponsored by POLY, Cosponsored by MPPG†

## Catalytic Materials from Molecular Insight

Sponsored by COMP, Cosponsored by CATL, MPPG† and PHYS

## Polymeric Materials for Performance &amp; Sustainability

## Biobased Polymers

Sponsored by POLY, Cosponsored by MPPG†

## Advanced Materials &amp; Technologies for Solar Energy Conversion &amp; Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG† and PMSE

## Catalysis for Unconventional Energy Sources

Sponsored by ENFL, Cosponsored by CATL and MPPG†

## Janus Particles: Synthesis, Characterization &amp; Applications

Sponsored by PMSE, Cosponsored by COLL and MPPG†

## Incorporating Polymer Science into the Classroom

## Undergraduate Curriculum

Sponsored by POLY, Cosponsored by CHED, MPPG† and PMSE

Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG†

## SUNDAY AFTERNOON

## Section B

Moscone Center  
Gateway Ballroom 103/104

## Advanced Materials, Technologies, Systems &amp; Processes Plenary Session

K. Beers, Organizer, Presiding

3:00 MPPG 6. Clean energy challenge: An integrated approach involving basic research, innovation and human factors. P.F. Green

3:45 MPPG 7. Technology at the interface of microelectronics, life sciences, and big data: Materials challenges. J.G. Linhardt

4:30 MPPG 8. From design and synthesis to advanced properties and sustainable polymeric materials. A. Albertsson

5:15 MPPG 9. Fostering industrial and academic partnerships. K. Watson

## Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG†, ORGN and PROF

## Catalytic Materials from Molecular Insight

Sponsored by COMP, Cosponsored by CATL, MPPG† and PHYS

## Polymeric Materials for Performance &amp; Sustainability

## Functional Materials: Gels &amp; Membranes

Sponsored by POLY, Cosponsored by MPPG†

## Advanced Materials &amp; Technologies for Solar Energy Conversion &amp; Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG† and PMSE

## Janus Particles: Synthesis, Characterization &amp; Applications

Sponsored by PMSE, Cosponsored by COLL and MPPG†

## Catalysis for Unconventional Energy Sources

Sponsored by ENFL, Cosponsored by CATL and MPPG†

## Incorporating Polymer Science into the Classroom

## High School &amp; Community College

Sponsored by POLY, Cosponsored by CHED, MPPG† and PMSE

## Innovative Chemistry &amp; Materials for Electrochemical Energy Storage

## Cathode Materials

Sponsored by ENFL, Cosponsored by MPPG† and PMSE

Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG†

## MONDAY MORNING

## Section A

Moscone Center  
130

## Advanced Materials, Technologies, Systems &amp; Processes: Implementation of Chemistry into Practice

K. Beers, Organizer, Presiding

8:45 Introductory Remarks.

8:55 MPPG 10. Designing organic semiconductors for advanced applications. M. Jeffries-El

9:25 MPPG 11. Opportunities for new and efficient catalytic processes for the utilization of natural gas. T. Gunnoe, M.S. Webster-Gardiner, B.A. Vaughan, S.K. Khani, J.B. Gary, J. Chen, B.A. McKeown, T.R. Cundari

9:55 MPPG 12. Automated flow peptide synthesis: Toward amide bonds at nature's pace. B.L. Pentelute

10:25 MPPG 13. Chemistry in a startup environment: A personal journey. C. Reich

10:55 MPPG 14. Making real parts: Rethinking materials for 3D manufacturing. J. Rolland

11:25 MPPG 15. Modifying organic polymers using metal-organic materials: A perspective from a Fulbright fellow in Peru. C.V. Gauthier, S. Kim, J. Nakamatsu

## Science for a Sustainable Energy Future

## Energy Storage

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG†, ORGN and PROF

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Frontiers in Analytical &amp; Physical Chemistry: From Atmospheric to Atomic Discoveries

Sponsored by PROF, Cosponsored by ANYL†, BIOL†, CHED, CMA, COLL, COMP, CWD, ENVR, INOR†, MEDI, MPPG, ORGN, PHYS, PMSE†, POLY, PRES† and WCC

## Next Generation Smart Materials

Sponsored by POLY, Cosponsored by MPPG†

## Catalytic Materials from Molecular Insight

Sponsored by COMP, Cosponsored by CATL, MPPG† and PHYS

## Advanced Materials &amp; Technologies for Solar Energy Conversion &amp; Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG† and PMSE

## Polymeric Materials for Performance &amp; Sustainability

## High Performance

Sponsored by POLY, Cosponsored by MPPG†

## Support &amp; Activator Effects on Metal Mediated Polymerization

Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG†

## Catalysis for Unconventional Energy Sources

Sponsored by ENFL, Cosponsored by CATL and MPPG†

## Janus Particles: Synthesis, Characterization &amp; Applications

Sponsored by PMSE, Cosponsored by COLL and MPPG†

## Innovative Chemistry &amp; Materials for Electrochemical Energy Storage

## Flow Batteries &amp; Organic Electrodes

Sponsored by ENFL, Cosponsored by MPPG† and PMSE

## 50th Anniversary Celebration of Macromolecules

Sponsored by POLY, Cosponsored by MPPG† and PMSE

Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG†



## MONDAY AFTERNOON

## Section A

Moscone Center  
130

**Nanoscience & Nanotechnology for Advanced Materials & Technologies**

L. E. Fernandez, *Organizer*  
P. Alivisatos, R. S. Weiss, *Organizers, Presiding*

1:00 Introductory Remarks.

1:10 MPPG 16. Nanoscale gems, needles and grooves. H. Park

1:45 MPPG 17. Exploiting the nanocrystal library to construct electronic and optoelectronic devices. C.R. Kagan

2:20 MPPG 18. Carbon dots for environmental and energy applications. Z. Kang, S. Lee

2:55 MPPG 19. Structure-controlled synthesis of single-walled carbon nanotubes. Y. Li

## Section B

Moscone Center  
Gateway Ballroom 103/104

**The Kavli Foundation Emerging Leader in Chemistry Lecture**

A. Campbell, *Organizer, Presiding*

4:00 Introductory Remarks.

4:05 MPPG 20. Classical challenges in the physical chemistry of polymer networks. B.D. Olsen, J.A. Johnson, R. Wang, S. Tang, M. Zhong, K. Kawamoto, J. Ramirez, T. Dursch

4:55 Q&A Session.

## Section B

Moscone Center  
Gateway Ballroom 103/104

**The Fred Kavli Innovations in Chemistry Lecture**

A. Campbell, *Organizer, Presiding*

5:15 Introductory Remarks.

5:20 MPPG 21. CRISPR systems: Nature's toolkit for genome engineering. J. Doudna

6:15 Q&A Session.

**Industrial Innovations in Polymer Chemistry**

*Sponsored by POLY, Cosponsored by MPPG‡ and PMSE*

**Science for a Sustainable Energy Future**
**Chemical & Biological Conversions Approaches to Energy Conversion**

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG‡, ORGN and PROF*

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**
**Advances in Medicinal & Biological Chemistry: From Therapeutics to Education**

*Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC*

**Next Generation Smart Materials**

*Sponsored by POLY, Cosponsored by MPPG‡*

**Catalytic Materials from Molecular Insight**

*Sponsored by COMP, Cosponsored by CATL, MPPG‡ and PHYS*

**Polymeric Materials for Performance & Sustainability**
**Biodegradable & Recyclable Polymers**

*Sponsored by POLY, Cosponsored by MPPG‡*

**Support & Activator Effects on Metal Mediated Polymerization**

*Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG‡*

**Advanced Materials & Technologies for Solar Energy Conversion & Storage**

*Sponsored by ENFL, Cosponsored by CATL, MPPG‡ and PMSE*

**Janus Particles: Synthesis, Characterization & Applications**

*Sponsored by PMSE, Cosponsored by COLL and MPPG‡*

**Innovative Chemistry & Materials for Electrochemical Energy Storage**
**Capacitors**

*Sponsored by ENFL, Cosponsored by MPPG‡ and PMSE*

**50th Anniversary Celebration of Macromolecules**

*Sponsored by POLY, Cosponsored by MPPG‡ and PMSE*

**Computations for CO2 Capture, Conversion & Sequestration**

*Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG‡*

## TUESDAY MORNING

**Functional Porous Materials for Sustainable Energy**

*Sponsored by ENFL, Cosponsored by CATL and MPPG‡*

**Next Generation Smart Materials**

*Sponsored by POLY, Cosponsored by MPPG‡*

**Polymers under Deformation**
**Structure & Morphology Changes during Deformation of Polyolefins & Polymer Composites**

*Sponsored by PMSE, Cosponsored by MPPG‡ and POLY‡*

**Catalytic Materials from Molecular Insight**

*Sponsored by COMP, Cosponsored by CATL, MPPG‡ and PHYS*

**Polymeric Materials for Performance & Sustainability**
**Functional Materials for Energy & Electronics**

*Sponsored by POLY, Cosponsored by MPPG‡*

**Support & Activator Effects on Metal Mediated Polymerization**

*Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG‡*

**Advanced Materials & Technologies for Solar Energy Conversion & Storage**

*Sponsored by ENFL, Cosponsored by CATL, MPPG‡ and PMSE*

**Innovative Chemistry & Materials for Electrochemical Energy Storage**
**Solid-State Electrolytes & Beyond Li**

*Sponsored by ENFL, Cosponsored by MPPG‡ and PMSE*

**Biomass & Biofuel Processing**

*Sponsored by ENFL, Cosponsored by CELL, MPPG‡ and WCC*

**Polymer Chemistry (RSC) Lectureship**

*Sponsored by POLY, Cosponsored by MPPG‡*

**State-of-the-Art Methods for Modeling Materials Chemistry**

*Sponsored by COMP, Cosponsored by CATL and MPPG‡*

**ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler**
**Materials Chemistry of Solutions & Solids for a Sustainable Future**

*Sponsored by INOR, Cosponsored by BMGT‡, MPPG, PRES and PROF‡*

**Chemistry is Central to Applied Materials**

*Sponsored by INOR, Cosponsored by MPPG‡*

## TUESDAY AFTERNOON

**Catalytic Materials from Molecular Insight**

*Sponsored by COMP, Cosponsored by CATL, MPPG‡ and PHYS*

**Functional Porous Materials for Sustainable Energy**

*Sponsored by ENFL, Cosponsored by CATL and MPPG‡*

**Next Generation Smart Materials**

*Sponsored by POLY, Cosponsored by MPPG‡*

**Polymers under Deformation**
**Applying Advances in Characterization Methods for In-Situ Studies of Deformation**

*Sponsored by PMSE, Cosponsored by MPPG‡ and POLY‡*

**Advances in Polysaccharides: Practice & Applications**
**New Developments in the Industrial Sector**

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY*

**Advanced Materials & Technologies for Solar Energy Conversion & Storage**

*Sponsored by ENFL, Cosponsored by CATL, MPPG‡ and PMSE*

**Support & Activator Effects on Metal Mediated Polymerization**

*Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG‡*

**Innovative Chemistry & Materials for Electrochemical Energy Storage**
**2D Energy Storage Materials**

*Sponsored by ENFL, Cosponsored by MPPG‡ and PMSE*

**Biomass & Biofuel Processing**

*Sponsored by ENFL, Cosponsored by CELL, MPPG‡ and WCC*

**Polymer Chemistry (RSC) Lectureship**

*Sponsored by POLY, Cosponsored by MPPG‡*

**State-of-the-Art Methods for Modeling Materials Chemistry**

*Sponsored by COMP, Cosponsored by CATL and MPPG‡*

**ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler**
**Chemists Leading the Charge: Chemists Using Business Acumen & Transformative Research to Address Societal Needs**

*Sponsored by INOR, Cosponsored by BMGT‡, MPPG, PRES and PROF‡*

## WEDNESDAY MORNING

**Functional Porous Materials for Sustainable Energy**

*Sponsored by ENFL, Cosponsored by CATL and MPPG‡*

**Next Generation Smart Materials**

*Sponsored by POLY, Cosponsored by MPPG‡*

**Polymers under Deformation**
**AFM & Nanoindentation Studies**

*Sponsored by PMSE, Cosponsored by MPPG‡ and POLY‡*

**Advances in Polysaccharides: Practice & Applications**
**Novel Biocatalytic & Biopolymeric Approaches**

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY*

**Polymeric Materials for Performance & Sustainability**
**Other Functional Materials**

*Sponsored by POLY, Cosponsored by MPPG‡*

**Innovative Chemistry & Materials for Electrochemical Energy Storage**
**Electrolytes & Interface**

*Sponsored by ENFL, Cosponsored by MPPG‡ and PMSE*

**Biomass & Biofuel Processing**

*Sponsored by ENFL, Cosponsored by CELL, MPPG‡ and WCC*

**State-of-the-Art Methods for Modeling Materials Chemistry**

*Sponsored by COMP, Cosponsored by CATL and MPPG‡*

**Undergraduate Laboratory Experiments Involving Advanced Materials**

*Sponsored by CHED, Cosponsored by MPPG‡*

**Chemistry is Central to Applied Materials**

*Sponsored by INOR, Cosponsored by MPPG‡*

## WEDNESDAY AFTERNOON

**Functional Porous Materials for Sustainable Energy**

*Sponsored by ENFL, Cosponsored by CATL and MPPG‡*

‡Cooperative Cosponsorship

**Next Generation Smart Materials**

Sponsored by POLY, Cosponsored by MPPG‡

**Polymers under Deformation****Control of Deformation across the Length Scale for Advanced Polymer Materials**

Sponsored by PMSE, Cosponsored by MPPG‡ and POLY‡

**Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry****Advanced Materials & Structures**

Sponsored by CELL, Cosponsored by MPPG‡ and POLY

**Advances in Polysaccharides: Practice & Applications****Novel Materials & Methodologies**

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY

**Polymeric Materials for Performance & Sustainability****Recyclable & Bio-Based Materials**

Sponsored by POLY, Cosponsored by MPPG‡

**Innovative Chemistry & Materials for Electrochemical Energy Storage****Anode Materials & Li-S**

Sponsored by ENFL, Cosponsored by MPPG‡ and PMSE

**Biomass & Biofuel Processing**

Sponsored by ENFL, Cosponsored by CELL, MPPG‡ and WCC

**State-of-the-Art Methods for Modeling Materials Chemistry**

Sponsored by COMP, Cosponsored by CATL and MPPG‡

**Undergraduate Laboratory Experiments Involving Advanced Materials**

Sponsored by CHED, Cosponsored by MPPG‡

**Frontiers in Glycoanalytics****MS & NMR Methods**

Sponsored by CELL, Cosponsored by ANYL, CARB‡ and MPPG‡

**THURSDAY MORNING****Functional Porous Materials for Sustainable Energy**

Sponsored by ENFL, Cosponsored by CATL and MPPG‡

**Next Generation Smart Materials**

Sponsored by POLY, Cosponsored by MPPG‡

**Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry****Commercial & Versatile Technology**

Sponsored by CELL, Cosponsored by MPPG‡ and POLY

**Advances in Polysaccharides: Practice & Applications****New Functional Materials**

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY

**Polymeric Materials for Performance & Sustainability****Applications**

Sponsored by POLY, Cosponsored by MPPG‡

**Innovative Chemistry & Materials for Electrochemical Energy Storage****Electrochemical Catalysis & Energy Conversion**

Sponsored by ENFL, Cosponsored by MPPG‡ and PMSE

**Frontiers in Glycoanalytics****Molar Mass & Crystallinity Analyses**

Sponsored by CELL, Cosponsored by ANYL, CARB‡ and MPPG‡

**THURSDAY AFTERNOON****Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry****Energy, Food & Packaging Development**

Sponsored by CELL, Cosponsored by MPPG‡ and POLY

**Advances in Polysaccharides: Practice & Applications****Preparation, Characterization & Applications**

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY

**AGFD****Division of Agricultural and Food Chemistry**

N. Seeram, Program Chair

**SOCIAL EVENTS:**

Poster Reception, 5:00 PM: Sun

**BUSINESS MEETINGS:**

Business Meeting, 12:00 PM: Tue

Future Program Meeting, 12:00 PM: Mon

**SUNDAY MORNING****Section A**Hilton San Francisco Union Square  
Continental Parlor 9**Chemistry & Biological Effects of Maple Food Products**

H. Ma, N. P. Seeram, Organizers, Presiding

**9:00** Introductory Remarks.**9:05 AGFD 1.** Maple-Derived food bioactives in human health & diseases: The path forward. N.P. Seeram**9:35 AGFD 2.** Effect of the new high vacuum technology on the chemical composition of maple sap and syrup. L. Lagace, M. Deschênes, N. Martin, F. Ethier, M. Beaudoin, J. Houde, S. Corriveau, M. Sadiki**10:05 AGFD 3.** Maple sugar, an unexplored maple food product: UFLC-TOF-MS/MS Characterization and neuroprotective activities of phenolics. Y. Liu, K. Rose, N.P. Seeram**10:35** Intermission.**10:50 AGFD 4.** Phenolic-enriched Maple Syrup Extract (MSX) inhibited the formation of advanced glycation end-products through its antioxidant capacity. W. Liu, H. Ma, Z. Wei, J. Dain, N.P. Seeram**11:20 AGFD 5.** Synthesis and characterization of the bioactivity of quebecol and its analogs. N. Voyer, S. Cardinal, C. Bouchard, D. Grenier**11:50 AGFD 6.** Unraveling the complex carbohydrates in maple syrup. D.C. Rowley, J. Sun, H. Ma, N.P. Seeram**12:20** Concluding Remarks.**Section B**Hilton San Francisco Union Square  
Franciscan A**Chemistry of Korean Foods & Beverages**

Cosponsored by IAC

C. H. Do, A. M. Rimando, Organizers

K. G. Lee, Organizer, Presiding

Y. Kim, Presiding

**8:00** Introductory Remarks.**8:05 AGFD 7.** Introduction of Korean foods and beverages. C.H. Do, J.C. Park, S. Chun**8:30 AGFD 8.** Evaluation of metabolites from lactic acid bacteria originated from kimchi. J. Lee**8:55 AGFD 9.** Withdrawn.**9:20 AGFD 10.** Isolation and characterization of lactic acid bacteria from naturally fermented Korean sourdough. N. Han, C. Park, S. Shim, J. Seo**9:45** Intermission.**10:00 AGFD 11.** Lactic acid bacteria isolated from kimchi as a modulator of gut microbiota in diet-induced obese mice. H. Choi**10:25 AGFD 12.** Structure and function of garlic derived organo-sulfur compounds. T. Seki, T. Hosono**10:50 AGFD 13.** Reduction of food hazards in Maillard reaction based Korean food model systems. K.G. Lee**Section C**Hilton San Francisco Union Square  
Franciscan B**Undergraduate Symposium**

Cosponsored by CHED

K. D. Deibler, Organizer

A. E. Mitchell, Presiding

**9:00** Introductory Remarks.**9:05 AGFD 14.** Detection of *Escherichia coli* in drinking water using engineered bacteriophage. A. Chen**9:30 AGFD 15.** Detection of 2,4-dichlorophenoxyacetic acid in food using molecularly imprinted polymers-surface enhanced Raman spectroscopy. Z.M. Hua**9:55** Intermission.**10:10 AGFD 16.** BG-4, a novel bioactive peptide from *Momordica charantia*, inhibits lipopolysaccharide-induced inflammation in THP-1 human macrophages. L. Jones, P. Pangloli, H. Krishnan, V.P. Dia**10:35 AGFD 17.** Investigation of antioxidant capacity and bioactive chemicals in South Carolina grown peaches. R.F. Ramey, F. Chen, L. Wang, C. Zhang, A. McCullogh, A. Burgess, T. Nguyen**11:00 AGFD 18.** Isolation and structure elucidation of bioactive compounds from *Garcinia buchananii* seeds. B. Stiglbauer, T.D. Stark**Nanocellulose Processing & Analysis****Novel Processes**

Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&amp;EC

**Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems**

Sponsored by CELL, Cosponsored by AGFD

**SUNDAY AFTERNOON****Section A**Hilton San Francisco Union Square  
Continental Parlor 9**Chemistry & Biological Effects of Maple Food Products**

H. Ma, N. P. Seeram, Organizers, Presiding

**1:00** Introductory Remarks.**1:05 AGFD 19.** Further investigations into the neuroprotective effects of a phenolic-enriched Maple Syrup Extract (MSX). H. Ma, N. DaSilva, S. Johnson, W. Liu, J. Dain, N.P. Seeram**1:35 AGFD 20.** Maple syrup reduces neurodegeneration in *C. elegans* models of amyotrophic lateral sclerosis. C. Bretonneau, C. Aaron, G. Beaudry, M. Therrien, A.J. Parker**2:05 AGFD 21.** Phenolic rich maple syrup extracts synergize with antibiotics. N. Tufenkji, V. Maisuria**2:35** Intermission.**2:50 AGFD 22.** Symbiotic maple saps minimize disruption of the mice intestinal microbiota after oral antibiotic administration. R. Hammami, N.B. Abdallah, J. Barbeau, I. Fliss**3:20 AGFD 23.** Food grade phenolic-enriched maple syrup extract (MSX) exerts protective effects against diet-induced hepatic-steatosis in mice. A. Slitt, H. Ma, N. DaSilva, C. Picard, M. Pfohl, E. Martell, M. Abustan, N.P. Seeram**3:50 AGFD 24.** Substituting sucrose for an equivalent amount of maple syrup and other natural sweeteners reduces metabolic syndrome and liver steatosis in a rat model of diet-induced obesity. M. Valle, P. St-Pierre, G. Pilon, F.F. Anhê, T. Varin, A. Murette**4:20** Concluding Remarks.**Technical program information known at press time.****The official technical program for the 253rd ACS National Meeting is available at:****[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)**

## Section B

Hilton San Francisco Union Square  
Franciscan A

## Chemistry of Korean Foods &amp; Beverages

Cosponsored by IAC

A. M. Rimando, Organizer

C. H. Do, K. G. Lee, Organizers, Presiding

## 1:00 Introductory Remarks.

**1:05 AGFD 25.** Changes in phytochemicals, aroma compounds, and sensory properties of Korean teas influenced by harvesting time and oxidative fermentation. Y. Kim

**1:30 AGFD 26.** Elucidation of flavor characteristics of Korean traditional fermented sauces. Y. Kim, S. Lee, M. Park, H. Namgung, K. Lee, S. Kum, S. Kim, J. Lee

**1:55 AGFD 27.** Correlation between the physicochemical components and sensory properties of *Makgeolli*. J. Kang, H. Choi, C. Kim, S. Yeo, S. Jeong

**2:20 AGFD 28.** Changes of volatile compositions in *soju* mashes from fermentation to distillation using different kinds of fermentation starters. S. Lee, K. Shin

## 2:45 Intermission.

**3:00 AGFD 29.** Comparing the effects of high hydrostatic pressure and thermal pasteurization on the quality of soft-persimmon juice. G. Kim, J. Kim, K. Kim, S. Choi

**3:25 AGFD 30.** Keeping kimchi delicious and safe through kimchi packaging. S. Yoo

**3:50 AGFD 31.** Image-based high content screening assay to predict of hepatotoxicity of bioactive compounds in natural products. H. Chun

## 4:15 Discussion.

## Section C

Hilton San Francisco Union Square  
Franciscan B

## Withycombe-Charalambous Graduate Student Symposium

Cosponsored by CHED

K. D. Deibler, Organizer

B. Park, Presiding

## 1:00 Introductory Remarks.

**1:10 AGFD 32.** Novel polysaccharide-polypeptides nanocomplexes: Assembly, characterization, and encapsulation of polyphenol in multi-platforms. Y. Jiang, Q. Huang

**1:40 AGFD 33.** Influence of legume proteins on the gastrointestinal digestion of omega-3 emulsions. C. Gumus, D. McClements

## 2:10 Intermission.

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

**2:20 AGFD 34.** Prevention of obesity and type 2 diabetes with aged citrus peel (*chenpi*) extract. J. Guo, H. Tao, S. Jin, C. Ho, Q. Huang

**2:50 AGFD 35.** Rapid detection of methicillin-resistant *Staphylococcus aureus* in pork using a nucleic acid-based lateral flow immunoassay. L. Ma, H. Zhang, L. Ma, Z.M. Hua, S. Wang, X. Lu

**3:20 AGFD 36.** Absorption and metabolism of 3-MCPD 1-monopalmitate in rats. B. Gao, L.L. Yu

**3:50 AGFD 37.** Synergistic inhibitory effect of allyl isothiocyanate and sulforaphane on human non-small cell lung carcinoma cells. K. Rakariyatham, Z. Gao, H. Xiao

## Nanocellulose Processing &amp; Analysis

## Process Parameters

Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC

## Valorization of Renewable Resources &amp; Residuals into New Materials &amp; Multiphase Systems

Sponsored by CELL, Cosponsored by AGFD

## SUNDAY EVENING

## Section A

Moscone Center

West Hall

## General Posters

N. P. Seeram, Organizer

## 5:00 - 7:00

**AGFD 38.** Spatial variations in mercury and selenium concentrations in marine fishes of Rhode Island: Risks and benefits to human health. J. Jacques, M. Yurkevicius, D.L. Taylor

**AGFD 39.** Rheology and microstructure of caseinate-based edible films. M.H. Tunick, L. Bonnalie, L.D. Aburto, J. Mulherin, P.M. Tomasula

**AGFD 40.** Fatty acid profiles of marine fishes from Rhode Island coastal waters. M. Yurkevicius, J. Jacques, N.E. Breen, D.L. Taylor

**AGFD 41.** Cuticular hydrocarbon profile analysis of *Drosophila athabasca*: Variability by race. B.L. Gay, R. Yukilevich, J.D. Kehlbeck

**AGFD 42.** Investigation of the kinetics and equilibrium chemistry of cold-brew coffee: Caffeine and chlorogenic acid concentrations as a function of roasting temperature and grind size. N.Z. Rao, M. Fuller, N. Parenti, S. Ryder, N. Setchie Tchato

**AGFD 43.** Triterpenoid-enriched fruit extract of *Eugenia Jambolana L.* (Jamun) attenuates experimental type I diabetes in mice. Y. Zhao, R. Guo, Q. Zhang, Z. Guo, F. Xue, J. Xu

**AGFD 44.** Effect of substitution of  $\beta$ -glucans on the glycemic response and thermal properties of common starches. A. Anderson

**AGFD 45.** Vibrational spectroscopy and multivariate data analysis for elucidation and classification of compositional changes in milk subject to Supercritical Fluid Extraction (SFE). E. Jones, C. Ulrichsen, A. Laubscher, R. Jimenez-Flores

**AGFD 46.** Mechanistic investigation of nitric oxide inhibition and subsequent nitrous oxide (N<sub>2</sub>O) emission. S. Li, G. Chen

**AGFD 47.** Novel collagen-derived glycopeptide pro-Hyp-CONH-GlcN: Synthesis and transepithelial transport in Caco-2 cell model. M. Feng, M. Betti

**AGFD 48.** Effect of drying in raw almonds with concealed damage. C. Rogel-Castillo, A.E. Mitchell

**AGFD 49.** Determination of raffinose content in pulses as a factor enhances the growth of probiotics and antioxidant protection in yogurt. P. Dinh, K. Bhargava, S. Gamagedara

**AGFD 50.** Detection of polyphenolic compounds in crude extract samples of strawberry cultivars. C.M. Van Spronsen, N.C. Dopke

**AGFD 51.** Vapor-Infusion of wine flavor volatiles in specialty dark chocolate and analysis via GC-MS. S. Richards, P.J. Iles, L.D. Giddings, R.V. Valcaro, N.R. Bastian, R. Holcomb, R. McFarland, H. Hsieh, T. Nielsen, J. Reelitz, M. Alvarez, S. Cunninghamham

**AGFD 52.** Optical control of insecticide activity and insect behaviors. S. Xusheng, Z. Gao, Y. Feng

**AGFD 53.** Reduction of lead uptake in leafy green vegetables using an ion exchange material. A. Anthony, M. Schenkel, L. Taormina, C.C. Philipp

**AGFD 54.** Comparison of fruit quality and metabolite profiling of natural or exogenous ethylene-induced ripe kiwifruit *Jecy green*. S. Lim, J. Lee, E. Lee

**AGFD 55.** Comparison of amygdalin levels in California almond (*Prunus dulcis*) varieties using UHPLC-(ESI) QqQ MS/MS. K. Luo, A.E. Mitchell

**AGFD 56.** Sugar and organic acid content of astringent, non-astringent, and pollination variant persimmons. A.M. Vilches, I.J. Sedej, C.W. Olsen, J. Smith, R.D. Woods, J.E. Preece, R.R. Milczarek, A.P. Breksa

**AGFD 57.** Vapor-Infusion of whiskey flavor volatiles in specialty dark chocolate and analysis via GC-MS. S. Richards, P.J. Iles, L.D. Giddings, R. Holcomb, N.R. Bastian, R.V. Valcaro, M. Alvarez, R. McFarland, H. Hsieh, J. Reelitz, T. Nielsen, S. Cunninghamham

**AGFD 58.** Dynamics and imbalance of nutrient concentrations in a closed hydroponic system during tomato growth. J. Lee, A. Rahman, H. Azam, H. Kim, M. Kwon

**AGFD 59.** Synthesis of cooper, iron, calcium and barium alginate beads for the controlled release of a systemic fungicide. R. Torres Caban, J. Munoz, F. Roman, L. Morell

**AGFD 60.** Combinatorial enzyme technology for the conversion of agricultural fibers to functional products. S.B. Batt Throne, D. Feng, W.J. Orts, D.W. Wong

**AGFD 61.** Combinatorial enzyme technology: Conversion of pectin to oligo species and its effect on microbial growth. D. Feng, S.B. Batt Throne, W.J. Orts, D.W. Wong

**AGFD 62.** Dissipation pattern of pesticide residues during cultivation of agricultural products for establishing post-harvest residue level in Korea. J. Park, S. Yang, H. Choi

**AGFD 63.** Aroma optimization of low caloric, alcohol-free beverages. D. Gernat, E. Brouwer, M. Ottens

**AGFD 64.** Estimation of capsaicin and other nutritionally important compounds in Colorado grown pepper cultivars. M. Hamed, D. Kalita, M. Bartolo, S. Jayant

**AGFD 65.** Biochemical characterization of the polyphenolic radical in third hand smoke. A. Skochko, C. Lopez, S. Russell, G. Firestone, K. Stone

**AGFD 66.** Changes of volatile flavors during fermentation of kimchi. W. Hawer, D. Seo

**AGFD 67.** Environmental extraction and quantitation of tetracycline antibiotics and their metabolites in agricultural wastes using SPE, HPLC-MS, and HPLC-PDA. A.J. Abdulrheem, C. Fullington, J.H. Loughrin, E.D. Conte

**AGFD 68.** Macro and micro-mineral contents of the pork cuts in Korea. D. Seo, S. Kim, J. Hwang, H. Lee, J. Park, Y. Jin, Y. Choi, S. Kim, J. Nam

**AGFD 69.** Experiment for analysis of urushiol in sumac and several indigenous food in Korea. D. Seo, K. Kim, W. Hawer

**AGFD 70.** Mineral nutrient contents of lentil bean, khorasan wheat and quinoa. J. Hwang, D. Seo, S. Kim, H. Lee, J. Park, Y. Jin, Y. Choi, S. Kim, J. Nam

**AGFD 71.** Effect of black rice on quality characteristics and antioxidant activity of yogurt fermented using *Lactobacillus paracasei* and *Lactobacillus rhamnosus*. J. Yoon, H. Kim, D. Baek, K. Choi, S. Ahn, C. Ra, J. Jhoo, G. Kim

**AGFD 72.** Anti-allergic effects of low-molecular-weight peptides derived from bovine  $\beta$ -casein on RBL-2H3 cells. H. Kim, S. Park, S. Ahn, H. An, S. Yoon, G. Kim, J. Jhoo

**AGFD 73.** Novel approaches to the chemical preparation and spectral characterization of tormentica acid. Y. Lo, G. Ren, J. Wu, H. Honda, T. Wei

**AGFD 74.** Novel approaches to the chemical synthesis and biological activity of 24-ketolanosterol as an inhibitor of HMG-CoA reductase. E.J. Parish, G. Ren, Y. Lo, H. Honda

**AGFD 75.** Novel approaches to the chemical synthesis and carbon-13 nuclear magnetic resonance spectral properties of cholest-4-en-3,6-dione. D. Ren, E.J. Parish, G. Ren, Y. Lo, H. Honda

**AGFD 76.** Novel approaches to the chemical synthesis and structural characterization of hydroxysterols. E.J. Parish, Y. Lo, H. Shyu, H. Honda, T. Wei

**AGFD 77.** Multiplex surface plasmon resonance imaging platform for label-free detection of foodborne pathogens. J. Chen, B. Park

**AGFD 78.** Effect of the cocoa butter equivalent addition on the volatile compounds of dark chocolate. C. Silva de Souza, J. Block

**AGFD 79.** Characterization of chemical and biological properties of proanthocyanidins from color corn after different processing methods. C. Chen, P. Somavat, V. Singh, E.G. Demejia

**AGFD 80.** Low-resolution 1H NMR as a reliable technique to study fresh and freeze-thawed hen egg yolk. C. Au, T. Wang, N. Acevedo

**AGFD 81.** Elucidation of the gelation mechanism of frozen-thawed egg yolk. C. Au, N. Acevedo, T. Wang

**AGFD 82.** Cellulose nanocrystals with light induced antimicrobial functions. Y. Zhu

**AGFD 83.** Encapsulation of microbial isolates in alginate beads designed to increase nutrient uptake in hydroponic systems. F. Al Jallaf, H.H. Hernandez

‡ Cooperative Cosponsorship



AGFD **84.** Quality characteristics of yogurt supplemented with trehalose and fructooligosaccharide. **D. Baek**, H. An, J. Park, J. Jhoo, G. Kim

AGFD **85.** Phenolic profile of aqueous and hydroalcoholic extracts from pecan nut shell [*Carya illinoensis* (Wangenh) C.Koch] obtained by optimization of ultrasonic-assisted extraction. **J. Block**, J. Hilbig, J. Bork

AGFD **86.** Sagebrush polyphenols impact the expression of CYP1A1. **S. Nosworthy**, J. Forbey, R. Prough, C. Dadabay

AGFD **87.** Isolation and purification of sesquiterpene lactones in sagebrush. **C.E. Ferrell**, J. Forbey, C. Dadabay

AGFD **88.** Antioxidant properties and phenolic concentrations of herbs within the Lamiaceae family. **J. Ahn**, **A. Alford**, E.D. Niemeyer

AGFD **89.** Green synthesis of coumarin derivatives in search of potent pesticides for sustainable agriculture. **M. Uroos**, N. Akhtar, J. Tariq

AGFD **90.** Chemical composition, and antinutritional factors in seeds, cake, and botanical fractions of Sacha inchi (*Plukenetia volubilis* L.). **P. Glorio**, M. Baquerizo, G. Rodríguez Paucar, J. Chavez, R. Lázaro, F. Saldaña

AGFD **91.** Effect of plant maturity on antioxidant properties and phenolic concentrations in green basil (*Ocimum basilicum* L.) cultivars. **C. Palmer**, **A. Reddy**, E.D. Niemeyer

AGFD **92.** LC/MS-MS method optimization for the detection and quantification of moxidectin in bovine serum. **G. Samenuk**, A.A. Pérez de León, R. Miller

AGFD **93.** Effect of mechanical stress on anthocyanin levels in blackberries. **A. Anthony**, **C. Schoborg**, M. Schenkel, A. Kinman, C.C. Philipp

AGFD **94.** Influence of organophosphorus pesticides on the stability of plasmonic nanoparticles in the presence of dissolved organic matter. **N.M. Dissanayake**, S.O. Obare

AGFD **95.** Detection of microbial volatile organic compounds released from *Macrophomina phaseolina* by headspace solid phase micro-extraction and gas chromatography-mass spectrometry. **J. She**

AGFD **96.** Chemical analysis of a commercial product containing essential oils shown to control southern cattle fever tick infestations in bovines. **M. Montoya**, S.B. Bach, A.A. Pérez de León, R. Miller

AGFD **97.** Changes in monoterpene glycosylation patterns in *Vitis vinifera* during grape berry maturation. **J. Godshaw**, A.K. Hjeltnelund, J. Zweigenbaum, S.E. Ebeler

AGFD **98.** Density functional theory study on triplet intermolecular hydrogen transfer between cycloxydim and chlorothalonil. **Q. Yuan**, I.R. Gould, N. Kidley

AGFD **99.** Correlating micro climate to alpha and beta acid concentrations in hops. **R. Schindler**, **A. Chui**, Z. Sharrett, M. Lares

AGFD **100.** Proteomic characterization of inhalable dust from the California San Joaquin Valley. **N. Nole**, C. Santiago, **S. Russell**

AGFD **101.** Development and validation of QuEChERS method for simultaneous analysis of trichothecenes in nuts by ultra performance liquid Chromatography coupled to tandem mass spectrometry. **M. Yoo**, S. Lee, S. Kim

AGFD **102.** Novel metabolites of food contaminant phthalates revealed by HRMS and their implications in quantitating urinary toxicant exposure markers. **J. Hsu**, J. Hsu, Y. Chen, S. Tsai, **P. Liao**

AGFD **103.** Withdrawn.

AGFD **104.** Monitoring of natural preservative levels in fisheries products. **S. Lee**, M. Yoo, S. Choi, D. Shin

AGFD **105.** Development and application of the AMBER molecular mechanics force field to investigate herbicide interaction in plants. **T. Khanna**, L. Barter, I.R. Gould

AGFD **106.** Biological evaluation of Yansun (*Thunia alba* L.) extract from Yungui plateau in China. **H. Ma**, N.P. Seeram

AGFD **107.** Characterization of commercially available honey in Puerto Rico. **J. Becerra Lopez**, **R. Flores-Morales**, **A. Muñoz**, C. Perez-Rodríguez, M. Figueroa-Cruz, R. Maiz, K. Blanco, J. Morales-Velez, C. Camacho, J. Gomez-Torres, A. Vega Negron, A.M. Gonzalez

AGFD **108.** Ethanol analysis via infrared spectroscopy. **A. Campanella**, M.D. Mosher

AGFD **109.** Effects of cooling rate on  $\alpha$ -oryzanol and  $\beta$ -sitosterol oleogels. **I. Hazlett**, N. Acevedo

AGFD **110.** Characterization of a novel arabinoxylan-glucan crosslink in rice bran fiber. **B.J. Savary**, K. Takahashi, K. Teoh

AGFD **111.** Determination of the effect of meringue under different conditions. **M. Nguyen**, E. Stemp

AGFD **112.** Analysis of major elements in wines using an Agilent MP-AES. **C.K. Tanabe**, H. Hopfer, R. Boulton, S.E. Ebeler, J. Nelson

AGFD **113.** Fast analysis of arsenic species in Californian wines with LC-ICP-QQQ. **C.K. Tanabe**, S.E. Ebeler, J. Nelson

AGFD **114.** Refrigeration storage of native and improved native potatoes. **F. Cerron Mercado**, P. Glorio-Paulet, F. Rodríguez, J. Nuñez

AGFD **115.** Characterization of the organoleptic properties, vitamin C levels and anti-oxidant contents of Californian grown persimmons. **I.J. Sedej**, A.M. Vilches, C.W. Olsen, J. Smith, R.D. Woods, J.E. Preece, R.R. Milczarek, A.P. Breksa

AGFD **116.** Industrial hemp for fuels and chemicals: From weed to wonder. **S. Tulaphol**, T. Phung, M. Hossain, N. Sun, T. Prasomsri, S. Renneckar, **N. Sathitsuksano**

AGFD **117.** Determination of imidacloprid in central California honey and the decline of the bee population. **S.C. Fleming**, B. Anderson, M. Barr-Ramsey, E. Issa, E. Manzo, D. Smith, M. Tjuanta, C. Olea

AGFD **118.** Palmitic, stearic and oleic acid sophorolipids and thiamine dilauryl sulfate inactivate *Escherichia coli* O157:H7 in the presence of low concentrations of ethanol. **X. Zhang**, R. Ashby, D. Solaiman, Y. Liu, **X. Fan**

AGFD **119.** Recovery of grape pomace polyphenols by polymeric adsorbents with affinity ligands and the evaluation of adsorption and desorption characteristics of polyphenols. **A. Seker**, S. Chen

AGFD **120.** Extraction and purification of (E)-resveratrol from the bark of conifer species in Maine. **P.S. Piyaratne**, B.W. Cole, R. Fort

## MONDAY MORNING

### Section A

Hilton San Francisco Union Square  
Continental Parlor 9

### Chemistry & Biological Activities of Phenolic Compounds from Fruits & Vegetables

#### Isolation, Food Composition & Antioxidant Activity

G. Gattuso, G. K. Jayaprakasha, *Organizers*

B. Patil, *Organizer, Presiding*

D. Barreca, V. Cheynier, *Presiding*

#### 8:00 Introductory Remarks.

**8:05 AGFD 121.** Concentration of polyphenolic compounds and antioxidant activity of garlic grown from air bulbils. **A. Kopec**, E. Jedrzejczyk, R. Francik, J. Zawistowski

**8:30 AGFD 122.** Changes of phenolic compounds resulting from thermal food processing. **S. Rohn**

**8:55 AGFD 123.** Potential green solvents using accelerated extraction of Brussel sprouts yielded higher phenolics, antioxidant activity and  $\alpha$ -amylase inhibition. **G.K. Jayaprakasha**, H. S. Y.B. Ruiz, B. Patil

**9:20 AGFD 124.** Cooking effects on the bioavailability and bioactivity of phenolic and carotenoids of Mediterranean sofrito. **R. Lamuela-Raventos**, J. Fernando-Rinaldi, S. Hurtado-Barroso, M. Martínez-Huélamo, M. Illan, X. Torrado

#### 9:45 Intermission.

**10:00 AGFD 125.** Natural and bioinspired phenol polymers with antioxidant properties for health and food applications. **A. Napolitano**

**10:25 AGFD 126.** Analysis of non-extractable phenolic compounds in fruit products: Methodology and perspectives. **J. Pérez-Jiménez**, F. Saura-Calixto

**10:50 AGFD 127.** Edible bean sprouts as a dietary source of antioxidant phenolics. **H. Corke**, R. Gan

#### 11:15 Concluding Remarks.

### Section B

Hilton San Francisco Union Square  
Franciscan A

### Artisanal Foods

A. L. Waterhouse, *Organizer*

M. H. Tunick, *Organizer, Presiding*

#### 8:00 Introductory Remarks.

**8:10 AGFD 128.** Marketing artisanal products. **R. Villarreal**

**8:45 AGFD 129.** Impact on chemical composition of yerba mate tea using artisan methods in comparison to mass-produced technology. **E.G. Demejia**, D. Karr

#### 9:30 Intermission.

**9:45 AGFD 130.** Fundamentals of coffee brewing. **K. Sanchez**

**10:05 AGFD 131.** Physics and chemistry of brewing coffee. **C. Hendon**

**10:30 AGFD 132.** Craft and science of artisanal wine. **A.L. Waterhouse**, N. Gislason

## Section C

Hilton San Francisco Union Square  
Franciscan B

### Structure & Chemistry of Proteins of Food Safety & Food Manufacturing Interest

Y. Zhang, *Organizer, Presiding*

**8:00 AGFD 133.** Detection of allergens and gluten in fermented and hydrolyzed food and ingredients. **L. Jackson**

**8:25 AGFD 134.** Nucleic acid-based sensors for the detection of gluten in food: A tool for ensuring the safety of celiac patients. **M. Lobo-Castañón**, R. Miranda-Castro, N. de los-Santos-Alvarez, A.J. Miranda-Ordieres

**8:50 AGFD 135.** Caracterización de sericina producido por liofilización. **C. Londoño**, D.C. Castrillón Martínez, **A. Restrepo**, C. Alvarez

**9:15 AGFD 136.** Differences in the functionality and characterization of kafirins extracted from decorticated sorghum flour or gluten meal with protease. **J. Espinosa**, I. Garza-Guajardo, E. Perez-Carrillo, S.O. Serna-Saldivar

#### 9:40 Intermission.

**9:55 AGFD 137.** Recent development in typing, characterization and detection of Shiga toxins produced by pathogenic *E. coli*. **X. He**

**10:20 AGFD 138.** Functionalization of food proteins and peptides via Transglutaminase (TGase) catalysis: Effects on bioactivity, functionality and safety. **M. Betti**, Y. Hrynets

**10:45 AGFD 139.** Recent development in recombinant food allergen production. **Y. Zhang**

**11:10 AGFD 140.**  $\beta$ -Lactoglobulin-chlorogenic acid conjugate-based nanoparticle for delivery of (-)-epigallocatechin-3-gallate. **J. Yi**, Y. Fan, Y. Zhang

### Nanocellulose Processing & Analysis Properties

*Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC*

## MONDAY AFTERNOON

### Section A

Hilton San Francisco Union Square  
Continental Parlor 9

### Chemistry & Biological Activities of Phenolic Compounds from Fruits & Vegetables

#### HPLC Separation, Mass Spectrometry & Antioxidant Activity

G. Gattuso, G. K. Jayaprakasha, B. Patil, *Organizers*

G. Gowda, R. Lamuela-Raventos, J. Singh, *Presiding*

#### 1:00 Introductory Remarks.

**1:05 AGFD 141.** Analytical characterization of anthocyanins in *Vaccinium myrtillus* L. berries and food products. **V. Brighenti**, C. Ranieri, F. Pellati, S. Benvenuti



**1:30 AGFD 142.** Properties and applications of macromolecular antioxidants, the hidden face of dietary antioxidants. F. Saura Calixto, J. Pérez-Jiménez

**1:55 AGFD 143.** High-resolution mass spectrometry analysis of flavonoid-acetaldehyde reaction products in wine-like model solutions. A. Vallverdu-Queralt, E. Meudec, R. Lamuela-Raventos, N. Sommerer, V. Cheyner

**2:20 AGFD 144.** Polyphenolic profiles of fruits grown in Serbia. Z. Tesic, U. Gasic, D. Milojkovic-Opsenica

**2:45** Intermission.

**3:00 AGFD 145.** UHPLC-QTOF MS analysis of phenols in wines made with different maceration techniques. S. Frost, J. Blackman, J. Zweigenbaum, H. Heymann, S.E. Ebeler

**3:25 AGFD 146.** Combination of green solvents using accelerated extraction of spinach and LC-HR-ESI-QTOF-MS led five new flavonoids and yielded higher antioxidants. J. Singh, G.K. Jayaprakasha, B. Patil

**3:50 AGFD 147.** Determination of ellagic acid in the wastes of walnut, chestnut and pomegranate grown in Turkey using HPLC-DAD method. G. Yalcin, C. Demirbag, I. Bahsi, L. Ozgul, D. Bilgic, H. Onurlu, S.A. Seyhan

**4:15** Concluding Remarks.

## Section B

Hilton San Francisco Union Square  
Franciscan A

### Artisanal Foods

M. H. Tunick, *Organizer*

A. L. Waterhouse, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 AGFD 148.** Crafting a regionally evocative gin using locally wild-crafted botanicals. D. Smith, T.S. Collins

**1:50 AGFD 149.** Mezcal: An ancestral distilled beverage obtained from agave. A.C. Gschaedler, M. Kirchmayr, M. Arellano, R. Prado

**2:15 AGFD 150.** Artisanal excellence: Beer. C. Bamforth, S. Ungermann

**3:00** Intermission.

**3:15 AGFD 151.** Artisanal chocolate: Flavor chemistry of the enticing aroma and taste of cocoa. M. Foley

**4:00 AGFD 152.** Volatile compounds during traditional fermentation and drying of cacao (Theobroma cacao). E. Lugo, A. Gschaedler, J. Rodriguez

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## Section C

Hilton San Francisco Union Square  
Franciscan B

### General Papers

N. P. Seeram, *Organizer, Presiding*

H. Ma, *Presiding*

**1:00** Introductory Remarks.

**1:05 AGFD 153.** Withdrawn.

**1:30 AGFD 154.** Bioassay-guided isolation and structure elucidation of a natural product inhibitor of *Xylella fastidiosa* from the endophytic fungus *Ulocladium* sp. M. Papineau, L. D'Elia, P. Rolshausen, C. Roper, K.N. Maloney

**1:55 AGFD 155.** Changes in lipid profile and plasma proteome of streptozotocin-induced diabetic rats fed an amaranth supplemented diet. A.J. Velarde Salcedo, A. Barrera Pacheco, A.P. Barba de la Rosa

**2:20** Intermission.

**2:35 AGFD 156.** Investigation of the anti-proliferative constituents of *Podocarpus neriifolius* leading to the isolation of bioactive type-B podolactones and a novel glucoside derivative. P. Benatrehina, W. Chen, H. Chai, T.N. Ninh, D.D. Soejarto, J.E. Burdette, L. Rakotondraibe, A.D. Kinghorn

**3:00 AGFD 157.** Mechanically robust N-halamine grafted PVA-co-PE membranes with renewable antimicrobial activity. Y. Si, Y. Ma, A. Cossu, N. Nitin, G. Sun, D. Wang

**3:25 AGFD 158.** Lunasin-enriched products: Effect of Kunitz trypsin and Bowman-Birk protease inhibitors on stability against pepsin-pancreatin hydrolysis and modification of the inflammasomes *in vitro*. S.J. Price, P. Pangloli, H. Krishnan, V.P. Dia

**3:50 AGFD 159.** Sorghum kafirin: Effect of ultrasonication on its pepsin-pancreatin digestibility and anti-inflammatory effects in lipopolysaccharide-induced THP-1 human macrophages. A. Sullivan, P. Pangloli, V.P. Dia

**4:15 AGFD 160.** Particle size related bacterial recovery in immunomagnetic separation. J. Chen, B. Park

**4:40** Concluding Remarks.

## Nanocellulose Processing & Analysis

### Fundamentals

*Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC*

### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

*Sponsored by CELL, Cosponsored by AGFD*

### Undergraduate Research Posters

#### Agricultural & Food Chemistry

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## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

N. P. Seeram, *Organizer*

**8:00 - 10:00**

**38, 40, 47, 49, 51, 53, 55, 57, 59-60, 64, 86-88, 91, 93-95, 98-100, 103, 105, 107-108, 110.** See previous listings.

## TUESDAY MORNING

### Section A

Hilton San Francisco Union Square  
Continental Parlor 9

### Chemistry & Biological Activities of Phenolic Compounds from Fruits & Vegetables

#### Mass Spectrometry & Invitro Biological Activities

G. Gattuso, B. Patil, *Organizers*

G. K. Jayaprakasha, *Organizer, Presiding*

G. Williamson, J. Zawistowski, *Presiding*

**8:00** Introductory Remarks.

**8:05 AGFD 161.** Cryo-TOF-SIMS visualization of water-soluble chemicals in plant. D. Aoki, Y. Matsushita, K. Fukushima

**8:30 AGFD 162.** Towards a comprehensive analysis of condensed tannin structures. H. Fulcrand, L. Rouméas, C. Romieu, L. Mouis, J. Brillouet

**8:55 AGFD 163.** Chemical composition of flavonoids from selected herbs and their mechanism of inhibition of dipeptidyl peptidase-IV as potential strategy in the management of diabetes. E.G. Demejia, A. Bower, M.A. Berhow

**9:20 AGFD 164.** Mass spectrometry techniques for metabolomics and tissues imaging of natural products from *Lychnophora* species, a flavoring agent in the Brazilian traditional spirit. N. Lopes

**9:45** Intermission.

**10:00 AGFD 165.** Nanoencapsulated curcumin demonstrated higher cytotoxicity of colon cancer cells through enhanced bioavailability. G.K. Jayaprakasha, K. Murthy, B. Patil

**10:25 AGFD 166.** Potential cancer chemopreventive activity of fruit phytochemicals from black chokeberry, goji, and maqui berry botanical dietary supplements. B. Naman, J. Li, P. Benatrehina, L. Pan, W. Keller, A. Kinghorn

**10:50 AGFD 167.** Expanding human blood metabolomics to the analysis of coenzymes and antioxidants using 1H NMR spectroscopy. G. Gowda, D. Raftery

**11:15 AGFD 168.** Proanthocyanidins from Chinese Bayberry (*Myrica rubra* Sieb. et Zucc.) leaves regulate lipid metabolism and glucose consumption by activating AMPK pathway in HepG2 cells. Y. Zhang, X. Ye, S. Chen

**11:40** Concluding Remarks.

### Section B

Hilton San Francisco Union Square  
Franciscan A

#### Chemistry of Tree Nuts

A. E. Mitchell, *Organizer, Presiding*

K. Lapsley, *Presiding*

**8:00 AGFD 169.** Health effects of tree nuts: Nothing but good news. J.A. Vinson

**8:25 AGFD 170.** Beyond benzaldehyde: The chemistry of raw, roasted and rancid almonds. A.E. Mitchell

**8:50 AGFD 171.** Chemical and nutritional characterization of the wrapped cashew. L.L. Oehrl

**9:15** Intermission.

**9:35 AGFD 172.** Comparison of analytical GC-MS techniques for the determination of volatile and semi-volatile compounds in raw and roasted Macadamia nuts (*Macadamia integrifolia*). S.J. Toth

**10:00 AGFD 173.** Metabolomics based approach identifies changes in the composition of small molecular weight compounds in the peanut seed after dry-roasting. C.M. Klevorn, L.L. Oehrl

### Section C

Hilton San Francisco Union Square  
Franciscan B

### Artisanal Foods

M. H. Tunick, *Organizer*

A. L. Waterhouse, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 AGFD 174.** Chemistry of artisanal cheese. M.H. Tunick, S. Doughy

**8:50 AGFD 175.** Mexican Cotija cheese: Flavors that keep more than 400 years of tradition. P.M. Chombo-Morales

**9:15 AGFD 176.** Artisanal and sourdough breads. B. Klein, A.S. Ross

**10:00** Intermission.

**10:15 AGFD 177.** Understanding the flavor and quality of honey. A.E. Mitchell, A. Harris

**11:00 AGFD 178.** Quality and authenticity assessment of extra virgin olive oil. S. Wang, D. Garcia-aguirre

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

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### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

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## TUESDAY AFTERNOON

### Section A

Hilton San Francisco Union Square  
Continental Parlor 9

### Chemistry & Biological Activities of Phenolic Compounds from Fruits & Vegetables

#### Invitro Studies

G. K. Jayaprakasha, B. Patil, *Organizers*

G. Gattuso, *Organizer, Presiding*

J. Kim, *Presiding*

**1:00** Introductory Remarks.

**1:05 AGFD 179.** C- and O-glycosyl flavones in pigmented orange juices: Identification, quantification and evaluation of their influence on antioxidant and cytoprotective activity. D. Barreca, E. Bellocchio, S. Ficarra, G. Laganà, E. Tellone, A. Gattieri, G. Gattuso

**1:30 AGFD 180.** Identification, quantification and mechanism study of potential anti-inflammatory hydroxycinnamic Acid Amides from root bark of *Lycium barbarum*. S. Wang, Y. Wang, C. Ho, J. Suh

†Cooperative Cosponsorship

**1:55 AGFD 181.** Evaluation of abiotic environmental conditions on phytochemical and biological activities in *Abies koreana*. J. Kim, D. Kim, E. Park

**2:20 AGFD 182.** Bioactive compounds and cellular antioxidant activity of selenized *P. ostreatus* fruiting bodies. J.A. Carrasco-Gonzalez, J. Gutierrez-Urbe, S.O. Serna-Saldivar

**2:45** Intermission.

**3:00 AGFD 183.** Aronia berry: Polyphenols, anti-inflammatory activity, and lipid modulation. B.W. Bolling

**3:25 AGFD 184.** Cranberry proanthocyanidins: Effects on *Helicobacter pylori* and uropathogenic *Escherichia coli*. A.B. Howell

**3:50 AGFD 185.** *In vitro* and *in vivo*  $\alpha$ -glucosidase inhibition of vitexin and isovitexin. C. Choo

**4:15** Concluding Remarks.

## Section B

Hilton San Francisco Union Square  
Franciscan A

### Chemistry of Tree Nuts

A. E. Mitchell, *Organizer, Presiding*

K. Lapsley, *Presiding*

**1:00 AGFD 186.** Almond and hazelnut are rich in tannins, with varying proportions of bound proanthocyanidin. B.W. Bolling

**1:25 AGFD 187.** Sensory evolution of rancidity in roasted almonds. L.M. Franklin, E. King, D.M. Chapman, N. Byrnes, G. Huang, A.E. Mitchell

**1:50 AGFD 188.** Walnut: Unique health benefits among the tree nuts. J.A. Vinson

**2:15** Intermission.

**2:35 AGFD 189.** Physical property influence on almond fracture properties and digestibility. G. Bornhorst, C. Floyd, Y. Mennah Goveia

**3:00 AGFD 190.** Advanced life cycle modeling of California almond production systems. E. Marvinney, A. Kendall, E. Spang, S. Brodt, F. Shilling, J. Fulton

## Section C

Hilton San Francisco Union Square  
Franciscan B

### General Papers

N. P. Seeram, *Organizer, Presiding*

H. Ma, *Presiding*

**1:00** Introductory Remarks.

**1:05 AGFD 191.** Biodegradable matrix for sustained release of pesticides for crop protection. T. Pirzada, A. Salam, N. Burns, R. Mathew, R.H. Guenther, T.L. Sit, M. Byrd, L. Pal, C. Opperman, S.A. Khan

**1:30 AGFD 192.** Optimization and validation of 360 pesticides multiresidue method for GC-MS/MS in brown rice, orange and spinach. J. Lee, Y. Shin, J. Lee, J. Lee, M. Jung, S. Baek, D. Jeon, H. Yu, X. Yuan, E. Kim, J. Kim

**1:55 AGFD 193.** Synthesis and evaluation of natural herbicide, Thaxtomin A and analogues. N. Esmati, J. Bourgault, A. Reddy Maddirala, P.R. Andreana, J. Gray

**2:20 AGFD 194.** Development of the simultaneous analytical method for aryloxyphenoxypropionate herbicides and their metabolites in rice and pepper using LC-MS/MS. J. Lee, J. Lee, E. Kim, Y. Shin, J. Lee, M. Jung, S. Baek, X. Yuan, D. Jeon, H. Yu, J. Kim

**2:45** Intermission.

**3:00 AGFD 195.** Development of analytical method for pesticide multi-residues in egg and milk using GC-ECD/NPD. J. Lee, J. Lee, Y. Shin, J. Lee, E. Kim, M. Jung, S. Baek, D. Jeon, X. Yuan, H. Yu, J. Kim

**3:25 AGFD 196.** Multi-residue screening method for the determination of 380 pesticides in human urine by liquid chromatography-tandem mass spectrometry. Y. Shin, J. Lee, E. Kim, J. Lee, M. Jung, S. Baek, H. Kim, J. Kim, M. In, H. Lee, J. Kim

**3:50 AGFD 197.** Mosquito larvicidal activity of some isocoumarins. K.M. Meepagala, A. Estep, J.J. Becnel

**4:15 AGFD 198.** Potato chips: A simple model for odor image encoding. M.M. Rochelle, T. Acree, G. Prevost, C. Maxe

**4:40** Concluding Remarks.

### Advances in Polysaccharides: Practice & Applications

#### New Developments in the Industrial Sector

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#### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

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#### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

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## WEDNESDAY MORNING

### Section A

Hilton San Francisco Union Square  
Continental Parlor 9

#### Chemistry & Biological Activities of Phenolic Compounds from Fruits & Vegetables

##### Invivo Studies

G. Gattuso, G. K. Jayaprakasha, B. Patil, *Organizers*

S. Poulouse, J. F. Stevens, *Presiding*

**8:00** Introductory Remarks.

**8:05 AGFD 199.** Dietary polyphenols and health: Novel mechanisms of action involving their *in vivo* metabolites. D. Del Rio

**8:30 AGFD 200.** Raspberry (poly) phenolics exert bioactivity following *in vivo* digestion. C. Gill, C. Latimer, G. McMullan, R. Lawther, G. McDougall, D. Stewart, G. Pereira-Caro, A. Crozier, K. Rotjanapun, I. Rowland

**8:55 AGFD 201.** Polyphenol- and PUFA-rich walnuts protect against age-associated cognitive decline through epigenetic modulation. S. Poulouse, B. Shukitt-Hale

**9:20** Intermission.

**9:35 AGFD 202.** Mice fed high fat diets supplemented with red, golden or black Arkansas apple peels have reduced weight and differences in gut microbiota. M. Friedman, S. Elkahoui, D. Sturges, G.E. Bartley, C. Levin, W.H. Yokoyama

**10:00 AGFD 203.** Prenylated flavonoids from hops (*Humulus lupulus*) for treatment of metabolic syndrome. J.F. Stevens

**10:25 AGFD 204.** Potential effects of flavonoids from breadfruit in prevention of Advanced Glycation End products (AGEs)-induced biological events. J. Lin, G. Yen

**10:50** Concluding Remarks.

## Section B

Hilton San Francisco Union Square  
Franciscan A

### Bliss Point: Food Satiety & Food Mood Effects

B. Burton-Freeman, I. Edirisinghe, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 AGFD 205.** Food chemistry, satiety and food intake regulation. B. Burton-Freeman

**8:35 AGFD 206.** Brain and behavioral responses to fructose vs. glucose. K.A. Page

**9:05 AGFD 207.** Dynamic relationships between emotion and food perception. H. Seo

**9:35 AGFD 208.** Is UMAMI, the 5th basic taste, to control satiety? H. Uneyama

**10:05 AGFD 209.** Appetite regulating hormones and eating behaviors in healthy adults. N.L. Keim, S. Krishnan, W.F. Horn, A. Widaman, K. Stanhope, M.G. Witbracht, S.M. Forester, K.D. Laugero, J.W. Newman, M. Van Loan

## Section C

Hilton San Francisco Union Square  
Franciscan B

### General Papers

N. P. Seeram, *Organizer, Presiding*

H. Ma, *Presiding*

**8:00** Introductory Remarks.

**8:05 AGFD 210.** HPAE-PAD Determination of carbohydrates in honey. M. Aggrawal, J. Rohrer

**8:30 AGFD 211.** Stabilization of natural pigments from purple corn pericarp in a beverage model through complex formation with metal ions and polysaccharides. R. Cortez, D. Luna, E.G. Demejia

**8:55 AGFD 212.** Polycyclic aromatic hydrocarbons in vegetable oils by gas chromatography with SIM mode mass spectrometry. A.C. Litin, V. Vega

**9:20 AGFD 213.** Simultaneous extraction of gingerols and polysaccharides from ginger (*Zingiber officinale* Roscoe) with ionic liquid-based ultrasonic-assisted extraction. X. Kou, Y. Ke, Y. Xie, H. Wang, Y. Su

**9:45** Intermission.

**10:00 AGFD 214.** Use of reconstituted egg yolk systems to study the roles of plasma and granules in yolk gelation induced by freezing-thawing. M. Primacella, T. Wang, N. Acevedo

**10:25 AGFD 215.** Designing and optimizing light protection dairy milk packaging. C.M. Stancik, D.A. Conner, P. Niedenzu, P. Jernakoff

**10:50 AGFD 216.** Improved stability of whey protein fibrils and utility for biomaterial application. O.G. Jones, J. Gilbert

**11:15 AGFD 217.** Withdrawn.

**11:40 AGFD 218.** Bioactive compounds present in karela peel extract [*Momordica charantia*]: Potential inhibitors of advanced glycation endproducts (AGEs) and implications in diabetes type 2 patients. B. Dayal, M.A. Lea, V. Dobariya, P. Bhalala, K. Sahithi, B. Patel, S. Roy, C. Navadia, P. Chauhan, A. Shah, Y. Attoti, P. Antwi

**12:05** Concluding Remarks.

## Bio-based Gels & Porous Materials

### Biopolymer Hydrogels

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### Advances in Polysaccharides: Practice & Applications

#### Novel Biocatalytic & Biopolymeric Approaches

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#### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

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## WEDNESDAY AFTERNOON

### Section A

Hilton San Francisco Union Square  
Continental Parlor 9

#### Chemistry & Biological Activities of Phenolic Compounds from Fruits & Vegetables

##### Invivo & Human Clinical Trials

G. Gattuso, G. K. Jayaprakasha, B. Patil, *Organizers*

A. Crozier, D. Ghosh, *Presiding*

**1:00** Introductory Remarks.

**1:05 AGFD 219.** Phenolic compounds accumulation in wild and domesticated cladodes from *Opuntia spp.*: Their relation with changes in their metabolism. A. Negre-Salvayre, F. Guéraud, M. Santos Diaz, A.P. Barba de la Rosa

**1:30 AGFD 220.** Metabolic and microbiome innovations for improving phenolic bioactives for health. K. Shetty, D. Sarkar

**1:55 AGFD 221.** Absorption, distribution, metabolism and excretion of orange juice flavanones in endurance trained athletes. A. Crozier

**2:20 AGFD 222.** Safety of cocoa flavanol intake in healthy adults. J. Ottaviani

**2:45** Intermission.

**3:00 AGFD 223.** Polyphenols from fenugreek: Wellness and medicinal uses. D. Ghosh

**3:25 AGFD 224.** Flavonoids in onion beef soups: Stability, reactivity and potential health benefits. **M. Wang, Y. Zhao**

**3:50 AGFD 225.** Effect of phenolic compounds on sugar metabolism: Mechanism of protection against developing type 2 diabetes. **G. Williamson**

**4:15** Concluding Remarks.

## Section B

Hilton San Francisco Union Square  
Franciscan A

### Chemistry of Cellulosic Natural Products

S. Chang, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 AGFD 226.** Infrared imaging of cotton fiber bundles and products. **M. Santiago, D. Hinchliffe, J.E. Rodgers**

**1:30 AGFD 227.** *In situ* synthesis and application of silver nanoparticles as an antimicrobial agent for cotton fibers. **K.R. Fontenot, S. Nam, B.D. Condon**

**1:55 AGFD 228.** Alkaline extraction of residual hemicellulose in dissolving pulp and its properties. **C. Kim, T. Floyd, T. Treasure, S. Kelley, S. Park**

**2:20** Intermission.

**2:35 AGFD 229.** Multifunctional chitosan-based nanocoatings: Stopping oxygen and fire with renewable materials. **J.C. Grunlan**

**3:00 AGFD 230.** Anti-flammable properties of casein with phosphorus and nitrogen containing flame retardants on cotton by layer-by-layer self assisted coating processing. **S. Chang, B.D. Condon, J. Smith**

## Section C

Hilton San Francisco Union Square  
Franciscan B

### General Papers

N. P. Seeram, *Organizer, Presiding*  
H. Ma, *Presiding*

**1:00** Introductory Remarks.

**1:05 AGFD 231.** Non-targeted chemometric detection of adulterated olive oils by flow injection mass spectrometric fingerprints. **D. Lijuan, W. Lu, L.L. Yu**

**1:30 AGFD 232.** Characterization of uranium exposure in sheep grazing near abandon uranium mines on the Navajo reservation. **A.R. Lister, J.C. Ingram**

**1:55 AGFD 233.** U.S. Dairy Forage Research Center (DFRC) condensed tannin NMR database. **W. Zeller, P. Schatz**

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**2:20 AGFD 234.** Detecting and distinguishing among type 1 and type 2 Shiga toxins in human serum. **C.J. Silva, M.L. Erickson-Beltran, C.B. Skinner, S.A. Patfield, X. He**

**2:45** Intermission.

**3:00 AGFD 235.** Optical probe for the detection of a spoilage indicator in shrimp. **R.A. Federico Perez, Z. Xue**

**3:25 AGFD 236.** Fate and transport of electronic waste degradation products in soil and water. **S. Moller, A. Chaparadza**

**3:50 AGFD 237.** Magnetic-Encoded fluorescent multifunctional nanopores for multiplex pathogenic bacteria assay. **E. Song**

**4:15 AGFD 238.** Normpack-The Swedish code for food packaging materials since year 1981. **K. Salmen**

**4:35 AGFD 239.** Lycopene a panacea for sustainable man power for agricultural production in Nigeria: Determination of lycopene from water melon (*Citrullus lanatus*). **S. Okonkwo**

**5:00** Concluding Remarks.

### Bio-based Gels & Porous Materials Biopolymer Organogels

*Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

### Advances in Resource Recovery & Conservation in Water Systems

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### Advances in Polysaccharides: Practice & Applications

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### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

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### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

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## THURSDAY MORNING

### Section A

Hilton San Francisco Union Square  
Continental Parlor 9

### General Papers

N. P. Seeram, *Organizer, Presiding*  
W. Liu, H. Ma, *Presiding*

**8:00** Introductory Remarks.

**8:05 AGFD 240.** Enhancement of catalytic activity and stability of crude Laccase extract in Silica Sol-Gel. **J. Gill, V. Orsat, S. Kermasha**

**8:30 AGFD 241.** Stabilization and protection of retinyl palmitate in policosanol oleogels. **Y. Tian, N. Acevedo**

**8:55 AGFD 242.** Rationale behind the near-ideal catalysis of *Candida antarctica* Lipase A (CAL-A) for highly concentrating  $\omega$ -3 polyunsaturated fatty acids into monoacylglycerols. **Z. Guo**

**9:20 AGFD 243.** Molecularly imprinted polymers based colorimetric-sers dual biosensor for the detection of atrazine in foods. **B. Zhao, X. Lu**

**9:45** Intermission.

**10:00 AGFD 244.** Chemical defence and novel biosynthetic pathways of phytoalexins in crucifers. **Q. To, M. Pedras**

**10:25 AGFD 245.** RNA-seq reveals insight into the molecular mechanism of biocontrol yeast antagonistic against aflatoxigenic *Aspergillus flavus*. **S.T. Hua**

**10:50 AGFD 246.** Here come the potato shock troops: Investigating temporal resistance of potato tubers to microbial infection using antibacterial activity and metabolite profiling of wound-healing tissue extracts from contrasting cultivars. **K. Dastmalchi, M.E. Perez Rodriguez, A. Mychak, J. Linn, A. Janakiraman, R.E. Stark**

**11:15 AGFD 247.** Disaggregation of amyloid beta peptides by ginnalin A, a glucitol-core containing gallocatechin from red maple (*Acer rubrum*): Biophysical, bioanalytical, and cytotoxicity studies. **X. Wang, H. Ma, Z. Li, F. Zhou, N.P. Seeram**

**11:40** Concluding Remarks.

## Section B

Hilton San Francisco Union Square  
Franciscan A

### Synthetic Biology in Food & Agriculture

N. Nitin, J. Talbert, R. S. Tiwari, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:10 AGFD 248.** Computational identification of new ingredients. **C. Anderson**

**8:35 AGFD 249.** Emerging organism engineering industry. **S. Reisinger**

**9:00 AGFD 250.** Human design of food and crops. **J. Medford**

**9:25 AGFD 251.** Securing the global food web. **M. Koeris**

**9:50 AGFD 252.** Recombinant bacteriophages serve as sensitive bacterial recognition elements. **T.C. Hinkley, S. Nugen**

**10:15 AGFD 253.** FDA's approach to the safety assessment and regulation of food ingredients. **R. Merker**

**10:40** Discussion.

## Section C

Hilton San Francisco Union Square  
Franciscan B

### Coffee & Cocoa Products

M. Granvogl, M. C. Qian, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 AGFD 254.** Molecularizing the taste of cocoa (*Theobroma cacao*). **T.D. Stark, T. Hofmann**

**8:35 AGFD 255.** Influence of caffeine-polyphenol-melanoidin interactions on the bitter taste perception of coffee beverages. **O. Frank, T. Hofmann**

**9:05** Intermission.

**9:25 AGFD 256.** Characterization of key odorants of dark chocolate by means of the sensomics approach. **C. Seyfried, M. Granvogl**

**9:55 AGFD 257.** New insight into the role of flavour precursors upon coffee roasting. **T. Davidek, L. Poisson, F. Mestdagh, I. Blank**

## Bio-based Gels & Porous Materials

### Aero-, Cryo- & Xerogels

*Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

### Advances in Resource Recovery & Conservation in Water Systems

*Sponsored by ENVR, Cosponsored by AGFD, CEI and GEOC*

### Advances in Polysaccharides: Practice & Applications

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG†, PMSE and POLY*

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

*Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY*

### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

*Sponsored by CELL, Cosponsored by AGFD*

## THURSDAY AFTERNOON

### Section A

Hilton San Francisco Union Square  
Continental Parlor 9

### General Papers

N. P. Seeram, *Organizer, Presiding*  
H. Ma, *Presiding*

**1:00** Introductory Remarks.

**1:05 AGFD 258.** Influence of pre-fermentation apple juice clarification on the chemistry of hard cider. **S. Ma, A. Neilson, G. Peck, S.F. Okeefe, K. Hurlay, A. Sandbrook, A. Stewart**

**1:30 AGFD 259.** Encapsulation of policosanol enriched sugarcane wax for food supplement application. **S. Sittivanichai, S. Boonyarattanakalin, S. Jarussophon, I. Sramala, W. Pinket, P. Pongwan, K. Kasemwong**

**1:55 AGFD 260.** Oxidation of olive oil and canola oil: Applications in organic chemistry. **L. Callen, Z. Van Scyoc, D. Morelli, M. Glick**

**2:20** Intermission.

**2:35 AGFD 261.** Investigation into the chemical properties of traditional and so-called drug-store varieties of pipe tobaccos and the impact of the US FDA's Substantial Equivalence (SE) rules on the continued marketability of those products. **J.H. Lauterbach**

**3:00 AGFD 262.** Significance of cooking oil to bioaccessibility of DDTs and PBDEs in raw and cooked fish. **X. Mi, Y. Su, L. Bao, E. Zeng**

**3:25 AGFD 263.** Hydrogen peroxide quantitation in complex matrices – A fluorimetric method using Amplex Red. **S. Chakraborty, A.L. Hill, G. Shirsekar, A. Afzal, G. Wang, D. Mackey, P. Bonello**

**3:50 AGFD 264.** Dye-Sensitized solar cell for STEM learning. **P. Hill**

† Cooperative Cosponsorship



4:15 AGFD **265.** Chiral monoterpene profiles of aromatic white wines. M. Song, C. Fuentes, A. Loos, E. Tomasino

4:40 Concluding Remarks.

## Section B

Hilton San Francisco Union Square  
Franciscan A

### Coffee & Cocoa Products

M. Granvogl, M. C. Qian, *Organizers, Presiding*

1:00 AGFD **266.** Role of roasting conditions in the formation of bioactive chemicals in coffee. J. Moon, M. Kamiyama, T. Shibamoto

1:30 AGFD **267.** Trends in coffee and cocoa products and the complexity of described formulations. P. Son, V.A. Biehl, E.M. Altizer, A. Windhof, R.B. McWhirter

2:00 AGFD **268.** Withdrawn.

2:30 Intermission.

2:50 AGFD **269.** FTIR analysis of gasses emitted during roasting coffee. S. Amanuel, P. Catravas, J.D. Kehlbeck

3:20 AGFD **270.** Identification of coffee constituents with beneficial effects on cholesterol metabolism. V. Somoza, W. Hoffmann

3:50 Concluding Remarks.

### Bio-based Gels & Porous Materials

#### Open-Porous Carbon Materials

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

#### Advances in Resource Recovery & Conservation in Water Systems

Sponsored by ENVR, Cosponsored by AGFD, CEI and GEOC

#### Advances in Polysaccharides: Practice & Applications

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#### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

Sponsored by CELL, Cosponsored by AGFD

## AGRO

### Division of Agrochemicals

S. Jackson, *Program Chair*

## SUNDAY MORNING

#### Contaminants of Emerging Concern in Natural & Engineered Systems

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

## SUNDAY AFTERNOON

#### Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

#### Contaminants of Emerging Concern in Natural & Engineered Systems

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

## MONDAY MORNING

#### Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

#### Contaminants of Emerging Concern in Natural & Engineered Systems

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

## MONDAY AFTERNOON

#### Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

#### Contaminants of Emerging Concern in Natural & Engineered Systems

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

## WEDNESDAY AFTERNOON

#### Contaminants in Urban & Coastal Estuarine Ecosystems

#### Advanced Analytical Techniques to Assess Chemical Profiles

Sponsored by ENVR, Cosponsored by AGRO

## WEDNESDAY EVENING

#### Contaminants in Urban & Coastal Estuarine Ecosystems

Sponsored by ENVR, Cosponsored by AGRO

#### Contaminants of Emerging Concern in Natural & Engineered Systems

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

## THURSDAY MORNING

#### Contaminants in Urban & Coastal Estuarine Ecosystems

#### Environmental Processes Affecting Chemical Availability & Toxicity

Sponsored by ENVR, Cosponsored by AGRO

## THURSDAY AFTERNOON

#### Contaminants in Urban & Coastal Estuarine Ecosystems

#### Temporal & Spatial Assessment of Persistent-Bioaccumulative Chemicals in Coastal & Urban Waters

Sponsored by ENVR, Cosponsored by AGRO

## ANYL

### Division of Analytical Chemistry

L. Baker and K. Phinney, *Program Chairs*

#### OTHER SYMPOSIA OF INTEREST:

**Accurate Mass/High Resolution Mass Spectrometry for Environmental Monitoring & Remediation** (see ENVR, Sun, Mon, Wed)

**Applications of X-Ray & Neutron Scattering Techniques in Energy Technologies** (see ENFL, Tue, Wed)

**Contaminants of Emerging Concern in Natural & Engineered Systems** (see ENVR, Sun, Mon, Wed)

**Frontiers in Glycoanalytics** (see CELL, Wed, Thu)

**Nanocellulose Processing & Analysis** (see CELL, Sun, Mon)

**Separation of Macromolecules & Particulates** (see POLY, Sun)

#### SOCIAL EVENTS:

Reception, 5:00 PM: Tue

## SUNDAY MORNING

### Section A

Hilton San Francisco Union Square  
Union Square 14

#### Synthesis & Characterization of Materials for Energy Applications

#### Enabling Concepts for Energy Materials Design

Cosponsored by CATL

J. Rodriguez Lopez, K. J. Stevenson, *Organizers*

D. R. Rolison, *Organizer, Presiding*

V. Augustyn, *Presiding*

8:30 ANYL **1.** Thin-Film pair distribution analyses of energy-storage materials in device-ready 3D electrodes. D.R. Rolison, M.D. Donakowski, J.M. Wallace, M.B. Sassin, K.W. Chapman, J.F. Parker, J.W. Long, C.N. Chervin, I.R. Pala, A.N. Mansour

9:00 ANYL **2.** Synthesis and characterization of solvated transition metal oxides for electrochemical energy storage. R. Wang, J. Mitchell, W. Lo, V. Augustyn

9:30 ANYL **3.** Decreasing impedance and increasing capacity in solid state electrochemical cells through architectural optimization. E.D. Wachsman

10:00 Intermission.

10:30 ANYL **4.** First principles optimization of novel solar cell materials. E.A. Carter

11:00 ANYL **5.** Interfacing nanomaterials for solar-to-fuel conversion. P. Yang, D. Kim

11:30 ANYL **6.** Probing intrinsic stability of complex metal halides: A transition from hybrid to all inorganic perovskite solar cells. P.A. Troshin, L.A. Frolova, A. Akbulatov, S. Luchkin, K.J. Stevenson

### Section B

Hilton San Francisco Union Square  
Franciscan D

#### Advances in Separations

J. L. MacLachlan, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 ANYL **7.** Simultaneous estimation of ketorolac tromethamine and phenylephrine hydrochloride in artificial aqueous humor. F.B. Tandell, R. Trivedi

8:25 ANYL **8.** Aqueous normal phase chromatography: A new approach to complex sample analysis. J.J. Pesek, M. Matyska

8:45 ANYL **9.** Rapid determination of cocamidopropyl betaine impurities in cosmetic products by core-shell HILIC-MS/MS. P.G. Wang, W. Zhou

9:05 ANYL **10.** Adaption of Ehrlich's Reagent to a HPLC post-column reaction system for the quantification of limonoid glucosides. A.P. Breksa, D.E. King, A.M. Vilches

9:25 ANYL **11.** New HPLC method development workflow by leveraging state-of-the-art software. L. Wang

9:45 ANYL **12.** Integration of out-of-plane optical fiber for multipoint detection in microfluidic platforms and using fiber tunneling mode for particle/cell counting, velocimetry and size discrimination. D. Ediriweera, J. Sadeghi, C.T. Culbertson

10:05 Intermission.

10:15 ANYL **13.** Investigating the gas chromatography separation properties of azulene- and naphthalene-modified polysiloxanes. M. Jackson, C.M. Garner

10:35 ANYL **14.** Screening and on-site identification of accelerants for arson investigations. J.L. MacLachlan, J.N. Driscoll

10:55 ANYL **15.** Polymer-based gas chromatography microcolumns. J.J. Hinman, K.S. Suslick

11:15 ANYL **16.** Alternative to commercial instrumentation. S. Abbott, D. Faries, R. Taylor

11:35 Concluding Remarks.

### Section C

Hilton San Francisco Union Square  
Union Square 17/18

#### New Analytical Advances in Accelerator Mass Spectrometry (AMS)

Financially supported by National Electrostatics Corporation

B. A. Buchholz, *Organizer, Presiding*

8:30 ANYL **17.** PIMS progress. S. Freeman, R. Shanks, C. McIntyre, G. Gaubert

8:50 ANYL **18.** Chemi-ionization in the Cs sputter ion source: Selective ionization for AMS. J.S. Vogel

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at:

[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)



**9:10 ANYL 19.** Developing AMS hyphenations with analytical instruments for atmospheric aerosol characterization. **G. Salazar, K. Agrios, S. Szidat**

**9:30 Intermission.**

**9:45 ANYL 20.** Streamlining analyses of atmospheric carbonaceous aerosols: Determining the sources of fires in Indonesia. **E. Wiggins, G. dos Santos, C. Czimczik, J. Randerson**

**10:05 ANYL 21.** Plasma oxidation prior to accelerator mass spectrometry radiocarbon dating. **K.L. Steelman**

**10:25 ANYL 22.** Compound specific radiocarbon analyses at NOSAMS: Unlocking ocean and lake chronologies one molecule at a time. **A.P. McNichol, L. Xu, W. Longo, A. Gagnon, M. Roberts, S. Shah Walter, B. Longworth, Y. Huang**

**10:45 ANYL 23.** Macromolecular isolation and purification in AMS. **B.A. Buchholz, K.L. Spalding, R. Dreier, I. Maze, B.J. Mailloux, S.A. Carratt, L.S. Van Winkle, T. Ognibene, E. Kuhn, N. Hum, N. Etminan, G.G. Loots**

## Section D

Hilton San Francisco Union Square  
Franciscan C

### Coherent Multidimensional Spectroscopy in Materials Science

*Cosponsored by PHYS*

**W. Zhao, Organizer, Presiding**

**A. T. Krummel, Presiding**

**8:00 ANYL 24.** Multiresonant coherent multidimensional spectroscopy of MoS<sub>2</sub>. **J.C. Wright, K. Czech, B. Thompson**

**8:30 ANYL 25.** Fast electronic dynamics in 2D spectra of PbS quantum dots. **S.D. Park, D. Baranov, J. Ryu, D.M. Jonas**

**9:00 ANYL 26.** Two dimensional electronic spectroscopy of methyl ammonium lead halide perovskite nanocrystals. **G.S. Engel, L. Wang**

**9:30 ANYL 27.** Exciton dynamics in transition metal dichalcogenide monolayers revealed by two-dimensional electronic spectroscopy. **L. Guo, D.M. Monahan, G.R. Fleming**

**10:00 Intermission.**

**10:15 ANYL 28.** Resolution and selectivity: Major advantages of coherent 3D spectroscopy over coherent 2D spectroscopy. **P. Chen**

**10:45 ANYL 29.** Pushing signal-to-noise ratio toward the detector limit in multidimensional spectroscopy. **N. Ge**

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**11:15 ANYL 30.** Two-dimensional electronic Stark spectroscopy. **J.P. Ogilvie, A. Loukianov, A. Niedringhaus, B. Berg**

## Section E

Hilton San Francisco Union Square  
Union Square 19/20

### Analytical Neuroscience

*Financially supported by Pittcon*

**A. C. Michael, Organizer, Presiding**

**8:30 Introductory Remarks.**

**8:35 ANYL 31.** Microfabricated and mass spectrometry tools for In Vivo monitoring of neurochemicals. **R. Kennedy**

**9:05 ANYL 32.** Aptamer field-effect transistors as neurochemical sensors to monitor neurotransmitters *in vivo*. **N. Nakatsuka, K. Yang, Y. Rim, X. Xu, J. Abendroth, C. Zhao, Y. Yang, M. Stojanovic, P.S. Weiss, A.M. Andrews**

**9:35 ANYL 33.** Extraction and detection of neurotransmitters and anesthetic drug *in-vivo* based on polymeric ionic liquids. **X. Zhou, Y. Zhang, G. Shi**

**10:05 Intermission.**

**10:20 ANYL 34.** Faster neurochemical measurements using continuous on-line microdialysis: Towards microdialysis 2.0. **M.G. Boutelle, I.C. Samper, A. Leong, M.L. Rogers, S. Gowers, A.M. Nightingale, X. Niu**

**10:50 ANYL 35.** Some considerations on limitations and opportunities in making measurements in living tissue. **S.G. Weber, Y. Ou**

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy

*Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC*

### Nanocellulose Processing & Analysis

#### Novel Processes

*Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC*

#### Separation of Macromolecules & Particulates

*Sponsored by POLY, Cosponsored by ANYL, COLL and PMSE*

#### Contaminants of Emerging Concern in Natural & Engineered Systems

*Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI*

#### Accurate Mass/High Resolution Mass Spectrometry for Environmental Monitoring & Remediation

*Sponsored by ENVR, Cosponsored by ANYL*

## SUNDAY AFTERNOON

### Section A

Hilton San Francisco Union Square  
Union Square 14

### Synthesis & Characterization of Materials for Energy Applications

### In Operando & Surface Sensitive Analysis

*Cosponsored by PHYS*

**J. Rodriguez Lopez, K. J. Stevenson, Organizers**

**D. R. Rolison, Organizer, Presiding**

**J. E. Pemberton, Presiding**

**1:30 ANYL 36.** Generation and evolution of materials in the anode Solid Electrolyte Interphase (SEI) of lithium ion batteries. **B.L. Lucht**

**2:00 ANYL 37.** Application of local probes of structure to characterize supercapacitor and battery function. **A. Forse, C. Merlet, K.J. Griffith, P.K. Allan, C.P. Grey**

**2:30 ANYL 38.** Understanding and design of core-shell architectures for battery electrodes based on complex oxides. **J. Cabana**

**3:00 Intermission.**

**3:30 ANYL 39.** Organic semiconductor interfaces in optoelectronic devices: Undesirable chemistry galore! **J.E. Pemberton, L. Sang, K.E. Watts, T. Nguyen, E.L. Ratcliff**

**4:00 ANYL 40.** Chemomechanically mediated processes in energy devices. **H. Tavassol**

**4:30 ANYL 41.** Dendrites and pits: Untangling the complex behavior of lithium metal anodes through operando video microscopy. **K.N. Wood, E. Kazyak, A.F. Chadwick, J. Zhang, K. Thornton, N.P. Dasgupta**

## Section B

Hilton San Francisco Union Square  
Franciscan D

### Advances in Separations

**J. L. MacLachlan, Organizer, Presiding**

**1:00 Introductory Remarks.**

**1:05 ANYL 42.** Ionic liquid surfactants in cationic polyacrylamide gel electrophoresis protein separation. **P. Vidanapathirana, F. Hasan, K. Mussio, N. Siraj, A. Grove, I.M. Warner**

**1:25 ANYL 43.** Stirred-electromembrane extraction at low voltages as a novel microextraction technique for analysis of basic drugs. **K.M. Ara**

**1:45 ANYL 44.** Microchip electrophoresis separation of pre-term birth biomarkers in a 3D printed device. **M.J. Beauchamp, H. Gong, G.P. Nordin, A.T. Woolley**

**2:05 ANYL 45.** Capillary electrophoresis coupled with micro free flow electrophoresis for high speed comprehensive two dimensional analysis of peptides. **A.C. Johnson, M. Bowser**

**2:25 ANYL 46.** Three-phase direct immersion in-tube microextraction coupled with capillary electrophoresis. **J. Choi, Y. Choi, D. Chung**

**2:45 Intermission.**

**2:55 ANYL 47.** Affinity extraction of DNA for sepsis diagnosis using on-chip monoliths. **R. Knob, A. Woolley**

**3:15 ANYL 48.** SFE and preparative SFC with mass directed collection as beneficial tools in the workflow for natural products isolations from complex mixtures. **J.P. McCauley**

**3:35 ANYL 49.** Determination of sodium nitrite in peanut paste baits by ion chromatography. **B.G. Abbo, S.F. Volker**

**3:55 ANYL 50.** Evaluation and comparison of pulsed-electromembrane extraction and electromembrane extraction techniques for the analysis of fluoxetine and olanzapine in biological fluids. **K.M. Ara**

**4:15 Concluding Remarks.**

## Section C

Hilton San Francisco Union Square  
Union Square 17/18

### New Analytical Advances in Accelerator Mass Spectrometry (AMS)

*Financially supported by National Electrostatics Corporation*

**B. A. Buchholz, Organizer, Presiding**

**1:30 ANYL 51.** Technological developments for BioAMS applications. **T. Ognibene**

**1:50 ANYL 52.** Ultrasensitive Bio-AMS applications for safe and environmentally relevant clinical studies of high molecular weight polycyclic aromatic hydrocarbon pharmacokinetics. **E. Madeen**

**2:10 ANYL 53.** Coupled accelerator mass spectrometer-mass spectrometer analysis of biomolecules. **B. Stewart**

**2:30 ANYL 54.** Use of accelerator mass spectrometry for precision medicine applications in cancer therapy. **P.T. Henderson, T. Scharadin, M. Zimmermann, T. Ognibene, R. de Vere White, K. Turteltaub, G. Cimino, E. Kim, A. Yu, B. Jonas, C. Pan**

**2:50 Intermission.**

**3:05 ANYL 55.** Combined use of HRMS and combustion AMS for simultaneous metabolite quantification and identification. **E.V. Duijn, W. Vaes**

**3:25 ANYL 56.** AMS enabled clinical studies in GSK: Past, present and future. **G.C. Young**

**3:45 ANYL 57.** Strategies for efficient metabolite characterization by UPLC + AMS. **H. Lee, S. La, S. Dueker**

**4:05 ANYL 58.** Automation of <sup>14</sup>C-labeled, biological-sample measurements by cavity ring-down spectroscopy and comparison to accelerator mass spectrometry. **A. McCart, T. Ognibene, G. Bench, K. Turteltaub**

## Section D

Hilton San Francisco Union Square  
Franciscan C

### Coherent Multidimensional Spectroscopy in Materials Science

*Cosponsored by PHYS*

**W. Zhao, Organizer**

**P. B. Petersen, M. C. Thielges, Presiding**

**1:00 ANYL 59.** Dynamics of functionalized alkyl monolayers on gold: Two dimensional infrared experiments and molecular dynamics simulations. **M.D. Fayer**

**1:30 ANYL 60.** What can be learned from high-order spectroscopies? The hidden dynamics of rate-exchange. **J.R. Darwin, H. Kaur, M.A. Berg**

**2:00 ANYL 61.** Development of femto-second multidimensional spectroscopies to probe vibronic couplings in molecules and materials. **J.D. Gaynor, Z. Fox, M. Balasubramanian, M.H. Khalil**

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**2:30 ANYL 62.** High-throughput 2D IR spectroscopy platform yields insights into solvent dynamics in solution mixtures. **A.T. Krummel, K. Tracy, C. Carver**

**3:00** Intermission.

**3:15 ANYL 63.** Charge separation in 2D crystal heterostructures. **J. Zheng**

**3:45 ANYL 64.** Conformations and dynamics of protein molecular recognition via 2D IR spectroscopy. **M.C. Thielges, S. Ramos, A. Le Sueur, R. Horness**

**4:15 ANYL 65.** Investigating lipid membrane interfaces with 2D IR spectroscopy. **C. Baiz, J. Flanagan, M. Valentine, S. Edington**

**Section E**

Hilton San Francisco Union Square  
Union Square 19/20

**Analytical Neuroscience**

*Financially supported by Pittcon*

A.C. Michael, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ANYL 66.** Single- and sub-cellular observation of acetylcholine neurotransmission with a nanopipet electrode. **M. Shen**

**2:05 ANYL 67.** Voltammetric investigation of serotonin's roles in depression. **P. Hashemi**

**2:35 ANYL 68.** Probing *in vivo* neurochemistry by microdialysis sampling coupled to mass spectrometry. **L. Li**

**3:05** Intermission.

**3:20 ANYL 69.** Mathematical model to optimize electroenzymatic microbiosensors for the monitoring of glutamate signaling in the brain. **M. Clay, H.G. Monbouquette**

**3:50 ANYL 70.** Unraveling the neurochemistry of 'chemobrain'. **M.A. Johnson, S. Kaplan, T. Field, R. Gerhinger**

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**

**Novel Reactions, Methodologies & Syntheses in Organic Chemistry**

*Sponsored by PROF, Cosponsored by ANYL, BIOL, CHED, CMA, COLL, COMP, CWD, ENVR, INOR, MEDI, MPPG, ORGN, PHYS, PMSE, POLY, PRES and WCC*

**Nanocellulose Processing & Analysis**

**Process Parameters**

*Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC*

**Separation of Macromolecules & Particulates**

*Sponsored by POLY, Cosponsored by ANYL, COLL and PMSE*

**Contaminants of Emerging Concern in Natural & Engineered Systems**

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**Accurate Mass/High Resolution Mass Spectrometry for Environmental Monitoring & Remediation**

*Sponsored by ENVR, Cosponsored by ANYL*

**SUNDAY EVENING**

**Section A**

Moscone Center  
West Hall

**Analytical Division Poster Session**

K. Phinney, *Organizer*

**7:00 - 9:00**

**ANYL 71.** Quantitative detection of carbazole and halogenated carbazoles in human blood samples. **J. She**

**ANYL 72.** Effects of ozone on representative molecular components in epicuticular waxes of leaves: Oleoanolic and ferulic acid. **C. Smith, M. Riches, T. Kocher, D.P. Soulsby, T.L. Longin**

**ANYL 73.** Development of highly sensitive personal use colorimetric fumigant sensors. **P. Tang, G. Sun**

**ANYL 74.** Characterization of short-chain dicarboxylic acids in the infrared region using Beer's Law. **N.Q. Vu, C. Cooper, P.K. Hudson**

**ANYL 75.** Determination of airborne mercury using Ag-nanoparticles assisted TXRF. **S. Boettger, D. Rosenberg, M. Busker, W. Jansen, U.E. Fittschen**

**ANYL 76.** Evaluating suspect screening and non-targeted analysis approaches using a collaborative research trial at the US EPA. **A.J. Williams, A. McEachran, E.M. Ulrich, J. Sobus, A. Richard, C. Grulke**

**ANYL 77.** Mass-spectrometry based structure identification of "known-unknowns" using the EPA's CompTox dashboard. **A. McEachran, A.J. Williams**

**ANYL 78.** Trace anion determinations using inline calibration and an electrolytic water purifier. **T. Christison, D. Khor, J. Rohrer**

**ANYL 79.** Analysis of fluoride and pH, in Utah waters, beverages and dental products. **P.J. Iles, S. Moore, A. Abbinanti, J. Morris, K. Robbins, L. Dalby, R. Holcomb, N.R. Bastian, L.D. Giddings, M. Alvarez, R.V. Valcarce**

**ANYL 80.** Effects of ozone on resveratrol and quercetin: Phytochemicals in grape berry skins. **T. Rogoff, A. Teller-Radatz, T. Kocher, D.P. Soulsby, T.L. Longin**

**ANYL 81.** Cormorant AGE's: When old isn't based on pentosidine concentrations in tissues. **R.S. Stahl, B. Dorr**

**ANYL 82.** Investigation of inorganic anions in indoor airborne particulate matter during SoCal wildfire season. **H. Zhu, Y. Liu**

**ANYL 83.** Quantification of VOCs emitted from cut and uncut grass. **L. Leti**

**ANYL 84.** Evolution of the equilibrium vapor pressures of 1,4-bis(phenylethynyl) benzene (DEB) through the hydrogenation process. **E. Sangalang, H. Sharma, G. Cairns, C. Saw, W. McLean II, R.S. Maxwell, L. Dinh**

**ANYL 85.** Fluorogenic probe for rapid detection of fluoride in water. **S. Bae**

**ANYL 86.** Investigation of the sequential flow analysis and the use of nitrate reductase and for the determination of nitrate in sea water and salt water aquaria. **P.J. Iles, A. Pabon, R. Kochambilli, H. Hauritz, A. Villa, R. Holcomb, M. Alvarez, N.R. Bastian, L.D. Giddings, R.V. Valcarce**

**ANYL 87.** Continued identification of pharmaceuticals in Utah's Jordan River. **N. Elmore, P.J. Iles, L.D. Giddings, N.R. Bastian, R. Holcomb, M. Alvarez, R.V. Valcarce, B. Sanders, H. Hsieh, M. Asadian, A. Samani, A. Mineer**

**ANYL 88.** Investigation of selected metals in soil samples exposed to agricultural and automobile activities in Macedonia, Greece using inductively coupled plasma-optical emission spectrometry. **V. Topalidis, A. Harris, G.S. Benipal, C. Douvris**

**ANYL 89.** Monitoring of trace level arsenic in the environmental waters using ZIF-8. **D. Parajuli, K. Sue, A. Takahashi, T. Kawamoto**

**ANYL 90.** Development of a novel CE-XRF system for elemental speciation. **I.M. Tyssebotn, A. Fittschen, U.E. Fittschen**

**ANYL 91.** Photocatalytic degradation of common pharmaceuticals for disposal. **L.A. Tom, O. Beale, M. Kalala, E. Juliano, M. Botts**

**ANYL 92.** Quantification of uranium in soil and sediment from Cameron, AZ. **B.N. Dalton, J.C. Ingram**

**ANYL 93.** Visualization of surface adsorption properties of trace metals by rice husks using LA-ICP-MS. **R. Ellerby, D. Alexander, D.D. Amarasiwardena**

**ANYL 94.** Flower-like CuO as electrochemical sensor for thiobencarb detection. **C. Su, C. Lee, H. Chiu**

**ANYL 95.** Development of simultaneous analytical method for parent compound and its metabolites of pesticide in livestock products. **S. Yang, J. Park, H. Choi**

**ANYL 96.** Perfluorinated bonded phase as a separation medium in high performance liquid chromatography: Evaluation of properties and applications. **T. Nguyen, J. Topete, V. Truong, D. Hong, S. Jarman, T. Pham, C. Pham, T. Mo**

**ANYL 97.** Determination of polyphenols in mesquite pod flour extracts by HPLC-UV and LC-MS. **T. Nguyen, J. Topete, V. Truong, S. Jarman, D. Hong, T. Pham, C. Pham, T. Mo**

**ANYL 98.** Diversity, antimicrobial activity and chemical fingerprinting of marine actinomycetes. **R. Kashfi**

**ANYL 99.** Rapid screening method for selenium containing dietary supplements. **T. Hanley, K. Kubachka, S. Kern**

**ANYL 100.** Matrix extension and multi-laboratory validation of the U.S. Food and Drug Administration method EAM 4.10 to include arsenic speciation in wine. **R.A. Wilson, C.K. Tanabe, H. Hopfer, S.E. Ebeler, J. Nelson, S. Conklin, K. Kubachka**

**ANYL 101.** Development of method by UFLC-DAD for identification of the prostaglandin cloprostenol sodium in veterinary pharmaceuticals. **A.M. Miranda, M.V. de Moura**

**ANYL 102.** X-ray fluorescence elemental imaging, and micro analysis of plant tissue samples. **U.E. Fittschen, R. Hoehner, W. Tramel, A. Fittschen, H. Kunz**

**ANYL 103.** Determination of Sudan I and of a newly synthesized Sudan III positional isomer in the color additive D&C Red No. 17 using high-performance liquid chromatography. **A. Weisz, I.C. James, C. Tae, C.D. Ridge, Y. Ito**

**ANYL 104.** Investigation of tissue level distribution of essential and toxic metals in corn seeds from contaminated mining area using LA-ICP-MS. **S. Gaiss, D. Alexander, F. Wu, D.D. Amarasiwardena**

**ANYL 105.** Analysis application in jaboriticaba fruit. **J. Guido**

**ANYL 106.** Chemotaxonomy of poplar and sourwood honey. **V. Rizzi, E.B. Grimley, K.D. Sienerth**

**ANYL 107.** Withdrawn.

**ANYL 108.** Bioavailability of methylmercury in rice cereal and fish. **G. Nicholas, W. Cui**

**ANYL 109.** Metabolomic profiling of three representative food diets using ion chromatography with high resolution Orbitrap mass spectrometry. **T. Christison, R. Kiyonami, R. Tautenbaum, J. Rohrer**

**ANYL 110.** Analytical- and preparative-scale isolation of oleandrin from *Nerium oleander* using microwave-assisted extraction coupled with purification using supported-metal ion solid phase extraction resins. **L.M. Jablonksi, D.B. Green**

**ANYL 111.** Interactions of the cell penetrating peptide TAT with model membranes using Scanning electron microscopy, differential scanning calorimetry, and infrared techniques. **N. Phambu, B.M. Almarwani, A. Sunda-Meya**

**ANYL 112.** Withdrawn.

**ANYL 113.** Glycan microarray-based screening for substrate specificity of sialyltransferase. **H. Heo, C. Kim, J. Seo, H.J. Cha**

**ANYL 114.** Electro spray mass spectrometry using an organosiloxane polymer. **M.T. Dulay, R.N. Zare**

**ANYL 115.** Gradient chromatofocusing: Multiple buffer components for the separation of prolactin isoforms. **A. Gobburu, H. Jogiraju, I. Tirak, J. Tirak, D. Anderson**

**ANYL 116.** Photonic crystal microplate for high performance multi-anion recognition. **Y. Liu, C. Yu, J. Lv, C. Wei**

**ANYL 117.** Development and validation of a sensitive ultra-performance liquid chromatographic method with tandem mass spectrometry for quantification of doxorubicin in human plasma. **M. Semreen, H. Al-niss, M. Mousa, R. El-Awady**

**ANYL 118.** Red-NIR perylene-based fluorescent dyes for detection of DNA G-quadruplexes. **L. Huang, G.H. Aryal, K.W. Hunter**

**ANYL 119.** Detection of heterogeneity of mAb and corresponding Antibody Drug Conjugates (ADCs) by size exclusion chromatography and its orthogonal and complimentary modes. **A. Chakrabarti**

**ANYL 120.** Which is worse? Hookah consumption or cigarette smoking, a preliminary study on toxicity. **R.T. Saadawi, T. Hanley, A.A. Clutterbuck, M. Nashu, J. Landero**

**ANYL 121.** Faster and improved ease-of-use citrate and phosphate assays of pharmaceutical products. **H. Yang**

**ANYL 122.** Analysis of Cu(II)-mediated dityrosine cross-linking of amyloid-beta in-vitro and in-vivo by MALDI MS. **A. Kelley, G. Perry, S.B. Bach**

**ANYL 123.** Evaluation of human NAD(P)H:Quinone Oxidoreductase Isozyme-1 (NQO1) expression and activity in several human ovarian carcinoma cell monolayers. **M. Jackson, R.L. McCarley**

- ANYL **124.** Fabrication and application of microfluidic devices for safety test of cosmetics. **T. Tian**
- ANYL **125.** Sensitive analysis of cancer biomarkers using nonlinear multi-photon laser wave mixing detector interfaced to micellar capillary electrophoresis. **J. Liang**
- ANYL **126.** Trichloroacetic acid improves MS signal and separation in determination of tobramycin in M9 bacterial medium by LC-MS/MS. **L. Huang, J. Haagensen, D. Verotta, V. Cheah, A. Spormann, F. Aweeka, K. Yang**
- ANYL **127.** Study of mouse enamel proteins by imaging mass spectrometry. **M. Colley, Y.P. Chun, S.B. Bach**
- ANYL **128.** Using Reversed-Phase High Performance Liquid Chromatography Mass Spectrometry (RP-HPLC-MS) for domain-specific free thiol variant characterization of an IgG1. **Y. Cheng, M. Chen, Y. Chen, C. Yu, T.Y. Zhang, B. Burgess**
- ANYL **129.** Withdrawn.
- ANYL **130.** Direct electrochemical sensing of hydrogen sulfide. **J. Hall, M. Schoenfish**
- ANYL **131.** Multiplexed quantitation of cancerous tRNA biomarkers by capillary electrophoresis. **H. Chen, Y. Huang, W. Lin, P. Chang**
- ANYL **132.** Analyzing global metabolite variation based on mutations in the tricarboxylic acid cycle of *Escherichia Coli* using high resolution mass spectrometry. **E.D. Tague, J. Wen, H.F. Castro, E. Fozo, S.R. Campagna**
- ANYL **133.** Microwave-assisted synthesis of SBD-F derivatives for the HPLC-FLD determination of four biological aminothiols. **M.B. Blayney, D.B. Green**
- ANYL **134.** Spectroscopic studies on CTAB-lysozyme-Vitamin C. **N. Barbier, J. Lacoste, H. Yan**
- ANYL **135.** Hydrogen deuterium exchange mass spectrometry analysis of lipid free apolipoprotein A-I dimer. **C. Topbas, C. Baleanu Gogonea, I. Choucair, H. Alamri, J. Didonato, J. Smith, S. Hazen, V. Gogonea**
- ANYL **136.** Ruthenium-modified sensitive NO sensors: Quantifying nitric oxide in the pathobiology of cystic fibrosis. **T. Bose**
- ANYL **137.** Fundamental studies of ferriprotoporphyrin polymerization on electrode surfaces for H2S detection. **J.A. Bennett, S. Simpson, E. Zurek**
- ANYL **138.** Differentiation of species using aptamers binding to unknown targets in organism. **Y. Jeong, B. Lee, H. Han, M. Gu**
- ANYL **139.** Investigating the Intracellular Fate of NaYF4:Yb,Er@NaYF4 conjugated siRNA in HeLa Cells. **M. Shahruck**
- ANYL **140.** Preparative HPLC methods with type-C columns. **J. Topete, M. Matyska, J.J. Pesek**
- ANYL **141.** Determination of folic acid concentration in tick samples with cogent DH columns. **J. Topete, J. Chen, J. Zhong, M. Matyska, J.J. Pesek**
- ANYL **142.** Enzyme kinetics studies to guide mathematical modeling of microdialysis sampling to predict *in situ* biochemistry. **J. Klucher, J.A. Stenken**
- ANYL **143.** Monitoring rapid reactions with ambient pressure ionization mass spectrometry. **E. Jansson, R.N. Zare**
- ANYL **144.** Probing intracellular micro-environments through spectrally resolved STORM. **S. Moon, R. Yan, S. Kenny, Y. Shyu, W. Li, K. Xu**
- ANYL **145.** Droplets microfluidic platform for high throughput enzyme screening. **X. Diefenbach**
- ANYL **146.** Poly-adenine tailed DNA probe based self-assembly monolayer engineering for electrochemical biosensors. **L. Li, Y. Wen, J. Meng, L. Wang, Q. Xu, W. Liang, G. Liu**
- ANYL **147.** Characterization of corticotropin (ACTH) products by Liquid Chromatography High Resolution Mass Spectrometry (LC-HRMS). **K. Zeng, C. Sommers, D. Keire**
- ANYL **148.** Imaging the distribution of selective GABAA receptor modulators in the asthmatic lung using MALDI assisted mass spectrometry. **M. Guthrie**
- ANYL **149.** Single-Molecule fluorescence imaging of mismatched and modified oligonucleotide hybridization. **M.W. Manhart, E.M. Peterson, J.M. Harris**
- ANYL **150.** Surface sandwich SPR biosensing platforms for tau proteins in plasma sample. **H. Lee, S. Kim**
- ANYL **151.** Analysis of formation and recognition of three G-quadruplexes in c-myc proto-oncogene. **F. Li, J. Zhou, G. Yuan, J. Li**
- ANYL **152.** Exploring the formation and high affinity recognition of miR-1587 G-quadruplex by spectroscopy. **W. Tan, J. Zhou, J. Li, G. Yuan**
- ANYL **153.** Facile electrochemical melting of surface-bound DNA with minimal electrostatic screening. **D. Ho, N. Le, A. Chin, W. Hetrick, R. West**
- ANYL **154.** DNA aptamers that bind with high affinity to hydroxyapatite. **J. Florek, A.E. Gerdon**
- ANYL **155.** Electrochemical oxidation of albendazole on electrode surface: Chromatographic determination of drug metabolites. **A.M. Mugweru, Z. Mazzochette, G.N. Kamau**
- ANYL **156.** TIR-Enhanced Raman system for sensitive and selective identification of volatile organic compounds. **C.J. Taylor, A. Niemz, K.J. Park, R. Dodson, C. Wu, H. Lu, P. Rentzepis, P. Koonath**
- ANYL **157.** Magnesium ribbon-templated microfluidic device and a diffusion limited titration. **C.F. Monson, J. Barney**
- ANYL **158.** Water-soluble conjugated polymers for the detection and inhibition of protein aggregation. **R. Chai, Y. Zhan, C. Xing**
- ANYL **159.** Withdrawn.
- ANYL **160.** Folic acid- and transferin-functionalized gold nanoparticles for targeted delivery and controlled release of anti-cancer drug Gemcitabine. **T. Santiago, K. Kurzatowska, M.R. Hepel**
- ANYL **161.** Controlled release of anti-leukemia drugs azacitidine and decitabine monitored using SERS. **M. Smith, M.R. Hepel**
- ANYL **162.** ROS induced by FRET between upconversion nanoparticle and photosensitizer for targeted photodynamic cancer therapy. **W. Hou, W. Tan**
- ANYL **163.** Characterization of phospholipid bilayers in copolymer belted nanodisks by electrokinetic chromatography. **W. Penny, C.P. Palmer**
- ANYL **164.** Label-Free detection of small molecule-membrane protein binding kinetics using self-assembled nano-oscillators. **G. Ma, X. Shan, S. Wang, N. Tao**
- ANYL **165.** Single gold nanoparticle gas sensing based on photo-thermal effect. **X. Li, L. Zhang**
- ANYL **166.** Super-resolution optical imaging of interaction between metal nanoparticles based on microsphere. **B. Hou, L. Zhang**
- ANYL **167.** Study of single Pt nanoparticle collision: Against electrocatalytic activity on a Pd UME. **C. Park**
- ANYL **168.** Detection of copper single nanoparticle collision on gold ultramicroelectrode by electrocatalytic amplification. **K. Kim**
- ANYL **169.** Synthesis and characterization of conductive polymer hydrogels and the investigation of their application as a biosensor hybrid for the detection of catechol. **V. Grebe, E. Castillo, B. Palys, J. Widera**
- ANYL **170.** Adsorption, decomposition, and surface-assisted laser desorption/ionization of asphaltenes using transition metal oxide nanoparticles. **L. Barnes, J.R. Yount, K.A. Reyes, K.E. King, P.M. Kirkconnell, H. Hamilton, S.S. Ward, A. Olaitan, K.S. Molek**
- ANYL **171.** Biosensing based on ordered gold nanoshell arrays with plasmonic tunability. **W. Qian**
- ANYL **172.** Towards paper based assays with intrinsically labeled oligonucleotide probes on QDs for detection of selective hybridization. **A. Shahmuryan, U.J. Krull**
- ANYL **173.** Multiplexed resonance energy transfer nucleic acid hybridization assay using a single form of upconversion nanoparticle as donor and three quantum dots as acceptors. **S. Doughan, U.J. Krull**
- ANYL **174.** Liquid biopsy of type-III mutant EGFR in exosomes by using CD63 specific aptamer modified magnetic nanoparticles and qPCR. **Z. Li, B. Li, L. He, N. He**
- ANYL **175.** Towards a paper-based oligonucleotide assay for point-of-care detection of disease using immobilized quantum dots as donors in fluorescence resonance energy transfer. **K. Malhotra, O. Noor, T. Vimalarajah, U.J. Krull**
- ANYL **176.** Synthesis of functionalized multiwalled carbon nanotubes and the application in analysis of small biomolecules by matrix assisted laser desorption/ionization mass spectrometry. **J. Meng, C. Shi, L. Li, C. Deng**
- ANYL **177.** Thermoresponsive nanoparticle agglomeration reversibility in salt: Dependence on graft density. **T. Vasicsek, L. Vaz, J.A. Stenken**
- ANYL **178.** Assessing the electrochemical response of microcontact-printed silver nanogrids utilizing cyclic voltammetry. **W.C. Sanders, P.J. Iles, J.S. Smith, M. Alvarez, N.R. Bastian, R. Holcomb, L.D. Giddings, R.V. Valcarlos, A.C. Lines, J. Meyers, G. Johnson, C. Page, K. Salisbury, C.F. Thompson, D. Young**
- ANYL **179.** Rechargeable Zn-air battery architecture, design, and synthesis strategies that go beyond Li-Ion. **M.N. Vila, C.N. Chervin, J.F. Parker, J. Ko, P.A. DeSario, J.W. Long, D.R. Rolison**
- ANYL **180.** Asymmetric chemical modification of Photosystem I enabling orientationally-selective deposition on gold electrodes. **C. Bryant, E.A. Gizzie, D.E. Cliffe**
- ANYL **181.** Fuel cell catalyst formation by simultaneous reduction of platinum (IV) and graphene oxide. **T.E. Kusumadaja, W. Zhou**
- ANYL **182.** Chemometric evaluation of multifeedstock biodiesel diesel blended fuels. **A.M. Hupp, M. Flood, C. Mary, M. Comiskey**
- ANYL **183.** Modifying carbon electrodes to behave like precious metals. **J.C. Lytle, G. Kamm, A.D. McGovern, J.F. Parker, M.D. Donakowski, D.R. Rolison, J.W. Long**
- ANYL **184.** Sensitive and selective detection of explosives by nonlinear optical laser wave-mixing spectroscopy. **J. Pradel, A. Jackson, G. Varnau, W.G. Tong**
- ANYL **185.** Soil survey for southwest Louisiana and its potential forensic applications. **J. Higginbotham, S. Bonilla, C. Becktold, A. Tizeno, P. Spencer**
- ANYL **186.** Bath salts analyzed via HPLC. **M. Makhanov, A. Lopez, J.J. Pesek, M. Matyska**
- ANYL **187.** Biological sex determination via bioaffinity-based fingerprint analysis. **C. Huynh, E. Brunelle, J. Agudelo, L. McGoldrick, L. Halámková, J. Halamek**
- ANYL **188.** Fingerprint analysis: Chemical assays for the identification of biological sex. **E. Brunelle, C. Huynh, A.M. Le, L. Halámková, K. Wingfield, J. Agudelo, L. McGoldrick, J. Halamek**
- ANYL **189.** Withdrawn.
- ANYL **190.** GC-MS/MS analyses of biological samples in support of developmental toxic effects of exposure to sarin in rats via multiple routes. **J.M. McGuire, L. Lumley, M. Busch, L. Wright, P. Demond**
- ANYL **191.** Selective and sensitive capture of pathogens on imprinted Sol-gel polymers. **M.T. Dulay, N. Zaman, R.N. Zare**
- ANYL **192.** Total vaporization of derivatization reagent for in situ headspace derivatization solid phase microextraction. **L. Perry, J. Yu**
- ANYL **193.** Forensic science research and development programs at the National Institute of Justice: Opportunities in analytical chemistry. **G.J. Dutton**
- ANYL **194.** Forensic quantitative analysis of opiates in post-mortem blood and brain: Application of DLLME-LC/MS/MS. **M.A. Hunt, W.J. Morrison, L.D. Muir, A. Tully, W.W. Jenkins, L.E. Lowe, J.E. Owens**
- ANYL **195.** GC-FID Method for the forensic discrimination of lipstick residues. **B. Esterlen, B.J. Bellott**
- ANYL **196.** Probing the use of a UHPLC Whelk-O1 chiral stationary phase in eUHPSFC-MS for chiral/achiral analysis of naturally occurring cannabinoids. **M.J. Wilcox, G. Mazzocantini, O.H. Ismail, A. Ciogli, C. Villani, F. Gasparini, S. Anderson**
- ANYL **197.** Smartphone-assisted colorimetric analysis of Mn in stainless steel. **C. Huang, B. Lum, Y. Liu**
- ANYL **198.** 2D IR spectroscopy study of <sup>13</sup>C-natural abundant vibrational transition in Mn(CO)<sub>5</sub>Br. **Y. Fan, J.P. Wang**



ANYL **199.** Nanohydroxyapatite-Nanocellulose composites as bioactive scaffolds for applications in bone tissue regeneration. **S. Laboy**, C.I. Rivera, E. Nicolau

ANYL **200.** Development of methods for kinetic analysis of templated and untemplated calcium phosphate mineralization. **K. Luarasi**, K. Meserve, J. Miech, A.E. Gerdon

ANYL **201.** Effect of energy per atom (E/n) in Ar gas cluster ion beam (GCIB, Arn+) and O2+ cosputter. **S. Wang**, J. Shyue

ANYL **202.** Withdrawn.

ANYL **203.** Electro-photodynamic visualization of singlet oxygen induced by zinc porphyrin modified microchip in aqueous media. **C. Zheng**, H. Cui, Y. Wan, **S. Deng**

ANYL **204.** Synthesis and characterization of meso-tetrakis(2-fluoro-4-methoxyphenyl)porphyrin and its copper(II) and cadmium(II) derivatives. **A. Adeyemo**

ANYL **205.** Solution spectral characteristics of metallophthalocyanine. **A. Adeyemo**

ANYL **206.** Meso-tetrakis(2-chloro-3quinolyl) porphyrin and its water-soluble derivative meso-tetrakis(2-chloro-4-sulfonato-3-quinolyl)porphyrin. **A. Adeyemo**

ANYL **207.** Ligand exchange reactions involving copper(II) thiamine complexes and water-soluble porphyrin, 5,10,15,20-tetrakis(2,4-dimethyl-5-sulfonatophenyl)porphyrin. **A. Adeyemo**

ANYL **208.** Synthesis and characterization of three isomeric porphyrins for Photodynamic Therapy of tumor (PDT). **A. Adeyemo**

ANYL **209.** Preparation and characterization of a new photosensitizer and its metal derivatives: Potential anticancer drugs. **A. Adeyemo**

ANYL **210.** Synthesis and characterization of porphyrins for photodynamic therapy of tumor (PDT). **A. Adeyemo**

ANYL **211.** Withdrawn.

ANYL **212.** Introducing analytical chemistry to Navajo undergraduates through field research: Uranium exposure of sheep grazing near abandoned mines. **J.C. Ingram**, D.K. Robinson

ANYL **213.** Development of novel paper- and fabric-based microfluidic fuel cells and batteries. **F.A. Gomez**, A. Avoundjian, A. Mendez, C. Tang, F. Bernal, S. Valiulis, R. Ortiz, V. Galvan, K. Domalaon, M. Gonzalez

ANYL **214.** From sample to answer: A low-cost disposable cartridge for epidemic detection on site based on 3D printing technology. **N. He**, H. Chen, Y. Deng

ANYL **215.** Polyvinyl alcohol modified porous graphitic carbon stationary phase for hydrophilic interaction liquid chromatography. **H. Yanjie**, Z. Feifang, Y. Bingcheng

ANYL **216.** Withdrawn.

ANYL **217.** PCR-free ligase cyclic reaction for SNP detection of KRAS mutation with attomole sensitivity. **J. Kim**

ANYL **218.** Development of NIRS calibration models for pharmaceutical quality control analysis. **J. Feng Baez**, J.E. Mercado-Adrover, V. Cárdenas, R.J. Romanach

ANYL **219.** Self-assembly of the cephalopod structural protein reflectin. **K. Naughton**, L. Phan, E. Leung, R. Kautz, Q. Lin, Y. van Dyke, B. Marmiroli, B. Sartori, A. Arvai, S. Li, M. Pique, M. Naeim, J. Kerr, M. Aquino, V. Roberts, E. Getzoff, C. Zhu, S. Bernstorff, A.A. Gorodetsky

ANYL **220.** Detection of low level nitrate in seawater by combining Ag nanoparticles and Au electrode. **K. Fajerberg**, E. Lebon Tailhades, P. Fau, M. Kahn, M. Comtat, P. Temple Boyer, B. Dubreuil, **P. Behra**

ANYL **221.** Use of Graphene-Oxide (GO) for both aptamer screening and fluorescence aptasensor in the detection of whole avian viruses. **S. Kim**, Y. Kwon, J. Lee, M. Kim, H. Cho, C. Song, M. Gu

ANYL **222.** Withdrawn.

ANYL **223.** Withdrawn.

ANYL **224.** Withdrawn.

ANYL **225.** Antenna-Coupled Plasmonic Nanowire Endoscope (ACPNE) for label-free remote sensing in single live-cells. **S. Kim**, Y. Zhu, R. Yan

ANYL **226.** Withdrawn.

ANYL **227.** Photolysis of a Zn(II)-nitrioltriacetate cage in AOT/isooctane reverse micelles. **C.N. Beuning**, T. Paryani, N.E. Barkley, P. Basa, R.L. Cole, N.E. Levinger, S.C. Burdette, D.C. Crans

ANYL **228.** Way to go green! Evaluation of different analytical SFC systems. **M. Goel**, A. Kumar

ANYL **229.** Inhibition of MYC-induced lipogenesis prevents renal cell carcinoma initiation and progression. **A. Gouw**, K. Margulis, D. Sullivan, G. Toal, L. Eberlin, C.V. Dang, R.N. Zare, D. Felsher

ANYL **230.** Superfast two-phase reactions in microdroplets without the use of phase transfer catalyst. **X. Yan**, H. Cheng, S. Banerjee, R.N. Zare

ANYL **231.** Withdrawn.

ANYL **232.** Development of impidimetric aptasensor devices for the analytical determination of inorganic arsenic. **E. Nicolau**, K. Vega

ANYL **233.** Human *in vivo* protein corona formed onto liposomes in ovarian carcinoma patients: From characterization to potential clinical utilization. **M. Hadjidemetriou**, K. Kostarelou

ANYL **234.** Ratiometric resonance synchronous spectroscopy for material characterizations. **D. Zhang**

ANYL **235.** Development of a biomineralization strategy for surface modification of single glass nanopore: Versatile nanopores for fluorescence observation and electrochemical chiral sensing. **A. Zhu**, S. Cao, G. Shi

ANYL **236.** Asymptomatic diagnosis of Huanglongbing disease using metalloporphyrin functionalized single-walled carbon nanotubes sensor arrays. **H. Wang**, P. Ramnani, T. Pham, C. Villareal, G. Liu, A.K. Mulchandani

ANYL **237.** Nanostructured superhydrophobic organic semiconductor films enable sub-zeptomole level molecular sensing in surface-enhanced Raman spectroscopy. **G. Demirel**, H. Usta, A. Facchetti

ANYL **238.** Withdrawn.

ANYL **239.** Non-fouling SERS substrate for detect the cationic fluorescent tag from human blood solution. **T. Wen**

ANYL **240.** Determination of second hyperpolarizability with computational Raman activities and identification of DOVE signatures for selected molecules. **W. Zhao**

## MONDAY MORNING

### Section A

Hilton San Francisco Union Square Union Square 14

#### Synthesis & Characterization of Materials for Energy Applications

##### Enabling Concepts for Energy Materials Design

Cosponsored by *CATL*

J. Rodriguez Lopez, D. R. Rolison, *Organizers*

K. J. Stevenson, *Organizer, Presiding*

A. Kolpak, *Presiding*

**8:30 ANYL 241.** Tuning the electrocatalytic activity of perovskite oxides for water oxidation and oxygen reduction by active site variation. **K.J. Stevenson**, W. Hardin, R. Forslund, C. Alexander, K.P. Johnston

**9:00 ANYL 242.** Role of interface structure and stoichiometry on water splitting in oxide photo- and electrocatalysts. **A. Kolpak**

**9:30 ANYL 243.** Measurement strategies and challenges for the study of heterogeneous water oxidation electrocatalysts. **S.W. Boettcher**, M. Burke-Stevens, L. Enman

**10:00** Intermission.

**10:30 ANYL 244.** First-principles comparative study of Li, Na and Mg intercalation compounds. **A. Van der Ven**, M. Radin, J. Vinckeviciute

**11:00 ANYL 245.** Reflection on the performance defining properties induced by the positive electrode – Electrolyte interface chemistry. **G.G. Amatucci**, N. Pereira, F. Badway, N. Faenza

**11:30 ANYL 246.** Ab initio band-diagram framework for the development of cation intercalation charge storage materials. **M. Young**, A.M. Holder, S.M. George, **C. Musgrave**

### Section B

Hilton San Francisco Union Square Franciscan D

#### ACS Award in Chromatography: Symposium in honor of Robert T. Kennedy

L. Huang, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:40 ANYL 247.** Capillary LC with sub-2 micron particles: Effects of column packing conditions on column morphology and efficiency. **J.W. Jorgenson**, J. Godinho, A. Reising, U. Tallarek

**9:10 ANYL 248.** Phosphoproteomics of fertilization. **E. Peuchen**, P. Huber, K. Dubiak, L. Sun, **N.J. Dovichi**

**9:40 ANYL 249.** Toward resolving large isomeric glycans. **M.V. Novotny**

**10:10** Intermission.

**10:25 ANYL 250.** Charting protein-protein interactions using Cross-Linking Mass Spectrometry (XL-MS). **C. Yu**, C. Gutierrez, X. Wang, E. Novitsky, S.D. Rychnovsky, **L. Huang**

**10:55 ANYL 251. Award Address** (ACS Award in Chromatography sponsored by MilliporeSigma). High-speed electrophoresis as an enabling technology for protein analysis, screening, and sensing. **R. Kennedy**

### Section C

Hilton San Francisco Union Square Union Square 17/18

#### Chemical Forensics

##### Investigations of Alleged Use & Source Attribution of Chemical Weapons

Cosponsored by *CHAL* and *PRES*

R. Foster, C. Fraga, J. J. Moran, *Organizers*

J. R. Cort, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:10 ANYL 252.** Influence of analytical chemistry on multilateral diplomacy and chemical disarmament. **J.E. Forman**

**8:25 ANYL 253.** Analysis in support of investigations of alleged use. **H. Gregg**

**8:45 ANYL 254.** Analysis of biomedical samples of victims after exposure to sarin or sulfur mustard. **P. Vanninen**, U. Hakala, M. Söderström, O. Kostiaainen, M. Rapinaja

**9:10 ANYL 255.** Phosphatidylglycerol chlorohydrins as potential biomarkers for chlorine gas exposure. **P. Hemström**, A. Larsson, L. Elfsmark, **C. Astot**

**9:35 ANYL 256.** DHS S&T chemical forensics program. **R. Bull**

**9:50** Intermission.

**10:05 ANYL 257.** Chemical forensics for sourcing chemical. **C. Fraga**

**10:30 ANYL 258.** Small-scale production of chemical warfare agents for chemical attribution signature determination. **S. Hok**

**10:55 ANYL 259.** Chemical forensics using multivariate data analysis of chemical attribution signatures from production of chemical warfare agents. **K. Höjer Holmgren**, D. Wiktelius, R. Magnusson, S. Lindberg, A. Larsson, R. Norlin

**11:20 ANYL 260.** Chemical attribution of chemical warfare agents for forensic purposes. **D. Noort**, **M.J. Van der Schans**

**11:40 ANYL 261.** Chemical threat agent attribution signature studies by Isotope Ratio Mass Spectrometry technology (IRMS). **K. Hoang**, L. Hoffland, G. Hondrogiannis, S. Ostazeski

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at:

[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)



## Section D

Hilton San Francisco Union Square  
Franciscan C

## Coherent Multidimensional Spectroscopy in Materials Science

Cosponsored by PHYS

W. Zhao, Organizer

J. M. Anna, E. Harel, Presiding

**8:00 ANYL 262.** Multidimensional spectroscopy of conical intersections by broadband x-ray pulses. S. Mukamel

**8:30 ANYL 263.** *In situ* probe of interfacial electric field, catalyst structure and dynamics at electrode/ liquid interfaces by time-resolved vibration sum-frequency generation spectroscopy. T. Lian

**9:00 ANYL 264.** Dynamic intermediates in singlet fission observed with ultrafast infrared spectroscopy. C. Grieco, G. Doucette, J.B. Asbury

**9:30 ANYL 265.** Ultrafast vibrational energy delocalization in graphdiyne. J.P. Wang

10:00 Intermission.

**10:15 ANYL 266.** Energy transfer in solar cells made from semiconducting carbon nanotubes studied using 2D white-light spectroscopy. M.T. Zanni

**10:45 ANYL 267.** Exploring energy transfer in photosynthetic light harvesting. G. Schlau-Cohen

**11:15 ANYL 268.** Two-Dimensional electronic spectroscopy of Photosystem I and light harvesting chromophores. J.M. Anna

## Section E

Hilton San Francisco Union Square  
Union Square 19/20

## Biomedical Advances in Cancer Detection &amp; Therapeutics Using Advanced Analytical Techniques

C. Burton, Y. Ma, Organizers, Presiding

8:30 Introductory Remarks.

**8:35 ANYL 269.** Surface-Enhanced Raman scattering biosensor for cancer protein biomarker detection. N. Wu

**8:55 ANYL 270.** Nanoscale tools for biomarker discovery: The emerging role of nanoparticle biomolecule corona. M. Hadjidemetriou, K. Kostarelos

**9:15 ANYL 271.** Investigation of biomarkers to screen for prostate cancer in urine using gas chromatography/mass spectrometry. A. Siegel, A. Daneshkhan, J. Munshi, T.A. Gardner, M. Agarwal

**9:35 ANYL 272.** Mass spectrometric imaging of prostate biopsy samples: Cancer margin assessment from the distribution of small metabolites and lipids. S. Banerjee, R. Zare, R. Tibshirani, C. Kunder, R. Nolley, R. Fan, J. Brooks, G. Sonn

9:55 Intermission.

**10:10 ANYL 273.** *In vitro* detection of miR-21 target using a nucleic acid self-quenching smart probe. S.A. Oladepo

**10:30 ANYL 274.** *In vitro* manipulation of stimuli-responsive liposomal contents release potentially activated by overexpressed hNQO1 in cancer cells. H.H. Nguyen

**10:50 ANYL 275.** Evaluating the transfection efficacy of spherical nucleic acid coated upconverting nanoparticles in cells for *in vitro* imaging and diagnostics. H. Najib

**11:10 ANYL 276.** Current trends in cancer biomarker discovery using urinary metabolomics: Achievements and new challenges. C. Burton, Y. Ma

11:30 Concluding Remarks.

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Frontiers in Analytical &amp; Physical Chemistry: From Atmospheric to Atomic Discoveries

Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC

## Nanocellulose Processing &amp; Analysis Properties

Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC

## Contaminants of Emerging Concern in Natural &amp; Engineered Systems

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

## Accurate Mass/High Resolution Mass Spectrometry for Environmental Monitoring &amp; Remediation

Sponsored by ENVR, Cosponsored by ANYL

## MONDAY AFTERNOON

## Section A

Hilton San Francisco Union Square  
Union Square 14

## Synthesis &amp; Characterization of Materials for Energy Applications

## In Operando &amp; Surface Sensitive Analysis

Cosponsored by CATL

D. R. Rolison, K. J. Stevenson, Organizers

J. Rodriguez Lopez, Organizer, Presiding

H. D. Abruna, Presiding

**1:30 ANYL 277.** Versatile *in situ* chemical imaging of alkali ion reactivity at battery interfaces. J. Rodriguez Lopez, Z.J. Barton, J. Hui, M. Burgess

**2:00 ANYL 278.** Near- and far-field IR spectroscopy of the Si electrode/organic electrolyte interface. R. Kostecky, A. Jarry, M. Ayache, H.A. Bechtel, M.C. Martin

**2:30 ANYL 279.** Capturing chemical dynamics at the buried electrode-electrolyte interface by *in situ* imaging mass spectrometry. J. Yu, Y. Zhou, Z. Zhu, X. Yu

3:00 Intermission.

**3:30 ANYL 280.** Operando methods for the characterization of energy materials. H.D. Abruna

**4:00 ANYL 281.** Near-Ambient Pressure X-ray Photoelectron spectroscopy for *in situ* and *in operando* studies of electrocatalytic materials. E. Savinova

**4:30 ANYL 282.** Design consideration for regenerative electrodes for energy storage application. S. Mukerjee, S. Ghoshal, J. Li, Q. Jia

## Section B

Hilton San Francisco Union Square  
Franciscan D

## ACS Award in Analytical Chemistry: Symposium in honor of Donald F. Hunt

J. R. Yates, Organizer, Presiding

**1:00 ANYL 283.** Uniform field ion mobility QTOF MS and in-source ion activation for protein structural studies. R.T. Kurulugama, G. Stafford, J.D. Eschweiler, B.T. Ruotolo, J. Fjeldsted

**1:45 ANYL 284.** Intracranial diagnosis of human brain tumor tissue and surgical margin characterization by DESI-MS. R.G. Cooks, C. Alfaro, A. Jarmusch, V. Pirro, Z. Baird, E. Hattab, A. Cohen-Gadol

**2:30 ANYL 285.** Investigating aberrant glycosylation in cancer using mass spectrometry: Insight for cancer immunotherapy design. S. Malaker

**3:15 ANYL 286.** Mapping dynamic protein interaction landscapes in *Saccharomyces cerevisiae* using a novel whole network enrichment approach. J.R. Yates, B. Stein, D. Calzolari, M. Lavallée-Adam

**4:00 ANYL 287. Award Address** (ACS Award in Analytical Chemistry sponsored by Battelle Memorial Institute). Instrumentation and methods for the identification and sequence analysis of (a) intact proteins on a chromatographic time-scale and (2) tumor specific peptides for immunotherapy of cancer. D.F. Hunt

## Section C

Hilton San Francisco Union Square  
Union Square 17/18

## Chemical Forensics

## Chemical Attribution Signatures of Illicit Drugs &amp; Toxic Chemicals

Cosponsored by CHAL and PRES

J. R. Cort, R. Foster, J. J. Moran, Organizers

C. Fraga, Organizer, Presiding

1:00 Introductory Remarks.

**1:10 ANYL 288.** Changes in illicit cocaine hydrochloride processing identified and revealed through multivariate analysis. J. Mallette, J. Casale, J. Jordan

**1:35 ANYL 289.** Detection of marijuana varieties based on chemical signatures extracted from sample headspace. A. McDaniel, J. Velez, F. Liu, J. Sweet, C.C. Yu

**2:00 ANYL 290.** Impurity profiling of methamphetamine synthesized from clandestine methylamine. J.L. Brown, S. Toske

**2:25 ANYL 291.** Multivariate statistical analysis of orthogonal mass spectral data for the identification and route attribution of 3-methylfentanyl. B.P. Mayer, C.A. Valdez, P. Spackman, A.M. Williams

2:50 Intermission.

**3:10 ANYL 292.** Source attribution of fentanyl through impurity and stable isotope and trace element profiling. A. Bennett, P. Hough, D. Noort, N.J. Cooper, D. Alkema, A. Patel, J. Riches

**3:35 ANYL 293.** Signature profiling of illicit fentanyl and fentanyl-related seizures for tactical and strategic intelligence. J. Casale, J. Mallette

**4:00 ANYL 294.** Forensic profiling of amanita mushrooms by high resolution LC-MS. D. Jansson, A. Wolterink, C. Astot

**4:20 ANYL 295.** Anionic, isotopic, and elemental signatures for forensic source attribution of cyanides. N.S. Mirjankar, C. Fraga, A.J. Carman, J.J. Moran

**4:40 ANYL 296.** Chemical attribution signatures of cyanogen chloride from commercial sources. D.B. Cullinan

## Section D

Hilton San Francisco Union Square  
Franciscan C

## Coherent Multidimensional Spectroscopy in Materials Science

Cosponsored by PHYS

W. Zhao, Organizer

T. R. Calhoun, G. Schlau-Cohen, Presiding

**1:00 ANYL 297.** Using multi-order Time Correlation Functions (TCFs) to elucidate biomolecular reaction pathways from microsecond single-molecule fluorescence experiments. A.H. Marcus

**1:30 ANYL 298.** Interferometric 2D-SFG spectroscopy of molecular catalysis on TiO<sub>2</sub> surfaces. H. Vanselow, A.M. Stingel, P.B. Petersen

**2:00 ANYL 299.** Quantum coherence selective 2D Raman spectroscopy to probe electron-phonon interactions in hybrid systems. E. Harel, A. Spencer, W. Hutson

**2:30 ANYL 300.** Time-resolving solid-state solvation using small-molecule dopants in glassy polymer hosts. M. Delor, B. Cotts, D. McCarthy, N.S. Ginsberg

3:00 Intermission.

**3:15 ANYL 301.** Transient absorption microscopy reveals amphotericin B's mechanism of action. T.R. Calhoun, K. Higgins

**3:45 ANYL 302.** Optical resonance imaging: An optical analog to MRI with sub-diffraction-limited capabilities. M.A. Alloidi, R.J. Mazurki, P.D. Dahlberg, J.P. Otto, H. Davis, G.S. Engel

**4:15 ANYL 303.** Bandgap inhomogeneity from 2D spectra vs. size dispersion from TEM in PbSe quantum dots. D. Baranov, S.D. Park, J. Ryu, D.M. Jonas

## Section E

Hilton San Francisco Union Square  
Union Square 19/20

## Biomedical Advances in Cancer Detection &amp; Therapeutics Using Advanced Analytical Techniques

C. Burton, Y. Ma, Organizers, Presiding

1:30 Introductory Remarks.

**1:35 ANYL 304.** Detection of exosomes using fluorescence detection based on competitive hybridization with aptamer. L. He, B. Li, Z. Li, P. Xiao, N. He

**1:55 ANYL 305.** Biosynthesized nanoclusters and supramolecular complexes as scaffolds for multimodal cancer bio-imaging. X. Wang

**2:15 ANYL 306.** Flotation immunoassay: Masking the signal from free reporters in sandwich immunoassays. H. Chen, A. Hagstrom, J. Kim, G. Garvey, A. Paterson, F. Ruiz-Ruiz, B. Raja, U. Strych, M.A. Rito Palomares, K. Kourentzi, J. Conrad, R. Atmar, R.C. Willson

‡Cooperative Cosponsorship

**2:35 ANYL 307.** Droplet microfluidic platform for the determination of single-cell lactate release and [18F] fluoroxyglucose uptake. **A. Mongersun**, D. Sengupta, P. Asuri, G. Pratz, P. Abbyad

**2:55** Intermission.

**3:10 ANYL 308.** Biomedical applications of nanoGUMBOS. **N. Bhattarai**, M. Chen, I.M. Warner

**3:30 ANYL 309.** Laser-Driven droplet PCR reactions in multiplexed format for gene expression studies. **S.S. Dixit**, E. Hall, G. Abraham, B. Guo, Z. Ao, R.J. Cote, R. Datar, **G.W. Faris**

**3:50 ANYL 310.** Immobilization of circulating tumor cells via polyelectrolyte multilayers allows for free-floating cell visualization and drug screening. **J.I. Andorko**, K.R. Chakrabarti, P. Zheng, S.S. Martin, C. Jewell

**4:10** Concluding Remarks.

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**

**Advances in Medicinal & Biological Chemistry: From Therapeutics to Education**

*Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC*

**ACS Award in Industrial Chemistry: Symposium in honor of Jane Frommer**

*Sponsored by I&EC, Cosponsored by ANYL, BIOL, COLL, INOR, ORGN, PMSE and POLY*

**Nanocellulose Processing & Analysis**

**Fundamentals**

*Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC*

**Contaminants of Emerging Concern in Natural & Engineered Systems**

*Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI*

**Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences**

*Sponsored by ENVR, Cosponsored by ANYL and CHED*

**Undergraduate Research Posters**

**Analytical Chemistry**

*Sponsored by CHED, Cosponsored by ANYL and SOCED*

**MONDAY EVENING**

**Section A**

Moscone Center  
Hall D

**Sci-Mix**

L. A. Baker, K. Phinney, *Organizers*

**8:00 - 10:00**

**20, 42, 73, 90, 104, 106, 108, 133, 144, 172, 175, 183-185, 187, 189.** See previous listings.

**377, 447, 458, 475.** See subsequent listings.

**TUESDAY MORNING**

**Section A**

Hilton San Francisco Union Square  
Union Square 14

**Synthesis & Characterization of Materials for Energy Applications**

**Fundamental & Molecular Models for Advanced Energy Materials**

*Cosponsored by CATL*

J. Rodriguez Lopez, K. J. Stevenson, *Organizers*  
D. R. Rolison, *Organizer, Presiding*  
S. Brock, *Presiding*

**8:30 ANYL 311.** Identification of carbon-encapsulated iron nanoparticles as active species in non-precious metal oxygen reduction catalysts. **A.A. Gewirth**, J. Varnell, A. DiAscro

**9:00 ANYL 312.** Electrocatalytic small-molecule transformations using well-defined multilayer films of discrete molecular catalysts. **C.C. McCrory**

**9:30 ANYL 313.** Cationic, anionic & electronic disorder on perovskite oxide surface for (electro)catalysis. **W. Chueh**

**10:00** Intermission.

**10:30 ANYL 314.** Tuning catalytic activity in bimetallic transition metal phosphide nanoparticles via composition control. **D. Li**, D. Liyanage, S. Mutinda, **S. Brock**

**11:00 ANYL 315.** Electrocatalyst design and development for the Oxygen Evolution Reaction (OER) and the electro-reduction of CO<sub>2</sub>. **T.F. Jaramillo**

**11:30 ANYL 316.** Studying the kinetics of electrochemical reactions on ruthenium-coated carbon electrodes. **J.C. Lytle**, G. Kamm, A.D. McGovern, J.F. Parker, M.D. Donakowski, D.R. Rolison, J.W. Long

**Section B**

Hilton San Francisco Union Square  
Franciscan D

**Metamorphosis of Supercritical Fluid Chromatography to Chromatographic Systems Using Carbon Dioxide**

S. J. Olesik, A. Tarafder, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 ANYL 317.** Overcoming major hurdles against the adoption of achiral SFC. **L. Taylor**, M. Ashraf-Khorassani

**8:35 ANYL 318.** Separation of polar biological molecules using enhanced-fluidity liquid chromatography. **S.J. Olesik**, R. Bennett, Y. Wang

**9:05 ANYL 319.** UHPSFC-MS; The final piece in the analyst's toolbox? **J.J. Langley**

**9:35 ANYL 320.** Fast and high throughput analysis in pharmaceutical process research and development using carbon dioxide based eluents. **C.J. Welch**, K. Zawatzky, E.L. Regalado

**10:05** Intermission.

**10:20 ANYL 321.** Modeling solvent gradient behavior in SFC. **A. Tarafder**, J.F. Hill

**10:50 ANYL 322.** New insights in modern SFC-MS for the analysis of complex samples and biological matrices. **A. Grand-Guillaume-Perrenoud**, A. Périat, **V. Desfontaine**, S. Moco, D. Barron, J. Veuthey, D. Guillaume

**11:20 ANYL 323.** Comprehensive subcritical fluid chromatography for the modern drug discovery lab. **T. Leek**, P. Sjo

**Section C**

Hilton San Francisco Union Square  
Union Square 17/18

**Chemical Forensics**

**Chemometrics & Statistics for Signature Discovery & Exploitation**

*Cosponsored by CHAL and PRES*

J. R. Cort, R. Foster, J. J. Moran, *Organizers*  
C. Fraga, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:10 ANYL 324.** Statistical framework for establishing defensibility of chemical threat detection and forensics methods. **K. Jarman**, J.H. Wahl, K.L. Wahl

**8:35 ANYL 325.** Wow! or the so-what? factor: A measured approach to the application of chemometrics to examine complex analytical data in forensic science. **C. McKenzie**, N. Nic Daéid

**9:00 ANYL 326.** Establishing evidentiary value through validated inference and reporting of likelihood ratios. **M.E. Sigman**

**9:25 ANYL 327.** Forensic analysis of diesel using GC×GC-TOFMS with Fisher Ratio Software. **B.A. Parsons**, D.K. Pinkerton, B.C. Reaser, **R.E. Synovec**, B. Wright

**9:50** Intermission.

**10:10 ANYL 328.** Assessment of one-class supervised pattern recognition methods for nuclear material group inclusion/exclusion. **C. Stork**

**10:30 ANYL 329.** Rodenticide attribution signatures. **E. Durnal**, K. Brady, E.P. Naveo, N. Doll, C. Carroll, O. Beverly

**10:50 ANYL 330.** DHS Chemical Forensics Program – REACTS. **K. Brady**, E. Durnal, P.J. Deardorff, K. Broekhuizen, C. Grisham

**11:10 ANYL 331.** Comprehensive analysis of aquatic toxins by HPLC-MS/MS. **B. Valenzuela**, B. Kaiser, J. Arce, D. Wunschel

**11:30 ANYL 332.** Infrared microscopy and multivariate curve resolution for the forensic examination of automotive paint chips and smears. **B.K. Lavine**, M. Allen, N.T. Perera, C.G. White, K. Kalkan, K. Nishikida

**Section D**

Hilton San Francisco Union Square  
Franciscan C

**Advanced Materials, Discovery, Characterization & Safety**

L. A. Holland, *Organizer*

W. Zhong, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 ANYL 333.** Metal nanoparticle fate and stability. **A.J. Haes**

**9:00 ANYL 334.** Analytical assessment of protein conformational change induced by interaction with nanomaterials. **W. Zhong**, Y. Duan

**9:55** Intermission.

**10:10 ANYL 335.** Biomolecular screening of nanomaterials. **L.A. Holland**, T.A. Davis, M. Ellington

**11:05 ANYL 336.** Growth-based Bacterial Viability (GBV) assay for interference-free and high-throughput nanotoxicity screening. **T.A. Qiu**, T. Nguyen, H. Frew, N. Hudson-Smith, D. Forester, P. Clement, A. Vartanian, L.M. Jacob, M. Hang, C.J. Murphy, R.J. Hamers, V. Feng, C.L. Haynes

**Section E**

Hilton San Francisco Union Square  
Union Square 19/20

**Kathryn C. Hach Award for Entrepreneurial Success: Symposium in honor of David R. Walt**

*Cosponsored by BIOT*

J. M. Desimone, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:40 ANYL 337.** Nanoparticle-mediated characterization of circulating tumor cell subpopulations. **S.O. Kelley**

**9:10 ANYL 338.** Spherical nucleic acids: Making a case for next-generation nucleic acid therapeutics. **C.A. Mirkin**

**9:40** Intermission.

**9:55 ANYL 339.** Microfabricated systems to screen and separate cells and tissues based on complex phenotypes. **N.L. Allbritton**

**10:25 ANYL 340.** Chemiresistive sensors: Functionalization and organization of carbon nanotubes. **T.M. Swager**

**10:55 ANYL 341.** Award Address (Kathryn C. Hach Award for Entrepreneurial Success sponsored by the Kathryn C. Hach Award Fund). Microwell arrays as a platform for discovery and diagnostics. **D.R. Walt**

**Applications of X-Ray & Neutron Scattering Techniques in Energy Technologies**

**Catalysis**

*Sponsored by ENFL, Cosponsored by ANYL*

**Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla**

*Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY*

**TUESDAY AFTERNOON**

**Section A**

Hilton San Francisco Union Square  
Union Square 14

**Synthesis & Characterization of Materials for Energy Applications**

**Novel Architectures, Materials & Synthetic Routes/In Operando & Surface Sensitive Analysis**

*Cosponsored by CATL*

J. Rodriguez Lopez, D. R. Rolison, *Organizers*

K. J. Stevenson, *Organizer, Presiding*

J. W. Long, *Presiding*

**1:30 ANYL 342.** Designing transition metal oxides for energy storage at high charge/discharge rates. **H. Kim**, J. Cook, S.H. Tolbert, **B. Dunn**

**2:00 ANYL 343.** Understanding pseudo-capacitive charge storage from fundamental interfacial processes to 3D electrode design. **J.W. Long**, M.D. Donakowski, J.F. Parker, M.B. Sassin, J.M. Wallace, D.R. Rolison

**2:30 ANYL 344.** Revealing Li intermetallic transformations using operando neutrons and NMR methods. **A. Co**

**3:00** Intermission.

**3:30 ANYL 345.** Advanced transmission electron microscopy for Li-ion battery cathodes. **A. Abakumov**

**4:00 ANYL 346.** Watching reactions with operando X-ray tools. **K.W. Chapman**

**4:30 ANYL 347.** Engineering non-precious metal oxides as cathode electrocatalysts for Li-O<sub>2</sub> batteries. **E. Nikolla**

## Section B

Hilton San Francisco Union Square  
Franciscan D

### New Applications of Supercritical Fluid Chromatography

L. Miller, *Organizer*

L. Taylor, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:10 ANYL 348.** Process excellence in discovery scale pharmaceutical chiral purifications. **Y. Zhang**, M. Beres, J. Carlson, G. Bi, S. Hollis, P. Krolkowski, L. Miller

**1:35 ANYL 349.** Online Supercritical Fluid Extraction/Supercritical Fluid Chromatography (SFE/SFC) for pharmaceutical and food sample analysis. **M. Wong**, Y. Ko, A. Guillen, J.P. Pease

**2:00 ANYL 350.** Stereo isomeric analysis of cannabinoids using UPC2. **J.L. Runco**, A. Aubin

**2:25 ANYL 351.** Purification of cannabinoids using preparative SFC. **B. Murphy**

**2:50** Intermission.

**3:10 ANYL 352.** Advances and applications of supercritical fluid chromatography for small molecules medicinal chemistry. **G. Rosse**

**3:35 ANYL 353.** Practical separation of synthetic peptides from complex crude mixtures by SFC. **M. Ventura**

**4:00 ANYL 354.** New SFC developments as the extended tools for pharmaceutical analysis. **L. Zeng**

**4:25 ANYL 355.** Applications of supercritical fluid technologies for the analysis, extraction and isolation of cannabinoids for cannabis-based therapeutics. **C.J. Hudalla**

**4:50** Concluding Remarks.

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

## Section C

Hilton San Francisco Union Square  
Union Square 17/18

### Chemical Forensics

#### Isotopic & Elemental Profiling for the Source Attribution of Materials

*Cosponsored by CHAL and PRES*

J. R. Cort, R. Foster, C. Fraga, *Organizers*

J. J. Moran, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:10 ANYL 356.** Forensic attribution using stable isotopes: Hairs to humans and insects to carrion. **G.P. Jackson**, R. Mohr, M.P. Matos, M. Engel

**1:35 ANYL 357.** Applying isotope ratio mass spectrometry to characterize chemical threat agents: Case study on plastic explosives. **L. Chesson**, J. Howa, M. Lott, J. Ehleringer

**2:00 ANYL 358.** Isotope composition of manufactured bulk ammonium nitrate and its isolated ions as a method of differentiating forensic samples. **B.L. Grimm**, L.A. Stern, A.J. Lowe, J. Buscaglia, J. Hietpas, C.M. Marsh

**2:25 ANYL 359.** Linking a fentanyl sample to its synthetic origin using stable isotope forensic signature analysis. **M. Singleton**, C.A. Valdez, S. Hok, H.A. Mulcahy, B.P. Mayer, A.M. Williams

**2:50** Intermission.

**3:10 ANYL 360.** Signatures for detection and attribution of chemical agents and emerging threats using position specific isotope analysis (SNIF-NMR) and multimodal NMR at Ultra-Low Magnetic Field Strengths (ULMF). **R.F. Williams**, R. Michalczyk, M.A. Espy

**3:35 ANYL 361.** Position-Specific stable isotope ratio measurement for chemical forensics. **J.R. Cort**, S.M. Colby, R.S. Renslow

**4:00 ANYL 362.** Characterisation of inter-national uranium ore concentrates and uranium ores for materials provenancing in nuclear forensics. **R. Popelka-Filcoff**, T. Ditcham, A. Wotherspoon, C. Lenahan, P. Kirkbride, A. Stopic, J. Bennett, T. Bull

**4:25 ANYL 363.** Forensic applications of laser ablation ICP-MS. **J. Almirall**

## Section D

Hilton San Francisco Union Square  
Franciscan C

### Advanced Materials, Discovery, Characterization & Safety

W. Zhong, *Organizer*

L. A. Holland, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 ANYL 364.** Optical and electronic property of Au nanomaterials revisited. **J. Zhang**, J. Zhao, S. Sun, L. Swartz, S.L. Riechers, J. Zheng, G. Liu

**2:00 ANYL 365.** Microbial community response to food and industrial grade titanium dioxide in decentralized wastewater treatment systems. **T. Waller**, S.L. Walker

**2:55** Intermission.

**3:10 ANYL 366.** Evaluation of electronic structure via voltammetry: A theoretical study of Carbon Nanotubes. **M. Hossain**, B. Muralidharan, B. Kirk

**4:05 ANYL 367.** Spectroscopic single-molecule tracking reveals the one-dimensional diffusion pathways in surfactant-templated mesoporous silica. **R. Kumarasinghe**, D.A. Higgins, T. Ito

## Section E

Hilton San Francisco Union Square  
Union Square 19/20

### Frank H. Field & Joe L. Franklin Award for Outstanding Achievement: Symposium in Honor of Vicki H. Wsocki

*Cosponsored by WCC*

F. M. Fernandez, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ANYL 368. Award Address** (Frank H. Field & Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry sponsored by Waters Corporation). Development of surface-induced dissociation as a structural biology tool. **V.H. Wsocki**

**1:55 ANYL 369.** Uncovering lipid connections – new roles for mass spectrometry. **C. Robinson**

**2:15 ANYL 370.** Progress in top-down analysis of branched proteins. **C.C. Fenselau**, A. Lee, L. Geis-Asteggiane, S. Chauhan, D. Chen, Y. Wang, E. Dixon, D. Abeykoon, M. Miller, D. Fushman

**2:35 ANYL 371.** Mapping peptide/protein conformation space: A challenge for IM-MS. **D.H. Russell**

**2:55** Intermission.

**3:10 ANYL 372.** Ultraviolet photodissociation mass spectrometry for characterization of protein complexes. **J. Brodbelt**

**3:30 ANYL 373.** Accelerated reactions in microdroplets: Mechanisms and scale-up methods. **R.G. Cooks**

**3:50 ANYL 374.** Distonic polyradical cations. **H.I. Kenttamaa**

**4:10 ANYL 375.** Proto-Peptidomics: The first peptides in Darwin's warm little pond. **J.G. Forsythe**, A. Petrov, W.C. Millar, S. Yu, I. Mamajanov, R. Krishnamurthy, M. Grover, N.V. Hud, F.M. Fernandez

**4:30** Concluding Remarks.

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

*Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY*

#### Applications of X-Ray & Neutron Scattering Techniques in Energy Technologies

#### Energy Sources & Combustion

*Sponsored by ENFL, Cosponsored by ANYL*

## WEDNESDAY MORNING

### Section A

Hilton San Francisco Union Square  
Union Square 14

#### Synthesis & Characterization of Materials for Energy Applications

### Fundamental & Molecular Models for Advanced Energy Materials/Novel Architectures, Materials & Synthetic Routes

*Cosponsored by CATL*

D. R. Rolison, K. J. Stevenson, *Organizers*

J. Rodriguez Lopez, *Organizer, Presiding*

H. White, *Presiding*

**8:30 ANYL 376.** Electrochemistry at three-phase boundaries. **H. White**, S. German, Y. Liu, M. Edwards, Q. Liu, L. Luo, H. Ren

**9:00 ANYL 377.** Interface characterization of PEDOT:PSS on solution-processed ITO using photoelectron spectroscopy. **L.M. Kogler**, M. Haeming, C. Heske

**9:30** Intermission.

**10:00 ANYL 378.** Ion transport in single-ion conducting polymer electrolytes for lithium batteries. **J.L. Schaefer**

**10:30 ANYL 379.** Significance of manganese in designing advanced Li-ion battery cathodes. **M. Thackeray**

**11:00 ANYL 380.** Controlling the arrangement of matter at different length scale in hybrid membrane to tune the ion transport. **C. Laberty**

## Section B

Hilton San Francisco Union Square  
Franciscan D

### Active Learning in the Undergraduate Analytical Chemistry Curriculum

*Cosponsored by CHED*

T. J. Wenzel, *Organizer*

J. K. Robinson, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 ANYL 381.** Overcoming obstacles to active learning in analytical chemistry. **J.K. Robinson**

**8:55 ANYL 382.** Applying active learning to give students enduring learning experiences in chemistry at Texas A & M International University. **A.K. Addo-Mensah**

**9:15 ANYL 383.** Active learning analytical chemistry laboratory; environmental applications and course embedded research performed on an island. **D.J. Lecaptain**, J. Tomasik

**9:35 ANYL 384.** Particulate matter in public spaces: An exploratory, student-led air quality monitoring project for the third-year classroom. **S.A. Styler**, S. Gao

**9:55** Intermission.

**10:10 ANYL 385.** Quantitative determination of aluminum in eight deodorant brands. **A. Kanu**, V.M. Sedwick, A. Leal, D. Turner

**10:30 ANYL 386.** Lithia Water Springs Project: Structuring active learning around a community resource. **S.C. Petrovic**

**10:50 ANYL 387.** Football, Beer, and Analytical Chemistry: The Path to Significant Learning. **M.F. Tuchler**

**11:10 ANYL 388.** Instrument building in undergraduate instrumental analysis. **L.A. Baker**



**Section C**

Hilton San Francisco Union Square  
Union Square 17/18

**Recent Innovations in Nano-Biosensing**

X. Li, Y. Zeng, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:35 ANYL 389.** Dynamic cantilever biosensors for pathogens, toxins and genes and NSF's nanobio-sensing program. R. Mutharasan

**9:05 ANYL 390.** Nanoporous gold: A multifunctional material for electrochemical detection and purification of nucleic acids in complex biological fluids. E. Seker

**9:35 ANYL 391.** Nanoparticle-mediated photothermal immunosensing for quantitative biomarker detection using a thermometer. X. Li

**10:05** Intermission.

**10:20 ANYL 392.** Graphene FRET aptasensor built on a solid support. Y. Ueno, T. Teshima, C. Henderson, H. Nakashima

**10:50 ANYL 393.** Amphiphilic nanoparticles as droplet stabilizers for high-fidelity droplet-based biochemical assays. M. Pan, S. Tang

**11:20 ANYL 394.** Nanomaterial-Inspired microfluidic technologies for biomarker analysis. Y. Zeng

**11:50** Concluding Remarks.

**Section D**

Hilton San Francisco Union Square  
Franciscan C

**Hierarchical Characterization of Materials Using Atomic Spectrometry & Related Techniques**

U. E. Fittschen, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 ANYL 395.** Mapping trace metals in hierarchical systems using X-ray fluorescence microscopy. S. Vogt

**8:35 ANYL 396.** High-Resolution elemental imaging with LA-ICP-TOFMS: State of the art. A. Gundlach-Graham, G. Schwarz, M. Burger, P.S. Garofalo, B. Hattendorf, D. Günther

**9:05 ANYL 397.** Solid sample analysis by a Tandem LIBS and LA-ICP-MS system. J.J. Gonzalez

**9:35** Intermission.

**9:45 ANYL 398.** X-ray tomographic imaging of mechanical deformation at various length and time scales. B. Patterson, J. Mertens, K. Henderson, N. Cordes, M. Herman, P.M. Welch, C.F. Welch, J. Williams, A. Sundar, N. Chawla, X. Xiao

**10:15 ANYL 399.** Applications of x-ray tomography across multiple length scales. P. Pianetta

**10:45 ANYL 400.** Practical multi-scale characterization with correlative microscopy. J. Gelb, L. Lavery, W. Harris, H. Bale, A. Merkle

**11:05 ANYL 401.** Detecting the chemical phases of lithium and iron phosphate in nanoparticles with photoinduced force microscopy. D. Nowak, W. Morrison, R. Murdick, S. Park, J. Cabana

**11:25 ANYL 402.** X-ray fluorescence *in-vivo* elemental imaging of plant samples. U.E. Fittschen, H. Kunz, R. Hoehner, I.M. Tyssebotn, A. Fittschen

**11:45** Concluding Remarks.

**Applications of X-Ray & Neutron Scattering Techniques in Energy Technologies**

**Fuel Cells**

*Sponsored by ENFL, Cosponsored by ANYL*

**Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla**

*Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY*

**WEDNESDAY AFTERNOON**

**Section A**

Hilton San Francisco Union Square  
Union Square 14

**Synthesis & Characterization of Materials for Energy Applications**

**Novel Architectures, Materials & Synthetic Routes**

*Cosponsored by CATL*

D. R. Rolison, *Organizer*

J. Rodriguez Lopez, K. J. Stevenson, *Organizers, Presiding*

**1:30 ANYL 403.** In-depth study of non-intercalation materials as electrode materials for high energy Na-ion batteries and Li-ion batteries. S. Meng

**2:00 ANYL 404.** Alkali and transition metal fluoride-phosphates as cathode materials for metal-ion batteries. E. Antipov

**2:30 ANYL 405.** Design of stable polymer- and ionic liquid-based electrolytes for Li-O2 batteries. S. Feng, L. Giordano, C. Amanchukwu, M. Chen, R. Anandakathir, J.A. Johnson, Y. Shao-Horn

**3:00** Intermission.

**3:30 ANYL 406.** Effects of nanoscale interfacial design on the UV and visible photocatalytic activity of plasmonic aerogels. J.J. Pietron, P.A. DeSario, T.H. Brintlinger, R.M. Stroud, D.R. Rolison

**4:00 ANYL 407.** Characterization of composite materials prepared by controlled reassembly of functional nanosheets. Q. Cheng, C.K. Chan

**4:30 ANYL 408.** Synthesis of crystalline metal chalcogenide electrocatalysts and group III-V semiconductor films from aqueous solutions at room temperature. S. Maldonado

**Section B**

Hilton San Francisco Union Square  
Franciscan D

**Active Learning in the Undergraduate Analytical Chemistry Curriculum**

*Cosponsored by CHED*

T. J. Wenzel, *Organizer*

J. K. Robinson, *Organizer, Presiding*

**1:30 ANYL 409.** Optical properties of gold nanoparticles: A contextual module to introduce concepts of chemical equilibrium and spectrophotometry. A.G. Cavinato

**1:50 ANYL 410.** Optimization of an HPLC method: A method development approach to upper-level undergraduate laboratory instruction. T. Thomas-Smith

**2:10 ANYL 411.** 3D Printing, active learning, and undergraduate instrumental analysis. B.J. Winters

**2:30 ANYL 412.** How do you sample all of the leaves in the forest? . M. Kistler Langston

**2:50** Intermission.

**3:05 ANYL 413.** Empowering active learning with virtual machines. K. Streu, N.C. Lee, A. Zubiria, S. Anderson, S. Gagliardi, R.M. Georgiadis

**3:25 ANYL 414.** Electrode modification through self-assembly and electron transfer characterizations by cyclic voltammetry and electrochemical impedance spectroscopy. J. Yan

**3:45 ANYL 415.** Articles from the primary literature as a platform for active learning. M.L. Kovarik

**4:05** Concluding Remarks.

**Section C**

Hilton San Francisco Union Square  
Union Square 17/18

**Recent Innovations in Nano-Biosensing**

X. Li, *Organizer*

Y. Zeng, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ANYL 416.** Molecularly imprinted nanoparticles as non-animal antibodies substitutes for detection of viruses. A. Poma, K. Karim, G. Battaglia, S. Piletsky

**1:55 ANYL 417.** Nanopatterned matrices enable enzyme activity measurements using SAMDI-mass spectrometry. M. Cabezas, C.A. Mirkin, M. Mrksich

**2:15 ANYL 418.** Development of DNA-based glycan microarray platform for on-chip enzymatic glycosylation. H. Heo, C. Kim, J. Seo, H.J. Cha

**2:35 ANYL 419.** Development of genetically engineered virus for bacteria detection in resource-limited settings. J. Chen, S. Nugen

**2:55 ANYL 420.** Development and characterization of thiol-responsive scintillation proximity assay core-shell nanoparticles as turn-on biosensors. Z. Mokhtari, C. Janczak, C.A. Aspinwall

**3:15** Intermission.

**3:25 ANYL 421.** Janus micromotors for electrochemical sensing and biosensing. B. Jurado, M. Pacheco, J. Rojo, A. Escarpa

**3:45 ANYL 422.** Charge-directed immobilization of bacteriophage on nanostructured electrode for whole cell electrochemical biosensors. Y. Zhou, R. Ramasamy

**4:05 ANYL 423.** Membrane protein ion channels as specific molecule sensors. R. Lazenby, F. Macazo, R.J. White

**4:25** Concluding Remarks.

**Section D**

Hilton San Francisco Union Square  
Franciscan C

**Applications of Wearable or Implantable Sensors for Systems in Biology**

L. Deravi, T. Zarkovic Grove, *Organizers, Presiding*

**1:00** Introductory Remarks.

**1:05 ANYL 424.** 3D Printing functional electronic and bioelectronic devices. M.C. McAlpine

**1:35 ANYL 425.** Electroactive protein-based materials. L.F. Deravi

**2:05** Intermission.

**2:20 ANYL 426.** Towards the development of wearable biosensors for human performance. R.R. Naik

**2:50 ANYL 427.** Chemical sensors: Flexibility and economy by putting technology into transducing materials. T.M. Swager

**Applications of X-Ray & Neutron Scattering Techniques in Energy Technologies**

**Gas Storage & Ion Conduction**

*Sponsored by ENFL, Cosponsored by ANYL*

**Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla**

*Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY*

**Frontiers in Glycoanalytics**

**MS & NMR Methods**

*Sponsored by CELL, Cosponsored by ANYL, CARB and MPPG*

**WEDNESDAY EVENING**

**Accurate Mass/High Resolution Mass Spectrometry for Environmental Monitoring & Remediation**

*Sponsored by ENVIR, Cosponsored by ANYL*

**Contaminants of Emerging Concern in Natural & Engineered Systems**

*Sponsored by ENVIR, Cosponsored by AGRO, ANYL and CEI*

**Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences**

*Sponsored by ENVIR, Cosponsored by ANYL and CHED*

**THURSDAY MORNING**

**Section A**

Hilton San Francisco Union Square  
Union Square 14

**Advances in Analytical Electrochemistry**

L. A. Baker, *Organizer, Presiding*

**8:30 ANYL 428.** Synthesis and characterization of highly active Au NPs using the rotating disk slurry electrodeposition technique for EtOH electrooxidation in alkaline media. L. Betancourt



**8:50 ANYL 429.** Perfluoroalkyl and alkyl modified glassy carbon electrodes: A model system to understand role of solvation in interfacial electron transfer kinetics. S. Mao, H. Sun

**9:10 ANYL 430.** Use of nonstandard pH electrodes for the determination of pH-values of e-cigarette aerosols to comply with requirements specified in USFDA draft guidance on Premarket Tobacco Product Applications (PMTA) for Electronic Nicotine Delivery Systems (ENDS). J.H. Lauterbach

**9:30 ANYL 431.** Use of electrochemical techniques in conjunction with computer simulations and spectroscopic methods to determine the electrochemical reduction pathways of atrazine. J. Brown

**9:50 ANYL 432.** Using voltammetry to detect hydrogen-bonding interactions. R.D. Webster

**10:10** Intermission.

**10:30 ANYL 433.** SECM with high areal scan rates using continuous line probes and compressed sensing. G. O'Neil, H. Kuo, J. Wright, D. Esposito

**10:50 ANYL 434.** PeakForce scanning electrochemical microscopy with nanoelectrode probes. Z. Huang, R. Poddar, P. De Wolf

**11:10 ANYL 435.** Localized detection of D-serine using scanning electrochemical microscopy and an enzymatic biosensor. D. Polcaro, S.C. Perry, L. Pollegioni, M. Geissler, J. Mauzeroll

**11:30 ANYL 436.** Electrochemical gate-controlled conductance switching in DNA via STM break junction technique. L. Xiang, J.L. Palma, Y. Li, V. Mujica, M.A. Ratner, N. Tao

## Section B

Hilton San Francisco Union Square  
Franciscan D

### Advances in Analytical Mass Spectrometry

K. Phinney, *Organizer, Presiding*

**8:30 ANYL 437.** Role of acetylation in validating the peptide sequence using mass spectrometry: Implications in proteomics. M. Jagannadham

**8:55 ANYL 438.** Using mass spectrometry and small molecule reagents to detect distinctive structural features of different prion conformations (strains). C.J. Silva, M.L. Erickson-Beltran, I.C. Dynin

**9:20 ANYL 439.** Withdrawn.

**9:45 ANYL 440.** Laser desorption/ionization droplet delivery mass spectrometry for live single cell analysis and imaging. J. Lee, H. Nam, R.N. Zare

**10:10** Intermission.

**10:25 ANYL 441.** Sub-Minute comprehensive metabolomic analyses of biofluid and environmental samples using SPE-IMS-MS. E.S. Baker, X. Zheng, N. Aly, V. Paurus, R.F. Marek, K.C. Hornbuckle, R.S. Renslow, D. Thomas, J. Teeguarden, T. Metz, R. Smith

**10:50 ANYL 442.** Application of statistical sample classification in non-target analysis of complex environmental samples analyzed via LC-HR-QTOFMS. S. Samanipour, J.A. Bazz-Lomba, M.J. Reid, B. Van Bavel, K. Thomas

**11:15 ANYL 443.** Taking on mass spectrometry challenges with MethodsNow™. J.M. Wilson, S.P. Kuhn

## Section C

Hilton San Francisco Union Square  
Union Square 17/18

### Advances in Analytical Spectroscopy

J. M. Harris, *Organizer*

J. C. Lee, *Presiding*

**8:00 ANYL 444.** DNA micelle flares: A study of the basic properties that contribute to enhanced stability and binding affinity in complex biological systems. Y. Wang, W. Tan

**8:25 ANYL 445.** Ultra-highly sensitive and dynamic fluorescence imaging of ROS in live cells and in vivo. P. Li

**8:50 ANYL 446.** Advancing spectroscopy of buried interfaces: Determination of surface potential and electrical double-layer structure at the aqueous electrolyte-nanoparticle interface. M.A. Brown

**9:15 ANYL 447.** Fluorinated boronic acid-appended pyridinium salts for Diol recognition & discrimination in water using 19F NMR. J. Axthelm, A. Schiller

**9:40** Intermission.

**10:00 ANYL 448.** Speciation of trace amounts of organic carbon with NMR: The example of plant silica particles. A. Mason, A. Alexandre, F. Ziarelli, S. Viel, G. Santos

**10:25 ANYL 449.** Quantitative analysis of organically bound minerals in nutritional supplements using FT-IR spectroscopy. C. Connolly, R. Murphy

**10:50 ANYL 450.** FTIR microspectroscopy imaging reveals changes in adipose tissues and liver induced by high-fat diet. S.P. Liyanage, A. Bouyanfif, N. Abidi, L. Ramalingam, N. Moustaid-moussa

**11:15 ANYL 451.** Microfluidics-Based surface plasmon resonance for biomolecular interactions and detection of biomarkers related to neurological disorders. X. Wang, E. Enriquez, N. Ukhivanova, A. Benedict, Y. Wang, F. Zhou

## Section D

Hilton San Francisco Union Square  
Franciscan C

### Applications of Wearable or Implantable Sensors for Systems in Biology

L. Deravi, T. Zarkovic Grove, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:35 ANYL 452.** Wearable epidermal microfluidic systems capable of capture, storage and colorimetric sensing of sweat. A. Koh, D. Kang, J.A. Rogers

**8:50 ANYL 453.** Implantable indium gallium zinc oxide field effect biosensors. X. Du, G.S. Herman

**9:20 ANYL 454.** Mechanically adaptive bio-nanocomposites for implantable sensing. J. Foster

**9:50 ANYL 455.** Nanocellulose wearable sensor platform. Y.S. Kim, S. Minko

**10:20** Intermission.

**10:35 ANYL 456.** Low-Cost human and animal health diagnostics enabled through novel hybrid microfluidic systems. K. Ramzy, C. Heist, G. Bandara, S. Pengpukiat, V.T. Remcho

**11:05 ANYL 457.** Microbial sensing – learning from the innate immunity receptors. T. Zarkovic Grove, R. Parker, A. Mercedes-Camacho

**11:35 ANYL 458.** Towards the development of a smart device surface to non-invasively image and monitor implant associated infection in-situ. U. Uzair, J.N. Anker

**11:50** Concluding Remarks.

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atala

Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY

### Frontiers in Glycoanalytics

### Molar Mass & Crystallinity Analyses

Sponsored by CELL, Cosponsored by ANYL, CARB† and MPPG‡

## THURSDAY AFTERNOON

### Section A

Hilton San Francisco Union Square  
Union Square 14

### Advances in Analytical Electrochemistry

L. A. Baker, *Organizer, Presiding*

**1:00 ANYL 459.** Highly sensitive and selective electrochemical biosensor for monitoring sialic acid in live brain of mice with Alzheimer's disease based on wettable switching of a stimuli-responsive copolymer. S. Ding, C. Ma, A. Zhu, G. Shi

**1:20 ANYL 460.** Biosensors based on conducting polymer scaffolds targeting carbohydrate-protein interactions. A. Rehman, M. Sharif

**1:40 ANYL 461.** Lab-on-paper cyto-device for the detection of H2S released from MCF-7 cells. J. Yu, L. Zhang, Y. Zhang, S. Ge, M. Yan, H. Liu

**2:00 ANYL 462.** Highly selective nanoparticle-enhanced electrochemical biosensing platforms for proteins in biological fluids. H. Lee, Y. Si, S. Hayati

**2:20** Intermission.

**2:40 ANYL 463.** DNA biosensing through instantaneously electrostatic attraction on polystyrene gold electrode. B. Yao, W. Lu, Q. Yuan

**3:00 ANYL 464.** Integration of collagen hydrogel scaffold to enhance performance of RNA Electrochemical-Aptamer Based (E-AB) sensors. M. Santos Cancel

**3:20 ANYL 465.** Real-time monitoring of Ca<sup>2+</sup> and pH using a non-invasive wearable biosensor. H.Y. Nyein, W. Gao, A. Javey

**3:40 ANYL 466.** Real-time parallel detection of alpha-L-fucosidase and cardiac troponin I with an ultrasensitive plasmonic biosensor. X. Han, H. Shokri Kojori, S. Kim, R.M. Leblanc

## Section B

Hilton San Francisco Union Square  
Franciscan D

### Advances in Analytical Mass Spectrometry

K. Phinney, *Organizer, Presiding*

**1:00 ANYL 467.** Trace determination of nitrosamines in finished drinking water by direct-inject LC-MS/MS. A.E. Pierr

**1:25 ANYL 468.** 2-Hydrazinyl-N, N, N-trimethylethan-1-ammonium iodide: A reagent for chemoselective isolation of volatile aldehydes and ketones from exhaled breath. M. Ogunwale, X. Fu, M.H. Nantz

**1:50 ANYL 469.** High-throughput gas and headspace analysis for the process-line and laboratory: SIFT-MS. V.S. Langford, B.J. Prince, D.B. Milligan, M. Perkins, T. Wilks, T. Potter

**2:15 ANYL 470.** Identifying known unknowns: A comparison between ChemSpider and the US EPA's CompTox Dashboard. A. McEachran, J. Sobus, A.J. Williams

**2:40** Intermission.

**2:55 ANYL 471.** Novel method for determining aldehyde and ketone photoproducts from solar irradiated crude oil-seawater systems by MS/MS. X. Cao, M.A. Tarr

**3:20 ANYL 472.** Positive mode atmospheric pressure chemical ionisation mass spectrometry in archaeological analysis: Differentiation of epimers of pentacyclic terpenoids. W. Martin, R.D. Bowen, R. Brettell, R. Gallagher, C. Townley

**3:45 ANYL 473.** Personal information from latent fingerprints obtained by mass spectrometry using machine learning. Z. Zhou, R.N. Zare

## Section C

Hilton San Francisco Union Square  
Union Square 17/18

### Advances in Analytical Spectroscopy

J. M. Harris, *Organizer*

S. R. Emory, *Presiding*

**1:00 ANYL 474.** Conformation and dynamics of -synuclein probed by Raman microspectroscopy. J.D. Flynn, J.C. Lee

**1:25 ANYL 475.** Harnessing drop coat deposition Raman spectroscopy for non-invasive cancer diagnosis. A. Niyibizi, J. Jabara, R. Halvorson, S. Potter, C. Lahr, C. Gomez, M. Sakiyama

**1:50 ANYL 476.** *In situ* determination of metformin in Type 2 diabetes tablets using Raman spectroscopy. S.A. Oladepo

**2:15 ANYL 477.** Towards a nonresonant detection strategy for single molecule SERS. N.L. Wong, R.P. Van Duyne

**2:40** Intermission.

**3:00 ANYL 478.** Nanostructured thin-film materials for surface-enhanced Raman scattering and electrochemical studies. S.R. Emory, C. Swanson, E. Douglass

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

† Cooperative Cosponsorship

**3:25 ANYL 479.** Breakthrough developments in x-ray spectroscopy toward LA-ICP-MS capabilities: Trace-Level microns-scale mapping and femtogram detection sensitivity. **S. Lewis, W. Yun, S. Lau, B. Stripe, D. Reynolds, A. Lyon, J. Kirz, S. Chen, V. Semenov, M. Cordier**

**3:50 ANYL 480.** Recent advances in two-dimensional X-ray diffraction. **B.B. He**

**Section D**

Hilton San Francisco Union Square  
Franciscan C

**Applications of Wearable or Implantable Sensors for Systems in Biology**

L. Deravi, T. Zarkovic Grove, *Organizers, Presiding*

**1:00** Introductory Remarks.

**1:05 ANYL 481.** Comprehensive investigation of potential adverse effects of silver nanoparticle and its environmental transformation in embryonic zebrafish using implantable biosensor. **X. Liu, E. Dumitrescu, K. Wallace, S. Andreescu**

**1:20 ANYL 482.** Nanosensor for chemical imaging of neurotransmitter acetylcholine using MRI. **Y. Luo, E.H. Kim, H. Clark**

**1:35 ANYL 483.** Silk: A glamorous bridge between fashion and smart outfits. **G. Matzeu, P. Tseng, L. Mogas-Soldevila, B. Napier, L. Garbarini, D.L. Kaplan, F. Omenetto**

**2:05 ANYL 484.** Peptide melanins. **R. Ulijn**

**2:35** Intermission.

**2:50 ANYL 485.** Wearable sweat biosensors for personalized healthcare. **W. Gao, H. Nyein, Z. Shahpar, A. Javey**

**3:05 ANYL 486.** Biomaterials-based energy storage devices for next generation edible electronics. **Y. Kim**

**3:35 ANYL 487.** Metal organic frameworks for portable chemical sensing. **K. Mirica, M.K. Smith, M. Ko, A. Aykanat**

**4:05** Concluding Remarks.

**Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla**

Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY

**BIOT**

**Division of Biochemical Technology**

M. O'Malley and V. Roy, *Program Chairs*

**OTHER SYMPOSIA OF INTEREST:**

**Cellulose Structure & Biosynthesis** (see CELL, Sun, Mon, Tue)

**Innovations in Drug Delivery Systems & Combination Products** (see PMSE, Tue, Wed)

**Kathryn C. Hach Award for Entrepreneurial Success: Symposium in honor of David R. Walt** (see ANYL, Tue)

**Science for a Sustainable Energy Future** (see PRES, Mon)

**Young Investigator's Symposium** (see PMSE, Sun, Mon)

**Undergraduate Research Posters** (see CHED, Mon)

**SOCIAL EVENTS:**

**Membership Desk, 8:00 AM:** Sun, Mon, Tues, Wed, Thu

**Reception, 6:30 PM:** Sun

**Program Chair's Lunch, 12:30 PM:** Wed

**Company Seminars, 12:30 PM:** Sun, Mon, Tue, Wed

**Networking/Mentoring Session, 6:00 PM:** Wed

**BUSINESS MEETINGS:**

**BIOT Executive Committee Meeting, 7:00 PM:** Mon

**Future Programming Meeting, 12:30 PM:** Tues

**SUNDAY MORNING**

**Section A**

InterContinental San Francisco  
Grand Ballroom A

**Upstream Processes**

**Disruptive Bioprocessing & Process Integration**

N. Agarwal, I. R. Wheeldon, I. Yuk, *Organizers*  
N. R. Boyle, A. Ouyang, *Presiding*

**8:30 BIOT 1.** Online capacitance probes precisely control cell biomass growth through temperature regulation. **J.C. Swanberg, R. Lewis, K. Aron, M.C. Borys, Z. Li**

**8:50 BIOT 2.** Effective and efficient approaches to cell line engineering in CHO cells. **S. Sandefur, C. Frye**

**9:10 BIOT 3.** Feasibility study of dielectric spectroscopy as a tool for monitoring and controlling of mammalian cell culture processes. **A. Zhang, F. Ma, S. Ghose, O.D. Velez**

**9:30 BIOT 4.** Leveraging media components to control cell growth and improve specific productivity in perfusion cell culture. **S. Wang, A. Lee-Goldman, J. Goby, J. Ravikrishnan, L. Zheng, S. Mishra, J.L. Coffman, H. Lin**

**9:50** Intermission.

**10:10 BIOT 5.** Non-mammalian expression systems for new bioprocesses: Enabling a step-change in manufacturing productivity and cost. **M. Bartlett, C. Wright, A. Kuo, N. Colant, M. Westoby, J.C. Love**

**10:30 BIOT 6.** Molecular mechanisms of epigenetic instability control in long-term cell culture processes. **M. Kamga, S. Yoon**

**10:50 BIOT 7.** Integrated bioprocess for production of recombinant butyrylcholinesterase from transgenic rice cell suspension cultures. **J. Corbin, S. Alkanaimsh, M. Kalemia, K. Karuppanan, R. Rodriguez, C.B. Lebrilla, K. McDonald, S. Nandi**

**11:10 BIOT 8.** Establishing a high-efficient serum-free process for influenza vaccine production using MDCK cells. **Q. Ye, X. Liu, W. Dai, L. Zhao, Y. Wu, W. Peng, K. Hu, W. Tan**

**Section B**

InterContinental San Francisco  
InterContinental C

**Downstream Processes**

**Advances in Chromatographic Separations**

R. Barros, V. Natarajan, N. Tugcu, *Organizers*

D. J. Roush, *Organizer, Presiding*

J. Neville, A. Podgornik, *Presiding*

**8:30 BIOT 9.** Aggregation phenomena in cation exchange chromatography and implications to process development for mAb and Fc-fusion proteins. **Z. Chen, C. Huang, N. Chennamsetty, X. Xu, Z. Li**

**8:50 BIOT 10.** Competitive binding kinetics of antibody monomer-dimer mixtures on CEX resins during separation by frontal analysis. **J.M. Reck, T.M. Pabst, A.K. Hunter, G. Carta**

**9:10 BIOT 11.** Understanding the molecular details of protein adsorption in polymer-grafted ion exchangers. **J. Basconi, G. Carta, M.R. Shirts**

**9:30 BIOT 12.** Investigating domain contributions to antibody retention in chromatography systems. **J. Robinson, D.J. Roush, S.M. Cramer**

**9:50** Intermission.

**10:10 BIOT 13.** *In silico* scale-up from laboratory to production scale: A case study on applying mechanistic modeling for describing chromatographic purification of a monoclonal antibody. **F. Stueckler, T. Hartneck, S. Paschen, K. Doninger, J. Griesbach**

**10:30 BIOT 14.** Enablers for QbD implementation: Mechanistic modeling for ion-exchange membrane chromatography. **L. Kanwar, A.S. Rathore, A.P. Manvar**

**10:50 BIOT 15.** From bed to bead and below: Multiscale measurements of chromatography. **D.G. Bracewell**

**11:10 BIOT 16.** Modeling of axial and radial heterogeneity of preparative chromatography packings. **M. Dorn, D. Hekmat, D. Weuster-Botz**

**Section C**

InterContinental San Francisco  
Union Square

**Biophysical & Biomolecular Processes**

**Protein Developability: Assessing Candidates for Preclinical & Clinical Studies**

J. Moore, J. A. Van Deventer, *Organizers*

B. E. Jones, P. M. Tessier, *Presiding*

**8:30 BIOT 17.** Measuring physical stability using intrinsic fluorescence and static light scattering. **K. Tschudi, Y. Adem**

**8:50 BIOT 18.** Chemical unfolding as a predictor for monoclonal antibody stability. **J. Floyd, A. Gillespie, C. Siska, B. Kerwin**

**9:10 BIOT 19.** Assessing differential photosensitivity of tryptophan using a model Trp-cage peptide as a mAbs surrogate. **L.F. Welch, M. Deshpande, G. Deperalta, S. Alavattam, J. Lin**

**9:30 BIOT 20.** Non-ideal colligative properties in high concentration mAb solutions and impact to biopharmaceutical manufacturing. **A. Teran, B. Callahan, R. Kaushik**

**9:50** Intermission.

**10:10 BIOT 21.** Is the dilute solution diffusion interaction parameter a robust predictor of concentrated monoclonal antibody formulation shear viscosity? **J.A. Pathak, S. Banappagari, A.L. Chamberlain, L. Lofchy, L. Kueltzio**

**10:30 BIOT 22.** Small volume screening of bispecific antibody solution viscosities. **M. Woldeyes, L. Josephson, D. Leiske, W.J. Galush, E.M. Furst**

**10:50 BIOT 23.** Protein interactions at concentrated conditions and their impact on the thermodynamics and rheology of antibody solutions. **M.A. Blanco, H.W. Hatch, J.E. Curtis, V.K. Shen**

**11:10 BIOT 24.** Multidimensional data visualization and data mining for characterization of long term protein phase behavior. **M. Klijn**

**Section D**

InterContinental San Francisco  
Telegraph Hill

**Bio-Based Products**

**Synthetic Biology Approaches to Engineer Production of Biofuels & Value-Added Chemicals**

M. R. Antoniewicz, C. A. Eckert, G. Sriram, *Organizers*

A. Garst, Z. Shao, *Presiding*

**8:30 BIOT 25.** Accelerating strain engineering with CRISPRi-based tool development. **B.F. Cress, R.J. Linhardt, M. Koffas**

**8:50 BIOT 26.** Exploring nonconventional yeasts to produce pharmaceutical precursors and cosmetics additives. **M. Cao, L. Zhao, Z. Shao**

**9:10 BIOT 27.** What does it take to engineer microbes for industrial applications? **G. Stephanopoulos**

**9:50** Intermission.

**10:10 BIOT 28.** Production of branched-chain fatty acid derivatives in high percentage. **W. Jiang, G.J. Bentley, J.B. Qiao, F. Zhang**

**10:30 BIOT 29.** Inducible gene circuits to control *Saccharomyces cerevisiae* metabolism for advanced biofuel production. **E.M. Zhao, J.L. Avalos**

**10:50 BIOT 30.** Robust and scalable two-stage fermentation for efficient terpenoids production using dynamic metabolic control. **Z. Ye, M. Lynch**

**11:10 BIOT 31.** Engineering biosynthetic routes to high-performance non-natural polymers. **B. Motta Nascimento, N.U. Nair**

### Section E

InterContinental San Francisco  
Sutter

#### Biosimilars

#### Scientific Challenges in Production of Biosimilars: Processing & Analysis

R. S. Gronke, A. S. Rathore, *Organizers*  
N. Chimmule, R. I. Shpritzer, *Presiding*

**8:30 BIOT 32.** FDA perspective on demonstrating analytical similarity. **M.A. Shapiro**

**9:10 BIOT 33.** Control of cell culture variables to meet target process and product quality in the production of biologics. **P. Bhebe**

**9:30 BIOT 34.** Clearance of mAb charge variant by preparative ion exchange or multimodal chromatography. **T. Bjorkman, A. Ljunglöf**

**9:50** Intermission.

**10:10 BIOT 35.** Correlating critical quality attributes in IgG1: Glycosylation and charge heterogeneity. **N. Nupur, R. Gudihal, A.S. Rathore**

**10:30 BIOT 36.** Addressing the challenge of higher-order structure assessment of biologics with 2D NMR. **J.P. Marino**

**10:50 BIOT 37.** Withdrawn.

**11:10** Panel Discussion.

### Section F

InterContinental San Francisco  
Grand Ballroom B/C

#### David Perlman Memorial Lectureship

M. A. O'Malley, T. M. Przybicien, V. Roy, *Organizers, Presiding*

**11:30 BIOT 38.** Synthetic biology platforms for natural product biosynthesis and discovery. **C.D. Smolke**

#### Cellulose Structure & Biosynthesis

##### In the Plant Cell Wall

*Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL*

## SUNDAY AFTERNOON

### Section A

InterContinental San Francisco  
Grand Ballroom A

#### Upstream Processes

#### Mammalian Cell Culture Process Development

N. Agarwal, I. R. Wheeldon, I. Yuk, *Organizers*  
M. Cunningham, N. George, S. W. Harcum, *Presiding*

**2:00 BIOT 39.** Identification of genes that rescue deficient DNA double-strand break repair in Chinese hamster ovary cells. **X. Zhang, K. Lee**

**2:20 BIOT 40.** Strategy to enhance monoclonal antibody productivity in CHO cells with anti-apoptotic inhibitors based on flow cytometric analysis. **D.W. Lin, D. Townsend, A. Zanghi, P. Huang**

**2:40 BIOT 41.** Strategies to modulate CHO cell growth and reduce cell bleed product loss in high density perfusion cultures using classic cell culture medium nutrients. **D. Ogawa, J. Ravikrishnan, S. Wang, H. Lin**

**3:00 BIOT 42.** Kinetic based metabolic model of mammalian cell cultures – model building and experimental validation for productivity improvement. **Z. Huang, S. Yoon**

**3:20** Intermission.

**3:40 BIOT 43.** Practical approach in bioreactor scale-up and process transfer. **S. Xu, L. Hoshan, R. Jiang, B.M. Gupta, E. Brodean, J.S. Bowers, K. O'Neill, T. Seamans, H. Chen**

**4:00 BIOT 44.** Oxygen uptake modeling for cross-scale prediction of gas sparge rates in a CHO cell culture process. **B. Reed, E. Garr**

**4:20 BIOT 45.** Elucidating the effects of CO<sub>2</sub> on CHO cell metabolism in bioprocessing. **W. Chen, J. Wang, L. Zhao, L. Fan, W. Tan**

**4:40 BIOT 46.** Novel shear assay for increasing chinese hamster ovary cell culture robustness in biomanufacturing. **D. Chang, K. Chang, R. Ferguson, D. Osborne, O.D. Velez**

### Section B

InterContinental San Francisco  
InterContinental C

#### Downstream Processes

#### Advances in Chromatographic Separations

R. Barros, V. Natarajan, N. Tugcu, *Organizers*  
J. Neville, D. J. Roush, *Organizers, Presiding*  
A. Podgornik, *Presiding*

**2:00 BIOT 47.** Role of more than 40 years of improvement in protein A chromatography in the growth of the therapeutic antibody industry. **G. Bolton, K. Mehta**

**2:40 BIOT 48.** Comprehensive evaluation of emerging anion exchange adsorber technologies for improving capacity and manufacturing agility. **M.R. McGarrath, H. Ardeshtna, G.J. Terlith, K.E. Goklen**

**3:00 BIOT 49.** Evaluation of single-use FibroSelect technology for monoclonal antibody purification. **K. Mehta, A. Venkatesh, I. Scanlon, P. Shah, R.G. Soderquist**

**3:20** Intermission.

**3:40 BIOT 50.** Clearance of challenging, hard-to-remove CHO host-cell proteins by application of orthogonal approaches towards establishment of a robust downstream process. **N. Sanaie, A. Velayo, A. Quezada, R. Vonder Reith, C. Tran, B. Kluck, J. Woo, C. Garcia, R. Krishnan**

**4:00 BIOT 51.** Chromatofocusing of IgG isoforms using peptide-based affinity adsorbents and dual ionic strength-pH gradients. **H. Reese, J. Lembo, A. Hirsh, S. Menegatti**

**4:20 BIOT 52.** Developing a split-in-protein based platform for the purification of any biological therapeutic protein. **A. Lahiry, J. Taris, M. Cooper, Y. Fan, T. Han, C. Shi, D.W. Wood**

**4:40 BIOT 53.** Rapid optimization of chromatographic separations using a nano-liter scale column in a microfluidic platform. **A. Azevedo, I.F. Pinto, R.R. Soares, V. Chu, J.P. Conde, M.R. Aires-Barros**

### Section C

InterContinental San Francisco  
Union Square

#### Biophysical & Biomolecular Processes

##### Protein Engineering & Design

J. Moore, J. A. Van Deventer, *Organizers*  
A. J. Karlsson, J. Scheer, *Presiding*

**2:00 BIOT 54.** Impact of affinity maturation on the specificity of antibodies targeting protein post-translational modification sites. **D. Li, Y. Cho**

**2:20 BIOT 55.** Improved antibody library design and selection methods for minimizing trade-offs between affinity, specificity and stability. **K. Tiller, M. Julian, L. Rabia, L. Li, S. Garde, S. Kumar, P.M. Tessier**

**2:40 BIOT 56.** Translatable affibody ligand discovery: Engineered biopanning, deep sequence-guided library design, and pharmacokinetic modulation. **L. Stern, D. Woldring, B. Case, B. Hackel**

**3:00 BIOT 57.** Engineering the substrate specificity and activity of human proteases towards therapeutic target proteins: An approach to the treatment of autoimmune and inflammatory bowel diseases. **C.A. Denard, L. Yi, J. DeSautelle, Z. Bennett, P. Marek, J. Taft, R. Yaghi, G. Georgiou, B. Iverson**

**3:20** Intermission.

**3:40 BIOT 58.** Structurally guided design of chimeric proteins containing novel peptide loops. **J. Plaks, J.R. Uzarski, T.J. Lawton, S. Filocamo, J. Kaar**

**4:00 BIOT 59.** Engineering histatin 5 for improved resistance to secreted aspartic proteases. **S.P. Ikononova, Y. Wang, A.J. Karlsson**

**4:20 BIOT 60.** Developing strategies to engineer G protein-coupled receptor binding properties. **J. Yoo, P. Daugherty, M.A. O'Malley**

**4:40 BIOT 61.** Nicking mutagenesis: User-defined, single-pot comprehensive mutagenesis. **T. Whitehead, E. Wrenbeck**

### Section D

InterContinental San Francisco  
Telegraph Hill

#### Bio-Based Products

#### Synthetic Biology Approaches to Engineer Production of Biofuels & Value-Added Chemicals

M. R. Antoniewicz, C. A. Eckert, G. Sriram, *Organizers*

A. Garst, Z. Shao, *Presiding*

**2:00 BIOT 62.** High-throughput enzyme screening platform for IPP-bypass MVA pathway for isopentenol production. **A. Kang, C. Meadows, N. Canu, J.D. Keasling, T. Lee**

**2:20 BIOT 63.** New paradigm for pathway engineering at high-throughput and resolution. **M. Bassalo, A. Garst, R.T. Gill**

**2:40 BIOT 64.** Industrialization of biology: Making nature accessible and affordable. **H. Tseng**

**3:00 BIOT 65.** Multilevel engineering of the upstream aromatic module in *Saccharomyces cerevisiae* for high production of polymer and drug precursors. **M. Suastegui, Z. Shao, C.Y. Ng, C. Maranas**

**3:20** Intermission.

**3:40 BIOT 66.** Optimization of hexanoic acid production pathway in a recombinant *Escherichia coli* by precise flux rebalancing using synthetic promoters and UTRs. **S. Kim, S. Jang, B. Sang, G. Jung**

**4:00 BIOT 67.** Dynamic metabolic control: Improved flux through malonyl-CoA for renewable production of valuable chemicals. **C. Cooper, M. Lynch**

**4:20 BIOT 68.** Elucidating the influence of horizontal gene transfer and mutation rate on adaptive laboratory evolution for industrial biocatalyst development. **G.L. Peabody, K.C. Kao**

**4:40 BIOT 69.** Whole genome regulator mutant library for expedited identification of beneficial mutations for enhanced tolerance towards environmental stress. **A. Choudhury, Z. Wang, R.T. Gill, J. Kaar**

#### Cellulose Structure & Biosynthesis

##### Evolution of Synthases & Fine Structure of Microfibrils

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## SUNDAY EVENING

### Section A

InterContinental San Francisco  
Grand Ballroom A

#### Startup Road

##### BIOT Tank

G. Bolton, A. May, T. Meyerrose, *Organizers, Presiding*

**5:00** Panel Discussion.

## MONDAY MORNING

### Section A

InterContinental San Francisco  
Grand Ballroom A

#### Upstream Processes

#### Mammalian Cell Culture Process Development

N. Agarwal, I. R. Wheeldon, I. Yuk, *Organizers*  
M. Cunningham, Y. Inn, *Presiding*

**8:30 BIOT 70.** Ornithine concentration as a tool for modulating high mannose levels in mammalian cell culture. **H. Barkhordarian, C. Huang, P.K. Chan, Z. Zhang, B. Shah, S. Kang, P.V. Bondarenko, C. Goudar**

**8:50 BIOT 71.** Impact of high osmolality cell culture media on cell growth and product quality of biopharmaceuticals. **D. Ponsi, J. Purdie, D. Olson**

**9:10 BIOT 72.** Investigating the cause of charge variant shift of a monoclonal antibody from a mammalian cell culture process. **J. Cacciatore, J. Weng, D. Mitchell, R. van Houts, J. van de Lagemaat, A.G. Tulloch, V. Janakiram**



**9:30 BIOT 73.** Enabling product quality-driven development of cell culture processes for knobs-in-to-holes bispecifics. **J. Wu**

**9:50** Intermission.

**10:10 BIOT 74.** Culture media influenced the phenotypic stability of an NSO cell line—A case study. **T. Bui, M. Berge, L. Li**

**10:30 BIOT 75.** Production of recombinant adenovirus in a single use bioreactor system. **G. Ahlén, M. Bennemo, T. Persson, M. Lundgren**

**10:50 BIOT 76.** Reducing variability in cell specific productivity in perfusion culture. **Y. Shimoni**

**11:10 BIOT 77.** Impact of gas entrance velocity on cell culture performance at small scale and manufacturing scale bioreactors: A case study. **M. George, J. Tressel, B. Vincent, J. Ravikrishnan, A. Chhibbar, J. Cuenca, W. Aspre, H. Lin**

## Section B

InterContinental San Francisco  
InterContinental C

### Downstream Processes

#### Disruptive Bioprocessing & Process Integration

**R. Barros, M. Brower, V. Natarajan, N. Tugcu, Organizers**

**M. Brower, S. M. Cramer, Presiding**

**8:30 BIOT 78.** Development of an integrated, automated, multi-product platform for the rapid production and purification of protein therapeutics. **L. Crowell, N. Mozdzierz, A. Lu, A. Stockdale, K.R. Love, J.C. Love**

**8:50 BIOT 79.** Optimization of multi-column format for continuous capture of monoclonal antibodies. **S. Chollangi, J. Angelo, D. Baur, X. Xu, N. Singh, M. Morbidelli**

**9:10 BIOT 80.** Streamlining biopharmaceutical decision-making: Designing for manufacturability, facility fit and cost-effectiveness. **S.S. Farid**

**9:50** Intermission.

**10:10 BIOT 81.** Design and control of integrated chromatography column sequences. **B. Nilsson, N. Andersson, P. Tiainen, K. Köhler Van Alstine, A. Staby**

**10:30 BIOT 82.** Linking single pass tangential flow filtration with anion exchange chromatography for intensified mAb processing. **T. Elich, E.M. Goodrich, H. Lutz, U. Mehta**

**10:50 BIOT 83.** Integrated continuous processing of proteins expressed as inclusion bodies: GCSF as a case study. **N. Kateja, H. Agarwal, V. Hebbi, A.S. Rathore**

**11:10 BIOT 84.** Connected DSP mindset: How development enables future manufacturing visions. **L.W. Pampel, R. Rodrigues, F. Gillet, M. Goebel, J. Shultz**

## Section C

InterContinental San Francisco  
Union Square

### Biophysical & Biomolecular Processes

#### Protein Structure & Function

**J. Moore, J. A. Van Deventer, Organizers**

**H. Samra, T. Whitehead, Presiding**

**8:30 BIOT 85.** Molecular recognition of diverse type of odorants in a broadly tuned receptor OR2W1. **L. Ahmed, V.S. Batista**

**8:50 BIOT 86.** Recon 3D: A resource enabling a three-dimensional view of human metabolism and disease. **E.C. Brunk, S. Sahoo, D. Zielinski, A. Altunkaya, N. Mih, A. Pric, A. Sastry, G. Gonzalez, A. Danielsdottir, A. Noronha, M. Aurich, P. Rose, R. Fleming, A. Draeger, S. Burley, J. Nielsen, I. Thiele, B.O. Palsson**

**9:10 BIOT 87.** Engineering enzymes for broad temperature range applications through active site flexibility. **W. Wang, S. Dassetty, S. Sarupria, M.A. Blenner**

**9:30 BIOT 88.** Effect of co-solutes on viscosity and structure of highly concentrated monoclonal antibodies. **J. Hung, B. Dear, A. Sharma, C. Karouta, M. Nieto, T. Truskett, K.P. Johnston**

**9:50** Intermission.

**10:10 BIOT 89.** Efficient antibody affinity maturation requires co-selection of compensatory mutations to maintain thermodynamic stability. **M. Julian, L. Li, S. Garde, P.M. Tessier**

**10:30 BIOT 90.** Non-destructive in-situ method for measuring protein concentration in frozen drug substance. **A. Borwankar, C. Du, N. Singh**

**10:50 BIOT 91.** Functional and structural analysis of challenging protein targets using conformationally selective recombinant Fabs. **C. Craik**

## Section D

InterContinental San Francisco  
Telegraph Hill

### Bio-Based Products

#### Engineering Microbes to Utilize Next Generation Feedstocks

**M. R. Antoniewicz, C. A. Eckert, G. Sriram, Organizers**

**N. R. Boyle, C. Johnson, Presiding**

**8:30 BIOT 92.** Biological conversion of gaseous alkenes to liquid chemicals. **A. Case**

**8:50 BIOT 93.** Bioconversion of natural gas: Commercially attractive gas to liquids technology. **B. Yeh, C. Bodarkey**

**9:10 BIOT 94.** Bioconversion of volatile fatty acids derived from waste activated sludge into lipids by *Cryptococcus curvatus*. **J. Liu, J. Liu, M. Yuan, X. Huang**

**9:30 BIOT 95.** One-pot bioconversion of distiller dried gains hydrolysate to advanced biofuels. **F. Liu, W. Wu, M.B. Tran-Gyamfi, R.W. Davis**

**9:50** Intermission.

**10:10 BIOT 96.** Lactic acid production from the pyrolytic sugar levoglucosan. **S.M. Rothstein, T.J. Mansell**

**10:30 BIOT 97.** Discovery of CO<sub>2</sub>-fixing one-carbon (C1) metabolism in a cellulose degrading bacterium *Clostridium thermocellum*. **W. Xiong, P. Lin, L. Magnusson, L. Warner, J.C. Liao, P. Maness, K.J. Chou**

**10:50 BIOT 98.** Consolidating pretreatment and hydrolysis with engineered microbial consortia. **J. Henske, S. Wilken, M.A. O'Malley**

**11:10 BIOT 99.** Photosynthetic production of butyrate: A versatile chemical and non-toxic alternative for butanol in cyanobacteria. **M.C. Lai, E.I. Lan**

## Section E

InterContinental San Francisco  
InterContinental B

### Startup Road

#### Bioprocessing & Industrial Biotechnology

**G. Bolton, A. May, T. Meyerrose, Organizers**

**A. Boesch, V. Mahendroo, T. Ransohoff, Presiding**

**8:30 BIOT 100.** Next generation process development: Stop experimenting. GoSilico. **T. Huuk, T. Beck, T. Hahn, J. Hubbuch**

**8:50 BIOT 101.** Apeel sciences: Peels good! **L. Perez, C. Vild, M. Kahlscheuer**

**9:10 BIOT 102.** Purify: Purifications solutions for biotherapeutic manufacturing. **O. Hardick, I. Roberts**

**9:30** Intermission.

**9:50 BIOT 103.** Tale of two companies: Comparing the founding and early growth of Sutro BioPharma and GreenLight Biosciences. **J.R. Swartz**

**10:30** Panel Discussion.

## Section F

InterContinental San Francisco  
Sutter

### Emerging Technologies

#### New Tools & Approaches: Cellular & Microbiome Engineering

**Y. Y. Chen, Y. Kim, J. P. Pieracci, Organizers**

**H. Victor, Organizer, Presiding**

**Z. Shao, Presiding**

**8:30 BIOT 104.** Novel platform for the production of proteoglycans. **A. Roulier, M. Kipper, C.A. Peebles**

**8:50 BIOT 105.** Tracking dual signal mediated antibiotic resistance transfer in *Enterococcus faecalis*. **A. Bandyopadhyay, P. Agrawal, R. Breuer, A. Barnes, D. Manias, K.D. Dorfman, G. Dunny, W. Hu**

**9:10 BIOT 106.** Phylogenetic and targeted functional profiling of the microbiome associated with a unique phytoremediation system. **J. Ravichandar, A. Dyson, C.H. Collins**

**9:30 BIOT 107.** Elucidating physiology of microbial communities through co-culture 13C-metabolic flux analysis. **M.R. Antoniewicz**

**9:50** Intermission.

**10:10 BIOT 108.** Enhancing *Agrobacterium* mediated transient recombinant protein production in *Nicotiana benthamiana* plant cell suspension culture. **S. Sukenik, K. McDonald**

**10:30 BIOT 109.** Developing microbiome-bots to treat inborn errors of metabolism. **Z. Mays, N.U. Nair**

**10:50 BIOT 110.** Programmable control of CRISPR-Cas9 systems by engineering sgRNA as toehold-switchable riboregulators. **K. Siu, W. Chen**

**11:10 BIOT 111.** Whole cell biosensor for detection and directed evolution of human milk oligosaccharide production. **F. Enam, T.J. Mansell**

## Section G

InterContinental San Francisco  
Grand Ballroom B/C

### James M. Van Lanen Distinguished Service Award & Marvin J. Johnson Award in Microbial & Biochemical Technology

**M. A. O'Malley, T. M. Przybycien, V. Roy, Organizers, Presiding**

**11:30 BIOT 112.** Building complex protein functions at the intersection of nanofabrication and synthetic biology. **W. Chen**

### Science for a Sustainable Energy Future

#### Energy Storage

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### Cellulose Structure & Biosynthesis

#### Mechanism of Synthesis

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## MONDAY AFTERNOON

### Section A

InterContinental San Francisco  
Grand Ballroom A

### Upstream Processes

#### Control of Product Quality Attributes

**N. Agarwal, I. R. Wheeldon, I. Yuk, Organizers**

**Y. Cho, Organizer, Presiding**

**M. Mun, Presiding**

**2:00 BIOT 113.** Confessions of a cell culture engineer: Process impact on protein products in a quality-by-design world. **R.D. Kiss**

**2:40 BIOT 114.** Modulation of the afucosylation level of recombinant antibodies with small molecule fucostatin inhibitors in cell culture processes. **J. Huang, M. Mujacic, T. Hwang, O.R. Thiel, E. Le, J.G. Allen**

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**3:00 BIOT 115.** Glycoengineering to improve biotherapeutic quality from CHO cells. **C. Chung**, B. Yin, S. Yang, Q. Wang, H. Zhang, M.J. Betenbaugh

**3:20 Intermission.**

**3:40 BIOT 116.** Investigation into the cause of observed differences in the charge variants of a monoclonal antibody during production bioreactor process characterization studies. **N. Agarwal**, J. Kemper, A. Agarwal, J. Reier, J. Wang, S. Ahuja, G. Miro-Quesada

**4:00 BIOT 117.** Control and estimation of glycosylation profile via media supplementation based on intracellular metabolic models in mammalian cell cultures. **S. Sha**, S. Yoon

**4:20 BIOT 118.** Cathepsin D knock-out in CHO cells using CRISPR/Cas9. **J. Baik**, K. Lee

**4:40 BIOT 119.** Novel control strategy for pink colored IgG4 caused by vitamin B12. **C. Du**, R. Martin, Y. Huang, A. Borwankar, N. Singh, M.C. Borys, Z. Li

## Section B

InterContinental San Francisco  
InterContinental C

### Downstream Processes

#### Disruptive Bioprocessing & Process Integration

R. Barros, M. Brower, V. Natarajan, N. Tugcu, *Organizers*

S. M. Cramer, *Organizer, Presiding*

M. Brower, *Presiding*

**2:00 BIOT 120.** Chromatography-box-device for process-scale bio-separations. **R. Ghosh**

**2:20 BIOT 121.** Continuous downstream purification with an all membrane process: Protein A capture and AEX flowthrough. **A. Gospodarek**, M. Brower, G. Skarja, D.J. Pollard

**2:40 BIOT 122.** Engineering the calcium-regulated -roll peptide for bioseparations applications. **S. Banta**

**3:00 BIOT 123.** Fit-for-purpose cGMP compliant magnetic separation device: Cleaning validation and protein purification results. **M. Ebeler**, M. Franzreb

**3:20 Intermission.**

**3:40 BIOT 124.** Integration of ATPS and precipitation in a monoclonal antibody manufacturing process: The future of downstream processing? **F. Rudolph**, M. Richter, M. Dieterle, J. Studts

**4:00 BIOT 125.** Exploring the limits of clarifying high cell density feeds with Cadence™ acoustic separator. **M. Collins**, K. Galipeau, E. Ayturk

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

**4:20 BIOT 126.** Implementation of single-pass tangential flow filtration for inline concentration and production of drug substance: Module effects and diafiltration. **J. Zhang**, A. Arunkumar, N. Singh

**4:40 BIOT 127.** Combining cell removal and Protein A affinity separation in the same unit operation. **I. Roberts**, C. Morris, M. Townsend

## Section C

InterContinental San Francisco  
Union Square

### Biophysical & Biomolecular Processes

#### Protein Structure & Function

J. Moore, J. A. Van Deventer, *Organizers*

H. Samra, *Organizer, Presiding*

T. Whitehead, *Presiding*

**2:00 BIOT 128.** Engineering a GPCR for biophysical analysis of oligomer interactions. **N.S. Schonenbach**, J. Yoo, A.M. Duran, M.D. Rieth, J. Meiler, S. Han, M.A. O'Malley

**2:20 BIOT 129.** Withdrawn.

**2:40 BIOT 130.** Saturation mutagenesis panning libraries enable activity and specificity modulation of Microcin J25. **S. Ritter**, Y. Kaznessis

**3:00 BIOT 131.** Design and analysis of bioengineered models of Alzheimer's disease. **L.M. Walker**, J.B. Leach

**3:20 Intermission.**

**3:40 BIOT 132.** Characterization of knobs-into-holes antibody assembly variants reveals structural plasticity in IgG Fc structure. **V. Lundin**, H. Zhang, A. Estevez, X. Guo, K. Lin, K. Tschudi, K. Catherman, F. Hermann, J. Quang, K. Aurori, J. Giulianotti, M. Bhaumik, A. Ladiwala, H. Liu, J. Zhang, C. Ciferri, J. Shimoni-Zhu

**4:00 BIOT 133.** Effect of protein-stabilizer microheterogeneity on long-term stability in solid-state biopharmaceutical formulations. **S.H. Koshari**, K. Rajagopal, I.E. Zarraga, Y. Liu, N.J. Wagner, A.M. Lenhoff

**4:20 BIOT 134.** Process linkage experiments to support the design space of a biopharmaceutical manufacturing process. **N.L. McKnight**, K. Lazzareschi, R. St. John, B.D. Kelley

**4:40 BIOT 135.** Effective virus clearance using strong anion exchange bind/elute chromatography. **M. Garcia**, R. Specht

## Section D

InterContinental San Francisco  
Telegraph Hill

### Bio-Based Products

#### Facility Enabled Opportunities

C. A. Eckert, G. Sriram, *Organizers*

M. R. Antoniewicz, *Organizer, Presiding*

Y. Yoshikuni, *Presiding*

**2:00 BIOT 136.** Opportunities for facility-enabled science at the DOE Joint Genome Institute (JGI). **Y. Yoshikuni**

**2:20 BIOT 137.** DOE Environmental Molecular Sciences Laboratory: Accelerating biological research for biobased product production. **J. Evans**, S.E. Baker

**2:40 BIOT 138.** Genomic and transcriptomic analysis of *Rhodospiridium toruloides* producing biofuels from depolymerized polysaccharides and lignin. **J. Kim**, Y. Junko, M. Reilly, B.A. Simmons, J.K. Magnuson, J.M. Skerker, J.M. Gladden

**3:00 BIOT 139.** Parts list for fungal cellulosomes revealed by proteomics and comparative genomics. **S. Gilmore**, C.H. Haitjema, J. Henske, K. Solomon, R. de Groot, A. Kuo, S.J. Mondo, A.A. Salamov, K. LaButti, H.M. Brewer, S.O. Purvine, A.T. Wright, S.E. Baker, I.V. Grigoriev, M.A. O'Malley

**3:20 Intermission.**

**3:40 BIOT 140.** Comparison of base-catalyzed depolymerization of lignin sourced from multiple biochemical conversion processes, biomass sources, and feedstock processing processes. **R. Katahira**, X. Chen, E.M. Kuhn, M.P. Tucker, G. Beckham, A.E. Ray, N. Nagle

**4:00 BIOT 141.** Exploring the functional landscape of aldehyde deformylating oxygenase activity throughout the ferritin superfamily. **J.B. Siegel**

**4:20 BIOT 142.** Biocatalysis with flavin-dependent halogenases for selective C-H functionalization. **M. Andorfer**, J.C. Lewis

**4:40 BIOT 143.** Urease Crosslinked Enzyme Lyophilizates (CLELs) streamlining conventional organic syntheses. **T. Akkas**, A. Zakharyuta

## Section E

InterContinental San Francisco  
InterContinental B

### Startup Road

#### Diagnostics, Devices, New Therapeutic Modalities & Personalized Medicine

G. Bolton, A. May, T. Meyerrose, *Organizers*

S. Flaim, S. Gallant, L. Lu, *Presiding*

**2:00 BIOT 144.** SimpleScan platform for rapid, quantitative, multiplexed and fully automated protein assays for pharma and diagnostic applications. **K. Araz**, S. Tia, **A. Apori**

**2:20 BIOT 145.** Host-response biomarkers: A disease-defining diagnostic for sepsis. **T.E. Sweeney**, P. Khatri

**2:40 BIOT 146.** Utilizing the skin microbiome for UV protection- Can a startup do it? **N. Qvit-Raz**

**3:00 BIOT 147.** Advanced glycation end products as predictors of diabetic complications. **P.J. Beisswenger**

**3:20 Intermission.**

**3:40 BIOT 148.** Xip: From idea to impact in IVD. **O. Florescu**, T. Siegel

**4:00 Panel Discussion.**

#### Science for a Sustainable Energy Future

#### Chemical & Biological Conversions Approaches to Energy Conversion

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, IMEDI, MPPG†, ORGN and PROF

#### Cellulose Structure & Biosynthesis

#### Synthase Trafficking & Synthesis of plant (1->3),(1->4)-D-glucans

Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL

#### Undergraduate Research Posters

#### Biotechnology

Sponsored by CHED, Cosponsored by BIOT and SOCED

## MONDAY EVENING

### Section A

Moscone Center

Hall D

#### Sci-Mix

M. A. O'Malley, V. Roy, *Organizers*

**8:00 - 10:00**

**237, 239, 249-250, 264, 273, 279, 297, 305, 312, 326, 334, 346, 349, 352, 364, 378, 385, 390, 392, 480, 581.** See subsequent listings.

## TUESDAY MORNING

### Section A

InterContinental San Francisco  
Grand Ballroom A

#### Upstream Processes

#### Microbial & Non-Model Hosts: Strain Engineering & Process Development

N. Agarwal, I. R. Wheeldon, I. Yuk, *Organizers*

K. Solomon, K. Veeravalli, *Presiding*

**8:30 BIOT 149.** Developing the thermotolerant yeast *Kluyveromyces marxianus* as a microbial host for volatile ester biosynthesis. **A. Loebis**, R. Engel, C. Schwartz, I.R. Wheeldon

**8:50 BIOT 150.** Extremely thermophilic organisms for efficient glucose and xylose fermentations. **M.R. Antoniewicz**

**9:10 BIOT 151.** Improved production of biochemicals and biofuels with reduced CO2 emissions. **S. Jones**, B.P. Tracy, J.R. Phillip, P.C. Munasinghe

**9:30 BIOT 152.** Retroelements for continuous evolution. **A.J. Simon**, A.T. Tucker, B.W. Davies, A.D. Ellington

**9:50 Intermission.**

**10:10 BIOT 153.** Sugar sensors and transporters in biomass-degrading anaerobic fungi. **S. Seppala**, I. Podolsky, J. Yoo, D. Yur, M.A. O'Malley

**10:30 BIOT 154.** Enabling glucose-xylose co-utilization in yeast through expression of xylose-specific transporters. **M. Gao**, M. Cao, Q. Su, Z. Shao

**10:50 BIOT 155.** Engineering photosynthetic production of L-lysine. **T. Korosh**, A.L. Markley, R. Clark, B. Pfeleger

**11:10 BIOT 156.** Development of a general defined media for *Pichia pastoris* protein expression. **M. Bartlett**, K.R. Love, J. Clark, A. Kuo, A. Roberts, J.C. Love

† Cooperative Cosponsorship

## Section B

InterContinental San Francisco  
InterContinental C

## Downstream Processes

## Antibodies, Drug Conjugates &amp; Novel Formats

R. Barros, V. Natarajan, N. Tugcu, *Organizers*

A. Ladiwala, M. A. Rito Palomares, N. Sanaie, *Presiding*

**8:30 BIOT 157.** Process control to minimize product related conjugation variants in the manufacture of ADCs. D. Olson, R. Hendricks, M. Hutchinson, R.L. Beardslay

**8:50 BIOT 158.** Mechanistic model of excipient exchange during protein UF/DF. J. Ladwig, R. Hart

**9:10 BIOT 159.** Downstream process development and scale-up for *Streptovorticillium* transglutaminase expressed in *E.coli*, and its application to enable site-specific conjugation in ADC production. S. Chen, W. Wellborn, J. Cundy, B. Chen, E. Barr, L. Determan, B. Nolting, J. Martin

**9:30 BIOT 160.** Mechanism and application of dextran sulfate in protein A affinity chromatography to achieve improved HCP and DNA clearance for biologics purification. C. Huang, J. Angelo, X. Xu, Z. Li

**9:50** Intermission.

**10:10 BIOT 161.** Thermo-separating polymer-based aqueous two-phase systems for the fractionation and recovery of PEGylated lysozyme species. G. Hernández-Vargas, M. González-González, M.A. Rito Palomares, J. González-Valdez

**10:30 BIOT 162.** High viscosity tangential flow filtration applications: The impact of feed channel screen on process performance, high concentration capability, and membrane re-use. D. Kinzmaier, E.M. Goodrich

**10:50 BIOT 163.** Downstream process development considerations to address polysorbate degradation in drug substance formulation. Y. Yizgaw, A. Morris, M. Sawant, J. Gu

**11:10 BIOT 164.** Continuous in line flocculation, new opportunities for primary separation and economic impact. P. Satzer, D. Burgstaller, W. Krepper, A. Cataldo, J. Haas, M. Maszelin, J. Mohoric, K. Pajnic, A. Jungbauer

## Section C

InterContinental San Francisco  
Union Square

## Biophysical &amp; Biomolecular Processes

## Prediction &amp; Characterization of Biophysical Properties

J. Moore, J. A. Van Deventer, *Organizers*

S. Kumar, P. Tamamis, *Presiding*

**8:30 BIOT 165.** Structure of concentrated antibody solutions in the presence of weak self-association. D. Corbett, C. Avendaño, M. Hebditch, C. van der Walle, S. Uddin, R. Curtis

**8:50 BIOT 166.** Effects of thermal-stress and glycan-removal on structural integrity of a human IgG1 antibody: Insights from extended molecular dynamics simulations. D. Tomar, S. Kumar, S. Singh

**9:10 BIOT 167.** Towards predictive models of antibody biophysical properties and aggregation. G. Ferreira, H. Samra, R.L. Remmele, C.J. Roberts

**9:30 BIOT 168.** Semiempirical and quantum chemical prediction of ATP affinities and non-covalent binding to P-loops of proteins. J.H. Rodriguez

**9:50** Intermission.

**10:10 BIOT 169.** Signaling protein diffusion and accurate molecular weight based estimations of biomolecule dynamics. C.J. Fennell, N. Ghousiam, H. Gappa-Fahlenkamp

**10:30 BIOT 170.** Withdrawn.

**10:50 BIOT 171.** Time-resolved anisotropy measurements of single, non-tethered tau proteins in solution. A. Foote, L. Manger, R.H. Goldsmith, M.R. Holden, M. Margittai

**11:10 BIOT 172.** Recent advances in affinity maturation with the ADAPT platform. T. Sulea, C.R. Corbell, E.O. Purisima

## Section D

InterContinental San Francisco  
Telegraph Hill

## Bio-Based Products

## Synthetic Biology &amp; Metabolic Engineering using Omics Based Approaches

M. R. Antoniewicz, C. A. Eckert, G. Sriram, *Organizers*

J. L. Avalos, T. Lee, *Presiding*

**8:30 BIOT 173.** Reverse engineering of short-chain fatty acid tolerance and production in *E.coli*. Y. Chen, E. Boggess, J. Shanks, T. Mansell, J. Dickerson, L.R. Jarboe

**8:50 BIOT 174.** Production of acyl esters and its analogues from microbes. W. Kim, Z. Guo, O. Zelder, G.V. Abendorth

**9:10 BIOT 175.** Designing aptazyme-based biosensor delay control systems to minimize expression-associated stresses in engineered biosynthetic pathways. J. Stevens, J.M. Carothers

**9:30 BIOT 176.** Characterizing *in vivo* isopentenyl diphosphate (IPP) toxicity in isoprenol-producing *E. coli*. K.W. George, M. Thompson, J. Kim, E. Baidoo, C.J. Petzold, J.D. Keasling, T. Lee

**9:50** Intermission.

**10:10 BIOT 177.** Evolution of biomass-degrading anaerobic consortia revealed by metagenomics. X. Peng, S. Gilmore, J. Henske, C. Swift, M. Theodorou, D.L. Valentine, M.A. O'Malley

**10:30 BIOT 178.** Flux coupling analysis for studying the dependencies and degrees of freedom in thermodynamically constrained metabolic network models. Z. Hosseini, M. Ataman, N. Hadadi, V. Hatzimanikatis

**10:50 BIOT 179.** Omics-enabled discovery of a novel bacterial enzyme, phenylacetate decarboxylase, enabling bio-based toluene production. H.R. Beller, A. Rodrigues, K. Zargar, A. Saini, S. Tringe, J.D. Keasling, C.J. Petzold

**11:10 BIOT 180.** Bio-based products: Synthetic biology approaches to engineer production of biofuels & value-added chemicals. C.J. Harvey, M. Teng, J. Horecka, U. Schlecht, C. Fischer, M. Miranda, J. Cherry, R. Davis, R. St. Onge, Y. Tang, M. Hillenmeyer

## Section E

InterContinental San Francisco  
InterContinental B

## Downstream Processes

## Automated Technologies &amp; High Throughput Systems in Biologics Production

R. Barros, V. Natarajan, N. Tugcu, *Organizers*

M. Ottens, J. Pollard, *Presiding*

**8:30 BIOT 181.** Overcoming limitations of high throughput scale chromatography columns to facilitate the evaluation of extended resin lifetime. C. Andersen, G. Bolton, H. Hoang

**8:50 BIOT 182.** High throughput process development application in the DoE study of insulin analog capture step. S. Liao, D. Wu, B. Wang

**9:10 BIOT 183.** Integration of downstream platform development into a single 96-well filter plate for ultra-rapid process definition. R. Gillespie, M. McClure, S. Freeman, L. Connell-Crowley

**9:30 BIOT 184.** Development of a high-throughput microscale cell disruption platform for *Pichia pastoris* in rapid fermentation process design. B. Blaha, T. Mukhopadhyay

**9:50** Intermission.

**10:10 BIOT 185.** Miniaturized techniques for high throughput biopurification process development. M. Ottens

**10:30 BIOT 186.** Rapid determination of partition coefficients of biomolecules in a microfluidic ATPS platform using fluorescence microscopy. R. Aires-Barros, D. Silva, A. Azevedo, P. Fernandes, V. Chu, J. Conde

**10:50 BIOT 187.** Utilizing fluidized bed resin tips for high-throughput clarification and capture. M. Rauscher, J. Pollard, J.P. Welsh, M. Manahan, N. Tugcu

**11:10 BIOT 188.** Integrated precipitation and periodic counter-current chromatography process. S. Grosshans, G. Wang, P. Baumann, J. Hubbuch

## Section F

InterContinental San Francisco  
Sutter

## Emerging Technologies

## New Tools &amp; Approaches: Molecular &amp; Biochemical Technologies

Y. Y. Chen, Y. Kim, L. Morsut, J. P. Pieracci, *Organizers*

L. Morsut, S. Ozturk, *Presiding*

**8:30 BIOT 189.** Rational design and study of polysialic acid-binding peptides. D. Shastry, P. Karande

**8:50 BIOT 190.** Enhancing the chemical versatility and throughput of yeast display. H.P. Kehoe, C.E. Ghadban, J.T. Stieglitz, L.B. Quinto, J.B. Lissos, J.A. Van Deventer

**9:10 BIOT 191.** Rewiring genome structure with programmable CRISPR-Cas tools to physically reposition genes. J. Zalatan

**9:30 BIOT 192.** Controlled protein degradation for the conditional survival of cancer suicide enzymes. A. Gaynor, W. Chen

**9:50** Intermission.

**10:10 BIOT 193.** High throughput analysis of the antibody specificity repertoire for antigen identification and diagnostic applications. J. Bozekowski, M.L. Paull, P. Daugherty

**10:30 BIOT 194.** Covalent trapping reveal that phosphorylated EGFR oligomers activate Ras more potently than dimers. Z. Gartner, S. Liang, D. Patterson

**10:50 BIOT 195.** Accelerated biomolecular kinetics revealed by microdroplet fusion mass spectrometry. J. Lee, H. Nam, R.N. Zare

**11:10 BIOT 196.** Highly sensitive and selective peptide-based fluorescent probe for Endoplasmic Reticulum Aminopeptidase Associated with Antigen Processing (ERAAP). J. Zhang, S. Yang, F. Gonzalez, N. Shastri, N. Murthy

## Section G

InterContinental San Francisco  
Grand Ballroom B/C

## W. H. Peterson Awards &amp; BIOT Young Investigator Award

M. A. O'Malley, T. M. Przybycien, V. Roy, *Organizers, Presiding*

**11:30 BIOT 197.** Repurposing ribosomes for synthetic biology. M.C. Jewett

## Cellulose Structure &amp; Biosynthesis

## Biochemistry &amp; Cellular Biology

*Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL*

## Kathryn C. Hach Award for Entrepreneurial Success: Symposium in honor of David R. Walt

*Sponsored by ANYL, Cosponsored by BIOT*

## TUESDAY AFTERNOON

## Section A

InterContinental San Francisco  
Grand Ballroom A

## Upstream Processes

## Metabolic Engineering &amp; Synthetic Biology

N. Agarwal, I. R. Wheeldon, I. Yuk, *Organizers*  
J. Latone, T. J. Mansell, *Presiding*

**2:00 BIOT 198.** Engineering and modeling of a modular, motility-based biosensor system in *Escherichia coli*. J. Ravichandar, A. Bower, A. Julius, C.H. Collins

**2:20 BIOT 199.** Development and demonstration of a robust and scalable two-stage fermentation system for enhanced bioproduction. Z. Ye, M. Lynch

**2:40 BIOT 200.** Exploring chemodiversity in metabolism towards the integration of chemistry into biology. J. Hafner, N. Hadadi, V. Hatzimanikatis

**3:00 BIOT 201.** Metabolic engineering of bacteria for production of oleochemicals. N. Hernandez, M.J. Grisewood, C. Maranas, B. Pfeleger

**3:20** Intermission.

**3:40 BIOT 202.** Metabolic flux analysis of bacteria producing a non-specific antivenom. I. Sawaya, C.F. Komives

**4:00 BIOT 203.** Genetic system for regulatory sRNA retargeting and scaffold optimization: Metabolic engineering applications. **R.A. Lease**, A. Lahiry, S.D. Stimple, D.W. Wood

**4:20 BIOT 204.** Systems biology approaches for engineering microbial biocatalysts. **J. Reed**

## Section B

InterContinental San Francisco  
InterContinental C

### Downstream Processes

#### Antibodies, Drug Conjugates & Novel Formats

R. Barros, V. Natarajan, N. Tugcu, *Organizers*  
A. Ladiwala, M. A. Rito Palomares, N. Sanaie, *Presiding*

**2:00 BIOT 205.** Development of adsorptive hybrid filters to enable two-step purification of biologics. **A. Arunkumar**, N. Singh, M. Peck, A. Voloshin

**2:20 BIOT 206.** Process development for the enzyme-mediated manufacture of site-specific ADCs for early clinical trials. **B. Notting**

**2:40 BIOT 207.** Optimization of process parameters for viral filtration of therapeutic monoclonal antibodies. **H. Tjandra**, R. Zolyomi, G. Prakash, D. Surendar, K. Shill, Y. Chang, X. Pan, T. Luong, A. Hesselein

**3:00 BIOT 208.** Innovative Hydrophobic Interaction Chromatography (HIC) resins for next generation molecule challenges. **O. Terova**

**3:20 Intermission.**

**3:40 BIOT 209.** High resolution experimental design to study antibody-drug conjugation process robustness. **B. Sackett**, T. Peram, J. Franklin

**4:00 BIOT 210.** Direct demonstration of scalability of virus removal filter performance. **B. Buesing**, D. Strauss, A.H. Schwartz, T. Miyabayashi, N. Hirotoimi

**4:20 BIOT 211.** Platform approach to purification of albumin-fusion proteins. **T.M. Pabst**, C. Thompson, M. Fonseca, A.K. Hunter, X. Wang, L. Tie

**4:40 BIOT 212.** Protein A chromatography as capture step for antibody fragments: Mechanism of interaction and case study. **G. Platteau**, G. Ströhlein, B. Van der Jeugt, G. Lissens, V. Gaspariunaite, S. Muylderms, C. Vincke, Y. Sterckx

## Section C

InterContinental San Francisco  
Union Square

### Biophysical & Biomolecular Processes

#### Protein Interactions & Interfaces

J. Moore, J. A. Van Deventer, *Organizers*  
S. Kumar, P. Tamamis, *Presiding*

**2:00 BIOT 213.** Toolbox of experimental and *in silico* methods to predict protein long-term stability. **M. Schermeyer**, P. Baumann, J. Hubbuch

**2:20 BIOT 214.** Predicting the structure and orientation of adsorbed peptides with molecular simulations. **K. Sprenger**, T. Weidner, F. Baneyx, J. Pfaendtner

**2:40 BIOT 215.** Coupling experiment and modeling to understand peptide capture agent specificity for similar protein targets. **D.A. Sarkes**, M. Hurley, D.N. Stratis-Cullum

**3:00 BIOT 216.** Aggregation kinetics for IgG1-based monoclonal antibody therapeutics. **R. Bansal**, A. Singla, V. Joshi, A.S. Rathore

**3:20 Intermission.**

**3:40 BIOT 217.** Extractables studies on single-use components in the manufacture of Antibody Drug Conjugates (ADCs). **K. Isaksson**, S. Burke, A. Graanberg, F. Lundstrom

**4:00 BIOT 218.** Site-selective approach for DNA directed immobilization of enzymes via oxidative coupling. **T. Hurlburt**, K. Palla, M.B. Francis, G.A. Somorjai

**4:20 BIOT 219.** Noncovalent modulation of protein energy landscapes with an emerging class of cyclic-peptide chaperones. **D.N. Bunck**, B. Atsavaprannee, K. Museth, J.R. Heath

**4:40 BIOT 220.** Enzyme-Polymer conjugates. Improving the activity of cellulase for biofuel applications. **D. Konkolewicz**, R.C. Page, M. Lucius, T. Wright, H. Fischesser, J. Shepherd, J. Stewart

## Section D

InterContinental San Francisco  
Telegraph Hill

### Bio-Based Products

#### Synthesis in Space

M. R. Antoniewicz, C. A. Eckert, G. Sriram, *Organizers*

M. A. Blenner, M. Roberts, *Presiding*

**2:00 BIOT 221.** Bio-based synthesis on the International Space Station U.S. National Lab. **M. Roberts**

**2:20 BIOT 222.** Materials processing on the International Space Station and enabling long-term industry access to low Earth orbit. **J.A. Robinson**, K. Costello

**2:40 BIOT 223.** Microgravity biologics crystallization processes. **P. Reichert**

**3:00 BIOT 224.** X-ray and neutron crystallographic structures of Inorganic pyrophosphatase determined from microgravity-grown crystals. **J.D. Ng**, J.M. Garcia-Ruiz

**3:20 Intermission.**

**3:40 BIOT 225.** Methane metabolism by yeast for solar system exploration. **A. Rahman**, M.J. Dougherty, J.A. Hogan, **J.M. Galazka**

**4:00 BIOT 226.** Synthetic biology for recycling human waste into nutraceuticals and materials. **D. Gao**, M. Spagnuolo, G. Rodriguez, M. Brabender, K. Scola, **M.A. Blenner**

**4:20 BIOT 227.** Engineering cyanobacteria for the conversion of CO<sub>2</sub> to lightweight materials. **F. Zhang**, S. Rommelfanger, Y. Xiao

**4:40 Panel Discussion.**

## Section E

InterContinental San Francisco  
Sutter

### Emerging Technologies

### Precision Medicine: Biomarkers & Targeted Therapeutics

Y. Y. Chen, B. Hackel, Y. Kim, J. P. Pieracci, *Organizers*

D. Liu, C. Pirie, *Presiding*

**2:00 BIOT 228.** Designing targeted therapeutics to interrogate intracellular tumor antigens. **P. Ho**, C. Ede, Y.Y. Chen

**2:20 BIOT 229.** Prodrug activation controlled by Boolean logic-gated nucleic acid strand displacement inside live cancer cells. **R.P. Chen**, W. Chen

**2:40 BIOT 230.** MicroRNA-Triggered dCas9 binding to a molecular beacon for cancer detection. **L. Dorsey**, R.P. Chen, W. Chen

**3:00 BIOT 231.** Raman molecular urinalysis. **R.S. Senger**, J. Robertson

**3:20 Intermission.**

**3:40 BIOT 232.** Volatile organic compounds in breath associated with hypoglycemia in type 1 diabetes. **A. Siegel**, A. Daneshkhalah, D.S. Hardin, K. Varathramyan, M. Agarwal

**4:00 BIOT 233.** Human *in vivo* nanoparticle protein corona in ovarian carcinoma patients: A novel tool for biomarker discovery. **M. Hadjidemetriou**, K. Kostarelou

**4:20 BIOT 234.** Rotaxane probes for applications in molecular detection with Xe hyperCEST NMR. **J. Finbloom**, C.C. Slack, C.J. Bruns, K. Jeong, D.E. Wemmer, A. Pines, M.B. Francis

**4:40 BIOT 235.** Regulating immune tolerance using quantum dots to track and control the density of self-antigen display. **K.L. Hess**, E. Oh, I. Medintz, **C. Jewell**

## TUESDAY EVENING

### Section A

Moscone Center  
West Hall

#### Poster Session

N. U. Nair, K. Solomon, *Organizers*

**6:00 - 8:00**

**BIOT 236.** *In vitro* evaluation of folic acid-conjugated redox-responsive mesoporous silica nanoparticles for the delivery of cisplatin. **M.P. Alvarez**, J.L. Vivero-Escoto

**BIOT 237.** Nonviral genome editing based on a CRISPR nanocomplex for target-specific treatment of multidrug-resistant bacterial infections. **Y. Kang**, H. Chung

**BIOT 238.** New effective washing step in protein A purification. **O. Jensen**, P. Kærsgaard

**BIOT 239.** Characterization and kinetics of fragmentation in IgG1 based monoclonal antibody products. **R. Bansal**, S. R., N. Chhabra, A.S. Rathore

**BIOT 240.** Bioinspired dual-cross-linked tough protein hydrogel as a catalytic matrix for CO<sub>2</sub> sequestration. **C. Kim**, Y. Yang, H.J. Cha

**BIOT 241.** Optimizing expression of tissue-type plasminogen activator in *E.coli*. **O. Vega**, V. Torres Irizarry, V. Rodriguez Torres, S. Chattopadhyay, **V. Bansal**

**BIOT 242.** siRNA Delivery with hybrid collagen/cell penetrating peptide carriers. **A. Gamboa**, K. Slowinska

**BIOT 243.** Investigating and understanding process improvements for transient production of virus like particles in HEK 293 cells. **D.J. Blackstock**, P. Chen, P. Biswas, J. Horwitz, R. Schwartz

**BIOT 244.** Cytotoxicity and acute toxicity studies of imidazolium-based ionic liquids. **W. Han**, Q. Chang, L. Li, B. Zhong, K. Yeung

**BIOT 245.** Production of jet fuel precursor monoterpeneoids from engineered *Escherichia coli*. **D. Mendez-Perez**, J. Alonso-Gutierrez, Q. Hu, M. Molinas, E. Baidoo, G. Wang, L. Chan, C.J. Petzold, P.D. Adams, J.D. Keasling, T. Lee

**BIOT 246.** Impact of feed composition on protein A chromatography lifetime and residual foulants. **D.G. Bracewell**, K. Lintern, M. Pathak, A.S. Rathore

**BIOT 247.** Conversion of biomass to value-added bioproducts by enzyme nanoassemblies. **C. Lee**, R. Kibblewhite, K.C. Wagschal

**BIOT 248.** Enhanced galactosylation of a monoclonal antibody. **R. Anderson**, L. Hock, **S. Ozturk**, J. Yan

**BIOT 249.** Silica shell/adhesive composite film for color Doppler ultrasound guided needle placement. **T. Sung**, J. Yang, J. Wang, E. Ward, N. Mendez, C. Barback, S. Blair, A. Kummel, W.C. Trogler

**BIOT 250.** Investigation into thermodynamic binding mechanisms of protein-ligand interactions in MM chromatography using surface plasmon resonance. **R.B. Gudhka**, S. Ranjan, S. Banerjee, S.M. Cramer

**BIOT 251.** Achieving desired monoclonal antibody product quality attributes through cell culture process manipulations. **M. Leith**, A. Chen

**BIOT 252.** Coarse grained model development of enzymatic lignocellulosic biomass degradation by fungal cellulosomes. **S. Wilken**, M.A. O'Malley

**BIOT 253.** Defining important protein surface property clusters to predict retention in multimodal chromatography systems. **J. Robinson**, C. Blodeau, S.M. Cramer

**BIOT 254.** Withdrawn.

**BIOT 255.** mAb Aggregate removal using flow through chromatography on fractogel. **M. Dillingham**, O. Jensen, N. Laroudie

**BIOT 256.** Enzymatic synthesis of DNA-RNA nanoparticles for efficient siRNA delivery. **L. Jae Sung**, J. Lee, **D. Kim**

**BIOT 257.** Rapid, integrated purification process development for non-mAb biologics with variant challenges. **C. Goodwine**, S. Timmick, N. Vecchiarelli, S.M. Cramer

**BIOT 258.** Identifying and characterizing the secondary metabolites of anaerobic fungi. **C. Swift**, M.A. O'Malley, K. Louie, **T. Northern**

**BIOT 259.** *In silico* process design tool for rapid identification of orthogonally selective multimodal chromatographic materials for HCP removal. **N. Vecchiarelli**, S. Timmick, C. Goodwine, S.M. Cramer

**BIOT 260.** Developing computational tools for understanding and predicting protein retention behavior in multimodal chromatographic systems. **C. Blodeau**, S. Banerjee, S. Garde, S.M. Cramer

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- BIOT 261.** Process analytical technology for the rapid quantitation of underivatized amino acids in bioreactor media by mass spectrometry. **D.N. Powers, C. Agarabi**
- BIOT 262.** Feasibility of formulating a highly concentrated monoclonal antibody (mAb) into a buffer-free solution using tangential flow filtration (TFF). **W. Chang, D. Chen, D. Laikijung, X. Xin**
- BIOT 263.** Co-expression of Bacterial Microcompartment (BMC) shell proteins shield toxicity of lysis protein E from bacteriophage  $\Phi$ X174 during recombinant expression in *E. coli*. **M.C. Yung, F. Bourguet, T. Carpenter, M. Coleman**
- BIOT 264.** Mycoplasma clearance and risk analysis in a model bioprocess. **J. Wang, M. Brown, A. Dabrazhynetskaya, V. Chizhikov, K.A. Brorson**
- BIOT 265.** Robust viral clearance on virus removal filters using a targeted virus spiking approach. **E. Vyas, N. Takahashi, M. Burnham, P. Nemitz, D. Strauss, N. Hiroto**
- BIOT 266.** Combinatorial strategies for optimizing polyketide production in *Saccharomyces cerevisiae*. **T. McTaggart, N.A. Da Silva**
- BIOT 267.** Combinatorial engineering of the mevalonic acid pathway for optimization of valerenol-1,10-diene production. **J. Tran, J. Lamberts, S.P. McCormick, E. Nybo**
- BIOT 268.** Combinatorial enzymatic synthesis of lipid A analogs. **K. Sankar, C. Khosla**
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- BIOT 435.** Designing robust virus filtration processes to maximize operational flexibility while achieving small virus removal. **B. Buesing,** T. Hongo-Hirasaki, M. Inouye, D. Strauss, A.H. Schwartz, N. Hiroto, T. Miyabayashi
- BIOT 436.** Impact of an iron contaminant and its removal during downstream processing. **M. McClure,** S. Freeman, R. McCoy, B. Dell, D. Leiske, A. Gillespie, L. Connell-Crowley
- BIOT 437.** Cyanobacterial genome-scale carbon mapping models for genome-scale 13C-metabolic flux elucidation. **S. Gopalakrishnan,** C. Maranas
- BIOT 438.** Discovery, characterization and applications of a novel extremozymes from the deep Red-Sea brine pools. **S. Grötzinger,** A.L. Akal, M. Vogler, R. Karan, **J. Eppinger**
- BIOT 439.** Peptide-conjugated smart biopolymers for the purification of therapeutic proteins by affinity precipitation. **A. Mullerpatan,** E. Kane, D. Chandra, P. Karande, S.M. Cramer
- BIOT 440.** Alteration of bacterial surface protein architectures for guided assembly of cell populations. **J. Terrell,** H. Dong, M.C. Small, D.A. Sarkes, J. Jahnke, M. Hurley, W.E. Bentley, D.N. Stratis-Cullum
- BIOT 441.** Withdrawn.
- BIOT 442.** Integrated continuous protein A capture chromatography: Lean development approach. **R. Rodrigues,** H. Thuer, L.W. Pampal, J. Shultz
- BIOT 443.** Combined electrophoretic and light scattering approach to elucidate the molecular origin of reverse Hofmeister series effects on protein solutions. **R. Curtis,** M. Nuhu, A. Alfutimie, D. Kovacevic
- BIOT 444.** Systematic development of direct photosynthetic succinate production from CO<sub>2</sub>. **E.I. Lan,** C.T. Wei
- BIOT 445.** Analytical characterization and establishing comparability of IgG1-based monoclonal antibody. **N. Nupur,** N. Chhabra, R. Dash, A.S. Rathore
- BIOT 446.** Production of formate from carbon monoxide-containing waste gas using homoacetogenic bacteria as whole cell biocatalyst. **H. Hwang**
- BIOT 447.** Separation by intrinsic magnetic susceptibility differences in cells. **K. Park,** T. Testoff, J. Adams, M. Venere, M. Zborowski, J. Chalmers
- BIOT 448.** Process optimization for high cell density cultivations in cell culture-based viral vaccine production. **Y. Wu,** X. Liu, L. Zhao, Q. Ye, W. Peng, W. Dai, K. Hu, W. Tan
- BIOT 449.** Removal of organic acids from bio-oils by catalytic esterification. **J. Li,** T. An, X. Bao, H. Liu
- BIOT 450.** Peptide array and SAMDI mass spectrometry for profiling protein activities in cell lysates. **H. Kuo,** T. DeLuca, W.M. Miller, M. Mrksich
- BIOT 451.** Fundamental toolbox for protein A resin characterization and link to application efficiency. **O. Rammo,** P. Menstell, B. Edelmann, R. Skudas
- BIOT 452.** Tuning high mannose glycan levels of therapeutic proteins via CHO cell culture media supplementation. **J. Wang,** X. Chen, C. Wang, L. Zhao, W. Tan, L. Fan
- BIOT 453.** Case analysis of orthogonal, sterile antibody purification platform. **R. Skudas,** O. Rammo, P. Menstell
- BIOT 454.** Combining Rh-catalyzed diazo-coupling and enzymatic reduction to efficiently synthesize enantioenriched 2-substituted succinate derivatives. **Y. Wang,** M.J. Bartlett, C. Denard, J.F. Hartwig, H. Zhao
- BIOT 455.** Ion-Specificity on reponsive hydrophobic interaction chromatography. **X. Sun,** X. Qian
- BIOT 456.** Rapid and reliable analytical RP HPLC for high-throughput insulin process development. **A. Stein,** A. Heinen-Kreuzig, A. Kiesewetter
- BIOT 457.** Case Study: Expedited development of a cation exchange polishing step for therapeutic monoclonal antibody purification using a miniaturized high-throughput approach. **X. Pan,** D. Surendar, Y. Chang, R. Zolyomi, H. Tjandra, A. Hesselstein
- BIOT 458.** Tracking the delivery of silver to bacteria. **M.N. Pinto,** I. Chakraborty, W. Schultz-simonton, M. Rojas-Andrade, P. Mascharak
- BIOT 459.** Accelerated generation of high-yielding monoclonal stable CHO cell lines using a ClonePix-based cell line development platform. **K. Agarwal,** M. Kachole, A. McKenzie, J.G. Smedley, A. Shukla, A. Hussain
- BIOT 460.** Scalability of cell culture processes in single-use bioreactors using different CHO cells line variants. **N. Bubna,** C. Phillips, S.S. Mostafa, A. Shukla
- BIOT 461.** Systems biology approaches to omics data analysis in complex diseases. **R. Hajjo,** C. Willis
- BIOT 462.** High-throughput screening of hydrolytic enzyme activity via wireless antennas with embedded (bio)-logic. **N.F. Reuel**
- BIOT 463.** Using co-dominant negative recA to enhance CRISPR/Cas9-mediated recombineering. **E. Moreb,** M. Lynch
- BIOT 464.** Novel clinically-relevant nanoscale probes for optical cell labelling and tracking. **D. Jasim,** K. Kostarelos
- BIOT 465.** Molecular mechanisms of ion transport in a soy protein-based solid ion conductor. **J. Liu,** Y. Jewel, X. Fu, Y. Wang, W. Zhong
- BIOT 466.** Refractive Index as part of a feedback control scheme to better control tangential flow filtration operations. **Y. Lam,** M. Westoby
- BIOT 467.** Cell-selective proteomic analysis of host-microbe interactions using Bio-orthogonal Noncanonical Amino Acid Tagging (BONCAT). **S. Stone,** J. Shon, A. Khosravi, M. Sweredoski, A. Moradian, S. Hess, S. Mazmanian, D.A. Tirrell
- BIOT 468.** Withdrawn.

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- BIOT 469.** Downstream processing development of *Nicotiana benthamiana* based recombinant butyrylcholinesterase. **S. Alkanaimsh**, J. Corbin, K. Karuppanan, M. Kalemia, C.B. Lebrilla, R. Rodriguez, S. Nandi, K. McDonald
- BIOT 470.** Harnessing intranodal vaccination to probe changes in local and systemic immunity. **J.I. Andorko**, J. Gammon, C. Jewell
- BIOT 471.** Process Analytical Technology (PAT) in continuous bioprocessing. **E. Btonjic-Sehic**
- BIOT 472.** Reverse hairpin beacon based positive SERS assay for influenza virus detection. **K. Jisun**, E. Jiang, S. Han, J. Kim, Y. Huh, S. Haam
- BIOT 473.** Withdrawn.
- BIOT 474.** Process economy improvements with in-line conditioning using ready-made stock solutions in a mAb case study. **M. Hall**, K. Busson, T. Bjorkman
- BIOT 475.** Alpha helix stabilization for improving the subcutaneous bioavailability of a helical peptide. **L. Zhang**, T. Navaratna, G. Thurber
- BIOT 476.** Enabling Hyper-productive™ processing: Advances in a novel modular supported bed chromatography platform. **M. Siwak**, A. Nares, G. de los Reyes
- BIOT 477.** Single-molecule investigation of tau protein solution-phase conformations using the anti-Brownian electrokinetic (ABEL) trap. **L. Manger**, A. Foote, S. Wood, M.R. Holden, M. Margittai, R.H. Goldsmith
- BIOT 478.** Application of chlorine dioxide as a bactericide agent. **R. Moore**, B.G. Ooi
- BIOT 479.** Solid-state hydrogen-deuterium exchange mass spectrometry (ssHDX-MS) analysis of therapeutic fragment antigen-binding (Fab) protein formulations. **K. Balakrishna Chandrababu**, L. Kumar, B. Walters, D. Chang, P. Nayak, A. Allmendinger, I.E. Zarraga, E.M. Topp
- BIOT 480.** Computational Fluid Dynamics (CFD) modeling of axial and radial flow distribution and its impact on fouling in Hollow Fiber Tangential Flow (HFTF) and Alternating Flow (HFATF) microfiltration in perfusion bioreactor. **F. Radonjic**
- BIOT 481.** Nano-interface peptide affinity for amyloidogenic peptides. **K. Yokoyama**, P.J. Shevlin, K. Brown, M. Abdelmalik, A. Olatunbosun
- BIOT 482.** Probing the local electronic structure of dilute bioinorganic active sites using ultra-sensitive soft X-ray detectors. **C. Titus**, B.K. Alpert, M.L. Baker, H. Cho, E. Denison, W.B. Doriese, J.W. Fowler, K. Gaffney, B. Gao, J. Gard, G.C. Hilton, K.D. Irwin, Y.I. Joe, C. Kenney, J. Knight, T. Kroll, S. Lee, D. Li, M. Minitti, K. M. Morgan, R.A. Mori, D. Nordlund, G. O'Neil, H. Ogasawara, C. Reintsem, D. Schmidt, D. Sokaras, Y. Song, D.S. Swetz, J. Ullom, T. Weng, C. Williams, B.A. Young
- BIOT 483.** Engineering self-cleaving intein affinity tags for bioseparations using yeast surface display. **S.D. Stimple**, M.J. Coolbaugh, Y. Fan, J. Westfall, D.W. Wood
- BIOT 484.** Late-phase process improvement: Methods to increase titer while maintaining product quality. **M. Bennett**
- BIOT 485.** Translation initiation is controlled by RNA folding kinetics via a ribosome drafting mechanism. **A. Espah Borujeni**, A. Reis, **H. Salis**
- BIOT 486.** Full factorial analyses via novel high-throughput microculture platform reveal numerous interactions among stimuli within adult hippocampal neural stem cell niche. **R. Muckom**, S.K. McFarland, B.C. Perea, A. Rosenbloom, M. Gentes, D.S. Clark, D.V. Schaffer
- BIOT 487.** Kinetic modeling approach for media formulation optimization in mammalian CHO cell-cultures. **H. Bhatia**, S. Yoon
- BIOT 488.** Systems engineering of N-glycans for the production of recombinant proteins in mammalian cells. **T. Le**, **C. Stach**, M. McCann, S. O'Brien, X. Chen, L. Zhao, M. Smanski, W. Hu
- BIOT 489.** Overcoming the challenges of moving from hydrolysate-containing media to chemically defined media for a high cell density perfusion cell culture process. **R. Chelikani**, F.H. Bacon, H. Yuan
- BIOT 490.** Precise engineering of regulated mammalian gene expression through core promoter choice. **C. Ede**, Y.Y. Chen, X. Chen, M. Lin
- BIOT 491.** Functionalization of graphene by using protein engineering. **A. Tyagi**, I.H. Abidi, Z. Luo
- BIOT 492.** Fabrication of S-Adenosyl Methionine (SAM) biosensor via engineered virus like particles. **N. Bhokisham**, Y. Liu, A. Brown, G.F. Payne, J.N. Culver, W.E. Bentley
- BIOT 493.** Novel clone selection technique reveals heterogeneity among HEK293T cells engineered to produce therapeutic extracellular vesicles. **P. Amaya**, M. Phelps, T. Schmittgen, J. Chalmers
- BIOT 494.** Inducing cell death in cancer cells by targeted cytochrome c delivery via transferrin-cytochrome c conjugate. **M. Saxena**, Y. Delgado, R.K. Sharma, S. Sharma, S. Ponce De Leon Guzman, A.D. Tinoco, K. Griebenow
- BIOT 495.** Template assisted and continuous crystallisation: Control of polymorphs, protein crystallisation and bioseparation. **H. Yang**, **J. Heng**
- BIOT 496.** Novel stereoselective alcohol dehydrogenases from red-sea brine pools. **A.L. Akal**, **S. Grötzinger**, J. Eppinger
- BIOT 497.** Development of Streptomyces sp. FR-008 as a promising chassis. **Q. Liu**
- BIOT 498.** Choosing the right protein A affinity chromatography column can improve the process performance. **N. Yoshimoto**, **S. Yamamoto**
- BIOT 499.** Demonstration of a highly productive and scalable continuous chromatography approach. **X. Gjoka**, **R. Gantier**, **M. Schofield**
- BIOT 500.** TFF Optimization for small molecule processing. **E. Peterson**
- BIOT 501.** Mussel protein-based injectable porous microspheres for *in situ* cell delivery. **Y. Jo**, K. Min, D. Kim, B. Kim, D. Kim, H.J. Cha
- BIOT 502.** Peptoid-based microsphere-coated slides have increased performance in ELISA microarray. **S.L. Servoss**, G. Perez, B. Colford
- BIOT 503.** Predicting and understanding aggregation of antibody therapeutics at air-water interfaces. **I. Shieh**, D. Leiske, A. Patel
- BIOT 504.** Exploiting yeast glucan micro-particles for immune cells and tissue targeting. **I. Salon**, A. Bajgar, F. Stepanek
- BIOT 505.** Molecular assay for rapid detection of nuclear factor Kappa B. **Z. Wang**
- BIOT 506.** Isolation of live CTCs for downstream analysis using the MagSifter™: Rare cell isolation device. **M.B. Kerby**, K. Ziv
- BIOT 507.** Extraordinary urinary excretion of thin graphene oxide sheets following intravenous administration and short circulation in blood. **D. Jasim**, K. Kostarelos
- BIOT 508.** Withdrawn.
- BIOT 509.** Applications of high throughput screening in the process development for monoclonal antibody purification. **T. Zhou**, X. Fu, Z. Zhang, L. Wang, M. Jin, J. Bock
- BIOT 510.** Rapid design of integrated, orthogonal downstream bioprocesses using characterization of process-related impurities and *in-silico* tools. **S. Timmick**, C. Goodwine, N. Vecchiarello, S.M. Cramer
- BIOT 511.** Withdrawn.
- BIOT 512.** Case-Study of qualifying a mammalian working cell bank for use in manufacturing of a commercial biologic. **P. Apostolidis**, L. Zhou, N. Patil, P. Thompson, M. Boyer, H. Graham, R. Bates
- BIOT 513.** Modulating biologic quality attributes by applying high-throughput technologies and advanced statistics for media and process optimization. **J. Tian**, C. Oliveira, S. Egan, Z. Tan, J. Chen, J. Lee, M.C. Borys, Z. Li
- BIOT 514.** Molecular dynamics simulations of organomimetic cluster nanomolecules. **P. Rehak**, Y. Han, P. Kral
- BIOT 515.** Phospho-proteomic and transcriptomic data for fungal cell-wall repair pathway reveal new functionality. **C. Chelius**, L. Ribeiro, J. Kumar, S. Lincoln, R. Srivastava, S. Harris, M. Marten
- BIOT 516.** Metabolic modeling of a multicellular nitrogen fixing cyanobacterium. **J. Gardner**, N.R. Boyle
- BIOT 517.** Factors impacting filterability during primary clarification of monoclonal antibodies. **A.M. Senczuk**, **J. Basha**, A. Lee, J. Salm
- BIOT 518.** Process intensification benefits and PAT in continuous chromatography. **H. Blom**, B. Westerlund, A. Almén, T. Bjorkman
- BIOT 519.** Morphing the pepto-type: Translation of IgG-binding peptides into their peptoid analogues. **H. Reese**, S. Menegatti
- BIOT 520.** Improving protein A performance using chromatographic clarification strategy. **A. Voloshin**, B. Cope, T. Hill, M. Murray, J. Peart, M. Richardson
- BIOT 521.** Bringing down the cost of MAb purification with novel resin designs. **H.J. Johansson**, P. Gilbert
- BIOT 522.** When DoE fails: Mechanistic modeling for chromatographic manufacturability. **T. Hahn**, T. Huuk, T. Beck, J. Hubbuch
- BIOT 523.** Design of ligand and solid support for high capacity protein A resin. **D. Jansson**, J.U. Hansson, B. Noren, I. Ekling, J. Vasic
- BIOT 524.** Harnessing the intramolecular electrons of enzymes: An alternative pathway to enzymatic fuel cells. **C. Ji**
- BIOT 525.** Integrated product removal of terpenoids with direct adsorption and membrane-assisted extraction. **L. Janoschek**, L. Grozdev, S. Berensmeier
- BIOT 526.** Preferential crystallization for the purification of highly similar polyphenols. **M. Silva**, B. Vieira, M. Ottens
- BIOT 527.** High-throughput screen for compounds that block aberrant protein aggregation using a fluorescent bacterial display system. **J.J. Love**, M. Ko
- BIOT 528.** Investigating hydrodynamics in expanded bed adsorption systems using multiphase computational fluid dynamics. **V. Koppejan**, G. Ferreira, D. Lin, H. Wang, M. Ottens
- BIOT 529.** DOPA redox regulation strategy of mussel adhesion using plaque foot proteins. **M. Shin**, B. Yang, H.J. Cha
- BIOT 530.** Withdrawn.
- BIOT 531.** Synthesis and use of dendronized HIC supports for the recovery of proteins. **M. Mata-Gómez**, J.A. Valencia-Gallegos, M.A. Rito Palomares, **J. González-Valdez**
- BIOT 532.** Study of alpha casein potential as anticancer drug and development of a nano-sized targeted drug delivery system. **V.C. Barcelo Bovea**, E.N. Saladini-Alvarado, L.J. Delinois, F.M. Joaquin, Y. Delgado, K. Griebenow
- BIOT 533.** Withdrawn.
- BIOT 534.** Chromatographic process development for complex biological feedstocks. **S. Pirrung**, M. D. Pons Royo, D. Parruca da Cruz, L.A. van der Wielen, R.F. van Beckhoven, M. Eppink, M. Ottens
- BIOT 535.** Role of disulfide bonding in protein aggregation. **L.E. Hanzly**, J.R. Barone
- BIOT 536.** Effect of ionomer rigidity on the complex formation with block-cationer and RNAs. **K. Hayashi**, S. Fukushima, H. Takemoto, K. Osada, N. Nishiyama, K. Miyata, K. Kataoka
- BIOT 537.** Prediction of subsequent centrifuge problems by analyzing clean-in-place data. **L. Xu**, J. Erickson
- BIOT 538.** CFD of mixing of multi-phase flow in a bioreactor using population balance model. **L. Kanwar**, A.S. Rathore, J. Sarkar, V. Loomba
- BIOT 539.** Focused library approach to discover discrete dipeptide bolaamphiphiles for siRNA delivery. **A. Eldredge**, M. Johnson, N.J. Oldenhus, Z. Guan
- BIOT 540.** Discretized multi-level elution trajectories for preparative chromatography. **A. Sellberg**, N. Andersson, A. Holmqvist, B. Nilsson

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)



**BIOT 541.** Development of a high-throughput immunofluorescence assay platform using a DNA-encoded streptavidin library for the rapid evaluation of protein-catalyzed capture agents. **A. McCarthy**, J. Kim, R. Henning, A. Mishra, R. Ng, A. Museth, J. Heath, E. Winslow, J. Oh, J.R. Heath

**BIOT 542.** Biolayer Interferometry using Fortebio™ Octet® for monitoring antigenicity of ENVs to guide process development. **N. Oien**, L.S. Wolfe, J. Devaney, C. Cameron, B.C. Peacor, J.G. Smedley, A. Shukla

**BIOT 543.** Strategies for increasing *Saccharomyces cerevisiae* tolerance to medium-chain fatty acids. **P.B. Botero Besada-Lombana**, N.A. Da Silva

**BIOT 544.** Investigating protein throughput, v<sub>max</sub> values and virus removal efficiency of the paper based mille-feuille filter. **S. Gustafsson**, A. Mharyan

**BIOT 545.** Withdrawn.

**BIOT 546.** Economic benefits of membrane chromatography versus packed bed column purification of therapeutic proteins expressed in microbial and mammalian hosts. **M. Kumar**, M. Thukkaram, R. Mendhe, A.S. Rathore

**BIOT 547.** Withdrawn.

**BIOT 548.** Fluorescent turn-on probes for wash-free mRNA imaging via covalent site-specific enzymatic labeling. **E.C. Zhou**, S. Alexander, N.K. Devaraj

**BIOT 549.** Colorimetric and fluorescence based Aptasensors for the determination of hepatitis B e antigen. **R. Huang**, N. He

**BIOT 550.** Stress sensitivity toolkit with spectroscopic characterization for development of robust biologic drug products. **M.E. Krause**, J.M. Wasyluk, D. Fichana, A.S. Narang, S. Deshmukh, N. Chennamsetty, M.L. Adams, R.B. Gandhi

**BIOT 551.** Domain based understanding of activity and thermal stability. **S. Kang**, Y.J. Yoo

**BIOT 552.** Engineering the pH optimum of hyaluronidase for improved targeting of hyaluronan overexpressing pancreatic tumors. **J. Hennigan**, M. Lynch

**BIOT 553.** Influence of the architecture of chromatographic media on protein adsorption. **S.H. Koshari**, Y. Liu, N.J. Wagner, A.M. Lenhoff

**BIOT 554.** Lipid-polymer hybrid nanoparticles: Photoacoustic imaging applied to ovarian cancer diagnosis. **C. Chen**, J. Jockerst

**BIOT 555.** Optimization of structure of an aptamer discovered utilizing Ligand Guided Selection (LIGS) yields high affinity aptamer. **H.E. Zmurt**, S. Batool, N. Van, P. Mallikaratchy

**BIOT 556.** Bioconversion of butanal and 13C acetaldehyde conversion in three strains of yeast. **N.O. Flynn**, J. Alvarez

**BIOT 557.** Transcriptome analysis in high-producing CHO cell cultures: Strategies to design high-performing cell culture media. **A. Castan**, D. Reinhart, R. Kunert

**BIOT 558.** Investigating correlation between biolayer interferometry and biological assay for potency assessment of biotherapeutics. **D. Kumar**, S. Singh, A.S. Rathore

**BIOT 559.** Quality by Design (QbD) based process development for production of ranibizumab in *E. coli*. **D. Kumar**, J. Batra, J. Gomes, A.S. Rathore

**BIOT 560.** Setting new standards for cleaning and sanitization of Protein A chromatography resins. **M. Wetterhall**, S. Musunuri, A. Ljunglöf, T. Bjorkman, E. Monie, A. Mattsson, A. Grönberg

**BIOT 561.** Biological self-assembly for modularly modifying hepatitis B virus-like particles for cancer detection and treatment. **E. Hartzell**, H. Kim, W. Chen

**BIOT 562.** Evaluation of ligand design for downstream processes: Impacts of ligand structure on ion-exchange membrane performance. **J.K. Rasmussen**, C.A. Bothof, S. Colak Atan, G. Griesgraber, R.T. Fitzsimons, F. Sgolastra, A.W. Vail

**BIOT 563.** Withdrawn.

**BIOT 564.** Achieving desired product quality for a CHO-derived monoclonal antibody. **J. Lakkyreddy**, M. Gawlitzeck

**BIOT 565.** Molecular insight on the inhibition of rate limiting step of cholesterol synthesis: Comparison of binding efficiency of statins – a platform for the screening of novel molecules. **R. Jain**, U. Agarwal, S. Ayothiraman, T. Panda

**BIOT 566.** Optimization and integration of single-pass, continuous final formulation technologies for mAb purification. **B. Trafton**, J. Marshall, E. Ayurk

**BIOT 567.** Investigation into Host Cell Protein (HCP) - Monoclonal Antibody (mAb) interactions in downstream bioprocessing. **S. Ranjan**, W. Chung, J.S. Bee, R. Hofele, J. HeidbrinkThompson, M. Zhu, D. Robbins, S.M. Cramer

**BIOT 568.** Rapid fractionation of monoclonal antibody oxidation variants using laterally-fed membrane chromatography. **R.H. Sadavarte**, P. Madadkar, C. Filipe, R. Ghosh

**BIOT 569.** Effect of hydrophobicity on the ultrasound contrast of silica nanoparticles. **F. Chen**, J.V. Jockerst

**BIOT 570.** Automated and miniaturized ProteinA affinity resin lifetime optimization studies. **M. Geiss**, C. Atzkern, S.A. Oelmeier, D. Boeth

**BIOT 571.** Interactions in L-arginine solutions detected by proxy via relaxation dispersion NMR Spectroscopy of H/D Exchange at the ε-NH. **G. Khirich**, A. Nandy, J.C. Lin

**BIOT 572.** Withdrawn.

**BIOT 573.** Withdrawn.

**BIOT 574.** Maximizing the functional lifetime of Protein A resins. **J.Y. Zhang**, S. Ghose, R.S. Gronke, S. Siva

**BIOT 575.** Coenzyme engineering of NADP-dependent hyperthermophilic dehydrogenases toward small-size biomimetic coenzymes. **R. Huang**, Y. Zhang

**BIOT 576.** Domain insertion of a beta roll-forming peptide into a thermostable alcohol dehydrogenase gives rise to calcium-dependent cofactor specificity. **W. Abdallah**, K. Solanki, S. Banta

**BIOT 577.** Monitoring endogenous microRNA during adipogenesis via exocytosis-mediated signal secretion of liposomal probes. **S. Han**, B. Kang, E. Jang, J. Ki, M. Shin, H. Son, Y. Huh, S. Haam

**BIOT 578.** pDADMAC flocculation & clarification of CHO cell culture harvest. **A. Gupta**, J. Castano, K.M. Pizzelli, S. Ryan

**BIOT 579.** Advective flow membrane chromatography: Utilization of flow-through mode for scalable, single-use downstream mAb processing. **R. Overbeck**, X. Chen, M. Lin

**BIOT 580.** HP-β-cyclodextrin as an inhibitor of amyloid-β aggregation and toxicity. **B. Ren**, R. Hu, M. Zhang, H. Chen, F. Yang, K. Chu, J. Zheng

**BIOT 581.** Laser scanning confocal microscope as a tool for ligand density and protein binding estimation in affinity membranes. **J. Cruz-Lebron**, S. Yeldell, J. Sotero, V. Bansal, I. Dmoschowski, E. Fasoli

## Section B

InterContinental San Francisco  
Grand Ballroom B/C

### Alan S. Michaels Award in the Recovery of Biological Products

M. A. O'Malley, T. M. Przybycien, V. Roy, *Organizers, Presiding*

**5:00 BIOT 582.** Industrial perspective on applied science & engineering for biopharmaceutical process development. **B.D. Kelley**

## WEDNESDAY MORNING

### Section A

InterContinental San Francisco  
Grand Ballroom A

### Upstream Processes

### Systems Biology & Omics Applications

N. Agarwal, I. R. Wheeldon, I. Yuk, *Organizers*  
H. Le, N. E. Lewis, *Presiding*

**8:30 BIOT 583.** Assessing stability, chromatin accessibility and transcriptional activity of the Chinese hamster ovary cell genome. **A. Bandyopadhyay**, Z. Lee, C. O'Brien, M. McCann, S. O'Brien, W. Hu

**8:50 BIOT 584.** Lessons from the hamster: A combined omics approach to analyze CHO cell lines and *Cricetulus griseus* tissues. **K.M. Heffner**, M.J. Betenbaugh, D. BaycinHizal

**9:10 BIOT 585.** Insights into the protein secretory pathway in filamentous fungi using random and targeted mutational approaches. **K. Boppidi**, L. Ribeiro, N. Rogers, A. Ramsey, S. Nelson, S. Lincoln, R. Srivastava, S. Harris, M. Marten

**9:30 BIOT 586.** Proteomic and transcriptomic analysis reveals major metabolic shifts in cyanobacteria exposed to dynamic light environments. **S. Park**, B. Andersson, C. Shen, G. Peers, D.S. Dandy, **K.F. Reardon**

**9:50 Intermission.**

**10:10 BIOT 587.** Metabolic flux rewiring and physiology in *E. coli* knockout strains. **M.R. Antoniewicz**

**10:30 BIOT 588.** Development of a core model of CHO cell metabolism. **A. Richelle**, N.E. Lewis

**10:50 BIOT 589.** Kinetic modeling of metabolism in clostridia. **S. Dash**, A. Khodayari, G. Stephanopoulos, L.R. Lynd, C. Maranas

**11:10 BIOT 590.** On the shift-up to high lactate production in fed-batch culture of mammalian cells. **T. Le**, C. O'Brien, T. Phan, E. Liu, W. Hu

### Section B

InterContinental San Francisco  
InterContinental C

### Downstream Processes

### Vaccines, Gene Therapy Vectors, Cell Therapy, Stem Cell & Non-Protein Biological Products

M. Bakhshayeshi, R. Barros, V. Natarajan, A. Noyes, N. Tugcu, *Organizers*

M. Bakhshayeshi, A. Jungbauer, A. Noyes, *Presiding*

**8:30 BIOT 591.** Challenges and advances in live virus vaccine process development. **M. Wenger**, A. Kristopeit, S. Christanti, J. Konietzko, J. Ma, K. Phillips, J. Vlasak, S. Wang, M. Woodling, J.G. Joyce

**8:50 BIOT 592.** Recombinant prokaryotic lectins for affinity capture of HIV envelope proteins. **U. Bhaskar**, S.S. Mostafa, A. Shukla

**9:10 BIOT 593.** Manufacturing process development challenges for exosomes, a new therapeutic platform for the delivery of biomolecules. **A. Noyes**, R. Bourdeau, K. Konstantinov, M. Mercaldi

**9:30 BIOT 594.** Can oligonucleotide purification processes be improved to meet (or beat) future industry demands. **R.S. Gronke**, R. Joshi, K. Ruanjakaen, Y. Fillon, H. Nguyen, F. Antia

**9:50 Intermission.**

**10:10 BIOT 595.** Addressing the downstream challenges of viral therapy for cancer treatment – a study of rhabdoviral vector purification. **S. Shoaibargh**, M.F. Medina, A. Smith, J. Bell, B. Lichty, D.R. Latulippe

**10:30 BIOT 596.** High resolution separation of virus-like particles and extracellular particles by convective media. **P. Steppert**, N. Lendero, T. Schneider, P. Aguilar, A. Tover, **A. Jungbauer**

**10:50 BIOT 597.** Enabling technologies for efficient downstream processing of AAV viral vectors. **P. Hermans**

**11:10 BIOT 598.** Virus safety for vaccines, viral vectors, and cell based therapies. **D. Asher**, A. Boumlic, P. Pattnaik, M. Wisher

### Section C

InterContinental San Francisco  
Union Square

### Biophysical & Biomolecular Processes

### Protein Conjugates & Materials

S. Alavattam, J. Moore, J. A. Van Deventer, *Organizers*

S. Alavattam, G. Thurber, *Presiding*

**8:30 BIOT 599.** Modular design and functionalization of enzymatic hydrogels using a self-assembling protein building block. **S. Lim**, D.J. Glover, D.S. Clark

**8:50 BIOT 600.** Understanding water interactions at the biomolecule/surface interface through neutron reflectometry. **W. Fies**, L.J. Webb

**9:10 BIOT 601.** Microenvironment effect rather than proximity channeling causes the activity enhancement in enzyme cascade. **Y. Zhang**, H. Hess

**9:30 BIOT 602.** Ultra-Sensitive protein detection with nanoparticle-proximity ligation assay. **H. Chen**, M. Crum, H. Goux, D. Chavan, B. Vu, K. Kourentzi, R.C. Willson



9:50 Intermission.

**10:10 BIOT 603.** *In vivo* site-specific protein tagging with diverse amines using an engineered sortase variant. **J. Glasgow**, M.L. Salit, J.R. Cochran

**10:30 BIOT 604.** Design of double-click stabilized p53-like peptides with serum-independent on-target efficacy. **L. Atangcho**, E. Khera, G. Thurber

**10:50 BIOT 605.** Engineering complete *in vivo* synthesis of acylated proteins. **R. Menacho Melgar**, M. Lynch

**11:10 BIOT 606.** Engineered polyelectrolyte multilayers to promote immune tolerance. **L.H. Tostanoski**, M. Guo, W. Royal, C. Jewell

## Section D

InterContinental San Francisco  
Telegraph Hill

### Drug Product & Delivery

#### Devices & Biopharmaceutical Drug Delivery: Interactions & Strategies

T. Randolph, E. Sahin, *Organizers*

D. Doughty, C. Weikart, *Presiding*

**8:30 BIOT 607.** Enabling patient centric drug products through innovation in devices and drug delivery. **A. Subramony**

**9:10 BIOT 608.** Container-formulation interactions: A comparison of borosilicate glass vials and cyclic olefin polymer vials with novel silica-coated surfaces. **C.F. Chisholm**, J. Berggren, C. Weikart, T. Randolph

**9:30 BIOT 609.** Withdrawn.

9:50 Intermission.

**10:10 BIOT 610.** Paradigm shift: How a novel drug delivery technology can save formulation time and effort. **M. Huddleston**

**10:30 BIOT 611.** Withdrawn.

**10:50 BIOT 612.** Cellular migration, survival and gene expression on patterned collagen fibers. **M. Paukshto**

**11:10** Panel Discussion.

## Section E

InterContinental San Francisco  
InterContinental B

### Quality by Design

#### Case Studies on Product Understanding & Determination of Quality Attribute Criticality (CQAs)

J. Glassey, R. Godavarti, *Organizers*

M. Albarghouthi, P. Dalby, *Presiding*

**8:30 BIOT 613.** Perspectives on the impact of quality by design (after a decade in the making!). **B.D. Kelley**

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at:  
[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

**9:10 BIOT 614.** How to uncover critical quality attributes – Lessons learned applying CQA assessment tools to biologics. **N. Alt**, T.Y. Zhang, P. Motchnik, V. Quamby, T. Schlothauer, H. Beck, T. Emrich, R. Harris

**9:30 BIOT 615.** Balancing act: Leveraging literature and in-house characterization in CQA assessment. **R. Hofele**, W. Xu, J. Ahn, J. Wang

9:50 Intermission.

**10:10 BIOT 616.** Identification of critical quality attributes of biotherapeutics: GCSF as a case study. **S. Singh**, D. Kumar, D. Yadav, A.S. Rathore

**10:30 BIOT 617.** Strategies to streamline risk ranking and filtering in quality by design process validation. **M.P. Lee**, J.A. Patch, J. Persson, C. Williams, S. Wong

**10:50 BIOT 618.** Exploiting mAb structure characteristics for rapid screening and a directed QbD implementation in process development. **J. Glassey**, M. Karlberg, A. Kizhedath, M. von Stosch, S. Wilkinson

**11:10 BIOT 619.** Development of an integrated risk assessment strategy for process related impurities for biopharmaceutical production. **Y. Li**, H. Luo, S. Nicholson

## Section F

InterContinental San Francisco  
Sutter

### Emerging Technologies

#### Stem Cells & Regenerative Medicine

Y. Y. Chen, Y. Kim, J. P. Pieracci, *Organizers*

P. Apostolidis, S. Rao, *Organizers, Presiding*

**8:30 BIOT 620.** Engineered tissue microspheres for use in regenerative medicine and disease modeling applications. **E.A. Lipke**

**9:10 BIOT 621.** Metabolic transition between stem cell state and hepatocyte-like state. **D. Chau**, T. Le, Y. Park, W. Hu

**9:30 BIOT 622.** High-throughput toxicity and phenotypic screening of 3D human neural progenitor cells on a microarray chip platform. **G.J. Nierode**, B.C. Perea, S.K. McFarland, D.V. Schaffer, D.S. Clark, J.S. Dordick

9:50 Intermission.

**10:10 BIOT 623.** Megakaryocytic microparticles for cell-therapy applications: *In vitro* & *in vivo* studies. **C. Kao**, C. Escobar, E.T. Papoutsakis

**10:30 BIOT 624.** Novel culture systems for trabecular meshwork and Schlemm's canal cells: An *in vitro* model for screening glaucoma therapeutics. **S.T. Sharfstein**, K. Torregon, C. Dautriche, Y. Xie, M. Bergkvist, J. Danias

**10:50 BIOT 625.** Engineering mechanical cues in the stem cell differentiation niche: Applications in vascular tissue engineering. **Q. Smith**, X. Yi Chan, A. Carmo, D. Vig, S. Sun, S. Gerecht

**11:10 BIOT 626.** Fluid shear stress induces cancer stem cell-like phenotype in MCF7 breast cancer cell line without inducing epithelial-to-mesenchymal transition. **U.L. Triantafyllu**, N. Klaassen, A. Raddatz, Y. Kim

## Section G

InterContinental San Francisco  
Grand Ballroom B/C

### 2017 E.V. Murphree Award in Industrial & Engineering Chemistry: Symposium in honor of Eleftherios T. Papoutsakis

*Cosponsored by I&EC*

M. A. O'Malley, T. M. Przybycien, V. Roy, *Organizers, Presiding*

**11:30 BIOT 627. Award Address** (E. V. Murphree Award in Industrial & Engineering Chemistry sponsored by ExxonMobil Research & Engineering Company). 101 Years of clostridial biotechnologies. **E.T. Papoutsakis**

## WEDNESDAY AFTERNOON

### Section A

InterContinental San Francisco  
Grand Ballroom A

#### Upstream Processes

##### Automated Technologies & High-Throughput Systems in Biologics

N. Agarwal, A. E. Schmelzer, I. R. Wheeldon, I. Yuk, *Organizers*

M. Jewett, A. Schmelzer, *Presiding*

**2:00 BIOT 628.** Cell line development, miniaturization, automation, and analysis using the Berkeley Lights Platform. **K. Lee**, T. Neville, T.P. Munro

**2:20 BIOT 629.** Shaken tube system for CHO process development. **P. Harns**, L. Chirdon, M. Gawlitzek

**2:40 BIOT 630.** High-throughput scale down model (SDM) for fed-batch and perfusion process characterization studies. **S. Rameez**, J.S. Notey, D. Costello, D. Ryan, S.S. Mostafa, A. Shukla

**3:00 BIOT 631.** Advancing automated sampling, process monitoring, and nutrient feedback control for a system of 3-L bioreactors. **K. O'Neill**, L. Hoshan, T. Seamans

3:20 Intermission.

**3:40 BIOT 632.** Implementing HIPDOG (High end pH controlled delivery of glucose) in the AMBR15 microbioreactor system. **P. Jones**, B. Figueroa

**4:00 BIOT 633.** Development of a CHO-based cell-free platform for the synthesis of active monoclonal antibodies as a potential high-throughput screening tool. **R. Martin**, N. Majewska, C. Chen, A.E. Schmelzer, M.C. Jewett, V. Roy

**4:20 BIOT 634.** High-Throughput characterization of enzymes that assemble glycoproteins. **M. Mrksich**, M.C. Jewett, W. Kightlinger, L. Lin

**4:40 BIOT 635.** Real time product quality analysis of mammalian cell culture processes. **M. George**, G. Sidhu, A. Durve, G. Sharma, J. Tressel, H. Lin, E. Zimmermann

### Section B

InterContinental San Francisco  
InterContinental C

#### Downstream Processes

##### Technology Transfer, Scale-Up & Scale-Down

R. Barros, V. Natarajan, N. Tugcu, *Organizers*

B. Roman, S. A. Tobler, *Presiding*

**2:00 BIOT 636.** Use of platform strategy to achieve efficient and agile technology transfer. **M. Ratna**

**2:20 BIOT 637.** Defining a window of operation by applying integrated fermentation and cell removal scale-down mimics of mammalian cell culture with predictive modelling. **M. Sebastian**, S. Goldrick, A. Mason, D. Gruber, R. Turner, S. Farid

**2:40 BIOT 638.** Evaluation of single use harvest technologies. **A. Brinkmann**

**3:00 BIOT 639.** Does BPOG extractable protocol truly help? - Case studies from an end user perspective. **E. Mahajan**

3:20 Intermission.

**3:40 BIOT 640.** Optimization and scale-up of charge variants separation of mAbs in cation exchange chromatography. **F. Wittkopp**, F. Seelinger, **C. Dr. Frech**

**4:00 BIOT 641.** Mechanistic investigations of chromatography resin aging: Building a toolbox to maximize the lifetime of resins used in commercial processes. **A.J. Pike**, P.R. Smith, B.F. Marques, K.E. Goklen

**4:20 BIOT 642.** Scale-up and predicting flux-pressure relationships of Tangential Flow Filtration (TFF) using a combined Computational Fluid Dynamics (CFD) and Ultra Scale-Down (USD) input: Method and application. **M. Hussain**, Y. Zhou

**4:40 BIOT 643.** Scalable and representative: Improved approaches to process characterization for a tangential-flow ultrafiltration unit operation. **A. Szkodny**, J. Molek, K.E. Goklen

### Section C

InterContinental San Francisco  
Union Square

#### Drug Product & Delivery

##### Big Data & Biomanufacturing

T. Randolph, E. Sahin, *Organizers*

J. Fox, A. Vatsyayan, *Presiding*

**2:00 BIOT 644.** Learning from small data in the era of big data for real-time biopharmaceutical process monitoring. **A. Tulsyan**, C. Garvin, C. Undery

**2:20 BIOT 645.** Application of multivariate data analysis to enhance product quality of a novel antibody-peptide fusion. **S. Goldrick**, W. Holmes, N. Bond, M. Kuiper, R. Turner, S. Farid

**2:40 BIOT 646.** High-throughput data analysis for rapid ranking of high-concentration monoclonal antibody formulations using manufacturability indices. **Y. Yang**, A. Velayudhan, S. Farid, N. Thornhill

**3:00 BIOT 647.** Fermentanomics: Relating quality attributes of a monoclonal antibody to cell culture process variables and raw materials using multivariate data analysis. **S. Singh**, M. Pathak, E. Read, C. Agarabi, A.S. Rathore

3:20 Intermission.

‡ Cooperative Cosponsorship

**3:40 BIOT 648.** Multi-objective medium-term capacity planning for stainless steel and single-use multi-product biopharmaceutical facilities under uncertainty using a genetic algorithm. **K. Jankauskas**, A.P. Long, M.D. Osborne, G.R. McCartney, L. Papageorgiou, S. Farid

**4:00 BIOT 649.** Multivariate data analysis for biotech processes: Industrial case studies. **A.S. Rathore**, S. Singh

**4:20** Panel discussion.

## Section D

InterContinental San Francisco  
Telegraph Hill

### Bio-Based Products

#### Synthetic Biology Tool Development & Metabolic Engineering in Novel Microbes

M. R. Antoniewicz, C. A. Eckert, G. Sriram, *Organizers*

G. Rudenko, F. Zhang, *Presiding*

**2:00 BIOT 650.** Pathway engineering pipeline for efficiently engineering many-enzyme pathways. **S. Halper**, D. Cetnar, **H. Salis**

**2:20 BIOT 651.** Synthetic biology tools for engineering members of the marine bacterial genus *Vibrio*. **T. Tschirhart**, Z. Wang, J. Erickson, J. van Kessel, G.J. Vora

**2:40 BIOT 652.** Light-dark cycle tool development in *Synechocystis sp.* PCC 6803. **A.J. Zimont**, D. Miller, C.A. Peebles

**3:00 BIOT 653.** Synthetic biology tools for engineering *Gluconacetobacter sp.* **S. Lim**

**3:20** Intermission.

**3:40 BIOT 654.** Metabolic analysis of the extremely thermoacidophilic sulfobactales offers improved understanding of lithoautotrophy and identifies potential routes to production of bio-based chemicals and fuels directly from CO<sub>2</sub>. **B. Zeldes**, A. Loder, C. Straub, R. Kelly

**4:00 BIOT 655.** Production of industrial products from natural gas using an engineered methanotroph biocatalyst. **J. Kealey**, **L. Chao**

**4:20 BIOT 656.** Withdrawn.

**4:40 BIOT 657.** Overcoming the transformation hurdle of *Clostridium cellulovorans* for efficient metabolic engineering towards consolidated n-butanol production from cellulose. **J. Zhao**, S.T. Yang

## Section E

InterContinental San Francisco  
Sutter

### Emerging Technologies

#### Stem Cells & Regenerative Medicine

Y. Y. Chen, Y. Kim, J. P. Pieracci, *Organizers*

P. Apostolidis, S. Rao, *Organizers, Presiding*

**2:00 BIOT 658.** Vocal fold-mimetic environment for the modulation of stem cell behaviors. **X. Jia**

**2:20 BIOT 659.** Engineered environments for modulating iPSC function and fate in three-dimensional culture. **E. Ovadia**, A.M. Klöxin

**2:40 BIOT 660.** Increasing stem cells retention and survivability by engineering with magnetic porous nanoparticles. **F. Chen**, E.R. Zhao, S. Darmadi, J.V. Janker

**3:00 BIOT 661.** Scalable production of self-aggregating glioblastoma cancer stem cells. **J. Park**, Y. Kim

**3:20** Intermission.

**3:40 BIOT 662.** Solutions for robust cell therapy production. **A. Schnitzler**, M. Pease, T. Hood, T. Lawson, S. Luther, A. Verma, S. Punreddy, S. Rigby, **J. Murrell**

**4:00 BIOT 663.** Reflectin as a material for neural stem cell growth. **R. Kautz**, L. Phan, J. Arulmoli, J. Kerr, M. Shenk, M. Pathak, L. Flanagan, F. Tombola, A.A. Gorodetsky

**4:20 BIOT 664.** Functionalized poly(ethylene glycol)-based hydrogels as a synthetic culture surface to enhance in-vitro proplatelet formation. **E.N. Bess**, J. Berry, W.M. Miller

**4:40 BIOT 665.** Amplified photodegradation of cell-laden hydrogels through an addition-fragmentation reaction. **T. Brown**, I. Marozas, K.S. Anseth

## WEDNESDAY EVENING

### Section B

InterContinental San Francisco  
Grand Ballroom B/C

#### D.I.C. Wang Award Lecture

M. A. O'Malley, T. M. Przybycien, V. Roy, *Organizers, Presiding*

**5:00 BIOT 666.** Following the advice of Daniel Wang: Improving quality through cell culture engineering. **M.J. Betenbaugh**

## THURSDAY MORNING

### Section A

InterContinental San Francisco  
Grand Ballroom A

#### Upstream Processes

##### Engineering Natural Products Biosynthesis

N. Agarwal, I. R. Wheeldon, I. Yuk, *Organizers*

Y. Li, J. Wee, *Presiding*

**8:30 BIOT 667.** Heterologous microbial (combinatorial) biosynthesis of natural products using dynamic metabolic control. **Z. Ye**, M. Lynch

**8:50 BIOT 668.** Engineered biosynthesis of the complex natural products erythromycin and yersiniabactin for health and environmental opportunities. **B.A. Pfeifer**

**9:10 BIOT 669.** Snake antivenom peptide production using elastin-like peptide tag. **C.F. Komives**, E. Hartzell, E.E. Sanchez, M. Suntravat, S. Mancini, W. Estell, K. Kumar, W. Chen

**9:30 BIOT 670.** Design of synthetic microbial communities for metabolic engineering and synthetic biology applications. **J.A. Jones**, M. Koffas

**9:50** Intermission.

**10:10 BIOT 671.** Engineered biosynthesis of neocantimycin depsipeptides in *S. albus* J1074. **W. Skyrud**, J. Liu, W. Zhang

**10:30 BIOT 672.** Design and implementation of a robust *S. cerevisiae* chassis strain with improved growth characteristics and stationary phase glycolytic flux. **J. Burg**, M. Lynch

**10:50 BIOT 673.** Expressing a metabolic loop enables the continuous synthesis of 3-hydroxybutyrate in cyanobacteria. **T.T. Ku**, E.I. Lan

**11:10 BIOT 674.** Metabolic engineering of *Synechocystis sp.* PCC 6803 for improved terpenoid production: Ribosome binding sites and codon optimization. **J. Sebesta**, C.A. Peebles

## Section B

InterContinental San Francisco  
InterContinental C

### Downstream Processes

#### Advances in Non-Chromatographic Separations

R. Barros, V. Natarajan, N. Tugcu, *Organizers*

A. Azevedo, E. Benabaji, *Presiding*

**8:30 BIOT 675.** Effect of channel induced shear on biologics during ultrafiltration/diafiltration. **A. Arunkumar**, N. Singh, M. Peck, E. Schutsky

**8:50 BIOT 676.** Mechanisms of precipitation on pH adjustment. **D.G. Greene**, L. Choe, S. Traylor, N. Singh, X. Xu, Z. Li, K. Lee, N.J. Wagner, **A.M. Lenhoff**

**9:10 BIOT 677.** Protein precipitation via combined reversible cross-linking and volume exclusion: Solubility and aggregation kinetics models. **T.M. Przybycien**, Q. Gu

**9:30 BIOT 678.** Antibody aggregate removal by depth filtration in cell culture harvesting. **D. Yu**, M. Mayani, Y. Song, Z. Xing, Z. Li

**9:50** Intermission.

**10:10 BIOT 679.** Transitioning from low to high density mammalian cell culture clarification within existing manufacturing infrastructure. **J. Walker**, A. Richardson, **M. Westoby**

**10:30 BIOT 680.** Effect of product concentration on continuous parvovirus-rentive filtration. **D. Bohonak**, H. Lutz

**10:50 BIOT 681.** Investigation of flushing strategies for reducing beta glucan leachables originating from cellulose based depth filtration media. **A. Gupta**, D. Kinzmaier, K.M. Pizzelli, E.M. Goodrich

**11:10 BIOT 682.** Characterizing protein concentration dependent parvovirus filtration fouling. **A. Seay**

## Section C

InterContinental San Francisco  
InterContinental B

### Drug Product & Delivery

#### Biopharmaceuticals: Novel Formulations & Mechanisms

M. E. Krause, T. Randolph, E. Sahin, *Organizers*

B. Demirdirek, *Organizer, Presiding*

M. Krause, *Presiding*

**8:30 BIOT 683.** Melt processed virus-like particle laden polymeric implants for immunoresponsive applications. **P. Lee**, S. Shulka, J.D. Wallat, C. Danda, J. Maia, N. Steinmetz, J.K. Pokorski

**8:50 BIOT 684.** 2-Nitrobenzenesulfonamide group as a chemical linker with highly selective cleavability in response to intracellular redox system for a construction of siRNA-polymer conjugate. **H. Takemoto**, C. Huang, T. Nomoto, K. Tomoda, M. Matsui, N. Nishiyama

**9:10 BIOT 685.** Peptide dendrons as thermal stability amplifiers for IgG1 monoclonal antibody biotherapeutics. **R. Bansal**, S. Chattopadhyay, A.S. Rathore, S. Dhawan, V. Haridas

**9:30 BIOT 686.** Aptamer-peptide-drug conjugates: Targeted delivery of synergistic drug combinations with ratiometric precision. **A. Pusuluri**, S. Menegatti, H. Soh, S. Mitragotri

**9:50** Intermission.

**10:10 BIOT 687.** Withdrawn.

**10:30 BIOT 688.** *In vitro* selection of pH-activated DNA nanostructures. **F. Fong**, S. Oh, C.J. Hawker, H. Soh

**10:50 BIOT 689.** Brain targeting transferrin conjugated deformable nanovesicle (Tf-DNV) encapsulating the bioflavonoid galangin: A nanocarrier prepared by an adaptable microfluidic platform. **M. Alam**, J. Campagna, H. Rollins, P. Spilman, I. Nishimura, V. John

**11:10 BIOT 690.** Encapsulation and release of dsDNA through dual-responsive, biodegradable hydrogel capsules. **B.A. Tucker**, J. Chen, V.A. Kozlovskaya, D.E. Graves, E.P. Kharlampieva

## Section D

InterContinental San Francisco  
Telegraph Hill

### Quality by Design

#### Case Studies on Process Understanding & Design Space

J. Glassey, R. Godavarti, *Organizers*

P. Slade, A. Staby, *Presiding*

**8:30 BIOT 691.** Successful mAb design space claim approach. **R. Hamilton**

**8:50 BIOT 692.** Resin attribute and its interaction with process parameters to impact product quality and process performance for cation exchange chromatography. **A. Hagstrom**, S. Madaras, J. Prentice, S. Parra, O. Terova, G. Miro-Quesada, M. Stone, D. Robbins

**9:10 BIOT 693.** Defining design space: Strategies to improve efficiency during process validation. **T. Peram**

**9:30 BIOT 694.** Case study: Lifecycle management of a process wide design space. **A. Kleinjans**

**9:50** Intermission.

**10:10 BIOT 695.** Monte Carlo tool for prediction of variability in product quality attributes and definition of downstream process design space. **T.M. Wasylenko**, M. Coolbaugh, T. Dahal-Busfield, A. Kanodia, K. Kelly, N.M. Troccoli, Y. Waghmare, R. Patil, K.P. Brower, V. Warikoo

**10:30 BIOT 696.** Mechanistic modeling of chromatography: An industry perspective and vision. **J. Griesbach**, F. Stueckler

**10:50 BIOT 697.** Identification of key/non-key process and model parameters of autoinjector devices via global sensitivity analysis using mechanistic models. **P. Rolandi**, F. Schlegel

**11:10 BIOT 698.** Design space characterization for filling process leveraging modeling and pilot scale capabilities. **M. Boggara**, V. Padmakumar, N. Rathore

## Section E

InterContinental San Francisco  
Sutter

## Emerging Technologies

## Cell &amp; Gene Therapy

Y. Y. Chen, Y. Kim, J. P. Pieracci, *Organizers*  
C. Beisel, E. Gschweng, *Presiding*

**8:30 BIOT 699.** Immunotherapy using protein nanoparticles for improved response towards human cancer antigens. **M. Neek**, J. Tucker, N. Molino, E. Nelson, S. Wang

**8:50 BIOT 700.** Engineering self-modulating T cells to prevent cytokine release syndrome in adoptive T-cell therapy. **M. Lin**, H. Kehoe, Y.Y. Chen

**9:10 BIOT 701.** Drug responsive control systems for more potent and safer chimeric antigen receptor T cells. **B. Wang**

**9:30 BIOT 702.** Evaluating cost-effectiveness of allogeneic T-cell immunotherapy based on a bioprocess economic model. **N. Razavilar**, K. Wallner, R. Pedroza, J. Delisle, C. McCabe

**9:50** Intermission.

**10:10 BIOT 703.** Data-fusion based process analytics for stem cell immunotherapy cell-culture on micro-carriers in bioreactor. **S. Yoon**, **B. Kuang**

**10:30 BIOT 704.** Opportunities and challenges for vector manufacturing used for gene therapy. **S. Ozturk**

**10:50 BIOT 705.** Efficient microRNA delivery system for treatment of disease by using cholesterol-conjugated microRNA and pegylated polycationic polymer. **B. Mun**, E. Jang, S. Han, J. Ki, H. Son, Y. Choi, Y. Huh, S. Haam

**11:10 BIOT 706.** Histone-targeted gene transfer leads to enhanced MSC differentiation with 100-fold reduced BMP-2 dosing for bone regenerative applications. **E.V. Munsell**, M.O. Sullivan

## Section F

InterContinental San Francisco  
Grand Ballroom B/C

Biotechnology & Bioengineering  
Elmer Gaden Award Lecture

T. M. Przybycien, *Organizer, Presiding*  
D. S. Clark, *Presiding*

**11:30 BIOT 707.** Difficult-to-remove CHO host cell protein impurities. **K. Lee**

## THURSDAY AFTERNOON

## Section A

InterContinental San Francisco  
InterContinental C

## Downstream Processes

## Advances in Non-Chromatographic Separations

A. Azevedo, R. Barros, V. Natarajan, N. Tugco, *Organizers*

E. Benabaji, *Organizer, Presiding*  
A. Azevedo, *Presiding*

**2:00 BIOT 708.** Evolution of an improved high-throughput scale-down model for flocculation studies. **A. Radhamohan Keba**, J. Bill

**2:20 BIOT 709.** Investigation of virus retention mechanisms by size exclusion membranes: The role of membrane properties and solution conditions in different flow regimes. **P. Kosiol**, C. Kahrs, B. Hansmann, M. Ulbricht, V. Thom

**2:40 BIOT 710.** Evaluation of a new all-synthetic depth filter media demonstrates improved clarification and soluble impurity clearance post-protein A and low pH viral inactivation. **H.C. Nguyen**, A. Langland, B. Meyer, D.S. Kahn, J.A. Costanzo, J. Amara

**3:00 BIOT 711.** Continuous precipitation of process related impurities from clarified cell culture supernatant using a novel Coiled Flow Inversion Reactor (CFIR). **N. Kateja**, H. Agarwal, A. Saraswat, M. Bhat, A.S. Rathore

**3:20** Intermission.

**3:40 BIOT 712.** Impact of novel continuous clarification techniques on sizing and optimization of depth filtration trains. **K. Galipeau**, M. Collins, E. Ayturk

**4:00 BIOT 713.** Countercurrent staged diafiltration for monoclonal antibody formulation. **Y. Li**, A. Anirudh, A.L. Zydney

**4:20 BIOT 714.** Adsorptive properties of filter aids. **O. Khanal**, N. Singh, S. Traylor, X. Xu, Z. Li, A.M. Lenhoff

**4:40 BIOT 715.** Elucidate the effects of filtration conditions on virus removal. **X. Qian**, R. Fan, S. Wickramasinghe

## Section B

InterContinental San Francisco  
Grand Ballroom A

## Drug Product &amp; Delivery

## Quality Assurance Challenges for Biopharmaceuticals: Single Use Processing Containers, Primary Packaging, Delivery Devices &amp; Excipients

T. Randolph, E. Sahin, *Organizers*

C. Garvin, P. Paranjpe, C. Undey, *Presiding*

**2:00 BIOT 716.** Activity of inactive ingredients: Foundations for innovations in drug excipients. **J. Pottel**, J. Irwin, B. Shoichet

**2:20 BIOT 717.** Suitability and challenges of using Raman spectroscopy for polysorbate testing— use of Multivariate analysis to quantify variability. **E. Bolesla**, T. Wang, N. Deorkar, T. Wang

**2:40 BIOT 718.** Nanobubble stability and protein aggregation in pharmaceutically-relevant formulations. **J. Snell**, T. Randolph

**3:00 BIOT 719.** Excipient & pH targeting in bulk drug substance: A modified approach to buffer exchange during diafiltration. **R.W. Muthard**, G. Tran, A. Sophocleous, A.C. Dumetz, Y. Wu, K.E. Goklen

**3:20** Intermission.

**3:40 BIOT 720.** Performance of capping on residual seal force and container close integrity. **R. Ovadia**, P. Lam

**4:00 BIOT 721.** Modeling plunger-stopper placement to optimize combination product process design. **J.P. Bernacki**, J. Jazayeri, D. Marsiglio, G. Gordon, N. Rathore

**4:20 BIOT 722.** In-line Raman spectroscopy for bispecific assembly process monitoring. **A. Maier**

**4:40 BIOT 723.** Development and implementation of an automated HIAC approach for high throughput subvisible particle analysis. **J. Purtell**, M. Berke, J. Yeary, E. Avanes, S. Cao, C. Ren, R. Kaushik

## Section C

InterContinental San Francisco  
InterContinental B

## Quality by Design

## Implementation &amp; Description of Control Strategy

J. Glassey, R. Godavarti, *Organizers*

H. Shen, *Organizer, Presiding*

D. Robbins, *Presiding*

**2:00 BIOT 724.** Continuous improvement of control strategy at Genentech and Roche. **A.S. Miller**

**2:20 BIOT 725.** Practical considerations of knowledge management as an enabler of quality throughout the product lifecycle. **D. Paoletta**, S. Weisser, P. Smith, A.R. Ubiera

**2:40 BIOT 726.** Advanced process control strategy for consistent product quality and improved manufacturing efficiency. **C. Jiang**

**3:00 BIOT 727.** Real-time monitoring of critical quality attributes and process parameters by spectroscopy during chromatographic capture and polishing steps. **M. Rudt**, N. Bestrich, D. Buchler, L. Roinger, A. Sanden, J. Hubbuch

**3:20** Intermission.

**3:40 BIOT 728.** Exploring PAT approaches for ultrafiltration/diafiltration as the first step to continuous process design. **D. Arzensek**

**4:00 BIOT 729.** Implementation of QbD for development of a downstream process for a therapeutic biosimilar. **A.S. Rathore**, R. Bhambure

**4:20 BIOT 730.** Implementation of a QbD bioprocess into a traditional manufacturing site. **N.L. McKnight**, A. Kleeb, P. Walsler

**4:40 BIOT 731.** Automated methodology for post-approval management of a process control strategy. **P.R. Smith**, B.F. Marques, T. Wiley, K.E. Goklen

## THURSDAY EVENING

## Section F

InterContinental San Francisco  
Telegraph Hill

Biotechnology & Bioengineering  
Daniel IC Wang Award

T. M. Przybycien, *Organizer, Presiding*

D. S. Clark, *Presiding*

**5:00 BIOT 732.** Novel insights into understanding and designing regulatory RNAs. **L.M. Contreras**

## BIOL

## Division of Biological Chemistry

L. Hedstrom, *Program Chair*

## SOCIAL EVENTS:

Social Hour, 7:00 PM: Sun, Tue

## SUNDAY MORNING

## Section A

Moscone Center  
130

## Graduate Student &amp; Postdoctoral Fellow Symposium

L. Hedstrom, *Organizer*

M. E. Farkas, *Presiding*

**8:30** Introductory Remarks.

**8:35 BIOL 1.** RNA labeling induced by oxidation with high spatial resolution. **Y. Li**, R. Spitaler

**8:50 BIOL 2.** CRISPR-Cas9: Computational insights toward improved genome editing. **G. Palermo**, Y. Miao, R. Walker, M. Jinek, J. McCammon

**9:05 BIOL 3.** Luminescence probes of deaminated nucleotide surveillance enzymes DUT and ITPA. **D. Ji**, Y. Pavlov, E.T. Kool

**9:20 BIOL 4.** Monitoring the phenotypic response of FoxO1 at the single cell level in patient samples. **J. Simpson**

**9:35 BIOL 5.** Identification of novel allosteric HSP72 inhibitors. **H. Traynor**, R. Burke, Y. Le Bihan, I. Collins, R.L. van Montfort

**9:50 BIOL 6.** Polymerase-mediated synthesis of TNA polymers containing a fluorescent base that can read through G-repeats in a DNA template. **H. Mei**, C. Shi, J. Chaput

**10:05** Intermission.

**10:20 BIOL 7.** Antibiotic resistance evolved via inactivation of a ribosomal RNA methylating enzyme. **V. Stojkovic**, L. Noda-Garcia, D. Tawfik, D.G. Fujimori

**10:35 BIOL 8.** Comparative analysis of translesion DNA synthesis by a high fidelity DNA polymerase. **A. Dasari**

**10:50 BIOL 9.** Ultra-photostable, genetically directed fluoromodule enables STED nanoscopy and long time scale single protein tracks in live bacteria. **S. Saurabh**, A.M. Perez, C.J. Commerci, L. Shapiro, W.E. Moerner

**11:05 BIOL 10.** Infrared spectroscopy reveals a base stacking limit in DNA G-quadruplexes. **D.A. Price**, Z.J. Kartje, T.D. Hill, G. Cairo-Baza, K.T. Gagnon, S.D. Moran

**11:20 BIOL 11.** Synthesis, spectroscopic investigation, biological screening, interaction with SS-DNA and DFT study of aliphatic ferrocenyl ureas. **F. Asghar**, A. Badshah, I.S. Butler



## Section B

Mosccone Center  
131

**Ronald Breslow Award for Achievement in Biomimetic Chemistry: Symposium in honor of Benjamin G. Davis**

B. G. Davis, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 **BIOL 12.** Chemical Immunology - New approaches to study killer T-cell activation. S. van Kasteren

8:25 **BIOL 13.** Immunomodulation by targeted delivery of carbon monoxide using artificial metalloproteins. G. Bernardes

8:45 **BIOL 14.** Sulfur chemistry for biology and human health. J.M. Chalker

9:05 **BIOL 15.** Chemical biology tools for studying the O-GlcNAc modification of proteins. D.J. Vocadlo

9:40 Intermission.

9:45 **BIOL 16.** Controlling biological machines with synthetic photoswitches. D. Trauner

10:20 **BIOL 17.** Mass spectrometry of membrane proteins - the lipid connection. C. Robinson

10:55 **BIOL 18.** Homogeneous glycoproteins for structural and functional study. C. Wong

11:30 Introduction of Awardee.

11:40 **BIOL 19. Award Address** (Ronald Breslow Award for Achievement in Biomimetic Chemistry

*Sponsored by Ronald Breslow Award Endowment).*

**Sugars & proteins: Towards a synthetic biology.** B.G. Davis

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**

**Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy**

*Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC*

**National Fresenius Award: Symposium in honor of Neal K. Devaraj**

*Sponsored by ORGN, Cosponsored by BIOL*

**Cellulose Structure & Biosynthesis**

**In the Plant Cell Wall**

*Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL*

## SUNDAY AFTERNOON

## Section A

Mosccone Center  
131

**Goodman Award: Symposium in honor of Jennifer Doudna**

J. Doudna, *Organizer, Presiding*

2:00 Introductory Remarks.

2:05 **BIOL 20.** CRISPR immune response to viruses that infect bacteria. B. Wiedenheft

2:50 **BIOL 21.** Retooling CRISPR to turn genes on and off. L. Gilbert

3:35 **BIOL 22.** CRISPRi/dCas9 for complex genome regulation and disease research. L. Qi

4:20 Introduction of Awardee.

4:25 **BIOL 23.** CRISPR biology: Expanding nature's toolkit for genome engineering. J. Doudna

## Section B

Mosccone Center  
3014/3016

**ACS Award in Pure Chemistry: Symposium in honor of Neal K. Devaraj**

N. K. Devaraj, *Organizer, Presiding*

2:00 Introductory Remarks.

2:05 **BIOL 24.** Measuring and modulating the repair of DNA damage. E.T. Kool

2:35 **BIOL 25.** Expanding the synthetic capabilities of yeast. V.W. Cornish

3:05 **BIOL 26.** Transition metal signaling in the brain and beyond. C.J. Chang

3:35 Intermission.

3:55 **BIOL 27.** Evolving click chemistry → SuFEx. K.B. Sharpless

4:25 Introduction of Awardee.

4:30 **BIOL 28. Award Address** (ACS Award in Pure Chemistry sponsored by the Alpha Chi Sigma Fraternity & the Alpha Chi Sigma Educational Foundation). In situ synthesis and modification of lipid membranes. N.K. Devaraj

5:05 Concluding Remarks.

**Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal**

*Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG‡, ORGN and PROF*

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**

**Novel Reactions, Methodologies & Syntheses in Organic Chemistry**

*Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC*

**Cellulose Structure & Biosynthesis**

**Evolution of Synthases & Fine Structure of Microfibrils**

*Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL*

**Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges**

*Sponsored by INOR, Cosponsored by BIOL*

## SUNDAY EVENING

## Section A

Mosccone Center  
West Hall

**Current Topics in Biochemistry**

L. Hedstrom, *Organizer*

7:00 - 9:00

**BIOL 29.** Clarification by flocculation: A promising solution for high cell density. C. Decarmin

**BIOL 30.** Exploration of the N-terminal extension's role in human gamma-S crystallin function. K. Roskamp, A. Chenault, R. Martin

**BIOL 31.** Chemical biology approach for dimethyllysine incorporation into proteins. Z.A. Wang, W. Liu

**BIOL 32.** New tools for controlling the supramolecular assembly of proteins in living cells. G.R. Casey, X. Zhou, B. Xu, C.I. Stains

**BIOL 33.** Structural analysis of heme c motifs for the template-based design of heme c proteins. J. Kleingardner

**BIOL 34.** Unnatural lysine analogues to mimic the catalytic pocket of human DNA polymerase  $\beta$ . C. Bhattacharya, S.M. Daskalova, S. Hecht

**BIOL 35.** Efficient method to study engineering temperature shift strategies for Chinese hamster ovary cell culture via mechanistic macroscopic kinetic modeling. Y. Wang, J. Xu, p. tang, s. liu, z. li

**BIOL 36.** Investigating the specificity of methylated DNA binding by MBD1 and mutant peptides for transcriptional regulation. S. Scherer, A. Stewart

**BIOL 37.** Synthesis and evaluation of a norbornene containing substrate for protein farnesyltransferase. J. Wollack, J. Rowe, C. Sutton, L. Crepeau, K. Caron, M.D. Distefano

**BIOL 38.** Developing a pipeline for generating TNA-phosphoramidite and TNA-triphosphate monomers for the *in vitro* evaluation of the properties of the polymers. S. Bala, J. Liao, J. Chaput

**BIOL 39.** Exploring the role of Tat-SF1 as an HIV-1 host factor. M. Warrick, H.B. Miller

**BIOL 40.** Mutational studies of a deoxyribozyme by high-throughput sequencing. D. Venugopal, S. Kobori, Y. Yokobayashi

**BIOL 41.** Transcriptome-wide mapping of RNA-RNA interactions. M. Oumais, A. Luptak

**BIOL 42.** Possible prebiotic fabrication of ribonucleotides using microdroplets. I. Nam, J. Lee, H. Nam, R.N. Zare

**BIOL 43.** Tat-specific factor 1's role in HIV RNA stability. A.P. Goodwin, H.B. Miller

**BIOL 44.** Theoretical characterization of the H-bonding and stacking potential of two nonstandard nucleobases expanding the genetic alphabet. M. Chawla, R. Oliva, L. Cavallo

**BIOL 45.** Live cell imaging of RNA using endogenous fluorophore protoporphyrin IX. D. Zhang

**BIOL 46.** ADARs and RNA; Structural basis for site selectivity of ADAR2. J. Thomas, M. Matthews, Y. Zheng, P.A. Beal, A.J. Fisher

**BIOL 47.** Nucleobase analogs as probes for substrate recognition and repair by DNA glycosylase MutY. C. Majumdar, S.S. David, A. Manlove

**BIOL 48.** Bioorthogonal near-infrared fluorogenic probe for mRNA detection. H. Wu, S.C. Alexander, S. Jin, N.K. Devaraj

**BIOL 49.** Bioluminescent detection of HIV persistency via a stem-loop probe. B. Cherif, A. Moutsopoulos

**BIOL 50.** Optimizing the production of FOXA2 to unravel the interaction between homeodomain and Forkhead transcription factors. S. Ramirez

**BIOL 51.** Investigation into the broad substrate specificity of the DNA glycosylase hNEIL1. B. Anderson, J. Ashby, A.M. Fleming, C.J. Burrows, S.S. David

**BIOL 52.** Influence of loop mutations on G-quadruplex unfolding. B.A. Tucker, J.S. Hudson, D.E. Graves

**BIOL 53.** Oncostatin M mediated regulation of microRNA-21 function in HeLa cells. N. Jain, S. Ahmed, M.J. Sever

**BIOL 54.** 5' Start site heterogeneity of the HIV-1 RNA and its effect on structure and function. D. Francis, M. Orellana, J. Brown, M. Summers

**BIOL 55.** Parallel stranded G-quadruplex composed of Threose Nucleic Acid (TNA). J. Liao, I. Anosova, S. Bala, W.D. Van Horn, J. Chaput

**BIOL 56.** Structural stability analysis of a *S. cerevisiae* DEAD-box protein. Z. Iezzi, C. Bardine, H. Englert, I. Garcia

**BIOL 57.** High-throughput mutational analysis and engineering of self-cleaving ribozymes by sequencing. S. Kobori, Y. Yokobayashi

**BIOL 58.** Elucidation of the role of adenine DNA glycosylase muty in MNNG-mediated cell cytotoxicity. D.M. Banda, A.G. Raetz, G. Xu, X. Ma, P.L. McKibbin, A. Rajavel, C.B. Lebrilla, S.S. David

**BIOL 59.** Synthesis and screening of a naphthalene diimide bisintercalator library. E. Gratton, B.L. Iverson

**BIOL 60.** High-yield syntheses of DNA duplexes containing interstrand cross-links at a single well-defined location via a reductive amination reaction between 2-aminopurine and an abasic site. M. Imani Nejad, N.E. Price, Y. Wang, K.S. Gates

**BIOL 61.** Engineering the N-terminal domain of pyrrolysyl-tRNA synthetase: Optimizing genetic incorporation of non-canonical amino acids. V. Sharma, W. Liu

**BIOL 62.** Complete Zn<sup>2+</sup> linchpin coordination sphere of the DNA repair glycosylase MUTYH. N. Nunez, S.S. David, J.B. Siegel, C. Lim

**BIOL 63.** Enzymatic site-specific labeling with RNA-TAG for affinity purification of RNA-protein complexes. K.N. Busby, N.K. Devaraj

**BIOL 64.** 5-Hydroxymethylcytosine impacts Holliday junction structure to promote recombination via recognition by Endonuclease G. C. Vander Zanden, R.K. Rowe, A.J. Broad, A.B. Robertson, P.S. Ho

**BIOL 65.** Ligand selectivity in a pathogenic preQ1 riboswitch aptamer domain. K.M. Yamakawa, M. Doan, J.M. Davison, M.N. Pahl, I.T. Suydam

**BIOL 66.** E2F1 and p27 regulation in non-neuronal cells by isoxazole 9. M. McCabe, M.J. Sever

**BIOL 67.** Structural and energetic characterization of the emissive RNA alphabet based on the isothiazolo[4,3-d]pyrimidine heterocycle core. M. Chawla, R. Oliva, L. Cavallo

**BIOL 68.** Interaction of Menadiquinone (MK) analogs (MK-1 and MK-2) with phospholipids. G. Cardiff, B.J. Peters, J.T. Koehn, J.B. Hough, A. Groninger, D.C. Crick, D.C. Crans, F. Fontes



- BIOL 69.** Ca<sup>2+</sup> induced conformational changes of calmodulin and troponin C chimera. C. Wei, D. Jensen, K. Schafer, E.A. Fabry
- BIOL 70.** Selective detection of protein homologues by outer membrane protein G nanopore. B. Yang, M.A. Fahie, H. Wang, P. Limpikirati, R.W. Vachet, S. Thayumanavan, M. Chen
- BIOL 71.** How host gender affects the polysaccharide capsule of *Cryptococcus neoformans*. P. Doski, E. McClelland
- BIOL 72.** Structure of the pro-apoptotic BCL-2 family protein BAD and insight into BAD-calceurin interactions. S.N. Blakenev, E.C. Cook, T.P. Creamer
- BIOL 73.** Aquaporin inspired water purification membrane based on graphene oxide membrane. C. Lee, D. Kim, G. Lee, Y. Lee, Y. Lee
- BIOL 74.** Amyloid Forming Sequences in *Trichomonas vaginalis*. A. Asakawa, C. Chan
- BIOL 75.** Exploration of the interactions of hen egg white lysozyme with deoxyribonucleic acids. E.A. Fabry, C. Wei, T. Shields
- BIOL 76.** Proteomics-based screening and identification method for redox sensitivities of global cellular cysteine residues. K. Araki, K. Fukui, T. Natsume
- BIOL 77.** Functionalization of polydopamine via the Aza-Michael reaction for antimicrobial interfaces. P.T. Ha, C. Huang, C. Liu, Y. Huang
- BIOL 78.** Utilization of extracts of garlic, oregano, neem and a commercial insecticide on endophyte bacteria on orange leaves infected by *Citrus green-ting*. J. Becerra Lopez, A. Perez Matos
- BIOL 79.** Characterization of the huntingtin aggregation pathway via single-molecule and super-resolution fluorescence microscopy. C. Becker, R. Harman, A. Khan, R. Levy, W.C. Duim
- BIOL 80.** Is it a biological response or chemical process? Chemical and transcriptional regulation experiments probe the cause for the increased accumulation of Chlorogenic Acid (CGA) in carrot root slices exposed to UV-B light. G.E. Bartley, R.J. Avena-Bustillos, W. Du, M. Hidalgo, B. Cain, A.P. Breksa
- BIOL 81.** N acetyl cysteine as an inducer of retina regeneration. J. Landers, K. Del Rio-Tsonis, N. Echeverri
- BIOL 82.** 5-azidomethyl-2'-deoxyuridine triphosphate can be efficiently incorporated by a repair DNA polymerase. C. Garcia, Y. Ren, Z. Wen, S.F. Wnuk, Y. Liu
- BIOL 83.** Comparison of synthetases in the incorporation of the non-natural amino acid p-azidophenylalanine in the oncogenic protein kRas. M. Wheeler, T. Andresson, R.E. Connor
- BIOL 84.** Precise delivery of a chemotherapeutic Prodrug to mitochondria of prostate cancer cells to bypass repair induced resistance. U. Basu
- BIOL 85.** Visualizing the chain-flipping mechanism to study inhibition and protein-protein interaction in fatty acid biosynthesis. K. Charov, J. Beld, M.D. Burkart
- BIOL 86.** Assessing cysteine residue thiol status in T-Darpp, a protein involved in chemoresistance. J.A. Aldana-Mendoza, P. Farias, J. Momand
- BIOL 87.** Nanomaterials toxicological evaluation: Natural product shielded magnetite nanoparticles. H. Huang, J.L. Liu, S. Bashir
- BIOL 88.** Analogs of methyl 4-(4-chlorophenyl)-4-oxobut-2-enoate that inhibit MenB in the bacterial menaquinone biosynthesis pathway. Y. Si, J. Matarlo, F. Daryaeae, P.J. Tonge
- BIOL 89.** Characterization of a robust serine protease from *P. intermedia*. S. Spradlin, C.M. Evilia
- BIOL 90.** Reverse transcription past major guanine oxidation products in RNA. A. Alenko, A.M. Fleming, C.J. Burrows
- BIOL 91.** Importance of F365 in the binding of inhibitors in *Escherichia coli beta-glucuronidase*. S. Van Shufflin
- BIOL 92.** Ratiometric fluorescent chloride sensor. K. VanDenburgh, Y. Liu, B. Qiao, A.H. Flood
- BIOL 93.** Highly selective small potassium transporter induces cancer cell death. F. Shen, D. Yang
- BIOL 94.** Evaluating the effect of lipophilicity on antimicrobial potency, cytotoxicity, and combinatorial library design. J.A. Turkett, K. Bicker
- BIOL 95.** Determinants of the pKa value of catalytic residue in de novo designed enzymes. K. Hiebler, C. Castaneda, O. Makhlynets
- BIOL 96.** Allosteric control of histone demethylase KDM5A. J.E. Longbotham, C. Chio, M. Kelly, D.G. Fujimori
- BIOL 97.** Pathological mutations in the prion protein modulate the metal driven cis interaction. G.P. Roseman
- BIOL 98.** Electrophilic reactive carbonyl species: Participation in the nonenzymatic covalent protein modification of human hemoglobin. P. Ropski, J. Pattan, B. Park, R.W. Holman, K. Rodnick
- BIOL 99.** Towards a mechanistic understanding of nonenzymatic glycation of human hemoglobin: Diverse effects of inorganic phosphate on the initial noncovalent binding of glucose. A. Hendricks, C. Mottishaw, J. Mitchell, P. Ropski, B. Smith, G. Titus, B. Park, M. Finkbeiner, R.W. Holman, K. Rodnick
- BIOL 100.** Fine-tuning triazabutadiene stability for controlled aryl diazonium release. L. Guzman, J.C. Jewett
- BIOL 101.** Self-Assembling nanoluciferase fragments as probes for alpha-synuclein solubility. T. Truong, C. Bilyeu, J. Zhao, T. Nelson, C.I. Stains
- BIOL 102.** Effects of DNA bending on T=C CPD deamination. K. Wang, J.S. Taylor
- BIOL 103.** Development of targeted stigmaterol-solid lipid nanoparticles by hyaluronic acid and transferrin for lung cancer therapy. Z. Torres, Y. Delgado, K. Griebenow
- BIOL 104.** Use of infrared spectroscopy to study the structural changes of calreticulin upon the addition of ligand. A. Farquharson, C. Thomas, L. Maynard
- BIOL 105.** Withdrawn.
- BIOL 106.** Cyclopropene neurotransmitters for biorthogonal imaging of neural circuits. P. Kumar, S. Li, D. Shukhman, S.T. Laughlin
- BIOL 107.** Effect of caffeine on lipophagy in mammalian skeletal muscle cells. D.S. Enyart, J. Stansell, J.W. Ruppel, S. Kinsey, B. Baumgarner
- BIOL 108.** Use of CDNB assay to determine calreticulin domain responsible for autoacetylation. C. Nnebe, C. Thomas, L. Maynard
- BIOL 109.** Design of biomimetic antimicrobial peptide-polymer conjugates as building blocks for reactive/responsive membranes: A water purification approach. V. Ortiz Gomez, V. Rodriguez, E. Nicolau
- BIOL 110.** Effect of 4,4' DDT, 4,4' DDE, 4,4' DDD, and 2,4' DDD on dihydrotestosterone binding to and releasing from the androgen receptor. T. Resto, F. Dean, A. Chavez, V. Flores
- BIOL 111.** Synthesis and evaluation of Nebraska red derivatives for protein labeling studies. L. Lesiak, X. Zhou, C.I. Stains
- BIOL 112.** Tryptophan derivatives as novel fluorescent probes for studying protein conformational changes and DNA-protein interaction. P. Talukder, S. Chen, B. Roy, P. Yakovchuk, S. Hecht
- BIOL 113.** Photo-uncaging of reactive species and fluorescence with visible light and NIR. S. Dai, D. Yang
- BIOL 114.** Withdrawn.
- BIOL 115.** Molecular dynamics simulations of metabolite fibrils. P. Rehak, L. Vukovic, P. Kral
- BIOL 116.** Physiological and behavioral adaptations of *Vibrio cholerae* to fatty acids in a continuous culture (bioreactor) model. R.A. Boeger, A. Turgeson, D. Giles, B. Harris
- BIOL 117.** Binding mechanism study of coomassie brilliant blue species and bovine serum albumin. R.N. Ngo, C. Wei, E.A. Fabry
- BIOL 118.** Using comb-branching DNA to construct deoxyribozyme-based biosensors. M.R. Polaske, E. Teselle, D.A. Baum
- BIOL 119.** Effects of heterocyclic diamidine antiparasitic agent binding to DNA on restriction enzyme kinetics. T.M. Rodriguez, S.A. Winkle
- BIOL 120.** Developing FRET assays to study the binding and regulation of fibroblast growth factor to its receptor. M. Mohale
- BIOL 121.** Mechanistic studies of StyA1 styrene monooxygenase from *Rhodococcus Opacus*. J.L. Diaz, G.T. Gassner, d. Tischler
- BIOL 122.** Development of a fluorescence polarization assay for RhII. N.R. Rexrode, J. Taffin, N. Lam, R. Nagarajan
- BIOL 123.** Bioluminescence and photoluminescence properties of the earthworm *Eisenia lucens*. P. Taborsky, O. Pes
- BIOL 124.** Toward Raman-based diagnostics for amatoxins: Synthetic, computational, and spectroscopic studies on analogs for the substituted tryptathionine sulfoxide core of amanitins, the peptide toxins of *Amanita phalloides*. K. Yniguez, T.G. Moreno, A. Ringer McDonald, S.C. Eagon, E. Jones
- BIOL 125.** Hyper obesity suppression by the products of *Rhinacanthus nasutus*: A study in rats. T. Kedam
- BIOL 126.** Energy depletion in vitro potentially caused immunosuppression: A multi-omics characterization of pathogenic threat in spaceflight. N. Chakraborty, A. Cheema, A. Gautam, S. Miller, A. Hoke, M. Jett, R. Hammamieh
- BIOL 127.** Structural analysis of tau peptide interactions with lipid membranes using Fourier transform infrared spectroscopy. P. Engen, L. Masterson
- BIOL 128.** Growth based complementation assay in *E. coli* for inhibitor screening of *S-adenosylmethionine synthetase*. G.G. Parungao, R.M. Blumenthal, R.E. Viola
- BIOL 129.** Effect of the antimicrobial peptide combi-2 on vesicles of membrane mimicking systems of normal and cancer cells. B.M. Almarwani, A. Sunda-Meya, N. Phambu
- BIOL 130.** Quantification of the minimum numbers of TLR2 agonists necessary to elicit a detectable immune response. W.J. Howitz, B. Moser, A. Esser-Kahn
- BIOL 131.** Development of a novel, neural-activity triggered split enzyme. B. O'Neill, S. Laughlin
- BIOL 132.** Enzyme-enzyme proximity stimulates iNOS activity. K.M. Fomchenko, D.J. Hirsh
- BIOL 133.** Investigating the conformational landscape in a signaling protein complex with optical tweezers. J.P. England
- BIOL 134.** Reactivity of bovine serum albumin with ligands of cisplatin analogs. N.C. Puckett, K. Williams
- BIOL 135.** Selective in vivo cell labeling mediated cancer targeting. H. Wang, K. Cai, R. Wang, J. Cheng
- BIOL 136.** Withdrawn.
- BIOL 137.** In vitro biochemical studies of the midgut serine protease AaSPVII of the Zika vector *Aedes aegypti*. J.T. Nguyen, A. Rascon
- BIOL 138.** Withdrawn.
- BIOL 139.** Elucidating the temporal dynamics of caspase activity within the mitochondrial pathway of apoptosis. R.D. Reif, S. Morris
- BIOL 140.** Characterization of menaquinone-2. E. Magallanes, J.T. Koehn, B.J. Peters, C.N. Beuning, M. Zhu, D.C. Crick, D.C. Crans
- BIOL 141.** Allosteric inhibition via two-step enzyme isomerization of human herpesvirus protease protein-protein interaction decreases viral infectivity of Kaposi's sarcoma-associated herpesvirus in mammalian cells. T. Acker, J. Gable, M. Bohn, P. Jaishankar, A.R. Renslo, C. Craik
- BIOL 142.** Chemical imaging of neuron-astroglia interactions. A. Preston, J. Farr, S. Laughlin

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

‡Cooperative Cosponsorship

- BIOL 143.** Computational study of relative thermodynamic stability of mutant base pairs between keto, enol and deprotonated forms of guanine and thymine at DNA polymerase active site. **S.N. Maximoff**, J. Eloge, S. Kamerlin, J. Florian
- BIOL 144.** Dipyrimidine sequence library for determining the sequence dependence of UV-induced cyclobutane pyrimidine dimer formation. **C. Lu**, J.S. Taylor
- BIOL 145.** Direct observation of breathing dynamics at the mismatch induced DNA bubble by smFRET measurement. **T. Paul**, P. Mishra
- BIOL 146.** DNA Editing in DNA/RNA hybrids by adenosine deaminases that act on RNA. **Y. Zheng**, C. Lorenzo, P.A. Beal
- BIOL 147.** Probing RNA recognition by human ADAR2 using a high-throughput mutagenesis method. **Y. Wang**, P.A. Beal
- BIOL 148.** Successful screening of aptamers for an early diagnosis of a periodontitis. **B. Lee**, J. Park, Y. Ko, M. Gu
- BIOL 149.** Single-molecule FISH of specific mRNAs using click chemistry. **S.H. Rouhanifard**, A. Raj
- BIOL 150.** Dynamics of the *E. coli* beta clamp and its influence on DNA loading. **B. Koleva**, J. Baez, J. Conway, A. Wu, P.J. Beuning
- BIOL 151.** T4 DNA ligase-catalyzed polymerization of modified oligonucleotides: Discovery and application of a high-fidelity codon set to the evolution of modified aptamers. **Y. Lei**, D. Kong
- BIOL 152.** Design and synthesis of thiol cleavable self-immolative linkers and their conjugation to proteins. **C.M. Sadlowski**, N. Murthy
- BIOL 153.** Tools for controlled microdomain formation and protein localization in artificial phospholipid membranes. **A.K. Rudd**, N.K. Devaraj
- BIOL 154.** Site-Specific nanocluster synthesis in biomolecular hosts. **S. Teymorian**, A. West, M. Griep
- BIOL 155.** Fourier transform infra red spectroscopy based spectral biomarker identification: Applications in classifying lung cancer subtypes. **A. Sarkar**, A. Sadhu, S.B. Thakur
- BIOL 156.** Withdrawn.
- BIOL 157.** ROS responsive self-cyclization for hydroxyl radical detoxification. **J. Liu**, S. Abdul Salam, H. Zhu, E.J. Merino
- BIOL 158.** New design for twin reactive oxygen species activated anti-tumor agents. **H. Zhu**, S. Abdul Salam, J. Liu, E.J. Merino
- BIOL 159.** Investigation of catalytic activity of stable  $\beta$ -keto-acyl-ACP substrate analogs in quorum sensing signal synthesis. **N. Lam**, D. Dudekula, I. Csik, N. Collingwood, E.C. Brown, R. Nagarajan
- BIOL 160.** Examination of essential genes involved in the biosynthesis of key metabolite by *Chlamydia trachomatis*. **T. Nguyen**, D.G. McCafferty
- BIOL 161.** Versatile site-specific modification of native protein N termini using a panel of engineered peptide ligases. **A. Weeks**, J.A. Wells
- BIOL 162.** Role of miRNAs in chick retina regeneration. **N.G. Burns**, A. Luz-Madrugal, J. Shi, S. Sreeskandarajan, L. Liu, P. Tsonis, C. Liang, K. Del Rio-Tsonis

- BIOL 163.** Novel porphyrin derivatives for photodynamic therapy. **T.E. Hayes**, T. White, M.E. Scarbrough, J.E. Bradshaw

## MONDAY MORNING

### Section A

Moscone Center  
131

#### Nucleic Acid Therapeutics: Mechanisms & Applications

M. Manoharan, *Organizer*  
M. J. Damha, *Presiding*

8:00 Introductory Remarks.

8:10 **BIOL 164.** Design and assembly of artificial proteins using nucleic acid hybridization. **J. Wengel**

8:45 **BIOL 165.** This is your brain on antisense oligonucleotides: Distribution, activity and application to the treatment of severe neurodegenerative disease. **E.E. Swayze**

9:20 **BIOL 166.** Applying the chemist's toolbox for studying nucleic acid structure and function. **M.J. Damha**, H. Abou Assi, D. O'Reilly, E. Malek-Adamiyan, M. Habibian, D. Vlaho, J. Bogojewski, S. Jana, S. Martinez-Montero, C. Gonzalez

9:55 Intermission.

10:10 **BIOL 167.** Advances in RNAi therapeutics: Chemistry, mechanism and applications. **M. Manoharan**

10:45 **BIOL 168.** Structure-based insights into stability, activity and protein interactions of chemically modified oligonucleotides. **M. Egli**

### Section B

Moscone Center  
132

#### Early Career Investigators in Biological Chemistry

L. Hedstrom, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 **BIOL 169.** Withdrawn.

8:55 **BIOL 170.** Introduction of D-glutamate at a key site of A $\beta$ 42 stabilizes a soluble aggregation intermediate and enhances toxicity. **J.A. Raskatov**, C.J. Warner, S. Dutta, A. Foley

9:15 **BIOL 171.** Human monomeric insulin derived from cone snail venoms. **D. Chou**

9:35 **BIOL 172.** Chemically modified macrophages for cancer imaging and drug delivery. **M. Mingroni**, J.J. Elliott, J. Hardie, M.E. Farkas

9:55 Intermission.

10:05 **BIOL 173.** Development of peptide-based tools to study quorum sensing in streptococci. **Y. Yang**, B. Koirala, C.R. Bikash, N.R. Phillips, L.A. Sanchez, S.R. Hamry, Y. Tai-Gan

10:25 **BIOL 174.** Chemical biology strategies illuminating how the proteostasis network modulates evolutionary excursions in sequence space by RNA viruses. **M. Shoulders**

10:45 **BIOL 175.** Profiling endogenous protein phosphatase activity using direct activity probes. **C.I. Stains**

11:05 **BIOL 176.** Pushing click chemistry to its limits: An in-vitro sample generation pipeline for high-throughput single-molecule FRET-based screening of proteins and ribosome-bound nascent chain libraries. **K.M. Hamadani**, P. Wu, J. Cate, S. Marqusee

### Science for a Sustainable Energy Future

#### Energy Storage

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG, ORGN and PROF*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

*Sponsored by PROF, Cosponsored by ANYL, BIOL, CHED, CMA, COLL, COMP, CWD, ENVR, INOR, MEDI, MPPG, ORGN, PHYS, PMSE, POLY, PRES and WCC*

### Cellulose Structure & Biosynthesis

#### Mechanism of Synthesis

*Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL*

## MONDAY AFTERNOON

### Section A

Moscone Center  
131

#### Nucleic Acid Therapeutics: Mechanisms & Applications

M. Manoharan, *Organizer*  
M. Egli, *Presiding*

1:00 Introductory Remarks.

1:05 **BIOL 177.** New roles for G-quadruplexes in gene expression and infectious disease. **C.J. Burrows**, A. Fleming, Y. Ding

1:40 **BIOL 178.** Advances in the chemistry of microRNA-based therapeutics. **C. Allerson**

2:15 Intermission.

2:30 **BIOL 179.** Potent delivery of LUNAR™ nanoparticles containing synthetic mRNA for therapeutic protein expression. **P. Chivukula**

3:05 **BIOL 180.** Homologous DNA recombination in vivo with the delivery of Cas9 ribonucleoprotein and donor DNA complexed to gold nanoparticles. **K. Lee**, M. Conboy, F. Jiang, H. Kim, M. Dewitt, H. Park, J. Corn, J. Doudna, I. Conboy, N. Murthy

### Rising Star Award Symposium

*Sponsored by WCC, Cosponsored by BIOL and PRES*

### Science for a Sustainable Energy Future

#### Chemical & Biological Conversions Approaches to Energy Conversion

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG, ORGN and PROF*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

*Sponsored by PROF, Cosponsored by ANYL, BIOL, CHED, CMA, COLL, COMP, CWD, ENVR, INOR, MEDI, MPPG, ORGN, PHYS, PMSE, POLY, PRES and WCC*

### ACS Award in Industrial Chemistry: Symposium in honor of Jane Frommer

*Sponsored by I&EC, Cosponsored by ANYL, BIOL, COLL, INOR, ORGN, PMSE and POLY*

### Cellulose Structure & Biosynthesis Synthase Trafficking & Synthesis of plant (1->3),(1->4)-D-glucans

*Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL*

### Undergraduate Research Posters

#### Biochemistry

*Sponsored by CHED, Cosponsored by BIOL and SOCED*

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

L. Hedstrom, *Organizer*

8:00 - 10:00

**32, 34, 48, 92, 106, 133, 135, 141, 161.** See previous listings.

**203, 206, 228, 256, 279, 292, 318, 321, 324.** See subsequent listings.

## TUESDAY MORNING

### Section A

Moscone Center  
131

### Metalloprotein-Initiated Signaling Transduction Response to Redox Stress

*Cosponsored by INOR*

A. Liu, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 **BIOL 181.** Screening of small molecule inhibitors of human p19<sup>INK4</sup>. **H. Osada**

8:40 **BIOL 182.** Enzymology of hydrogen sulfide signaling. **R. Banerjee**

9:15 **BIOL 183.** Probing heme trafficking, signaling, and dynamics in health and disease. **A.R. Reddi**

9:50 Intermission.

10:00 **BIOL 184.** Enzyme mechanism-driven DNA-protein crosslinks during attempted DNA repair. **B. Dimple**

10:35 **BIOL 185.** Signal transduction mechanisms in heme-dependent gas-sensing transcription factors. **J.N. Burstyn**, J.P. Hines, H. Bowman, M.R. Dent, D.J. Stevens

11:10 **BIOL 186.** How metal-dependent oxidation can redirect AAA+ proteases to new protein substrates. **B. Ah**, B. Brown, S. Calmant, J. Kardon, T. Baker

## Section B

Mosccone Center  
132

## Chemical Epigenetics

D. G. Fujimori, *Organizer, Presiding*

## 8:30 Introductory Remarks.

**8:35 BIOL 187.** Advanced chemical genetics for epigenetics: Bump-and-hole and PROTACs. A. Ciulli

**9:05 BIOL 188.** Regulation of catalysis and novel inhibitor chemotypes for histone demethylases. D. G. Fujimori

**9:35 BIOL 189.** Discovery of A-395: A novel protein-protein interaction inhibitor of EED. B. Pappano

## 10:05 Intermission.

**10:20 BIOL 190.** Development of irreversible small molecule epigenetic modulators to block menin-MLL in cancer. J.E. Grembecka, D. Borkin, S. Klossowski, H. Miao, K. Kempinska, J. Pollock, T. Purohit, B. Wen, D. Sun, T. Cierpicki

**10:50 BIOL 191.** On the mechanisms of generation, recognition, and erasure of DNA and histone modifications. X. Cheng

## Cellulose Structure &amp; Biosynthesis

## Biochemistry &amp; Cellular Biology

*Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL*

## ACS Award for Computers in Chemical &amp; Pharmaceutical Research: Symposium in honor of Yvonne C. Martin

*Sponsored by COMP, Cosponsored by BIOL, MEDI and WCC*

## Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes &amp; Future Challenges

*Sponsored by INOR, Cosponsored by BIOL*

## TUESDAY AFTERNOON

## Section A

Mosccone Center  
131

## ACS Chemical Biology Award Symposium

*Cosponsored by WCC*

A. Weidmann, *Organizer*

L. L. Kiessling, *Organizer, Presiding*

## 2:00 Introductory Remarks.

**2:05 BIOL 192.** Profiling acetyltransferases to understand cancer's metabolic cues. J.L. Meier

**2:35 BIOL 193.** Privileged First-Responding redox sensors in isozyme-specific apoptosis regulation. Y. Aye

**3:05 BIOL 194.** Chemical tools for probing bacterial peptidoglycan activation of the innate immune system. C.L. Grimes

**3:35 BIOL 195.** Cross-reactive cysteine modifications. B.R. Martin

## 4:05 Introduction of Awardees.

**4:10 BIOL 196.** Activity-based proteomics – protein and ligand discovery on a global scale. B.F. Cravatt

## ACS Award for Computers in Chemical &amp; Pharmaceutical Research: Symposium in honor of Yvonne C. Martin

*Sponsored by COMP, Cosponsored by BIOL, MEDI and WCC*

## Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes &amp; Future Challenges

*Sponsored by INOR, Cosponsored by BIOL*

## TUESDAY EVENING

## Section A

Mosccone Center  
West Hall

## Current Topics in Biochemistry

L. Hedstrom, *Organizer*

## 7:00 - 9:00

**BIOL 197.** Label free proteomics profiling unveils downregulation of thrombin mediated signaling and aggregation of human platelets upon treatment with thrombin inhibitors. C.C. Clement, A. Babinska, J. Gonzalez

**BIOL 198.** Allosteric and catalysis of UDP-sugar pyrophosphorylases suggest a new approach to anti-parasitic treatments. J.T. Cramer, J.I. Fühling, F.H. Routier, A. Lamerz, J. Schneider, P. Baruch, R. Gerardy-Schahn, R. Fedorov

**BIOL 199.** Development of novel substrate inhibitors of bacterial phospholipid biosynthesis as new antibacterial agents. P. Saklani, J. Luo, D.P. Brown

**BIOL 200.** Analysis of chemotypes in retail *Cannabis strains*. R.M. Hyslop, C.E. Brown, A. Schwabe, S. Desa, M. McLaughlin

**BIOL 201.** Novel application of TEC-disulfide replacement showcased in the synthesis of SFTI-1. J. Barbaretta, A.J. Wommack

**BIOL 202.** Self-assembled synthetic ion channels. D. Yang

**BIOL 203.** Discovering and manipulating miRNA biology utilizing click-chemistry. D. Lorenz, A. Garner

**BIOL 204.** Synthesis & spectroscopic characterization of xenometabolite, biomarkers for the diagnosis of fatty acid  $\beta$ -oxidation disorder. H.F. Sobhi, S. Adams, M. Ekwuru, P. Teasley

**BIOL 205.** Study of aminoglycosides binding to mitochondrial rRNA. L. Garmo, P. Madubashitha, E. Jones, C.S. Chow

**BIOL 206.** Bioorthogonal metal catalysed transformation of dehydroalanine in peptides and proteins. A. de Bruijn, G. Roeloffs

**BIOL 207.** *In vitro* anti-neoplastic activity of specific phytocannabinoids of *Cannabis sativa*. R.M. Hyslop, A. Saviola, S. Bydalek, C.E. Brown, S. Desa, M. Thomas, A. Magiotta, S. Mackessy, C. Hansen, M. Brown

**BIOL 208.** Quantifying the relative amounts of PrP polymorphisms present in prions isolated from heterozygous prion-infected animals. C.J. Silva, M.L. Erickson-Beltran, C. Hui, J.J. Badiola, J.R. Requena, R. Bolea

**BIOL 209.** Novel application of scaffold treatment procedure with minimum side effects by using an engineered biodegradable scaffold. Y. Lo, G. Ren, E.J. Parish, H. Honda

**BIOL 210.** Novel approaches to the developmental relationship of retinol binding protein and clinical phenotype of coronary heart disease. L. Lv, E.J. Parish, D. Ren, G. Ren, H. Honda

**BIOL 211.** Novel application of new methodology in the treatment of enzyme as a preparation method for biocompatible material. G. Ren, E.J. Parish, Y. Lo, H. Honda

**BIOL 212.** *In vitro* activation of purified *Aedes aegypti* mosquito wild-type Early Trypsin (AaET) versus the inactive AaET mutant. R.M. Lucero, A. Rascon

**BIOL 213.** Importance of Ser26 in the folate half-reaction of *E. coli* MTHFR. R. Li

**BIOL 214.** Interfacial interactions of glycine and short glycine peptides in confined spaces. K. Doucette, P. Chaiyasit, D.L. Calkins, K. Martinez, M.J. Fisher, D.C. Crans, A. Tongraar

**BIOL 215.** Developing small molecule adjuvants from contact allergens. S. Kim, A. Esser-Kahn

**BIOL 216.** Synthesis of 2-Arachidonoylglycerol: An endocannabinoid with potential as an anti-cancer drug. S. Bydalek, R.M. Hyslop

**BIOL 217.** Purification and characterization of adenosine aminohydrolases from *Pisum Sativum*. L. Thicklin, P.C. Kline

**BIOL 218.** Photoactivatable innate immune receptor for optogenetic inflammation. B. Moser, A. Esser-Kahn

**BIOL 219.** Investigation of Cu(II) complexation with fourth microtubule-binding repeat of tau protein by ESI-MS, IMS-MS and NMR. S. Ahmadi, S. Zhu, R. Dutta Majumdar, R. Soong, D. Wilson, A. Simpson, H. Kraatz

**BIOL 220.** Conformational sampling and non-dimer aggregates of HIV-1 protease containing darunavir promoted mutations. L. Pham, Z. Liu, L. Hu, X. Huang, A. Bhatt, K. Bentz, T. Tran, D. Savin, R. McKenna, G. Fanucci

**BIOL 221.** Synthesis of fluorogenic phosphatidylcholine derivatives for kinetic studies of phospholipase A2 enzymes. L. Zelaya, J. Hajdu, T.G. Minehan

**BIOL 222.** Enhancing efficacy of protease drugs through site-directed mutagenesis. A. Amorello, A. Batt, T. Baird

**BIOL 223.** Investigating a new paradigm in melanocortin signaling and energy balance. V. Chen

**BIOL 224.** Affinity ligand purification for pyridine dinucleotide binding proteins. D. Andy, J. Slama, T. Walseth

**BIOL 225.** Elucidating Met18 functionality in iron-sulfur cluster biogenesis pathway. C. Lee, A. Vo, J. Cosman, D. Perlstein

**BIOL 226.** Engineering a polymerase for accurate bypass of damaged DNA samples. T. Coulther, P.J. Beuning, M.J. Ondrechen

**BIOL 227.** Topology study of one CpTat component, Hc1f106, in resting and precursor binding state. A.G. Habtemichael, G. Thomas, C. Dabney-Smith

**BIOL 228.** Single molecule imaging of protein activity in living cells. N. Pinkin, J. Smith, B. Liu, C.J. MacNevin, K.M. Hahn

**BIOL 229.** Assessing the functionality of active site threonine substituted trypsin with disulfide residue serine variants. J. Schuder, B. Caswell, T. Baird

**BIOL 230.** HPLC analysis of sulfation of dopamine derivatives by SULT1A3. K. Reed, J. Rogowiec, M.L. Cafiero, L.W. Peterson

**BIOL 231.** Cloning of IME4 to establish a new model system to probe N6-methyladenosine modification of mRNA. A. Barnaby, C. Schoose, J. Dunkle

**BIOL 232.** Gene expression in a synthetic tissue of artificial cells. H. Niederholtmeyer, N.K. Devaraj

**BIOL 233.** Cobalticinium derivatives as mediators for bioelectrochemical catalysis with P450. W. Bae

**BIOL 234.** Characterization of Sup35, Rnq1, and Ure2 cotranslational prion aggregation in *Saccharomyces cerevisiae*. B.T. Allwein, D. Cameron

**BIOL 235.** Construction of hydrophobic nanoparticles based surface plasmon resonance biosensor for lysozyme detection. Y. Saylan, F. Yilmaz, A. Derazshamshir, A. Denizli

**BIOL 236.** Photoswitchable immunostimulators for optical control of TLR activity. A. Love, T.J. Albin, A.P. Esser-Kahn

**BIOL 237.** Solid phase peptide cyclization and development of PRC2 Inhibitors. G. Zhang

**BIOL 238.** Relationship between metal binding and protein stabilization of an ancestral  $\beta$ -crystallin from the *Ciona intestinalis tunicate*. N. Kozlyuk, S. Sengupta, J. Bierma, R.W. Martin

**BIOL 239.** Using light and a photoactivated insulin depot to control insulin release and blood glucose in-vivo. B.R. Sarode, K. Kover, P.Y. Tong, C. Zhang, S.H. Friedman

**BIOL 240.** C9orf72 repeat expansion disrupts nucleocytoplasmic transport. S. Bifulco, K. Zhang

**BIOL 241.** Development of highly specific carbohydrate-nucleic acid reagents for lectin recognition. C. Gordon, J. Niu, A. Pusuluri, A. Csordas, C.J. Hawker, H. Soh

**BIOL 242.** Synthesis of solvatochromic probes to study the effect of host microenvironment on mycobacterial cell wall dynamics during infection. S. Keyser, A. Utz, C.R. Bertozzi

**BIOL 243.** Cryptic antibiotic discovery in the filamentous cyanobacterium *Scytonema* sp. UTEX LB 1163. M.L. Hillwig

**BIOL 244.** Chemo-enzymatic synthesis of an effective bifunctional NAADP analog for isolation and purification of the NAADP receptor. P. Su, T. Walseth, J. Slama

**BIOL 245.** Ribonucleotide reductase enzyme a target for titanium complexes: A strategy to cure cancer. K. Gaur, S.C. Perez, E. Akam, E. Tomat, M. Saxena, R.K. Sharma, A.D. Tinoco

**BIOL 246.** Inhibition of cancer cell viability and selective inhibition of lysyl oxidase with small-molecule inhibitors. K. Johnston, K.M. Lopez

**BIOL 247.** Plausible reaction mechanism of the deamination of histidine catalyzed by histidine-ammonia lyase. S. Minkowicz, Y. Sheng

**BIOL 248.** Unraveling the role of ligands in the hydrogen evolution mechanism catalyzed by [NiFe] hydrogenases. S. Qiu, L.M. Azofra, D.R. MacFarlane, C. Sun

**BIOL 249.** Highly responsive and selective fluorescent probes to image ATP in live cells. Y. Fan, H. Ai

‡ Cooperative Cosponsorship



- BIOL 250.** Design of a two-step fluorogenic strategy for tyrosine specific labeling of proteins. **M. Shadmehr, M. Stagg, J.C. Jewett**
- BIOL 251.** Development of a direct activity probe for a critical regulator of metabolic signaling. **T. Hamada, J.R. Beck, G.R. Casey, M. Kelly, X. Zhou, C.I. Stains**
- BIOL 252.** Spatial and temporal control of lysine acetyl transferases (KATs): Ligand gated split KATs. **C.S. de Silva**
- BIOL 253.** Determination of metal affinities of *Halobacterium salinarum* cysteinyl-tRNA synthetase. **L. Cobani, J. Kuhlmeier, J. Rosentretter, C.M. Evilia**
- BIOL 254.** Irradiation-controlled disassembly of peptide hydrogels and dye release via photolabile Lys(Nvoc). **J. Pellegrino, R.M. Abaskharon, F. Gai**
- BIOL 255.** DNA repair proteins XLF and XRCC4 interact with telomeric proteins TRF1 and RAP1. **P. Zaibaq, M. Guirette, E. Castle, K. Vu, N. Fahmy, J. Jabbur, A. Ribes-Zamora**
- BIOL 256.** Evolved luciferases improve activity with pyridone luciferins. **B.S. Zhang, K.A. Jones, D.C. McCutcheon, J.A. Prescher**
- BIOL 257.** Development of anti-fungal  $\alpha/\beta$ -peptides mimetics of the antimicrobial peptide Aurein 1.2. **M. Lee, N. Raman, A. Rodriguez-Lopez, S.H. Gellman, D.M. Lynn, S. Palecek**
- BIOL 258.** Engineering Modular Polyketide Synthases for Generation "Drop In" Biofuels. **C.B. Bailey, A. Zargar, R. Anayah, S. Curran, L. Katz, J.D. Keasling**
- BIOL 259.** Development of *Streptomyces* as heterologous hosts for the production of branched fatty acids for biofuels. **R. Krishna, J. Blake-Hedges, R. Haushalter, J.D. Keasling**
- BIOL 260.** Synthesis and biochemical assessment of hydroxytyrosol. **I. Kady, E. Onobun, S. Mumford**
- BIOL 261.** Proline-rich peptides inhibit polymerization of sickle cell hemoglobin. **B.B. Brennan, L. Steenberge**
- BIOL 262.** Investigation of the effect of gold nanoparticles on the structure and catalytic function of *Escherichia coli* prolyl-tRNA synthetases. **S. Mitchell, O. Hurst, A. Lato, J.A. Dahl, S. Hati**
- BIOL 263.** LGN protein purification for X-ray crystallography. **A. Howard, A.H. Smith, R. Elnicki, J. Galardi, L.B. Cook, B.M. Sreenilayam**
- BIOL 264.** Measuring metabolite consumption by *Sinorhizobium meliloti* using 1H NMR spectroscopy and time domain Complete Reduction to Amplitude Frequency Table (CRAFT). **D.P. Soulsby, D.B. Wacks, N. Stubb**
- BIOL 265.** Development of a cannabinoid-based Cell-in-a Box® therapeutic system targeted toward malignant tumors. **R.M. Hyslop, C.E. Brown, A. Magiotta, B. Morgan, M. Brown, T. Sherman, D. Petty, S. Desa, J. O'Neil, S. Fiora, K. Kellogg, C. Hansen, S. Bydalek, T. Cale, C. Laster, J. Folsom, A. Hawkinson**
- BIOL 266.** Cartilage: Function and supramolecular structure. **F. Horkay, E.K. Dimitriadis, I. Horkayne-Szakaly, P.J. Bassar**
- BIOL 267.** Photosensitized oxidation of biotinylated dyes. **R.A. Haack, Q. Ruan, K.M. Swift, S. Tetin**
- BIOL 268.** Purification of a putative tartrate-resistant acid phosphatase from *Penicillium spinulosum*. **B.A. Schofield, J. Carsella, S.J. Bonetti**
- BIOL 269.** Evaluation of potential functions of two previously uncharacterized bacterial GNAT threonine N-acetyltransferases from *Clostridium difficile* and *Staphylococcus aureus*. **J. Baumgartner, D. Tran, M.L. Kuhn**
- BIOL 270.** Discovery of endogenous and synthetic ligands for orphan nuclear receptor TLX. **A.C. Cao, P. Kandel, M. Maletic-Savatic, D. Young**
- BIOL 271.** Synthesis, characterization and biological studies of cobalt(II) Schiff bases derived from *o*-vanillin with series of aromatic amines. **R.O. Shaibu**
- BIOL 272.** Spectroscopic and computational studies on the comparative interaction of cationic single-chain and gemini surfactants with hen egg white lysozyme. **R. Patel**
- BIOL 273.** Evaluating Fmoc-amino acids as butyrylcholinesterase inhibitors. **J.P. Schwans, J. Ramirez, J. Gonzalez**
- BIOL 274.** -2-Himachalen-6-ol: A novel anticancer sesquiterpene unique to the Lebanese wild carrot. **R.I. Taleb, C. Daher, M. Mroueh, M. ElSibai**
- BIOL 275.** Reverse transport of 1-Methyl-4-Phenylpyridinium (MPP+) is mediated by extracellular calcium in dopaminergic MN9D cells. **V.Q. Le, K. Wimalasena, S. Mapa**
- BIOL 276.** Glycoconjugated site-selective DNA-methylating agent targeting glucose transporters on glioma cells. **M. Buchanan, N. Chase, N. Neill, M. White, C. Kelly, K. Mastro-Kishton, L. Chauvigne-Hines, T. Goodwin, A. Mclver, L.J. Bartolotti, A. Bourdelais, A. Frampton, S. Varadarajan**
- BIOL 277.** Disabling WTA to kill MRSA with beta-lactam antibiotics. **C.V. Rice, M. Foxley, M. Xiao, S. Wright, S. Strange**
- BIOL 278.** Heteromultivalency in melanoma with GPCR ligands: Target validation and use of orthogonal chemistries towards a heterobivalent scaffold. **J.A. Rodriguez Corrales, D.H. Clark, P. Kohnke, J.S. Josan**
- BIOL 279.** NitroTyrosine: Gain-of-function alterations to calcium signaling. **J. Porter, R.A. Mehl**
- BIOL 280.** Traversing the challenges of extended conjugation: Bacteriochlorins and aza-bodipys, a new era in photomedicine. **M. Cheng, R.W. Boyle**
- BIOL 281.** Bioelectrochemical detection of endocrine disrupting compounds. **A.L. Furst, A. Hoepker, M.B. Francis**
- BIOL 282.** Cytochrome c-induced permeabilization of cardiolipin-containing phospholipid membranes is induced through the selective interaction of cytochrome c with cardiolipin. **J.P. Kitt, D.A. Bryce, S.D. Minter, J.M. Harris**
- BIOL 283.** Correlation between melatonin and cortisol levels in hair and their validity as biomarkers. **A. Alarbi, W. Potter**
- BIOL 284.** Propargyl-linked antifolates potently inhibit US clinical *S. aureus* isolates with newly identified dfrG and dfrK resistance genes. **S.M. Reeve, A.C. Anderson, D. Wright**
- BIOL 285.** Development and application of novel small molecule calcium sensors for investigating neuronal activity. **A.A. Contractor**
- BIOL 286.** Engineering alternative radical rebound chemistry the  $\alpha$ KG oxygenase Factor Inhibiting Hypoxia Inducible Factor (FIH). **V.D. Chaplin, M. Knapp**
- BIOL 287.** Withdrawn.
- BIOL 288.** Determination of calcitriol-ligand complex formation using fluorescence spectroscopy. **C. Thomas**
- BIOL 289.** Isomerically pure tetramethylrhodamine voltage reporters. **P. Deal, E. Miller**
- BIOL 290.** Design and application of new voltage sensitive dyes for *Ex vivo* brain imaging. **R. Kulkarni, E. Miller**
- BIOL 291.** Withdrawn.
- BIOL 292.** Investigating active site dynamics in a thermophilic enzyme through FTIR and 2DIR spectroscopy. **T.D. Hill, H.H. Lepird, D.A. Price, S.D. Moran**
- BIOL 293.** Dynamics of thrombin generation and flux from clots during whole human blood flow over collagen/tissue factor surfaces. **S. Zhu, Y. Lu, T. Sinno, S. Diamond**
- BIOL 294.** Internally quenched synthetic peptides for the study of yeast Ste24p proteolytic activity. **E.A. Krautkramer, E. Hsu, C. Hrycyzna, M.D. Distefano**
- BIOL 295.** Tissue-specific ascaroside production in the nematode *Caenorhabditis elegans*. **A.E. Akagi, P. Sternberg, F. Schroeder**
- BIOL 296.** Stable-on-the-table enzymes: Interlocking of laccase in Whatman filter paper. **C. Riccardi, C.V. Kumar, R. Kasi**
- BIOL 297.** Synthetic foldamers as inhibitors of A $\beta$  aggregation. **S. Kumar, A. Hamilton**
- BIOL 298.** Characterization of cold adaptation in Antarctic toothfish eye lens proteins. **J. Biernia**
- BIOL 299.** Host cell entry of Zika virus may be mediated by glycosaminoglycans. **S.Y. Kim, J. Zhao, X. Liu, L. Lin, X. Zhang, F. Zhang, R.J. Linhardt**
- BIOL 300.** Fibrinogen  $\alpha$ C (233-425): A model protein for characterizing cross-linking by the transglutaminase factor XIII. **K. Mouapi, J. Bell, K. Smith, R. Ariens, H. Philippou, M.C. Maurer**
- BIOL 301.** Withdrawn.
- BIOL 302.** Ionic interactions of collagen and thermosetting resin composites. **A. Lorts, A. Stewart, R. Quirino**
- BIOL 303.** Characterizing the atypical protein kinase 9 in *Plasmodium*. **A. Eubanks, R. Raphemot, E. Derbyshire**
- BIOL 304.** Withdrawn.
- BIOL 305.** Investigating the ability of small molecule gibberellins to inhibit the NF- $\kappa$ B pathway. **J. Annand, A.R. Henderson, A.K. Mapp, A.N. Koehler, C. Schindler**
- BIOL 306.** On the mechanism of slowing down cancer cell migration in the gold nanoparticles treatment. **Y. Wu, M.R. Ali, M.A. El-Sayed**
- BIOL 307.** Purification and kinetic assays of recombinant AaCHYMO from the *Aedes aegypti* female mosquito. **O.E. Burata, A. Rascon**
- BIOL 308.** Characterizing the genetic fitness landscape of virus-like particles. **E. Hartman, C. Jakobson, D.T. Ercek, M.B. Francis**
- BIOL 309.** Mechanistic studies in Flavin Dependent Thymidylate Synthase (FDTs). **K.U. Karunaratne, M. LeFebvre, J. Villalobos, A. Kohen**
- BIOL 310.** Insight into the mechanism of a bifunctional diguanylate cyclase enzyme in *Agrobacterium vitis*: A catalytic loop 6, nitric oxide signaling and bacterial biofilm formation. **D. Williams, N.M. Nesbitt, E.M. Boon**
- BIOL 311.** Investigation of oligomeric assemblies within the claudin tight junction protein family: A combined computational and experimental approach. **D. Shastry, F.J. Irudayanathan, S. Nangia, P. Karande**
- BIOL 312.** Design, synthesis, and conformational analysis of proposed  $\beta$ -turn mimics from isoxazoline-cyclopentane aminols. **M. Memeo, M. Mella, V. Montagna, P. Quadrelli**
- BIOL 313.** Design and synthesis of lysine-56 targeting covalent inhibitors of HSP72. **J. Pettinger, M. Cheeseman, Y. Le Bihan, M. Widy, R.L. van Montfort, K. Jones**
- BIOL 314.** Exploiting the peptide-binding site to design inhibitors of the KDM4 subfamily. **J. Maw, Y. Le Bihan, N. Mok, K. Boxall, A. Tumber, V. Bavetsias, J. Blagg**
- BIOL 315.** Repurposing an aminomutase from *Taxus* plants: Enzymatic conversion of cinnamate epoxides into ring-opened, chiral phenylserines. **P.K. Shee, N. Ratnayake, O. Goethe, E.E. Onyeozili, K.D. Walker**
- BIOL 316.** Branched polyethylenimine disables teichoic acid function leading to altered morphologies of Gram-positive bacteria. **M. Foxley, S. Wright, M. Xiao, S. Strange, C.V. Rice**
- BIOL 317.** Protein power: Enzyme-hydrogels for efficient sugar-to-power conversion in a biofuel cell. **A. Ghimire, A. Pattanammattel, R. Kasi, C.V. Kumar**
- BIOL 318.** Protein phosphor materials: A new generation of biodegradable, multi-functional, protein-based, hydrogels for white emission, sensing of small molecules, and detection of pH over a wide range (3-11). **K.R. Benson, A. Ghimire, R. Kasi, C.V. Kumar**
- BIOL 319.** Inhibition of fibrillar assemblies of l-phenylalanine by crown ethers: A potential approach toward phenylketonuria. **D. Banik**
- BIOL 320.** Assay interference and off-target liabilities of reported histone acetyltransferase inhibitors. **J.L. Dahlin, K.M. Nelson, J.M. Strasser, D. Barsyte-Lovejoy, J.H. Shrimp, J.L. Meier, C.H. Arrowsmith, P. Brown, J.B. Baell, M.A. Walters**
- BIOL 321.** Epigenetics and O-GlcNAc cycling: The relationship between dynamic O-linked glycosylation and transcriptional regulation. **K.R. Harwood, J. Hanover**
- BIOL 322.** Withdrawn.
- BIOL 323.** Enzymatically self-assembled functional RNA nanostructures and their therapeutic applications. **H. Kim, J. Lee**
- BIOL 324.** Withdrawn.
- BIOL 325.** Withdrawn.



## WEDNESDAY MORNING

## Section A

Moscone Center  
131

## Self-Assembly of Small Molecules in the Cellular Milieu

B. Xu, *Organizer, Presiding*

## 8:30 Introductory Remarks.

**8:35 BIOL 326.** Molecular prosthetics for missing ion transport proteins. M.D. Burke

**9:10 BIOL 327.** Protein responsive supramolecular assembly for live cell imaging. I. Hamachi

**9:45 BIOL 328.** Enzyme-instructed self-assembly in cellular milieu: Bioinspired targeting of cancer cells without drug resistance. H. Wang, Z. Feng, J. Zhou, X. Du, B. Xu

## 10:20 Intermission.

**10:35 BIOL 329.** Self-assembly of chemotherapeutic colloidal drug aggregates. M.S. Shoichet, A. Ganesh, C. McLaughlin, J. Logie, S.C. Owen, B. Shoichet

**11:10 BIOL 330.** Mechanism of cell death induced by a small-molecule forming fibrils. O. Julien, J.A. Wells

## Section B

Moscone Center  
132

## Mid-Career Investigators in Biological Chemistry

L. Hedstrom, *Organizer*

C. I. Stains, *Presiding*

## 8:30 Introductory Remarks.

**8:35 BIOL 331.** Nanobody activation immunotherapeutics. B. McNaughton

**8:55 BIOL 332.** Highly selective and sensitive fluorescent probes for superoxide, peroxyxynitrite, hypochlorous acid, hydrogen peroxide and hydroxyl radical. J. Hu, N. Wong, T. Peng, X. Bai, M. Lu, S. Ye, D. Yang

**9:15 BIOL 333.** Allosteric modulation of G protein coupled receptors: The P2Y1 receptor as an example. Z. Gao, K.A. Jacobson

**9:35 BIOL 334.** Role of intrinsic dynamics on substrate binding and catalysis of Escherichia coli prolyl-tRNA synthetase. S. Hati

## 9:55 Intermission.

**10:05 BIOL 335.** Chemical probes for the investigation of natural product assembly: Biosynthetic insights and novel opportunities. M. Tosin, C. Ho, I. Wilkening, E. Riva, J. Havemann

**10:25 BIOL 336.** Targeting RNA with branched peptide boronic acids: Unnatural amino acids, molecular recognition, and in vitro activity against HIV-1 RRE RNA. W.L. Santos, Y. Dai, J. Wynn, A. Peralta, D. Rekosh, M. Hammarskjöld

**10:45 BIOL 337.** Chemical biology tools to study protein-protein interactions of the fatty acid synthase – updates from the interface. M.D. Burkart

## Chemical Biology: Enabling Drug Discovery

*Sponsored by ORGN, Cosponsored by BIOL*

## WEDNESDAY AFTERNOON

## Section A

Moscone Center  
131

## Chemical Probes for Bacterial Imaging

*Cosponsored by WCC*

E. E. Carlson, *Organizer, Presiding*

## 2:00 Introductory Remarks.

**2:05 BIOL 338.** Chemical technologies for illuminating Mycobacterium tuberculosis. K.E. Beatty

**2:50 BIOL 339.** Probing the dynamics of peptidoglycan biosynthesis with Fluorescent D-amino Acids (FDAAs). M. Van Nieuwenhze

## 3:35 Intermission.

**3:50 BIOL 340.** Activity-Based probes for selective imaging of an essential PBP in Streptococcus pneumoniae. E.E. Carlson

**4:35 BIOL 341.** Chemical insights into methicillin-resistant Staphylococcus aureus. S. Walker

## 5:20 Concluding Remarks.

## Section B

Moscone Center  
132

## Graduate Student &amp; Postdoctoral Fellow Symposium

L. Hedstrom, *Organizer*

W. L. Santos, *Presiding*

## 2:00 Introductory Remarks.

**2:05 BIOL 342.** Utilizing selenocysteine for expressed protein ligation and bioconjugations. J. Liu, Q. Chen, S. Rozovsky

**2:20 BIOL 343.** Genetic targeting of small molecule voltage indicators using SpyTag/SpyCatcher. V. Grenier, E. Miller

**2:35 BIOL 344.** Translating unnatural amino acids with phenotypically-diverse computationally-engineered EF-Tu variants. V. Cox, E. Gaucher

**2:50 BIOL 345.** Constructing de novo small molecules responses via signal-induced protein proximity in mammalian cells: Chemically engineer cell behaviors & signaling. G. Zeng, W. Xuan, H. Li, R. Zhang, Y. Wei, L. Breden, F. Liang, W. Wang

**3:05 BIOL 346.** Direct proximity tagging of small molecule proteins targets. Z.B. Hill, S.B. Pollock, M. Zhuang, J.A. Wells

## 3:20 Intermission.

**3:35 BIOL 347.** Development of novel far-red to near-infrared fluorophores for chemical biology. X. Zhou, L. Leisak, R. Lai, J.R. Beck, J. Zhao, C. Elowsky, H. Li, C.I. Stains

**3:50 BIOL 348.** Probing innate immunity with tunable synthetic glycopeptides. M. Zhou, C. Delaveris, J. Kramer, C.R. Bertozzi

**4:05 BIOL 349.** Monitoring thioredoxin redox in live cells with a genetically encoded red fluorescent protein biosensor. Y. Fan, H. Ai, M. Makar

**4:20 BIOL 350.** SAMDI Mass spectrometry assay for the high-throughput profiling of protein interaction domains with peptide ligands and its application to chromodomains. P.T. O'Kane, M. Mrksich

**4:50 BIOL 351.** Generation of allosteric chaperones for Glucose-6-Phosphate Dehydrogenase (G6PD) deficiency. S. Hwang

## THURSDAY MORNING

## Section A

Moscone Center  
131

## Graduate Student &amp; Postdoctoral Fellow Symposium

L. Hedstrom, *Organizer*

M. L. Kuhn, *Presiding*

## 8:30 Introductory Remarks.

**8:35 BIOL 352.** Exploring vectorial chain translocation in assembly line polyketide synthases. M. Ostrowski, C. Khosla

**8:50 BIOL 353.** What machinery controls the release of peptide mimetics from endosomes? A genome-wide analysis. A. Steinauer, J.R. LaRochelle, R.F. Wissner, A. Schepartz

**9:05 BIOL 354.** Influenza hemagglutinin fusion domain by advanced NMR using novel orthogonal refinement and BICS curvature measurements. S.T. Smrt, A. Draney, J. Lorieu

**9:20 BIOL 355.** Discovery of a bacterial gene in the gut microbiome encoding metabolism of dietary lignans. E. Bess, J. Bisanz, P. Spanogiannopoulos, E. Waligurski, P. Turnbaugh

**9:35 BIOL 356.** Targeting phospholipase A2 to diminish inflammation by developing novel inhibitors. V. Mouchlis, J. McCammon, E.A. Dennis

**9:50 BIOL 357.** Investigating the Regiospecificity of an Unusual Bacterial Acyl-CoA Dehydrogenase. J. Blake-Hedges, J. Pereira, J. Chen, P.D. Adams, J.D. Keasling

## 10:05 Intermission.

**10:20 BIOL 358.** Characterization of a drug-inactivating enzyme from a prominent human gut microbe. N. Koppel, J. Bisanz, P. Turnbaugh, E.P. Balskus

**10:35 BIOL 359.** Investigating the molecular basis of algal-bacterial symbioses. R. Wang, M. Wilson, M. Seyedsayamdost

**10:50 BIOL 360.** Engineering protein structure and small molecule transport of the bacterial microcompartment. M. Slinger Lee, C. Jakobson, D.T. Ereck

**11:05 BIOL 361.** Structural insight from activity: Functional screening of the entire Arabidopsis GT1 family enables cheminformatic-bioinformatic predictions of glycosyltransferase reactions and protein features. C. Fehl, M. Yang, K.V. Lees, E. Lim, W. Offen, G.J. Davies, D. Bowles, S.J. Roberts, B.G. Davis

**11:20 BIOL 362.** Enzymatic mechanisms for decorating phenazine antibiotics from Lysobacter antibioticus. J. Jiang, Y. Zhao, S. Wright, L. Du

## BMGT

## Division of Business Development and Management

J. Bryant, *Program Chair*

## OTHER SYMPOSIA OF INTEREST:

**Entrepreneurial Opportunities in Chemistry** (see YCC, Sun)

**Strengthening Your Patent Rights in Light of Recent Federal Circuit Court Decisions** (see CHAL, Sun)

**The Use of Scientific Information in IP-Related Matters** (see CHAL, Mon)

## BUSINESS MEETINGS:

**Business Meeting**, 1:00 PM: Sun

## SUNDAY AFTERNOON

## Section A

Hotel Nikko San Francisco  
Carmel I

## Chemical Angel Network: Chemists Investing in Chemical Companies

*Cosponsored by PROF<sup>‡</sup> and SCHB<sup>‡</sup>  
Financially supported by CIEC*

J. L. Bryant, M. Vreeke, *Organizers*

S. S. White, *Presiding*

## 1:30 Introductory Remarks.

**1:35 BMGT 1.** News and updates from the Chemical Angel Network (CaN) and its 5th year of supporting chemists and company and job creation. M. Vreeke

## 2:00 Company Presentations.

## 3:00 Investment Discussion.

## 3:30 Open Forum.

## 4:00 Concluding Remarks.

## Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

*Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG<sup>‡</sup>, ORGN and PROF*

## SUNDAY EVENING

## Entrepreneurial Opportunities in Chemistry

*Sponsored by YCC, Cosponsored by BMGT, PROF and SCHB*

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

<sup>‡</sup> Cooperative Cosponsorship

## MONDAY MORNING

## Science for a Sustainable Energy Future

## Energy Storage

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG‡, ORGN and PROF

## Teaching, Researching &amp; Community Building in the Global Chemical Enterprise

Sponsored by IAC, Cosponsored by BMGT‡, ENVR‡, I&EC, PRES‡ and PROF

## MONDAY AFTERNOON

## Chemical Innovation Partnerships: Industry-University Success Stories

Sponsored by COMSCI, Cosponsored by BMGT

## Science for a Sustainable Energy Future

## Chemical &amp; Biological Conversions Approaches to Energy Conversion

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG‡, ORGN and PROF

## Teaching, Researching &amp; Community Building in the Global Chemical Enterprise

Sponsored by IAC, Cosponsored by BMGT‡, ENVR‡, I&EC‡, PRES‡ and PROF‡

## TUESDAY MORNING

## Producing Knowledgeable, Well-Rounded, T-Shaped Chemists for the 21st Century: Current Perspectives from High School, Undergraduate &amp; Graduate Educators

Sponsored by PROF, Cosponsored by BMGT, CHED and PRES

## ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler

## Materials Chemistry of Solutions &amp; Solids for a Sustainable Future

Sponsored by INOR, Cosponsored by BMGT‡, MPPG and PROF‡

## TUESDAY AFTERNOON

## ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler

## Chemists Leading the Charge: Chemists Using Business Acumen &amp; Transformative Research to Address Societal Needs

Sponsored by INOR, Cosponsored by BMGT‡, MPPG, PRES and PROF‡

## WEDNESDAY MORNING

## Looking Beyond Your Current Boundaries: What's the Next Step?

## Academic Route: PhD to Postdoc to Ass. Prof.

Sponsored by PROF, Cosponsored by BMGT and YCC

## WEDNESDAY AFTERNOON

## Looking Beyond Your Current Boundaries: What's the Next Step?

## Industrial Route: PhD, Postdoc, Scientist

Sponsored by PROF, Cosponsored by BMGT and YCC

## CARB

## Division of Carbohydrate Chemistry

N. Snyder, Program Chair

## SUNDAY MORNING

## Section A

Grand Hyatt San Francisco  
Grand Ballroom East

## Wolfrom Award

E. Rozners, N. L. Snyder, Organizers  
L. Wang, Presiding

9:00 Introductory Remarks.

9:10 **CARB 1.** Stereoselective synthesis of the legionaminic and pseudaminic acids and their glycosides. B. Dhakal, O. Popik, D. Crich

9:40 **CARB 2.** New type of fully synthetic self-adjuvanting glycoconjugate vaccines. Z. Guo

10:10 **CARB 3.** Fighting cancer with a sweet bullet: The development of carbohydrate based anticancer vaccines. X. Huang

10:40 Concluding Remarks.

## Design &amp; Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar

## Drug Delivery

Sponsored by CELL, Cosponsored by CARB

## Cellulose Structure &amp; Biosynthesis

## In the Plant Cell Wall

Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL

## SUNDAY AFTERNOON

## Section A

Grand Hyatt San Francisco  
Grand Ballroom East

## Isbell Award

E. Rozners, N. L. Snyder, Organizers  
L. Wang, Presiding

1:25 Introductory Remarks.

1:35 **CARB 4.** Stabilizing Nod2, an innate immune receptor of bacterial cell wall fragments, in Crohn's disease. C.L. Grimes

2:05 **CARB 5.** Glycoconjugates constructed on peptoid scaffolds. K. Kirshenbaum, R.N. Zuckermann

2:35 **CARB 6.** Decoding structure-function relationships in the glycome. L.K. Mahal

3:05 Concluding Remarks.

## Section A

Grand Hyatt San Francisco  
Grand Ballroom East

## Gin New Investigator Award

E. Rozners, N. L. Snyder, Organizers  
L. Wang, Presiding

3:20 Introductory Remarks.

3:30 **CARB 7.** In vitro evolution of carbohydrate clusters for vaccine design. I.J. Krauss

4:00 **CARB 8.** Synthesis of heparan sulfate oligosaccharides and glycopeptides. X. Huang, W. Yang, S.B. Dulaney, Y. Xu, P. Wang, B. Yang, K. Yoshida, J. Liu

4:30 **CARB 9.** Study and application of protein glycosylation. Z. Tan

5:00 Concluding Remarks.

## Design &amp; Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar

## Tissue Engineering

Sponsored by CELL, Cosponsored by CARB

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG‡, ORGN and PROF

## Cellulose Structure &amp; Biosynthesis

## Evolution of Synthases &amp; Fine Structure of Microfibrils

Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL

## MONDAY MORNING

## Section A

Grand Hyatt San Francisco  
Grand Ballroom East

## Hudson Award

E. Rozners, N. L. Snyder, Organizers  
L. Wang, Presiding

9:00 Introductory Remarks.

9:10 **CARB 10.** De Novo Synthesis of oligosaccharide via bi-metallic catalysis. G.A. O'Doherty

9:40 **CARB 11.** Synthesis and biological evaluation of STn-PS A1 as a tumor immunogen. P.R. Andreato

10:10 **CARB 12.** Towards rules for carbohydrate synthesis: Insights from computational chemistry. N.L. Pohl

10:40 **CARB 13.** Synthesis of designer polysaccharides as probes of glycan assembly. T.L. Lowary

11:10 **CARB 14.** Acetals, ion pairs, and oxocarbenium ions. D. Crich

11:40 Concluding Remarks.

## Design &amp; Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar

## Structure

Sponsored by CELL, Cosponsored by CARB

## Science for a Sustainable Energy Future

## Energy Storage

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG‡, ORGN and PROF

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Cellulose Structure &amp; Biosynthesis

## Mechanism of Synthesis

Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL

## Functional Lignocellulosics &amp; Nanotechnology

## Tuning Interfacial Phenomena with Ligno-Nanocellulosic Materials

Sponsored by CELL, Cosponsored by CARB and COLL

## MONDAY AFTERNOON

## Section A

Grand Hyatt San Francisco  
Grand Ballroom East

## Carbohydrate-Based Hybrid Materials for Nanomedicine

Cosponsored by CELL

R. Narain, Organizer, Presiding

1:30 Introductory Remarks.

1:35 **CARB 15.** Glycopolymer monolith for protein separation. Y. Miura

2:05 **CARB 16.** Genome editing *in vivo* with the delivery of Cas9 ribonucleoprotein and donor DNA complexed to nanoparticles. N. Murthy

2:35 **CARB 17.** Polymer with trehalose side chains enhances the stability and *in vivo* plasma lifetime of insulin. K. Mansfield, Y. Liu, J. Lee, J. Ko, H.D. Maynard

2:55 **CARB 18.** Glycocalyx-mimetic interfaces: Sugar-coating the answers to virus binding. R. Kumar, D. Krazter, K. Cheng, I. Kopyeva, J. Lahann

3:15 Intermission.

3:30 **CARB 19.** Chitosan-based graft copolymers for tissue engineering applications. M. Kaliva, A. Georgopoulou, E. Mygdali, M. Chatziniolaïdou, M. Vamvakaki

4:00 **CARB 20.** Carbohydrate based nanotheranostics for the management of hypoxic tumors. R. Narain

4:30 **CARB 21.** Zwitterionic-/glycol-polymers coated polystyrene microspheres as surrogates for studying the interactions between *Cryptosporidium* oocysts and silica surface. L. Liu, Y. Wang, R. Narain, Y. Liu

5:00 **CARB 22.** Influenza-binding sialylated nanoparticles by combination of RAFT polymerization, reductive amination and gold-thiol self-assembly. B. De Geest

5:20 Concluding Remarks.

**Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar**

**Structure**

Sponsored by CELL, Cosponsored by CARB

**Hollyweird Chemistry**

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

**Science for a Sustainable Energy Future**

**Chemical & Biological Conversions Approaches to Energy Conversion**

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVF, GEOC, I&EC, MEDI, MPPG†, ORGN and PROF

**Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials**

**Lignin Conversion & Upgrading**

Sponsored by CATL, Cosponsored by CARB and ENFL

**Cellulose Structure & Biosynthesis**

**Synthase Trafficking & Synthesis of plant (1->3),(1->4)-D-glucans**

Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL

**Functional Lignocellulosics & Nanotechnology**

**Modification & Analytics**

Sponsored by CELL, Cosponsored by CARB and COLL

**MONDAY EVENING**

**Section A**

Moscone Center  
Hall D

**Sci-Mix**

N. L. Snyder, *Organizer*

8:00 - 10:00

21. See previous listings.

38-42, 46-47, 50, 53, 57-58, 60-61, 67, 72, 75, 77, 79-80. See subsequent listings.

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**TUESDAY MORNING**

**Section A**

Grand Hyatt San Francisco  
Grand Ballroom East

**LPS: Chemistry, Synthesis & Applications**

Cosponsored by CELL

P. G. Wang, *Organizer*

D. E. Kahne, *Presiding*

8:30 Introductory Remarks.

8:35 **CARB 23.** Polymerases, terminators, molecular rulers and transporters—integrated quality control systems for establishing the chain length of LPS O antigens. C. Whitfield

9:05 Discussion.

9:15 **CARB 24.** Using the LPS biosynthetic enzyme heptosyltransferase I to explore protein dynamics of a GT-B glycosyltransferase. E.A. Taylor

9:45 Discussion.

9:55 **CARB 25.** Discovery of a novel Wzz3 co-polymerase protein in *Pseudomonas aeruginosa* via data-mining of whole genome sequences. J. Lam

10:25 Discussion.

10:35 **CARB 26.** Withdrawn.

11:05 Discussion.

11:15 **CARB 27.** Studies on the assembly of the outer membrane in *E. coli*. D.E. Kahne

11:45 Discussion.

11:55 Concluding Remarks.

**Section B**

Grand Hyatt San Francisco  
Grand Ballroom West

**Carbohydrate-Based Hybrid Materials for Nanomedicine**

Cosponsored by CELL

R. Narain, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 **CARB 28.** Glycopolymers with selectivity as well as avidity through macromolecular engineering. M.I. Gibson

9:05 **CARB 29.** Synthetic glycopolymers for recognizing cells and bacteria. G. Chen

9:35 **CARB 30.** Broad-spectrum and highly selective antiviral macromolecular assemblies that mitigate resistance. M. Fevre, Y. Yang, J. Hedrick

9:55 Intermission.

10:10 **CARB 31.** Trehalose-grafted glycopolymers and glycanomaterials for the detection and drug delivery to mycobacteria. M. Yan

10:40 **CARB 32.** Availability of N-quaternized groups determines the bactericidal activity of N,N,N-trimethyl chitosan salts. H.D. Follmann, T.M. Nobre, O.N. Oliveira

11:00 **CARB 33.** Thermo-responsive poly(N-isopropylacrylamide) and cellulose nanocrystals hybrid hydrogels for wound dressing. P. Singhsa, K. Zubik, Y. Wang, H. Manuspiya, R. Narain

11:20 Concluding Remarks.

**Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar**

**Novel Derivatives for Demanding Applications**

Sponsored by CELL, Cosponsored by CARB

**Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials**

**Carbohydrate Processing & Upgrading of Biomass-Derived Molecules**

Sponsored by CATL, Cosponsored by CARB and ENFL

**Cellulose Structure & Biosynthesis**

**Biochemistry & Cellular Biology**

Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL

**Functional Lignocellulosics & Nanotechnology**

**Tuning Interfacial Phenomena with Ligno-Nanocellulosic Materials**

Sponsored by CELL, Cosponsored by CARB and COLL

**TUESDAY AFTERNOON**

**Section A**

Grand Hyatt San Francisco  
Grand Ballroom East

**LPS: Chemistry, Synthesis & Applications**

Cosponsored by CELL

P. G. Wang, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 **CARB 34.** Differential induction of innate immune responses by synthetic lipid A derivatives. G. Boons

2:05 Discussion.

2:15 **CARB 35.** Chemical synthesis of homogeneous and structurally defined bacterial polysaccharide repeating units and their oligomers. Z. Guo

2:45 Discussion.

2:55 **CARB 36.** New tools for the elucidation of complex polysaccharide biosynthesis pathways. J.M. Troutman

3:25 Discussion.

3:35 **CARB 37.** Chemical biology approach to explore biosynthesis and biogenesis of lipopolysaccharides. P.G. Wang

4:05 Discussion.

4:15 Concluding Remarks.

**Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar**

**Novel Derivatives for Demanding Applications**

Sponsored by CELL, Cosponsored by CARB

**Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials**

Sponsored by CATL, Cosponsored by CARB and ENFL

**Advances in Polysaccharides: Practice & Applications**

**New Developments in the Industrial Sector**

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG†, PMSE and POLY

**Functional Lignocellulosics & Nanotechnology**

**Dispersions, Gels, Foams, Colloids & Films**

Sponsored by CELL, Cosponsored by CARB and COLL

**TUESDAY EVENING**

**Section A**

Moscone Center  
Hall D

**General Posters**

N. L. Snyder, *Organizer*

7:30 - 9:30

**CARB 38.** Glycoprotein monosaccharide analysis using HPAE-PAD. S. Patil, J. Rohrer

**CARB 39.** Development of an alkyne-based therapeutic to covalently target bacterial pathogens based on their distinctive glycans. R. Herman, D.H. Dube

**CARB 40.** Discovery of genes required for glycoprotein biosynthesis in the gastric pathogen *Helicobacter pylori*. K. Moulton, D.H. Dube

**CARB 41.** Synthesis of C-4 modified sialic acid 2,3 dehydroderivatives. M. Lohman, C. De Meo

**CARB 42.** Synthesis of 7-O-substituted derivatives of N-acetyl neuraminic acid. M. Shadrick, C. Yu, C. De Meo

**CARB 43.** Synthesis of a C-5 thioamide sialyl donor. B. Jones, C. De Meo

**CARB 44.** Effects of picoloyl at C-7 in sialylation reactions. S. Escopy, C. De Meo

**CARB 45.** Progress towards the synthesis of galactosaminoglycan mimetics for diagnostic and therapeutic applications. D.J. Akrobetu, N.L. Snyder

**CARB 46.** Synthesis of carbohydrate-functionalized oligopropylene analogs for multivalent carbohydrate display. H. Nakanishi, N.L. Snyder

**CARB 47.** Synthesis of trehalose-based photosensitizers. M.A. Burch, D. Dennis, J.V. Ruppel, N.L. Snyder

**CARB 48.** SEM-EDS study of calcium and copper alginate bead formation. J. Ayarza, Y.P. Coello, J. Nakamatsu

**CARB 49.** Fluorescent FPP analogs for the study of UPPS specificity. A. Reid, J. Troutman

**CARB 50.** Development and analysis of a novel targeting strategy for bacterial sugars. K.M. Erickson, P.M. Scott, J.M. Troutman

**CARB 51.** Replacement of endogenous isoprenoids with fluorescent probes in *Escherichia coli*. C. George

**CARB 52.** Application of newly developed Karplus equations for C(sp<sup>2</sup>)-O-C-H dihedral angles to the conformational analysis of ester linked carbohydrate derivatives. S. Hackbusch, A. Watson, S. Do, A. Franz

**CARB 53.** New Karplus Equations for  $\alpha$ -1,6-linked Glycans. A. Watson, S. Do, A. Franz

† Cooperative Cosponsorship



**CARB 54.** Diaryliodonium salts as useful tools for metal-free arylation of carbohydrates. C.M. Braun, S. Townsend

**CARB 55.** Synthesis of and evaluation of boronic acid derived lectin mimetics. J. Whited, X. Sun

**CARB 56.** Application of TiO<sub>2</sub> nanostructure for sustainable removal of moisture from air. S. Ferdousi, M. Hasan, K. Yeung

**CARB 57.** Mechanochromic properties of cellulosic liquid crystalline materials. K. Miyagi, Y. Teramoto

**CARB 58.** Preservation of labile biomolecules in cellulose nanofiber pills and their biosensing applications. R. Murase, Y. Teramoto

**CARB 59.** Synthesis and evaluation of an expanded set of chemical reporters for probing mycoloylation in mycobacteria. T. Fiolek, H.W. Kavunja, N. Holmes, B. Swarts

**CARB 60.** Synthesis and evaluation of a fluorogenic probe for trehalose dimycolate hydrolase in *Mycobacterium*. C.N. Ramsey, B.M. Swarts, H.W. Kavunja, N. Holmes

**CARB 61.** Chemoenzymatic synthesis of UDP glucose by reversing the direction of the trehalose synthase TreT. B.M. Swarts, P. Woodruff

**CARB 62.** Inhibition of mycobacterial growth and biofilm formation by chemoenzymatically synthesized trehalose analogues. J.M. Wolber, B. Urbanek, L. Meints, I. Lopez-Casillas, B.M. Swarts, P. Woodruff

**CARB 63.** De Novo chemical synthesis of 3-azido-3-deoxy-myo-inositol via Ferrier rearrangement. K. Bednarz, B. Swarts

**CARB 64.** Investigating the substrate specificity of the trehalose-recycling transporter SugABC-LpqY in *Mycobacteria*. M. O'Neill, Z. Wagar, A. Stothard, L. Meints, S. Rundell, B.M. Swarts

**CARB 65.** Withdrawn.

**CARB 66.** Deoxyfluoro-D-trehalose (FDTre) analogues as potential PET probes for imaging mycobacterial infection. C. Olson, S. Rundell, Z. Wagar, L. Meints, M. O'Neill, B. Piligian, A. Poston, R.J. Hood, P. Woodruff, B.M. Swarts

**CARB 67.** Chemoenzymatic synthesis of 2-amino-modified trehalose analogues. J. Groenevelt, L. Meints, B.M. Swarts

**CARB 68.** Exploiting trehalose metabolism to deliver Antibody-Recruiting Small Molecules (ARMS) to mycobacteria. A. Rytski, H.W. Kavunja, B.M. Swarts

**CARB 69.** Comparison of micro-wave-mediated sugar linker reactions. D. Dimas, K.D. McReynolds

**CARB 70.** Synthesis of a novel glycodendrimer through green and sustainable methods. C. Viera, K.D. McReynolds

**CARB 71.** Synthesis and fluorescent labeling of lacto-N-tetraose. K. Craft, S. Townsend

**CARB 72.** Tuning hyaluronic acid binding properties to CD44 using synthetic, *in vitro* and *in silico* approaches. D.S. Bhattacharya, D. Svehkarev, J. Souček, T. Hill, M. Taylor, A. Natarajan, A. Mohs

**CARB 73.** Genotoxic agents conjugated inhibitors of glucose transporter for anti-colorectal cancer. C. Chang, H. Yang, P. Liang

**CARB 74.** Design, synthesis and antitumor evaluation of novel 2-amino-2-deoxysugar-bearing pentacyclic triterpenoid saponin derivatives. Y. Lin, Y. Juang, P. Liang

**CARB 75.** Synthesis and evaluation of cell-permeable analogs of trehalose. J. Bragg, M.G. Paulick

**CARB 76.** Understanding the biosynthetic transformation of carbohydrate metabolic chemical reporters. A. Batt, M. Pratt

**CARB 77.** Composition, stability and structure of calcium-complex(es) of isosaccharinate forming in hyperalkaline aqueous solutions. C. Dudas, B. Kutus, I. Palinko, P. Sipos

**CARB 78.** Multinuclear complex formation between Ca(II) and L-gulonate in strongly alkaline medium. B. Kutus, G. Peintler, I. Palinko, P. Sipos

**CARB 79.** Synthesis of neoglycoproteins for the potential diagnosis and follow-up of leishmaniasis and Chagas disease. A.L. Montoya, R.A. Ashmus, K. Michael

**CARB 80.** Regioselective trifluoromethylation and pentafluoroethylation of glycals and electron-rich alkenes using Cu(CF<sub>3</sub>)<sub>2</sub> nCF<sub>3</sub> reagents. J. Mestre, O. Boutureira, A. Lishchynsky, V. Grushin, S. Castillon

**CARB 81.** Micro/nanoparticles prepared from kappa-, iota-, and lambda-carrageenan for versatile use. N. Sahiner, S. Sagbas, S. Yilmaz

**CARB 82.** Transparent cassava-based cellulose film production using carbon dioxide switchable polarity solvent. P. Nanta, K. Kasemwong, W. Skolpap, Y. Shimoyama

## WEDNESDAY MORNING

### Section A

Grand Hyatt San Francisco  
Grand Ballroom East

### Carbohydrate-Based Nanomaterials & Drug-Delivery Vehicles

Cosponsored by CELL

Y. C. Lee, W. F. Vann, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 **CARB 83.** Cell response at the interface of carbohydrates and nanomaterials. J. Du, R. Bhattacharya, K.J. Yarema

9:05 **CARB 84.** Human influenza virus receptors. J.C. Paulson, W. Peng, R.P. de Vries, O.C. Grant, A.J. Thompson, R. McBride, I.A. Wilson, R.J. Woods

9:35 **CARB 85.** Glycocluster: Use of multivalent-type carriers for assembly of carbohydrates. K. Matsuoka

10:05 **CARB 86.** Acid-degradable mannosylated nanogels for dendritic cell targeted immunotherapy. R. De Coen, B. De Geest

10:25 Intermission.

10:45 **CARB 87.** Systemic clearance: Natural and synthetic glycosaminoglycan-based drugs are cleared by the stabilin family of receptors. E.N. Harris

11:15 **CARB 88.** Nanostructured glycan architecture is important in the inhibition of influenza A virus infection. S. Kwon, D.H. Na, J.H. Kwak, M. Douaisi, F. Zhang, E.J. Park, J. Park, H. Youn, C. Song, R.S. Kane, J.S. Dordick, K.B. Lee, R.J. Linhardt

11:45 **CARB 89.** Withdrawn.

12:05 **CARB 90.** Synthesis of novel biodegradable saccharides-containing polymers and nanoparticles with biomedical applications. K.T. Petrova

### Bio-based Gels & Porous Materials

#### Biopolymer Hydrogels

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

#### Advances in Polysaccharides: Practice & Applications

#### Novel Biocatalytic & Biopolymeric Approaches

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG†, PMSE and POLY

#### Functional Lignocellulosics & Nanotechnology

#### Dispersions, Gels, Foams, Colloids & Films

Sponsored by CELL, Cosponsored by CARB and COLL

## WEDNESDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Grand Ballroom East

### Carbohydrate-Based Nanomaterials & Drug-Delivery Vehicles

Cosponsored by CELL

Y. C. Lee, W. F. Vann, *Organizers, Presiding*

1:30 **CARB 91.** Gene expression mediated by N-glycan targeted DNA nanoparticles. K. Rice

2:00 **CARB 92.** New glycotecology platform interfacing chemistry and biology. S. Nishimura

2:30 **CARB 93.** Sugar-based polymers with bioactivity. K.E. Uhrich

3:00 **CARB 94.** Beta-glucan for therapeutic functional oligonucleotides: Immunocyte targeting DDS with dextrin-1. K. Sakurai, N. Fujiwara, S. Mochizuki

3:20 Intermission.

3:40 **CARB 95.** Water-Soluble synthetic carbohydrate receptor with non-glucosidic selectivity. A.B. Braunschweig

4:00 **CARB 96.** Supramolecular biomaterials with multi-scale hierarchical order via synthetic glycopeptide self-assembly. G. Hudalla, A. Restuccia

4:20 **CARB 97.** Sugar-Grafted Trojan Horse nanocarrier for combating planktonic and biofilm bacteria. K. Neoh, M. Li, E. Kang, K. Chua

4:40 **CARB 98.** Adhesion of micro-composites based on yeast glucan particles in 3D cell culture perfusion environment. I. Salon

5:00 Concluding Remarks.

### Bio-based Gels & Porous Materials

#### Biopolymer Organogels

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

#### Advances in Polysaccharides: Practice & Applications

### Novel Materials & Methodologies

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG†, PMSE and POLY

### Functional Lignocellulosics & Nanotechnology

#### Responsive Materials & Biosensors

Sponsored by CELL, Cosponsored by CARB and COLL

#### Frontiers in Glycoanalytics

#### MS & NMR Methods

Sponsored by CELL, Cosponsored by ANYL, CARB† and MPPG†

## THURSDAY MORNING

### Bio-based Gels & Porous Materials

#### Aero-, Cryo- & Xerogels

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

#### Advances in Polysaccharides: Practice & Applications

#### New Functional Materials

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG†, PMSE and POLY

### Functional Lignocellulosics & Nanotechnology

#### Responsive Materials & Biosensors

Sponsored by CELL, Cosponsored by CARB and COLL

#### Frontiers in Glycoanalytics

#### Molar Mass & Crystallinity Analyses

Sponsored by CELL, Cosponsored by ANYL, CARB† and MPPG†

## THURSDAY AFTERNOON

### Bio-based Gels & Porous Materials

#### Open-Porous Carbon Materials

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

#### Advances in Polysaccharides: Practice & Applications

#### Preparation, Characterization & Applications

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG†, PMSE and POLY

### Functional Lignocellulosics & Nanotechnology

#### (nano)Paper: From Fundamentals to Applications/Antimicrobial, Functional Materials

Sponsored by CELL, Cosponsored by CARB and COLL



## CATL

## Division of Catalysis Science and Technology

E. Nikolla and S. Scott, Program Chairs

## SUNDAY MORNING

## Section A

Parc 55 San Francisco  
Mission I

## Advanced X-Ray Techniques for Catalyst Characterization

## Catalysts in Action

Cosponsored by PHYS

A. M. Karim, Organizer

S. R. Bare, Organizer, Presiding

**8:00 CATL 1.** Multi-modal *operando* investigations of activities and phase transformations of supported Pd nanocatalysts during ethylene hydrogenation reaction. Y. Li, S. Zhao, D. Liu, R.G. Nuzzo, E. Stach, A. Frenkel

**8:20 CATL 2.** X-ray characterization of subnanometer cluster-based catalysts. S. Vajda

**8:50 CATL 3.** Application of lab-based AP-XSP to *operando* studies of catalysis. F. Tao

**9:20 CATL 4.** Catalysts for selective hydrogenation of furfural derived from [Pd(NH<sub>3</sub>)<sub>4</sub>](ReO<sub>4</sub>)<sub>2</sub> on  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>: Advanced characterization by EXAFS, STEM-EDX, and complementary techniques. H. Lamb, S. Thompson

9:40 Intermission.

**10:10 CATL 5.** *Operando* x-ray spectroscopy of a catalytic solid: Towards a molecular movie. B.M. Weckhuysen

**10:50 CATL 6.** Combining *in situ* characterization techniques to reveal real-time deactivation mechanisms in Fischer-Tropsch synthesis catalysts. M. Ronning

11:20 CATL 7. Withdrawn.

## Section B

Parc 55 San Francisco  
Cyril Magnin III

## Amorphous Catalytic Materials

S. L. Scott, Organizer

B. Peters, Organizer, Presiding

**8:00 CATL 8.** Theoretical studies of the solid-liquid interface of  $\gamma$ -alumina supported catalysts: Impact on impregnation and dried state. M. Corral Valero, B. Nguouana-Wakou, P. Raybaud

**8:35 CATL 9.** Computational studies of catalytic reactions of metal oxide clusters and metal ions in zeolites. Z. Fang, S. Zhang, D.A. Dixon

9:10 CATL 10. Withdrawn.

9:45 Intermission.

**10:05 CATL 11.** Dynamic structures and catalytic properties of platinum nanoparticle in carbon nanotube. G. Wei, Z. Liu

**10:25 CATL 12.** Ab-initio modeling of Zr(OH)<sub>4</sub> in the presence of atmospheric contaminants. I. Iordanov, V.M. Bermudez, G.W. Peterson, W.O. Gordon, C.J. Karwacki, R. Balow, D. Barlow, I. Schweigert, J. Lundin, D. Gunlycke, P.E. Pehrsson

**10:45 CATL 13.** Computational investigation of Lewis and Bronsted acidity in metal-doped mesoporous silicates. A. Jystad, A. Biancardi, M. Caricato

**11:05 CATL 14.** Structure and reactivity of porous amorphous catalysts: Insights from molecular modeling. R. Chaudret, S. Schweizer, J. Low, L. Subramanian

**11:25 CATL 15.** Hydroisomerization of n-hexadecane: Remarkable selectivity of platinum nanoparticles supported on amorphous mesoporous silica post-synthetically modified with aluminum. K. Sabyrov, N. Musselwhite, G. Melaet, G.A. Somorjai

## Section C

Parc 55 San Francisco  
Market Street

## ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend

## Honoring the Contribution to Single Crystal Catalysis

Cosponsored by COLL and WCC

C. Kumar, Organizer

R. Madix, Presiding

8:00 Introductory Remarks.

**8:15 CATL 16.** Competition for active sites in steady state catalytic reactions; importance of weak van der Waals interactions. R.J. Madix, S. Karakalos, Y. Xu, A. Tkatchenko, F. Kabeer, W. Chen, E. Kaxiras, C.M. Friend

**8:45 CATL 17.** Energetics of adsorbed molecular fragments on Ni(111) and Pt(111) by calorimetry: Understanding differences in catalysis by Ni versus Pt. C.T. Campbell, S.J. Carey, W. Zhao

9:15 Intermission.

**9:30 CATL 18.** Structure-reactivity relations through charge control at the atomic level in heterogeneous catalysis. H. Freund

**10:00 CATL 19.** Single atom alloys for efficient and cost-effective catalysis. E.H. Sykes

10:30 Intermission.

**10:45 CATL 20.** Understanding the catalytic activity of Pt-Re bimetallic surfaces. A.J. Brandt, T.D. Maddumapatabandi, G.S. Seuser, K. Xie, A. Duke, D.A. Chen

**11:15 CATL 21.** Oxygen surface chemistry for energy conversion processes. J.K. Norskov

## Section D

Parc 55 San Francisco  
Cyril Magnin I

## Electrocatalysis for Energy Generation &amp; Storage

## Oxygen Reduction

Cosponsored by ENFL

A. Holewinski, C. Wang, H. Xin, Organizers

J. Snyder, Organizer, Presiding

A. Holewinski, Presiding

**8:00 CATL 22.** Platinum alloy nanocatalyst with manipulated particle composition and morphology for improved ORR property. Z. Peng, C. Zhang, S. Hwang

**8:20 CATL 23.** Morphological and compositional instability in nanoporous nanoparticle electrocatalysts for oxygen reduction reaction. Y. Li, J. Snyder

**8:40 CATL 24.** Enhanced electrocatalysis for polymer electrolyte membrane fuel cells and electrolyzers. M. Escudero-Escribano, A.L. Strickler, T.F. Jaramillo, I. Stephens, I. Chorkendorff

**9:00 CATL 25.** Phase segregated copper silver thin films as model catalysts for electrochemical oxygen reduction in alkaline electrolytes. D.C. Higgins, B. Gibbons, C. Hahn, M. Wette, B. Clemens, T.F. Jaramillo

9:20 Intermission.

**9:40 CATL 26.** From well-defined electrochemical interfaces to functional nanoscale materials. V. Stamenkovic

10:20 CATL 27. Withdrawn.

**10:40 CATL 28.** Nitrogen-doped Carbon Nanostructures (CNx) as bifunctional electrocatalysts for oxygen reduction reaction and oxygen evolution reaction in acidic media. K. Mamtani, D. Jain, A. Co, U.S. Ozkan

**11:00 CATL 29.** Nitrogen doped double gyroidal mesoporous carbon materials for oxygen reduction reaction synthesized from pyridine containing precursor, hydroxymethyl-3-hydroxylpyridine. F. Matsuoka, Q. Zhang, U.B. Wiesner

**11:20 CATL 30.** Manganese deception on graphene. R. Ye, R. MendozaCruz, Y. Li, M.J. Yacaman, J.M. Tour

**11:40 CATL 31.** Flexible bifunctional oxygen electrode through morphological emulsion of human hair array for rechargeable zinc air batteries. J. Fu, F. Hassan, Z. Chen

## Section E

Parc 55 San Francisco  
Cyril Magnin II

## Synthesis of Catalysts by Non-Traditional Methods

## Nanoparticle Catalysts

Cosponsored by COLL and INOR

A. Alba-Rubio, T. J. Schwartz, Organizers, Presiding

8:00 Introductory Remarks.

**8:10 CATL 32.** Electrostatic adsorption for synthesis and size control of supported metal catalysts. A. Wong, Q. Liu, S. Eskandari, J.R. Regalbuto

**8:40 CATL 33.** Aerosol synthesis of shape-controlled nanomaterials for photocatalytic applications. S.E. Skrabalak

**9:10 CATL 34.** Development of a new generation of stable, tunable, and catalytically active nanoparticles produced by the helium nanodroplet deposition method. A. Orlov, Q. Wu, J. Cen, C.J. Ridge, M. Lindsay, S. Zhao, D. Zakharov, E. Stach, E. Connors, X. Tong, D. Su

**9:30 CATL 35.** Synthesis and compositional control in highly uniform palladium-based bimetallic nanocrystals for catalytic methane activation. J. Willis, E.D. Goodman, M. Cargnello

**9:50 CATL 36.** Cobalt-copper nanoparticle catalysts for higher alcohols synthesis prepared by water-in-oil microemulsion. J.L. Snider, T.F. Jaramillo

**10:10 CATL 37.** Colloidal synthesis, characterization, & selective alkyne hydrogenation by supported Ni and Co nanocrystals. N.S. Dwarica, J. Bruno, B.D. Chandler, C. Pursell

**10:30 CATL 38.** Highly active Au-Pd nanoparticles supported on titanate nanotubes. M.M. Khawaji, D. Chadwick

**10:50 CATL 39.** Novel Mo/W precursors for supported catalysts with enhanced hydrodesulfurization activity and selectivity. P. Yuan

**11:10 CATL 40.** Synthesis of catalytic materials by electrospinning with controlled morphology. M. Guerrero-Perez, R. Berenguer, I. Guzman, J. Rodriguez-Mirasol, T. Cordero

## Section F

Parc 55 San Francisco  
Mission II/III

## Elucidation of Mechanisms &amp; Kinetics on Surfaces

## Theory

Cosponsored by COLL and ENVR

S. L. Scott, C. Sievers, Organizers

A. Savara, Organizer, Presiding

**8:00 CATL 41.** Catalytic processing of bioethanol on transition state metals. F. Jalid, T.S. Khan, M. Haider

8:20 CATL 42. Withdrawn.

**8:40 CATL 43.** Orbital-wise coordination number as a reactivity descriptor for metal nanocatalysts. H. Xin, X. Ma, S. Wang

**9:20 CATL 44.** Insights into active sites and their environments under working catalytic condition. M. Neurock

**10:00 CATL 45.** Elucidation of structure and activity using machine learning-accelerated genetic algorithms and kMC. T. Bligaard

**10:40 CATL 46.** Models and trends in adsorbate-adsorbate interactions at metal surfaces. A. Bajpai, K. Frey, W.F. Schneider

**11:20 CATL 47.** Modeling segregation in late transition metal alloys across composition space. J. Boes, J.R. Kitchin

## Synthesis &amp; Characterization of Materials for Energy Applications

## Enabling Concepts for Energy Materials Design

Sponsored by ANYL, Cosponsored by CATL

## C1 Catalysis

Sponsored by ENFL, Cosponsored by CATL

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

† Cooperative Cosponsorship

### Catalytic Materials from Molecular Insight

Sponsored by *COMR*, Cosponsored by *CATL*, *MPPG*‡ and *PHYS*

### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

#### Surface Science is Alive & Well

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### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Sponsored by *ENFL*, Cosponsored by *CATL*, *MPPG*‡ and *PMSE*

### Catalysis for Unconventional Energy Sources

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### Subsurface Technologies for Recovery of Fossil & Geothermal Energy

Sponsored by *ENFL*, Cosponsored by *CATL* and *GEOC*

### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Sponsored by *ENFL*, Cosponsored by *CATL*, *COMR*, *GEOC* and *MPPG*‡

### Sustainability in Electrocatalytic Fuel & Chemical Production

Sponsored by *INOR*, Cosponsored by *CATL*

## SUNDAY AFTERNOON

### Section A

Parc 55 San Francisco  
Mission I

### Advanced X-Ray Techniques for Catalyst Characterization

#### Theory & Beyond

Cosponsored by *PHYS*

S. R. Bare, A. M. Karim, *Organizers*

A. M. Karim, *Presiding*

**1:00 CATL 48.** Al K-edge XAFS, molecular dynamics-XAFS and the chemistry of zeolite Bronsted acid sites. **J. Fulton**, N. Govind, D. Mei, A. Vjunov, D.M. Camaioni, T. Huthwelker, J.A. Lercher

**1:30 CATL 49.** Exploring the anomalous behavior of metal nanocatalysts with finite temperature AIMD and x-ray spectra. **F.D. Vila**, J.J. Rehr, A. Frenkel

**2:00 CATL 50.** Environmental sensitivity of spectroscopic properties for Cu ions in Cu-SSZ-13: XANES and XES studies from first principles. **R. Zhang**, H. Li, K. Groden, F. Gao, J. Szanyi, S.L. Scott, **J. McEwen**

**2:30 CATL 51.** Structural characterization of catalysts: Interplay between theory and experiment. **P. Sautet**

**3:00** Intermission.

**3:30 CATL 52.** Solving dynamic structure of nanoparticles: From model to real catalysts. **A. Frenkel**

**4:10 CATL 53.** Crystalline covalent organic frameworks for heterogeneous catalysis. **Y. Zhang**

**4:30** Discussion.

### Section B

Parc 55 San Francisco  
Cyril Magnin III

### Amorphous Catalytic Materials

B. Peters, *Organizer*

S. L. Scott, *Organizer, Presiding*

**1:00 CATL 54.** Studies of silica- and alumina-supported catalysts by dynamic nuclear polarization solid-state NMR. **F.A. Perras**, T. Kobayashi, **M. Pruski**

**1:35 CATL 55.** Solid state NMR as a powerful tool for the study of alumina-supported organo-metallic catalysts. **L. Delevoye**, F. Pourpoint, N. Merle, K.C. Szeto, A. Gallo, S.L. Scott, M. Taoufik, **R. Gauvin**

**2:10 CATL 56.** Surface Science approach to the Phillips (Cr/SiO<sub>2</sub>) catalyst. **Q. Pan**, L. Li, S. Shaikhutdinov, H. Freund

**2:30 CATL 57.** Well-defined group VI oxo derivatives supported on silica by SOMC: Model of industrial olefin metathesis catalyst. **N. Merle**, Y. Bouhoute, K.C. Szeto, A. De Mallmann, I. Del Rosal, L. Maron, C.P. Nicholas, L. Delevoye, R. Gauvin, M. Taoufik

**2:50** Intermission.

**3:10 CATL 58.** Spectroscopic properties and coordination environment of silica supported MoO<sub>3</sub> catalyst. **S. Klepper**, Y. Wang, D. Jeffcoat, N. Peek, L.J. Van De Burgt, S.L. Scott, **A.E. Stigman**

**3:45 CATL 59.** Molecular design of cooperative interactions for amorphous silica materials to tune catalytic selectivities. **N.A. Brunelli**, M.R. Whitaker, R. Joshi, A. Parulkar

**4:20 CATL 60.** Understanding the role of atmospheric surface adsorbates on the chemical reactivity of zirconium hydroxide nanopowders using *Operando* vibrational spectroscopy. **R. Balow**, W.O. Gordon, D. Barlow, J. Lundin, I.O. Iordanov, C. Knox, V.M. Bermudez, J.H. Wynne, G.W. Peterson, C.J. Karwacki, P.E. Pehrsson

**4:40 CATL 61.** Preparation and characterization of amorphous/nanocrystalline thin film catalysts. **A. Pfau**, S. He, J.T. Diulus, G. Albuquerque, I. Lyubinitzky, **G.S. Herman**

### Section C

Parc 55 San Francisco  
Market Street

### ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend

#### Honoring the Contribution to Single Crystal Catalysis

Cosponsored by *COLL* and *WCC*

K. Kumar, *Organizer*

C. J. Stowers, *Presiding*

**1:00 CATL 62.** Understanding of atomically-thin materials grown on Au(111). **X. Deng**, D. Sorescu, J. Lee

**1:30 CATL 63.** Catalytic C-C bond formation to synthesize carboxylic acids using CO<sub>2</sub>. **K.J. Stowers**

**2:00** Intermission.

**2:15 CATL 64.** Adsorption and oxidation reactions on RuO<sub>2</sub> and IrO<sub>2</sub> surfaces. **J.F. Weaver**, Z. Liang, T. Li, R. Rai, M. Kim, A.R. Asthagiri

**2:45 CATL 65.** Recycling of CO<sub>2</sub>: Probing the chemical state of the Ni(111) surface during methanation reaction. **C. Heine**, **M. Salmeron**

**3:15** Intermission.

**3:30 CATL 66.** In-situ liquid phase spectroscopy for characterization and quantification of acid sites in the presence of solvents. **B. Xu**, N. Gould

**4:00 CATL 67.** Application of surface science techniques to nanoporous materials: Studies of metal organic frameworks. **L.B. Benz**

### Section D

Parc 55 San Francisco  
Cyril Magnin I

### Electrocatalysis for Energy Generation & Storage

#### CO<sub>2</sub> Reduction

Cosponsored by *ENFL*

**A. Holeywinski**, J. Snyder, C. Wang, *Organizers*

H. Xin, *Organizer, Presiding*

**A. Holeywinski**, *Presiding*

**1:00 CATL 68.** Mechanistic insights into the electrochemical reduction of CO<sub>2</sub> using in-situ surface enhanced spectroscopy. **B. Xu**, M. Dunwell, Q. Lu, J.G. Chen, Y. Yan, F. Jiao

**1:20 CATL 69.** Surface structure engineering of Cu thin films for electrochemical CO<sub>2</sub> reduction. **C. Hahn**, T. Hatsukade, A. Vailionis, D.C. Higgins, S. Nitopi, T.F. Jaramillo

**1:40 CATL 70.** Electrolysis of CO<sub>2</sub> to syngas in bipolar membrane-based electrochemical cells. **C.C. Li**, D. Zhou, Z. Yan, R. Gonçalves, D. Salvatore, C.P. Berlinguette, T.E. Mallouk

**2:00 CATL 71.** Bimetallic Au-Cu nanocatalysts for enhanced electrochemical CO<sub>2</sub> conversion. **D. Kauffman**, D. Alfonso

**2:20 CATL 72.** Understanding trends in electrochemical synthesis of fuels and chemicals. **J.K. Norskov**

**3:00 CATL 73.** Charge of an ion in the outer Helmholtz plane. **L.D. Chen**, M. Bajdich, C.M. Krauter, J. Martirez, E.A. Carter, A.C. Luntz, K. Chan, J.K. Norskov

**3:20 CATL 74.** DFT investigation of CO<sub>2</sub> electrochemical reduction to C<sub>2</sub> species on copper surfaces: The critical role of surface facet and CO coverage. **P. Hirsutit**, Y. Huang, B.S. Yeo

**3:40 CATL 75.** Promoter effects of alkali metal cations during electrocatalytic carbon dioxide reduction. **J. Resasco**, A.T. Bell

**4:00 CATL 76.** N-Heterocyclic carbenes as promoters for the heterogeneous reduction of CO<sub>2</sub> at metal electrodes. **K.M. Waldie**, C.P. Kubiak

**4:20 CATL 77.** Synergistic performance enhancement in graphene nanoribbon – metal nanoparticle composites for electrocatalysis. **C. Rogers**, F.R. Fischer

**4:40 CATL 78.** Copper nanoparticle/carbon nanospine catalyst for high-selectivity electrochemical conversion of carbon dioxide. **Y. Song**, D. Hensley, A. Rondinone

### Section E

Parc 55 San Francisco  
Cyril Magnin II

### Synthesis of Catalysts by Non-Traditional Methods

#### Model Catalysts, Microporous Materials & Oxides

Cosponsored by *COLL* and *INOR*

**A. Alba-Rubio**, T. J. Schwartz, *Organizers*, *Presiding*

**1:00 CATL 79.** New catalytic structures via atomic layer deposition. **P.C. Stair**

**1:30 CATL 80.** Doped Zn-containing magnetic oxides in methanol synthesis: Does the capping polymer matter? **N. Baird**, J. Dittmar, Y. Losovyj, M. Pink, D.G. Morgan, B. Stein, N. Firsova, E. Serkova, M. Grigoriev, A. Sidorov, M. Sulman, Z. Shifrina, **L. Bronstein**

**1:50 CATL 81.** Calixarene-Metal clusters as precatalysts and catalysts. **A. To**, X. Ouyang, L. Debeve, T. Rea, A. Palermo, B.C. Gates, A. Kuperman, **A.S. Katz**

**2:20 CATL 82.** Catalytic consequences of hydrophobic pockets confining Lewis acid sites in beta zeolites for aqueous-phase glucose isomerization. **M.J. Cordon**, J.W. Harris, J. Hall, R. Gounder

**2:40 CATL 83.** Ionic liquids for the synthesis of metal aluminophosphate-based catalysts. **S. Citrak**, S.I. Zones, S. Oliver

**3:00 CATL 84.** Synthesis of supported metal catalysts using molecular precursors and halide metathesis reactions. **S.L. Scott**

**3:30 CATL 85.** Biomineralization and bioinspired synthesis of ceria and transition metal-ceria solid solution nanocrystals. **C.D. Curran**, L. Lu, C.J. Kiely, B. Berger, S. McIntosh

**3:50 CATL 86.** Tuning graphitic oxide for initiator - and metal-free aerobic epoxidation of linear alkenes. **S. Pattison**, E. Nowicka, U. Gupta, G. Shaw, R. Jenkins, D. Morgan, D. Knight, G. Hutchings

**4:10 CATL 87.** Withdrawn.

**4:30 CATL 88.** Nano-confinement preparations of nano-CuO-MOFs in ceria tubes. **Y. Feng**, J. Feng, J. Jiang, M. Zhang

### Section F

Parc 55 San Francisco  
Mission II/III

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Surface Science

Cosponsored by *COLL* and *ENVR*

S. L. Scott, C. Sievers, *Organizers*

**A. Savara**, *Organizer, Presiding*

**1:00 CATL 89.** Selectivity in hydro-generation catalysis: A surface-science study. **F. Zaera**

**1:40 CATL 90.** Model systems in heterogeneous catalysis at the atomic scale. **H. Freund**

**2:20 CATL 91.** Surface structure and chemistry of a Pd-Cu(111) single-atom alloy from polarization dependent infrared spectroscopy. **C.M. Kruppe**, J.D. Krooswyk, **M. Trenary**

**3:00 CATL 92.** From surface science to practical catalysts for catalytic esterification and acylation. R.J. Madix, C.M. Friend, M.L. Personick, B. Xu, L. Wang, B. Zucig, J. Biener, M. Biener

**3:40 CATL 93.** Looking at zeolites through the eyes of surface science. J.A. Boscoboinik

**4:20 CATL 94.** Olefin metathesis by supported  $WO_x/SiO_2$  catalysts: Structure-Reactivity relationships, number of active sites, and kinetics. S. Lwin, I.E. Wachs

**4:40 CATL 95.** Interaction of atomic oxygen with  $Ag(111)$  and  $Ag(110)$  surfaces: Understanding the role of subsurface oxygen in oxidative catalysis by silver. S. Isbill, S. Roy

### Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG‡, ORGN and PROF

#### C1 Catalysis

Sponsored by ENFL, Cosponsored by CATL

#### Catalytic Materials from Molecular Insight

Sponsored by COMP, Cosponsored by CATL, MPPG‡ and PHYS

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG‡ and PMSE

#### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

#### Catalyst Design

Sponsored by COLL, Cosponsored by CATL

#### Catalysis for Unconventional Energy Sources

Sponsored by ENFL, Cosponsored by CATL and MPPG‡

#### Sustainability in Electrocatalytic Fuel & Chemical Production

Sponsored by INOR, Cosponsored by CATL

#### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG‡

## SUNDAY EVENING

#### Sustainability in Electrocatalytic Fuel & Chemical Production

Sponsored by INOR, Cosponsored by CATL

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## MONDAY MORNING

### Section A

Parc 55 San Francisco

Mission I

#### Advanced X-Ray Techniques for Catalyst Characterization

##### Electro- & Photo-Catalysis

Cosponsored by PHYS

A. M. Karim, *Organizer*

S. R. Bare, *Organizer, Presiding*

**8:00 CATL 96.** Structural kinetics study of redox processes of Pt/C and Pt<sub>3</sub>Co/C cathode electrocatalysts in a polymer electrolyte fuel cell during an accelerated durability test by in situ time-resolved XAFS. N. Ishiguro, S. Kityakarn, O. Sekizawa, T. Uruga, H. Matsui, K. Nagasawa, T. Yokoyama, M. Tada

**8:20 CATL 97.** Bismuth-Ionic liquid interface for electrocatalytic CO<sub>2</sub> conversion under the lens of x-ray reflectivity. J. Medina Ramos, S. Lee, A.A. Hubaud, T.T. Fister, P. Fenter

**8:40 CATL 98.** In-operando x-ray spectroscopic insight into biomimetic fuel cell electrocatalyst. H. Lien, S. Chang, C. Dong, K. Chen, L. Chen

9:00 Intermission.

**9:20 CATL 99.** Withdrawn.

**9:40 CATL 100.** *In situ* and *operando* insight into CO<sub>2</sub> electroreduction and gas phase hydrogenation catalysts. B.R. Cuenya

**10:20 CATL 101.** Nano-XAFS imaging of oxygen diffusion in Pt-Ce<sub>2</sub>Zr<sub>2</sub>O<sub>x</sub> particles during oxygen storage/release. H. Matsui, N. Ishiguro, K. Enomoto, T. Uruga, O. Sekizawa, M. Tada

**10:40 CATL 102.** Electrochemical carbon deposition from CO<sub>2</sub> on nickel and ceria electrodes studied by *operando* XPS. T. Skafte, Z. Guan, M. Machala, C. Gopal, M. Monti, L. Martinez, E. Stamate, S. Sanna, W. Chueh, C. Graves

**11:00 CATL 103.** Why is water more reactive than H<sub>2</sub> in photocatalytic CO<sub>2</sub> conversion into fuels at reaction pressure up to 0.80 MPa? H. Zhang, S. Kawamura, M. Miyano, M. Yoshida, Y. Izumi

**11:20 CATL 104.** Evidence for small polaron formation leading to intrinsic photoexcited charge trapping in -Fe<sub>2</sub>O<sub>3</sub>. L.M. Carneiro, S. Cushing, C. Liu, S.R. Leone

11:40 Discussion.

### Section B

Parc 55 San Francisco

Cyril Magnin III

#### Amorphous Catalytic Materials

B. Peters, S. L. Scott, *Organizers*

N. Brunelli, *Presiding*

**8:00 CATL 105.** Cu/ZnO catalysts derived from amorphous zincian georgeite precursors. G. Hutchings, S. Kondrat, J. Bartley, S. Taylor, C. Kiely

**8:35 CATL 106.** Nanocatalysts based on amorphous porous silica for high-efficient reaction processes. J. Huang

**9:10 CATL 107.** Ambient temperature NO oxidation over Cr-based amorphous mixed oxide catalysts: Effects from the second oxide components. A. Wang, Y. Guo, C.H. Peden, F. Gao

**9:30 CATL 108.** Limitations of top-down approaches to synthesize amorphous polymer catalysts for biomass hydrolysis. M.T. Timko, M. Emmert, S. Granados Focil, K. Schmidt-Rohr

9:50 Intermission.

**10:10 CATL 109.** *In situ* site titration of silica-supported metal oxide catalysts. T.R. Eaton, N.E. Thornburg, S. Ahn, J.M. Notestein

**10:45 CATL 110.** Two dimensionally dispersed V/SiO<sub>2</sub> catalysts for the oxidative dehydrogenation of propane. I. Hermans

**11:20 CATL 111.** Carbon support effects on the selectivity of Pd/C catalysts for the hydrogenation of multifunctional chemicals. R.G. Rao, R. Blume, T.W. Hansen, E. Fuentes, Y.J. Chabal, R. Schloegl, D. Hibbits, J. Tessonnier

**11:40 CATL 112.** Improved graphene oxide sponge as superoleophilic furan coupling catalyst. S. Dutta, D.G. Vlachos, B. Saha

### Section C

Parc 55 San Francisco

Market Street

#### ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend

#### Honoring the Contribution to Nanocatalysis

Cosponsored by COLL and WCC

C. Kumar, *Organizer*

M. L. Personick, *Presiding*

**8:00 CATL 113.** Metal nanoparticles on metal-oxide nanoparticle supports as model catalysts. J.C. Hemminger

**8:30 CATL 114.** Nanoporous copper foams as a platform for synthesizing active oxygen reduction and alcohol oxidation catalysts. A. Co

9:00 Intermission.

**9:15 CATL 115.** Polyhedral metal nanoparticles with bimetallic surfaces: Kinetic control and surface passivation. M.L. Personick, M.E. King, H. Jung, A.L. Stone, D.D. Robertson, I.A. Kent

**9:45 CATL 116.** Au/TiO<sub>2</sub> catalysts for low-temperature oxidation and H<sub>2</sub> photoproduction from water. F. Zaera

10:15 Intermission.

**10:30 CATL 117.** Solar-to-chemical conversion via a standalone photoelectrochemical system. B. Min

**11:00 CATL 118.** Selectivity in methanol oxidation on Fe<sub>2</sub>O<sub>3</sub> and the effect of Mo dosing. M. Bowker, P. Hellier

### Section D

Parc 55 San Francisco

Cyril Magnin I

#### Electrocatalysis for Energy Generation & Storage

##### Oxygen Evolution

Cosponsored by ENFL

A. Holewinski, J. Snyder, C. Wang, H. Xin, *Organizers*

A. Holewinski, C. Wang, *Presiding*

**8:00 CATL 119.** Oxygen evolution with an atomically-precise nickel catalyst. D. Kauffman, D. Alfonso

**8:20 CATL 120.** Understanding aqueous proton transfer in ruthenium catalyzed water splitting. N. Govindarajan, A. Tiwari, B. Ensing, E. Meijer

**8:40 CATL 121.** Cobalt modification of Ni-Fe layered double hydroxide and the resulting enhancement for the oxygen evolution reaction. D.R. Strongin, A.C. Thenuwara, N. Attanayake, Q. Yan

**9:00 CATL 122.** Electrodeposited cobalt oxide catalyst in Fe-spiked KOH electrolyte for efficient evolution of oxygen. L. Gong, B.S. Yeo

9:20 Intermission.

**9:40 CATL 123.** Design principles of oxides to catalyze oxygen evolution reaction. Y. Shao-Horn

**10:20 CATL 124.** Near surface alloyed perovskites for catalysis. L. Zhang, A. Vojvodin

**10:40 CATL 125.** Biotemplated synthesis of NiFe oxide nanocatalysts for oxygen evolution reaction. C. Li, W. Zhao

**11:00 CATL 126.** Au@M<sub>x</sub>O<sub>y</sub> core-shell nanoparticles as catalysts for the oxygen evolution reaction. A.L. Strickler, M. Escudero-Escribano, T.F. Jaramillo

**11:20 CATL 127.** Improving the HER and OER performance by hydrogenation of electrocatalysts. X. Chen

### Section E

Parc 55 San Francisco

Cyril Magnin II

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

Cosponsored by COLL, ENFL, I&EC and INOR

S. Ardo, G. Dukovic, D. Esposito, I. Sharp, *Organizers, Presiding*

8:00 Introductory Remarks.

**8:05 CATL 128.** Understanding photoelectrocatalysis from first principles. E.A. Carter

**8:35 CATL 129.** Resonantly excited photocatalysis and light absorbers for solar fuels. H. Atwater

**9:05 CATL 130.** Dye sensitized photoelectrosynthesis cell: The energy frontier research center for solar fuels and Thomas J. Meyer. T.J. Meyer

9:35 Intermission.

**9:50 CATL 131.** How to provide solar hydrogen and how to apply it? The activity of artificial photo synthetic chemical process project. T. Setoyama

**10:20 CATL 132.** CO<sub>2</sub> + H<sub>2</sub>O + sunlight = chemical fuels + O<sub>2</sub>. P. Yang

**10:50 CATL 133.** Enhancing photostability of BiVO<sub>4</sub> photoanodes for solar water oxidation. K. Choi

**11:20 CATL 134.** Addressing the fundamental materials challenges in advanced solar-driven water splitting technologies. E. Miller

### Section F

Parc 55 San Francisco

Mission II/III

#### Elucidation of Mechanisms & Kinetics on Surfaces

‡ Cooperative Cosponsorship



## Surface Science

Cosponsored by COLL and ENVR

S. L. Scott, C. Sievers, *Organizers*

A. Savara, *Organizer, Presiding*

**8:00 CATL 135.** Aspartic acid adsorption and decomposition mechanism on Cu surfaces. **A.J. Gellman**, A. Reinicker, Y. Yun, B. Karagoz, S. Dutta

**8:20 CATL 136.** Exploring enantioselective hydrogenation on chirally modified surfaces in ultrahigh vacuum. **W.T. Tysoe**

**9:00 CATL 137.** Insights into methane activation and oxidation on modified ceria catalysts. **J.J. Carey, M. Nolan**

**9:20 CATL 138.** Insight into active sites for methane activation from first principles. **Z. Zuo, S. Liu, S. Zhang, J. Rodríguez, P. Liu**

**10:00 CATL 139.** Adsorption and reaction of alcohols on SrTiO<sub>3</sub>(100) by ambient pressure XPS. **Y. Zhang, A. Savara, D.R. Mullins**

**10:20 CATL 140.** Mechanism of CO oxidation on supported Ir and Pt single atoms. **Y. Lu, C. Kuo, X. Ma, H. Xin, A.M. Karim**

**11:00 CATL 141.** Alcohols selective aminations: A DFT based micro-kinetics modeling strategy for screening the promising heterogeneous catalysts. **T. Wang, C. Michel, M. Sabbe, M. Pera-Titus, P. Sautet**

**11:20 CATL 142.** Alloy catalysis across composition space. **I. Sen, A.J. Gellman**

**11:40 CATL 143.** Dynamics, stability, and adsorption states of water on oxidized RuO<sub>2</sub>(110). **M. Nguyen, R. Mu, D. Cantu, I. Lyubinitzky, V. Glezakou, R. Rousseau, Z. Dohnalek**

## Science for a Sustainable Energy Future

### Energy Storage

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG‡, ORGN and PROF

### Synthesis & Characterization of Materials for Energy Applications

#### Enabling Concepts for Energy Materials Design

Sponsored by ANYL, Cosponsored by CATL

#### C1 Catalysis

Sponsored by ENFL, Cosponsored by CATL

#### Catalytic Materials from Molecular Insight

Sponsored by COMP, Cosponsored by CATL, MPPG‡ and PHYS

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG‡ and PMSE

#### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

#### Soft Interfaces

Sponsored by COLL, Cosponsored by CATL

#### Support & Activator Effects on Metal Mediated Polymerization

Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG‡

## Catalysis for Unconventional Energy Sources

Sponsored by ENFL, Cosponsored by CATL and MPPG‡

### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG‡

## MONDAY AFTERNOON

### Section A

Parc 55 San Francisco

Mission I

### Advanced X-Ray Techniques for Catalyst Characterization

#### New Methodologies

Cosponsored by PHYS

S. R. Bare, A. M. Karim, *Organizers*

A. M. Karim, *Presiding*

**1:00 CATL 144.** Ultra sensitive probing of the local electronic structure based on state-of-the-art Transition-Edge Sensor (TES) technology and soft x-ray spectroscopy. **D. Nordlund, B.K. Alpert, M.L. Baker, H. Cho, E. Denison, W.B. Dorise, J.W. Fowler, K.J. Gaffney, B. Gao, J. Gard, G. C. Hilton, K.D. Irwin, Y.I. Joe, C. Kenney, J. Knight, T. Kroll, S. Lee, D. Li, R. Marks, M. Minitti, R.A. Mori, H. Ogasawara, G. O'Neil, D. Schmidt, D. Sokaras, D.S. Swetz, Y. Song, C.J. Titus, J. Ullom, T. Weng, C. Williams, B.A. Young**

**1:20 CATL 145.** Characterizing working catalysts with correlated electron and photon probes. **E. Stach, Y. Li, S. Zhao, A. Gamalski, D. Zakharov, R. Tappero, J.G. Chen, R.G. Nuzzo, A. Frenkel**

**1:50 CATL 146.** Applications of x-ray Raman scattering for in-situ material characterization. **B. Mishra**

**2:20 CATL 147.** Metal poisoning of catalyst particles as studied by x-ray imaging at multiple length scales. **F. Meier**

2:50 Intermission.

**3:20 CATL 148.** Piecing together a complete picture of catalysis through operando XRD-PDF-DRIFTS. **K.W. Chapman**

**4:00 CATL 149.** Utilizing in-situ small and wide angle x-ray scattering for rapid feedback of nanocrystal catalyst synthesis. **C.J. Tassone, L. Wu, J. Willis, I. McKay, B. Diroll, M. Cargnello, J. Qin, L. Pellouchoud, A. Fournier**

**4:30 CATL 150.** Atomic scale strain field distribution of catalyst during the reaction process by coherent x-ray diffraction imaging. **H. Kim**

### Section B

Parc 55 San Francisco

Cyril Magnin III

### Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials

## Lignin Conversion & Upgrading

Cosponsored by CARB and ENFL

M. M. Abu-Omar, S. L. Scott, *Organizers*

C. Sievers, *Presiding*

**1:00 CATL 151.** Atomic level structure characterization of biomass post Catalytic Depolymerization of Lignin (CDL) by dynamic nuclear polarization-enhanced solid state NMR. **M.M. Abu-Omar, H. Luo, F. Perras, M. Pruski, N.S. Mosier**

**1:35 CATL 152.** Reductive conversion of lignin with copper-doped catalysts. **M.B. Foston, P.C. Ford, D.P. Harper, Y. Gao**

**2:10 CATL 153.** Divergent pathways for solid-acid catalyzed alkylation of phenol in liquid phase. **H. Shi, Y. Liu, J. Hu, D.M. Camaioni, J.A. Lercher**

**2:30 CATL 154.** Aqueous phase transformation of biomass-derived oxygenated compounds over supported tungsten based catalysts. **J.M. Lopez-Nieto, N. La Salvia, D. Delgado, A. Fernandez-Arroyo, M. Domine**

2:50 Intermission.

**3:10 CATL 155.** Electrochemical coupling of primary biomass derivatives for the production of second generation platforms for renewable polymer and biofuel applications. **L. Wu, M. Mascal, T.J. Farmer, S. Pérocheau Arnaud, M. Wong Chang**

**3:45 CATL 156.** Novel strategies for the catalytic conversion of lignocellulose. **K. Barta**

**4:20 CATL 157.** Chemo-enzymatic synthesis of renewable antioxidant additives with tunable polarity from lignocellulose and vegetable oils. **L. Hollande, J. Beaugrand, P. Ducrot, S. Domenek, F. Allais**

**4:40 CATL 158.** Electrochemical conversion of biologically-produced muconic acid to renewable monomers. **J.E. Matthiesen, S. Abdolmohammadi, M. Viswanathan, A. Okerlund, D.R. Raman, J. Tessonnier**

### Section C

Parc 55 San Francisco

Market Street

### ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend

#### Honoring the Contribution to Nanocatalysis

Cosponsored by COLL and WCC

C. Kumar, *Organizer*

K. L. Queeney, *Presiding*

**1:00 CATL 159.** Recent advances in gold catalysis. **G. Hutchings**

**1:30 CATL 160.** Surface chemical transformations and environmental impact of nanoscale complex oxides. **R.J. Hamers**

2:00 Intermission.

**2:15 CATL 161.** Chemical patterning of nanoscale topographical features on Si(100). **K.L. Queeney**

**2:45 CATL 162.** Modifying catalysts using atomic layer deposition. **N. Yang, A.S. Asundi, S.F. Bent**

**3:15** Overview of research accomplishments and acknowledgements. **C. Friend**

## Section D

Parc 55 San Francisco

Cyril Magnin I

### Electrocatalysis for Energy Generation & Storage

#### Fuel Cells, Electrolyzers & Batteries

Cosponsored by ENFL

A. Holeywinski, J. Snyder, C. Wang, *Organizers*

H. Xin, *Organizer, Presiding*

A. Holeywinski, *Presiding*

**1:00 CATL 163.** Synthesis and characterization of thiophene annulated butterfly [2Fe-2S] complexes. **W. Brezinski, M.O. Talbot, T. Yamamoto, S. Sill, L.M. Stratton, D.L. Lichtenberger, D.H. Evans, R.S. Glass**

**1:20 CATL 164.** Differential electrochemical x-ray absorption spectroscopy of hydrogen evolution electrocatalysis on metal phosphides. **T. Billo, L. Hsu, Y. Lin, W. Chen**

**1:40 CATL 165.** Universal surface engineering of transition metals for hydrogen evolution from water. **Y. Sun**

**2:00 CATL 166.** Fundamental understanding of defective carbon-based materials for electrochemical synthesis of hydrogen peroxide. **S. Chen, Z. Chen, S. Siahrostami, T.R. Kim, D. Nordlund, D. Sokaras, S. Nowak, J.W. To, D.C. Higgins, R. Sinclair, F. Studt, J.K. Norskov, T.F. Jaramillo, Z. Bao**

**2:20 CATL 167.** Electrocatalytic and thermal catalytic phenol hydrogenation over platinum and rhodium. **N. Singh, Y. Song, O. Gutiérrez, D.M. Camaioni, C.T. Campbell, J.A. Lercher**

2:40 Intermission.

**3:00 CATL 168.** Probing the nature of active sites for methanol oxidation with transient isotope kinetics. **C. Barnhill, A. Holeywinski**

**3:20 CATL 169.** Search for a high efficiently platinum-based mixed-metal anode catalyst for polymer electrolyte membrane fuel cells. **N. Dimakis, D. Valdez, E.S. Smotkin**

**3:40 CATL 170.** Ultrasmall intermetallic nanoparticles for enhanced catalytic electro-oxidation. **Z. Qi, C. Xiao, C. Liu, T. Goh, L. Zhou, R. Malgal Ganesha, Y. Pei, L.A. Curtiss, W. Huang**

**4:00 CATL 171.** Design of Ni-based electrocatalysts for CO<sub>2</sub> electrolysis from first-principles. **X. Gu, J. Carneiro, E. Nikolla**

**4:20 CATL 172.** Controlled selectivity towards CO/H<sub>2</sub> production during the Co-electrolysis of H<sub>2</sub>O and CO<sub>2</sub> using solid oxide electrolysis cells. **B. Hu, A. Aphale, W. Song, J.W. Stevenson, S.L. Suib, P. Singh**

**4:40 CATL 173.** Surface reactions of lithium-oxygen batteries studied under electrochemical control with field ionization methods. **H. Valdés Espinosa de los Monteros, K.A. Carpenter, E. Stuve**

### Section E

Parc 55 San Francisco

Cyril Magnin II

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis



### Mechanistic Studies of Catalysis in Photocatalytic & Photoelectrodes

Cosponsored by COLL, ENFL, I&EC and INOR

G. Dukovic, D. Esposito, I. Sharp, *Organizers*  
S. Ardo, *Organizer, Presiding*

**1:00 CATL 174.** Catalytic reactions on optically excited plasmonic metal nanoparticles. S. Linic

**1:30 CATL 175.** Plasmon-Driven photoelectrochemical cells for artificial photosynthesis. J. DuChene, G. Tagliabue, A.J. Welch, Q. Yang, K. Reidy, A.R. Davoyan, C. Hsiow, H. Atwater

**1:45 CATL 176.** Hot electron and surface plasmon-driven water splitting on Au nanoparticles/TiO<sub>2</sub> nanotube arrays. S. Moon, K. Goddetti, E. Gwag, J. Park

**2:00 CATL 177.** Investigation of plasmon-enhanced photocatalytic CO<sub>2</sub> reduction using nanostructured heterogeneous Ag and Cu catalysts. Y. Kim, E. Creel, E. Corson, F. Oiu, J. Urban, B.D. McCloskey, R. Kostecki

**2:15 CATL 178.** Effect of the application of a non-resonant electric field on the photo-dissociation dynamics of HBr. M. Sneha, Y.H. Lai, J. Meiser, K.I. Hillsbeck, R.N. Zare

**2:30 CATL 179.** Photoelectrochemical hydrogen evolution reaction with quantum yield exceeding 100% via MEG. Y. Yan

**2:45** Intermission.

**3:00 CATL 180.** Fate of carbon dioxide in water-rich fluids under extreme conditions. G.A. Galli, D. Pan

**3:30 CATL 181.** Three distinct nature of surface-bound atomic hydrogen and their role in dictating product selectivity in artificial photosynthesis reactions. S. Poudyal, S. Laursen

**3:45 CATL 182.** Charge transfer processes in catalyzed semiconductor photoelectrodes. S.W. Boettcher

**4:15 CATL 183.** Intrinsic carrier transport and photocatalytic behavior in single crystalline bismuth vanadate thin film solar water splitting photoanodes. W. Zhang, D. Yan, M. Liu

**4:30 CATL 184.** Exceptionally stable molybdenum disulfide protection schemes for silicon photocathodes. L. King, T. Hellstern, T.F. Jaramillo

### Section F

Parc 55 San Francisco  
Mission II/III

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Mechanisms

Cosponsored by COLL and ENVR

S. L. Scott, C. Sievers, *Organizers*  
A. Savara, *Organizer, Presiding*

**1:00 CATL 185.** Augmenting reaction mechanisms for improved computational catalyst screening. L. Grabow

**1:20 CATL 186.** Standard states of adsorbates on surfaces. A. Savara, C.T. Campbell

**2:00 CATL 187.** Understanding the role of anionic dopants on Pd for hydrogen production from formic acid. P. Sautet, P. Wang, S. Steinmann, C. Michel, G. Fu

**2:40 CATL 188.** Stabilization of catalytically active Cu<sup>+</sup> surface sites on titanium-copper mixed-oxides. D.J. Stacchiola

**3:00 CATL 189.** Mechanistic requirements of hydrogen addition to carbonyl compounds. F. Lin, J. Shangquan, Z. Wu, Y. Chin

**3:40 CATL 190.** Mechanistic origins of unselective oxidation products in the conversion of propylene to acrolein. L. Bui, A. Bhan

**4:20 CATL 191.** Calculating free energy of atomic oxygen adsorbed on late transition metal surfaces. K. Frey

**4:40 CATL 192.** First-principles study of water-gas shift reaction on cobalt: Microkinetic modeling of a system with strong coverage effects. W. Luo, A.R. Asthagiri

### Science for a Sustainable Energy Future

#### Chemical & Biological Conversions Approaches to Energy Conversion

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG‡, ORGN and PROF

#### Synthesis & Characterization of Materials for Energy Applications

#### In Operando & Surface Sensitive Analysis

Sponsored by ANYL, Cosponsored by CATL

#### C1 Catalysis

Sponsored by ENFL, Cosponsored by CATL

#### Catalytic Materials from Molecular Insight

Sponsored by COMP, Cosponsored by CATL, MPPG‡ and PHYS

#### Support & Activator Effects on Metal Mediated Polymerization

Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG‡

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG‡ and PMSE

#### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

#### Catalysts for Selective Chemical Transformations

Sponsored by COLL, Cosponsored by CATL

#### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG‡

#### Sustainability in Electrocatalytic Fuel & Chemical Production

Sponsored by INOR, Cosponsored by CATL

## TUESDAY MORNING

### Section A

Parc 55 San Francisco  
Cyril Magnin III

#### Advanced X-Ray Techniques for Catalyst Characterization

### New Methodologies

Cosponsored by PHYS

A. M. Karim, *Organizer*

S. R. Bare, *Organizer, Presiding*

**8:00 CATL 193.** Ex-situ profiling of TiO<sub>2</sub> thin film growth: An XRD study using synchrotron radiation. K.A. Kulinski, D. Steckhahn, B. Gunn, C. Tassone, A.S. Ichimura

**8:20 CATL 194.** Characterization of catalysts with operando x-ray spectroscopy. D. Sokaras

**9:00 CATL 195.** Operando electrochemical grazing incidence x-ray absorption and diffraction for the CO<sub>2</sub> reduction reaction. J. Feaster, M. Farmand, J. Lin, A. Landers, S. Fackler, R. Davis, A. Mehta, J. Yano, T.F. Jaramillo, W. Drisdell

**9:20 CATL 196.** Advanced X-ray spectroscopic tools for operando catalysis studies at the National Synchrotron Light Source-I. E. Stavitski

**9:50 CATL 197.** Using organometallic model complexes to assist in interpreting x-ray absorption spectra of single-site catalysts. A. Getssoian, J. Camacho-Bunquin, G. Zhang, A. Hock

**10:20 CATL 198.** Analytical XAFS and XES on the benchtop in research groups, industrial testing facilities, and teaching labs. G. Seidler, E. Jahrman, W. Holden, A. Ditter, O. Hoidn, L. Bradshaw, S.A. Kozimor, J. Sieber, D. Mortensen

**10:50** Discussion.

### Section B

Parc 55 San Francisco  
Powell I/II

#### Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials

#### Carbohydrate Processing & Upgrading of Biomass-Derived Molecules

Cosponsored by CARB and ENFL

M. M. Abu-Omar, S. L. Scott, *Organizers*  
J. Tessonier, *Presiding*

**8:00 CATL 199.** Intensified oxidative processes for biomass conversion to chemicals. B. Subramaniam, M. Lundin, A.M. Danby, X. Zuo

**8:35 CATL 200.** New fine chemical building blocks from lignin via stabilization of reactive intermediates from the C-2 acidolysis pathway. J.G. De Vries, K. Barta, P.J. Deuss

**9:10 CATL 201.** Deactivation paths during hydrodeoxygenation of aromatic oxygenates over Pt/H-BEA. C. Okolie, G. Foo, M.V. Rodrigues, M. Yung, C. Sievers

**9:45** Intermission.

**10:05 CATL 202.** Recent advances in biomass conversion for bio-products and fuels. D.G. Vlachos, B. Saha, P.J. Dauenhauer, W. Fan, M. Tsapatsis, S. Caratzoulas

**10:40 CATL 203.** Ru-based heterogeneous catalysts for levulinic acid hydrogenation: On the influence of catalyst composition, synthesis and feed impurities. P. Bruijninx, B.M. Weckhuysen

**11:15 CATL 204.** Observing biomass conversion at solid-liquid interfaces using operando solid-state NMR spectroscopy. L. Qi, A. Chamas, D.W. Hoyt, E. Walter, N. Washton, M. Foston, S.L. Scott

**11:35 CATL 205.** Muconic acid isomerization strategies: The role of water (friend or foe?). J. Carraher, J. Tessonier

### Section C

Parc 55 San Francisco  
Market Street

#### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

#### Single Crystal Catalysis

Cosponsored by COMP

T. Bligaard, C. M. Friend, C. Kumar, *Organizers*  
J. Rodriguez, *Presiding*

**8:00** Introductory Remarks.

**8:15 CATL 206.** Heterogeneous photochemical processes on metal oxides. A.S. Crampton, F. Xu, E. Kaxiras, L. Cai, X. Zheng, C.M. Friend

**8:45 CATL 207.** On the active site model in computational catalyst screening. K.U. Reuter

**9:15** Intermission.

**9:30 CATL 208.** Modifications of Pt single crystal surfaces for designing ideal electrochemical interfaces in PEFCs. K. Kodama, R. Jinnouchi, A. Shinohara, Y. Morimoto

**10:00 CATL 209.** Mechanistic studies of the HDO of lignin-derived oxygenates on PtZn: From single crystals to high surface area catalysts. J.M. Vohs, D. Shi

**10:30** Intermission.

**10:45 CATL 210.** Decoding the rich behaviour of single atom alloys and identifying opportunities for catalyst design. M. Stamatakis

**11:15 CATL 211.** Inverse oxide/metal systems and fundamental studies in heterogeneous catalysis. J. Rodriguez, P. Liu, J. Graciani, S.D. Senanayake, D.J. Stacchiola, J.F. Sanz

### Section D

Parc 55 San Francisco  
Cyril Magnin I

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Molecular & Bio-Inspired Photocatalysts

Cosponsored by COLL, ENFL, I&EC and INOR

S. Ardo, D. Esposito, I. Sharp, *Organizers*  
G. Dukovic, *Organizer, Presiding*

**8:00 CATL 212.** Photocatalytic reduction of CO<sub>2</sub>. C.P. Kubiak, P. Cheung, A. Zhanaidarova

**8:30 CATL 213.** Catalytic light-driven reductive transformations mediated by cobalt complexes. J. Lloret Fillol, A. Call, C. Casadevall, F. Acuña-Pares, A. Casitas Montero, M. Claros

**8:45 CATL 214.** Photoinduced proton-coupled electron transfer in solvated molecular systems and photoreceptor proteins. S. Hammes-Schiffer

**9:15 CATL 215.** π-Hole-π interaction promoted photocatalytic hydrodefluorination via inner-sphere electron transfer. J. Lu, N. Khetrapal, J. Johnson, X.C. Zeng, J. Zhang

**9:30** Intermission.

‡ Cooperative Cosponsorship

- 9:45 CATL 216.** Study of light-driven catalysis by enzyme-nanoparticle hybrids. **P.W. King**, K.A. Brown, D. Harris, M. Wilker, H. Hamby, S. Keable, N. Khadka, L.C. Seefeldt, J. Peters, G. Dukovic
- 10:15 CATL 217.** Photocatalytic NADH-analog systems for fuel-forming reactions. **K. Glusac**
- 10:30 CATL 218.** Molecular surface coatings for semiconductor photoelectrochemistry and photocatalysis. **G.F. Moore**, A.M. Beller, D. Khusnutdinova, B.L. Wadsworth
- 11:00 CATL 219.** Atomic layer-deposited cobalt oxide stabilizes dye-sensitized photoanodes for improved photoelectrochemical water splitting. **P. Xu**, Y. Hu, C. Gray, I. Sharp, T.E. Mallouk
- 11:15 CATL 220.** Design of visible light organic photoredox catalysts for the synthesis of polymers and small molecules. **C. Lim**, R.M. Pearson, J.C. Theriot, B.G. McCarthy, M.D. Ryan, H. Yang, C. Musgrave, G. Miyake
- 11:30 CATL 221.** Design of photoredox catalysts for efficient organocatalyzed atom transfer radical polymerization. **C. Musgrave**, C. Lim, J.C. Theriot, G. Miyake, M.D. Ryan, B.G. McCarthy, S. Sartor, N.H. Damrauer

## Section E

Parc 55 San Francisco

Cyril Magnin II

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

*Cosponsored by ENVR and I&EC*

M. A. Banares, M. Guerrero-Perez, F. Tao, *Organizers*

G. Rupprechter, *Presiding*

- 8:00 CATL 222.** Molecular catalysis science. Nanoparticle synthesis, and instrument development for characterization under reaction conditions. Conquering catalytic complexity. **G.A. Somorjai**
- 8:40 CATL 223.** Operando studies of working catalysts by synchrotron-based XPS and XAS at atmospheric pressure. **G. Rupprechter**, K. Foettinger, C. Rameshan
- 9:20 Intermission.**
- 9:40 CATL 224.** Operando spectroscopy from the perspective of SUNCAT and SSR. **S.R. Bare**
- 10:20 CATL 225.** Bridging the material and pressure gaps in synchrotron based photoelectron in-situ/operando studies. **L. Gregoratti**, M. Amati, H. Sezen

## Section F

Parc 55 San Francisco

Mission II/III

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Electrons

*Cosponsored by COLL and ENVR*

S. L. Scott, C. Sievers, *Organizers*

A. Savara, *Organizer, Presiding*

- 8:00 CATL 226.** Surface thermodynamics and kinetics of perovskite oxides. **L. Zhang**, D. Müller, Z. Guan, C. Gopal, M. Monti, W. Chueh, **A. Vojvodic**

- 8:20 CATL 227.** NO electrochemical reduction on transition metal electrocatalysts: A DFT approach. **H. Chun**, K. Honkala, V. Apaja, A.Z. Clayborne, **J. Greeley**

- 9:00 CATL 228.** Direct synthesis of H<sub>2</sub>O<sub>2</sub>: Competing reaction pathways depend differently on surface structure. **N. Wilson**, P. Priyadarshini, **D. Flaherty**

- 9:40 CATL 229.** When modelling bridges electrocatalysis and heterogeneous catalysis: The case of the formic acid decomposition. **S.N. Steinmann**, C. Michel, P. Sautet

**10:00 Intermission.**

- 10:20 CATL 230.** Enhancing rates of redox reactions with surface-induced solvent effects. **R.C. Remsing**

- 10:40 CATL 231.** Reaction mechanisms for the electrochemical reduction of CO<sub>2</sub> on the Cu(100) surface from quantum mechanics free energy calculations with explicit water. **T. Cheng**, H. Xiao, W.A. Goddard

- 11:00 CATL 232.** Silicon surface termination affects electrolyte reduction pathways as probed by in situ sum frequency generation vibrational spectroscopy. **Y. Horowitz**, H. Han, G.A. Somorjai

- 11:20 CATL 233.** Computational investigation of secondary electron emission and other mechanisms involved in plasma-assisted dry methane reforming using nickel catalysts. **A. Sirjoosingh**, G.C. Schatz

### Synthesis & Characterization of Materials for Energy Applications

#### Fundamental & Molecular Models for Advanced Energy Materials

*Sponsored by ANYL, Cosponsored by CATL*

#### Functional Porous Materials for Sustainable Energy

*Sponsored by ENFL, Cosponsored by CATL and MPPG‡*

#### Catalytic Materials from Molecular Insight

*Sponsored by COMP, Cosponsored by CATL, MPPG‡ and PHYS*

#### Support & Activator Effects on Metal Mediated Polymerization

*Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG‡*

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

*Sponsored by ENFL, Cosponsored by CATL, MPPG‡ and PMSE*

#### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

#### Surface Science of Functional Interfaces

*Sponsored by COLL, Cosponsored by CATL*

#### State-of-the-Art Methods for Modeling Materials Chemistry

*Sponsored by COMP, Cosponsored by CATL and MPPG‡*

## TUESDAY AFTERNOON

### Section A

Parc 55 San Francisco

Cyril Magnin III

#### General Papers

S. L. Scott, *Organizer*

E. Nikolla, *Organizer, Presiding*

- 1:00 CATL 234.** Advancing energy applications with nanoscale hybrid catalysis: The key concept of exploiting interfaces. **P. Fornasiero**, M. Prato, F. Paolucci, M. Bonchio, R.J. Gorte

- 1:20 CATL 235.** Efficient biomass transformation to chemicals and biofuel catalyzed by ordered mesoporous solid acid. **C. Carrie**, J. Boravilas, A. Masoumi, B. Kanjilal, F. Liu, C. Slater, M.J. Savelski, J.F. Stanzione, I. Noshadi

- 1:40 CATL 236.** Structure-Activity relationships in m-cresol hydrodeoxygenation over platinum catalysts. **J.A. Hunns**, K. Wilson, A.F. Lee, M. Watson

- 2:00 CATL 237.** Enhanced production of aromatics from biomass upgrading over in-framework Ga-ZSM5 catalysts via a systematic study. **M. Xu**, C. Mukarakate, B.G. Trewyn, R.M. Richards

- 2:20 CATL 238.** Investigating lignin disassembly pathways through modifications of Cu-doped porous metal oxide catalysts. **M.A. Chui**, G. Metzker, C.M. Bernt, A. Tran, P.C. Ford

- 2:40 CATL 239.** Selective non-oxidative ethanol dehydrogenation on dilute NiCu alloys. **N. Janvelyan**, J. Shan, H. Li, J. Liu, T. Egle, J. Ye, M.M. Biener, J. Biener, M. Flytzani-Stephanopoulos, C.M. Friend

**3:00 Intermission.**

- 3:15 CATL 240.** Pt-catalysed hydrodeoxygenation of lignin monomers: Understanding of factors affecting the catalyst performance. **A. Shivhare**, A.F. Lee, K. Wilson, J.A. Hunns, C.M. Parlett, M. Isaacs

- 3:35 CATL 241.** Effect of post-treatment on structure and catalytic activity of CuCo-based materials for glycerol oxidation. **G. Dodekatos**, H. Tuysuz

- 3:55 CATL 242.** *Ex-situ* catalytic fast pyrolysis of lignocellulosic biomass over Pt/TiO<sub>2</sub>: Fundamental insight to large bench scale validation. **M. Griffin**, G.A. Ferguson, C. Mukarakate, M.J. Biddy, D.A. Ruddy, R.J. French, F.G. Baddour, G. Beckham, J. Schaidle

- 4:15 CATL 243.** Transition metal phosphide catalysts for methanol synthesis from CO and CO<sub>2</sub>. **M.S. Duyar**, J. Snider, E. Valle, T.F. Jaramillo

- 4:35 CATL 244.** Thermodynamic and kinetics studies on site requirements for aldol addition over differently prepared TiO<sub>2</sub> catalysts. **H. Zhang**, D. Flaherty

### Section B

Parc 55 San Francisco

Powell I/II

### Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials

*Cosponsored by CARB and ENFL*

S. L. Scott, *Organizer*

M. M. Abu-Omar, *Organizer, Presiding*

- 1:00 CATL 245.** Acrylonitrile production from biomass-derived intermediates. **G. Beckham**, M.J. Biddy, D. Brandner, A. Bratis, J.R. Dorgan, T. Eaton, E. Karp, L. Mancker, W. Michener, D. Salvachua, V. Sánchez i Nogué, E. Tan, D. Vardon, X. Wang

- 1:35 CATL 246.** Catalytic reductions of oxygenates with oxophilic metal complexes as catalysts. **A.D. Sadow**

- 2:10 CATL 247.** Selective hydrogenation of xylose to xylitol in the presence of Co/SiO<sub>2</sub> catalysts. **K. De Oliveira Vigier**, M. Audemar, F. Jérôme, S. Royer

- 2:30 CATL 248.** Vanadium-catalyzed aerobic oxidative C-C bond cleavage of 1,2-diols: A coupled theoretical and experimental study of an unprecedented direct two-electron oxidation. **C. Diaz-Urrutia**, **P. Fleurat-Lessard**, C. Michel, S. Gorelsky, I. Korobkov, A. Martinez, R. Baker

**2:50 Intermission.**

- 3:10 CATL 249.** C<sub>6</sub> diacids from homocitric acid lactone using relay heterogeneous catalysis. **I. Thapa**, S. Ntais, E. Baranova, M.K. Lau, C. Hass, J. Millis, **R. Baker**

- 3:45 CATL 250.** Catalytic approaches to complex molecules from carbohydrate biomass. **M.R. Gagne**

- 4:20 CATL 251.** Evolution of a heterogeneous Cu-based lignin hydrogenolysis catalyst in supercritical methanol. **Z. Jones**, J.A. Barrett, J. Zhang, P.C. Ford, S.L. Scott

- 4:40 CATL 252.** Anatase TiO<sub>2</sub> activated by gold particles for selective hydrodeoxygenation of guaiacol to phenolics. **Z. Zhang**, J. Mao, J. Zhou, Z. Xia, Z. Wang, Z. Xu, W. Xu, P. Yan, K. Liu, X. Guo

### Section C

Parc 55 San Francisco

Market Street

### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

#### Electrocatalysis

*Cosponsored by COMP*

T. Bligaard, C. M. Friend, C. Kumar, *Organizers*

A. Vojvodic, *Presiding*

- 1:00 CATL 253.** Analysis of the mechanism of electrochemical oxygen reduction and development of Ag- and Pt-alloy catalysts for low temperature fuel cells. **S. Lincic**

- 1:30 CATL 254.** Engineering complex, layered metal oxides for high temperature electrochemical oxygen reduction and evolution. **E. Nikolla**

**2:00 Intermission.**

- 2:15 CATL 255.** Transition-metal compounds as electrocatalysts. **A. Vojvodic**

**2:45 CATL 256.** Improving our understanding of electrochemical reaction barriers. **A. Peterson**, P. Lindgren, G. Kastlunger, M. El Khatib

**3:15** Intermission.

**3:30 CATL 257.** Spectroscopy and microscopy at the solid-vapor and solid-liquid interface. **M. Salmeron**

**4:00 CATL 258.** Machine learning approach to electrocatalyst discovery. **H. Xin**

## Section D

Parc 55 San Francisco

Cyril Magnin I

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Novel Photocatalytic & Photoelectrode Materials

*Cosponsored by COLL, ENFL, I&EC and INOR*

S. Ardo, G. Dukovic, D. Esposito, *Organizers*  
I. Sharp, *Organizer, Presiding*

**1:00 CATL 259.** Photocatalysis induced by direct electron emission from diamond surfaces. **R.J. Hamers**

**1:30 CATL 260.** High throughput discovery of solar fuels photoanodes. **J. Gregoire**

**2:00 CATL 261.** Solar fuels photoanodes prepared by inkjet printing of copper vanadates. **P. Newhouse**, D. Boyd, A. Shinde, D. Guevarra, L. Zhou, E. Soedarmadji, G. Li, J. Neaton, J. Gregoire

**2:15 CATL 262.** Polymer photocatalysts for water splitting: lessons from experiment and theory. **M.A. Zwiijnenburg**, R. Sprick, D. Adams, A.I. Cooper

**2:30 CATL 263.** Molybdenum disulfide as a protection layer and catalyst for gallium indium phosphide solar water splitting photocathodes. **R.J. Britto**, J. Young, D. LaFehr, J. Benck, C. Hahn, T.G. Deutsch, T.F. Jaramillo

**2:45** Intermission.

**3:00 CATL 264.** Is it photocatalysis or is it photosynthesis? Developing design criteria for enhanced solar energy conversion and photocatalytic devices. **F.E. Osterloh**, Z. Zhao, M.A. De Melo Junior

**3:30 CATL 265.** Sculpting photocatalysts on the nano scale. **L. Amirav**

**4:00 CATL 266.** Multicatalytic, light-driven upgrading of butanol to 2-ethylhexenal and hydrogen under mild aqueous conditions. **G. Hafenstine**, K. Ma, A.R. Harris, O. Yehezkeili, E. Park, D. Domaille, J. Cha, A.P. Goodwin

**4:15 CATL 267.** Nanocrystalline CoO photocatalyst: Role of facets in overall water splitting. **K. Park**, A. Kolpak

**4:30 CATL 268.** Nanostructured non-precious metal silicon photocathodes for solar water splitting. **T. Hellstern**, P. Chakthranont, L. King, I. Narkeviciute, R.J. Britto, D. Palm, C. Hahn, T.F. Jaramillo

## Section E

Parc 55 San Francisco

Cyril Magnin II

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

*Cosponsored by ENVR and I&EC*

M. Guerrero-Perez, F. Tao, *Organizers*

M. A. Banares, *Organizer, Presiding*

**1:00 CATL 269.** Operando beyond catalysis: Spectroscopic characterization of separation measurements in membranes combined with modelling. **M. Daturi**, C. Le Guillouzer, P. Bazin, S. Thomas, A. Vimont, G. Clet

**1:40 CATL 270.** Operando membrane spectroscopy: A novel technique for identifying membrane structure-function relationships. **C. O'Brien**, I. Lee, Z. Dunbar

**2:00 CATL 271.** Modeling catalysts under a pressure of gas. **P. Sautet**

**2:40** Intermission.

**3:00 CATL 272.** New aspects of environmental TEM in catalyst chemistry. **S. Takeda**, R. Aso, N. Kamiuchi, H. Yoshida, K. Soma

**3:40 CATL 273.** Development of a reaction cell for in-situ/operando studies of surface of a catalyst under a reaction condition and during catalysis. **F. Tao**

## Section F

Parc 55 San Francisco

Mission II/III

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Organic Oxygenates

*Cosponsored by COLL and ENVR*

S. L. Scott, C. Sievers, *Organizers*

A. Savara, *Organizer, Presiding*

**1:00 CATL 274.** Elucidation of the mechanism and kinetics of catalyzed reactions: Application of experimental and theoretical approaches. **A.T. Bell**

**1:40 CATL 275.** Mechanisms of lignin and furan derivative upgrade on metal surfaces. **D.G. Vlachos**, G. Gu, G. Jenness

**2:20 CATL 276.** Catalysis in a cage: The dynamic nature of active copper sites in zeolites during NOx SCR with ammonia. **A.A. Parekh**, C. Paolucci, I. Khurana, J.D. Albarracín-Caballero, J.R. Di Iorio, A. Shih, H. Li, S. Li, A. Yezerets, W.N. Delgass, J.T. Miller, F. Ribeiro, W.F. Schneider, **R. Gounder**

**3:00 CATL 277.** Theoretical investigation of the catalytic hydrodeoxygenation of levulinic acid over Ru(0001) surface. **A. Heyden**

**3:40 CATL 278.** Collision theory in liquids and the molecular origin of the selectivity difference between AuPd and Pd for benzylic alcohol oxidation. **A. Savara**, C.E. Chan-Thaw, I. Rosssetti, L. Prati, A. Villa

**4:00 CATL 279.** Hydrodeoxygenation of phenol through FeXMo2-XP bimetallic phosphide catalyst: A Density Functional Theory (DFT) study. **V. Jain**, N. Rai

**4:20 CATL 280.** Characterization of active centers in the zeolite SSZ-13. **F. Goeltl**, I. Hermans, M. Mavrikakis

## Synthesis & Characterization of Materials for Energy Applications

### Novel Architectures, Materials & Synthetic Routes/In Operando & Surface Sensitive Analysis

*Sponsored by ANYL, Cosponsored by CATL*

#### ACS Award Lectures

*Sponsored by COLL, Cosponsored by CATL and WCC*

### Catalytic Materials from Molecular Insight

*Sponsored by COMP, Cosponsored by CATL, MPPG† and PHYS*

### Functional Porous Materials for Sustainable Energy

*Sponsored by ENFL, Cosponsored by CATL and MPPG†*

### Advanced Materials & Technologies for Solar Energy Conversion & Storage

*Sponsored by ENFL, Cosponsored by CATL, MPPG† and PMSE*

### Support & Activator Effects on Metal Mediated Polymerization

*Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG†*

### State-of-the-Art Methods for Modeling Materials Chemistry

*Sponsored by COMP, Cosponsored by CATL and MPPG†*

## TUESDAY EVENING

### Section A

Moscone Center

Hall D

#### Poster Session

E. Nikolla, S. L. Scott, *Organizers*

**6:00 - 8:00**

**CATL 281.** Acetone sensing mechanism of PdO at temperatures below 250°C. **C. Tsai**, Y. Chen, I. Cheng, F. Pan

**CATL 282.** Design of highly-stable and reactive Pt catalysts dispersed on CeO<sub>2</sub>-TiO<sub>2</sub> interface. **M. Yoo**, H. Ha, H. Kim

**CATL 283.** DFT Study on single atom Au/Co<sub>3</sub>O<sub>4</sub>(111) catalyzing CO oxidation. **W. Hu**, X. Cao, P. Hu

**CATL 284.** DFT corroborated study for the synthesis of cyclic carbonate from epoxide and CO<sub>2</sub> using a mixed Cu(II) amino acid-imidazole MOF catalyst. **D. Park**, A.C. Kathalikkattil, H. Woo

**CATL 285.** Degradation of herbicide Basagran 480 with iron oxide nanoparticles. **M. Ocampo**, L. Payan, I. Hernández, V. Garibay, R. Suárez, L. González

**CATL 286.** Structure and catalytic activity of molybdenum carbide and oxycarbide nanoparticles in ZSM-5 for natural gas conversion to aromatics. **Y. Zheng**

**CATL 287.** Enhanced activity and stability of CuO-ZnO-ZrO<sub>2</sub> catalyst by addition of graphene oxide for CO<sub>2</sub> hydrogenation to methanol. **T. Witton**, S. Bumrungsalee, W. Donphai, M. Chareonpanich, J. Limtrakul

**CATL 288.** CO Adsorption induced Pd-Au swapping in Pd-core@Au-shell nanoparticles. **H. An**, H. Ha, M. Yoo, H. Kim

**CATL 289.** Magnesium modified HZSM-5 with superior on-stream stability for fluid catalytic cracking naphtha hydro-upgrading. **Q. Lü**, Y. Yue, Y. Zhou, H. Liu, X. Bao

**CATL 290.** Higher alcohol synthesis via Fischer-Tropsch metal surface modification of MoP catalyst. **E. Valle**, M. Duyar, T.F. Jaramillo

**CATL 291.** Efficient reversible hydrogen carrier system based on amine reforming of methanol. **S. Kar**, J. Kothandaraman, R. Sen, A. Goeppert, G. Olah, S.G. Prakash

**CATL 292.** Insights from a QM/MM Investigation of ethane dehydrogenation pathways on Ga/H-MFI. **E. Mansoor**, M.P. Head-Gordon, A.T. Bell

**CATL 293.** Nanostructured carbon decorated molybdenum sulfide for the catalytic decomposition of water to produce hydrogen and for supercapacitive applications. **J. Candler**, K.S. Siam, P.K. Kahol, R. Gupta

**CATL 294.** Methane pyrolysis using catalytic melts for CO<sub>2</sub> free hydrogen production. **D.C. Upham**, M.J. Gordon, H. Metiu, E.W. McFarland

**CATL 295.** Cobalt-nitrogen doped 3D porous carbon prepared with self-generated nanoparticles as sacrificial templates for hydrogen generation. **Z. Zhang**, F. Wang, S. Yang, M. Dou, J. Ji

**CATL 296.** Heterogeneous organo-catalysis: Sustainable pathway to furanics from biomass. **S. Verma**, R.S. Varma

**CATL 297.** Methanol synthesis from CO<sub>2</sub> and H<sub>2</sub> on Au/ZnO: Mechanistic insights from the analysis of adsorbed species formed under reaction conditions. **A.M. Abdel-Mageed**, D. Widmann, A. Rezvani, R.J. Behm

**CATL 298.** Competition between Reverse Water Gas Shift (RWGS) reaction and CO<sub>2</sub> methanation on Ru/TiO<sub>2</sub>: Temperature induced structural changes. **A.M. Abdel-Mageed**, D. Widmann, K. Wiese, A. Hauble, R.J. Behm

**CATL 299.** Studies on preparation and catalytic cracking performance of small particle USY zeolite. **G. Wang**, S. Cui, B. Liu

**CATL 300.** Environmental TEM study of nanoparticles using modified *in-situ* E-TEM chips. **Q. Wu**, J. Cen, C.J. Ridge, D. Zakharov, X. Tong, M. Lindsay, A. Orlov

**CATL 301.** Lower valence metal doping of bulk Cr<sub>2</sub>O<sub>3</sub>: Charge compensation and oxygen vacancy formation. **J.J. Carey**, **M. Nolan**

**CATL 302.** Hierarchical multicomponent catalysts: Structure design, function realization and catalytic applications. **G. Wang**, H. Gao, S. Fan, D. Jia, J. Wang, L. Tan, W. Dong

**CATL 303.** Catalytic conversion of sugar stream to hydrocarbons. **A.B. Padmaperuma**, M.A. Liiga, D.L. Auberry

**CATL 304.** Withdrawn.

**CATL 305.** Carbon dioxide capture and conversion using CNT based catalysts. **Z. Zhou**, K.J. Stowers

**CATL 306.** Flower-like CuO/titania nanotube arrays for water splitting application. **W. Chiu**, H. Chiu, C. Lee

**CATL 307.** Porous structure-dependent electrocatalytic activity of cobalt and nitrogen co-doped carbon electrocatalyst for oxygen reduction reaction. **Y. Song**, M. Dou, X. Wen, F. Wang

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- CATL **308**. Withdrawn.
- CATL **309**. Cu/ZnO core-shell catalysts for methanol synthesis from CO<sub>2</sub>: Structure-Activity relationship. R. Gaikwad, D. Koziej, M. Niederberger, A. Urakawa
- CATL **310**. Preparation of carbon molecular sieve composite membrane for N<sub>2</sub>/F-gases separation. S. Kim, P. Lee, S. Nam, H. Park, Y. Park
- CATL **311**. 2D-Nanosheets with palladium nanoparticles for C-C coupling reactions. D. Yim, F. Raza, J. Park, H. Kim, H. Lee, J. Kim
- CATL **312**. Benzene in olefin metathesis by Ru-based catalysts. A. Poater, J. Poater, R. Chauvin
- CATL **313**. One-step conversion from Ni/Fe polyphthalocyanine to N-doped carbon supported Ni-Fe nanoparticles for highly efficient water splitting. F. Wang, Z. Zhang, Y. Qin, M. Dou, J. Ji
- CATL **314**. Direct conversion of olefins and CO<sub>2</sub> over a supported catalyst. C. Nguyen-Sorenson, K.J. Stowers
- CATL **315**. Synthesis of hierarchical zeolite Y by acid dealumination for cracking reactions. K. Sunny, A. Dabbawala, I. Ismail, M. Khaleel, S. Al Hassan
- CATL **316**. Control synthesis of nano-sized Zeolite-Y using starch gel as the sole template for catalytic cracking applications. K. Youssed, A. Dabbawala, I. Ismail, M. Khaleel, S. Al Hassan
- CATL **317**. Withdrawn.
- CATL **318**. Metal modified zirconium hydrogen phosphate for the oxygen evolution reaction. J. Sanchez, M. Ramos, I. Narkeviciute, J.L. Colon, T.F. Jaramillo
- CATL **319**. Control of catalyst deactivation by wet methods. G. Owusu, A. Baker, A. Alba-Rubio
- CATL **320**. Synthesis of aggregated organosilica nanotubes and their application in catalysis. A. Manchanda, C. Gunathilake, M.E. Gangoda, P. Ghimire, M. Jaroniec, M. Kruk
- CATL **321**. Probing oxidation states of metal/SiO<sub>2</sub> hybrid nanocatalyst under CO oxidation with in situ FTIR spectroscopy. S. Oh, S. Back, W. Doh, S. Moon, J. Kim, Y. Jung, J. Park
- CATL **322**. Atomic structure of the Pt/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> interface through a combined experiment and theory approach: A model catalyst study. H. Ayoola, C.S. Bonifacio, Q. Zhu, J. Kas, K. Kisslinger, D. Su, E. Stach, J.J. Rehr, W. Al-Saidi, J. Yang
- CATL **323**. Density functional theory study of reactivity of CeO<sub>2</sub>-supported Pt nanoparticles for the CO oxidation. H. Ha, M. Yoo, H. An, H. Kim
- CATL **324**. Withdrawn.
- CATL **325**. Withdrawn.
- CATL **326**. Sacrificial coating strategy toward enhancement of metal-support interaction for ultrastable Au nanocatalysts. W. Zhan, Y. Guo, Y. Guo, W. Li
- CATL **327**. One-pot growth of 3D reduced graphene oxide foams embedded with MoS<sub>2</sub> and Ni-doped MoS<sub>2</sub> nanocatalysts for hydrogen evolution reaction. C. Li, J.B. Grantham, W. Zhao
- CATL **328**. Reactions of enolized carboxylic acids with electrophiles on metal oxide surface. A. Cohen, A. Ignatchenko, O.A. Fraser
- CATL **329**. Selective hydrogenation of dienes and trienes using partially poisoned palladium nanoparticle catalysts. T. Chen, Y. Shon
- CATL **330**. Screening of binary alloy thin films for electrochemical CO<sub>2</sub>/CO reduction. S. Nitopi, L. Wang, D.C. Higgins, C. Morales Guio, A. Landers, T. Hatsukade, C. Hahn, T.F. Jaramillo
- CATL **331**. Multifunctional homogeneous-heterogeneous polymer catalysts for biomass conversion. S. Kalidindi, A. Alba-Rubio
- CATL **332**. Graphene-based porous adsorbents for CO<sub>2</sub> capture. H. Abbo, G. Kelly, S. Titinchi
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- CATL **334**. Facile *in-situ* synthesis of amorphous manganese oxides nanosheets on polyester fibers and their application in oxidative decomposition of formaldehyde. L. Jinge, P. Zhang
- CATL **335**. Tungsten doped manganese oxides as efficient catalysts for removing formaldehyde at ambient temperature. F. Liu
- CATL **336**. Reaction study of MnOx nanoparticles on Co<sub>3</sub>O<sub>4</sub>: New route to low pressure CO<sub>2</sub> conversion. S. Dalieh, W. Ralston, W. Liu, G. Melael, G.A. Somorjai
- CATL **337**. Effect of acid sites on platinum catalyzed C-C bond transformations. A. Flores-Betancourt, G.A. Somorjai, J. Thierry
- CATL **338**. Aqueous-phase Pt(111)-catalyzed methanol dehydrogenation thermodynamics and kinetics using a combined DFT/MD model. C. Bodenschatz, R. Getman
- CATL **339**. Surface modification scanning by pretreatment on FePt alloy nanoparticles for CO oxidation. X. Liu, H. Zhu, S. Dai, M. Chi, G. Lu
- CATL **340**. Enhanced catalytic performance of Pt/TiO<sub>2</sub> catalyst in water gas shift reaction by incorporation of PRGO. J. Park, R. Hwang, K. Yi
- CATL **341**. Kinetics of Ni-based oxygen carrier with MgO contents for chemical looping combustion. J. Park, R. Hwang, K. Yi
- CATL **342**. Alginate as Ag<sub>3</sub>PO<sub>4</sub>/g-C<sub>3</sub>N<sub>4</sub> immobilizing agents applied in the photodegradation of diclofenac under visible irradiation. Z. Wei, J. Shi, H. Deng
- CATL **343**. Structure of directing agent and its effect on fabrication of nano-crystalline Y aggregates. X. Zhao, H. Zhang, R. Liu, X. Meng, Y. Gong, Z. Li
- CATL **344**. Selective catalytic oxidation of ammonia over MnOx-TiO<sub>2</sub> mixed oxides. W. Li, Y. Guo, Y. Guo, W. Zhan
- CATL **345**. Single polymer chain supported well-defined and multifunctional catalyst design for high precession olefin polymerization. A. Thakur, M. Terano, T. Taniike
- CATL **346**. Use of iron ore as Fischer-Tropsch synthesis catalyst. K. Ramutsidel, L. Xiaojun, X. Liu, D. Hildebrandt
- CATL **347**. Withdrawn.
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- CATL **349**. Preparation of todorokite-type manganese dioxide and its application in gaseous ozone removal. Y. Liu, P. Zhang
- CATL **350**. Supporting the development of palladium catalysts in the direct heteroarylation synthesis of organic pi-conjugated materials. S.M. McAfee, A. Hendsbee, A. Payne, G. Welch
- CATL **351**. Kinetic study and multi-objective optimization of Fischer-Tropsch synthesis performance over Co-based catalyst using evolutionary optimization algorithm. N. Moazami, M. Wyszynski, K. Rahbar, A. Tsolakis
- CATL **352**. Phosphorous modification of ZSM-5 extrudates for prolonging catalytic lifetime in Methanol to Propene (MTP) reaction. Y. Song, J. Li, Y. Shang, Z. Zhao, X. Zhao, T. Ma, L. Zhang, Y. Gong
- CATL **353**. Influence of Al zoning in ZSM-5 on catalytic cracking of hexane. T. Ma, Z. Geng, Y. Song, L. Zhang, Y. Shang, Y. Gong
- CATL **354**. Synthesis of three-dimensionally ordered macroporous La<sub>1-x</sub>Ce<sub>x</sub>NiO<sub>3- $\delta$</sub>  and their excellent catalytic performance for the ethanol steam reforming. J. Shao, Y. Li
- CATL **355**. Doped Tansission metal oxide nano-catalysts used to improve performance of hybrid-model vehicle. P. Villarreal, S. Bashir, J.L. Liu
- CATL **356**. One-pot synthesis with size-control of palladium nanoparticles on reduced graphene oxide by spontaneous redox deposition. X. Zhang, W. Ooki, Y.R. Kosaka, A. Okonogi, T. Kondo, J. Nakamura
- CATL **357**. Synthesis of wrinkled mesoporous titanasilicate for selective oxidation of cyclohexene. Z. Wang, K.J. Balkus
- CATL **358**. Enhancing oxidation activity ceria through VO<sub>x</sub>-, CrO<sub>x</sub>- and MnO<sub>x</sub>-modification of CeO<sub>2</sub> (111). M. Nolan, V. Ganduglia-Pirovano
- CATL **359**. Microwave-assisted selective hydrogenation of furfural to furfuryl alcohol employing a green and noble metal-free Cu catalyst. J. Lopez-Sanchez, P.N. Romano, J.M. de Almeida, Y. Carvalho, P. Priece, E. Falabella S. Aguiar
- CATL **360**. Experimental verification of the poisoning effect of SO<sub>2</sub> on the CO<sub>2</sub> permeation through a Ce<sub>0.8</sub>Sm<sub>0.2</sub>O<sub>1.9</sub>-carbonate dual phase membrane. T. Chen, Y. Li
- CATL **361**. Activity, XPS and STEM data of Pd/Al<sub>2</sub>O<sub>3</sub> catalyst. A.C. Banerjee, M. Bozack
- CATL **362**. Size-controlled NHC-stabilized Ni and Cu NPs immobilized in CNTs Application in stereoselective hydrogenation. C. Claver, M. Diaz de los Bernardos, S. Pérez-Rodríguez, C. Godard, S. Castillon
- CATL **363**. Influence of mesoporosity in zeolites on the catalytic mechanism for the conversion of methanol to hydrocarbons. Z. Liu, X. Dong, Y. Han
- CATL **364**. Hydrogenation of CO<sub>2</sub> to methanol using Cu-based catalysts derived from bimetallic metal-organic framework precursor. H. Wang, C. Zhang, P. Gao, Y. Sun
- CATL **365**. Cobalt-nitrogen-doped 3D porous carbon networks derived from animal bones as an efficient electrocatalyst for oxygen reduction reaction. M. Dou, D. He, W. Shao, F. Wang
- CATL **366**. Multiwalled carbon nanotube/graphene oxide nanoribbon heterostructures as photocatalysts for CO<sub>2</sub> conversion. H. Liou, C. Sun, L. Chen, K. Chen
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- CATL **370**. Enhanced charge separation and visible light photon-to-current efficiency in high-performance WO<sub>3</sub> thin-film photoanodes. J. Cen, Q. Wu, D. Yan, W. Zhang, M. Liu, A. Orlov
- CATL **371**. Synthesis of leading perovskite oxygen reaction catalysts by spray pyrolysis: A simpler and successful technique. C.A. Sharpe, L.R. Sharpe
- CATL **372**. Synthesis and photocatalytic properties of Ni decorated CoS nanosheet. M. Zhukovskiy, M.K. Kuno
- CATL **373**. Role of domain size and titanium dopant in nanocrystalline hematite thin films for water photolysis. D. Yan, J. Tao, K. Kisslinger, J. Cen, Q. Wu, A. Orlov, M. Liu
- CATL **374**. Novel TiO<sub>2</sub> nanorod-nanotube hybrid array for artificial photosynthesis. M. Hasan, N. Wongsrissujarit, K. Yeung
- CATL **375**. Ionic compounds for electrochemical reduction of carbon dioxide. A. Landers, T. Hellstern, C. Hahn, T.F. Jaramillo
- CATL **376**. Efficient dual-site carbon monoxide electro-catalysts via interfacial nano-engineering. Z. Huang, Z. Wang
- CATL **377**. Mechanism of the photoredox catalytic radical coupling of benzyl bromides. G. Park, Y. You
- CATL **378**. Hot electrons flux under methanol oxidation; The effect of external bias on the activity and selectivity. S. Lee, H. Lee, J. Park
- CATL **379**. Effect of metal-nitrogen coordination on ORR electrocatalysis. J. Rosenberg, R. Paldí, J. Lu
- CATL **380**. Photocatalytic C-H arylation reactions under visible light using chemically treated amorphous/crystalline titanium dioxide. S. Bak, H. Lee
- CATL **381**. Photocatalytic degradation of organic pollutants in water using silver doped TiO<sub>2</sub>-coated core-shell magnetic nanocomposites. S. Titinchi, S. Noganta, H. Abbo

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- CATL 383.** Outstanding antibacterial performance of bipyramidal anatase TiO<sub>2</sub> with {101}-exposed facets. K. Chan, C. Lee, H. Chiu, J. Chen, C. Li, W. Lin
- CATL 384.** Developing an industrial TiO<sub>2</sub> coating process for ceramic tiles. R. Muñoz, R. Christoph, A. Hernández, S. Ventura
- CATL 385.** Manganese nitrate/TEMPO/2,2-bipyridine - catalyzed selective aerobic oxidation of primary alcohols into aldehydes. K. Lagerblom, E. Lagerpets, A. Parviainen, T. Repo
- CATL 386.** Efficient sugar release from softwoods by an integrated thermochemical and biological process. M. Hossain, T. Phung, S. Tulaphol, N. Sun, T. Prasomsri, N. Sathitsuksanoth
- CATL 387.** Pd-PEPSSI pre-catalysts bearing PIB-support: Synthesis, characterization and applicability in Buchwald-Hartwig type amination. J. Balogh, A.R. Hill, M.G. Raffique, R. Tuba, M. Al-Hashimi, H. Bazzi
- CATL 388.** Study in the catalytic asymmetric synthesis of optically active organophosphate triesters. T. Wei, K. Nakayama
- CATL 389.** Exploring CO<sub>2</sub> reductive catalysis for square planar complexes: A theoretical investigation using nitrogen-doped carbon nanotube models. Y. Chan
- CATL 390.** BIAN-NHC Ruthenium Complex for ring closing (RCM) and Ring Opening Metathesis Polymerization (ROMP). A.R. Hill, J. Balogh, R. Tuba, M. Al-Hashimi, H.S. Bazzi
- CATL 391.** Ru-Protein-Catalyst hybrids designed for solar hydrogen production: Efforts to understand how electron transfer pathways effect photocatalytic function. S.R. Soltan, P.D. Dahlberg, J. Niklas, O. Poluektov, K.L. Mulfort, L.M. Utschig-Johnson
- CATL 392.** Novel transition-metal-free homo-polymerization of Pyrrolo[3,2-d:4,5-d']Bisthiazole (PBTz) using turbo-Grignard for organic electronics. S. Dey, S. Watkins, D. Sredojevic, E. Brothers, S.Y. Al Qaradawi, H.S. Bazzi, H. Bronstein, T.J. Marks, M.J. Heeney, M. Al-Hashimi
- CATL 393.** Efficient Ni(II)-LDH- and LTH-based catalysts: Synthesis, characterization and their performance in the Heck reaction. G. Varga, K. Karadi, A. Kukovec, Z. Konya, S. Muráth, P. Sipos, I. Palinko
- CATL 394.** Mechanistic pathways for the hydrogenation of CO<sub>2</sub> to formic acid by Ru(PTA)<sub>4</sub>Cl<sub>2</sub> catalyst in water and DMSO. R. Raju
- CATL 395.** Investigating catalyst monopoly in the copper(I)-catalyzed azide-iodoalkyne cycloaddition with automated in situ reaction monitoring technology. R. Chung, J. Hein
- CATL 396.** Using glycerol as a reducing agent for N-Oxide reductions. J. Park, K.J. Stowers
- CATL 397.** Development and implementation of high-pressure NMR spectroscopy for study of gas-containing catalytic reactions. S. Knapp, A. Brezny, C.R. Landis
- CATL 398.** Experimental studies on CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub> adsorbing capacity of polyaniline-based materials. J. Huang, L. Gao, L. Shan, B. Meng, D. Xu, Y. Yu, Y. Min
- CATL 399.** Comparison of two experimental outreach kits for the discovery of inexpensive, effective catalysts for solar energy conversion. J.D. Schuttelfield, Christos, A. Leichtfuss, Z. Chambers
- CATL 400.** Withdrawn.
- CATL 401.** Development of robust covalently-linked N-heterocyclic carbenes and silica. A.K. Jones, R. Maglino, W. Cochran
- CATL 402.** Transformation of a novel catalytic Zn(II) metal-organic framework into a polymorph of HKUST-1. Y. Chen, Z. Zhang
- CATL 403.** Withdrawn.
- CATL 404.** Unexpected effects of mesoporosity on the catalytic performance of ZSM-5 for the fast pyrolysis of cellulose to aromatic hydrocarbons. T.C. Hoff, D.W. Gardner, R. Thilakarathne, J. Proano-Aviles, T.W. Hansen, R.C. Brown, J. Tessonier
- CATL 405.** Synthesis of novel phosphine ligands with an imidazolium tether for use in biphasic reaction media. M.E. Miller, C.J. Parnell, R.J. Rosso
- CATL 406.** Withdrawn.
- CATL 407.** Chemoselective oxidation of sulfides by simple metal-salen catalyst. Z. Bai, X. Bao
- CATL 408.** Withdrawn.
- CATL 409.** Oxidation/Knoevenagel condensation reaction sequence catalyzed by a bifunctional metal organic framework. Y. Luan
- CATL 410.** Manganese dioxide catalyst for airborne formaldehyde oxidation at room temperature. S. Rong, P. Zhang
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- CATL 412.** Oxygen-deficient tungsten oxide as versatile and efficient hydrogenation catalyst. G. Ruijie, L. Pan, J. Zou
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- CATL 417.** Cost-effective strategy to prepare high-efficient slurry-phase hydrocracking catalysts from acid-modified bauxite. X. Bao, Y. Yue, J. Li
- CATL 418.** Ammonia permselective membrane reactor for urea methanolysis to dimethyl carbonate. G. Zeng, Y. Sun
- CATL 419.** New class of porous and metal-free electrocatalyst for oxygen reduction reaction by enhanced amide functionalization on graphene. M. Ahmed
- CATL 420.** Synthetic strategies toward Fe-N/C electrocatalysts with abundant active sites for highly efficient oxygen reduction reaction. S. Joo
- CATL 421.** Understanding oxygen electrocatalyst mechanism of carbon network connected ternary alloy nanoparticles synthesized via supercritical reaction. J. Cho, G. Nam
- CATL 422.** Selectivity control of CO<sub>2</sub> reduction products by tuning nanostructure of Cu electrodes. K. Yang, W. Ko, J. Lee, J. Nah, S. Kim, H. Lee, M. Lee, K. Nam
- CATL 423.** Withdrawn.
- CATL 424.** Face-to-face, oriented hybridization of polyoxometalates with N-doped carbon nanotubes for efficient water oxidation. I. Kim, G. Lee, S. Kim, Y. Nam
- CATL 425.** Enhancing electrocatalytic activity of bifunctional Ni<sub>3</sub>Se<sub>2</sub> for overall water splitting through etching-induced surface nanostructuring. A.T. Swesi, J. Masud, M. Nath
- CATL 426.** Unraveling oxygen anion transport in nanostructured double perovskite electrodes for solid oxide fuel cells. M. Haider, U. Anjum, M. Agarwal, T.S. Khan
- CATL 427.** Hierarchical NiMo-based 3D electrocatalysts for highly-efficient hydrogen evolution in alkaline conditions. M. Fang, J.C. Ho
- CATL 428.** Unraveling inherent electrocatalysis of metal nanoparticles supported on a mixed conducting oxide for high-temperature fuel cell electrodes. Y. Choi, S. Cha, S. Lee, S.O. Kim, W. Jung
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- CATL 430.** Highly efficient perovskite-hermatite tandem cells for unassisted solar water splitting. M. Gurudayal, L.H. Wong, N. Mathews, M. Graetzel, J. Ager
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- CATL 436.** Design of photoelectrode for water splitting utilizing semiconductor hetero-junctions. J. Xiao, Y. Li
- CATL 437.** Photocatalytic hydrogen assessment for production using black sand as semiconductor: The application in photocatalysis process. J.E. Cabezas
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- CATL 442.** Reaction pathways of Kraft lignin depolymerization to platform chemicals on molybdenum-based catalysts in supercritical ethanol. K. Wu, Y. Li
- CATL 443.** Depolymerization of oxidized lignin catalyzed by formic acid exploits an unconventional elimination mechanism involving 3c-4e bonding: A DFT mechanistic study. Z. Wang
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- CATL 446.** Withdrawn. K. Stoerzinger, S. Chambers
- CATL 447.** Solvation effects on MWW-2D zeolite framework for dissociation of β-O-4 linkage. V. Jain, N. Rai
- CATL 448.** Illuminating catalysis: The photo-reduction of ketones and aldehydes using silver nanomaterials. M. Landry, A.H. Moores, C.J. Barrett
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- CATL 451.** Expedient conversion of alginic acid to furfural in Cu(II) biphasic systems using microwaves. C. Len, Y. Wang, F. Delbecq, R. Varma
- CATL 452.** Enhance visible light photocatalytic hydrogen production of CdS/ZnS heterostructure synthesized by hydrothermal method. J. Kundu, D. Pradhan
- CATL 453.** Withdrawn.
- CATL 454.** Spectroelectrochemical photoluminescence of reactive trap states in H-treated rutile TiO<sub>2</sub> nanowires. R.E. Rex, Y. Yang, F.J. Knorr, J.Z. Zhang, Y. Li, J. McHale
- CATL 455.** Template-free synthesis of hierarchical zeolite Y from natural aluminosilicate minerals. J. Yang, B. Li, H. Diao, X. Bao, H. Liu
- CATL 456.** Mechanochemical assembly through coordination cross-linking for ordered Co/C catalyst preparation. W. Li, Y. Guo, Y. Guo, W. Zhan, S. Dai
- CATL 457.** Withdrawn.

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**CATL 458.** Unraveling structure sensitivity in phenol hydrogenation on Pd nanostructures. **M. Haider**, S. Seshadri, S. Gupta, T.S. Khan, V. Prabhakaran

**CATL 459.** Characterising Electron and Hole Localisation on Surface Modified TiO<sub>2</sub> Photocatalysts. **M. Nolan**

**CATL 460.** Facile template-free synthesis of CaFe<sub>2</sub>O<sub>4</sub> hierarchically hollow microspheres: Applications in visible light-driven degradation of gaseous 1,2-dichlorobenzene. **Z. Yin, X. Li**

**CATL 461.** Tunable polymeric solid acid catalysts for biomass hydrolysis and dehydration. **V. Anh, S. Wickramasinghe, X. Qian**

**CATL 462.** Visible light-responsive photodegradation of rhodamine B: Enhancement of activity and reusability of chlorophyll and Mg co-modified P25 catalysts. **T. Phongamwong, M. Chareonpanich**

**CATL 463.** Synthesis of dimethyl-oxa-norbornene and alternative paths from dimethylfuran to p-xylene. **L. Wang**

**CATL 464.** Withdrawn.

**CATL 465.** Hydrocarbon combustion in the presence of CO. **W.F. Maier**

**CATL 466.** Hexose dehydration to 5-hydroxymethylfurfural by niobia solid acid catalysts in aqueous media. **M. Tapia Reche, A. Osatiashiani, L.J. Durdell, M. Isaacs, A.F. Lee, K. Wilson**

**CATL 467.** Smart responsive nanocatalysts for self-regulation of high exothermic reactions. **L. Zhang, Z. Liu, L. Liu, X. Ju, W. Wang, R. Xie, L. Chu**

**CATL 468.** Withdrawn.

**CATL 469.** Catalytic production of amines from (ligno)cellulosic biomass. **M. Pelckmans, B.F. Sels**

**CATL 470.** First steps of the journey from homogeneous organocatalysis to tailored catalytic materials. **R. Mas-Balleste, J.J. Alemán, J. Luis-Barrera**

**CATL 471.** Size and monodispersity-dependent durability and generalized dispersion power law of supported catalysts undergoing Ostwald ripening. **S. Hu, W. Li**

**CATL 472.** Rational design and fabrication of Ti<sub>3+</sub>-doped and Ag<sub>3</sub>PO<sub>4</sub> QDs-sensitized TiO<sub>2</sub> for highly efficient photocatalysis and PEC water splitting. **S. Guoqiang, J. Zou, L. Pan, X. Zhang**

**CATL 473.** Improve the catalytic performance by utilizing the synergy between metal facet and oxide support facet for enhanced catalytic performance. **Q. Zhang**

**CATL 474.** Visible light photocatalysis using a commercially available iron compound. **J.K. Pagano, R. Waterman**

**CATL 475.** Constructing anatase TiO<sub>2</sub> p-n homojunction: Applications in photoelectrochemical and photocatalytic hydrogen generation. **S. Wang, J. Zou, S. Li, Y. Fang, Y. Li, Y. Qin, Z. Chen, X. Zhang**

**CATL 476.** Withdrawn.

**CATL 477.** Photo-Catalytic hydrogen production: The role of plasmonic metals in the reaction. **H. Idriss**

**CATL 478.** N-heterocyclic carbene-functionalized Ru/K-Al<sub>2</sub>O<sub>3</sub> catalysts: Preparation, surface characterization, and tunable selective hydrogenation performances. **S. Muratsugu, J.B. Ernst, F. Wang, M. Tada, F. Glorius**

**CATL 479.** Single source precursor approach for the synthesis of bimetallic molybdate catalysts. **A.W. Ablett, A.M. Moneeb, A. Alabdulrahman, A. Bagabas, C.K. Perkins**

**CATL 480.** Deactivation of supported Ru catalysts during the selective CO methanation (SelMeth): Separating structural and adlayer effects. **A.M. Abdel-Mageed, D. Widmann, S.E. Olesen, I. Chorkendorff, R.J. Behm**

**CATL 481.** Withdrawn.

**CATL 482.** Withdrawn.

**CATL 483.** Multidimensional thin film hybrid electrodes with MoS<sub>2</sub> multilayer for electrocatalytic hydrogen evolution reaction. **E. Ahn, B.S. Kim**

**CATL 484.** Synthesis and characterization of WO<sub>3</sub>-ZrO<sub>2</sub>-TiO<sub>2</sub> nanotubes as efficient photocatalyst in the degradation of paraquat dichloride. **N.A. Eleburuik, W. Wan Abu Bakar, R. Ali**

**CATL 485.** Effect of Ag shell thickness on photocatalytic degradation of organic compounds using Au@Ag core-shell bimetallic nanoparticles immobilized on electrospun TiO<sub>2</sub> nanofibers. **N. Singh, M. Mishra, R.K. Gupta**

**CATL 486.** Withdrawn.

**CATL 487.** Withdrawn.

**CATL 488.** High temperature calcined hematite nanotubes via the Kirkendall effect for efficient photoelectrochemical water splitting. **C. Li, T. Wang, J. Gong**

**CATL 489.** Kinetic and thermodynamic insights into catalytic conversion of food waste to hydroxymethylfurfural. **I. Yu, D. Tsang**

**CATL 490.** Construction of CdS and oxygen-defected CdWO<sub>4</sub> for Z-scheme hydrogen evolution under visible light. **Z. Jingwen, J. Zou**

**CATL 491.** Enhancing phenol photo-oxidation with palladium core-shell in TiO<sub>2</sub> on Taylor flow system. **M.T. Yilleng, D. Rooney, H. Manyar, E. Gimba, G. Ndukwe**

**CATL 492.** Efficiency of Ni-nanoparticles deposited on a hierarchically porous carbon doped with nitrogen for kraft lignin hydrogenolysis in flow and batch systems. **S.M. Lama, M. Antonietti**

## WEDNESDAY MORNING

### Section A

Parc 55 San Francisco  
Cyril Magnin III

#### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

*Cosponsored by COMP*

T. Bligaard, C. M. Friend, C. Kumar, *Organizers*  
F. E. Osterloh, *Presiding*

**8:00 CATL 493.** Plasmonic light focusing for enhancing and controlling catalysis on non-plasmonic metal nanoparticles. **P. Christopher, K. Li**

**8:30 CATL 494.** Mapping of photocatalytic processes: Kinetics and surface chemistry dictate the interfacial charge transfer at semiconductor surface. **P.V. Kamat, C.J. Karwacki**

**9:00** Intermission.

**9:15 CATL 495.** Porous photocatalysts for gas phase or aqueous reactions. **R. Caruso**

**9:45 CATL 496.** Surface photovoltage spectroscopy as a screening tool for solar energy conversion materials and photocatalysts. **F.E. Osterloh, Z. Zhao, M.A. De Melo Junior, Y. Guo**

**10:15** Intermission.

**10:30 CATL 497.** Ethanol photoreaction over anatase TiO<sub>2</sub>(101) and rutile TiO<sub>2</sub>(110) single crystals. A combined STM and online mass spectrometry study. **H. Katsiev, G. Harrison, A. Wilson, G. Thornton, H. Idriss**

**11:00 CATL 498.** Engineering titania nanostructure to tune and improve its photocatalytic activity. **M. Cargnello, C. Wrasman, I. Levin, A.C. Johnston-Peck**

### Section B

Parc 55 San Francisco  
Cyril Magnin II

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

##### Spectroscopy & Microscopy of Photocatalytic & PEC Materials

*Cosponsored by COLL, ENFL, I&EC and INOR*

S. Ardo, D. Esposito, I. Sharp, *Organizers*  
G. Dukovic, *Organizer, Presiding*

**8:00 CATL 499.** Ultrafast optical spectroscopy of charge transfer kinetics and charge transport at electrode/electrolyte interfaces. **T. Cuk**

**8:30 CATL 500.** Dynamics of photoelectrochemical water splitting on SrTiO<sub>3</sub>. **X. Chen, D. Aschaffenburg, T. Cuk**

**8:45 CATL 501.** Charge transport and reaction mechanisms of inorganic photocatalytic assemblies by transient infrared and optical spectroscopy. **H.M. Frei**

**9:15 CATL 502.** Understanding optical properties and photocarrier dynamics in emerging copper-based photoelectrodes. **C. Jiang, J.K. Cooper, I. Sharp**

**9:30** Intermission.

**9:45 CATL 503.** Imaging and quantifying the reactivity of chemical and structural perturbations on operating water oxidation photoanodes. **J. Rodriguez Lopez, X. Zhou, B.H. Simpson**

**10:15 CATL 504.** Probing surface plasmon enabled resonant excitation and chemical transformation using *in situ* vibrational spectroscopy. **T.E. Tesema, B. Kafle, M.G. Tadesse, T.G. Habteyes**

**10:30 CATL 505.** Nanoscale imaging of charge carrier transport in bismuth vanadate photoanodes via photoconductive atomic force microscopy. **J. Eichhorn, J.K. Cooper, L. Hess, D. Larson, I. Sharp, F. Toma**

**10:45 CATL 506.** Charge transfer of ZrO<sub>2</sub> light absorber - Co<sub>3</sub>O<sub>4</sub> catalyst assemblies coupled by molecular wires across silica separation membrane. **G. Katsoukis, H.M. Frei**

**11:00 CATL 507.** Excited electron dynamics in the 1T-2H heterophase of monolayer MoS<sub>2</sub>: Time dependent density functional theory study for photocatalytic mechanism process. **M. Choi, D. Shin, J. Im, H. Chang, N. Park**

### Section C

Parc 55 San Francisco  
Market Street

#### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

##### In situ Characterization Tools

*Cosponsored by COMP*

T. Bligaard, C. M. Friend, C. Kumar, *Organizers*  
S. Meng, *Presiding*

**8:00 CATL 508.** *In Situ* and *operando* electron microscopy imaging and spectroscopy of catalysts. **P.A. Crozier**

**8:30 CATL 509.** Single molecule fluorescence microscopy of a single catalyst particle: Role of defects and solvents on the proton transfer processes in zeolites. **B.M. Weckhuysen**

**9:00** Intermission.

**9:15 CATL 510.** Frontiers of *in situ* analytical electron microscopy for energy materials. **S. Meng, M. Chi**

**9:45 CATL 511.** Watching catalysts work: Using environmental transmission electron microscopy to understand nanotube growth. **E. Stach**

**10:15** Intermission.

**10:30 CATL 512.** Seeing is believing: Atomic-scale imaging of catalysts under reaction conditions. **I. Groot**

**11:00 CATL 513.** In situ liquid imaging of catalysts in the scanning transmission electron microscope. **I. Arslan**

**11:30 CATL 514.** Raman and infrared spectroscopies as *in situ* and *operando* tool to characterize catalysts at work and reactions. **M.A. Banares**

### Section D

Parc 55 San Francisco  
Cyril Magnin I

#### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

##### Fundamental Structure-Activity Relationships: The Interface of Operando with Physical Sciences

*Cosponsored by ENWR and I&EC*

M. A. Banares, M. Guerrero-Perez, *Organizers*  
F. Tao, *Organizer, Presiding*

**8:00 CATL 515.** Real-time and imaging XAFS and related X-ray techniques for fuel cell nanoparticle catalysis. **Y. Iwasawa**

**8:40 CATL 516.** Withdrawn.

**9:00 CATL 517.** Catalytic EXAFS study under reaction conditions. **M. Guerrero-Perez, E. Mikolajska, R. Lopez-Medina, E. Rojas, M.A. Banares**

**9:20** Intermission.

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

9:40 CATL **518**. Withdrawn.

10:00 CATL **519**. Operando spectroscopy during ethylene polymerization by supported CrOx/SiO<sub>2</sub> catalysts: Role of promoters. A. Chakrabarti, I.E. Wachs

10:20 CATL **520**. Surface morphology and catalytic activity on Pt<sub>3</sub>Ni(111) surface under CO oxidation probed with ambient pressure STM. J. Kim, W. Park, M. Noh, S. Lee, W. Doh, Y. Jung, J. Park

## Section E

Parc 55 San Francisco  
Mission I

### Single-Site Heterogeneous Catalysts Mechanisms of Bond Activation

A. Hock, *Organizer, Presiding*

8:00 CATL **521**. Hydrodeoxygenation of bio-oil model molecules and reduction of nitric oxide on single atom sites. F. Tao

8:30 CATL **522**. Rh-based single-site catalysis in faujasite – a surprisingly complex chemistry. V. Markova, A. Govindasamy, S. Dinda, A. Genest, N. Roesch

8:50 CATL **523**. Methanol partial oxidation catalyzed by singly-dispersed Pd on ZnO(100). T.S. Rahman, T.B. Rawal, S. Hong, S. Acharya

9:10 CATL **524**. Origin of low temperature CO oxidation activity on Ir single atoms – Experimental and computational study. Y. Lu, X. Ma, L. Kovarik, H. Xin, A.M. Karim

9:30 Intermission.

9:40 CATL **525**. Immobilization strategies for surface-supported molecular palladium cross-coupling catalysts. A. Marquard, R.H. Goldsmith

10:00 CATL **526**. Mechanistic study of hydrogen reaction on single-atom catalyst. C. Liao, M. Tsai, K. Sasaki, W. Chen

10:20 CATL **527**. Coordinatively unsaturated Al<sup>3+</sup> sites anchored subnanometric ruthenium catalyst for hydrogenation of aromatics. N. Tang, Y. Cong, Q. Shang, T. Zhang

10:40 CATL **528**. Preparation of Nanosheet ZSM-5 zeolites and their properties for catalytic cracking of hydrocarbons. Y. Tian, G. Li, L. Wang, X. Zhang, G. Liu

## Section F

Parc 55 San Francisco  
Mission II/III

### Elucidation of Mechanisms & Kinetics on Surfaces

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## Organic Oxygenates

*Cosponsored by COLL and ENVR*

A. Savara, S. L. Scott, *Organizers*

C. Sievers, *Organizer, Presiding*

8:00 CATL **529**. Surface reaction of biomass derived oxygenates on metal oxide catalysts. J. So, G. Foo, J. Copeland, C. Sievers

8:40 CATL **530**. Mechanistic studies of benzyl alcohol oxidation to probing changes to the active site in supported Au catalysts: Support effects and proton shuttling. B.D. Chandler, M.Y. Santos, A. Tombo, S. Luikart, C. Pursell

9:20 CATL **531**. Systematic trends in the surface chemistry of transition metals mixed with p-block elements in atomically ordered solids (ceramics and intermetallic alloys) towards unsaturated carbon-carbon bonds for olefin and aromatic production and functionalization. Y. He, Y. Song, S. Laursen

10:00 CATL **532**. Molecular-level insights into the mechanism and microkinetics of aqueous-phase Pt(111)-catalyzed methanol dehydrogenation. C. Bodenschatz, R. Getman

10:20 CATL **533**. Mechanistic analysis of oxidative ketone cleavage over supported vanadates. J. Bond, A. Chatzidimitriou, R. Zhu

11:00 CATL **534**. Active site cooperativity in selective sugar transformations by oxide and zeolite-based catalysts. G. Li, E. Hensen, E. Pidko

11:40 CATL **535**. Mechanistic and spectroscopic evidence for active site identity and reactive intermediate structures during C-O bond rupture in small oxygenates. M.E. Witzke, A. Almithn, C. Coonrod, M. Triesenberg, D. Hibbits, D. Flaherty

## Synthesis & Characterization of Materials for Energy Applications

### Fundamental & Molecular Models for Advanced Energy Materials/Novel Architectures, Materials & Synthetic Routes

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### Functional Porous Materials for Sustainable Energy

*Sponsored by ENFL, Cosponsored by CATL and MPPG‡*

## 13th International Symposium on Heavy Oil Upgrading, Production & Characterization

*Sponsored by ENFL, Cosponsored by CATL*

### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

### Technique Development in Interfacial Science

*Sponsored by COLL, Cosponsored by CATL*

### State-of-the-Art Methods for Modeling Materials Chemistry

*Sponsored by COMP, Cosponsored by CATL and MPPG‡*

## WEDNESDAY AFTERNOON

### Section A

Parc 55 San Francisco  
Cyril Magnin III

### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

### Transition Metal & Metal Oxide Catalysis

*Cosponsored by COMP*

T. Bligaard, C. M. Friend, C. Kumar, *Organizers*  
D. J. Stacchiola, *Presiding*

1:00 CATL **536**. Well-defined transition metal-based heterogeneous catalysts: From isolated sites to atomically-precise clusters. Z.R. Jones, S.L. Scott

1:30 CATL **537**. Understanding CO<sub>2</sub> reduction on transition metals. K. Chan

2:00 CATL **538**. Catalytic processes in oxide systems a new set of chemical descriptors. N. Lopez

2:30 Intermission.

2:45 CATL **539**. Utilizing machine learning to accelerate a genetic algorithm for discovery of catalysts. P.C. Jennings

3:15 CATL **540**. Catalysis and the nature of mixed-metal oxides at the nanometer level. D.J. Stacchiola

## Section B

Parc 55 San Francisco  
Cyril Magnin II

### General Papers

S. L. Scott, *Organizer*

E. Nikolla, *Organizer, Presiding*

1:00 CATL **541**. Design and preparation of Au@MnO<sub>2</sub> yolk-shell nanoparticles with enhanced catalytic activity for CO oxidation. M. Gong, C. Wang

1:20 CATL **542**. High pressure stoichiometric hydrogenation of carbon dioxide to methanol. R. Gaikwad, A.B. Bansode, A. Urakawa

1:40 CATL **543**. Catalytic reduction of CO<sub>2</sub> on Bi surface: A DFT study. W. Oh, C. Rhee, J. Han, B. Shong

2:00 CATL **544**. Water and CO<sub>2</sub> activation at surface modified TiO<sub>2</sub> composites. M. Nolan, S. Rhatigan, W. Daly

2:20 CATL **545**. Understanding kinetics and selectivity of NiZn bimetallic catalysts for hydrogen evolution via dehydrogenation of methylcyclohexane to toluene. L. Cavallo, A. Jedidi

2:40 CATL **546**. Room temperature reversible electrocatalytic H<sub>2</sub> oxidation/production achieved with molecular complexes containing aromatic amino acids in the outer coordination sphere. N.P. Boralugodage, A. Dutta, B. Ginovska, G. Buchko, M.J. O'Hagan, S. Rauegi, W.J. Shaw

3:00 Intermission.

3:15 CATL **547**. Deoxygenation of coal bed methane: The structure evolution and catalytic performance of LaCoO<sub>3</sub> perovskite catalyst. Y. Guo, W. Li, Y. Guo, W. Zhan

3:35 CATL **548**. Density functional theory study of the interactions of C, O, and CO with nickel surface alloys. L.H. Sprowl, B. Adam, J. Tucker, L. Arnadottir

3:55 CATL **549**. Kinetic consequences of oxygen and carbon in C-H bond cleavage and C-H bond formation on transition metal and alloy clusters. W. Tu, P. Lachkov, Y. Chin

4:15 CATL **550**. Y-doped CeO<sub>2</sub> nanorod catalyzed oxidative dehydrogenation of cyclohexane and cyclohexene. Z. Wang, K.J. Balkus

4:35 CATL **551**. New insights of aldol reactions catalyzed by heterogeneous gold catalysts. R. Ye, D. Toste, G.A. Somorjai

## Section C

Parc 55 San Francisco  
Market Street

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

### Devices, Assemblies & Hybrid Processes

*Cosponsored by COLL, ENFL, I&EC and INOR*

S. Ardo, G. Dukovic, I. Sharp, *Organizers*  
D. Esposito, *Organizer, Presiding*

1:00 CATL **552**. Sunlight-driven hydrogen formation by membrane-supported photoelectrochemical water splitting. N.S. Lewis

1:30 CATL **553**. Modelling of particle-based photoelectrochemical and photocatalytic water splitting. S. Haussener

2:00 CATL **554**. Withdrawn.

2:15 CATL **555**. Towards evaluating reaction kinetics in photocatalytic CO<sub>2</sub> reduction: Influence of CO<sub>2</sub> partial pressure and light intensity. J. Strunk

2:30 CATL **556**. Hybrid photo-electrochemical and photo-voltaic cells (HPEV cells). G. Segev, J.W. Beeman, K.A. Walczak, J. Greenblatt, I. Sharp

2:45 Intermission.

3:00 CATL **557**. High photoelectrochemical water splitting efficiencies: Materials development and measurement challenges. J.A. Turner, T.G. Deutsch, J. Young, H. Doescher, M. Steiner

3:30 CATL **558**. Development of solar fuels photoanodes through combinatorial integration of Ni-La-Co-Ce oxide and Ni-Fe-Co-Ce oxide catalysts on BiVO<sub>4</sub>. J. Haber, D. Guevarra, A. Shinde, L. Zhou, G. Li, G. Liu, I. Sharp, J. Neaton, F. Toma, J. Gregoire

3:45 CATL **559**. Efficient spontaneous water splitting using solid-state Z-scheme photocatalyst sheet. Y. Li, Q. Wang, T. Hisatomi, I. Sharp, K. Domen

4:00 CATL **560**. Nanostructured tandem Si-Ta<sub>3</sub>N<sub>5</sub> photoanodes for solar water splitting. I. Narkeviciute, P. Chakthranont, A. Mackus, C. Hahn, B. Pinaud, S.F. Bent, T.F. Jaramillo

4:15 CATL **561**. Enhanced visible-light driven antibiotic activity of graphitic carbon nitride (g-C<sub>3</sub>N<sub>4</sub>) films derived from urea. J.H. Thurston, K. Cornell, N.M. Hunter

4:30 CATL **562**. Tailoring the semiconductor interface for energetic tuning and improved stability purposes. J. Gu

‡ Cooperative Cosponsorship



## Section D

Parc 55 San Francisco

Cyril Magnin I

**Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering****Fundamental Structure-Activity Relationships: The Interface of Operando with Physical Sciences**

Cosponsored by ENVR and I&amp;EC

M. A. Banares, F. Tao, *Organizers*M. Guerrero-Perez, *Organizer, Presiding*

**1:00 CATL 563.** Power of oxide-metal interfaces: *In-situ* studies of the water-gas-shift reaction. D.J. Stacchiola

**1:40 CATL 564.** Inelastic neutron studies of ethanol interaction with transition aluminas. J.Z. Larese, S. Adak, C.A. Crain, N. Strange, C. Sumner

**2:00** Intermission.

**2:20 CATL 565.** Combined operando x-ray diffraction/Raman spectroscopy of catalytic solids in the laboratory: The Fischer-Tropsch synthesis catalyst showcase. B.M. Weckhuysen

**3:00 CATL 567.** Operando Raman-MS spectroscopy during ethylene oxidation by supported Ag/Al<sub>2</sub>O<sub>3</sub> catalysts. J. Jehng, M.E. Ford, I.E. Wachs

## Section E

Parc 55 San Francisco

Mission I

**Single-Site Heterogeneous Catalysts****Mechanisms of Bond Activation**A. Hock, *Organizer, Presiding*

**1:00 CATL 568.** Low-temperature C<sub>4</sub> dehydrogenation at ionic Cu sites in beta zeolite to enable C<sub>4</sub> recycle in dimethyl ether homologation. C.A. Farberow, S. Cheah, S. Kim, J. Miller, J.R. Gallagher, J. Hensley, J. Schaidle, D.A. Ruddy

**1:20 CATL 569.** AIM-ing for single-site heterogeneous catalysts for gas-phase chemical transformations. Z. Li, N. Schweitzer, O.K. Farha, J.T. Hupp

**1:50 CATL 570.** Investigation of surface alkylation strategy in Surface Organometallic Chemistry (SOMC): In Situ generation of a silica-supported niobium methyl catalyst for ethylene oligomerization. A. Hamieh, R. Dey, M. Samanaty, Y. Chen, b. nekoueshahraki, J. Bassat

**2:10 CATL 571.** Supported single-site d<sup>0</sup> organozirconium complexes for (stereo) selective catalysis. M. Stalzer, C.P. Nicholas, M. Delferro, T.J. Marks

**2:30 CATL 572.** Single site tetra-coordinated aluminium hydride supported on mesoporous silica. From dream to reality! B. Werghi, J.M. Bassat

**2:50 CATL 573.** Trends of SiO<sub>2</sub> supported single-site catalysts for alkene hydrogenation based on combined DFT and experimental studies. C. Liu, J. Camacho-Bunquin, M. Ferrandon, M. Delferro

**3:10** Intermission.

**3:20 CATL 574.** Understanding site isolation of Pd and Ni in Zn-based bulk intermetallics during the selective hydrogenation of alkynes. A. Dasgupta, G. Kumar, H. He, M.J. Janik, R.M. Rioux

**3:50 CATL 575.** Mechanistic study of ethene dimerization on isolated nickel cations confined within molecular sieves. R. Joshi, R. Gounder

**4:10 CATL 576.** Surface Organometallic Chemistry (SOMC): The effects of tethering highly reactive catalysts to well defined silica supports. M.J. Kelly

**4:30 CATL 577.** In-situ shape control of polyolefins products by the design of the catalyst supports. M. Klapper, D. Vidakovic, A.A. Alsaygh, I. Freudensprung, K. Muellen

**4:50 CATL 578.** Supported single-site organochromium catalysts for the production of high performance polyethylene materials. M. Enders

## Section F

Parc 55 San Francisco

Mission II/III

**Elucidation of Mechanisms & Kinetics on Surfaces****Mechanisms: Hydrogenation**

Cosponsored by COLL and ENVR

S. L. Scott, C. Sievers, *Organizers*A. Savara, *Organizer, Presiding*

**1:00 CATL 579.** Determining the active site for selective C=O bond hydrogenation: Understanding the role of the Pt-support interface. L. Baker, Y. Mueannngern, X. Yang

**1:40 CATL 580.** Elucidating the mechanism of the Lewis acid catalyzed production of 1,3-butadiene from ethanol with modulated DRIFTS-MS. P. Mueller, S.P. Burt, A.M. Love, W.P. McDermott, P. Wolf, I. Hermans

**2:20 CATL 581.** Withdrawn.

**3:00** Intermission.

**3:20 CATL 582.** Mechanistic investigation and development of new catalytic routes for the zeolite catalyzed hydrocarbon conversion processes as aided by operando spectroscopy. A. Dutta Chowdhury, K. Houben, M. Baldus, B. M. Weckhuysen

**3:40 CATL 583.** Mechanistic studies on the hydrogenation of CO<sub>2</sub> to methanol: Importance of metal-oxide interfaces in the activation of CO<sub>2</sub>. J. Rodriguez, P. Liu, S.D. Senanayake, D.J. Stacchiola

**4:00 CATL 584.** Computational intermediates identification and structure dependence of chain growth mechanism and product selectivity in Fischer-Tropsch synthesis on Co catalysts. H. Su

**4:20 CATL 585.** Kinetics and thermodynamics of surface reactions involved in the deactivation of Fischer-Tropsch catalysts. M. Corral Valero, P. Raybaud

**Synthesis & Characterization of Materials for Energy Applications****Novel Architectures, Materials & Synthetic Routes**

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**Functional Porous Materials for Sustainable Energy**

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**13th International Symposium on Heavy Oil Upgrading, Production & Characterization**

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**Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80****Electrons & Photons in Interfacial Science**

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**State-of-the-Art Methods for Modeling Materials Chemistry**

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## THURSDAY MORNING

## Section A

Parc 55 San Francisco

Cyril Magnin III

**Designed Catalysis: Materials Genome Approach to Heterogeneous Processes****Biomass Catalysis**

Cosponsored by COMP

T. Bligaard, C. M. Friend, C. Kumar, *Organizers*L. Grabow, *Presiding*

**8:00 CATL 586.** Design of catalysts for the conversion of biomass to fuels and lubricants. A.T. Bell

**8:30 CATL 587.** Mechanisms of catalytic conversion and upgrading of lignin first to value added chemicals. M.M. Abu-Omar, H. Luo, I. Klein

**9:00** Intermission.

**9:15 CATL 588.** Computational design of dual site catalysts for hydrogen-efficient hydrodeoxygenation of bio-oil compounds. S. Kasiraju, J. Arce-Ramos, B. Baek, L. Grabow

**9:45 CATL 589.** Catalytic conversion of lignin models and extracts into oxygenates. N. Luo, M. Wang, T. Hou, C. Zhang, H. Li, F. Wang

**10:15** Intermission.

**10:30 CATL 590.** Tuning the activity and selectivity of metal oxide catalysts with organic monolayers. J.W. Medlin, L. Ellis, D.K. Schwartz

**11:00 CATL 591.** Catalytic reductive fractionation of lignocellulose: Introducing the lignin-first biorefinery. T. Renders, W. Schutyser, S. Van den Bosch, S. Koelewijn, B. Sels

## Section C

Parc 55 San Francisco

Market Street

**Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering****Engineering Operando to Larger Scale: Shaped Catalysts & Process Control**

Cosponsored by ENVR and I&amp;EC

M. A. Banares, M. Guerrero-Perez, F. Tao, *Organizers*B. M. Weckhuysen, *Presiding*

**8:00 CATL 592.** Reaction mechanism for SCR of NO with NH<sub>3</sub> by supported V<sub>2</sub>O<sub>5</sub>-WO<sub>3</sub>/TiO<sub>2</sub> catalysts. M. Zhu, M.E. Ford, U. Tumuluri, Z. Wu, I.E. Wachs

**8:40 CATL 593.** Operando spectroscopy and DFT studies for assessment of mechanistic phenomena on ammonia reduced NO by vanadia SCR. S.B. Rasmussen, L. Aranson, M. Daturi, P. Bazin, R. Portela, H. Falsig, P.G. Moses, M.A. Banares

**9:00** Intermission.

**9:20 CATL 594.** Operando Raman-FTIR study of gold catalysts supported on titania and ceria for VOC-related odor elimination. Q. Wang, P. Avila, M.A. Banares, K. Yeung

**9:40 CATL 595.** Integration of operando studies of catalyst surface during catalysis and DFT calculations for mechanistic understanding at a molecular level. F. Tao

**10:00 CATL 596.** Determining the mechanism of multistep catalytic reactions with high spatial resolution operando IR and X-ray microscopy measurements. E. Gross

## Section D

Parc 55 San Francisco

Cyril Magnin I

**Elucidation of Mechanisms & Kinetics on Surfaces****Mechanisms: Metals**

Cosponsored by COLL and ENVR

S. L. Scott, C. Sievers, *Organizers*A. Savara, *Organizer, Presiding*

**8:00 CATL 597.** Aluminum nitride hydrolysis enabled by hydroxyl-mediated surface proton hopping. C. Bartel, C. Muhich, A.W. Weimer, C. Musgrave

**8:20 CATL 598.** Surface plasmon resonance spectroscopy as a platform for characterization of nanometal catalyzed cross-coupling reactions. A. Dadgar

**8:40 CATL 599.** Withdrawn.

**9:00** Intermission.

**9:20 CATL 600.** Size Controlled Co Nanoparticles for Fischer-Tropsch Synthesis: Transient Kinetics for Mechanistic Insight. W. Ralston, G. Melaet, T. Saephan, G.A. Somorjai

**9:40 CATL 601.** Borated Pt subnanoclusters on metal oxides: Coke prevention via minimizing dehydrogenation of alkenes and C-sticking. M. Ha, E.T. Baxter, J. Dadras, E. Jimenez-Izail, S.L. Anderson, A. Alexandrova

**10:00 CATL 602.** Oxygen activated ultra-fast palladium nanoparticle catalyzed cross-coupling of organolithium reagents: A mechanistic insight. F. Tosi, D. Heijnen, B. Feringa

**10:20** Intermission.

**10:40 CATL 603.** Selective, stable and active Ni-based catalysts for low temperature alkene dimerization. I. Agirrezabal-Telleria, E. Iglesia

**11:00 CATL 604.** Understanding the role of the second metal element in Pt-alloy catalysts for propane dehydrogenation. Z. Zhao, S. Zha, J. Gong

**11:20 CATL 605.** Understanding the structures and reaction mechanism of the metal nanoparticle encapsulated UiO-66(-NH<sub>2</sub>). D. Chen, P. Yang, F. Zhang, F. Wang, Q. Xiao



**11:40 CATL 606.** Atomic control of intermetallic surfaces towards chemoselective hydrogenation of nitroarenes to functionalized anilines. Y. Pei, T. Goh, R. Maligal Ganesh, X. Li, Z. Qi, C. Xiao, W. Huang

### Section E

Parc 55 San Francisco  
Mission I

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Oxides

*Cosponsored by COLL and ENVR*

A. Savara, S. L. Scott, *Organizers*

C. Sievers, *Organizer, Presiding*

**8:00 CATL 607.** DFT insight into the Mars-van-Krevelen mechanism of anaerobic and aerobic reaction of polyoxometalates. I. Efremenko

**8:20 CATL 608.** Structure-function relationships for supported copper oxide catalysts for alkane oxidative dehydrogenation. S. Nauert, J.M. Notestein

**8:40 CATL 609.** Catalytic degradation of malachite green on binary ZnO-La<sub>2</sub>O<sub>3</sub>: Thermodynamics, kinetics and mechanism. J. Thomforde, A. Chaparadza

9:00 Intermission.

**9:20 CATL 610.** Formaldehyde oxidation mechanism on Au-doped CeO<sub>2</sub>: A DFT study. J. Meizan, W. Song, J. Liu

**9:40 CATL 611.** Influence of surface defects on copper oxidation via coordinated *in situ* ETEM and atomistic simulation methods. M. Curnan, C.M. Andolina, Q. Zhu, J. Yang, W. Al-Saidi

**10:00 CATL 612.** Unraveling the catalytic origin of NbOPO<sub>4</sub> catalyst in biomass conversion by density functional theory. Z. Chen, H. Wang, P. Hu

**10:20 CATL 613.** Ethanol gas sensing mechanism of PdO nanoflake thin film at temperatures below 250°C. I. Cheng, J. Wang, C. Tsai, Y. Chen, F. Pan

### Section F

Parc 55 San Francisco  
Mission II/III

### Single-Site Heterogeneous Catalysts

#### Computational & Spectroscopic Study of Single Atom Sites

A. Hock, *Organizer, Presiding*

**8:00 CATL 614.** Boron nitride nanomesh: a robust template for monodisperse oxide cluster adsorption. M. Müller, J. Balajka, A. Hemmi, M. Schmid, U. Diebold, S. Mertens

**8:20 CATL 615.** Growth and stability of titanium oxide nanoclusters on graphene/Ru(0001). R.T. Frederick, Z. Novotny, F. Netzer, G.S. Herman, Z. Dohnalek

**8:40 CATL 616.** Withdrawn.

**9:00 CATL 617.** Selective Oxidation of Benzyl Alcohol to Benzaldehyde by manganese oxide nanoparticles as catalyst. K.A. Omer

9:20 Intermission.

**9:30 CATL 618.** Polyoxometalates as single site catalysts: Evidence for proton cluster synergy. T.J. Wilke, M.A. Barteau

**9:50 CATL 619.** Preparation, structure, and surface chemistry of Ni-Au single atom alloys. Z. Wang, M. Darby, A. Therrien, M. El Soda, A. Michaelides, M. Stamatakis, E.H. Sykes

**10:10 CATL 620.** PtNi/NiO Clusters coated by small sized hollow silica: Novel design for efficient catalytic hydrogen production from hydrolysis of ammonia-borane. G. Yuzhen, R. Lu

**10:30 CATL 621.** Tailored design of Pd catalyst supported on chemically modified silica hollow microspheres with penetrating macroporous shells for NBR hydrogenation. J. Chen, T. Cheng, A. Cai, Z. Wu, H. Liu, P. Yuan

### Functional Porous Materials for Sustainable Energy

*Sponsored by ENFL, Cosponsored by CATL and MPPG†*

#### 13th International Symposium on Heavy Oil Upgrading, Production & Characterization

*Sponsored by ENFL, Cosponsored by CATL*

## THURSDAY AFTERNOON

### Section A

Parc 55 San Francisco  
Cyril Magnin III

#### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

#### Machine Learning Tools for Catalyst Genome

*Cosponsored by COMP*

T. Bligaard, C. M. Friend, C. Kumar, *Organizers*  
J. Hachmann, *Presiding*

**1:00 CATL 622.** Automated materials property prediction using thermodynamic density of states and machine learning. S. Curtarolo, C. Toher

**1:30 CATL 623.** Statistical learning aided design of catalyst chemistry. K. Rajan

2:00 Intermission.

**2:15 CATL 624.** Data-driven *in silico* tools for the rational design of catalytic systems and the exploration of chemical space. J. Hachmann

**2:45 CATL 625.** Open-source tools for generating and analyzing large materials data sets: FireWorks, MatMethods, and MatMiner. A. Jain

3:15 Intermission.

**3:30 CATL 626.** Quantum machine learning. O. von Lilienfeld

**4:00 CATL 627.** Dark reactions project: A machine learning approach to materials discovery. A.J. Norquist, J. Schrier, S. Friedler

### Section B

Parc 55 San Francisco  
Cyril Magnin II

#### General Papers

S. L. Scott, *Organizer*

E. Nikolla, *Organizer, Presiding*

**1:00 CATL 628.** Catalytic reaction study via strong metal-support interactions of nanocatalysts. K. An

**1:20 CATL 629.** Characterization of soft-templated mesoporous zeolites: Techniques and insights. J. O'Brien, S.L. Kobaslija, S. Fernandez, M. Ostraat

**1:40 CATL 630.** Titanium-based organic frameworks for chemical transformations. S. Verma, R.S. Varma

**2:00 CATL 631.** Metal organic frameworks and their catalysis applications in water. M.M. Reynolds, M. Neufeld, H. Rubin

**2:20 CATL 632.** Comparative characterization of catalytic properties of colloidal and supported gold nanoparticle catalysts by ligand adsorption method. S. Chakraborty, S.M. Ansar, C.L. Kitchens

2:40 Intermission.

2:55 CATL 633. Withdrawn.

**3:15 CATL 634.** Palladium(II)-catalyzed directed anti-hydrochlorination of unactivated alkynes with *In Situ* generated HCl. A.L. Cantu, J. Derosa, K. Engle

**3:35 CATL 635.** Co-Catalyst of layered oxide and spinel for NOx reduction to N<sub>2</sub> through N<sub>2</sub>O. M.P. Rowe, T.C. Peck, M. Jones

**3:55 CATL 636.** Direct synthesis of hydrogen peroxide from hydrogen and oxygen over a Palladium-based bimetallic heterogeneous catalyst. C. Zhang

**4:15 CATL 637.** Implicit and explicit solvation models for computing free energies of activation and reactions at solid-liquid interfaces. M. Saleheen, A. Heyden

**4:35 CATL 638.** Enhanced activity of Ce-incorporated MOR in DME carbonylation through tailoring the distribution of Bronsted acid. S. Huang, Y. Li, X. Ma, S. Wang, Z. Yujun

**4:55 CATL 639.** Copper-Catalyzed Hydroamination of alkynes and allenes. Scope and mechanism studies. F. Monnier

### Section C

Parc 55 San Francisco  
Market Street

#### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

#### Engineering Operando to Larger Scale: Shaped Catalysts & Process Control

*Cosponsored by ENVR and I&EC*

M. A. Banares, M. Guerrero-Perez, F. Tao, *Organizers*

D. J. Stacchiola, *Presiding*

**1:00 CATL 640.** Identification of sulfur atoms as catalytically active sites for proton reduction on amorphous molybdenum sulfide. B. Yeo

1:40 CATL 641. Withdrawn.

**2:00 CATL 642.** Low-temperature methane combustion over Pd/H-ZSM-5: Active Pd sites with specific electronic properties modulated by acidic sites of H-ZSM-5. Y. Guo, W. Li, Y. Guo, W. Zhan

2:20 CATL 643. Withdrawn.

### Section D

Parc 55 San Francisco  
Cyril Magnin I

#### Elucidation of Mechanisms & Kinetics on Surfaces

### Oxidation Reactions

*Cosponsored by COLL and ENVR*

S. L. Scott, C. Sievers, *Organizers*

A. Savara, *Organizer, Presiding*

**1:00 CATL 644.** Quantitative spectroscopic analysis of the role of oxy-carbon surface species in the mechanism of propane oxidation over Pt/Al<sub>2</sub>O<sub>3</sub>. C. O'Brien, I. Lee

**1:40 CATL 645.** Kinetic and spectroscopic evidence for periodic trends in olefin epoxidation over group IV and V \*BEA. D. Bregante, P. Priyadarshini, D. Flaherty

**2:00 CATL 646.** Tuning carbon monoxide preferential oxidation properties on platinum alloy nanoparticle catalyst via engineering the active sites. Z. Peng, S. Hwang, Y. Pan, X. Shen, E. Yurchekrod

**2:20 CATL 647.** Adsorption and decomposition of dimethyl methylphosphonate on metal oxide surfaces under atmospheric conditions. A.R. Head, L. Trotochaud, R. Tsyshkevsky, Y. Yu, O. Karslioglu, M. Kukla, H. Bluhm

3:00 Intermission.

**3:20 CATL 648.** Control of metal-oxide interfaces for ceria-based nanocatalysts. S. Lee, J. Seo, W. Jung

**3:40 CATL 649.** Unprecedented CO oxidation performance of Pd/CeO<sub>2</sub> prepared by flame spray pyrolysis. G. Spezzati, Y. Su, J. Hofmann, E. Hensen

4:00 CATL 650. Withdrawn.

**4:20 CATL 651.** Mechanistic studies of H<sub>2</sub> oxidation to understand the role of water in CO PROx. T. Whittaker, J. Saavedra, C. Pursell, B.D. Chandler

### Section E

Parc 55 San Francisco  
Mission I

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Beyond Hydrocarbons

*Cosponsored by COLL and ENVR*

A. Savara, S. L. Scott, *Organizers*

C. Sievers, *Organizer, Presiding*

**1:00 CATL 652.** Quantitative assessment of the role of dissolved oxygen in catalytic reduction of 4-nitrophenol. E. Menumero, R.A. Hughes, S. Neretina

**1:20 CATL 653.** Competitive adsorption of sulfur compounds in diesel on corner sites of Ni-Mo-S, Co-Mo-S and MoS<sub>2</sub> nanocluster - A mechanism study based on DFT calculations. S. Ding, Y. Zhou, Q. Wei

**1:40 CATL 654.** Gallium modified USY zeolites as an effective co-support for ultra deep hydrodesulfurization catalysts on inferior diesels-its high isomerization selectivity. W. Zhou, Y. Zhou, Q. Wei

2:00 Intermission.

**2:20 CATL 655.** NH<sub>3</sub>-SCR Mechanism on Cu-SAPO-18 catalysts: A DFT+U study. J. Deng, W. Song, Z. Zhao, L. Zhao, J. Liu

**2:40 CATL 656.** Mechanistic study of selective catalytic reduction of NOx with NH<sub>3</sub> over Mn-TiO<sub>2</sub>: A combination of experimental and DFT study. H. Zheng, W. Song, J. Liu, Z. Zhao

† Cooperative Cosponsorship

**3:00 CATL 657.** Cu-catalyzed etching of graphene layers through carbon hydrogenation. G. Cheng, I.G. Calizo, A.R. Hight Walker

**3:20 CATL 658.** Distinctive catalysis of supported Pt and Au nanoparticles in aerobic oxidation of polyols. B. Xu, S. Liu, Z. Yuan

## CELL

### Division of Cellulose and Renewable Materials

M. Roman, Program Chair

#### OTHER SYMPOSIA OF INTEREST:

**Chemistry of Cellulosic Natural Products** (see AGFD, Wed)

**Carbohydrate-Based Hybrid Materials for Nanomedicine** (see CARB, Mon, Tue)

**Carbohydrate-Based Nanomaterials & Drug-Delivery Vehicles** (see CARB, Wed)

**LPS: Chemistry, Synthesis & Applications** (see CARB, Tue)

**Biomass & Biofuel Processing** (see ENFL, Tue, Wed)

**Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications** (see PMSE, Tue, Wed, Thu)

#### SOCIAL EVENTS:

**CELL Awards Banquet**, 6:00 PM: Tue

#### BUSINESS MEETINGS:

**Governance Meeting**, 5:30 PM: Wed

**Technical Program Meeting**, 7:00 PM: Wed

**Executive Committee Meeting**, 5:00 PM: Sat

## SUNDAY MORNING

### Section A

Moscone Center  
252/260

**Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar Drug Delivery**

*Cosponsored by CARB*

*Financially supported by EPNOE, Eastman Chemical Company, VT Fralin Life Science Institute, VT College of Natural Resources and Environment, VT Department of Sustainable Biomaterials, Carbohydrate Polymers (Elsevier)*

P. E. Fardim, O. J. Rojas, *Organizers*

C. M. Buchanan, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 1.** Polysaccharides in drug delivery: An overview. M.F. Wempe

**8:30 CELL 2.** Polysaccharides in drug delivery: Applications of cellulose derivatives for oral drug delivery. G. Ilevbare-Okoh

**8:55 CELL 3.** From computational modelling towards mechanistic design of polymers for oral drug delivery. L.I. Mosquera-Giraldo, C.H. Borca, X. Meng, Y. Dong, K.J. Edgar, L.V. Slipchenko, L. Taylor

**9:20 CELL 4.** Withdrawn.

**9:45** Intermission.

**10:00 CELL 5.** Cellulose nanocrystal conjugates for drug delivery and bioimaging applications. M. Roman

**10:25 CELL 6.** Supramolecular design of cellulose hydrogel microspheres. P.E. Fardim, P. Trivedi, J. Schaller, J. Gustafsson

**10:50 CELL 7.** Immunosensor based on cellulose nanofibrils for C-reactive protein detection. Y. Zhang, O.J. Rojas

**11:15 CELL 8.** Self assembly of A. *Tequilana* fructans and encapsulation of ibuprofen for targeting oral drugs to the colon. G. Toriz Gonzalez, C. Miramontes-Corona, J. Ferrer, A. Escalante, E. Delgado, R.I. Corona-Gonzalez, A. Soltero

### Section B

Moscone Center  
262

**Processing & Properties of Biobased Composites & Blends**

*Financially supported by EPNOE*

J. R. Barone, P. R. Navard, *Organizers, Presiding*

**8:05 CELL 9.** Effect of ethylene glycol-water mixed solvent on the synthesis of iron oxide/carbon nanocomposites and their adsorption performance. S. Liu

**8:30 CELL 10.** Solvent-exchanged porous bacterial cellulose nanopaper as reinforcement for polymers. A. Santmarti, M. Hervy, K. Lee

**8:55 CELL 11.** Water-based dissolution of wood cellulose and design of novel cellulose-based nanocomposite materials. M. Norgren, J. Yang, C. Costa, A. Eivazhollah, F. Carlsson, C. Dahlström, B. Medronho, H. Edlund, B. Lindman

**9:20 CELL 12.** Facile Method for the Suspension, Dispersion, and Fabrication of Cellulose-based Plastics. D.H. White, C.J. Huntley, M.L. Curry

**9:45** Intermission.

**10:00 CELL 13.** Cellulose/vaterite nanocomposites: Sonochemical synthesis, and their applications in drug delivery and protein adsorption. L. Fu, M. Ma, F. Xu, X. Zhang

**10:25 CELL 14.** Simple synthesis method towards amino-functionalized carbon dots: Carbonization of chitosan. X. Liu, J. Pang, F. Xu, X. Zhang

**10:50 CELL 15.** Synthesis and characterization of hydroxypropyl methylcellulose/xyloglucan blend films for release of gentamicin drug. S. Kondaveeti

**11:15 CELL 16.** How can a single methyl group drastically modify the microstructure of a biocomposite and affect its mechanical properties? A. Gallos, J. Beaugrand, G. Paes, F. Allais

### Section C

Moscone Center  
270

**Cellulose Structure & Biosynthesis**

**In the Plant Cell Wall**

*Cosponsored by BIOL, BIOT, CARB and ENFL*

*Financially supported by Department of Energy - Office of Science*

P. Langan, H. M. O'Neill, J. Zimmer, *Organizers*

N. Carpita, D. Cosgrove, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 17.** 3D Nano-architecture and mechanical properties of *Arabidopsis thaliana* plant cell walls by cryo-electron tomography of vitreous sections. M. Auer

**8:30 CELL 18.** Visualizing cellulose microfibril movements during stress-induced and endoglucanase-induced extensions of plant primary cell walls. D. Cosgrove

**8:55 CELL 19.** Advances in combining neutron scattering with molecular simulations to understand cell wall structure. P. Langan, B. Evans, H.M. O'Neill, R. Shah, S. Pingali, V. Urban, D. Sawada, J. Smith, L. Petridis, D. Vural, B.H. Davison

**9:20 CELL 20.** Microfibril orientation, spacing and bundling in secondary cell walls: Implications for catalytic deconstruction. B.S. Donohoe, J.D. Hinkle, P.N. Ciesielski, M.F. Crowley, N.S. Mosier, C. Chapple, M. Himmel

**9:45** Intermission.

**10:00 CELL 21.** Polymorphic structures and pectin interactions of cellulose in primary plant cell walls from multidimensional solid-state NMR. T. Wang, P. Phyto, H. Yang, S. Kiemle, D. Cosgrove, J.D. Kubicki, M. Hong

**10:25 CELL 22.** Mesoscale order of cellulose microfibrils in plant cell walls: Sum Frequency Generation (SFG) vibrational spectroscopy study. S.H. Kim

**10:50 CELL 23.** Density functional theory modeling of cellulose polymer assembly. J.D. Kubicki, H. Watts, H. Yang, D. Oehme, L. Petridis, Y.G. Yingling

**11:15 CELL 24.** Impact of alterations in lignin deposition on cellulose organization of the plant cell wall. J. Liu, J. Kim, J. Cusumano, C. Chapple, L. Makowski

### Section D

Moscone Center  
272

**Nanocellulose Processing & Analysis**

**Novel Processes**

*Cosponsored by AGFD, ANYL, CHAS and I&EC*

*Financially supported by TAPPI*

W. Y. Hamad, T. Lindström, M. Roman, *Organizers*

M. Bortner, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 25.** Deep eutectic solvents in nanocellulose production. J.A. Sirviö, M. Visanko, T. Selkälä, H. Liimatainen

**8:30 CELL 26.** Ionic liquid-cellulose-in-oil microemulsions: Molecular weight dependence and directed morphology of cellulose nanoparticles. J.R. Alston, N. Redeker, M. Khan, J.M. Mabry

**8:55 CELL 27.** Imidazole: A new tunable reagent for producing nanocellulose. J. Mao, H. Abushammala, H. Hettgger, T. Rosenau, M. Laborie

**9:20 CELL 28.** One pot generation of hydrophobic nanocellulose by a multi-functional agent. J.Y. Fukuda

**9:45** Intermission.

**10:00 CELL 29.** Cellulose nanostructure obtained by enzymatic hydrolysis: The effects of treatment time. D. Rosa, C. Bauli, D. Rocha

**10:25 CELL 30.** Investigation of surface interactions of micro/nano-cellulose with metal ions at micro-nano-molecular scale. C. Zhu, A. Mathew

**10:50 CELL 31.** Phosphated cellulose nanocrystals: Isolation and bioengineering applications. S. Camarero-Espinosa, T. Kuhnt, B. Rothen-Rutishauser, J. Foster, C. Weder

**11:15 CELL 32.** Development of the continuous production process Kyoto process of CNF reinforced plastics. H. Yano, F. Nakatsubo, T. Semba, K. Kitagawa

**11:40** Concluding Remarks.

### Section E

Moscone Center  
274

**New Horizons in Sustainable Materials**

**Renewable Polymers: Isolation, Structure & Properties**

*Cosponsored by POLY*

M. G. Laborie, S. H. Rennecker, N. Robitaille Brown, *Organizers*

N. Sathitsuksanoh, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 33.** Plant oil-based acrylic monomers for free radical polymerization. Z. Demchuk, I. Tarnavchyk, O. Shevchuk, V. Kirianchuk, A.S. Voronov

**8:30 CELL 34.** Emulsion copolymerization of vinyl acetate with hydrophobic plant oil-based monomers: Effect of plant oil unsaturation of reaction kinetics. K. Kingsley, O. Shevchuk, I. Tarnavchyk, A. Voronov

**8:55 CELL 35.** Random copolymerization of lactones and hydroxyacid bioaromatics using one-pot Ring Opening Polymerization (ROP) polycondensation method. H. Nguyen, G. Short, P. Qi, S.A. Miller

**9:20 CELL 36.** Water pre- and post-hydrolysis of birch wood to produce high-purity cellulose and xylan-based compounds for material and chemical applications. M. Borrega, H. Sixta

**9:45** Intermission.

**10:00 CELL 37.** Wood-based hemi-celluloses as renewable source for functional materials. T. Nypelo, H. Amer, C. Laine, T. Tammelin, J. Konnerth, U. Henniges, A. Pothast, T. Rosenau

**10:25 CELL 38.** Multifunctional materials based on wood derived biopolymer. H. Zhu, L. Yang, L. Chen

**10:50 CELL 39.** Novel one step method to prepare carboxycellulose nanofibers from raw biomass and their applications in heavy metal ions remediation. P. Sharma, B.T. Chu, B.S. Hsiao

**11:15 CELL 40.** Tertiary amine catalysts for oxidizing the unsaturated components in cellulosic pulp. G. Afsahi, K.J. Ruuttunen, T. Vuorinen

**11:40** Concluding Remarks.

**Technical program information known at press time.**

**The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)**

## Section F

Mosccone Center  
276

### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

*Cosponsored by AGFD*

J. Campos-Teran, O. J. Rojas, *Organizers*

M. L. Auad, *Organizer, Presiding*

E. A. Moura, *Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 41.** Development of novelty Fique textile fabrics for clothing applications. **M. Restrepo**, M.C. Amaya, J. Manrique, P. Garián, L. Velez, R. Zuluaga Gallego, C. Castro Herazo

**8:30 CELL 42.** Novel recycling process for cotton polyester blended waste textiles. **S. Haslinger**, M. Hummel, H. Sixta

**8:55 CELL 43.** Nanocellulose recovery from industrial bagasse of agave tequilana. **B.C. Sulbaran**, J. Hernandez, **G. Toriz Gonzalez**, O.J. Rojas, M.A. Escalante

**9:20 CELL 44.** Biocatalytic functionalization of softwood galactoglucomannan through transglycosylation and enzyme engineering. **J. Morrill**, A. Rosengren, S. Butler, H. Stålbbrand

**9:45** Intermission.

**10:00 CELL 45.** Electrodes with nanostructures used in the electrochemical analysis of pesticides in aquifers means of organic and conventional banana production in Costa Rica. **R. Zamora**, R. Starbird

**10:25 CELL 46.** Modified soy protein as encapsulate excipient in pharmaceutical applications. **M. Anaya Castro**, I. Alic, S. Fullana-Girod, V. Durrieu

**10:50 CELL 47.** Incorporating cellulosic passion fruit residues into pectin edible plastics. **D.R. Munhoz**, F.K. Moreira, L.H. Mattoso

**11:15 CELL 48.** Residues from agroindustry as reinforcement in foams based on PBAT/PLA blend. **T.T. Freitas**, R. Coiado, G. Lazo, R. Oliveira, **E.A. Moura**

## SUNDAY AFTERNOON

## Section A

Mosccone Center  
252/260

### Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar

#### Tissue Engineering

*Cosponsored by CARB*

*Financially supported by EPNOE, Eastman Chemical Company, VT Fralin Life Science Institute, VT College of Natural Resources and Environment, VT Department of Sustainable Biomaterials, Carbohydrate Polymers (Elsevier)*

C. M. Buchanan, O. J. Rojas, *Organizers*

P. E. Fardim, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 49.** Tubular biocellulose hydrogels act as temporarily implanted in vivo scaffolds and cause regeneration of bile duct by body own tissue. **D.O. Klemm**, F. Rauchfuss, F. Kramer, K. Petzold-Welcke, W. Fried, U. Settmacher

**1:30 CELL 50.** Nano-designed polysaccharide-based constructs for tissue engineering applications. **J.F. Mano**

**1:55 CELL 51.** Chemoenzymatic strategy to design alginates for tissue engineering. **G. Skjak-Brak**

**2:20 CELL 52.** Manufacturing, characterization and use of substrates for regenerative medicine based on the specific properties of polysaccharide derivatives and biodegradable polymers. **R. Kargl**, T. Mohan, C. Nagaraj, A. Dobaj Štiglic, A. Olschewski, U. Maver, **K. Stana Kleinschek**

**2:45** Intermission.

**3:00 CELL 53.** Glycosaminoglycan nanostructures as mimics of the vascular endothelial glycocalyx. **M. Kipper**

**3:25 CELL 54.** Polysaccharide based micro-nano structures for tissue engineering. **S.G. Kumbar**

**3:50 CELL 55.** Development and characterization of biomembranes combining chitosan and natural-nanooligosomes for tissue engineering applications. **F. Cleymand**, E. Velot, P. Menu, E. Arab-Tehrany, J.F. Mano

**4:15 CELL 56.** Bottom-up fabrication of hybrid polysaccharide/peptide amphiphile supramolecular multilayered biomaterials by combining self-assembly and layer-by-layer assembly approaches. **J. Borges**, M.P. Sousa, G. Cinar, S. Caridade, M.O. Guler, J.F. Mano

## Section B

Mosccone Center  
262

### Processing & Properties of Biobased Composites & Blends

*Financially supported by EPNOE*

J. R. Barone, P. R. Navard, *Organizers, Presiding*

**1:05 CELL 57.** Role of non-cellulosic components on the microstructure and physical properties of natural fibres and their biocomposites. **N. Le Moigne**, J. Acéra Fernandez, A. Caro-bretelle, R. El Hage, A. Le Duc, M. Lozachmeur, P. Bono, A. Bergeret

**1:30 CELL 58.** Influence of biochemical and histological characteristics on the properties of miscanthus-polypropylene composites. **J. Girones**, L. Vo, E. Gineau, G. Mouille, S. Arnout, C. Lapierre, M. Brancourt, P.R. Navard

**1:55 CELL 59.** Lignin-polyvinyl alcohol photo-cured composite films. Effect of lignin and UV curing agent quantity on the mechanical, optical and chemical properties. **A. Suarez**, L.Y. Perez

**2:20 CELL 60.** Challenges of utilizing different lignins and blends for carbon fibers. **M. Cho**, L. Ji, M. Karaaslan, F.K. Ko, S. Renneckar

**2:45** Intermission.

**3:00 CELL 61.** Molecular dynamics simulation study of moisture effects on chain mobility in hemicellulose-based bio-nanocomposites as observed by <sup>13</sup>C CP/MAS NMR relaxometry. **P. Chen**, C. Terenzi, L. Berglund, J. Wohler

**3:25 CELL 62.** What defines fiber quality in wood refining? **M. Tasooji**, C.E. Frazier

**3:50 CELL 63.** Withdrawn.

**4:15 CELL 64.** Treatments of cellulosic fibers to reduce the water absorption in composite reinforcement. **M. Ardanuy**, H. Ventura, J. Claramunt

## Section C

Mosccone Center  
270

### Cellulose Structure & Biosynthesis Evolution of Synthases & Fine Structure of Microfibrils

*Cosponsored by BIOL, BIOT, CARB and ENFL*

*Financially supported by Department of Energy - Office of Science*

N. Carpita, D. Cosgrove, H. M. O'Neill, J. Zimmer, *Organizers*

P. Langan, *Organizer, Presiding*

C. H. Haigler, *Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 65.** Evolutionary perspectives on functional differentiation of CESA proteins. **A.W. Roberts**

**1:30 CELL 66.** Using animal models to study cellulose biosynthesis. **K. Nakashima**

**1:55 CELL 67.** Aminoethyl cellulose in bacteria: Structure, biosynthesis, and implications. **L. Cegelski**

**2:20 CELL 68.** How many twists in cellulose biosynthesis can we still expect? **U. Römling**

**2:45** Intermission.

**3:00 CELL 69.** Patterns in cellulose fibril formation. **M.F. Crowley**, M. Himmel, L. Bu

**3:25 CELL 70.** Can an 18-chain cellulose microfibril explain the scattering/diffraction data? **Y. Nishiyama**, Y. Ogawa, T. Kuribayashi

**3:50 CELL 71.** Relations between co-crystallization and multiscale hydration in celluloses isolated from plants. **M.M. Oliveira**, A.A. Curvelo, **C. Driemeier**

**4:15 CELL 72.** Understanding the mechanical induction of macromolecular defects in cellulose nanofibrils by molecular dynamics simulation and scanning probe microscopy. **P.N. Ciesielski**, R. Wagner, V. Bharadwaj, M. Himmel, J. Killgore, M.F. Crowley

## Section D

Mosccone Center  
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### Nanocellulose Processing & Analysis

#### Process Parameters

*Cosponsored by AGFD, ANYL, CHAS and I&EC*

*Financially supported by TAPPI*

M. Bortner, T. Lindström, M. Roman, *Organizers*

W. Y. Hamad, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 73.** Limiting factors for cellulose nanocrystal yield assessed via TEMPO-mediated oxidation of microcrystalline cellulose. **E. Kontturi**, R. Salminen, M. Reza, J. Peyre, T. Pääkkönen

**1:30 CELL 74.** Characterization and patterning of anthraquinone functionalized cellulose nanocrystals. **A. Sulkanen**, Y. Si, G. Sun, G. Liu

**1:55 CELL 75.** Surface polarity engineering of crystalline nanocellulose using a food-grade surfactant for improved sustainable biocomposites. **K. Chi**, J.M. Catchmark

**2:20 CELL 76.** Microfibrillated cellulose produced with a high consistency enzymatic process. **T.C. Maloney**, K. Dimic-Misic, S. Ceccherini, J. Kuusisto, A. Suurnäkki, O. Mattila, S. Grönqvist

**2:45** Intermission.

**3:00 CELL 77.** Determination of hydrophobicity in amphiphilic nanocellulose imparted by Aqueous Counter Collision (ACC). **T. Kondo**, K. Tsuboi, S. Yokota

**3:25 CELL 78.** Understanding cell wall longitudinal structure for producing cellulose nanofibrils by disk milling with dilute acid prehydrolysis. **J. Zhu**

**3:50 CELL 79.** Cellulose fibre in situ fibrillation by twin screw extrusion. **F. Rol**, O. Nechyporchuk, B. Karakashov, N. Belgacem, J. Bras

**4:15 CELL 80.** Influence of monosaccharide composition in TEMPO-mediated oxidation to produce cellulose nanofibrils from corn husk and banana rachis. **C. Gomez Hoyos**, J. Velázquez-Cock, A.M. Serpa Guerra, R. Zuluaga Gallego, C. Castro Herazo

**4:40** Concluding Remarks.

## Section E

Mosccone Center  
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### New Horizons in Sustainable Materials

#### Nanocellulose Materials & 3D Structures

*Cosponsored by POLY*

M. G. Laborie, N. Robitaille Brown, N. Sathitsuksanoh, *Organizers*

S. H. Rennecker, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 81.** Environmental effects on the organization and structure of mechanically adaptable biopolymer networks. **Z. Walsh**, L. Averous

**1:30 CELL 82.** Hydrodynamic stability of reacting multilayer flows in a Hele-Shaw cell. **J. MacKenzie**

**1:55 CELL 83.** 3D printing of cellulose nanocrystals and nanocomposites. **G. Siqueira**, D. Kokkinis, R. Libanori, M. Hausmann, S. Gladman, A. Neels, P. Tingaut, T. Zimmermann, J. Lewis, A. Studart

**2:20 CELL 84.** Cellulose nanofibril-cell adhesive peptide conjugates for 3D bioprinted tissue models. **E. Karabulut**, A. Sousa Morais, P. Gatenholm

**2:45** Intermission.

**3:00 CELL 85.** Functional lignocellulosic materials: Engineering smart bio-hybrids from a natural anisotropic scaffold. **E. Cabane**, T. Keplinger, S. Kostic, M. Vidiella del Bianco, S. Vitas, Y. Wang, I. BURGERT

**3:25 CELL 86.** Non-proteolytically digestible micro-patterning cell scaffolds by inkjet-printing of chitinous nanocrystals. **Y. Teramoto**, S. Suzuki, T. Katsuragawa

**3:50 CELL 87.** Chemical modifications for the synthesis of functional materials from sustainable nano/cellulose. **K. Zhang**

**4:15** Introduction of the KINGFA Awardee.

**4:20 CELL 88.** Optimizing both thermal and colloidal stability of cellulose nanocrystal through acid hydrolysis. **E.D. Cranston**, O. Vanderfleet, M.S. Reid



## Section F

Moscone Center  
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### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

Cosponsored by AGFD

M. L. Auad, O. J. Rojas, *Organizers*

J. Campos-Teran, *Organizer, Presiding*

K. A. Oksman, *Presiding*

**1:00** Introductory Remarks.

**1:05** CELL **89**. Biomass conversion into functional bioplastics and gels. U.M. Edlund

**1:30** CELL **90**. Effect of the culture medium in the production of bacterial cellulose from kombucha. J. Gutiérrez-Castañeda, M. Hernández-Guerrero, S. Revah, J. Campos-Teran, G. Viguera

**1:55** CELL **91**. Sugar produced from corn cob pretreated with the combination of electron beam irradiation and enzymes. E.S. Pascoal, E.K. Kleingensind, E.A. Moura, A.B. Lugão, R.C. Rodrigues

**2:20** CELL **92**. Chromatographic purification of sugar cane bagasse alkaline extract. V. Oriez, P. Pontalier, J. Peydecastaing

**2:45** Intermission.

**3:00** CELL **93**. Energy efficient separation process of nanofibrils from bioresidues and their use in biocomposites. K.A. Oksman, L. Berglund, Y. Aitomäki

**3:25** CELL **94**. Torrefaction analysis of woody biomasses from fast-growing plantations of Costa Rica. R. Moya, A. Rodríguez-Zúñiga, A. Puente

**3:50** CELL **95**. Scaled-up production of biodegradable pectin plastics using continuous casting. L.B. Norcino, D.R. Munhoz, F.K. Moreira, L.H. Mattoso

**4:15** CELL **96**.  $\alpha$ -Eleostearic acid extraction by saponification of tung oil and its subsequent polymerization. A. Murawski, R. Quirino

### Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG $\ddagger$ , ORGN and PROF

## SUNDAY EVENING

## Section A

Moscone Center  
Hall D

### General Posters

M. Roman, *Organizer*

**7:00 - 9:00**

CELL **97**. Aminoethyl cellulose: *E. coli*'s building material for a biofilm matrix. W. Thongsomboon, L. Cegelski

CELL **98**. From cellulose tissue papers to nanoporous membrane actuators. H. Lin, J.W. Dunlop, J. Yuan

CELL **99**. Understanding protein adsorption to TEMPO-oxidized cellulose microfibrils. S. Cobos, B. Nemmaru, S.P. Chundawat, D. Athanasopoulos

CELL **100**. Combined steam and dry reforming of methane over nickel-based catalysts for upgrading biomass gasification-derived syngas. E. Terrell, C. Theegala

CELL **101**. Acetic acid as a pre-catalyst to promote cellulose dissolution. Y. Hu, S. Acharya, N. Abidi

CELL **102**. Molecular dynamics study of chitin crystal models in ionic liquids. T. Uto, K. Yamamoto, J. Kadokawa

CELL **103**. Preparation of amylose-grafted chitin nanofiber gels. N. Egashira, K. Yamamoto, J. Kadokawa

CELL **104**. Chemoenzymatic synthesis and gelation behavior of amylose-grafted poly( $\gamma$ -glutamic acid). T. Shouji, J. Kadokawa, K. Yamamoto

CELL **105**. Withdrawn.

CELL **106**. Polyamide-polysiloxane-copolymers as examples for partially biobased thermoplastic elastomers. M.A. Haslböck, C. Zollfrank

CELL **107**. Antibacterial chitosan films containing quaternary ammonium salts modified nanocrystalline cellulose. L. Ying, X. Ren, G. Buschle-Diller

CELL **108**. Facile synthesis of high strength and oxygen-barrier performance of hot-water wood extract films. G. Chen, G. Fu, X. Qi, F. Peng, C. Yao, R. Sun

CELL **109**. Kinetics of chain scission and of total oxidative damage in the Fenton-induced degradation of cereal  $\beta$ -glucan. S. Boulos, N. Burkhardt, L. Nystroem

CELL **110**. Drug delivery mechanism of sulfathiazole in films. M.L. Auad, M. Barde, M. Davis, S. Rangari

CELL **111**. 3D Porous structures based on lignin. M.L. Auad, I. Flippone, T. Hinkle, C. Upp

CELL **112**. What are the ranges and basis of auxeticity in the phases of cellulose microfibrils? A. Asamoah

CELL **113**. Laccase-polymerization of ultrasound extracted bamboo substrates. J. Fu, A. Cavac-Paulo

CELL **114**. Toward development of new generation of peat granular products for waste water remediation: Reaction mechanism of peat surface with cations of heavy metals. V.G. Goncharov, H.J. Leopold, L. Kildyshova, I.V. Kolomitsyn

CELL **115**. Preparation and characterization of antibacterial films by pretreatment of dioxane from *Phyllostachys pubescens*. Q.W. Li, G. Hui, R. Jun, G. Ying

CELL **116**. High strength of biocomposite film prepared from hemicelluloses and cellulose. R. Jun, G. Ying, Q.W. Li, H. Gao

CELL **117**. Grafting of polyoxazoline on chitin nanofiber film to form organo- and hydrogels. J. Yoshida, K. Yamamoto, J. Kadokawa

CELL **118**. Novel approach to achieve thermoplastic arabinoxylan. M.E. Borjesson, G.J. Westman, A. Larsson, A. Ström

CELL **119**. Development and investigation of a cellulose-based low adhesion coating for adhesive tapes. S. von Gradowski, M. Nau, M.A. Biesalski

CELL **120**. Influence of nanofibrillation degree on nanocellulosic aerogel properties. J. Desmaison, B. Seantier, A. Dufresne, J. Bras

CELL **121**. Direct comparison of protein and lignocellulose fibers as reinforcements in polymer matrix composites. A.M. Davis, L.E. Hanzly, B.L. DeButts, J.R. Barone

CELL **122**. Technical lignins modified by hydroxymethylation for the production of high pressure laminates: Synthesis, characterization and mathematical modeling. M. Taverna, V.V. Nicolau, D. Estenoz

CELL **123**. Dimensional stability analysis of flax fiber reinforced polypropylene composites. A.M. Davis, L.E. Hanzly, B.L. DeButts, J.R. Barone

CELL **124**. Evaluating seafood industry waste products as valuable sources of chitin and chitosan. B. Barnes, P. Sharma, U. Onuchukwu, V. Volkis

CELL **125**. Mussel-inspired polysaccharide derivatives as examples of novel strong bioadhesives. M. Petzold, C. Zollfrank

CELL **126**. Disruption of cellulose fibers structure by Lytic Polysaccharide Monooxygenase (LPMO) enzymes. A. Villares, C. Moreau, C. Bennati-Granier, S. Garajova, B. Saake, J. Berrin, B. Cathala

CELL **127**. Easy process to cellulose-silica hybrid aerogels. A. Berkefeld, M. Schestakow

CELL **128**. Algae-based biorefinery of *Chlorella vulgaris*. G. Vaca Medina, C. Mathieu, C. Raynaud

CELL **129**. Fabrication of CNC/glycerol thin films as substrate for electronic applications. M. Rivera, V. Pantojas

CELL **130**. Optimization of phenolics extraction from walnut shells through ultrasound treatment. H. Han, F. Zhang, Y. Wang, J. Jensen, M. Rakita, Q. Han, S. Janaswamy, Q. Xu

CELL **131**. Cellulose nanofiber surface functionalization for functional medical membrane applications. H. Durand, H. Le Drezen, N. Belgacem, E. Zeno, J. Bras

CELL **132**. Effects of catalytic fast pyrolysis derivatives on mechanical, thermal and surface properties of nanocellulose films. R. Zhang, N. Wilson, M.R. Nimlos, M. Himmel, P.N. Ciesielski

CELL **133**. Impact of vanillin on the rheological and phase behavior of Cellulose Nanocrystals (CNCs). J. Mao, R. Ma, M. Laborie

CELL **134**. Enhancement of PVA/MMT composite film by chitin nanowhiskers. Y. Guan, H. Gao, L. Zhang

CELL **135**. Withdrawn.

CELL **136**. Aqueous dispersions of TEMPO-oxidized cellulose nanofibrils with various metal counterions, and their super deodorant performances. A. Sone, T. Saito, A. Isogai

CELL **137**. Microwave-hydrothermal rapid synthesis of cellulose/Ag nanocomposites and their antibacterial activity. L. Fu, Y. Liu, S. Liu, M. Ma

CELL **138**. Withdrawn.

CELL **139**. Sustainable polymer synthesized from gemini monomers. Z. Wang

CELL **140**. Analysis of Liquid Fuels from Thermal Depolymerization of Polypropylene in a Bench-Scale Reactor. S.M. Cardinali, J.M. Lemas, S. Ramesh, J.E. Holm, C.J. Pope

CELL **141**. Conductive films prepared from cellulose, graphite and polyaniline nanoparticles with highly thermal stability and antibacterial activity. J. Chen, J. Liu, W. Zhang, K. Wang, X. Qian, R. Sun

CELL **142**. Recycling of non-metallic fraction of printed circuit boards as reinforcement in poly(methyl methacrylate) composites. C. Loyo, C. Arroyo, V. Valle, M. Aldas

CELL **143**. Applications of cellulose waste. Development of insulation panels. L. Beltrami, R. Grether, A. Guillarducci, N. Ulibarrie

CELL **144**. Controlling latex morphology with cellulose nanocrystals and methyl cellulose. S.A. Kedzior, B. Morgan, E. Joy, Z. Hu, E.D. Cranston

CELL **145**. Synthesis of encapsulated bio-pesticides/fertilizers based on superabsorbent crosslinked alginate microbeads. P. Joshi, M.L. Auad

CELL **146**. Characterization of cellulose membrane filters deposited by electrospinning. J.L. Berrios-Rivera, V. Pantojas

CELL **147**. Sequential fractionation of lignin macromolecules with organic solvents and investigation of their potentials for utilization as lignin-PLA copolymers. S. Park, J. Choi

CELL **148**. Development of reinforced rigid polyurethane foam composite based on cabuya fiber. A. Proano

CELL **149**. Biopolymer synthesis: Esterification of wood cellulose from different guatemalan tree species with phthalic anhydride and their use as triclosan adsorbents in aqueous solutions. C.E. Torres, J. Carrera, S. Toledo

CELL **150**. Cleavage of  $\beta$ -O-4 ether bonds in acidic lithium bromide trihydrate for lignin depolymerization. N. Li, X. Yang, X. Lin, X. Pan

CELL **151**. Conductive hydrogels for use in tissue engineering and biocompatible electronics. B. Cleary, M.L. Auad

CELL **152**. Preparation of electrospun mats of functionalized Nano-Crystalline Cellulose (NCC). R. Farag, Z. Jiang, B. Jackson, K. Brown, M.L. Auad

CELL **153**. Cellulose nanocrystal thin film swelling to probe particle-particle interactions in solvents and aqueous media. M.S. Reid, S.A. Kedzior, M. Villalobos, E.D. Cranston

CELL **154**. Characterization of edible film based on zein and chitosan. L. Pinho, M. Oliveira, W.Q. Oliveira, R. Furtado, M.S. Bastos, F. R.W.

CELL **155**. Pre-treatments to create porous cellulose fibres for nanocellulose production. M. Miranda, C. Driemeier, A.J. Carvalho, N. Belgacem, J. Bras

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- CELL 156.** Succinylation of glucomannans from spruce for hydrogel formation. A. Escalante, K. Markstedt, P. Gatenholm, **G. Toriz Gonzalez**
- CELL 157.** Biomass potential for the development of advanced materials and bio-based products. M. Kurečić, S. Hribernik, M. Božić, A. Ojstršek, T. Kos, M. Mešič, K. Stana Kleinschek
- CELL 158.** Gelation of 3D printed nanocellulose induced by crosslinked hemicellulose. **K. Markstedt**, A. Escalante, **G. Toriz Gonzalez**, P. Gatenholm
- CELL 159.** Effect of the change of the crystalline structure on the infrared spectra by ATR of cellulose from banana rachis, corn husk and bacterial cellulose. **A.M. Serpa Guerra**, C. Gómez Hoyos, J.A. Velasquez-Cock, P. Gañán, C. Castro Herazo, R. Zuluaga Gallego
- CELL 160.** Bacterial nanocellulose based bioink for 3D bioprinting. K. Markstedt, D. Hägg, T. Kondo, **G. Toriz Gonzalez**, P. Gatenholm
- CELL 161.** Characterization of wood and cellulose from different eucalyptus species. **R. Teixeira Mendonça**, I. Carrillo, M. Pereira
- CELL 162.** Biomaterial polymer blends for material extrusion 3D printing. **P. Tayeb**, L. Pai, A.H. Tayeb
- CELL 163.** Solution/aggregation behavior of spruce xylan as function of isolation/purification conditions. **S. Kishani**, A. Escalante, **G. Toriz Gonzalez**, L. Wagberg, P. Gatenholm
- CELL 164.** Extraction and characterization of nanocellulose from different biomass sources. **M. Alwohaibi**, C.J. Huntley, M.L. Curry
- CELL 165.** Synthesis and fabrication of CNF-based plastic nanocomposites. **D.H. White**, C.J. Huntley, M.L. Curry
- CELL 166.** Molecular blending and reinforcing effect of lignin in ductile epoxy resins. **F. Ansari**, **R. Rojas Escontrillas**, L. Berglund
- CELL 167.** TEMPO-oxidized Nanofibrillated Cellulose Film (NFC) incorporating Graphene oxide (GO) nanofillers. **Y. Kim**, Y. Kim
- CELL 168.** Enhanced solar driven water evaporation rates through graphitic surface film suspensions. **R. Christoph**, A. Hernández, R. Muñoz, S. Ventura

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## MONDAY MORNING

### Section A

Moscone Center  
252/260

#### Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar

#### Structure

Cosponsored by CARB

Financially supported by EPNOE, Eastman Chemical Company, VT Fralin Life Science Institute, VT College of Natural Resources and Environment, VT Department of Sustainable Biomaterials, Carbohydrate Polymers (Elsevier)

C. M. Buchanan, P. E. Fardim, *Organizers*

O. J. Rojas, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 169.** Repeating unit of cellulose is glucose, and why that matters. **A.D. French**

**8:30 CELL 170.** Findings on the way of cellulose ether analysis. **P. Mischnick**, K. Voiges, S. Gangula

**8:55 CELL 171.** Withdrawn.

**9:20 CELL 172.** Rheo-optical and optical studies of cellulose derivatives. **P.R. Navard**, T. Budtova

**9:45** Intermission.

**10:00 CELL 173.** Insights in the control of glycosaminoglycan structure. **R.J. Linhardt**

**10:25 CELL 174.** Precision biomaterials based on synthetic heparan sulfate oligosaccharides. **G. Boons**

**10:50 CELL 175.** New views of plant cell wall non-cellulosic polysaccharide and proteoglycan structure from studies of pectin biosynthetic enzymes and plants modified in their expression. **D. Mohnen**, M. Atmodjo, A. Biswal, R. Amos, K. Engle, L. Tan

**11:15 CELL 176.** Conversion of agricultural by-products to methyl cellulose. **A. Biswas**, H. Cheng, R. Furtado, C.R. Alves

### Section B

Moscone Center  
262

#### Processing & Properties of Biobased Composites & Blends

Financially supported by EPNOE

P. R. Navard, *Organizer*

J. R. Barone, *Organizer, Presiding*

**8:05 CELL 177.** Mechanical properties improvement of natural rubber/pineapple leaf fiber composites: Effects of silane treatment of fiber and incorporation of carbon black. **N. Hariwongsanupab**, K. Mougín, T. Amornsakchai, M. Vallat, S. Thanawan, G. Schroedj

**8:30 CELL 178.** Substitution of formaldehyde in phenolic thermosets with innovative and bio-based lignin-to-vanillin derived compounds. **S. Caillol**

**8:55 CELL 179.** Manufacturing strong regenerated cellulose fibers reinforced with cellulose nanocrystals. **J. Bhardwaj**, R. Richardson, J. Li, S. Rahatekar

**9:20 CELL 180.** Micro and nano composites using cotton materials loaded in polylactic acid and applications in 3D printing. A. Kearns, **R.A. Venditti**, J. Jur, N. Farahbakhsh

**9:45** Intermission.

**10:00 CELL 181.** Design, fabrication and test of degradable starch based tube for a biomedical application. L. Chaunier, D. Velasquez, S. Guessasma, A. Bizeau, F. Faure, A. Meddahi-Pelle, **D. Lourdin**

**10:25 CELL 182.** Blend configuration in polymeric materials with very high lignin-derivative contents. **S. Sarkanen**, Y. Wang, Y. Chen

**10:50 CELL 183.** Lignin acidolysis predicts formaldehyde generation in pine wood. **C.E. Frazier**, G. Wan

**11:15 CELL 184.** Amyloid reinforced polyvinyl alcohol nanocomposites. **B.L. DeButts**, **J.R. Barone**

### Section C

Moscone Center  
270

#### Cellulose Structure & Biosynthesis Mechanism of Synthesis

Cosponsored by B/OL, BIOT, CARB and ENFL

Financially supported by Department of Energy - Office of Science

N. Carpita, D. Cosgrove, P. Langan, H. M. O'Neill, *Organizers*

J. Zimmer, *Organizer, Presiding*

A. W. Roberts, *Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 185.** Structure and function of cellulose synthase. **J. Zimmer**

**8:30 CELL 186.** Cellulose microfibril formation in vitro by a single heterologously expressed plant cellulose synthase isoform. **P. Pallinti**, S. Cho, S. Diaz-Moreno, M. Kumar, B. Nixon, V. Bulone, J. Zimmer

**8:55 CELL 187.** All-atom structural models of plant cellulose synthase and cellulose synthase complex. **A. Singh**, S. Deshmukh, **Y.G. Yingling**

**9:20 CELL 188.** Organization of domains in CESA proteins of the plant cellulose synthesis complex. **H.M. O'Neill**, V. Vandavasi, J. Du, Q. Zhang, A. Singh, B. Nixon, Y.G. Yingling, L. Petridis, P. Langan, C.H. Haigler

**9:45** Intermission.

**10:00 CELL 189.** Progress toward structural understanding of cellulose synthesis by plants. **B. Nixon**, M. Kumar, J. Du, S. Cho, V. Vandavasi, H.M. O'Neill, P. Purushotham, J. Zimmer

**10:25 CELL 190.** Cellulose structure and biosynthesis in oomycetes: Similarities and differences with higher plants. **V. Bulone**

**10:50 CELL 191.** Protein structural controls of plant cellulose synthesis. **C.H. Haigler**

**11:15 CELL 192.** Structure of the catalytic domain of a plant Cesa. **P.S. Rushton**, C. Rayon, A.T. Olek, L. Makowski, H. Kim, J. Badger, D. Kihara, C. Steussy, C.V. Stauffacher, **N. Carpita**

### Section D

Moscone Center  
272

#### Nanocellulose Processing & Analysis Properties

Cosponsored by AGFD, ANYL, CHAS and I&EC

Financially supported by TAPPI

M. Bortner, W. Y. Hamad, T. Lindström, *Organizers*

M. Roman, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 193.** Solid-State and structural characterization of cellulose nanocrystals. **W.Y. Hamad**

**8:30 CELL 194.** Comparing crystallinities of CNCs by Raman, NMR, and XRD. **U.P. Agarwal**, T. Larsson, J. Stevanic Srdovi

**8:55 CELL 195.** Analysis of modified cellulose nanocrystals. **W. Thielemans**

**9:20 CELL 196.** Characterization of nanocelluloses using small-angle neutron, x-ray and dynamic light scattering techniques. **Y. Mao**, K. Liu, C. Zhan, L. Geng, B.T. Chu, **B.S. Hsiao**

**9:45** Intermission.

**10:00 CELL 197.** Occupational health and safety characterization and assessment of CNC's from North American producers. **B. O'Connor**

**10:25 CELL 198.** European perspective on Environmental, Health and Safety (EHS) aspects on Cellulose Nanofibrils (CNF). **H. Kangas**, M. Pitkänen, J. Catalan, H. Norppa

**10:50 CELL 199.** TEMPO-Oxidized Cellulose Nanofiber (TOCN) materials show good biomedical applications. **N. Ruizhi**, L. Yi, S. Yamasaki, J. Lin, T. Saito, A. Isogai

**11:15 CELL 200.** Different size-unified cellulose nanocrystals obtained via a multistage separation. **Y. Hu**, N. Abidi

**11:40** Concluding Remarks.

### Section E

Moscone Center  
274

#### Functional Lignocellulosics & Nanotechnology

#### Tuning Interfacial Phenomena with Ligno-Nanocellulosic Materials

Cosponsored by CARB and COLL

Financially supported by EPNOE

M. K. Ek, E. Filpponen, T. Nypelo, S. Peresin, S. Spirk, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 201.** Nanocellulose- Silver hybrid structuration for stable suspension and transparent conductive material design. **J. Bras**, F. Hoeng, A. Denneulin

**8:30 CELL 202.** Control of the surface properties of cellulose nanocrystals by acylation with functional vinyl esters: Application to the design of innovative fillers or Pickering surfactants. **G. Sebe**, J. Brand, B. Dhueige, A. Werner, V. Héroguez

**8:55 CELL 203.** Click-Thiols as an approach to implement novel functionalities within bio-derived scaffolds. **S. Kostic**, J.K. Berg, K. Casdorff, V. Merk, I. Burgert, E. Cabane

‡ Cooperative Cosponsorship

**9:20 CELL 204.** Cellulose nanocrystals and surfactants as mini emulsion polymerization stabilizers. **S.A. Kedzior**, H.S. Marway, E.D. Cranston

**9:45** Intermission.

**10:00 CELL 205.** Fundamental differences due to deposition method in ultrathin films of cellulose nanofibres. **B.P. Wilson**, K. Yliniemi, M. Gestranus, M. Putkonen, M. Lundström, T. Tammelin, E. Kontturi

**10:25 CELL 206.** Tailor-made 3D printed scaffolds from cellulose nanofibrils for guided growth and development of a neural tissue. **V. Kuzmenko**, E. Karabulut, E. Pernevik, D. Hägg, S. Johannesson, P. Enoksson, P. Gatenholm

**10:50 CELL 207.** 3D-printing of cellulosic materials – properties and suitability on cellulosic fabrics. **T. Tenhunen**, P. Varis, A. Puolakka, P. Kääriäinen, A. Harlin, M.K. Österberg, T. Tammelin, H. Orelma

**11:15 CELL 208.** Cellulose macro-sheets with PTFE nanocoating and cellulose nano-sheets. **Y. Huang**, M. Wu, M. Zhao, S. Kuga

## Section F

Moscone Center  
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### Chemistry & Physical Chemistry of Thermal Processes for the Circular Carbon Economy

*Cosponsored by ENFL and ENVR*

H. Mayes, C. J. Pope, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 209.** Hydrothermal carbonization and the circular economy. **M.T. Timko**

**8:30 CELL 210.** Utilisation of microwave irradiation in the catalytic upgrade of cellulose and hemicellulose derivatives: Hydrolysis and hydrogenation reactions. **J. Lopez-Sanchez**

**8:55 CELL 211.** Biomass vapor upgrading to produce hydrocarbon fuels. **C. Mukarakate**, K. Iisa, M. Xu, M.R. Nimlos, J. Schaidle

**9:20 CELL 212.** Oceans of plastic converted to liquid fuels via small scale thermal depolymerization reactors. **S. Ramesh**, J.E. Holm, C.J. Pope

**9:45** Intermission.

**10:00 CELL 213.** Data science tools for biomass pyrolysis – application to thermochemical conversion of lignin. **J. Pfaendtner**

**10:25 CELL 214.** Mechanistic modeling of fast pyrolysis of hemicellulose extracted from cornstover. **X. Zhou**, W. Li, R. Mabon, L.J. Broadbelt

**10:50 CELL 215.** On the importance of inorganics composition on biomass gasification. **D. Da Silva Perez**, C. Dupont

**11:15 CELL 216.** Computational studies of lignin chemistry and structure. **G. Beckham**, L. Berstis, **M.F. Crowley**, R.A. Dixon, T.J. Elder, S. Kim, J. Vermaas

**11:40** Concluding Remarks.

### Science for a Sustainable Energy Future

#### Energy Storage

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG†, ORGN and PROF*

## MONDAY AFTERNOON

### Section A

Moscone Center  
252/260

#### Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar

##### Structure

*Cosponsored by CARB*

*Financially supported by EPNOE, Eastman Chemical Company, VT Fralin Life Science Institute, VT College of Natural Resources and Environment, VT Department of Sustainable Biomaterials, Carbohydrate Polymers (Elsevier)*

C. M. Buchanan, O. J. Rojas, *Organizers*

P. E. Fardim, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 217.** Chemistry with activated polysaccharide derivatives – an efficient and simple path to novel structures. **T.J. Heinze**, T. Elschner, M. Gericke, K. Ganske, F. Obst, L. Gabriel

**1:30 CELL 218.** Withdrawn.

**1:55 CELL 219.** LB film preparation of regioselectively substituted cellulose cinnamates on nematic ordered cellulose templates. **T. Kondo**

**2:20 CELL 220.** Take advantage of what Nature creates and utilize biomass. **A. Albertsson**

**2:45** Intermission.

**3:00 CELL 221.** Enzymatic control of the acetylation pattern in chitosans. **B.M. Moerschbacher**

**3:25 CELL 222.** Studying the reactivity of cellulose by oxidation with 4-acetamido-2,2,6,6-tetramethylpiperidine-1-oxo-piperidinium cation. **P. Khanjani**, V. Lovikka, T.C. Maloney, T. Vuorinen

### Section B

Moscone Center  
262

#### Processing & Properties of Biobased Composites & Blends

*Financially supported by EPNOE*

P. R. Navard, *Organizer*

J. R. Barone, *Organizer, Presiding*

J. Ganster, *Presiding*

**1:05 CELL 223.** Orientation and interfacial stress transfer of cellulose nanocrystal nanocomposite fibers. **H. Chang**, J. Luo, H.C. Liu, A. Bakhtiyari Davijani, P. Wang, S. Kumar

**1:30 CELL 224.** Understanding nanoconfinement and nanoscale interfaces in nanocellulose composites. **S. Ketten**

**1:55 CELL 225.** Enhancing supramolecular interactions in aromatic polymer/cellulose nanocrystals nanocomposites. **E. Rivoire**, A. Garcia, A. Saralegi, J. Foster, **J. Bras**

**2:20 CELL 226.** Excellent dispersion and property enhancements in polymer composites made with biobased filler from cellulose nanocrystals and waste paper to lignin and agro-waste to rice husk ash and eggshell. **J.M. Torkelson**, K.A. Iyer, G.T. Schueneman

**2:45** Intermission.

**3:00 CELL 227.** Amyloid reinforced rubber nanocomposites. **B.L. DeButts**, L.E. Hanzly, **J.R. Barone**

**3:25 CELL 228.** Melt mixing cellulose nanocrystals and industrially relevant polymers. **J. Foster**

### Section C

Moscone Center  
270

#### Cellulose Structure & Biosynthesis

##### Synthase Trafficking & Synthesis of plant (1->3),(1->4)-D-glucans

*Cosponsored by BIOL, BIOT, CARB and ENFL*

*Financially supported by Department of Energy - Office of Science*

N. Carpita, D. Cosgrove, P. Langan, J. Zimmer, *Organizers*

H. M. O'Neill, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 229.** Cellular mechanisms of CESA trafficking and delivery to the plasma membrane. **T. Vellosillo**, R.X. Gutierrez, C.R. Somerville, **D.W. Ehrhardt**

**1:30 CELL 230.** Does cortical microtubule array guide the orientation of cellulose deposition or not? **Y. Gu**

**1:55 CELL 231.** Myosins XI are involved in cellulose synthase complex dynamics and delivery. **W. Zhang**, C. Cai, N. Carpita, **C.J. Staiger**

**2:20 CELL 232.** Real-time imaging of cellulose microfibril and biosynthesis. **S. Ding**

**2:45** Intermission.

**3:00 CELL 233.** Understanding the mechanism of (1,3;1,4)-β-D-glucan synthesis in cereals. **M. Doblin**, Y. Ho, D. Oehme, M.P. Bain, K. Ford, A.M. van de Meene, E.R. Lampugnani, A. Bacic

**3:25 CELL 234.** Characterizing and utilizing CSLF6 to improve MLG synthesis. **S. Kim**, S. Zemelis-Durfee, K. Keegstra, F. Brandizzi

### Section D

Moscone Center  
272

#### Nanocellulose Processing & Analysis Fundamentals

*Cosponsored by AGFD, ANYL, CHAS and I&EC*

*Financially supported by TAPPI*

M. Bortner, T. Lindström, M. Roman, *Organizers*  
W. Y. Hamad, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 235.** Cellulose bio-inspired hierarchical structures. **S. Vignolini**, R. Parker, B. Frka-Petesic, G. Guidetti

**1:30 CELL 236.** Driving forces for cellulose nanocrystal alignment in drying droplets: Center versus edge. **F. Navarro Arzate**, C. Pritchard, M. Bortner, **M. Roman**

**1:55 CELL 237.** *In-situ* small angle X-ray scattering of a levitated cellulose nanocrystal droplet. **Y. Liu**, M. Agthe, A. Fall, G. Salazar-Alvarez, C. Schütz, L. Bergstrom

**2:20 CELL 238.** *In situ* Rheo-SAXS study of cellulose nanocrystals suspensions. **A. De Geyer**, C. Rey, N. Hengli, E. Gicquel, J. Bras, **B.R. Jean**, F. Pignon

**2:45** Intermission.

**3:00 CELL 239.** Effect of the size of the charged group on the properties of alkoxyated NFCs. **A. Naderi**, T. Larsson, J. Stevanic Srdnovi, T. Lindström, J. Erlandsson

**3:25 CELL 240.** Interaction of β-(1-4) xylan with cellulose surface in biomimetic reconstructed models. **L. Falcoz-Vigne**, Y. Ogawa, V. Meyer, M. Petit-Conil, K. Mazeau, Y. Nishiyama, **L. Heux**

**3:50** Concluding Remarks.

### Section E

Moscone Center  
274

#### Functional Lignocellulosics & Nanotechnology

##### Modification & Analytics

*Cosponsored by CARB and COLL*

*Financially supported by EPNOE*

M. K. Ek, T. Nypelo, S. Peresin, S. Spirk, *Organizers*

E. Filpponen, *Organizer, Presiding*

R. Kargl, *Presiding*

**1:05 CELL 241.** Periodate oxidation and chemical modifications of cellulosic backbone. **J. Leguy**, Y. Nishiyama, L. Heux, B.R. Jean

**1:30 CELL 242.** Designer molecules for one-step modification of cellulosic materials in aqueous and organic media through the triazine chemistry. **A. Fatona**, R.M. Berry, M.A. Brook, J. Moran-Mirabal

**1:55 CELL 243.** Dissolution of cellulose in NaOH/zinc nitrate at low temperature. **A. Lyu**

**2:20 CELL 244.** Withdrawn.

**2:45** Intermission.

**3:00 CELL 245.** Topochemical modification of nanocellulose in ionic liquids or gamma-valerolactone. **T. Laaksonen**, **A. King**, J.K. Helminen, L. Lemetti, D. Rico del Cerro, I. Filpponen, M. Kemell, S. Heikkinen, I. Kipeläinen

**3:25 CELL 246.** Essential analytical approaches to characterization of lignin specifically targeting the abundant oligomeric fraction observed following a hydrotreatment. **A. Kubatova**, A. Andrianova, J. Kreft, K. Voeller, J. Schumaker, E.I. Kozlak, I.P. Smoliakova

### Section F

Moscone Center  
276

#### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

*Cosponsored by AGFD*

M. L. Auad, J. Campos-Teran, *Organizers*

O. J. Rojas, *Organizer, Presiding*

M. Ago, *Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 247.** Silylated lignin and copolymers with acrylonitrile: Flexible membranes and material precursors. **S. Li**, W. Xie, M. Wilt, J.A. Willoughby, O.J. Rojas

**1:30 CELL 248.** Grafting-from cellulose via photoinduced Cu-mediated reversible deactivation radical polymerisation. **F. Hatton**, S.A. Kedzior, E. Larsson, E.D. Cranston, A.E. Carlmark

**1:55 CELL 249.** Valorization of lignin in 0D and 1D advanced systems: Particles for emulsification and fibers for energy storage. **M. Ago**, T. Kämäräinen, B. Tardy, S. Huan, M. Borghéi, J. S. Haataja, J. Raula, E.I. Kauppinen, O.J. Rojas

**2:20 CELL 250.** Synthesis, properties and carbonization of different types of ligneous aerogels. **E. Budjav**, S. Quraishi, M. Ghorbani, J. Konnerth, C. Unterweger, F. Liebner

**2:45** Intermission.

**3:00 CELL 251.** Fiber-based foams for papermaking. **W. Xiang**, I. Filpponen, E. Saharinen, K. Salminen, T. Lappalainen, O.J. Rojas

**3:25 CELL 252.** Towards a better understanding of alkali-lignins isolated from three kinds of non-woody materials. **F. Yue**, F. Lu, R. Sun, J. Ralph

### Science for a Sustainable Energy Future

### Chemical & Biological Conversions Approaches to Energy Conversion

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG†, ORGN and PROF

### Carbohydrate-Based Hybrid Materials for Nanomedicine

Sponsored by CARB, Cosponsored by CELL

## MONDAY EVENING

### Section A

Mosccone Center

Hall D

### Sci-Mix

M. Roman, Organizer

**8:00 - 10:00**

**40, 43-45, 60, 97, 98-101, 106, 108-110, 112, 114-116, 118, 121, 124-125, 129, 134-135, 137-140, 142, 146, 148-149, 154, 159, 162, 164-165, 167, 177, 203, 206, 215, 233, 242, 244, 251.** See previous listings.

**262-263, 299, 347, 351, 528.** See subsequent listings.

## TUESDAY MORNING

### Section A

Mosccone Center

252/260

### Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar

### Novel Derivatives for Demanding Applications

Cosponsored by CARB

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

Financially supported by EPNOE, Eastman Chemical Company, VT Fralin Life Science Institute, VT College of Natural Resources and Environment, VT Department of Sustainable Biomaterials, Carbohydrate Polymers (Elsevier)

C. M. Buchanan, P. E. Fardim, Organizers

O. J. Rojas, Organizer, Presiding

**8:00** Introductory Remarks.

**8:05 CELL 253.** Control of optical anisotropy of cellulose derivatives. **M. Yamaguchi**, H. Shimada, K. Songsurang

**8:30 CELL 254.** Design of optical films for liquid crystalline displays by control of cellulose ester structure. **C.M. Buchanan**, N. Buchanan, E. Guzman-Morales, B. Wang

**8:55 CELL 255.** Nano- and micropatterns of cellulose - from lithography to micro-phase separation. **K. Niégelhell**, H. Plank, F. Stelzer, R. Kargl, T. Griesser, S. Spirk

**9:20 CELL 256.** Photo- and biodegradable thermoplastic elastomers containing cellulose and poly lactide. **J.B. Matson**, K.J. Arrington

**9:45** Intermission.

**10:00 CELL 257.** Heterogeneous catalysts for the regioselective modification of cellulose. **S. Rennecker**, S.C. Patankar

**10:25 CELL 258.** Control of cellulose chiral nematic structure. **D.G. Gray**

**10:50 CELL 259.** Looking at the unwanted acetylation of polysaccharides by 1,3-dialkylimidazolium acetate ionic liquids: Analysis, acetylating agent, influence of water, and mechanistic considerations. **T. Rosenau**, A. Potthast, M. Laborie, T. Zweekmair, H. Hettegger, M. Bacher, H. Abushammala

**11:15 CELL 260.** Peptide-cellulose conjugates for protease point of care diagnostics and treatment. **V. Edwards**, K.R. Fontenot, N.T. Prevost, F. Liebner, A.D. French, D. Haldane, N. Pircher, B.D. Condon

### Section B

Mosccone Center

262

### Processing & Properties of Biobased Composites & Blends

Financially supported by EPNOE

P. R. Navard, Organizer

J. R. Barone, Organizer, Presiding

L. Averous, Presiding

**8:05 CELL 261.** New biobased and sustainable epoxy and polyurethane materials and foams from vegetable and microalgal oil. **S. Caillol**

**8:30 CELL 262.** Polylactide/ZnO nanocomposites: From improved functional properties for packaging to novel materials for biomedicine. **E. Lizundia**, J.L. Vilas

**8:55 CELL 263.** Green composites from hemp fibers and styrene-free soybean oil-based thermosets: Preparation and modification. **W. Liu**, R. Qiu

**9:20 CELL 264.** Thermal superinsulating silica aerogels and xerogels reinforced with short cellulose fibers. **G. Markevicius**, J. Jaxel, P. Niemeyer, R. Ladj, A. Rigacci, T. Budtova

**9:45** Intermission.

**10:00 CELL 265.** Biopolymer-based multilayer nanocoatings that exhibit high gas barrier and flame retardant behavior. **J.C. Grunlan**

**10:25 CELL 266.** Withdrawn.

**10:50 CELL 267.** Comparative studies on miscibility and intermolecular interaction for cellulose ester blends with vinyl copolymers. **K. Sugimura**, Y. Nishio

**11:15 CELL 268.** Sustainable polymeric materials via strategic assemblies of renewable platform chemicals. **J.M. Sadler**, J.F. Stanzione, G.R. Palmese, J.J. La Scala

### Section C

Mosccone Center

270

### Cellulose Structure & Biosynthesis

### Biochemistry & Cellular Biology

Cosponsored by BIOL, BIOT, CARB and ENFL

Financially supported by Department of Energy - Office of Science

D. Cosgrove, P. Langan, H. M. O'Neill,

J. Zimmer, Organizers

N. Carpita, Organizer, Presiding

M. Doblin, Presiding

**8:00** Introductory Remarks.

**8:05 CELL 269.** Characterization of *Arabidopsis* CSLD cell wall synthase activities both *in vitro* and *in vivo*. **G. Bak**, F. Gu, J. Combs, M. Pena, B. Urbanowicz, E. Nielsen

**8:30 CELL 270.** Golgi-localized STELLO proteins regulate the assembly and trafficking of cellulose synthase complexes. **Y. Zhang**, N. Nikolovkski, M. Sorieul, T. Velloso, H. McFarlane, R. Dupree, C. Driemeier, J. Mortimer, S.P. Brown, S. Persson, P. Dupree

**8:55 CELL 271.** Sphingolipid glycosylation in plants: Some implications for cellulose biosynthesis. **L. Fang**, B. Jing, T. Ishikawa, E. Rennie, H.V. Scheller, J.C. Mortimer

**9:20 CELL 272.** Functional differences between CESA protein classes. **S. Turner**, M. Kumar, L. Mishra

**9:45** Intermission.

**10:00 CELL 273.** Brassinosteroids regulate cellulose biosynthesis in *Arabidopsis thaliana* by direct phosphorylation. **I.S. Wallace**, K.J. Ketelaar, C. Sanchez-Rodriguez, R. Schneider, J.A. Villalobos, C.R. Somerville, S. Persson

**10:25 CELL 274.** Ultrastructure of spruce secondary wall outer layers. **M. Reza**, C. Bertinetto, J. Ruokolainen, T. Vuorinen

**10:50 CELL 275.** Investigating inter-fibrillar distance between crystalline cellulose microfibrils in plant cell walls using sum frequency generation vibrational spectroscopy. **A. Makarem**, D. Sawada, H.M. O'Neill, S.H. Kim

**11:15 CELL 276.** Bacterial cellulose: Self-assembly and reformatting. **S. Lim**

### Section D

Mosccone Center

272

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

Cosponsored by AGFD, ANYL and POLY

Financially supported by HORIBA Instruments Incorporated; University of Tokyo, Japan; Innventia AB; U.S. Forest Service

U. P. Agarwal, T. J. Elder, A. Isogai, T. Larsson, Organizers

A. D. French, T. Rosenau, Presiding

**8:00** Introductory Remarks.

**8:05 CELL 277.** Evolving models of lignocellulose structure: Do we need a plant cell wall interactome. **W.T. Winter**

**8:30 CELL 278.** Chain polarity in polymorphic unit cells of cellulose, amylose, and chitin. **S.H. Kim**

**8:55 CELL 279.** Enzymatic oxidation of carbohydrates: New applications and new paradigms for lignocellulose deconstruction. **C. Felby**, K.B. Mollers, D. Cannella

**9:20 CELL 280.** <sup>13</sup>C NMR method for characterization of partially dissolved cellulose in aqueous media. **D. Topgaard**

**9:45** Intermission.

**10:00 CELL 281.** Disordered structures in plant cellulose microfibrils in terms of leveling-off DP and layer-by-layer surface peeling of microfibrils. **A. Isogai**

**10:25 CELL 282.** Multifunctional cellulose derivatives for surface modification - an innovative nanostructural approach. **T.J. Heinze**, P.E. Fardim

**10:50 CELL 283.** Fire protection of cellulose materials, procedures and mechanisms. **L. Wagberg**, M. Ghanadpour, O. Koklukaya, F. Carosio

**11:15 CELL 284.** Use of Raman microscopy in elucidating the structure of cellulose. **F. Adar**

### Section E

Mosccone Center

274

### Functional Lignocellulose & Nanotechnology

### Tuning Interfacial Phenomena with Ligno-Nanocellulosic Materials

Cosponsored by CARB and COLL

Financially supported by EPNOE

M. K. Ek, E. Filpponen, T. Nypelo, S. Peresin, S. Spirk, Organizers, Presiding

**8:05 CELL 285.** Nanoscale self-assembly properties of hybrid materials obtained from hemicellulose oligomers and fatty acids in polar and non-polar media. **D. Da Silva Perez**, M. Chernin, J. Russelgong, H. Cramail, S. Grelier

**8:30 CELL 286.** Xyloglucan functional block-copolymers: A modular platform for cellulose modification. **F. Hatton**, J. Engström, J. Forsling, E.E. Malmstrom, M. Ruda, F. D'Agosto, M. Lansalot, A.E. Carlmark

**8:55 CELL 287.** Spruce galactoglucomannans stabilize emulsions against physical breakdown and lipid oxidation. **K. Mikkonen**, M. Lehtonen, D. Merger, U. Van der Schaaf, P. Kilpeläinen, C. Xu, C. Berton, M. Wilhelm, K. Schroën

† Cooperative Cosponsorship



**9:20 CELL 288.** Parametric analysis and mechanism of dispersion of single-walled and multi-walled carbon nanotubes by cellulose nanocrystals. J. Mougél, B. Patricia, I. Capron, B. Cathala, O. Chauvet

**9:45** Intermission.

**10:00 CELL 289.** Exclusive surface modification of cellulose nanopapers by adsorption of polymers from non-aqueous solvents. K.S. Kontturi, K. Biegaj, A. Mautner, R.T. Woodward, B.P. Wilson, K. Lee, J. Heng, A. Bismarck, E. Kontturi

**10:25 CELL 290.** New insights on the effects of chemical structure on the properties of cellulose nanofibrils: Characterization, mechanical performance and barrier properties. V. Lopez Duran, P.A. Larsson, L. Wågberg

**10:50 CELL 291.** Tannic acid – A transformative additive when combined with cellulose nanocrystals: From hydrophobic nanoparticles to dried oil powders. E.D. Cranston, Z. Hu, R.H. Pelton

**11:15 CELL 292.** Cellulose nanoparticles stabilized in a hydrophobic polymer matrix through synthetic functionalization. B. Teipel, R. Vano, M. Kirby, B. Zahner, E. Teipel, N. Nagabandi, K. Holder, M. Akbulut

## Section F

Moscone Center  
276

### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

*Cosponsored by AGFD*

M. L. Auad, J. Campos-Teran, *Organizers*

O. J. Rojas, *Organizer, Presiding*

G. Toriz Gonzalez, *Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 293.** Dissolution and processing of lignocellulose using an ionic liquid solvent: Towards the production of high performance materials. M. Hummel, S. Hellsten, S. Asaadi, Y. Ma, E. Walger, S. Haslinger, H. Sixta

**8:30 CELL 294.** Enzymatically produced lignosulfonate based paper coatings for substitution of petroleum based additives. A. Ortner, K. Hofer, S. Kopacic, G. Nyanhongo, W. Bauer, G.M. Guebitz

**8:55 CELL 295.** Surface wrinkling phenomena in spherical lignin nano- and micro-particles obtained by aerosol flow synthesis. T. Kämäräinen, M. Ago, B. Tardy, J. Seitsonen, O.J. Rojas

**9:20 CELL 296.** Wood waste: Resource of biopolymers and high value materials. L. Couret, B. Cathala, E. Bonnin, C. Belloncle, M. Irlé

**9:45** Intermission.

**10:00 CELL 297.** Valorization of lignin and cellulose in acid-steam-exploded corn stover by a moderate alkaline ethanol post-treatment based on an integrated biorefinery concept. S. Yang, T. Yuan, R. Sun

**10:25 CELL 298.** Functional materials from spruce hemicelluloses: Crosslinkable xylans and glucomanans. G. Toriz Gonzalez, A. Escalante, P. Gatenholm, K. Markstedt

**10:50 CELL 299.** Withdrawn.

## LPS: Chemistry, Synthesis & Applications

*Sponsored by CARB, Cosponsored by CELL*

### Carbohydrate-Based Hybrid Materials for Nanomedicine

*Sponsored by CARB, Cosponsored by CELL*

### Biomass & Biofuel Processing

*Sponsored by ENFL, Cosponsored by CELL, MPPG† and WCC*

## TUESDAY AFTERNOON

### Section A

Moscone Center  
252/260

### Design & Control in Polysaccharide Chemistry: Anselme Payen Award Symposium in honor of Kevin J. Edgar

#### Novel Derivatives for Demanding Applications

*Cosponsored by CARB*

*Financially supported by EPNOE, Eastman Chemical Company, VT Fralin Life Science Institute, VT College of Natural Resources and Environment, VT Department of Sustainable Biomaterials, Carbohydrate Polymers (Elsevier)*

P. E. Fardim, O. J. Rojas, *Organizers*

C. M. Buchanan, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 300.** Olefin cross-metathesis: Mild, efficient and modular pathway to a new world of polysaccharide derivatives for drug delivery applications. Y. Dong, L.I. Mosquera-Giraldo, L. Taylor, K.J. Edgar

**1:30 CELL 301.** Overview of TEMPO-mediated oxidation of polysaccharides. A. Isogai

**1:55 CELL 302.** Synthesis, properties, and applications of cellulosic diblock copolymers. H. Kamitakahara

**2:20 CELL 303.** Self-healing materials from cellulose. G. Wenz, D. Hafner

**2:45** Intermission.

**3:00 CELL 304.** Oxidative enzymes – route to functional polysaccharides. M. Tenkanen, A. Ghafar, I. Nikkilä, K. Parikka, K. Mikkonen

**3:25 CELL 305.** Functionalized and sequence-defined polysaccharides by glycosynthase-catalyzed polymerization. A. Planas

**3:50 CELL 306.** Design and control in polysaccharide chemistry. K.J. Edgar

### Section B

Moscone Center  
262

### Processing & Properties of Biobased Composites & Blends

*Financially supported by EPNOE*

P. R. Navard, *Organizer*

J. R. Barone, *Organizer, Presiding*

J. Bras, *Presiding*

**1:05 CELL 307.** Comparison of biobased multiphase systems based on different thermoplastic polysaccharides (starch, chitosan and alginate) obtained by thermomechanical mixing. L. Averous, E. Pollet

**1:30 CELL 308.** Melt processing of functional protein/polymer blends. J.K. Pokorski, P. Lee

**1:55 CELL 309.** Compression molded composites from waste polyester and cotton textiles. H. Xu, M. Palakurthi, L. Xu, Y. Yang

**2:20 CELL 310.** Crucial role of processing regimes and compatibilization for toughening highly lignin filled polyethylene blends. J. Ganster, J. Erdmann

**2:45** Intermission.

**3:00 CELL 311.** Morphological and structural investigation of cellulose I and II nanocrystals. W. Flauzino Neto, J. Putaux, M. Mariano, Y. Ogawa, H. Otaguro, D. Pasquini, A. Dufresne

**3:25 CELL 312.** Thin ply bacterial cellulose-reinforced polylactide nanocomposites. M. Hervy, F. Bock, K. Lee

### Section C

Moscone Center  
270

### Advances in Polysaccharides: Practice & Applications

#### New Developments in the Industrial Sector

*Cosponsored by AGFD, CARB, MPPG†, PMSE and POLY*

A. Biswas, H. Cheng, *Organizers*

H. Cheng, *Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 313.** New family of cellulosic excipients for poorly-soluble actives. R.L. Sammler, T. Chatterjee, W. Porter, K. O'Donnell

**1:30 CELL 314.** New understanding of syneresis in cellulose ether hydrogels. C.E. Mohler, R.L. Sammler, T. Sanders Jr, B. Huebner-Keese, J.D. Moore, T. Boomgaard

**1:55 CELL 315.** Development of extrudable derivatives of Hypromellose Acetate Succinate (HPMC-AS) polymer excipient for use in drug solubilization enhancement. T.A. Brugel, F.J. Kolpak, S.K. Sahoo, Q. Schwing, D. Tewari

**2:20 CELL 316.** Bacterially derived medical devices: How commercialization of cellulose requires redefining standard industrial practice. W. Czaja, D. Inselman, E. Shwarz

**2:45** Intermission.

**3:00 CELL 317.** Development of cellulose-based bioplastic featuring high optical characteristics of traditional Japanese lacquerware: Urushi black bioplastic. K. Toyama, M. Iji, Y. Shimode, H. Hamada

**3:25 CELL 318.** New approaches to measure domain sizes in multi-component cellulosic derivatives using NMR. S. Schantz, J. Schlagnitweit, M. Tang, M. Baias, A.J. Rossini, S. Richardson, L. Emsley

### Section D

Moscone Center  
272

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

*Cosponsored by AGFD, ANYL and POLY*

*Financially supported by HORIBA Instruments Incorporated; University of Tokyo, Japan; Innventia AB; U.S. Forest Service*

U. P. Agarwal, A. Isogai, T. Larsson, *Organizers*

T. J. Elder, *Organizer, Presiding*

W. T. Winter, *Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 319.** Monitoring structural changes during fibrillation of cellulose pulp into cellulose nanofibrils. J. Mao, B. Heck, H. Abushammala, G. Reiter, M.G. Laborie

**1:30 CELL 320.** Use of *in vitro* biosynthetic systems to understand cellulose formation and properties. V. Bulone

**1:55 CELL 321.** Structure-property relationships of nanocellulose fibrils. G. Nyström

**2:20 CELL 322.** Withdrawn.

**2:45** Intermission.

**3:00 CELL 323.** Changes in the supra-molecular structure of cellulose I during TEMPO-oxidation. Bringing together NMR, MD, and XRD results. T. Larsson, J. Wohler, M. Bergenstråhle

**3:25 CELL 324.** Mechanical performance of CNF films revealed by Raman spectroscopy. S.J. Eichhorn, T. Tammelin, N. Wanasekara, A. Lewandowska, V. Kunnari, T. Kalijunen

### Section E

Moscone Center  
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### Functional Lignocellulosics & Nanotechnology

#### Dispersions, Gels, Foams, Colloids & Films

*Cosponsored by CARB and COLL*

*Financially supported by EPNOE*

M. K. Ek, E. Filpponen, S. Peresin, S. Spirk, *Organizers*

T. Nypelo, *Organizer, Presiding*

A. King, *Presiding*

**1:05 CELL 325.** Structural evaluation of cellulose-coated oil-in-water emulsions formed from solution. Y. Cohen, S. Napso, G. Alfassi, H. Miyamoto, D. Rein, R. Khalif

**1:30 CELL 326.** Organisation of cellulose ester monolayers on solid substrates upon Langmuir-Schaefer deposition. E. Niinivaara, B.P. Wilson, A. King, E. Kontturi

**1:55 CELL 327.** Photo-induced thiol-ene functionalization towards superhydrophobic and slippery lubricant-infused nanocellulose films. J. Guo, W. Fang, A. Welle, W. Feng, E. Filpponen, O.J. Rojas, P. Levkin

**2:20 CELL 328.** Effect of cellulose nanocrystal chirality on the stereochemistry of surface-tethered polymers. J.O. Zoppe, A.V. Dupire, H.A. Klok

**2:45** Intermission.

**3:00 CELL 329.** Tailoring the surface wettability of cellulose paper/nanopaper via photo-induced click reactions. J. Guo, L. Johansson, E. Filpponen, P. Levkin, O.J. Rojas

**3:25 CELL 330.** Nanocellulose as rheology modifier of drilling fluids – Thermostability of nanocellulose dispersions. K. Syverud, E. Heggset, G. Chinga-Carrasco

### Section F

Moscone Center  
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#### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

*Cosponsored by AGFD*

M. L. Auad, J. Campos-Teran, *Organizers*

O. J. Rojas, *Organizer, Presiding*

C. G. Hunt, *Presiding*

**1:00** Introductory Remarks.

**1:05 CELL 331.** Potential use of pulp and paper industry side streams in composites. L. Wikström, J. Keränen

**1:30 CELL 332.** Experimental test of limited oxidant diffusion mechanism of decay resistance in acetylated wood. C.G. Hunt, S. Lacher, K. Hirth, L. Lorenz, E. Englund Thybring, S.L. Zelinka

**1:55 CELL 333.** Biocatalytic films based on lignin, cationic polymers and immobilized lipase layers. M.H. Sipponen, T. Leskinen, J. Valle-Delgado, M.K. Österberg

**2:20 CELL 334.** Identification of accumulated carbohydrate degradation products during the processing of cellulose using an ionic liquid solvent: Towards solvent recycling. E. Walger, S. Hellsten, J. Witos, S. Wiedmer, M. Hummel, H. Sixta

**2:45** Intermission.

**3:00 CELL 335.** Industrial biorefinery of lignocellulose for production of biomaterials in China. R. Sun

**3:25 CELL 336.** Wood component separation by dilute acid prehydrolysis with *p*-cresol. H. Tomoyuki, H. Nonaka

#### LPS: Chemistry, Synthesis & Applications

*Sponsored by CARB, Cosponsored by CELL*

#### Biomass & Biofuel Processing

*Sponsored by ENFL, Cosponsored by CELL, MPPG‡ and WCC*

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

## WEDNESDAY MORNING

### Section A

Moscone Center  
252/260

#### Bio-based Gels & Porous Materials

##### Biopolymer Hydrogels

*Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

*Financially supported by EPNOE*

T. Budtova, F. Liebner, *Organizers*

N. Abidi, R. Sun, *Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 337.** Insight into mild condition dissolution of high molecular weight cellulose in ionic liquid based solvent system. S. Acharya, Y. Hu, N. Abidi

**8:30 CELL 338.** Soft gelation of cellulose/DMAc/LiCl solution. R. Liu, C. Zhang, J. Xiang, H. Kang, Y. Huang

**8:55 CELL 339.** Cellulose gels and cryogels via physical and chemical cross-linking. D. Ciolacu, C. Rudaz, M. Vasilescu, T. Budtova

**9:20 CELL 340.** New cellulosic sponge and foam made from cellulose fibers through a simple freezing/thawing method. A. Tejado, A. Aramburu, Y. de Miguel

**9:45** Intermission.

**10:00 CELL 341.** Rheological behavior of thermosensitive hydrogel suspensions based on Cellulose Nanocrystals with adsorbed thermo-responsive polymer. E. Gicquel, B. Jean, J. Engström, C. Martin, A.E. Carlmark, J. Bras

**10:25 CELL 342.** Nanocellulose based electrospun membranes for water purification: Tailoring of porosity and functionality. A. Mathew

**10:50 CELL 343.** Robust, dynamic hydrogels with modified cellulose nanocrystals as crosslinkers. K. Zhang

**11:15 CELL 344.** Lignin-based hydrogels with super-swelling capacities. J. Dominguez-Robles, A. Jaaskelainen, A. Rodríguez, T. Tamminen, T. Litiä, E. Larrañeta, M.S. Peresin

### Section B

Moscone Center  
262

#### Processing & Properties of Biobased Composites & Blends

*Financially supported by EPNOE*

J. R. Barone, P. R. Navard, *Organizers, Presiding*

**8:05 CELL 345.** Potential of cellulosic nanocomposites materials from cassava pulp. K. Kasemwong, K. Piyachomkwan

**8:30 CELL 346.** Various shapes of chitosan based nanocomposites and their hemostatic ability. Y. Bao, S. Wu, X. Shi, H. Deng, Y. Du

**8:55 CELL 347.** Degradation kinetics of compression-molded date pits composites. A. Mohamed, S. Hussain, M. Alamri

**9:20 CELL 348.** Fiber, a wonderfull from plantain crop residues. Alternative for human sustainable development. O.E. Suarez Moreno, M. Correa Velez

**9:45** Intermission.

**10:00 CELL 349.** Cotton-based cellulose nanomaterials for applications in composites and electronics. N. Farahbakhsh, R.A. Venditti, J. Jur

**10:25 CELL 350.** Interfacial thickness for tailoring the reinforcing properties of nanocellulose in polymer matrix. H. Soeta, T. Saito, A. Isogai

**10:50 CELL 351.** Transparent, macro to nano moldable composites reinforced by cellulose nanofibers. S.K. Biswas, H. Yano

**11:15 CELL 352.** Functional cellulose nanocrystal reinforcing fillers in polymer nanocomposite films. J.A. Sirvió, M. Visanko, J.P. Heiskanen, H. Liimatainen

### Section C

Moscone Center  
270

#### Advances in Polysaccharides: Practice & Applications

##### Novel Biocatalytic & Biopolymeric Approaches

*Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY*

A. Biswas, H. Cheng, *Organizers*

G. W. Selling, *Presiding*

**8:05 CELL 353.** Chemo-enzymatic synthesis and functional properties of well-defined human milk oligosaccharides. G. Boons

**8:30 CELL 354.** Chemo-enzymatic synthesis of homogeneous hyaluronan polysaccharides and their biological applications. J. Fang, P.G. Wang

**8:55 CELL 355.** Chemoenzymatic synthesis of carbohydrates and glycoconjugates. X. Chen

**9:20 CELL 356.** Structure and property of new dextrans obtained by enzymatic synthesis. P. Faucard, F. Grimaud, A. Roland-Sabaté, M. Remaud-Siméon, G. Potocki-Véronèse, D. Lourdin

**9:45** Intermission.

**10:00 CELL 357.** Enzymatic production of oligosaccharides and polysaccharides for food ingredient applications. R. DiCosimo

**10:25 CELL 358.** Synthesis of well-defined unnatural polysaccharides by phosphorylase-catalyzed enzymatic polymerization. J. Kadokawa

**10:50 CELL 359.** Combined enzymatic-ionic liquid treatments to increase the accessibility and reactivity of pulp fibers. R. Wahlström, J. Rahikainen, K. Kruus, A. Suurnäkki

**11:15 CELL 360.** Dendrimer-like biopolymers: A new arena for biomaterial development. Y. Yao

### Section D

Moscone Center  
272

#### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

*Cosponsored by AGFD, ANYL and POLY*

*Financially supported by HORIBA Instruments Incorporated; University of Tokyo, Japan; U.S. Forest Service*

T. J. Elder, A. Isogai, T. Larsson, *Organizers*

U. P. Agarwal, *Organizer, Presiding*

O. J. Rojas, *Presiding*

**8:00** Introductory Remarks.

**8:05 CELL 361.** Cellulose crystallinity: What does it mean? M.F. Crowley, M. Himmel, L. Bu, Y. Zhang, L. Makowski

**8:30 CELL 362.** Visualization of dynamic changing in formation of cell wall cellulose and callose along with arrangements of microtubules with GFP on surfaces of protoplast cells. T. Kondo, S. Tagawa

**8:55 CELL 363.** Explicit modeling and underdetermined (scattering) data to approach a complex reality. Y. Nishiyama

**9:20 CELL 364.** Folding of xylan onto cellulose fibrils in plant cell walls revealed by solid-state NMR. T.J. Simmons, J. Mortimer, O.D. Bernardinelli, A. Poppler, S.P. Brown, E. Azevedo, R. Dupree, P. Dupree

**9:45** Intermission.

**10:00 CELL 365.** Cellulose II formation by cellulose synthase: Negative data can make themselves positive? T. Imai, J. Sugiyama

**10:25 CELL 366.** Towards an improved understanding of cellulose swelling, dissolution and regeneration at the molecular level. T. Rosenau, A. Potthast

**10:50 CELL 367.** Evolution of our understanding of native celluloses. R.H. Atalla

### Section E

Moscone Center  
274

#### Functional Lignocelluloses & Nanotechnology

##### Dispersions, Gels, Foams, Colloids & Films

*Cosponsored by CARB and COLL*

*Financially supported by EPNOE*

M. K. Ek, E. Filpponen, T. Nypelo, S. Spirk, *Organizers*

S. Peresin, *Organize, Presiding*

T. J. Elder, *Presiding*

**8:05 CELL 368.** Hydrolysis assisted by hydrogen chloride vapor on different cellulose polymorphs. E. Kontturi, E. Niinivaara, S.A. Arshath, A. Bismarck

**8:30 CELL 369.** Crosslinking as a facilitator for novel (nano)cellulose-based applications. P.A. Larsson, J. Erlandsson, V. Lopez Duran, J. Henschen, N. Tchangan Cervin, Z. Al-Ansari, A.J. Svagan, L. Wagberg

**8:55 CELL 370.** Withdrawn.

**9:20 CELL 371.** Oriented all-cellulose film based on ramie fiber with high mechanical property and transparency. X. Yang, L. Berglund

**9:45** Intermission.

**10:00 CELL 372.** Sample geometry dependency on the measured tensile properties of cellulose nanopapers. M. Hervy, A. Santmarti, P. Lahtinen, T. Tammelin, K. Lee

**10:25 CELL 373.** Enzymatic and chemical modification of nanosized colloidal lignin particles. J. Valle-Delgado, T. Leskinen, A. Paananen, M.K. Österberg, M. Mattinen

**10:50 CELL 374.** Partial dissolution as a reinforcing chemistry for CNF films. H. Orelma, A. Korpela, V. Kunnari, A. Harlin, T. Tammelin, A. Suurnäkki

**11:15 CELL 375.** Water-resistant nanocellulose films with inter-fibrillar interactions via multivalent metal ions. M. Shimizu, T. Saito, A. Isogai

‡Cooperative Cosponsorship

## Section F

Moscone Center  
276

### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

Cosponsored by AGFD

J. Campos-Teran, O. J. Rojas, *Organizers*

M. L. Auad, *Organizer, Presiding*

J. Lopez-Sanchez, *Presiding*

**8:00** Introductory Remarks.

**8:05** CELL **376**. Wood-derived hemi-celluloses as green binders in wood adhesives. L. Fogelström, E. Norström, J. Holmqvist, S. Pendergraph, J. Brucher, E.E. Malmstrom

**8:30** CELL **377**. Novel thermoset polymeric networks from fast pyrolysis bio-oil. M.L. Auad, M. Barde, B. Sibaja

**8:55** CELL **378**. Development of clay-like extrudable wood fiber material. K. Kawamura, K. Takayanagi, H. Nonaka

**9:20** CELL **379**. Synthesis and characterization of bio-oil-based self-curing epoxy resin. Y. Celikbag, S. Meadows, M. Barde, S. Adhikari, G. Buschle-Diller, M. Auad, B. Via

**9:45** Intermission.

**10:00** CELL **380**. Valorization of starchy, cellulosic, and sugary food waste into value-added chemicals. I. Yu, D. Tsang

**10:25** CELL **381**. Microcellular foaming of arabinoxylan with  $\text{scCO}_2$ . L. Hardelein, A. Ström, A. Larsson

**10:50** CELL **382**. Transforming biomass to chemicals and fuels with light and catalysis. J. Lopez-Sanchez

**11:15** CELL **383**. Agricultural and industrial residues: Cellulose fiber and its nanocrystals. D. Rosa, J. Nunes de Macedo, A. Souza

### Carbohydrate-Based Nanomaterials & Drug-Delivery Vehicles

Sponsored by CARB, Cosponsored by CELL

### Biomass & Biofuel Processing

Sponsored by ENFL, Cosponsored by CELL, MPPG‡ and WCC

## WEDNESDAY AFTERNOON

## Section A

Moscone Center  
252/260

### Bio-based Gels & Porous Materials

#### Biopolymer Organogels

Cosponsored by AGFD, CARB, COLL, PMSE and POLY

Financially supported by EPNOE

T. Budtova, *Organizer*

F. Liebner, *Organizer, Presiding*

H. Mansur, *Presiding*

**1:05** CELL **384**. Withdrawn.

**1:30** CELL **385**. Multifunctional hydrogel dressing material for treatment of chronic wound. I.S. Stefanov, S. Pérez-Rafael, T. Tzanov

**1:55** CELL **386**. Hierarchically porous nanocellulose materials for cartilage applications. N. Naseri, A. Mathew

**2:20** CELL **387**. Cellulose-based hydrogels with encapsulative cyclooligosaccharides to enhance the efficient release of hardy soluble drugs. D. Jeong, S. Joo, S. Jung

**2:45** Intermission.

**3:00** CELL **388**. Biomass-derived highly stretchable and elastic hydrogels with effective antimicrobial activity. Y. Si, Z. Zheng, G. Sun

**3:25** CELL **389**. Preparation of cellulose and chitin-CdTe quantum dots films and antibacterial effect on *Staphylococcus aureus* and *Pseudomonas aeruginosa*. P. Wansapura, N. Abidli, R. Dassanayake, A. Hamood, P. Tran

**3:50** CELL **390**. Cellulose aerogels via self-assembling and electrospinning. F. Jiang, Y. Hsieh

**4:15** CELL **391**. Nanocellulose composite hydrogels – Tailoring of mechanical properties of tissue scaffolds. E. Heggset, K. Syverud

## Section B

Moscone Center  
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### Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry

#### Advanced Materials & Structures

Cosponsored by MPPG‡ and POLY

L. A. Lucia, *Organizer*

A. Ayoub, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05** CELL **392**. Reactive extrusion of zein with glyoxal and polyethylene maleic anhydride. G.W. Selling, K. Utt

**1:30** CELL **393**. Melt-processing of cellulose pulp and polycaprolactone composites: Wet feeding approach to improve the filler dispersion. G. L. Re, S. Spinella, F. Vilaseca, L. Berglund

**1:55** CELL **394**. Reactive extrusion compatibilization of cellulose acetate/water soluble polymer blends. R. Quintana Vicente, O. Persenarie, Y. Lemmouchi, L. Bonnaud, P. Dubois

**2:20** CELL **395**. Reactive compatibilizers in the creation of wood fiber plastic composites. J. Pawlak, Y. Wang

**2:45** Intermission.

**3:00** CELL **396**. Liquid assisted extrusion process of cellulose nanocomposites. K.A. Oksman, N. Herrera, A. Singh

**3:25** CELL **397**. New insights in melt processing of cellulose nanomaterial based nanocomposites. A. Dufresne

**3:50** CELL **398**. Extrusion technology for nanocomposite containing renewable lignocellulosic materials. R.A. Venditti

**4:15** CELL **399**. Processing of (nano) biocomposite foams by continuous supercritical  $\text{CO}_2$  assisted extrusion. N. Le Moigne, M. Sauceau, M. Chauvet, M. Benyakhlef, E. Rodier, J. Fages

**4:40** Concluding Remarks.

## Section C

Moscone Center  
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### Advances in Polysaccharides: Practice & Applications

### Novel Materials & Methodologies

Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY

A. Biswas, H. Cheng, *Organizers*

W. J. Orts, *Presiding*

**1:05** CELL **400**. Polysaccharide-surfactant association – basics and applications. B. Lindman, T. Nylander, M. Miguel, F. Antunes, F. Cuomo

**1:30** CELL **401**. Creating cost-effective agriculturally-derived nanocomposites for commodity applications. W.J. Orts, G.H. Tonoli, G.M. Glenn, K.M. Holtman, L.F. Torres, D.F. Wood

**1:55** CELL **402**. Functional cel-lulosic arabinoxylan fiber from agricultural biomass. M.P. Yadav, R. Moreau, K.B. Hicks, M. Kale

**2:20** CELL **403**. Strategies toward cellulose nanofibers, porous fibers and hybrids. Y. Hsieh

**2:45** Intermission.

**3:00** CELL **404**. UV-absorbing materials based on natural molecular sunscreens and chitosan. S.C. Fernandes, V. Bulone

**3:25** CELL **405**. Higher value films prepared from poly(vinyl alcohol) and amylose-fatty acid derivatives inclusion complexes. G.W. Selling, G. Fanta, F.C. Felker, W.T. Hay

**3:50** CELL **406**. Bio-based sources for *p*-xy-lene. P.B. Smith, D.R. Henton, A. Dumitrascu, D.A. Hucul, M. Masuno, R. Smith, J. Bissell

**4:15** CELL **407**. Chemical platform for the production of Bio-PET. R. Smith

## Section D

Moscone Center  
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### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

Cosponsored by AGFD, ANYL and POLY

Financially supported by HORIBA Instruments Incorporated; University of Tokyo, Japan; Innventia AB; U.S. Forest Service

U. P. Agarwal, T. J. Elder, A. Isogai, T. Larsson, *Organizers*

M. G. Laborie, N. Robitaille Brown, *Presiding*

**1:00** Introductory Remarks.

**1:05** CELL **408**. Single-sourced nanocelluloses: Process-linked characteristics and behaviors. Y. Hsieh

**1:30** CELL **409**. Interactions between cellulose and random and block copolymers: Antifouling and friction. M. Vuoriluoto, H. Orelma, L. Johansson, O.J. Rojas

**1:55** CELL **410**. Conformational energy distribution for crystals of cellobiose and analogs. A.D. French

**2:20** CELL **411**. Three-dimensional alignment of lamella single crystals of cellulose II using magnetic field. M. Wada, S. Wakiya, K. Kobayashi, S. Kimura, M. Kitaoka, R. Kusumi, F. Kimura, T. Kimura

**2:45** Intermission.

**3:00** CELL **412**. New model for untangling cellulose ultrastructure. U.P. Agarwal

**3:25** CELL **413**. Dynamic FTIR as a tool to assess the interaction of lignin in wood pulps. L. Salmén

**3:50** CELL **414**. Modeling the meso-scale architecture of lignocellulose to elucidate its impact on transport phenomena and biomass conversion processes. P.N. Ciesielski, M.F. Crowley, B.S. Donohoe, M. Himmel

**4:15** CELL **415**. Chemical microscopy of polysaccharide surfaces using TOF-SIMS. P.E. Fardim

## Section E

Moscone Center  
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### Functional Lignocellulosics & Nanotechnology

#### Responsive Materials & Biosensors

Cosponsored by CARB and COLL

Financially supported by EPNOE

M. K. Ek, T. Nypelo, M. S. Peresin, *Organizers*

E. Filpponen, S. Spirk, *Organizers, Presiding*

**1:05** CELL **416**. Investigation of the thermodynamics of the interaction of (modified) cellulose nanocrystals with natural polymers. W. Thielemans

**1:30** CELL **417**. Cellulose-inorganic hybrid structures as promising thermoelectric materials. T. Tammelin, M. Gestranus, M. Putkonen, B.P. Wilson, M. Karppinen, E. Kontturi

**1:55** CELL **418**. Nanocellulose mediated layer-by-layer chip modification for cellular *in-vitro* diagnostics. T. Pettersson, H. Ramachandraiah, A. Russom

**2:20** CELL **419**. Multi-layered polysaccharide based nanofilms for the treatment of chronic venous ulceration. J. Stana, J. Stergar, L. Gradišnik, R. Kargl, V. Flis, T. Mohan, K. Stana Kleinschek, U. Maver

**2:45** Intermission.

**3:00** CELL **420**. Graft modification of cellulose nanocrystals with carbon dioxide responsive polymers via living radical polymerization. O. Garcia-Valdez, J. Arredondo, P.G. Jessop, P. Champagne, J. Bouchard, M.F. Cunningham

**3:25** CELL **421**. Quantitative modeling of water transport in ultrathin cellulose nanofibril films. M. Hakalahti, E. Kontturi, T. Tammelin

**3:50** CELL **422**. Impact of water vapor adsorption on physically treated cellulose thin films. D. Reishofer, R. Resel, G. Drexler, W. Fischer, T. Tammelin, E. Kontturi, S. Spirk

**4:15** CELL **423**. Elaboration of cellulose nanocrystals CNC/Ge-imogolites multilayered thin films. C. Mauroy, C. Levard, C. Moreau, B. Cathala, J. Rose

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## Section F

Moscone Center  
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### Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems

*Cosponsored by AGFD*

M. L. Auad, O. J. Rojas, *Organizers*

J. Campos-Teran, *Organizer, Presiding*

G. Toriz Gonzalez, *Presiding*

1:00 Introductory Remarks.

1:05 **CELL 424.** Alkylation of unsaturated fatty compounds.

1:30 **CELL 425.** Valorization of industrial biomass ash in structural materials. H. Uvegi, P. Chaunsali, R. Osmundsen, J. Ochsendorf, E. Olivetti

1:55 **CELL 426.** Adsorption and viscoelastic studies of gold Nanoparticles (NPau) and Bovine Serum Albumin (BSA) complexes at chitosan-alginate-cellulose films. D. Gómez-Maldonado, R. López-Simeon, A. Topete, J. Campos-Teran

2:20 **CELL 427.** Sustainable hybrid bio-composites for automotive applications. A. Rodríguez Uribe, S. Vivekanandhan, M. Misra, A. Mohanty

2:45 Intermission.

3:00 **CELL 428.** Reactive film-forming maleimido dextrans for cysteine-containing surfaces adsorbing BSA. T. Elschner, F. Obst, T.J. Heinze, R. Kargl, K. Stana Kleinschek

3:25 **CELL 429.** Morphological and thermo-chemical changes upon autohydrolysis and microemulsion treatments of coir and EFB residual biomass to isolate lignin-rich Micro and Nano Fibrillar Cellulose (MNFC). A. Tripathi, A. Ferrer, S.A. Khan, O.J. Rojas

3:50 **CELL 430.** Effect of cellulose nanofibril morphology on the strength and stiffness of macroscopic filaments. N. Mittal, T. Kaldeus, F. Lundell, D. Soderberg

4:15 **CELL 431.** Role of lignin on functional and physicochemical properties of enzymatic modified soy protein film. E. Zadeh, Y. Kim

## Section G

Moscone Center  
130

### Frontiers in Glycoanalytics

#### MS & NMR Methods

*Cosponsored by ANYL, CARB† and MPPG‡*

*Financially supported by Agilent Technologies; Bruker BioSpin Corporation; Postnova Analytics, Incorporated; Rigaku Corporation; Waters Corporation; Wyatt Technology Corporation*

G. Boons, M. Roman, *Organizers, Presiding*

1:10 Introductory Remarks.

1:15 **CELL 432.** MS techniques in structure analysis of complex glycans. F. Viaplana, A. Martínez-Abad, A. Ruthes

1:55 **CELL 433.** Advancing glycopeptide characterization using high sensitivity HILIC-MS methods. W. Alley, Y. Yu, M. Lauber

2:20 **CELL 434.** Infrared spectroscopy integrated to mass spectrometry: An innovative platform for *de novo* carbohydrate sequencing. I. Compagnon

2:45 Intermission.

3:00 **CELL 435.** Examining glycan structure and dynamics with NMR: A tutorial. J.H. Prestegard

3:40 **CELL 436.** Asparagine-linked glycosylation of immunoglobulin G and the Fc gamma receptors impacts immune system activation. A.W. Barb

4:05 **CELL 437.** NMR Analysis of substituent distribution in polysaccharide derivatives. S. Liu, K.J. Edgar

4:30 **CELL 438.** Solid-state NMR methods to determine glycan structure, intermolecular interactions and protein binding in plant cell walls. T. Wang, P. Phyto, Y. Chen, D. Cosgrove, M. Hong

### Carbohydrate-Based Nanomaterials & Drug-Delivery Vehicles

*Sponsored by CARB, Cosponsored by CELL*

#### Biomass & Biofuel Processing

*Sponsored by ENFL, Cosponsored by CELL, MPPG‡ and WCC*

## THURSDAY MORNING

## Section A

Moscone Center  
252/260

### Bio-based Gels & Porous Materials

#### Aero-, Cryo- & Xerogels

*Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

*Financially supported by EPNOE*

F. Liebner, *Organizer*

T. Budtova, *Organizer, Presiding*

C. Freire, *Presiding*

8:05 **CELL 439.** Cellulose nanofiber - towards tailored release of small molecules. A. Svagan, L. Wagberg, J. Wohler, A. Mullertz, D. Bar shalom, K. Löbmann

8:30 **CELL 440.** Nanocellulose aerogels with thermal superinsulating properties obtained by spray freeze-drying. C. Jiménez-Saelices, B. Saentier, B. Cathala, Y. Grohens

8:55 **CELL 441.** Anisotropic cellulose ester aerogels with tunable mechanical properties via controlled solvent exchange. A. Tripathi, S.A. Khan, O.J. Rojas

9:20 **CELL 442.** 2,3-Dicarboxyl nano cellulose: A novel source material for transparent, birefringent and thermally superinsulating aerogels. S. Plappert, J. Nedelec, F. Liebner

9:45 Intermission.

10:00 **CELL 443.** Functional aerogels based on nanocellulose and platinum nanoparticles/graphene oxide for catalytic applications. R. Pinto, A.A. Silvestre, M. Simões, P. Marques, C. Freire

10:25 **CELL 444.** Fabrication of functionalized aerogels from cellulose and whole biomass for absorbing formaldehyde from indoor air. Y. Liao, X. Pan

10:50 **CELL 445.** Superhydrophobic nanocellulose-silica composite aerogels for efficient water-in-oil emulsions separation. S. Zhou, F. Xu

11:15 **CELL 446.** Cellulose Aerogel Reinforced Polymers (CARPs). M. Schestakow, L. Ratke

## Section B

Moscone Center  
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### Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry

#### Commercial & Versatile Technology

*Cosponsored by MPPG‡ and POLY*

L. A. Lucia, *Organizer*

A. Ayoub, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 **CELL 447.** Twin-screw extrusion: A versatile tool for the pre-treatment of biomass. A. Rouilly, V. VanDenBossche, P. Evon, M. Rigal

8:30 **CELL 448.** Using reactive extrusion to manufacture greener products - from laboratory fundamentals to commercial scale. R. Narayan

9:20 **CELL 449.** Extrusion of protein plastics. M.S. Hedenqvist, E. Johansson, W. Newson, M. Gällstedt, R. Kuktaite, H. Ullsten, H. Türe

9:45 Intermission.

10:00 **CELL 450.** Silicone-based cellulose materials: Processes & characterizations. E. Fleury, C. Barres, A. Rachini, X. Zhou, J. Bernard, S. Deng, A. Charlot

10:25 **CELL 451.** Withdrawn.

10:50 **CELL 452.** Thermomechanical extrusion pretreatment for production of ethanol and arabinoxylan from corn fiber. G. Ryu

11:15 **CELL 453.** Optimizing high shear and other process parameters for reactive mixing and nanocomposite dispersion. A. Farahanchi, B. Calderon, J. Gug, M.J. Sobkowicz

11:40 Concluding Remarks.

## Section C

Moscone Center  
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### Advances in Polysaccharides: Practice & Applications

#### New Functional Materials

*Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY*

H. Cheng, *Organizer*

A. Biswas, *Organizer, Presiding*

8:05 **CELL 454.** Design of new functional polysaccharide nanoparticles for biomedical imaging applications. M. Bozic, M. Bracic, R. Kargl, U. Jartič, D. Tkaucic, T. Elschner, S. Hribernik, T. Mohan, K. Stana Kleinschek

8:30 **CELL 455.** Chitin-Glucan nanopapers from fungi in membrane and water treatment operations. A. Mautner, N. Yousefi, W. Wan Nawawi, A. Bismarck

8:55 **CELL 456.** Cellulose functional materials with multiple stimuli responsive and their applications in sensors. H. Kang, P. Li, R. Liu, Y. Huang

9:20 **CELL 457.** Adsorption of IgG antibodies on cellulose thin film surface. V. Raghawanshi, Z. Huang, G. Garnier

9:45 Intermission.

10:00 **CELL 458.** Development of cellulose helicoidal architectures in nature. S. Vignolini

10:25 **CELL 459.** Free-standing multilayered membranes from renewable polymers, towards tissue engineering applications. M.P. Sousa, F. Cleymand, J.F. Mano

10:50 **CELL 460.** Structural features of polycarboxylic acids as cross-linking agents of cellulose. G. Sun, C. Zhao, H. Qi, B. Ji, K. Yan

11:15 **CELL 461.** PEGylation of chitosan via nitroxide chemistry in aqueous media. O. Garcia-Valdez, A. Darabi, M.F. Cunningham, P. Champagne

## Section D

Moscone Center  
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### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

*Cosponsored by AGFD, ANYL and POLY*

*Financially supported by HORIBA Instruments Incorporated; University of Tokyo, Japan; Innventia AB; U.S. Forest Service*

U. P. Agarwal, T. J. Elder, A. Isogai, *Organizers*

T. Larsson, *Organizer, Presiding*

Y. Hsieh, *Presiding*

8:00 Introductory Remarks.

8:05 **CELL 462.** New development of wood chemistry promoted by TOF-SIMS. D. Aoki, Y. Matsushita, K. Kuroda, K. Fukushima

8:30 **CELL 463.** Following in-situ hydrophobisation of plant cell walls by Raman imaging. N. Gierlinger, B. Prats-Mateu, M. Felhofer, P. Bock

8:55 **CELL 464.** On the mechanisms of cellulose dissolution in aqueous media. B. Lindman, B. Medronho, L. Alves, M. Norgren, H. Edlund

9:20 **CELL 465.** Construction of cellulose based nanofibrous materials via green route. L. Zhang

9:45 Intermission.

10:00 **CELL 466.** Polymerization of cellulose and lignin on a chip: Morphological studies. N. Robitaille Brown, S. Basu, O. Omadijela, C. Anderson, Y. Zhu, J.M. Catchmark, J. Zimmer

10:25 **CELL 467.** Crystal deformation and transformation of cellulose allomorphs derived from stability of molecular chain sheets. T. Uto, T. Yui

10:50 **CELL 468.** Imaging mass spectrometry analysis of woody cell wall using <sup>13</sup>C<sub>2</sub> pulse labeling. M. Takeuchi, M. Norisada, A. Isogai

11:15 **CELL 469.** Withdrawn.

## Section E

Moscone Center  
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### Functional Lignocellulosics & Nanotechnology

‡ Cooperative Cosponsorship

**Responsive Materials & Biosensors**

Cospponsored by CARB and COLL

Financially supported by EPNOE

M. K. Ek, T. Nypelo, M. S. Peresin, *Organizers*  
E. Filpponen, S. Spirk, *Organizers, Presiding***8:05 CELL 470.** First steps towards bio-based static true volumetric 3D displays: Transparent cellulose scaffolds equipped with photon upconverting rare earth metal doped nanophosphors (uc-NP). S. Quraishi, S. Plappert, T. Rosenau, F. Liebner**8:30 CELL 471.** Phase separated bicomponent biopolymer thin films - enzymatic patterning and protein interaction. K. Niegelhell, M. Süßenbacher, K. Jammerneegg, T. Ganner, D. Schwendenwein, H. Schwab, F. Stelzer, H. Plank, S. Spirk**8:55 CELL 472.** Dye functionalized polysaccharide nanoparticles - From synthesis to bio-sensor applications in immunoassays. P. Schulze, M. Gericke, F. Scholz, P. Miethe, T.J. Heinze**9:20 CELL 473.** Cellulose-based microcapsules: Bio-compatible vessels for packing, delivery and attachment of active species. S. Hribernik, T. Kos, M. Kurecic, K. Stana Kleinschek**9:45** Intermission.**10:00 CELL 474.** Withdrawn.**10:25 CELL 475.** Cellulose as a template for generation, wireless transport and storage of electrical energy with conducting polymers. S. Malti**10:50 CELL 476.** Bacterial nanocellulose-based composites as ion exchange membranes for fuel cells. C. Vilela, A.A. Silvestre, F.M. Figueiredo, C.S. Freire**11:15 CELL 477.** Hydrogen bonding and polymer adsorption: A look at polyethylene glycol with cellulose and silica colloids. M.S. Reid, H.S. Marway, M. Villalobos, E.D. Cranston**Section F**

Moscone Center

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**Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems**

Cospponsored by AGFD

J. Campos-Teran, O. J. Rojas, *Organizers*M. L. Auad, *Organizer, Presiding*R. L. Quirino, *Presiding***8:00** Introductory Remarks.**8:05 CELL 478.** Activated polysaccharide nanoparticles derived from xylan phenyl carbonates - From synthesis to applications. M. Gericke, L. Gabriel, K. Geitel, P. Trivedi, P.E. Fardim, T.J. Heinze**8:30 CELL 479.** Emulsion polymerization of tung oil-based latexes with asolectin as a biorenewable surfactant. A. Johns, K. Edwards, S. Inglesby, R.L. Quirino**8:55 CELL 480.** Bioactive nano-coatings from hyaluronic acid and a lysine-derived surfactant. M. Bracic, L. Fras-Zemlji, K. Kogej, R. Kargl, K. Stana Kleinschek, T. Mohan**9:20 CELL 481.** Biomaterials based on polysaccharide conjugates. R. Kargl, A. Dobaj Štiglic, T. Mohan, U. Maver, L. Gradišnik, T. Eischner, K. Stana Kleinschek**9:45** Intermission.**10:00 CELL 482.** Green approaches to preparation of amphiphilic soy protein microfibrils and films. X. Liu, Y. Hsieh**10:25 CELL 483.** Improvement of BC production by a new reclassified acid-resistant strain using food supply chain waste in a two-stage fermentation. C.A. Molina, C. Castro Herazo, R. Zuluaga Gallego, P. Gañán**10:50 CELL 484.** Withdrawn.**Section G**

Moscone Center

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**Frontiers in Glycoanalytics****Molar Mass & Crystallinity Analyses**

Cospponsored by ANYL, CARB and MPPG

Financially supported by Agilent Technologies; Bruker BioSpin Corporation; Postnova Analytics, Incorporated; Rigaku Corporation; Waters Corporation; Wyatt Technology Corporation

G. Boons, *Organizer*M. Roman, *Organizer, Presiding***8:10** Introductory Remarks.**8:15 CELL 485.** Separation and characterization of polysaccharides by multi-detection size-exclusion chromatography and field-flow fractionation techniques. L. Pitkanen, A.M. Striegel**8:55 CELL 486.** Determination of thickness, aspect ratio and size distribution of cellulose nanocrystals using asymmetric flow FFF and MALS. S. Tadjiki, R. Reed, M. Roman**9:20 CELL 487.** Benefits of MALS, FFF and Viscometry in the characterization of polysaccharide molar mass, size, conformation and branching ratios. J.A. Ahlgren**9:45** Intermission.**10:00 CELL 488.** Quantitating cellulose crystallinity: Approaches, problems, and perspectives. W.T. Winter**10:40 CELL 489.** Simplified studies of cellulose crystallinity with a Rietveld program. A.D. French**11:05 CELL 490.** Vibrational spectroscopy study of crystalline cellulose - peak assignment, crystallinity, and non-linear optical responses. S.H. Kim**11:30 CELL 491.** Raman spectroscopy in the analysis of cellulose: Addressing the issues of crystallinity, polymorphy, and ultra-structure. U.P. Agarwal**THURSDAY AFTERNOON****Section A**

Moscone Center

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**Bio-based Gels & Porous Materials****Open-Porous Carbon Materials**

Cospponsored by AGFD, CARB, COLL, PMSE and POLY

Financially supported by EPNOE

T. Budtova, F. Liebner, *Organizers*B. Cathala, *Presiding***1:05 CELL 492.** Nanocellulose aerogel beads: Structurable and printable energy storage. J. Erlandsson, H. Granberg, M. Sandberg, L. Wagberg**1:30 CELL 493.** 3D interdigitated energy storage devices built inside aerogels using layer by layer assembly. Z. Wang, M. Hamed, L. Wagberg**1:55 CELL 494.** Processing and properties of elastomer covalently bound to nanocellulose aerogel. M. Fumagalli, S. Boisseau, L. Heux**2:20 CELL 495.** Functional polysaccharide hydrogels through chemical derivatization of agarose. M. Gericke, M. Witzler, M. Schulze, T.J. Heinze**2:45** Intermission.**3:00 CELL 496.** Withdrawn.**3:25 CELL 497.** Biologically modified lignin for water purification. I. Brzonova, C.J. Buelke, E.I. Kozliak, Y. Ji**3:50 CELL 498.** Preparation of carbon aerogels from TEMPO-oxidized cellulose nanofibers for organic solvents absorption. M. Wang**4:15 CELL 499.** Value-Added biomaterials from lignocellulose based on biorefinery scenario. R. Sun**4:40** Concluding Remarks.**Section B**

Moscone Center

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**Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry****Energy, Food & Packaging Development**

Cospponsored by MPPG and POLY

L. A. Lucia, *Organizer*A. Ayoub, *Organizer, Presiding***1:00** Introductory Remarks.**1:05 CELL 500.** Melt extrusion of lignin carbon-fiber precursors: The path forward for low-cost fibers or unrealizable dream? D.P. Harper, O. Hosseinaei**1:30 CELL 501.** Melt extrusion of acrylonitrile based quad-polymer precursor for green carbon fiber technology. S. Mahmood, B.L. Batchelor, M. Jung, H. Song, D. Yang**1:55 CELL 502.** Rheology and modeling of complex food systems in reactive extrusion. M. Emin, H. Schuchmann**2:20 CELL 503.** Polymerization of sugars by reactive twin-screw extrusion to produce soluble fibers for food and feed. T.C. Schoenfuss, A. Kuechel, C. Tyl**2:45** Intermission.**3:00 CELL 504.** Advanced thermal analysis modelling for the characterization of active poly(lactic acid)/natural fibre food-packaging composite materials. S.W. Bigger, M.J. Cran, I.S. Tawakkal**3:25 CELL 505.** Utilization of coffee wastes in biobased composite materials for food packaging uses. T. Wang, N. Zarrinbakhsh, R. Muthuraj, A. Rodriguez-Urbe, S. Vivekanandhan, M. Misra, A. Mohanty**3:50 CELL 506.** Withdrawn.**4:15 CELL 507.** Preparation of water soluble oligosaccharides from sugar reversion reactions in acidic lithium bromide trihydrate. N. Li, X. Pan**4:40** Concluding Remarks.**Section C**

Moscone Center

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**Advances in Polysaccharides: Practice & Applications****Preparation, Characterization & Applications**

Cospponsored by AGFD, CARB, MPPG, PMSE and POLY

A. Biswas, H. Cheng, *Organizers*H. Cheng, R. Furtado, *Presiding***1:05 CELL 508.** Gradient separations and two-dimensional separations of cellulose derivatives. W. Radke**1:30 CELL 509.** New insight into the gelation of Na-alginate aqueous solution. R. Liu, C. Zhao, K. Sui, Y. Xia**1:55 CELL 510.** Electrospun polysaccharide based materials as modern wound dressings. M. Kurečić, U. Maver, T. Maver, T. Pivec, T. Rijavec, A. Lapanje, S. Hribernik, K. Stana Kleinschek**2:20 CELL 511.** Hemicelluloses cationization: Comparison of liquid and solid phase preparation processes. D. Da Silva Perez, V. Bigand, C. Pinel, F. Rataboul, M. Petit-Cornil**2:45** Intermission.**3:00 CELL 512.** Use of polysaccharides from cashew gum in encapsulation applications. R. Furtado, L.C. Silva, M.A. Nascimento, L.G. Mendes, T.L. Barroso, G.A. Freire**3:25 CELL 513.** Electrosynthesis and characterization of polypyrrole/cashew gum composite. R. Furtado, J.R. Maciel, M. Oliveira, C.R. Alves**3:50 CELL 514.** Novel polyurethanes from Xylan and TDI: Preparation and characterization. H. Cheng, A. Biswas**4:15** Concluding Remarks.**Section D**

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**Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla**

Cospponsored by AGFD, ANYL and POLY

Financially supported by HORIBA Instruments Incorporated; University of Tokyo, Japan; Inventia AB; U.S. Forest Service

U. P. Agarwal, T. J. Elder, T. Larsson, *Organizers*A. Isogai, *Organizer, Presiding***1:00** Introductory Remarks.**1:05 CELL 515.** In situ Raman Microscopy to monitor changes in cellulose crystallinity during acid pre-treatment. M.T. Timko**1:30 CELL 516.** On the ionization of cellulose in aqueous alkali. D. Bernin, E. Bialik, B. Stenqvist, Y. Fang, Å. Östlund, I. Furo, B. Lindman, M. Lund**1:55 CELL 517.** Structural factors affecting <sup>13</sup>C NMR chemical shifts of C4 and C6 of cellulose - a computational study. H. Yang, T. Wang, D. Oehme, L. Petridis, M. Hong, J.D. Kubicki**2:20 CELL 518.** Effect of dilution-freezing-drying process on Cellulose Nanocrystals (CNCs) for Poly(lactic Acid) (PLA)-CNC composite packaging. N. Stark, R. Sabo, L. Wei, R. Reiner, A. Rudie

2:45 Intermission.

**3:00 CELL 519.** Liquids NMR toolbox for the analysis of modified nanocelluloses. **A. King**, T. Laaksonen, S.A. Kedzior, A.J. Holding, J.K. Helminen, S. Heikkinen, V. Mäkelä, E.D. Cranston, I. Kilpeläinen

**3:25 CELL 520.** In-situ visualization of structural changes to biomass during chemical reactions using neutron scattering. **S. Pingali**, H.M. O'Neill, V. Urban, L. Petridis, B. Evans, J. Smith, P. Langan, B.H. Davison

**3:50 CELL 521.** Recovery of high-purity levoglucosan and other anhydrosugars from pyrolysis oil. **M.R. Rover**, P.H. Hall, J. Stanford, P. Johnston, R.G. Smith, R.C. Brown

**4:15 CELL 522.** Probing the dehydration induced changes in the organization of cellulose microfibrils in primary cell walls using Sum-Frequency-Generation (SFG) vibrational spectroscopy. **S. Huang**, Y. Zheng, S. Kiemle, D. Cosgrove, S.H. Kim

## Section E

Mosccone Center  
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### Functional Lignocellulosics & Nanotechnology

**(nano)Paper: From Fundamentals to Applications/Antimicrobial, Functional Materials**

*Cosponsored by CARB and COLL*

*Financially supported by EPNOE*

M. K. Ek, E. Filpponen, T. Nypelo, M. S. Peresin, *Organizers*

S. Spirk, *Organizer, Presiding*

W. Fischer, *Presiding*

**1:05 CELL 523.** Microfluidic paper - influence of fiber source, sheet properties and fiber surface modification on capillary driven flow. **M.A. Biesalski**, A. Böhm, S. Wendenburg

**1:30 CELL 524.** Combined mechanical and chemical modifications towards super-stretchable paper-based materials. **A. Khakalo**, J. Kouko, I. Filpponen, E. Retulainen, O.J. Rojas

**1:55 CELL 525.** Fiber fines - Properties and influence of cellulosic micro-particles. **W. Fischer**, R. Schmiedt, L.A. Jagiello, M. Mayr, R. Giner Tovar, S. Spirk, R. Eckhart, W. Bauer

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**2:20 CELL 526.** Utilization of polymerized technical lignins in the development of surface sizing formulations for packaging papers. **S. Kopacic**, A. Ortner, G.M. Guebitz, W. Bauer, K. Mahler, K. Hofer, K. Eibinger, T. Kraschitzer

2:45 Intermission.

**3:00 CELL 527.** Layer-by-layer modification of cellulosic materials for green antibacterial materials. **A. Ottenhall**, C. Chen, J. Henschen, J. Illergård, P.A. Larsson, L. Wagberg, **M.K. Ek**

**3:25 CELL 528.** Purification of water using cellulose: A safe way to remove bacteria. **A. Ottenhall**, T. Seppänen, M.K. Ek

**3:50 CELL 529.** Evaluation of Antibacterial functionalizations of CNF/PVAm multi-layer modified cellulose fibre and surface studies on silica model surface. **C. Chen**, J. Illergård, L. Wagberg, M.K. Ek

**4:15 CELL 530.** Film formation and performance of different nanocelluloses obtained from different cellulose sources after different preparation processes. **Y. Zhao**, C. Moser, M.E. Lindström, G. Henriksson, J. Li

## Section F

Mosccone Center  
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**Valorization of Renewable Resources & Residuals into New Materials & Multiphase Systems**

*Cosponsored by AGFD*

M. L. Auad, J. Campos-Teran, *Organizers*

O. J. Rojas, *Organizer, Presiding*

A. Villares, *Presiding*

1:00 Introductory Remarks.

**1:05 CELL 531.** Cellulose nanofibrils in emulsions stabilized by an ionic surfactant and effect of electrolyte in phase transitions. **S. Huan**, S. Yokota, M. Ago, M. Borgheti, T. Kondo, **O.J. Rojas**

**1:30 CELL 532.** *In situ* biomineralization of hydroxyapatite on bacterial nanocellulose and use as bioink for 3D bioprinting scaffolds to engineer bone. **G. Toriz Gonzalez**, P. Gatenholm

**1:55 CELL 533.** Deep Eutectic Solvent (DES) treatment in nanofibrillation of secondary cellulose raw materials. **T.T. Suopajarvi**, J.A. Sirviö, H. Liimatainen

**2:20 CELL 534.** Oil in water Pickering emulsions stabilized by cellulose nanocrystals-xyliglucon complexes. **A. Villares**, Z. Jaafar, C. Moreau, I. Capron, B. Cathala

2:45 Intermission.

**3:00 CELL 535.** Water-based bentonite fluids modified by cellulose nanoparticles for minimizing fluid loss and formation damage. **Q. Wu**

**3:25 CELL 536.** Mechanical isolation of nanocellulose from paper industry waste by ball milling. **D. Rosa**, F. Kano, A. Souza

**3:50 CELL 537.** Chemical isolation and characterization of cellulose nanofibers to produce bionanocomposite films onto chitosan matrix for seafood packaging. **B. Soni**

## CHED

### Division of Chemical Education

T. Miller, I. Levy and C. Muzzi, *Program Chairs*

#### OTHER SYMPOSIA OF INTEREST:

**Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences** (see ENVR, Mon, Wed)

**Processes, Technologies & Sensors for Food-Energy-Water Nexus Research** (see ENVR, Tue)

#### SOCIAL EVENTS:

**High School-College Interface Luncheon (Tickets required)**, 12:00 PM: Sun

**CHED Division Reception**, 5:30 PM: Sun

## SUNDAY MORNING

### Section A

San Francisco Marriott Marquis  
Golden Gate C2

#### High School Program

*Cosponsored by WCC*

S. B. Mitchell, *Organizer*

J. L. Ball, *Organizer, Presiding*

8:00 Registration.

8:30 Introductory Remarks.

**8:35 CHED 1.** Teaching chemistry today with an environmentally responsible view of tomorrow. **B.H. Lipshutz**

9:05 Intermission.

**9:15 CHED 2.** Middle school chemistry. com lesson shows that carbon dioxide can make water acidic. **J. Kessler**

**9:55 CHED 3.** Reconstructing ancient human diet in the prehistoric San Francisco Bay area using stable isotopes: Building data sets and careers through student collaboration. **E.J. Bartelink**

**10:25 CHED 4.** Who asks a more beautiful question. **J. Hubbard**

10:55 Concluding Remarks.

### Section B

San Francisco Marriott Marquis  
Salons 3/4

#### State of the Art: Applying Chemistry Education Research to Practice

D. G. Herrington, *Organizer*

P. L. Daubenmire, *Organizer, Presiding*

**8:30 CHED 5.** Who are the chemistry students we serve these days? **P.L. Daubenmire**, D.G. Herrington

**8:50 CHED 6.** Learning in context: Research evidence and chemistry education practice. **P.G. Mahaffy**

**9:30 CHED 7.** Fostering student learning of chemistry through metacognition: Linking current metacognitive research with practice. **M.T. Dianovsky**

10:10 Intermission.

**10:25 CHED 8.** Applying CER and domain-general research to create an intimate learning environment in large lecture courses. **E.J. Yezierski**

**11:05 CHED 9.** Implementation and evaluation of screencasts and simulations for online learning. **R.D. Sweeder**, **J.R. Vandeplass**, D.G. Herrington

**11:45 CHED 10.** OrgChem101.com: Online learning modules that can be used in blended, flipped, traditional, or other classroom environments. **A.B. Flynn**, R.E. Featherstone, N. Bodé, J. Caron, J. Laroche, M. Bélanger, G. Richard, R. Visser

## Section C

San Francisco Marriott Marquis  
Salon 5

### Citizens First!

*Cosponsored by CEI*

R. D. Sheardy, *Organizer*

C. Maguire, *Organizer, Presiding*

K. Slavens, *Presiding*

8:30 Introductory Remarks.

**8:40 CHED 11.** New Chemistry in Context: The chemistry of portable electronics. **J.S. Kirk**

**9:00 CHED 12.** Citizens first in the laboratory. **J.A. Tripp**, L.C. McKenzie

**9:20 CHED 13.** Connecting chemistry to community with deliberative democracy. **R. Komperda**, L. Griffith, E. Olsen, K. Hosbein, C. Zografos, J. Barbera, E. Shortlidge, G.P. Shusterman

**9:40 CHED 14.** Evaluating the economic viability of a copper mine in the first-year chemistry laboratory using visible spectroscopy. **A.P. Bopegedera**

10:00 Intermission.

**10:15 CHED 15.** Achieving civic engagement by integrating real research into a general education chemistry course. **W.R. Midden**

**10:35 CHED 16.** Flipping the non-science majors chemistry course - No, not that type of flipping: Chemical weapons and a relevant-issues driven chemistry course. **M.A. Bishop**

**10:55 CHED 17.** Learning to cross boundaries. **S. Glazier**, E. Metzger

**11:15 CHED 18.** Soap, detergents, and personal care products. **D.A. Katz**

11:35 Concluding Remarks.

## Section D

San Francisco Marriott Marquis  
Salon 6

### Green Chemistry: Theory & Practice

*Cosponsored by CEI*

*Financially supported by I&EC Green Chemistry; Green Chemistry Institute*

J. E. Wissinger, *Organizer*

E. J. Brush, *Organizer, Presiding*

8:30 Introductory Remarks.

**8:35 CHED 19.** Improved greener synthesis of thiosemicarbazones. **N. Rosenfeld**, J. Bennett

**8:55 CHED 20.** Synthesis of dilantin using green chemistry. **V. Sublett**, D.J. Swartling

**9:15 CHED 21.** Changes in the green and sustainable chemistry undergraduate curriculum at GVSU. **D.G. Kovacs**

9:35 Intermission.



**9:50 CHED 22.** Development of an assessment tool to measure student proficiency in green chemistry concepts and skills. **L. Armstrong,** G. Kerstiens, M.T. Robak, M.C. Douskey, A.M. Baranger

**10:10 CHED 23.** Enhancing the next generation of green scientists. **D. Paull**

**10:30 CHED 24.** Models for integrating toxicology into chemistry courses. **A.S. Cannon, A. McCarthy**

**10:50 CHED 25.** Fundamentals and challenges for a sustainable chemical enterprise. **M. Sabahi, E. Reichmanis**

## Section E

San Francisco Marriott Marquis  
Nob Hill A

### Research in Chemistry Education New & Noteworthy in 2015-2016

**D. P. Cartrette, D. R. Mulford, Organizers**

**G. T. Rushton, M. N. Stains, M. Teichert, J. Walker, Presiding**

**8:30** Introductory Remarks.

**8:35 CHED 26.** Biochemistry instructors' perceptions of analogies and their classroom use. **M. Orgill, T.J. Bussey, G.M. Bodner**

**9:15 CHED 27.** Affective learning and organic chemistry achievement: Testing models of reciprocal causation. **J.R. Raker, S. Villafañe, X. Xu**

**9:55** Intermission.

**10:10 CHED 28.** Using digital badges for assessment of hands-on skills in the laboratory. **M.H. Towns, S. Hensiek, C.J. Harwood, B. DeKorver, J. Fish**

**10:50 CHED 29.** Improving critical thinking via authenticity: The CASPIE research experience in a military academy chemistry course. **A. Chase, H. Clancy, R.P. Lachance, B. Mathison, M. Chiu, G.C. Weaver, D. Sears, J.E. Dietz**

**11:30** Concluding Remarks.

## Section F

San Francisco Marriott Marquis  
Nob Hill B

### NMR Spectroscopy in the Undergraduate Curriculum

Financially supported by Bruker; ThermoFisher Scientific; JEOL; Anasazi Instruments

**L. J. Anna, D. P. Soulsby, A. S. Wallner, Organizers, Presiding**

**8:30** Introductory Remarks.

**8:35 CHED 30.** Practical use of  $^{13}\text{C}$  benchtop NMR spectroscopy in an undergraduate laboratory. **P.J. Bowyer, B. Manz, A. Coy, H. Robert**

**8:55 CHED 31.** Hands-on NMR experience without the NMR: Using MestreNova to teach an undergraduate organic structure elucidation course without an on-site high field NMR. **K.N. Maloney**

**9:15 CHED 32.** NMR spectroscopy and complementary computational tools: Delta for 1D processing, ChemDoodle for predictions, and ChemSpider for interactive literature spectra. **J. Bennett**

**9:35** Intermission.

**9:50 CHED 33.** Withdrawn.

**10:10 CHED 34.** Biochemical NMR spectroscopy course for upper level undergraduates that combines both classroom and laboratory learning. **B.J. Stockman**

**10:30 CHED 35.** Extending  $^1\text{H-NMR}$  analysis into an upper-division biochemistry course to investigate enzyme stereoselectivity and active-site architecture. **T.J. Gries**

**10:50 CHED 36.** Applications of quantitative NMR in chemical education. **C. Nicholson, R. Hill, S. Barrington**

**11:10** Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Nob Hill C

### Undergraduate Research Papers

Cosponsored by SOCED

**C. V. Gauthier, N. L. Snyder, Organizers**

**J. V. Ruppel, Organizer, Presiding**

**8:30** Introductory Remarks.

**8:35 CHED 37.** Mechanistic studies of Niemann-Pick C1. **M.N. Trinh, F. Lu, M.S. Brown, J.L. Goldstein**

**8:45 CHED 38.** Tissue-specific CRISPR/Cas9 mutants: A tool to study the role of epigenetics in stem cells. **C. Torres Caban, A. Doi, H. Horvitz**

**8:55 CHED 39.** Effect of BET inhibitor in drug resistant breast cancer. **L.A. Acevedo-Soto, S.S. Akhand, M.K. Wendt**

**9:05 CHED 40.** Improved radiosynthesis of 3'-deoxy-3'-[ $^{18}\text{F}$ ]fluorothymidine and its *in vivo* application as a proliferation imaging marker in positron emission tomography. **A. Nguyen, J. Mishra, Z. Visco, A.L. Vävere, E. Butch, S.E. Snyder**

**9:15** Intermission.

**9:30 CHED 41.** Examination of genes related to T-ALL in the 8q24 region. **J. Bautista, R. Sieg, J. Blackburn**

**9:40 CHED 42.** Antimicrobial and colloidal properties of novel polycationic amphiphiles. **B. Ashamole, E. Rogers, E. Ogunjirin, K. Seifert, K.L. Caran**

**9:50 CHED 43.** Study of fluorescent quaternary ammonium amphiphiles to gain insight into the mechanism of antibacterial activity. **M.K. Lauer, E. Rogers, C. Kubow, K. Seifert, K.L. Caran**

**10:00 CHED 44.** Investigating antimicrobial properties of the human galectin-9. **J. Van Riper, N. Kamili, C. Gerner-Smidt, C. Arthur, S. Stowell, A. Blenda**

**10:10** Intermission.

**10:25 CHED 45.** Effect of glutamine and  $\gamma$ -glutamylglutamine on NIH-3T3 cell metabolism. **N. Kowalkowski, R. Penney, G. Boysen**

**10:35 CHED 46.** CYP2C9 and the mutations that affect NSAID oxidation efficiency. **B. James, G.P. Miller, M.D. Perry**

**10:45 CHED 47.** Characterization of hydrogelling nucleopeptides. **S. Schrecke, S. Brown, J.E. Smith-Carpenter**

**10:55 CHED 48.** Effect of 1,2-dithiolane modifications on peptide self-assemblies. **R.R. Neves, A. Calixte, J.E. Smith-Carpenter**

**11:05** Intermission.

**11:20 CHED 49.** Investigating trends in DNA backbone structure and dynamics for ideal drug binding: A  $^{31}\text{P}$  NMR study of the CRE sequence. **G. Spurzem, M. Kyinn, A. Pincus, M.E. Hatcher**

**11:30 CHED 50.** Inhibition of palmitate-induced lipotoxicity. **J. Neufeld, A.K. Stoeckman**

**11:40 CHED 51.** Investigation of the effect of AuNVs conjugated with modified gp100 peptide and with modified PEG on induced IL-12 cytokine production. **Á.A. Garcés, E. Reiser Evans, J.M. Almeida, A.Y. Lin, A. Foster, R. Drezek**

**11:50 CHED 52.** Towards further understanding of kinase activity during oxidative stress: Senthesisid of the highly active ERK2 substrates sub-D and sub-S. **O. Tornow, A.J. Wommack**

**12:00** Concluding Remarks.

## Section H

San Francisco Marriott Marquis  
Nob Hill D

### Eye Tracking Research in Chemistry Education

**J. R. Vandenplas, Organizer**

**S. J. Hansen, Organizer, Presiding**

**8:30** Introductory Remarks.

**8:35 CHED 53.** Eye movement patterns in solving science ordering problems. **H. Tang, E. Day, L.K. Kendhammer, J.N. Moore, S.A. Brown, N.J. Pienta**

**8:55 CHED 54.** Assessing pupillometry data using multimodel inference. **J. Karch, J. Garcia, H. Sevirian**

**9:15 CHED 55.** Use of scan path analysis to determine biochemistry expert-novice differences in reading metabolic pathways. **K.J. Linenberger Cortes, K. Kammerdiener**

**9:35** Intermission.

**9:40 CHED 56.** Impact of expertise on allocation of attention during multiple-choice problem solving. **J.R. Vandenplas, T.C. Pentecost, J. Vogl**

**10:00 CHED 57.** Where did you look? **S.J. Hansen**

**10:20 CHED 58.** Use of eye-tracking to aid in the articulation of visual representations. **J.J. Reed, J.R. Raker, K.L. Murphy**

**10:40 CHED 59.** Using R to perform advanced analysis of eye tracking data. **H. Tang, N.J. Pienta**

**11:00** Concluding Remarks.

### Blending Chemistry & Culture: Undergraduate Research Abroad through ACS IREU Program

Sponsored by IAC, Cosponsored by CHED

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy

Sponsored by PROF, Cosponsored by ANYL<sup>1</sup>, BIOL<sup>1</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>1</sup>, POLY, PRES<sup>2</sup> and WCC

### Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet

Sponsored by ENVR, Cosponsored by CHED

### Undergraduate Symposium

Sponsored by AGFD, Cosponsored by CHED

### Incorporating Polymer Science into the Classroom

### Undergraduate Curriculum

Sponsored by POLY, Cosponsored by CHED, MPPG<sup>2</sup> and PMSE

## SUNDAY AFTERNOON

### Section A

San Francisco Marriott Marquis  
Golden Gate C2

### High School Program

Cosponsored by WCC

**S. B. Mitchell, Organizer**

**J. L. Ball, Organizer, Presiding**

**1:00 CHED 60.** Tracing the steps to the Conant Award. **D. Cullen, G.T. Rushton**

**1:10 CHED 61. Award Address** (James Bryant Conant Award in High School Chemistry Teaching sponsored by the American Chemical Society). Making connections that matter! **L.E. Slocum**

**1:50 CHED 62.** Deep impact: Summer research with high school students. **L.S. Ott**

**2:10 CHED 63.** Designing three-dimensional assessments. **M. Cooper**

**2:35** Intermission.

**2:45 CHED 64.** Establishing a culture of laboratory safety in secondary education. **K.M. Lopez**

**3:05 CHED 65.** Sex, drugs, and the high school chemistry curriculum. **M. Wynn**

**3:35 CHED 66.** Advanced materials for corrosion prevention. **S.C. Rukes**

**4:15** Concluding Remarks.

### Section B

San Francisco Marriott Marquis  
Salons 3/4

### State of the Art: Applying Chemistry Education Research to Practice

**P. L. Daubenmire, Organizer**

**D. G. Harrington, Organizer, Presiding**

**1:30 CHED 67.** Supporting students' reasoning with mathematical models through simulation-focused collaborative learning activities. **N.M. Becker**

**2:10 CHED 68.** Using discourse analysis to inform the design of active learning materials. **R.S. Cole, C. Stanford, A.C. Moon, M.H. Towns**

**2:50** Intermission.

**3:05 CHED 69.** Incorporating research on misconceptions into the classroom through the development and use of concept inventories. **C.J. Luxford**

**3:45 CHED 70.** Student assessments to measure concept retention. **S.E. Lewis**

**4:25 CHED 71.** Designing and using assessments items that provide evidence about depth of understanding. **M. Cooper**

5:05 Concluding Remarks.

## Section C

San Francisco Marriott Marquis  
Salon 5

### Citizens First!

*Cosponsored by CEI*

C. Maguire, *Organizer*

R. D. Sheardy, *Organizer, Presiding*

R. Bishop, *Presiding*

1:30 Introductory Remarks.

1:40 CHED 72. Learning by doing: How and why civic engagement increases durable learning. S. Carroll

2:00 CHED 73. Reaching the community through Kappa Epsilon Mu (K.E.M. Club): Teaching our students to be good citizens. K. Slavens

2:20 CHED 74. TWU pioneer research at the mall. N. Mirsaleh-Kohan

2:40 CHED 75. Molecules of life: Teaching chemistry in the context of biological molecules and pharmaceuticals. T. Jordan

3:00 Intermission.

3:15 CHED 76. Crowd-sourced data collection in a general education physical science course reveals the value of large-scale undergraduate research to finding solutions to problems of civic and conservation importance. R. Bishop, P.J. Carlson, L. Robinson, H. McAlexander

3:35 CHED 77. Impact of septic systems on Long Island's aquifer. C.J. Foley, N. Leonhardt, M. Altizer-Evans, N. Niemann, E. Merenda

3:55 CHED 78. Combining chemistry with knowledge of the local environment. L.K. Duffy, C.H. Middlecamp, L. Nicholas-Figueroa, T.D. Lindstrom, K. Dunlap

4:15 CHED 79. Relevant learning in science education: Research, development and implementation. M. Hugerat

4:35 Concluding Remarks.

## Section D

San Francisco Marriott Marquis  
Salon 6

### Green Chemistry: Theory & Practice

*Cosponsored by CEI*

*Financially supported by I&EC Green Chemistry; Green Chemistry Institute*

E. J. Brush, *Organizer*

J. E. Wissinger, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CHED 80. Green chemistry = social and environmental justice. E.J. Brush

1:55 CHED 81. Environmental justice, sustainability and green chemistry. L. Bastin

2:15 CHED 82. Science for social change: A first-year interest group incorporating green chemistry and environmental justice principles. D.H. Exton

2:35 Intermission.

2:50 CHED 83. How student chapters can have impact on green chemistry and social justice education. V. Curfman, I. Ngo

3:10 CHED 84. Chemistry in the context of social justice. M.M. Kirchoff

3:30 Panel Discussion.

## Section E

San Francisco Marriott Marquis  
Nob Hill A

### Research in Chemistry Education

D. P. Cartrette, D. R. Mulford, *Organizers*

J. A. Schmidt-McCormack, *Presiding*

1:30 Introductory Remarks.

1:35 CHED 85. Comparative analysis of performance, post course performance, study time, motivation and perceived class quality in traditional, fully flipped, partially flipped and online chemistry 1A. A. Holton

1:55 CHED 86. To flip or not to flip: The effectiveness of the flipped general chemistry class. K.M. Hutchinson-Anderson

2:15 CHED 87. Academic Bottleneck: The impact of math skill on students' success in chemistry studies. N. Glazer, Y. Glazer

2:35 CHED 88. Withdrawn.

2:55 Intermission.

3:10 CHED 89. Clickers and cooperative learning as a combination to improve student learning in general chemistry as well as analytical chemistry courses. D.J. Weiss, R. Sandoval, M. Braseul, P. McGuire

3:30 CHED 90. Evaluating the efficacy of modeling instruction in high school chemistry courses. E.M. Howard, J.L. Jenkins

3:50 CHED 91. Effects of homework on learning: A classroom field experiment. J.B. Nielson, D. Nielson, B. Laney, K. Laney

4:10 CHED 92. Memory and sensory cues: Does a sensory cue paired with chemistry content assist in later student achievement? W.E. Schatzberg

4:30 Concluding Remarks.

## Section F

San Francisco Marriott Marquis  
Nob Hill B

### NMR Spectroscopy in the Undergraduate Curriculum

*Financially supported by Bruker; ThermoFisher Scientific; JEOL; Anasazi Instruments*

L. J. Anna, D. P. Soulsby, A. S. Wallner, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CHED 93. Integration of NMR spectroscopy into undergraduate research: HNMR analysis of ionic liquid monomers used in free-radical polymerizations. B. McFarland, M. Sea

1:55 CHED 94. Undergraduate project for organic lab designed to teach multi-nuclear analysis by NMR. S.M. Schelble, J.M. Cook

2:15 CHED 95. Utilizing NMR experiments to correctly assign closely spaced singlets in NMR spectra: A method to introduce 2D NMR spectroscopy in general organic chemistry laboratory courses. A.M. Balija, D.D. Clarke

2:35 Intermission.

2:50 CHED 96. Multi-Outcome experiment development for organic chemistry utilizing NMR spectroscopy. K. Yearty, C.E. Glessner, R.K. Maynard, R.W. Morrison

3:10 CHED 97. One-pot microwave experiments with NMR characterization of synthetic triazole esters. A.M. Schoffstall, B. Mayer, C.R. Butler, S. Robertson, K.A. Stewart, R.K. Shoemaker

3:30 CHED 98. Incorporation of NMR spectroscopy in the introductory organic chemistry laboratory course as an effective means for promoting student active learning. J.A. Cramer

3:50 CHED 99. Distinguishing aromatic and alkene NMR signals using specifically deuterated chalcones. C.A. Gehman, C. Hamann

4:10 Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Nob Hill C

### Undergraduate Research Papers

*Cosponsored by SOCED*

J. V. Ruppel, N. L. Snyder, *Organizers*

C. V. Gauthier, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CHED 100. Synthesis of giant rhodium-based molecular gyroscopes as potential candidates for study of homeomorphic isomerization. Z. Patton

1:45 CHED 101. PNP pincer ligand complexes of vanadium and zinc. N. Onishi, D. Unruh, M. Findlater, C.D. Abernethy

1:55 CHED 102. Oxidation of methanesulfinate to methanesulfonate in the presence of catalase and superoxide dismutase. N.M. Reed, D.K. Wicht

2:05 CHED 103. Novel cationic anti-mony containing compounds and their catalytic reactivity in organic reactions. N. Pati, M. Yang, M. Hirai, F.P. Gabbai

2:15 Intermission.

2:30 CHED 104. Synthesis, characterization, and decomposition studies of a ruthenium N-heterocyclic carbene complex for transfer hydrogenation catalysis. J.R. Miecznikowski, M.E. Morgan, S. Bonitatibus, N.A. Bernier, C.A. VanAkin, B.Q. Mercado, R.H. Crabtree

2:40 CHED 105. Aerogel films on indium tin oxide for electrochemical glucose biosensing. N. Kosciuszek, C. Brady, L. Sheard, A.S. Harper-Leatherman, M.C. Leopold

2:50 CHED 106. Europium(III) tetracycline derivative species as potential bioprobe. A. Riives, G. Muller

3:00 CHED 107. Probing chiral nanoparticle and protein interaction with isothermal titration calorimetry and molecular dynamics simulations. H. Calcaterra, W. Feng, Z. Qu, N. Kotov

3:10 Intermission.

3:25 CHED 108. Deposition and characterization of thin carbon films. A.P. Olson, M. Berens, A. Heide, B.J. Winters

3:35 CHED 109. Development of an organic-polyoxometalate-based framework utilizing a trigonally symmetric ligand. K.S. Pearson, W.A. Neiwert

3:45 CHED 110. Post-synthetic Scholl oxidation for accessing large polycyclic aromatic hydrocarbons as structural component in metal-organic frameworks. R. Ly, Z.L. Magnuson, K. Sanchez, G. Pour, F. Uribe-Romo

3:55 CHED 111. Alteration of membrane compositional asymmetry by LiCoO<sub>2</sub> nanosheets. M. Dogangun, M.N. Hang, J. Troiano, A.C. McGeachy, E. Melby, J. Machesky, J.A. Pedersen, R.J. Hamers, F. Geiger

4:05 Intermission.

4:20 CHED 112. Porous PMMA-titania composites: Inverting the fabrication process to improve activity and durability. J.D. Glover, A.G. Horne, J.E. Boyd

4:30 CHED 113. Analysis of Perovskite and its degradation mechanisms in ambient conditions. P. De Peralta, C. Kralk, M.V. Lee, K. Esparza

4:40 CHED 114. Facile preparation of nanocrystalline tin oxide and photocatalytic dye degradation studies. D. Mathew, A.N. Venkatesha, R. Balan

4:50 CHED 115. Bipyridine-functionalized BODIPY dyes for sensitizing near-infrared emission of lanthanide ions. J.D. Bosonetta, P.P. Seneviratne, H. He

5:00 Concluding Remarks.

## Section H

San Francisco Marriott Marquis  
Nob Hill D

### Celebrating Chemistry through Outreach: Honoring the Legacy of Christine Jaworek-Lopes

I. J. Levy, D. K. Wicht, *Organizers*

B. E. Rios McKee, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CHED 116. Inspiring future chemists through green chemistry outreach. K. Anderson, M. Enright, A. McCarthy

1:55 CHED 117. Recipe for success: How outreach has impacted Gordon College's ACS student chapter. V. Curfman

2:15 CHED 118. GGC game changing beyond the classroom. R.K. Kalman, G.E. Rudd

2:35 CHED 119. Infrared imaging devices light the way to new public outreach possibilities. C. Barrett, R.S. Black

2:55 Intermission.

3:10 CHED 120. Hands, touchin' hands, reachin' out, touchin' me, touchin' you. M.Z. Hoffman

3:30 CHED 121. Paying it forward—fun ways to engage the public in chemistry. T. Halmi, G.L. Heard, L. Hogue

3:50 CHED 122. Students as change agents: GOLum (Green Organic Literacy Forum) outreach in the organic chemistry course. I.J. Levy

4:10 CHED 123. Public engagement and science literacy. B.Z. Shakhshiri

4:30 Concluding Remarks.

### Blending Chemistry & Culture: Undergraduate Research Abroad through ACS IREU Program

*Sponsored by IAC, Cosponsored by CHED*

#### Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

### The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross

Sponsored by WCC, Cosponsored by CHED, CMA and PROF

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Novel Reactions, Methodologies & Syntheses in Organic Chemistry

Sponsored by PROF, Cosponsored by ANYL<sup>+</sup>, BIOL<sup>+</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>+</sup>, MEDI, MPPG, ORGN, PHYS, PMSEI, POLY, PRES<sup>+</sup> and WCC

### Textbooks & the Practice of Science: Before, During & After Gutenberg

Sponsored by CINF, Cosponsored by CHED and HIST<sup>+</sup>

### Withycombe-Charalambous Graduate Student Symposium

Sponsored by AGFD, Cosponsored by CHED

### Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet

### Physical & Chemical Processes

Sponsored by ENVR, Cosponsored by CHED

### Incorporating Polymer Science into the Classroom

### High School & Community College

Sponsored by POLY, Cosponsored by CHED, MPPG<sup>+</sup> and PMSE

## SUNDAY EVENING

### Section A

Moscone Center  
Hall D

### General Posters

T. A. Miller, Organizer

7:00 - 9:00

CHED **124.** Teaching basic chemistry with MOOCS platform: An example of active learning. Z.OWN

CHED **125.** Steps to change a large lecture class to an active learning class. E.P. Kippenhan

CHED **126.** Transforming the undergraduate chemistry experience through active learning: Evaluating pedagogical reforms within general and organic chemistry. K. McCance, E.D. Niemeyer

CHED **127.** Using a guided inquiry and experimental approach to teaching vibrational-rotational spectroscopy. T.L. Longin

CHED **128.** Assessing the effects of guided inquiry lab experiments on student learning quantum mechanics. A. Mansfield, S. Meyer, A.W. Jarrot, K.H. Bennett, C.J. Stromberg

CHED **129.** Accelerating organic synthesis and purification in the undergraduate organic chemistry lab-Fischer esterification. J.E. Silver, R. Klopfer, O. Mneimne, F. Nancy, L.M. Esther, R.L. Lewis

CHED **130.** Microwave-assisted iodolactonization: A discovery-based green chemistry laboratory experiment. C. Wang, Y. Lin

CHED **131.** Surface tension, viscosities and refractive index of binary liquid systems. H. Bascal

CHED **132.** Investigating surface areas of nanoscale materials through a simple laboratory experiment. D.S. Heroux

CHED **133.** Measuring the thermal properties of polymers made from lactide and glycolide: An undergraduate chemistry experiment using differential scanning calorimetry. B.K. Mohney, P.S. Corbin

CHED **134.** Tale of two metabolites: Using the separation of urea and cholesterol to bridge the gap between general and organic chemistry. N. Edwards, F. Yezpez Castillo

CHED **135.** Thienyl phosphine palladium (II) complexes: An introduction to hybrid materials in undergraduate laboratories. B. Boardman

CHED **136.** Substitution of organic solids with low toxicity compounds for binary phase diagrams in the undergraduate physical chemistry laboratory. B.E. Dalesandro, S.E. Hayik

CHED **137.** Expanding student access to instrumentation through the incorporation of portable infrared spectroscopy into the curriculum. S. Meyer, A. Mansfield, K.H. Bennett, C.J. Stromberg

CHED **138.** Biochemistry scavenger hunt. S.E. Evans

CHED **139.** 3D printable resources for chemical educators: Supporting laboratory learning activities via user-friendly devices. L.A. Porter

CHED **140.** Eliciting conceptual understanding via chemistry outreach: The development and implementation of a novel data collection method. J.M. Pratt, E.J. Yezierski

CHED **141.** Themed demonstration shows to increase community involvement. B.J. Bellott

CHED **142.** Chemical communication through infographics. D. Diatta, S. Le, T. Le, R. Singiser

CHED **143.** Infographics: Complex chemistry made simple. M. Delgado, Y. Khan, K. Nguyen, J.J. Meyers

CHED **144.** Science & culture: Engaging students with a local zoological park. P.J. Carlson, R. Bishop, L. Robinson, D. O'Gwynn

CHED **145.** Promise of palladium and the triumph of rhodium: Framing chemical research for public consumption through art. D.B. Cordes

CHED **146.** Maximizing potential: Building a bridge to success in the STEM field for the children of immigrant families through mentoring. R. Romero

CHED **147.** Advanced Authentic Research (AAR) program: A public school district research program. J.V. Choe

CHED **148.** Effects of introducing dye sensitized solar cells for renewable energy research to middle school students. M.L. Grimminger

CHED **149.** CSI dognapping workshop: A Sandia outreach program. J.M. Sears, T.J. Boyle, B.A. Hernandez-Sanchez

CHED **150.** Recruiting and supporting potential STEM teachers for southwestern Illinois. S.D. Wiediger, J.S. Krim, K. Barry, S.M. Locke, L. Cummings, T. Voepel

CHED **151.** Students' understandings of atomic orbital representations for carbon. Z. Allred, S. Bretz

CHED **152.** Modular 3D printed secondary structures for protein modeling. P. Woodruff

CHED **153.** Enthalpy and entropy changes in dissolving and precipitation reactions: Students' macroscopic observations and explanations. T.N. Abell, S. Bretz

CHED **154.** Students' use of symbolic and particulate representations to characterize bonding. G.H. Allen, C.J. Luxford, S. Bretz

CHED **155.** Cartoon character representations for the chemical structures of vitamins and other biologically significant molecules. R.J. Schroeder

CHED **156.** Chemisthenics: A literal VSEPR exercise. C. Rezsnyak

CHED **157.** Comparison of adaptive and traditional online homework systems in a preparatory chemistry course. K.A. Kaiser

CHED **158.** Development of online pre-laboratory activities in organic chemistry to improve students' preparation for laboratory. J. Chaytor, M. Al Mughalaq, H. Butler

CHED **159.** Tweet, for science! A social media course for scientists at Caltech tackling inreach and outreach online. O. Wilkins, M.E. Davis, S. Mojarad

CHED **160.** Transitioning to eBooks: Student use of various textbook features. E. Day, N.J. Pienta

CHED **161.** Real-life examples as applied to general chemistry. A. Burns

CHED **162.** Trying on teaching: Being a learning assistant at a two-year college. C.P. Schick, K. Stennette, A. Palmer

CHED **163.** From failure to success in general chemistry: Learning strategies to the rescue. E. Cook, S.E. McGuire

CHED **164.** Teaching for success in solving organic synthesis problems. N. Bode, A.B. Flynn

CHED **165.** Flip your general chemistry class the easy way. J. Moore, M.A. Rau, L. Oxtoby, K. Kennedy

CHED **166.** Withdrawn.

CHED **167.** Incorporating new technologies into the chemistry curriculum at Elmira College. C.E. Stitts

CHED **168.** Teaching from this side of the fence: The benefits experienced by chemistry undergraduate teaching assistants. S.B. Philipp, C.V. Rich, T.R. Tretter

CHED **169.** Using screencasts to supplement classroom instruction. D.B. King

CHED **170.** Bridging chemistry. R.R. Srinivasan, T. Nicholas, M. Rowane, L. Robinson, R. Juarez, D. Meyer

CHED **171.** XUPharmPrep: A summer bridge program for first-year chemistry-prepharmacy majors. M.R. Adams

CHED **172.** Expansion of the science resource center into a STEM resource center. S. Richards, P.J. Iles, L.D. Giddings, R. Holcomb, M. Alvarez, R.V. Valcaroe, R. McFarland, N.R. Bastian

CHED **173.** Does a better chemistry pre-test score mean a better grade in organic chemistry? J.A. Jensen

CHED **174.** Characterizing the alignment between inorganic chemistry faculty's learning goals and assessments. J.H. Torres King, E.J. Yezierski

CHED **175.** Organic chemistry students' understandings of molecular stability and reactivity in the context of substitution reactions. M. Popova, S. Bretz

CHED **176.** Associations between faculty beliefs about learning and instructional practice: Results from a national survey of postsecondary chemistry faculty. R. Gibbons, S. Villafane-Garcia, E. Laga, M.N. Stains, K.L. Murphy, J.R. Raker

CHED **177.** Investigation of absolute and relative scaling conceptions in an anatomy and physiology course. J.M. Trate, V. Fisher, A. Blecking, P. Geissinger, K.L. Murphy

CHED **178.** Exploring the roles of gender and prior knowledge on general chemistry students' cognitive structures. S. McLane, A. Milkey, M. Seibel, B. Kung, O. Gulacar

CHED **179.** Investigating and supporting students' understanding of the physical basis of interactions. A. Dragon, J. Pagdanganan, J.A. Loertscher, V.M. Thorsell

CHED **180.** Factors influencing the persistence and performance of chemistry majors. B. Brando, A.M. Baranger, A. Stacy

CHED **181.** Developing domain-specific reasoning and problem solving skills in organic chemistry. M.R. Helix, A.M. Baranger

CHED **182.** Withdrawn.

CHED **183.** Upgrading the role of teaching assistant in science teacher education: In-field teaching exercise in groups of students with different levels of competence. G. Hornung

CHED **184.** Using discovery, discussion, lab model at the elementary level. K.M. Hutchinson-Anderson

CHED **185.** Response and non-response rates in national surveys of postsecondary chemistry faculty: Implications for data analysis. S. Srinivasan, K.L. Murphy, J.R. Raker

CHED **186.** Developing a small batch approach to ACS Examination norms: A case study in inorganic chemistry. K.A. Marek, K.L. Murphy, J.R. Raker, J.J. Reed

CHED **187.** Report on the four-year old, science-developed, science-education minor at UCLA. A.A. Russell, J.W. Pang

CHED **188.** Investigating retention of concepts between the first and second semesters of organic chemistry. W. Hollis, W.E. Brenzovich

CHED **189.** Measures of success for an alternative starting point for at-risk STEM majors. B.A. Davis, J.K. Vohs, M.A. Fisher

CHED **190.** Math preparation for a GOB course as a predictor of success. W.J. Donovan

CHED **191.** Advancing graduate education in the chemical sciences with a modularized curriculum. C.V. Rice, M.T. Ashby, M. Maher, R. Halterman

CHED **192.** NSF Graduate Research Fellowship Program for chemistry and chemical engineering students. T.B. Higgins, T.D. Kim, D. Rickey

CHED **193.** National Science Foundation programs that support chemistry education. D. Rickey, T.B. Higgins, T.D. Kim

CHED **194.** Impact of undergraduate research internships at Lawrence Berkeley National Laboratory. L.E. Cote, A.M. Baranger, E.M. Stone, M. Helix, C. Flood



**CHED 195.** Research intensive honors program in chemistry. T.S. Sempertegui Plaza, J.E. Haky, D. Chamely Wiik, M. Cudic, M.C. Rodriguez

**CHED 196.** Impacts of CUREs in chemistry and biology courses at three regional institutions. E.M. Bowers, J. Tomasik, D.J. Lecaptain, A. Mueller, K. Cissell, D.S. Karpovich, A.L. Martin, A.J. Ross, T. Sivy, J. Gittins, B.S. Harkness, K. Nitz, J. VanHouten

**CHED 197.** *Drosophila melanogaster* food choice and survival on different sugars and sugar derivatives: An unorthodox learning experience for students not majoring in chemistry. B. Budy, J. Minbirole, J.S. Rhoad, P. Khol, J. Ribakova

**CHED 198.** Fostering a sustainable and active membership in the Puerto Rico Section. A.G. Colon, O.J. Morales Martinez, H.A. Ocasio Rodriguez, S. Chaparro-Ruiz, J. Feng Baez, M. Leon, B. Ramos, E. Ferrer Torres, J.I. Ramirez Domenech

**CHED 199.** Cooking the books: An honors seminar on the chemistry of cooking. S. Hubbard

## MONDAY MORNING

### Section A

San Francisco Marriott Marquis  
Salons 1/2

**ACS Award for Achievement in Research for the Teaching & Learning of Chemistry: Symposium in honor of Marcy H. Towns**

*Cosponsored by WCC*

S. Bretz, *Organizer*

M. Cooper, *Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 200.** Characterization of STEM faculty's conceptions and use of writing in STEM classes. A.C. Moon, S.A. Finkenstaedt-Quinn, A. Ruggles Gere, G.V. Szymczak

**8:55 CHED 201.** Undergraduate students' goals for their chemistry laboratory coursework. B.K. Dekorver, M.H. Towns

**9:15 CHED 202.** Achievement emotions in undergraduate organic chemistry. J.R. Raker

**9:35 CHED 203.** Examining students' reasoning with mathematical models in the context of chemical equilibrium. N.M. Becker

**9:55** Intermission.

**10:15 CHED 204.** I will go out having learned something: Reflections on student learning in physical chemistry. R.S. Cole

**10:35 CHED 205.** Planting seeds that make a difference! L.E. Stocum

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at:  
[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

**10:55 CHED 206.** Framing the case: The importance of theory in structuring case studies in chemistry. D.J. Wink, J.V. Choe, M.T. Dianovsky, S. Lucas, M. Snow, L. Schroeder, G. Clark

**11:15 CHED 207.** Increasing the influence and impact of CER: Developing high school teachers as chemistry education researchers. E.J. Yeziarski

### Section B

San Francisco Marriott Marquis  
Salons 3/4

**ACS-CEI Award for Incorporating Sustainability into Chemistry Education**

*Cosponsored by CEI*

S. O. Obare, *Organizer, Presiding*

K. Aubrecht, *Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 208.** Green chemistry commitment: Addressing sustainability from the molecular-level to institutional-scale. I.J. Levy

**9:10 CHED 209.** Incorporation of novel education approaches, including on-line gaming tools and 3D printing, into graduate and undergraduate courses focused on sustainable materials. A. Orlov

**9:40 CHED 210.** Socio-scientific issues-based chemistry teaching for incorporating education for sustainable development and green chemistry into secondary chemistry classrooms. I. Eilks

**10:10** Intermission.

**10:20 CHED 211.** Withdrawn.

**10:50 CHED 212.** Sustainability and green chemistry education: Innovative and contextualized experiences from the undergraduate and postgraduate courses at the Federal University of São Carlos, Brazil. V. Zuin

**11:20 CHED 213.** Incorporation of green chemistry and sustainability into the chemistry curriculum at Illinois Wesleyan University and globally. R.S. Mohan

**11:50 CHED 214.** International perspective on green chemistry and sustainability education. G.M. Bodner

**12:25** Concluding Remarks.

### Section C

San Francisco Marriott Marquis  
Salon 5

**Fundamentals of Chemistry Outreach Education: From Program Design to Assessment**

*Cosponsored by CCA, LSAC, SOCED and YCC*

E. J. Brush, E. S. Garcia Segal, S. Nellutla, *Organizers*

E. Segal, *Presiding*

**8:30** Introductory Remarks.

**8:40 CHED 215.** MOFs @ CCs: Community college outreach through crystallographic research. D.R. Manke

**9:00 CHED 216.** Combining 3D printing and a chemistry lab to get home-schooled high school students excited about college. J.D. Mendez

**9:20 CHED 217.** Outreach is HIP. E.A. Alemán, K. Stone

**9:40 CHED 218.** Service learning across programs: A model for communicating aerosol chemistry. B. Hames, H. Weizman

**10:00** Intermission.

**10:15 CHED 219.** Informal STEM education: Resources for outreach, engagement and broader impacts. J.R. Bell

**10:35 CHED 220.** Unexpected outcomes: Development and evaluation of STEM programs that promote confidence and build friendships. S.S. Grathoff, M.R. Wilhelm

**10:55 CHED 221.** Symposium workshop on the fundamentals of chemistry outreach education: I. Program design. E.J. Brush, E. Segal, S. Nellutla

### Section D

San Francisco Marriott Marquis  
Salon 6

**Advances in e-Learning & Online Chemical Education**

L. A. Morsch, P. Sorensen, *Organizers*

D. A. Canelas, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 222.** Marvin JS and Smartwork5: Tools for online chemistry education. A.D. Costache, E. Hoffmann, C. Pruis

**8:55 CHED 223.** Assignment-based repeated retrieval for learning chemistry. J. Hearn, E.L. Brown

**9:15 CHED 224.** Learn how using WebAssign, Google Classroom and maybe even a little slack can make teaching general chemistry better for both students and faculty. A.T. Griffin

**9:35 CHED 225.** Chem101: Next-generation classroom engagement tools built for chemistry students. J. Weinberg

**9:55** Intermission.

**10:10 CHED 226.** Computer simulations to help students learn general chemistry topics. J. Selco

**10:30 CHED 227.** Learning organic mechanisms through spaced assignments. E.L. Brown

**10:50 CHED 228.** PubChem as an educational resource for chemical information literacy. S. Kim, E. Bolton, S.H. Bryant

**11:10 CHED 229.** Mobile animation tool: An app for creating and sharing chemical particulate animations. J. Winter

**11:30** Concluding Remarks.

### Section E

San Francisco Marriott Marquis  
Nob Hill A

**Chemistry Education Research: Graduate Student Research Forum**

J. Donnelly, M. Popova, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 230.** Implementation of next generation science standards in high schools: Exploratory study. A. Pierce, C.E. Brown

**8:55 CHED 231.** Evaluation of the teacher-scholar program: An integrated peer-learning program in the UC Berkeley College of Chemistry. S.M. Tischhauser, S.E. Limfat, S. Dilip, P. Marsden, M.T. Robak, A.M. Baranger

**9:15 CHED 232.** Structural equation model for level of inquiry in undergraduate laboratory experiences and beliefs about chemistry on intent to pursue a post-baccalaureate degree. A.R. Lunsford

**9:35 CHED 233.** Affects of gender and sexual orientation on belonging uncertainty in general chemistry. J.A. Kroll, K.L. Plath

**9:55** Intermission.

**10:05 CHED 234.** IRT as a tool to improve student performance. B. Ohlsen, C.H. Atwood

**10:25 CHED 235.** Targeting the general chemistry bottom quartile through homework-based metacognitive training. B. Casselman, C.H. Atwood

**10:45 CHED 236.** Considering the relationship between structure, properties, and function: How students connect these ideas across their introductory chemistry and biology courses. K.P. Kohn, S. Underwood, M. Cooper

**11:05 CHED 237.** Team members' perceptions of how communication relates to the success of an interdisciplinary grant collaboration: The ChAnGE Chem project. N. Millick, M. Orgill, S. Barakat

**11:25 CHED 238.** Evaluating the impact of a redesigned chemistry course sequence for undergraduate life science majors. C. Schnobelen, C. Hrycyna, J.A. Chmielewski, G.M. Bodner

**11:45** Discussion.

**11:55** Concluding Remarks.

### Section F

San Francisco Marriott Marquis  
Nob Hill B

**Curricular Innovations in Undergraduate Chemical Education Impacted by NSF**

R. K. Boggess, *Organizer*

C. A. Burkhardt, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 239.** NSF S-STEM at Union College: Multidimensional mentoring model for student SUCCESS. J.D. Kehlbeck, S. Amanuel, G. Bizer, P. Catravas, R. Cortez, S. Kirkton

**8:55 CHED 240.** Successful S-STEM scholarship program for undergraduate students at varying stages of degree progress. A. Kubatova, R. Simmons, D. Pedersen

**9:15 CHED 241.** Increasing student success through the CSU S-STEM program. K. Mardis

**9:35** Intermission.

**9:50 CHED 242.** Infinity scholars, an NSF funded project that includes interdisciplinary undergraduate research. R.R. Klepper

**10:10 CHED 243.** Seminar series for guiding students' development and exploration of chemistry careers. P. Tandler, J.A. Lupica, M.J. Dunphy

**10:30 CHED 244.** Fostering interdisciplinary and investigative thinking and learning for first and second year chemistry students. K.S. Owens, A. Murkowski, A.M. Johansen, H. Price

**10:50** Intermission.

‡Cooperative Cosponsorship

- 11:05 CHED 245.** Building community in (inorganic) chemistry: Ideas from IONIC. **B.A. Reisner**, C. Nataro, S.R. Smith, A.K. Bentley, H.J. Eppley, E.R. Jamieson, A.R. Johnson, J.L. Stewart, L.A. Watson, N. Williams
- 11:25 CHED 246.** Impact of the summer institutes on faculty teaching and student achievement. **M.J. Graham**, J. Frederick, S.A. Strobel
- 11:45** Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Nob Hill C

### Undergraduate Research Papers

*Cosponsored by SOCED*

C. V. Gauthier, J. V. Ruppel, *Organizers*

N. L. Snyder, *Organizer, Presiding*

### 8:30 Introductory Remarks.

- 8:35 CHED 247.** Operationally simple approach to indole derivatives from 2-alkenylanilines utilizing an oxidation-transannulation-elimination sequence. **J. King**, C.J. Monceaux
- 8:45 CHED 248.** Decarboxylation of amino acids via organocatalysis with various catalysts: A mechanistic study. **S. Deimling**, H. Schriever, D. Jackson, R.W. Morrison
- 8:55 CHED 249.** Rapid synthesis of N-(4-chlorobenzyl)morpholine. **J. Torgunrud**, L.I. Bobyleva, M.M. Bobylev
- 9:05 CHED 250.** Pyrazine nucleic acids: From small molecules to proto-informational polymers. **S.B. Wong**, M. Gately, E. Young, R. Krishnamurthy, A.L. Weber, T. Campbell
- 9:15** Intermission.
- 9:30 CHED 251.** Synthesis of multivalent glycooligomers for studying carbohydrate-protein binding. **N. Fendler**, S.K. Eisenach, N.L. Snyder
- 9:40 CHED 252.** Synthesis of hyaluronic acid-based phototherapeutic conjugates for diagnostic and therapeutic applications. **E. Xu**, K.E. Gonazlez, D. Dennis, J.V. Ruppel, N.L. Snyder
- 9:50 CHED 253.** Synthesis and characterization of RGD-conjugated alginate microparticles containing amphotericin B for the treatment of candida infections. **L.M. Aponte-Reyes**, L.M. Aponte-Cruz, M.P. Alvarez
- 10:00 CHED 254.** Synthesizing small lysyl oxidase inhibitors with  $\beta$ -aminopropionitrile. **M.L. Williams**
- 10:10** Intermission.
- 10:25 CHED 255.** Synthesis of starch-functionalized dibromomaleimide for peptide delivery. **P.D. Wickremasinghe**, F.J. Hidaigo, O. Martini, P.M. Iovine, J.G. Schellinger
- 10:35 CHED 256.** Synthesis of a new series of alpha-(N)-heterocyclic thiosemicarbazone ligands and their  $Cu^{2+}$  metal complexes: Biological activity against human topoisomerase II $\alpha$  and breast cancer cells. **V. Rand**, L.C. Ngo, X. Jiang, E.C. Lisc
- 10:45 CHED 257.** Independent measurements of lipids in mixed cell populations. **K. Estrada**, A.K. Stoeckman, N.E. Wolins

- 10:55 CHED 258.** Structural and functional characterization of arrhythmogenic Q136P calmodulin mutant. **T. Bader**, S. Nelson, G. Veglia
- 11:05** Intermission.
- 11:20 CHED 259.** Synthesis and quantification of the chemical markers of melanin in complex biological matrices. **C. Weddle**, K.D. Sienerth, K. Glass
- 11:30 CHED 260.** Analyzing Sr isotopic ratios in surface and well water sources in northern Ohio. **A.F. Bauer**, A.R. Roerdink
- 11:40 CHED 261.** Comparison of nutrient and mercury contamination levels of surface water in lakes in Georgia and Maine using HACH and YSI surface water kits. **K. Hachat**
- 11:50 CHED 262.** Pottery residue analysis and archaeological application. **F.V. Macdonald**, K.L. Braun, C. Harper
- 12:00** Concluding Remarks.

## LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

*Sponsored by PROF, Cosponsored by ANYL<sup>1</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>3</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>4</sup>, POLY, PRES<sup>5</sup> and WCC*

### Hollyweird Chemistry

*Sponsored by CPAC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

### Textbooks & the Practice of Science: Before, During & After Gutenberg

*Sponsored by CINF, Cosponsored by CHED and HIST<sup>3</sup>*

### Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet

### Physical & Chemical Processes

*Sponsored by ENVR, Cosponsored by CHED*

## MONDAY AFTERNOON

### Section A

San Francisco Marriott Marquis  
Salons 1/2

- ACS Award for Achievement in Research for the Teaching & Learning of Chemistry: Symposium in honor of Marcy H. Towns**  
*Cosponsored by WCC*
- S. Bretz**, *Organizer, Presiding*
- 1:30** Introductory Remarks.
- 1:35 CHED 263.** Being in the right place, at the right time. **G.M. Bodner**
- 1:55 CHED 264.** Learning organic reaction mechanisms in a patterns of mechanisms curriculum. **A.B. Flynn**, K.R. Galloway, R.E. Featherstone, C. Stoyanovich, D. Webber
- 2:15 CHED 265.** Characterizing the development of mechanistic reasoning. **M. Cooper**
- 2:35** Intermission.

- 2:45 CHED 266.** Improving student success in general chemistry: Implementing a drop-back course. **N.J. Pienta**, M.B. Larkins, N.H. Johnson, A. Aspley, T.C. Barron
- 3:05 CHED 267.** Flavors of assessment in chemistry education and chemistry education research. **T. Holme**
- 3:25 CHED 268.** Meaningful learning and learning to mentor. **S. Bretz**
- 3:45** Intermission.
- 3:55 CHED 269.** Award Address (ACS Award for Achievement in Research for the Teaching & Learning of Chemistry sponsored by ACS Exams). From snowflakes to squid ink to guidelines for CER manuscripts: How chairlift rides, epicurean delights, and opportunities shape a career. **M.H. Towns**

### Section B

San Francisco Marriott Marquis  
Salons 3/4

### Process Oriented Guided Inquiry Learning (POGIL)

**R. S. Moog**, *Organizer, Presiding*

### 1:30 Introductory Remarks.

- 1:35 CHED 270.** Introduction to POGIL and The POGIL Project. **R.S. Moog**
- 1:55 CHED 271.** POGIL as Gen.Ed.: Generating artifacts for the assessment of general education outcomes in the POGIL classroom. **J.G. Davis**
- 2:15 CHED 272.** Withdrawn.
- 2:35** Intermission.
- 2:45 CHED 273.** Implementing POGIL at a minority-serving institution. **T.D. Shepherd**
- 3:05 CHED 274.** Mirror images: Promoting students' assessment skills through reflection. **M.D. Perry**
- 3:25 CHED 275.** Improving process skills in a medium-sized organic chemistry lecture section at a minority serving institution. **K.R. Cousins**
- 3:45** Intermission.
- 3:55 CHED 276.** Development of professional skills via POGIL in an organic chemistry classroom. **D.A. Canelas**
- 4:15 CHED 277.** Development of a LEGO based POGIL activity for improving student's conceptual understanding of limiting reactants. **R.K. Campbell**, I. Campbell
- 4:35 CHED 278.** Representational competence: An examination of students' perceptions of chemical representations in POGIL activities. **T.D. Kim**, K. Miller
- 4:55** Panel Discussion.

### Section C

San Francisco Marriott Marquis  
Salon 5

### Fundamentals of Chemistry Outreach Education: From Program Design to Assessment

*Cosponsored by CCA, LSAC, SOCED and YCC*

- E. J. Brush**, E. S. Garcia Segal, S. Nellutla, *Organizers*
- S. Nellutla**, *Presiding*
- 1:30** Introductory Remarks.
- 1:40 CHED 279.** Chemistry day: Exploring, learning, and mentoring. **M. Rustagi**

- 2:00 CHED 280.** STEM after school: Undergraduate-led workshops for STEM outreach. **A.L. Smalley**
- 2:20 CHED 281.** Approximation to cultural heritage through chemistry as a way to promote interest in science and technology: The experience of the *Programa CHAT* in Peru. **P. Gonzales**, **B.C. Galarreta**, J. Nakamatsu, L. Ortega-San-Martin, I. Landa Fitzgerald, S. Córdoba
- 2:40 CHED 282.** Exploring matter: An interactive, inexpensive chemistry exhibit for museums. **S.L. Murov**
- 3:00 CHED 283.** Outreach as an essential element of research training: Exposing REU participants to the divide in STEM-field enthusiasm. **K.C. Tvrđy**, A. Schoffstall, S.B. Braun-Sand, C. Rolsma
- 3:20** Intermission.
- 3:35 CHED 284.** Juice from juice: Bringing solar energy education to the classroom. **M. DeBoever**, J.D. Schuttfield Christus
- 3:55 CHED 285.** Discovering inexpensive, effective catalysts for solar energy conversion through educational outreach. **J.D. Schuttfield Christus**, M. DeBoever
- 4:15 CHED 286.** Chemistry open lab night as professional development for middle school and high school educators. **E.J. Brush**, C.D. King
- 4:35 CHED 287.** Connecting Maine high school students with USM STEM undergraduates through a chemistry lab experience. **L. Benedict**, C.M. Prudente, M. Hausman
- 4:55 CHED 288.** Impact of science nights: Incorporation of a hands-on science outreach/service-learning project into a freshman-level college chemistry course. **F.M. Yarbery**
- 5:15** Discussion.

### Section D

San Francisco Marriott Marquis  
Salon 6

### Advances in e-Learning & Online Chemical Education

**D. A. Canelas**, P. Sorensen, *Organizers*

**L. A. Morsch**, *Organizer, Presiding*

### 1:30 Introductory Remarks.

- 1:35 CHED 289.** Design-based research to improve student perceptions of autonomy and efficiency in an online learning system. **R. Sansom**, R. Bodily
- 1:55 CHED 290.** Analysis of cognitive science design features and student use of online learning systems for general chemistry. **E.E. Wilson**, S. Kennedy
- 2:15 CHED 291.** Implementation of spectroscopy software, technique videos, and a lab practical in the first semester of the organic chemistry laboratory. **M.T. Wentzel**
- 2:35 CHED 292.** Chemistry Class Advantage™: Teaching the relevance of organic chemistry. **A.R. Dick**, R. Schenck, K.C. Schwall, S.E. Miller
- 2:55** Intermission.
- 3:15 CHED 293.** Building and assessing the Libretexts Project (nee ChemWiki). **D.S. Larsen**

**3:35 CHED 294.** Innovative e-learning curricula, resources, methods and data applications were developed as foundations for building a chemistry centered Science, Technology, Engineering, (Arts), Mathematics, STE(A)M, learning model using a non-science majors chemistry course and engineering/computer science courses as exemplars. R.J. Rusey, B. Koo, D.S. Larsen, G. Dasgupta, R. Dougherty

**3:55 CHED 295.** Interinstitutional chemistry communication practice: The ins and outs of implementing an international collaboration. L.A. Morsch, B. McCollum

**4:15 CHED 296.** Interinstitutional chemistry communication practice: Technological, social, and disciplinary barriers. B. McCollum, L.A. Morsch

**4:35** Concluding Remarks.

## Section E

San Francisco Marriott Marquis  
Nob Hill A

### International & Multicultural Perspective

Cosponsored by IAC

S. J. Hansen, W. E. Schatzberg, *Organizers*

C. T. Cox, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 297.** Cultural diversity and its effects on what is happening in chemistry classroom. A study on Malaysian multi-cultural context. M. Karpudewan

**1:55 CHED 298.** One country, two cultures: A multi-perspective view on Israeli chemistry teachers' beliefs about teaching and learning. M. Hugerat

**2:15 CHED 299.** Use of in-class, interactive strategies to promote attention, interest, and generation of explanations in a large enrollment chemistry course at the University of Costa Rica. B. Fernandez-Solano, E. Jimenez Alvarado, S. Sandi-Urena

**2:35 CHED 300.** Teaching multi-scale modelling to physicists and chemists in a unique class: Project-based learning in master's degree in the context of a French university. F. Jolibois

**2:55** Intermission.

**3:10 CHED 301.** Approaches to improve chemistry education: Two case studies in Costa Rica. S. Sandi-Urena

**3:30 CHED 302.** Student perception of multiple-choice general chemistry exams and its influence in the teaching-learning process at the University of Costa Rica. E.N. Jimenez-Alvarado

**3:50 CHED 303.** DivCHED IAC's collaborative outreach to delegates of the Cuban Chemical Society. R.M. Kelly, C.H. Atwood

**4:10 CHED 304.** Picking up the fork in the road. S.J. Hansen

**4:30 CHED 305.** European Science Education Research Association Conference 2015: What did I learn and how did it change my research. W.E. Schatzberg

**4:50** Concluding Remarks.

## Section F

San Francisco Marriott Marquis  
Nob Hill B

### Curricular Innovations in Undergraduate Chemical Education Impacted by NSF

C. A. Burkhardt, *Organizer*

R. K. Boggess, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 306.** National Science Foundation programs that support undergraduate chemistry education. T.D. Kim, T.B. Higgins, D. Rickey

**1:55** Discussion.

**2:15** Intermission.

**2:30 CHED 307.** Curriculum innovation through collaborative introduction of MALDI-TOF mass spectrometry, undergraduate research methodologies, and POGIL instructional methods. C. Lutz, J. Grant, P. Pieper, A. Aspaas

**2:50 CHED 308.** Using threshold concepts to drive curriculum reform in biochemistry. J.A. Loertscher, J.E. Lewis, V.M. Thorsell

**3:10 CHED 309.** Structure and evaluation of a flipped general chemistry course as a model for both small and large gateway science course at an urban public institution. D.M. McGregor, M. Deri, P. Mills

**3:30** Intermission.

**3:45 CHED 310.** Relating chemistry to healthcare and MORE (NSF DUE 1431926). G. Clark

**4:05 CHED 311.** Undergraduate crystallographic education made possible by the NSF Major Research Instrumentation Program. J. Tanski

**4:25 CHED 312.** Building the beast-developing and assessing effective cyberlearning within the libretxts open access textbook resource. D.S. Larsen

**4:45** Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Nob Hill C

### Undergraduate Research Papers

Cosponsored by SOCED

J. V. Ruppel, N. L. Snyder, *Organizers*

C. V. Gauthier, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 313.** Determination of aluminium background signal fraction in the  $Q_{weak}$  experiment. J. Butler

**1:45 CHED 314.** Molecular plasmonics for ultralow-power, multicolor electrochromic devices. G.J. Stec, A. Lauchner, Y. Cui, P.J. Nordlander, N.J. Halas

**1:55 CHED 315.** Fano-type resonances detected at catalytic surfaces with ATR-IR. J. Lindale, D.G. Kovacs

**2:05 CHED 316.** Exploring the carbon chemistry of the galactic interstellar medium: Photochemical stability studies of polycyclic aromatic hydrocarbons by argon matrix isolation spectroscopy. S. Erickson, A. Mattioda, G. Cruz-Diaz

**2:15** Intermission.

**2:30 CHED 317.** Adsorption of water-soluble peptoids to silica monitored by second harmonic generation. A. Calkins, A.A. Fuller, G.Y. Stokes

**2:40 CHED 318.** Doxorubicinone interactions with DNA: A spectroscopic comparison. E.J. Curtis, S. Glazier

**2:50 CHED 319.** Sulfate esters in our atmosphere. K.J. Angle, A. Fuller, T.A. Humphry, E.A. Stone, Y. Chen

**3:00 CHED 320.** Controlling electronics with chemistry: A computational study of molecular electronics. J. Metzger, B. Topham

**3:10** Intermission.

**3:25 CHED 321.** Reaction pathway analysis guided by conceptual density functional theory. J.K. Niblo, R.J. Olsen

**3:35 CHED 322.** Thermodynamic models to aid the experimental design of multivalent systems: Polymer brushes and nanoparticles. I. Kopyeva, R. Kumar, J. Lahann

**3:45 CHED 323.** Search of new anti-cancer compounds through combined QSAR and virtual screening of allosteric LSD1 inhibitors. G.L. Luiz Genesi, V.G. Maltarollo, F.d. Emery, G.H. Trossini

**3:55 CHED 324.** Synthesizing phthalimide derivatives as dual kinase inhibitors targeting angiogenesis. V.C. Miles, M. Ismail, R. Komati, H. McFerrin, J. Sridhar

**4:05** Intermission.

**4:20 CHED 325.** Using 3D printing and magnets to model chemical reactions. K. Smiar

**4:30 CHED 326.** Expanding the scope of single molecule FRET spectroscopy at primarily undergraduate institutions. J. Howe, J. Flores, G. Walters, K.M. Hamadani

**4:40 CHED 327.** Investigating enzyme active-site geometry and stereospecificity in the undergraduate biochemistry lab. S.R. Roschdi, T.J. Gries

**4:50 CHED 328.** Withdrawn.

**5:00** Concluding Remarks.

## Section I

Moscone Center  
Hall D

### Undergraduate Research Posters

#### Agricultural & Food Chemistry

Cosponsored by AGFD<sup>†</sup> and SOCED<sup>‡</sup>

N. Di Fabio, *Organizer*

**12:00 - 2:00**

**CHED 329.** Isolation, characterization, and identification of bacteria in yogurts and probiotics. K. Negron-Teron, M. Class, N.M. Soto, O. Ortiz, J.A. Cardé

**CHED 330.** Survey of commercially available soy sauces for the presence of histamine, putrescine, and cadaverine. B.A. Clement, R. Sanchez, S. Ponce, M. Smith, T. Wiley

**CHED 331.** Comparison of purple and yellow nutgrass tubers and sedge, *Cyperus rotundus* and *C. esculentus*, for antibiotic activity. B.A. Clement, R. Sanchez, S. Stanford, S.D. Jenkins, S. Ponce

**CHED 332.** Analysis of kombucha tea fermented with blueberry juice. B.T. Copet, F. Mann

**CHED 333.** Is it safe to vape? P. Schwartz, W. Meyers, B. Anderson, P. Moon, K. Cornell

**CHED 334.** Solvent variations of the Briggs-Rauscher reaction. C. Trost, A. Figueroa, M. Roche, L. Albertini, L.C. Fernandez

**CHED 335.** Quantification of catechin composition in *Camellia sinensis*: Comparing different leaf processing methods. L. Krings, M. Ehler, C. Hull, B. Klein, L. Lanum, D. Choffnes

**CHED 336.** Characterization and quantification of volatiles over the fermentation process in beer using headspace solid-phase microextraction and gas chromatography/mass spectroscopy (HS-SPME-GC/MS). Z. Huang, L. Benedict

**CHED 337.** Comparative analysis of antioxidant and anti-amyloidogenic properties of various polyphenol rich phytochemical extracts. K. Kleinrichert, B. Alappat

**CHED 338.** Powerful plants: Antioxidant capacity of selected plants. C. Curia, J. Alvarodiaz, L. Bontemps, L. Castellar, J. Cerda, A. Figueroa, C. Trost, L.C. Fernandez

**CHED 339.** Effects of metal salts and anoxia on the photodegradation of red food dyes in solution. C. Boyles, S.J. Sobock

**CHED 340.** Cocoa liquor provenance determination using trace elemental signatures. P.E. Sudol, L. Monroe, S. Maloney, R. Khalsa, R.E. Sours, S.E. Stitzel

**CHED 341.** Filled hydrogels as delivery systems for control release of flavored nanoemulsions. A. Kwan, G. Davidov-Pardo

**CHED 342.** Aquaponics and the effect on the cell wall. J. O'Flanagan, C. Esslinger, A. Marry

**CHED 343.** Colorimetric detection of gentamicin in milk using functionalized gold nanoparticles. J.C. Gukowsky, C. Tan, L. He

**CHED 344.** Analysis of heavy metals in livers and filets of spotted seatrout (*Cynoscion nebulosus*). P. Intravichin, B. Adair

**CHED 345.** Effect of common food preservatives, Butylatedhydroxytoluene (BHT) and sodium benzoate, on the survival rate and behavior of *Daphnia magna*. R. Valedon Arce, L. Narvaez Mejias, M. Barrera Diaz, J.I. Ramirez Domenech

**CHED 346.** Method development for determination of capsaicinoids from complex food matrices. J. Peschke, S. Chakraborty

**CHED 347.** Cafestol concentration comparison in coffee beans. K. Houser, E.A. Baldauff

**CHED 348.** Determination of zinc by flame atomic absorption spectroscopy using chemical digestion for complex beer matrices. C. Wentworth, J. Bruce, R. Patnaude, L. Benedict, Z. Bodah

**CHED 349.** Validation of short sequence repeats present in *Triticum monococcum*. H. Wesselman, S. Fox, A.L. Smalley

**CHED 350.** Tracking calcium content throughout the craft brewing process via flame atomic absorption spectroscopy. J. Bruce, J. Balsamo, C. Wentworth, C. Mahaffey, N. Sanborn, L. Benedict

**CHED 351.** Evaluation of Amazon products: Drying and lipids extraction of cupuassu (*Theobroma grandiflorum*) seeds. M. Pereira, P.K. Silva Silva, L.C. Guedes Coelho Marinho, M.R. Carvalho Morais, W. da Luz Rodrigues

## Section I

Moscone Center  
Hall D

### Undergraduate Research Posters

<sup>‡</sup> Cooperative Cosponsorship



## Analytical Chemistry

Cosponsored by ANYL and SOCED

N. Di Fabio, *Organizer*

12:00 - 2:00

- CHED 352.** Identification of volatile organic compounds present in cigarette smoke via purge-n-trap coupled with GC/MS. P. Skersick, C.H. Lisse
- CHED 353.** Quantitative identification of volatile organic compounds and free base nicotine present in electronic-cigarette vapor via GC/MS detection. E. Smith, C.H. Lisse
- CHED 354.** Self-assembly of mono-layers on graphene with pyrene and cyclodextrin derivatives. E. Swanson, X. Zhen, P. Buhlmann
- CHED 355.** Analysis of e-cigarette fluid with Direct Sample Injection (DSI) GC-MS/MS. K. Rogers, K. Biscaglia, L. Huang
- CHED 356.** Quantification of B-vitamins in multivitamin dietary supplements through HPLC-MS. T. Vu, S. Pribil, K.J. Sorauf
- CHED 357.** Withdrawn.
- CHED 358.** Comparison of Oasis WCX and Oasis HLB sorbents for polar organic chemical integrative samplers and for solid phase extraction of wastewater for detection and quantification of amphetamine-type stimulants. M. Fulmer, A. Loftis, J. Donegan, T.H. Boles
- CHED 359.** Withdrawn.
- CHED 360.** Withdrawn.
- CHED 361.** Investigating into the effect of aging and grain content on the chemical composition of whiskey. W. Pugh, R. Lahti
- CHED 362.** Comparison of Bisphenol A concentrations in Zebrafish tissue and the surrounding water using UPLC-MS/MS. E. Dornisch, S. Ramakrishnan, M. Gessel
- CHED 363.** The isolation and determination of two related compounds from the leaf gel of *aloe cameronii*. A. Theberge, A. Trowbridge, R.L. Bretz
- CHED 364.** Characterizing dissolved organic material in local lakes and streams through excitation-emission fluorescence spectroscopy and parallel factor analysis. S. Pribil, T. Vu, K. Sorauf
- CHED 365.** Chemically-induced droplet coalescence in a droplet microfluidic device. D.G. Horvath, D. Pluhar, P. Abbyad
- CHED 366.** Using SPME-GC/MS to identify attractive odorants in the bacterial food sources of *C. elegans*. S. Worthy, G. Rojas, E. Glater, C.J. Taylor
- CHED 367.** Covalent modification of multiwall carbon nanotubes with  $\beta$ -cyclodextrin for enhanced electrochemical detection of uric acid. S. Gillespie, M.A. Schwarzmann, A. Kane, C. Bowles, M. Trawick, M.B. Wayu, M.C. Leopold
- CHED 368.** Neurochemical study of zebrafish using fast-scan cyclic voltammetry. M. Furgurson, M. Shin, M.A. Johnson
- CHED 369.** Development of a facile method for the screening of prescription medications of abuse employing a portable GC/MS. R. Shen, S. Michalsky, D.C. Collins
- CHED 370.** Eliminating backflash in gas chromatography through the use of zero-solvent-volume thermal desorption injectors. S. Michalsky, A. Tolzmann, S. Grover, D.C. Collins
- CHED 371.** Development of layer-by-layer design of xerogel-based amperometric first generation biosensors on wire electrodes. G.E. Conway, M.C. Leopold
- CHED 372.** Edible oil fingerprinting using direct infusion ESI-MS and principal component analysis. M. McNamara, L. Loukotkova, G. Gamboa da Costa
- CHED 373.** Method development for the analysis of Bisphenol A (BPA) in milk. A.M. Encerrado, W. Lee
- CHED 374.** Analysis of FAME and sterol content in biodiesels using PCA. A. Clifford, A.M. Hupp
- CHED 375.** Analysis of raw materials in a veterinary topical analgesic. A. Franzen, E. Westemeier, J. Erickson, J.E. Larson
- CHED 376.** Green chemistry analysis of metal complexes by MALDI-TOF. C. Jernigan, G.R. Dubay
- CHED 377.** Comparative studies on the interactions of nanoceramics (metal oxides) with hemoglobin. T. Batte, E.E. Mojica
- CHED 378.** Evaluation on the interaction of nanomaterials with enzymes (catalase and lipase) using optical spectroscopy. K. Chhe, E.E. Mojica
- CHED 379.** Method development for analysis of illicit drugs/amphetamines in biological samples. L. Reilly, E.E. Mojica
- CHED 380.** Discrimination of fluoroquinolone antibiotics using Raman spectroscopy. A.E. Kuptsow, E.E. Mojica
- CHED 381.** Phenol content and its relationship to the antioxidant activities of different commercial tea samples. A. Villaggi, E.E. Mojica
- CHED 382.** Quantification of quorum sensing components produced by bacterial biofilms. K. Kough, J.A. Stenken
- CHED 383.** Monitoring the water quality of selected Billion Oysters Project (BOP) restoration sites. J. Zapata, E. Jones, G. DiMeglio, R. Kline, L.B. Birney, E.E. Mojica
- CHED 384.** Carboxylic acid multi-walled carbon nanotubes modified with  $\beta$ -cyclodextrin for the detection of uric acid on an electrochemical sensor. M.A. Schwarzmann, S.D. Gillespie, M.B. Wayu, L. Hughes, M.C. Leopold
- CHED 385.** NMR studies with  $^1J_{CC}$  coupling and computational modeling to identify preferred tautomers in austrocortinin. G. Versfeld, J.R. Powell, J.K. Harper
- CHED 386.** First generation amperometric biosensor to detect galactosemia. T. Munoz, C. Steele, W. Case, M.C. Leopold
- CHED 387.** Chemical and structural analysis of metronidazole and its derivatives. S. Azimi, D. Athanasopoulos, R.K. Upmancis
- CHED 388.** Evaluation of novel massive projectiles for nanoscale secondary ion mass spectrometry. A. Vinjamuri, M. Eller, G.D. Shuffield, E.A. Schweikert
- CHED 389.** Analysis of a series of dietary supplements via energy dispersive X-ray Fluorescence Spectroscopy (EDXRF). W. Bair, S. Maurice, E. Roberts-Kirchhoff, M.A. Benvenuto
- CHED 390.** Analysis of a series of coins of the Byzantine Empire via energy dispersive X-ray Fluorescence Spectroscopy (EDXRF). W. Bair, J. Pothoof, G. Nguyen, M. Bhagwagar, M.A. Benvenuto
- CHED 391.** Development of metal ion specific sol-gel targets for trace metal total reflection X-ray fluorescence analysis. A. Butler, A. Arndt, R.N. Dansby-Sparks
- CHED 392.** GC-MS analysis of cyanuric acid in swimming pool waters. D. Chun, C. Lehr
- CHED 393.** Determining extracellular sulfatase SULF1 concentration as a biomarker to detect the onset of breast cancer using an electrochemical approach. A. Nguyen, K. Vu, K. Gardiner, Z. Huang, Z. Wang
- CHED 394.** Exploration of the upper mass limit of CRAFT1 through protein cross-section analysis. B. Pope, D.V. Dearden
- CHED 395.** Improving the technique of simultaneous chromatography and electrophoresis by employing vertical sealing margins to achieve a flat-continuous solvent flow profile. R.E. Soto Alvarez, J.D. St. Jeor, E. Naef, D.C. Collins
- CHED 396.** Incorporating statistics to probe solvent mechanisms. A. Lonski, M.J. D'Souza
- CHED 397.** Evaluating the relationship between chemical profiles and cryptic species of *Sarcophyton* soft corals in Palau using both supervised and unsupervised statistical learning. E.M. Maloney, J. Chari, R.T. Botts, T.S. Davis, O.A. Alvarado, B.J. Chicoine, C. Brayton, C.S. McFadden, K.N. Maloney
- CHED 398.** Use of polynomial regression techniques to predict solvent mechanisms for benzoyl cyanide. E. Brandenburg, M.J. D'Souza
- CHED 399.** Spectroscopic properties of hydroxycinnamic acids under acidic, neutral, and basic conditions. J. Farshi, E.E. Mojica
- CHED 400.** Geochemical analyses at Eagle Cave, TX: X-ray diffraction and accelerator mass spectrometry radiocarbon dating. J. DeYoung, K.L. Steelman
- CHED 401.** Raman spectroscopy and density functional theory calculations of phenolic acid derivatives. S.J. Pace, E.E. Mojica
- CHED 402.** Evaluation of different methods in the extraction of active compounds from bee propolis. L.O. Wyan, E.E. Mojica
- CHED 403.** Binding of oxytetracycline and doxycycline with nanoceramics. H.N. Tonn, H.B. Jufer, E.E. Mojica
- CHED 404.** Analysis of sulfa drugs using Raman spectroscopy and Density Functional Theory (DFT) calculations. A.R. Javornik, E.E. Mojica
- CHED 405.** Sample preparation and analysis of NSAIDs (Non-Steroidal Anti-Inflammatory Drugs) in environmental water samples. E. Jones, E.E. Mojica
- CHED 406.** Building a low cost Raman spectrometer. S. Thibado, J.R. Williams
- CHED 407.** Investigation of charcoal-based electrically conductive paint. A. Arslanian, W.E. Schatzberg
- CHED 408.** Strengths and weaknesses of glass pH probes quantified: An advanced undergraduate chemistry laboratory. A. Corral, J.C. Goeltz
- CHED 409.** Improving a method for detecting fish exposed to cyanide via thiocyanate ion excretion using High Performance Liquid Chromatography (HPLC). R.J. Metivier, N.E. Breen, A. Rhyne
- CHED 410.** Lead detection by hair analysis. D.L. Sullivan, D.J. Schauer
- CHED 411.** Analyzing the binding relationship between curcuminoids and HSA by steady state fluorescence spectroscopy. G.J. Myres, O. Michels, M. Amman, M. Roozbeem
- CHED 412.** Molecular dynamics simulation study of chiral recognition by dipeptide-based molecular micelles. K. Krause, J. Ingle, E. Billiot, F.H. Billiot, Y. Fang, K.F. Morris
- CHED 413.** Isolation of possible antifungal compounds from *Aloe barbadensis*. H. Hirata, R.L. Bretz
- CHED 414.** Analysis of wastewater samples for opioids using collection by passive and grab sampling and extraction by reversed-phase and mixed-mode sorbents. W. Parker, K. Moffitt, A. Loftis, T.H. Boles
- CHED 415.** Identification and characterization of analyte binding sites in chiral molecular micelles. J. Ingle, K. Krause, E. Billiot, F.H. Billiot, Y. Fang, K.F. Morris
- CHED 416.** Withdrawn.
- CHED 417.** Structure relationship study comparing binding affinities of pyridine-2,6-dicarboxylic acid (DPA) with DPA derivatives to develop alternative small chelating molecules. K. Page, M. Kirkland, S.G. Tajc
- CHED 418.** Fluorescent detection of hydrogen sulfide ( $H_2S$ ). M. Maher, D. Newman, K. Peterson
- CHED 419.** Spectrophotometric method for the determination of nitrite with a single reagent. D.A. Habboush, R. Alahmadi, S. Alsenani
- CHED 420.** Performance enhancing supplements: Do we need stronger regulations? K. Baran
- CHED 421.** Derivatization, DLLME, and GC-FID analysis of mercury in fish tissue. A. Narro, L.A. Curry
- CHED 422.** Effect of pH on properties of amino acid based surfactants. Z. Ramos, C. Lewis, E. Billiot, F.H. Billiot, K.F. Morris
- CHED 423.** Spectroelectrochemical analysis of trace metals in gunshot residue. C.E. Ott, J.N. Richardson
- CHED 424.** Preparation of organo-silica monolithic columns for applications in capillary liquid chromatography using thiol-ene click reaction. A. Burkus-Matesevac, Z. Zajickova
- CHED 425.** Theoretical analysis of the standard reduction potential for the irreversible redox process of methionine. R. Krupa, J. Roberts, L.A. Sombers
- CHED 426.** Testing agreements between NMR and mass spectrometry HX method. L. Downer, M. Weerasinghe, D.D. Weis
- CHED 427.** Using High Pressure Liquid Chromatography (HPLC) for the analysis of artificial sweeteners and caffeine in soft drinks, carbonated waters, and singles to go packets. D. Martin, R. Chinni
- CHED 428.** Development of a paper-based analytical device for heparin. C. Norris, J.M. Esson
- CHED 429.** GC-MS analysis of Chinese baijiu liquor flavored as American bourbon whiskey. C. Nowlin, R.L. Silvestri
- CHED 430.** Production and analysis of aluminum fluoride phosphate glasses synthesized by a sol-gel method. J. Fletcher, C.B. Brennan, N. Marrero-Silva

- CHED 431.** Fixed-time kinetic spectrophotometric determination of biotinylated aptamers. **B. Mandella, D. Spikerman, A.G. Cavinato**
- CHED 432.** Degradation of tetracyclines in anaerobic digestion using solid phase extraction and HPLC. **C. Cruse, E.D. Conte, A.J. Abdurheem, C. Fullington**
- CHED 433.** Study of L-phenylalanine-based ionic liquids as stationary phases for GC. **K. Raut, I. Kimaru**
- CHED 434.** Determination of the dissociation constants of triprotic acids with broadly ranging  $pK_a$ s. **H. Do, G.Z. Goloverda, V.L. Kolesnichenko**
- CHED 435.** Determination of BAC in varying hemoglobin levels. **K. Klein, K. Opel**
- CHED 436.** Detection and quantification of amphetamine in buried rat brain, heart, and liver at different stages of decomposition. **C.R. Mendralla, K. Scott, M. Drumm**
- CHED 437.** Optimizing cloud point extraction for stripping anodic voltammetry of transition metals. **C. Quartermaine, M. Hawkins, C.A. Rusinek, A.F. Bange**
- CHED 438.** Withdrawn.
- CHED 439.** Towards an arsenic-specific aptasensor based on AuNPs/thiol interactions. **K. Vega-Figueroa, I. Mayorga, A. Rivera, E. Nicolau**
- CHED 440.** Analysis of catalytic isomerization and degradation of methyl-parathion by mixed metal oxide nano-fibers using LC-MS methods. **M.M. Allard, C.C. Perry, S. Merlos**
- CHED 441.** Analysis of kinase substrate peptides by capillary electrophoresis. **S. Cook, C.T. Culbertson**
- CHED 442.** Survey of the chemical and physical properties of deep eutectic solvents. **A. Beyer, J. Salazar, M.E. Johl**
- CHED 443.** Spectroelectrochemical determination of lead and zinc through attenuated total internal reflectance stripping voltammetry. **R.J. Shaffer, J.N. Richardson**
- CHED 444.** Analysis of fish oil supplements for omega-3 content and heavy metal contamination. **V. Stafford, J.R. Williams**
- CHED 445.** Electrochemical properties of amines on planar platinum surfaces. **K. Wong, M. Ma, E.C. Landis**
- CHED 446.** CO-extraction of lead and cadmium by cloud point extraction as a pre-concentration method for analysis by square wave stripping voltammetry. **M. Hawkins, C. Quartermaine, A.F. Bange, C.A. Rusinek**
- CHED 447.** Design and development of sarcosine sensors utilizing nanomaterials. **E. Doll, N. Labban, M. Pannell, H. Kerins, M.B. Wayu, J.A. Pollock, M.C. Leopold**
- CHED 448.** Extraction and analysis of agarita (*Mahonia trifoliolata*). **M.A. Boyle, N.A. Leed, B. Leverett, B. McBurnett**
- CHED 449.** Comparison of the caffeine content of popular brewing methods. **T.L. Self, K. Cossey, C. Mills**
- CHED 450.** Determination of illicit drug metabolites in wastewater using GC-MS following a Dean-Stark extraction. **M. Wiernusz, G.P. Foy**
- CHED 451.** Determination of cadmium in water samples by spectrophotometric methods. **T. Rutherford, S. Hubbard**
- CHED 452.** Design of the time-of-flight mass spectrometer using chemically developed semi-conductive electrode as a multi-potential ion guide. **D.V. Kravchuk, J. Nederhoff, M. Flesch, C. Hanson**
- CHED 453.** Minimizing diacetyl formation in beer by controlling fermentation parameters. **S.M. Brennan, R.A. Hunter**
- CHED 454.** HPLC analysis of juglone in black walnut hull supplements. **A. Dixon, Y. Liu**
- CHED 455.** Exploring Solid Phase Analytical Derivatization (SPAD) as a sample preparation method for quantitative analysis by GC-MS. **A. Bieber, Y. Mei-Ratiff**
- CHED 456.** Determination of lead concentration in water samples using spectrophotometric and electrochemical methods. **A. Engelkes, S. Hubbard**
- CHED 457.** Analysis of reducible species within natural dissolved organic matter using attenuated total reflection Fourier transform infrared spectroscopy. **D. Fleischmann, D.R. Baluha**
- CHED 458.** Comparative study of heavy metal levels in various eye cosmetic products. **A. Lipniskis, M.A. Fisher**
- CHED 459.** Applying chemistry to questions in neuroscience: HPLC-DAD/MS analysis of *Passiflora incarnata*. **K.A. Perrotta, A. Weiss, S. Cameron, A. Halpern, T. Luck, P. Maehler, A.J. Stavros, C.M. Ingersoll, J.A. Teissere**
- CHED 460.** Aptamer selection assisted by graphene oxide. **J.K. Carter, B. Mandella, D. Spikerman, A. Harris, G. Rodriguez, A.G. Cavinato**
- CHED 461.** Electrospinning of quantum dot-doped organic polymers for differential detection of targeted chemicals. **M. Lister, D. Morris, M. Hicks, J. McNeal, D.E. Riegner**
- CHED 462.** Optimization of sarcosine oxidase isolation and purification for use in amperometric biosensors. **N. Labban, E. Doll, H. Kerins, M. Pannell, W. Mulugeta, J.A. Pollock, M.C. Leopold**
- CHED 463.** Investigation of biodiesel-diesel blends using GCMS and PCA. **C. Brown, R. Dean, A.M. Hupp**
- CHED 464.** Analysis of petroleum products in lakes of the Wasatch watershed, Salt Lake City, Utah. **R.M. Hyde, L. Miller**
- CHED 465.** Enhanced reproducibility for the analysis of polycyclic aromatic hydrocarbons in river water. **D. Herrick, D.A. Carter, A. Salazar**
- CHED 466.** Molecularly imprinted polymers for dopamine recognition. **T. Cheek, G. Mwangi**
- CHED 467.** Dietary effects on urinary sulfate levels in pigs measured by a conductometric method. **J. Garcia, T.A. Parker, K.A. Guay, L.D. Schultz**
- CHED 468.** NMR spectroscopy as a screening agent for designer opioids. **M. Chambers, L. Huang**
- CHED 469.** How poisonous is milkweed? Spectrophotometric determination of cardiac glycosides in *Asclepias syriaca*. **H.G. Bowler, M.P. Gonella, M.A. Everest**
- CHED 470.** Proteomics and transcriptomics: Techniques for the discovery of neuropeptide receptors in the American lobster, *Homarus americanus*. **C.Q. Corban, P.S. Dickinson, A.E. Christie, E.A. Stemmler**
- CHED 471.** Quantitation and characterization of anthocyanins in medical cannabis flowers cultivated in eastern Oregon. **D. Spikerman, B. Mandella, R. Hunt, J. Riggle**
- CHED 472.** Surface-enhanced fluorescence enhancement studies on silver dendrites. **D. Allen, D. Rios, S. Shtoyko, S. Raut, I. Gryczynski**
- CHED 473.** Forensic discrimination and quantification of EDTA in dried bloodstains using diffuse reflectance infrared fourier transform spectroscopy, attenuated total reflectance, and liquid chromatography-mass spectrometry. **C.O. Granger, C.E. Witt, J. McOutcheon**
- CHED 474.** Polyaniline-gold nanocomposites doped with ferricyanide for electrochemical and optical biosensing measurements. **R. Quezada, R. West**
- CHED 475.** Pre-equilibration affinity capillary electrophoresis method to probe molecular interactions of heparin to histidine. **A. Schrader, A.K. Korir**
- CHED 476.** Analysis and quantification of microbeads in commercial products and the environment through FTIR spectroscopy. **J. Strickler, G.P. Foy**
- CHED 477.** Quantitative analysis of chloride concentrations by a chloride ion selective electrode and ion chromatography in southeastern Wisconsin. **M. Tveit, C.A. Blaine**
- CHED 478.** HPLC-UV and LC-MS analysis of resveratrol and piceid isomers in Japanese knotweed. **J. Luchetta, D.E. Mencer, W. Terzaghi, K. Klemow, M. Yatison, D. Pupaza, A. Mikolon, A. Ford**
- CHED 479.** Analyzing the levels of mercury (Hg) in rice and rice products consumed by residents and students in St. Lawrence County New York. **J. Wilson, N. Gao**
- CHED 480.** Identification of individuals by gas chromatography-mass spectrometry analysis of fingerprint residues. **T. Kuhns, S. Zentz, R. Thomas, K. Sarago, J. Saffle, M. Akers, D.S. Egolf**
- CHED 481.** Qualitative determination of the adherence of VOCs to building materials. **J. Turner, C.H. Lisse**
- CHED 482.** Stability of AH-7921 in polar organic solvents. **M. Murphy, H.L. Ciallella, K. Scott**
- CHED 483.** Method development for analyzing vibrational modes of unattached violin plates. **M. Flesch, J. Rollison, C. Hanson**
- CHED 484.** Stability of synthetic cathinones in beverages. **L. Rutter, K. Scott**
- CHED 485.** Analysis of heat dried blood stains through forensic blood testing and DNA profiling techniques. **B. Bosley, M. Wright, F.L. Musko**
- CHED 486.** Surface enhanced Raman spectroscopy using silver and gold nanoparticles. **E.S. Breeden, L.H. Rickard**
- CHED 487.** Vibrational spectroscopy studies of the role of water in metal ion extraction into room-temperature ionic liquids. **M.L. Rigney, M.L. Dietz, C.A. Hawkins**
- CHED 488.** NMR investigation of the effect of pH on micelle formation by an amino acid-based surfactant. **G. Rothbauer, E. Rutter, F.H. Billiot, E. Billiot, Y. Fang, K.F. Morris**
- CHED 489.** Method development for analyzing vibrational modes of violins throughout construction process. **J. Rollison, M. Flesch, C. Hanson**
- CHED 490.** Use of membrane fusion to understand the role of lung surfactant protein B in lipid trafficking. **K. Kroning, O.H. Braide**
- CHED 491.** Identification of pigments and the level of degradation in the painting Saint Peter. **D. Seigneur, S.J. Gravelle**
- CHED 492.** Detection of date rape drugs in hair using supercritical fluid extraction and gas chromatography/mass spectrometry. **J. Knudsen, G.P. Foy**
- CHED 493.** Benchtop deposition of patterned thin films of pentacene. **R. Mendoza, N. Rowland, M.V. Lee**
- CHED 494.** Influence of salt on the stability of oil-in-water emulsions containing wley protein-xanthan-locust bean complexes. **K.R. Griffin, M. Krempel, H. Khouryieh, K. Williams**
- CHED 495.** Analysis of metal content of red wines from the winemaking process by ICP-OES. **S. Kvasnovsky, G.P. Foy**
- CHED 496.** Cavity ring-down spectrometry of gas-phase ions prepared via electrospray ionization. **B. Rose, L.A. Ligon, T.G. Spence**
- CHED 497.** Supercritical fluid and organic extraction and liquid chromatographic-UV/Vis analysis of stevioside from *Stevia Rebaudiana* leaves. **L.R. Stauring, G.P. Foy**
- CHED 498.** Electrochemical studies of ferrocenyl chalcones immobilized in Nafion®. **A. Molina-Villarino, J.C. Aponte-Santini, I. Montes, A.R. Guadalupe-Quiñones**
- CHED 499.** Electrochemical water quality analysis of the Susquehanna River and Laurel Hill Creek. **S.J. Sujansky, K. Rublein, L.K. Lee**
- CHED 500.** Comparison of methods for the capture of e-cigarette emissions for the determination of constituents using gas chromatography-mass spectrometry. **C. Cummings, M. Bida, A.G. DiFrancesco, I. Rahman, R.J. Robinson, T.E. Pagano**
- CHED 501.** Top-down and bottom-up proteomics for the identification of crustacean neuropeptides and precursor-related peptides predicted by transcriptomics. **J.M. Michels, C. Rivera, P.S. Dickinson, A.E. Christie, E.A. Stemmler**
- CHED 502.** Deposition of nickel nanoparticles on carbon nano-onions via the rotating disk slurry electro-deposition technique for non-enzymatic glucose sensing. **J.J. Soto Perez, C. Vélez, C.R. Cabrera**
- CHED 503.** Sensitivity comparison of GC-MS and GC-FID/ECD. **S. Salske, K.E. Molter**
- CHED 504.** Construction and alignment of a total internal reflection fluorescence microscope. **K. Griffith, K. Fogarty**
- CHED 505.** Withdrawn.

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

- CHED 506.** Identification and characterization of Plutonian and Titan tholins via LDMS and <sup>15</sup>N NMR. J. Nederhoff, D.V. Kravchuk, M. Flesch, J. Sebree, C. Hanson
- CHED 507.** Quenching of electrochemiluminescence in aqueous solution by nitrate explosives. K.A. Abrams, K.D. Sienerth
- CHED 508.** Determination of heavy metals in CoverGirl and Bare Minerals cosmetic product. J. Litz, K. Chichester
- CHED 509.** Spectroscopic and spectrometric analysis of two illuminated manuscripts from the 15<sup>th</sup> and 16<sup>th</sup> centuries. B.R. Wydra, A.M. Fleshman
- CHED 510.** Characterization of reactions responsible for aging in wood-based pyrolysis oil. L.R. Nguyen, J. Joseph, M.J. Rasmussen, P. Speight, B.G. Frederick, E.A. Stemmler
- CHED 511.** Analysis of complex molecules utilizing a 60 MHz FT NMR: How far can we push the magnet? A. Quintero, T. Munguia
- CHED 512.** Evaluation and refinement of the procedure used to prepare training samples for arson detection K-9s. E.A. Chance, S.D. Oo, D.W. Carpenetti
- CHED 513.** Analytical methods for characterization of synthesized gold nanoparticles in nonpolar solvents. S. Bonson, N. Orloff, P.J. Kreke
- CHED 514.** Extraction of pesticides in local and imported fruits followed by GCMS analysis. K. Greeley, C.D. King
- CHED 515.** Second step dissociation constant (pK<sub>a</sub>) and related thermodynamic quantities of TES buffer from 5 to 37°C. Y. Kang, T. Wehmeyer, R.N. Roy, L. Roy
- CHED 516.** Forensic analysis of trash bags: Microscopical discrimination of trash bags. D. Daley, M. Clothier, W. Rowe
- CHED 517.** Aptamers as versatile probes for small-molecules and nucleic acids. A. Gee, M. de Pina, N. Hughes, D. Daley, M.F. Ali
- Section I**
- Moscone Center  
Hall D
- Undergraduate Research Posters**
- Biochemistry**
- Cosponsored by BIOL and SOCED*
- N. Di Fabio, Organizer
- 12:00 - 2:00
- CHED 518.** Determination of the menstrual cycle's effects on hemoglobin levels. A.K. Perry, P. Faber
- CHED 519.** Directed evolution of the haloalkane dehalogenase from *C. crescentus*. M. Ahsan, E.C. Mundorff
- CHED 520.** Withdrawn.s
- CHED 521.** Engineering firefly luciferase for improved bioluminescent imaging. C. Morrissey, C. Fick, A.M. Leconte, T.S. Wu, E.A. Warner, M. Liu
- CHED 522.** Sucrose metabolism in kombucha tea. P.R. Cheek, J. Inlow
- CHED 523.** Investigation into the binding of recombinant intimin and translocated intimin receptor proteins involved in infection by enteropathogenic and enterohemorrhagic *E.coli*. C. Redmond, L. OBrien
- CHED 524.** Effect of peptide conformational change to a solvent diffusion rate in a silica sol-gel matrix. R. Sah, E. Esquivel, R. Singh, K. Smyth, K. Yokoyama
- CHED 525.** Towards a bacteria retardant implant surface. A.A. Schultz, E.S. Gawalt, N. Reger
- CHED 526.** Extraction and identification of vitamin K<sub>1</sub> from black cohosh. A. Jones, P.S. Biser
- CHED 527.** Preventing gene expression through the interruption of DNA binding. O. Perdue, A. Stewart, A. Murray
- CHED 528.** Characterization of in vitro amyloid fibril formation from bovine serum gamma globulin using thioflavin T fluorescence and polyacrylamide gel electrophoresis. C. Schieffer, M.E. Lee
- CHED 529.** Expression of ER $\alpha$  and ER $\beta$  in hippocampus and amygdala during altered energy states between sexes. M. Bhardwaj, S. Marshall, K. Krollick, H. Shi
- CHED 530.** Drug adsorption to spherical supported lipid bilayers. J. Yin, A.A. Fuller, G.Y. Stokes
- CHED 531.** Effects of amyloid beta oligomers on the oxidation of lipids. S.E. Cuddeback, K.M. Matera
- CHED 532.** Stabilization of A $\beta$  peptide aggregates using phenolic compounds. I.R. O'Leary, K.M. Matera
- CHED 533.** Validation of downregulated genes and putative tumor suppressor genes in pancreatic cancer using quantitative reverse transcriptase-PCR. W.W. Andersen, A. Smith, K. Dhanwada, N. Goonesekere
- CHED 534.** Adenovirus mediated delivery of an engineered DNA sequence for pancreatic cancer treatment. T. Becker, M.A. Kennedy
- CHED 535.** Expression and purification of glutathione reductase of *Plasmodium falciparum*. An antimalarial drug target of Methylene Blue (MB). R. Mowmn, N. Prieto
- CHED 536.** Early detection of pancreatic cancer. A. Rivers, M. Veite, M.A. Kennedy
- CHED 537.** Sunscreen chlorination alters its absorptive properties. A.A. Pohl, G.H. Purser, R.J. Sheaff
- CHED 538.** Effects of chromium-binding peptide on enzymes of the insulin signaling cascade. L.C. Scott, P.E. White, J.B. Vincent
- CHED 539.** Determining binding affinity of complement factor C1q and prion protein: Implications in down-regulating prion expression on Follicular Dendritic Cells. G. Bourne, G.F. Burton
- CHED 540.** Enzymatic hydrolysis of 2,2-diphenylethyl glucosinolate. C.A. Klingaman, M.J. Wagner, J.R. Mays
- CHED 541.** Withdrawn.
- CHED 542.** Chemical and bioactive capability of twenty mushroom species from the Lower Rocky Mountain region. O.Z. Schaefer, A. Leontyev
- CHED 543.** Comparing self-assembled monolayers on gold sensor chips for surface plasmon resonance analysis. A. Fordehase, J.R. Williams
- CHED 544.** Use of thioredoxin solubility tag on lysyl oxidase: Effects on activity and solubility. A. Hussain, K.M. Lopez
- CHED 545.** Coupling qPCR to split aptamer ligation for the detection of steroid targets. K. Jones, E. Kimbrough, J.M. Heemstra
- CHED 546.** Membrane assisted polymerization of amino acids. B. Malley, S.E. Maurer
- CHED 547.** Investigations of the effects of copper(II) on *Penicillium spinulosum* chitinase activity. B.J. Trujillo, M. Cruz, S. Walker, S.J. Bonetti
- CHED 548.** Characterization of recombinant ENL YEATS domain and its protein-protein interaction with Paf1. E. Peltan, S.M. Grigsby, Z. Nikolovska Coleska
- CHED 549.** Identification of CDK and VEGFR inhibitors for the treatment of vascular pathologies. M. Ismail, V.C. Miles, U. Chaudhry, A. Ahmad, E. LeMelle, H. Conway, K. Lam, T. Walden, R. Komati, M. Bratton, M. Mottamal, G. Wang, H. McFerrin, J. Sridhar
- CHED 550.** Characterization of dilated cardiomyopathy linked R25 mutants of phospholamban. M. Exline, K. Ha
- CHED 551.** Effects of N-terminal disease mutations on HspB1 polydispersity. R. Klevit, A. Clouser, T.H. Chu
- CHED 552.** Magnetic silicone nanospheres for in vivo drug delivery. K. Pieri, B. Evans
- CHED 553.** Porphyrin-based Photodynamic Antimicrobial Chemotherapy (PACT) and its effects on various bacterial morphologies. J.A. Smith, C.E. Stiltz, A.M. Wilson, E.A. Dano, J.P. Rynders
- CHED 554.** Synthesis of novel cell-penetrating sequences with selective binding to Helix 69. A. Abu-kwaik, C.S. Chow, H. Seo, N. Muthunayake
- CHED 555.** Characterization of a human G protein-coupled receptor. M. Doleschal, T. Frielle
- CHED 556.** Expanding the NMR metabolome with enriched and improved growth media. K. McMahon, F. Bhinderwala, R. Powers
- CHED 557.** Investigation of structure/function relationships in the retaining glycosyltransferase MshA from *Corynebacterium glutamicum*. C.M. Petersen, P.A. Frantom
- CHED 558.** Solubility studies of a zinc-finger antiviral protein cloned with and without solubility tag. R. Sargsyan, D. Lawrence
- CHED 559.** Sugar metabolism in cells lacking the tumor suppressor p27kip1. E. Loe, R.J. Sheaff
- CHED 560.** Synthesis of solvatochromic probes to label the mycobacterial cell wall. A. Utz, S. Keyser, C.R. Bertozzi
- CHED 561.** Expression and purification of DPAP-1. D. Coleman, H. Prieto
- CHED 562.** Designing a plasmid to study long range oxidation in DNA. M. Safaeipour, K. Hernandez, P. Lee, E. Stemp
- CHED 563.** Incorporation of non-polar porphyrin molecules into liposomes. S.N. Khayyo, P.K. Kerrigan, J. Batarseh, A. Novaj, S. Maio, R. Guglielmo, V. Khayyo
- CHED 564.** Characterization of Malaria DHFR Mutants. S. Akhlaq, H. Prieto
- CHED 565.** Quantification of DNA products using ion-pair reverse phase liquid chromatography. H. Wienkers, M. Bestwick
- CHED 566.** Determining amyloidogenicity of Islet Amyloid Polypeptide (IAPP) across mammalian species. D.A. Moffet, E. Njoo, D. Rinauro, S. Pilcher, L. Palato, B. Johnstone, K. Menefee, A. Tun
- CHED 567.** Targeting cells lacking the p27kip1 tumor suppressor using metformin. S. Sullivan, R. Khattab, R.J. Sheaff
- CHED 568.** Effects of macromolecular crowding on the inhibition of malate dehydrogenase. K. Wilber, D.W. Seybert
- CHED 569.** Role of nitroxides in mitochondrial oxidative stress. M. Abdulrahim, T.E. Goodwin, A.A. Caro
- CHED 570.** Effect of oleocanthal extract from extra-virgin olive oil on the aggregation of amyloid-beta proteins. A. Cicchini, M.A. Fisher
- CHED 571.** Expression of myxoma virus leukemia-associated protein in the presence and absence of solubility tags. R. Zietoon, D. Lawrence
- CHED 572.** Using *C. elegans* as a model for avolition. H. Sumner, J. Scott, K. Weeks
- CHED 573.** Role of the eIF2 kinase PERK on whole body and hepatic stress responses to dietary methionine restriction. C. Kerber, A. Pettit, T. Anthony, E. Mirek
- CHED 574.** Engineering Taq polymerases for the reverse transcription of 2' modified DNA. E. Lewis, S.L. Rosenblum, H.E. Chia, A.M. Leconte
- CHED 575.** Enzyme folding improves catalytic activity of enzyme cargos in virus-like particle nano-reactors. A. Hernandez, D. Patterson, C. Hjorth, J. Bird, T. Douglas
- CHED 576.** Cloning and expression of *Pseudomonas aeruginosa* elastase in *E. coli* for examining inflammatory response of lung tissue. C. Hjorth, D. Draper, A. Hernandez, J. Bird, A. Azghani, D. Patterson
- CHED 577.** Using site-saturation mutagenesis to identify residues that contribute to cephalosporin activity in class C beta-lactamases. S. Kim, S.T. Lefurgy
- CHED 578.** Investigating *B. fungorum* antibiotic resistance with transposon mutagenesis. L. Wethekam, K.M. Specht
- CHED 579.** Cytochrome c's role in a putative apoptosis pathway of *P. falciparum*. M. Yilmaz, H. Prieto
- CHED 580.** Investigating the diversity of antibiotic resistance genes in cultures derived from activated sludge bacterial communities following exposure to low doses of triclosan. B. McGivern, J. Beni, T. LaPara, J. Donato

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- CHED **581.** Ficoll induced aggregation in bovine serum albumin and not B-phycoerythrin. K. Blake, H. Boukari, M.J. D'Souza, Z. M'rah, E. Jhamba
- CHED **582.** Exploring the interactions of cytochrome c with diacylphosphatidylglycerol lipids. B.M. Abbott, J.J. Breen
- CHED **583.** Retinoic acid receptor gamma reciprocally regulates cellular adhesion and proliferation in K562 cells. V. Niedzwiedz, R. Mayo, M.D. Kelley
- CHED **584.** Analysis of the NF- $\kappa$ B transcription factor in the endangered coral *Orbicella faveolata*. E.G. Salas, L. Williams, T. Gilmore
- CHED **585.** Role of phosphorylation in lipid droplet protein activity. P. Stangl, A.K. Stoeckman, D. Mashek
- CHED **586.** Synthesis of syndecan 1 vector and its effect on the metastasis signal. N. Nemmers, D.C. Speckhard
- CHED **587.** Withdrawn.
- CHED **588.** Experimental measurements of protein electrostatics in GFP using vibrational Stark effect spectroscopy. D. Fernandez, C. Lum
- CHED **589.** Role of IL-17a in fecal microbiota transplant mediated clearance of *C. Difficile* infection. M.S. Saffern, E.G. Pamer, M.C. Abt
- CHED **590.** Math anxiety and cortisol as a biomarker. M.A. Davis, C. Lechak, D. Bateman
- CHED **591.** Protein dynamics in Superoxide Dismutase (SOD1). L. Cervantes, E. Healy
- CHED **592.** Analysis of novel inhibitors of *Borrelia burgdorferi* BGP protein: Potential new antibiotics to treat Lyme disease. T. Firica, E. Lines, J. Gonzalez, S. Schwarz, J.H. Thurston, D. Xu, K. Cornell
- CHED **593.** Analysis of microbial changes in the human oral cavity. Z. Weiss, K. Opel, D. Singleton, B. Gray
- CHED **594.** Investigations of the unique farming behavior of *Dictyostelium discoideum*. M. Van Horn, L. Morris, P.L. Kuhlman
- CHED **595.** Analysis of emergent electronic properties of self-assembling nucleopeptides. S. Brown, S. Singh, P. Patra, J.E. Smith-Carpenter
- CHED **596.** Specifically targeting cells lacking the tumor suppressor p27kip1 using metabolic inhibitors. J. Parackal, R.J. Sheaff
- CHED **597.** Evolution of membrane stability in the origins of life. T. Zaniewski, S.E. Maurer
- CHED **598.** Gas chromatography-mass spectrometry analysis of oxidation-reduction products of cholesterol in M624 human melanoma cells. A. Garlow, K.S. George Parsons
- CHED **599.** Identification of Nonribosomal Peptide Synthetase (NRPS) enzymes to find naturally occurring secondary metabolites. J. Kolasinski, W. Lloyd, J. Donato
- CHED **600.** Detection and analysis of glyoxylic acid uptake in *Calliphora vomitoria* larvae. H. Byczynski, A.L. Smalley
- CHED **601.** Design of dimethoxytrityl derivative to improve the selectivity in RNA phosphoramidite. A.M. Hodge, V.K. Dunlap
- CHED **602.** Broadening the scope of sortase-mediated ligations using natural sortase homologs. N. Horvath, K. Nikghalb, J. Prelesnik, P. Filipov, J. Antos
- CHED **603.** Apoptotic cascade: The role of metal ions on caspases. C.C. Williams, M. Davis Mcgibony
- CHED **604.** Effects of chelation of Fe(II) and Fe(III) by melanin films on electrochemical characteristics for Parkinsonism disease applications. C. Schinnerer, G. LeBlanc, G. Ludewick, H. Fisher
- CHED **605.** Determination of phosphorylation site on Vascular Endothelial cadherin (VE-cadherin) using mass spectrometry. M. Dolan, C. Minogue
- CHED **606.** Interaction of a water-soluble porphyrin with various DNA sequence: A spectroscopic study. M.K. Wright, J. McCue, S.M. Basu
- CHED **607.** Measurement of beta-oxidation catalyzed by lipid bodies of *Brassica napus* using HPLC. C.M. LaRussa, G.A. Giles
- CHED **608.** Structural analysis of neurotransmitter-stabilized A $\beta$  oligomers. M. Alinutt, K.M. Matera
- CHED **609.** Cytotoxicity of novel naphthoquinones. A. Rowe, J. Alao, J.C. Dicesare, R.J. Sheaff
- CHED **610.** Altering the conformational ensemble of the calmodulin binding protein PEP-19. D. Ordonez, N. Rathke, C. Mitchell, T. Dunlap
- CHED **611.** Deoxyribozyme Sero1C and photoreversion of cytosine dimers. R. Sapia, Y. Gerasimova
- CHED **612.** Catalytic activity and thermal stability of chymotrypsin encapsulated in self-assembled lithocholic acid nanotubes. L. Stiff, Q. Lu, G.E. Collins, R.L. Siefert
- CHED **613.** Interaction points between stromally exposed CpTatC and precursor signal peptide. G. Thomas, A. Habtemichael, C. Dabney-Smith
- CHED **614.** Characterization of jhp0715, a putative member of the futasoline pathway in *Helicobacter pylori*. C. Khalil, A. Roberts
- CHED **615.** Investigation of the structural features necessary for a positive THC assay. Z. Zhou, C. Lassiter, B.L. Martinez
- CHED **616.** Investigation of human pol eta's role in translesion synthesis past cisplatin-induced DNA damage. K. Bryson, S. Lone
- CHED **617.** Synthesis of chitosan coated nanodiamonds to prevent *Staphylococcus aureus* and *epidermidis* infection in bone implants. P.O. Méndez, E. Nicolau, J. Santillan, V. Ortiz, Y. Rodriguez
- CHED **618.** Development of an undergraduate peptide synthesis lab for organic and biochemistry courses. S. Bingaman, B.M. Day, J.F. Larrimore, M.J. Crawford
- CHED **619.** Cloning isoprenoid synthesis genes from *Thermoplasma volcanium* using the FX-cloning method. O. Blomquist, C. Banach, J.A. Himmelberger
- CHED **620.** Withdrawn.
- CHED **621.** Impact of BosR mutations on its DNA binding properties. S.E. Evans, D. Xenos
- CHED **622.** Development of a sensitive assay to detect tRNA modifications in cell culture. J.B. Mamaril, T.R. Vornhede, J. Burchett, M.P. Guy
- CHED **623.** Characterization of a terpene synthase from *Fischerella muscicola* PCC 9339. S.D. Knapic, M.L. Hillwig
- CHED **624.** Examining the effect of insulin on membrane association of islet amyloid polypeptide. E. Hegedus, M. Gessel
- CHED **625.** Characterization of a haloacid dehalogenase superfamily enzyme from *Mycobacterium tuberculosis*. G. Kaur, A. Roberts
- CHED **626.** Development of a fluorescence assay for the evaluation of nucleotide-analog incorporation during the elongation stage of RNA synthesis by hepatitis C virus NS5B RNA polymerase. M.N. Kenyon, M.L. Hillwig
- CHED **627.** Withdrawn.
- CHED **628.** Differential carbon metabolism in cells lacking the tumor suppressor p27kip1. K. Counter, R.J. Sheaff
- CHED **629.** Directed evolution of haloalkane dehalogenase from *Caulobacter crescentus* towards smaller, chlorinated substrates. M. Rahman, Y. Xiong, E.C. Mundorff
- CHED **630.** Low level DNA analysis from public and private surfaces by real time PCR. C. Bowman, K. Opel
- CHED **631.** Macromolecular crowding effects on Lactate Dehydrogenase (LDH). S.A. Shaik, D.W. Seybert
- CHED **632.** Withdrawn.
- CHED **633.** Imatinib activity against cells lacking the tumor suppressor p27kip1. A. Lignieres, R.J. Sheaff
- CHED **634.** Analysis of carbohydrates in the beer brewing process using HPLC. K. Alderfer, N. Fresco, J.A. Himmelberger
- CHED **635.** Development and identification of affibody molecules that target crotalid snake venoms. A.F. Sullivan, M. Sudduth, K.A. Noren, C.J. Noren, E. Osborne
- CHED **636.** Characterization of methylenetetrahydrofolate reductase oligomers utilizing hydrogen/deuterium exchange coupled with liquid chromatography and mass spectrometry. C. Jeon, E.E. Trimmer, E.M. Marzluff
- CHED **637.** Investigating mycobacterial L,D-transpeptidases in cell wall biosynthesis. R.L. Marshburn, L. Basta
- CHED **638.** Applying FRET to quantify dimer swapping in the auxin signaling pathway. M. Chiriboga, K. Piemonte, O. Charawi, J.P. Ellis
- CHED **639.** Analysis of mutations in *E. Coli* carbamoyl phosphate synthetase I. B.J. Davis, B.A. Smith
- CHED **640.** Biological effects and chemical aspect of Peruvian teas. S. Jimenez, E. Davis, L. Nogaj, S. Deprele
- CHED **641.** Aggregation mechanisms of amyloid-beta and insulin. V. Grove, K.M. Matera
- CHED **642.** Effect of combination disulfiram-copper treatment on ARV-7 expression in castration-resistant prostate cancer. Y.K. Elghoul, Q. Dou
- CHED **643.** Synthesis of a series of 2-acetyl-thiazole thiosemicarbazone ligands and their characterization by NMR spectroscopy and MIC studies. A.K. Buckner, A.R. Nesbitt, E.C. Lisic
- CHED **644.** Investigation of varying metal organic frameworks for the use as a slow release mechanism for insulin. W. Adrian, Z. Mensing
- CHED **645.** Oxidative DNA-protein crosslinking induced by oxidation of 8-oxoguanine by Os(phen)<sub>2</sub>dppz<sup>3+</sup> via the flash-quench technique. M. Safaeipour, E. Kroll, J. Dominguez, E. Stemp
- CHED **646.** Classifying the mode of inhibition of DNA methyltransferase inhibitors. J. Hoover, M.A. Fisher
- CHED **647.** Biological characterization of novel naphthoquinones as potential chemotherapeutics. R. Bacani, J. Alao, J.C. Dicesare, R.J. Sheaff
- CHED **648.** Investigation of the structure and function of P-Rex2: Implications for a molecular mechanism of PTEN inhibition. T. Diethrich, D. Needle, S.M. Ensel, D.S. Waugh, G. Miller
- CHED **649.** Insulin effects on cell metabolism in cells lacking the tumor suppressor p27kip1. R. Khattab, S. Sullivan, R.J. Sheaff
- CHED **650.** Expression of antioxidants in CMV infected heart cells. I. Naron, K. Weeks
- CHED **651.** Characterization of potential allosteric effectors of bacterial MTN. K.R. Bertagnoli, S. Nick, P. Erstad, D. Xu, J.H. Thurston, K. Cornell
- CHED **652.** Effect of vitamin D3 on paclitaxel potency in triple negative breast cancer cell lines. C. Wilhelm, J. Kelts
- CHED **653.** Use of budding and fission yeast to study the roles of eukaryotic tRNA modifications. T.R. Vornhede, M.E. Thomas, K. McElheney, S. Russell, M.P. Guy
- CHED **654.** Systematic analysis of mechanisms of small heat shock protein function in *Dictyostelium discoideum*. B. Lyda, K.M. Scaglione, J. Bruns Scaglione
- CHED **655.** Validation of qPCR rapid bacterial quantification through viable *E. coli* cell count in the *Saginaw Bay Watershed*. T. Lefevre, T. Sivy
- CHED **656.** Using a fluorescent probe to monitor DNA photoadducts. L. Lin, N.J. Greco
- CHED **657.** Synthesis and photophysical evaluation of 6-aryl-2'-deoxyuridine nucleosides. F. Balarezo, N.J. Greco
- CHED **658.** Interactions of the fragile X mental retardation protein with BACE1 mRNA and miR-124-3p. P. Zakutansky, M. Mihailescu
- CHED **659.** Exploring the role of Gln120 in *Enterobacter cloacae* P99 cephaloporphinase by site-saturation mutagenesis. A. Brodovskaya, S.T. Lefurgy
- CHED **660.** Incorporation of 3'OMe-NTP by mutant DNA polymerases. A. Weiden, H. Schultz, H.E. Chia, S. Rosenblum, A.M. Leconte

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- CHED 661.** Biophysical investigation of DNA local structure. L. Radford, I.O. Okeke, M. Hatcher
- CHED 662.** Heme pocket interactions with fluoride in the hemoglobins from *Lucina pectinata*. K. Frankenfield, K. Williams, D.M. Rivera, J. Lopez Garriga, J. Cerda
- CHED 663.** Effect of the plant polyphenols on CYP2E1-dependent oxidative stress. N. Horan, A.A. Caro
- CHED 664.** Role of copper and tor signaling in reactive oxygen species induced cell aging. M.E. Walsler, M. Bestwick
- CHED 665.** Effect of mitochondrial CYP2E1 overexpression on mitochondrial oxidative stress in HepG2 cells. P. Gitz, A.A. Caro
- CHED 666.** Quantification of the in vitro inhibitory effects of the Erythrina crista-galli lectin on HIV-1 reverse transcriptase. M. Vazquez Camacho, R. Ynalvez
- CHED 667.** Effect of exogenous testosterone administration on blood DHT levels and prostate hyperplasia in adult male mice. J. Angelillo, B.A. Davis
- CHED 668.** Monitoring *htrA* RNA thermometer activity using a  $\beta$ -galactosidase assay in *Escherichia coli*. Y. Nguyen, R.M. Mitton-Fry
- CHED 669.** Quantifying risk factors for Alzheimer's disease using neuroimaging data. L.D. Bienski, O. Alzate, L. Smith, R. Barbosa, L. Rattanavong
- CHED 670.** Selectivity of protein sulfhydrylation. T. Johnson, C. Kevill, X. Shen
- CHED 671.** Analysis and assignment of the  $^1\text{H}$ - $^{15}\text{N}$  HSQC of the PDZ-1 domain from zonula occludens protein 1. L. Morin, M. Wheelock, T. Steele, A. Long, A.L. Jansma
- CHED 672.** Expression of a membrane protein mutant in *Burkholderia cenocepacia*. C. Barcelo, K.M. Specht
- CHED 673.** G-quadruplex specific ligands attenuate supramolecular G-DNA assembly. E.M. Kalb, T.C. Marsh
- CHED 674.** Role of metformin binding in reducing the extent of nonenzymatic glycation of albumin. A. Jensen, M. Finkbeiner, S. Becker, R.W. Holman, K. Rodnick
- CHED 675.** Stimulation of human 8-oxoguanine DNA glycosylase by AP endonuclease: Effect of polymorphisms. E. Klein, K.A. Haushalter
- CHED 676.** Effects of  $\Delta\text{tor}1$  on yeast longevity via chronological lifespan assay. A. Keyes, M. Bestwick
- CHED 677.** Nanoscale modifications to the RsaA S-layer protein enhance lead binding in whole cells. A. Coblenz, K. Templeton, E. Bailey, C. DeAlba, W. Jenkins, J.A. Capuccino
- CHED 678.** Binding of small aromatic molecules to phytochemical capped gold nanoparticles. N. Anderson, M.A. Fisher
- CHED 679.** Antibacterial activity studies of 2-[4-(1-methylethyl)phenyl]methylene]-hydrazinecarboxamide in *Escheria coli*. K. Fernandez, T. Munguia
- CHED 680.** Effects of membrane composition on pore-forming polypeptides. Z. Maxwell, S. Swain, M. Gessel
- CHED 681.** Electrochemical studies of L-cysteine/zinc interactions in aqueous media. M. Doan, G.T. Cheek
- CHED 682.** Determination of the molecular pathway causing phosphorylation of zonula occludin 1 and disassembly of tight junctions in diabetes. O. Ogline, R.L. McCann
- CHED 683.** Construction of a His-tagged expression plasmid for *sfnA*B of the Staphyloferrin A biosynthetic pathway. C.A. Dombroski, J. Cederberg, D.J. Schedler, W. Kittleman
- CHED 684.** Preparation and purification of a protein kinase inhibitor-GST fusion protein for a bio-layer interferometry binding study. D. Stoesz, G. Li, G. Veglia, M.B. Neibergall
- CHED 685.** Mechanistic insight into taurine as an anti-glycation agent. S. Becker, M. Finkbeiner, A. Jensen, R.W. Holman, K. Rodnick
- CHED 686.** Viral silencing suppressor specificity for shared structures of miRNA and siRNA. A. Whitehill, J.M. Vargason
- CHED 687.** Investigating mycobacterial L,D-transpeptidases in cell wall biosynthesis. P. Stater, L. Basta
- CHED 688.** Effect of Peruvian teas on mammalian cells. D. Morales, K. Araujo, S. Deprele, L. Nogaj
- CHED 689.** Comparison of the iron oxidation mechanisms in heteropolymer ferritins of different H to L ratios. A. Farghli, M. Mehlenbacher, B. Smith, M. Poli, P. Santambrogio, P. Arosio, S. Levi, F. Bou-Abdallah
- CHED 690.** Effect of the plant polyphenol catechin on CYP2E1-dependent oxidative stress. C. Schwab, A.A. Caro
- CHED 691.** Characterization of glutathione inhibition of oxidative DNA-protein crosslinking. M. Safaeipour, J. Jauregui, S. Castillo, M. Bekarian, M. Sanchez, E. Stemp, E. Tiznado
- CHED 692.** Characterization of the malA enzyme from *Bdellovibrio bacteriovorus* through the synthesis and analysis of maltose and  $\alpha$ -methyl-glucopyranoside derivatives. J. Jepson, J.E. Hanson
- CHED 693.** Evaluation of the generation of superoxide anion by CYP2E1 using the spin probe CPH. C. Ryan, A.A. Caro
- CHED 694.** Drug binding to cytochrome P450: Sample annealing studies using EPR. D.W. White, M. Bowman
- CHED 695.** Effect of CYP2E1 overexpression on mitochondrial biogenesis in HepG2 cells. L. Davis, A.A. Caro
- CHED 696.** Baculovirus expression, amplification, and protein purification of recombinant rat serotonin transporter containing a single point-mutation for future crosslinking studies. E. Cooper, E. Castellano, M. Cascio
- CHED 697.** Docosahexaenoic acid induces mitochondrial biogenesis in HepG2 cells that overexpress cytochrome P450 2E1. J. Anderson, A.A. Caro
- CHED 698.** Withdrawn.
- CHED 699.** Investigating the growth rate of MntH knockout mutant of *E. coli*. A. Edobor, M. Nguyen, B. Cadena, D. Duran, P. Lee
- CHED 700.** Metal ion cofactor requirements for snake venom phosphomonoesterase. I. McVinney, R.A. Kopper
- CHED 701.** Elucidating structure-function relationships of the phosphorylated human protein MEK1 through the integration of biotechnologies. A. Gallant, S. Aiello, A. Ringer McDonald, J. Oza
- CHED 702.** Inhibition of oxidative DNA-protein crosslinking via vitamin C. M. Serrano, M. Martinez, P. Perez, E. Kroll, J. Ordenana, E. Stemp
- CHED 703.** Over-expression and purification of *E. coli* recombinant protein RecR and its interlocking mutants using various protein chromatographic methods. S. Koo, C. Jaipersaud, J. Trabucco
- CHED 704.** Withdrawn.
- CHED 705.** Benefits of floatation tanks as novel tools for stress reduction. T. Makkapati, P. Lin, C. Wohlrab, J. Feinstein, A. Alarbi, W. Potter
- CHED 706.** Purification of horseradish peroxidase for biochemistry lab. N. Lo, A.L. Miller
- CHED 707.** Expression, purification, and characterization of codon optimized DszB from *N. asteroides*. K. Idrizi, D. Hoang, J. Gumpf, L.M. Watkins
- CHED 708.** Structural, enzymatic, and inhibitory study of *M. tuberculosis* Rv3802c. C.M. Schreidah, C.M. Goins, D.R. Ronning
- CHED 709.** Novel heme-anion complexes of cytochrome c'. C. Norman, B.N. Mees, J. Vardenega, C. Mitchell, D. Bedolla Sotelo, B. Mandella, Z. Nilsson, C. Andrew
- CHED 710.** Two-dimensional analysis of apolipoproteins using gel electrophoresis and SDS-PAGE. N.B. Nguyen, R. Chandra
- CHED 711.** Mechanism of oxygen reduction in copper amine oxidases. K.E. Gazica, M.M. Saugstad, S.A. Mills
- CHED 712.** Effect of  $\text{Ca}^{2+}$  signaling on Rho GTPases during neuroregeneration. J. Tobin, B. Avery
- CHED 713.** Determining which part of the region between the GlnS and ChiP genes downregulates *rpoS* in *Escherichia coli*, TsiR or the 5' UTR of ChiP. C. Diop, C. Peterson
- CHED 714.** Cloning and expression of the predicted aspartate hydroxylase ORF1 from *Streptomyces verticillus*. P. Nguyen, C.T. Calderone
- CHED 715.** Synthesis of sulfated sialic acid glycodendrimers to interfere with bacterial biofilm formation. R. Suasin, K.D. McReynolds
- CHED 716.** Withdrawn.
- CHED 717.** In vitro analysis of the thyroid hormone receptor in mitochondrial transcription. D. LeGrady, M. Bestwick
- CHED 718.** Site-Directed mutagenesis in the rat serotonin transporter. K. Spirik, M. Cascio
- CHED 719.** Exploration into preventing bacterial adhesion on nitric oxide releasing polymers. L. Paricio, B.H. Neufeld, M.M. Reynolds
- CHED 720.** Withdrawn.
- CHED 721.** Effects of porphyrins as photodynamic agents. T. White, J.E. Bradshaw, T.E. Hayes
- CHED 722.** Male sex hormones regulate human endothelial nitric oxide synthase system through the modulation of cationic amino acid transporter-1. L. Levy, D.W. Estes
- CHED 723.** Antibacterial assessment of cyclogossine A, a cyclic heptapeptide from *J. gossypiiifolia*. E. Barksdale, C.L. Telzow, A.J. Wommack
- CHED 724.** Structural analysis of novel inhibitors through docking of homology modeled yeast  $\alpha$ -glucosidase. J. Turner, S. Kennedy
- CHED 725.** Investigating inhibitor resistance to proteasome subunit Rpn13. T. Engdahl, P. Dickson, T.J. Kodadek
- CHED 726.** Proteases in venomous snake species of Arkansas. A. Katke, R.A. Kopper
- CHED 727.** Developing an efficient method for the incorporation of a series of fluorotyrosines in peptides via solid phase peptide synthesis. N. Chau, A. Colla, J.P. Schwans
- CHED 728.** Analysis of UV degradation of amino acids in membranes. R. Bowman, S.E. Maurer
- CHED 729.** Pulse amplitude modulation fluorometry as a means to determine photosynthetic modes of *Chlorella vulgaris*. P.E. Adkins, D. Kolling, B. Woodworth, A. Holland, A. Stevenson
- CHED 730.** TEV mutant production. L. Hongsermeier, D.C. Speckhard
- CHED 731.** Analysis of tyrosinase inhibition with extracted catechins from gray smith apples. S. Maxwell, R.E. Riggsby
- CHED 732.** Biosynthetic study of the formation of the azinomycin epoxide moiety. M. Antoniv, C. Watanabe
- CHED 733.** Engineering metalloproteins for fuel catalysis using SLICE and CHIP template. E. Reale, J. Kleingardner
- CHED 734.** Rationally designing DNA polymerases for 2'-modified DNA synthesis. S. Rosenblum, H.E. Chia, E.L. Lewis, M. Liu, M. Cao, A.M. Leconte
- CHED 735.** Bacterial growth studies of gut microbes including *Lactobacillus rhamnosus* GG and *Escherichia coli* HS using UV-VIS spectrophotometry and Quantitative PCR (QPCR). D. Parikh, K. Djambazova, P. Aggarwal, S. Kim
- CHED 736.** Expression of perilipin 2 in *Escherichia coli* and purification by nickel affinity chromatography. A. Clements, A.K. Stoeckman, C. Najt, M.B. Neibergall
- CHED 737.** Characterization of 1-amino-9,10-anthraquinone in the A<sub>1</sub> site of PS I complexes of the plastoquinone-containing mutants of *Synechocystis* sp. PCC 6803. A. Montoya, P. Kerns, E. Gosselin, T.W. Johnson
- CHED 738.** Redox regulation of plasmid copy number and conjugative transfer. A. Bruefach, B. Buttaro

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CHED **739.** Structural investigations on ER membrane complex subunit 9. S. Conticello, C. Murphy, K.R. Gallagher

CHED **740.** Development and analysis of a novel protein fusion system for the expression and purification of proteins. C.G. Toomey, C. Chant, A. Chant

CHED **741.** Methods of expression and purification of PEP-19: A calmodulin binding partner. C.D. Mitchell, T. Dunlap

CHED **742.** Regulation of tumor suppressor p27kip1 by transglutaminase. R. Al-Refai, R. Patel, L. Zhang, R.J. Sheaff

CHED **743.** Inhibition of oxidative DNA damage via green tea. P. Perez, M. Serrano, M. Martinez, E. Kroll, J. Ordenana, E. Stemp

CHED **744.** Weight of fatty acids: An examination of a high-fat diet and cognition. D. Williams, A. Darkazalli, J. Boggs, L.A. Zuraw, C. Sims-Robinson

CHED **745.** Altering the conformational ensemble of Pep-19 using calcium. N. Rathke, T. Dunlap

CHED **746.** Effect of Rad 23 selectivity to polyubiquitin chain linkage on Far-1 degradation in yeast. Y. Liu

## Section I

Moscone Center  
Hall D

### Undergraduate Research Posters

#### Biotechnology

Cosponsored by BIOT and SOCED

N. Di Fabio, Organizer

#### 12:00 - 2:00

CHED **747.** Preparation and study of protein-based nanotechnology for cost-effective water treatment. T. Mai, K. Duran, D. McWhinney, J. Hollingsworth

CHED **748.** Development of a low-cost molecular cloning vector for easy pathway overexpression in *E. coli*. C. McCutcheon, J.A. Jones

CHED **749.** Expression in *E. coli* and purification of full-length or partial *Medicago truncatula* cDNA-encoded Anthocyanin Reductase (ANR) using MBP fusions. P.S. Whitehead, E.P. Landers, L. Chandler, N.L. Paiva

CHED **750.** Low-cost modification of a lab scale bioreactor to simulate oxygen gradient heterogeneities present in large scale industrial bioreactors. A. Armstrong, I.M. Reizman

CHED **751.** Diversity of predator-escape behaviors and habitat influences on hindlimb skeleton morphology. A. Biyari, E. Dewar

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CHED **752.** Electronic signatures of nucleobase codons in single-walled carbon nanotubes for rapid genome sequencing. A. Ortiz, M. Dorco

CHED **753.** Development of cell based microfluidic devices to study the effect of alcohol on C2C12 muscle cell differentiation. E.L. Smith, A. Sarangan, O. Kielbasa, J.E. Smith

CHED **754.** Development of split-protein biosensors for the detection of DNA. P.V. Halas, E.K. Dell, S.C. Meyer

CHED **755.** Constructing peptide-based molecular building blocks for the controlled assembly of nanomaterials. J. Bird, L. Laperriere, H.N. Gray, S.C. Butler, D. Patterson

CHED **756.** Synthesis of functionalized NBD-556 for the binding of HIV-1 gp120 on a solid support. J. Cuyler, S.G. Tajc

CHED **757.** Protein-Polymer conjugates using grafting-to and grafting-from approaches. M. Paeth, M. Lucius, D. Konkolewicz

CHED **758.** Expression of site-specifically phosphorylated reflectin A1 via an expanded genetic code. B. Concepcion, M. Kamranika, R. Levenson, D. Morse, J. Oza

CHED **759.** Metabolic engineering in cyanobacteria: Utilizing quorum sensing to control production of 2,3-butanediol. J. Beauchamp, A. Carroll, M. Kanno, S. Atsumi

CHED **760.** Cobalt electron mediators for use in Photosystem-I biophotovoltaics. M. Alarcon, N.G. Brady, M. Vaughn, B. Bruce, J.J. Bergkamp

CHED **761.** Biosynthesis of polyhydroxyalkanoate with *Pseudomonas putida*. M. Cheung, M. Mendoza, I. Alanis

## Section I

Moscone Center  
Hall D

### Undergraduate Research Posters

#### Chemical Education

Cosponsored by SOCED

N. Di Fabio, Organizer

#### 12:00 - 2:00

CHED **762.** Learning in the moment: Identifying and improving student conceptual knowledge construction in general chemistry. B.L. Minshall, J.H. Torres King, E.J. Yezierski

CHED **763.** Etching of metals by chemical and electrochemical methods: A laboratory activity for middle and high school students. B.O. Wise, G.B. Freese, K.W. Kittredge

CHED **764.** Educational study on the use of models to teach molecular shape. D. Dils, L. McAfee, B. Adair, L.A. Zuraw

CHED **765.** Guided inquiry approach to design student-friendly coupling methods for 2,2'-bipyridines as precursors for Ru-complexes. E. Rinaldi, B. Aukuszi

CHED **766.** Quantitative analysis of the impact of classroom salon on introductory chemistry student performance. B. Walters, A. Blecking

CHED **767.** Design elements of online learning systems that increase student use and perceptions of optional online study materials. C. Hansen, R. Bodilly, R. Sansom

CHED **768.** StudentsGiveHope.org: A platform for S.T.E.M. education, inspiration, and student-led medical innovation. B.M. Samudio, H. Lakkis, A. Nicholas, C. Billings, F. Abbott, J. Idrovo, J. Schaffer, L. Mergens, M. Lozanchik, P. Kim, T. Yamanishi, T. Kirkevold, Y. Lakkis

CHED **769.** Novel stereochemistry experiment for sophomore organic chemistry lab. A.A. Seba, J.E. Blue, A. Burns, H. Hall, C. Nicholson

CHED **770.** Students' perception of how science writing heuristic pre-labs prepare them for lab. N. Bonde, D.I. Del Carlo

CHED **771.** Evaluation and improvement of online homework for foundations of inorganic chemistry. M. Strumolo, S.G. Sobel

CHED **772.** Examining ink and paper chemistry in middle and high school chemistry. G.B. Freese, B.O. Wise, K.W. Kittredge

CHED **773.** Use of *in silico* Structure Activity Relationship (SAR) project in medicinal chemistry course at Winona State University: Molecular docking simulation and analysis of human dopamine D3 receptor-rotigotine analog binding. T. Provost, M.E. Lee

CHED **774.** Measuring learning outcomes in chemistry outreach in K-6 elementary school students. M. Nafea, M. Tomaraei, R. McFarland, R. Ali, P. Robinson, D. West, P.J. Iles, R.V. Valcarce, L.D. Giddings, N.R. Bastian, M. Alvarez, R. Holcomb

CHED **775.** 3-D printed macroscopic model of an atomic force microscope. D. Gruber, T.J. Perez, W.J. Miller

CHED **776.** QR codes as a conduit to assess student comprehension of real-world applications of first semester freshman level chemistry concepts. F.M. Yarbbery, S.G. Freyaldenhoven, M. Massey

CHED **777.** Single vs. mixed approaches to form colored silver nanoparticle films. H. Skipper, M. Roca

CHED **778.** Using screencasts and simulations to help chemistry students understand chemical kinetics. M. Biesbrock, D.G. Herrington, J.R. Vandenplas, R.D. Sweeder

CHED **779.** Empowering undergraduates to be green chemistry ambassadors through community outreach. M.C. Enright, C. Hsu

CHED **780.** Faculty expectations for meaningful learning in the undergraduate chemistry laboratory: How do students' experiences compare? J. Orzel, E. Gross, K.R. Galloway, S. Bretz

CHED **781.** Eliciting higher order reasoning in the chemistry laboratory. K. Collins, R. Sansom

CHED **782.** Green, cascade synthesis of a grandifloracin precursor: An undergraduate experiment. G.G. Castro, D.A. Vosburg

CHED **783.** Impact of chemistry/mathematical video-lectures on student-based learning in a freshman level chemistry course. F.M. Yarbbery, A.H. Stebbins, L. Christman

CHED **784.** Inter-institutional collaborative chemistry assignments. T.K. Chasteen, C. Egler, L.A. Morsch, B. McCollum, D. Skagen, B. Shokoples

CHED **785.** Construction of a low-cost LEGO microcomputer controlled visible absorption spectrometer. M. Buell, D. Albert

CHED **786.** Effect of video-based instruction on student performance in a college chemistry laboratory. F.M. Yarbbery, K. Walden, M. Massey

CHED **787.** Pedagogical analysis of exam question format of multiple choice or open response in organic chemistry. K. Tang, S. Xie

CHED **788.** Examining the connection between what the team members of an interdisciplinary collaboration identified as their goals and how they thought those goals should be evaluated: The ChAnGE Chem project. S. Barakat, N. Millick, M. Orgill

CHED **789.** Exploring standards and standardization in the physical chemistry laboratory. M.E. Gasbarre, B. Ramos, C.J. Hayes

CHED **790.** Thermoelectric generators and Peltier coolers for the physical chemistry teaching laboratory. J.R. Frey, R.J. Noll

CHED **791.** Generation of nitrosyl and nitril halides using heterogeneous reaction chemistry: A spectroscopic and computational project for the physical/atmospheric chemistry laboratory. T.M. Sytsma, A. Li, J.A. Ganske

CHED **792.** Heat capacity ratio measurement. T. Adams, B. May

CHED **793.** Investigating students' choice of representations for problem solving in organic chemistry. M. Plekker, J.R. Vandenplas

CHED **794.** Synthesis of fluorescein and other dyes for spectroscopic analysis. P. Ruffier, D.B. Cordes

CHED **795.** Investigating how chemistry teachers change the use of Johnstone's levels in their descriptions of practice during a longer-term professional development program. N.W. Spurgus, D.J. Frank, J.M. Pratt, E.J. Yezierski

CHED **796.** Validation of acetaminophen using HPLC, an undergraduate experiment. N. Akanda, J. Zhang

CHED **797.** Development of instrumental analysis lab experiment for the determination of organo-arsenic compounds. S. Goldsberry, B.M. Hopkins

CHED **798.** Investigation of analgesic separations: A forensic case study. R. Davies, A.M. Hupp

CHED **799.** Development of high performance liquid chromatography methods for a Waters Alliance 2695 running Empower 3 software. S. Shreiber, T.E. Dermota

CHED **800.** Everything but the kitchen sink! Development of an analytical chemistry capstone lab testing student understanding of course topics. E. Lewis, J.A. Goodnough

CHED **801.** Chemistry in television. C. Albrecht, S. Wuerz

CHED **802.** Analytical chemistry and public perception. M. Montes, S. Wuerz

CHED **803.** Myths and misunderstandings in chemistry. C. Ryan, S. Wuerz

CHED **804.** Environmental footprint of drinking water. C. Aparicio, S. Wuerz

CHED **805.** Water taste and water quality. G. Reyes, S. Wuerz

CHED **806.** Popular understanding of water quality. L. Parsons, S. Wuerz

CHED **807.** In-class demonstrations. A. Koehn, S. Wuerz

†Cooperative Cosponsorship



- CHED 808.** Student knowledge of factors for success in chemistry. S. Barrett, S. Wuerz
- CHED 809.** Filtered available phosphate by FIA: A partnership between chemistry and geology. J. Onyeagba, P.J. Iles, R. Kochambilli, L.D. Giddings, R.V. Valcarce, N.R. Bastian, M. Alvarez, R. Holcomb
- CHED 810.** Utilizing 3-D printing to enhance classroom instruction of dynamic nature of proteins. J. Green, M. Guthrie, L. Manner, J. Bowden, S.S. Ruebush
- CHED 811.** Dip coater. M. Bresnahan, B. Veldman
- CHED 812.** Impact of mindset on the persistence of STEM majors. J. Hackleman, B. Brando, A. Stacy, A.M. Baranger
- CHED 813.** Connecting dots to community through chemistry at St. Xavier University, Chicago. P.M. Brehm, B. Alappat
- CHED 814.** Role models and mentors matter for Tennessee girls in STEM. J.M. Iriarte-Gross, T. Thomas, K. Owens, R. Marlin, A. Williams
- CHED 815.** Synthesis and analysis of fullerenes in the undergraduate physical chemistry laboratory. T.J. Fuhrer, A. Lambert, H. Bell, C. Roper
- CHED 816.** Using a ranking task coupled with semi-structured interviews to characterize upper-division chemistry students' modeling practices in quantum chemistry: A mixed-methods study. C. Crickmore, M.N. Muniz, J. Beck
- CHED 817.** Diffraction: A butterfly experiment. B.A. Bober, M.O. McAnally, I. Jones, H. Shi, M. Su, B. Negru
- CHED 818.** What chemical facts does the public need to know? M. Winkelman, S. Wuerz
- CHED 819.** Chemical safety and chemical disposal. A. Argueta, S. Wuerz
- CHED 820.** Chemical storage in home, shop, and public areas. J. Montoya, S. Wuerz
- CHED 821.** Magic in chemical education. A. Morris, S. Wuerz
- CHED 822.** Factor analysis for academic success in chemistry. B. Claro-Martinez, S. Wuerz
- CHED 823.** Withdrawn.
- CHED 824.** Binary liquid-vapor phase diagrams with desktop gas chromatography. B.A. Rowland, P. Bayliss
- CHED 825.** Philatelic table of the elements as a teaching tool: Topics in health and medicine. B.T. Winn, L.G. French
- CHED 826.** Implementing preferred VARK learning modalities in organic chemistry. K. Page, S.K. Hamilton
- CHED 827.** Timing of homework completion vs. performance in general chemistry. M.N. Cosio, V.M. Williamson
- CHED 828.** Optimize of teaching contents and the develop of teaching methods to the compulsory course of general chemistry in universities. D. Tang, Z. Sun, Z. Yu, H. Lv
- CHED 829.** Microwave-assisted Fischer indole synthesis for the organic chemistry laboratory. M. Rico Mendoza, M.T. Wentzel
- CHED 830.** Implementing a flipped classroom and active learning techniques in general chemistry to augment student success at a mid-sized rural university. E. Bladorn, C. Chatha, V. Cherrette, H. Dailey, J. Lopez, H. Mills, C. Park, H. Park, A. Rose, S. Sherry, R. Skorheim, M. Smith, E.C. Wasinger
- CHED 831.** Assessing the levels of models upper-division chemistry students develop and apply in the context of the hydrogen atom: A qualitative investigation. J. Kirsch, J. Beck, M.N. Muniz
- CHED 832.** Effect of online homework on students' performance in introductory chemistry. H. Syu, B. Adair, S.T. Mabrouk
- CHED 833.** Spinning towards low-cost spin coaters. H. Speerstra, B. Veldman
- CHED 834.** Biochemistry research in the general chemistry lab classroom: A pilot study. J. Callus, S. Juris, K. Spencer, J. Tomasik
- CHED 835.** Using analgesia as a theme in the first semester of organic chemistry laboratory. N. Akanda, R. Blough, J. Orlandi, M.J. Castaldi, J.K. Murray
- CHED 836.** Computer-aided Design (CAD), fabrication, and testing of an inexpensive 3D printed filter fluorometer. M.H. Hakim, D.A. Rourke, L.A. Porter
- CHED 837.** Conceptual understanding and context: Free energy. K. Wilson, J. Nyachwaya
- CHED 838.** Role of porphyrins in teaching organic chemistry. Z.J. Gregg, J.C. Quirke, J.M. Quirke
- CHED 839.** Homemade antacid tablets for the antacid titration lab. J. Thom, A. Kwong, W.J. Miller
- CHED 840.** Complete binary phase diagram laboratory for undergraduate physical chemistry courses. T.P. Dorch, B. Veldman
- CHED 841.** Effectiveness of chemical demonstrations in increasing student interest in science. D.G. Watson, Y. Gibson, M. Taylor
- CHED 842.** Development and implementation of popular diets case studies in a biochemistry course for dietetics majors. K. Franklin, A. Gamez, R.M. Hyslop, C.E. Brown
- CHED 843.** Prototyping a simple and inexpensive colorimeter from 2D designs via laser cutting and engraving. H. Irtija, E.D. Banks, L.A. Porter
- CHED 844.** Sustainability in the laboratory: Assessing green chemistry integration in the general chemistry curriculum. M.C. Rivas, L. Armstrong, G. Kerstiens, M.T. Robak, M.C. Douskey, A.M. Baranger
- Section I**  
Moscone Center  
Hall D
- Undergraduate Research Posters**  
**Computational Chemistry**  
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N. Di Fabio, Organizer
- 12:00 - 2:00**
- CHED 845.** Generation of new liver X receptor ligands using state-of-the-art computational methods. M. Ndukwe, K. Riley
- CHED 846.** Computational studies of formaldehyde reactions with HCN, ammonia, and pyrrole relevant to prebiotic chemistry. K. Thrush, H. Loli, J. Kua
- CHED 847.** Characterization of the structure of vinyl cations. C. Lodder, B.N. Norris
- CHED 848.** Impact of DNA strand length on duplex stability in solution and in a microarray environment via molecular simulation. B. Rivard, S. Cooper, L. Pelletier, J.M. Stubbs
- CHED 849.** Searching for a Möbius conformation of cyclometaphenylene. S. Cho, S.M. Bachrach
- CHED 850.** Nitrogen-substituted bisaryl dienes in the Diels-Alder reaction. Z. Zayat, S.M. Bachrach
- CHED 851.**  $\alpha$ -Conotoxins peptide mutants as Parkinson's therapeutics: A molecular dynamics study. S. Walker, O.M. McDougal, M. King
- CHED 852.** Energy landscape of unsubstituted seven-membered ring oxocarbenium ion. E. Castele, K.A. Woerpel, J.D. Evansack
- CHED 853.** Theoretical energy determination of hydroxy-peroxy radicals derived from  $\alpha$ -terpenol using *Ab initio* and density functional theory calculations. A. Alejandro, C. Wilson, S. Drake, K. Dowda, R.S. Dabell, J.C. Hansen
- CHED 854.** Temporary anion states in the field of permanent dipole and quadrupole moments. D.C. Hiener, M.C. Fair, M.F. Falcetta
- CHED 855.** Conventional strain energies of the oxaphosphetanes and the oxadiphosphetanes. B. Nash, A. Smyly, D.H. Magers, S.A. Smith
- CHED 856.** Investigation of hydroxy-peroxy radicals derived from *R-limonene*: A theoretical approach. C. Calderon, A. Alejandro, M. Dick, T. Murphy, M. Synelnikov, M. Russon, R.S. Dabell, J.C. Hansen
- CHED 857.** Conventional strain energy in ketene acetals and ketene amins. S.G. Travis, S.A. Smith, D.H. Magers
- CHED 858.** Precision-biased statistical coupling analysis for use in rational protein design. O. Chapman, A.M. Leconte, A. Cavalanti
- CHED 859.** Molecular simulations reveal the importance of disulfide bridging in PrpW, a putative redox switch for plasmid replication. S. Dornblaser, B. Buttaro, V.A. Voelz
- CHED 860.** Using electronics and sterics to affect the cyclization of angularly benzannulated enediyne. T. Keel, M.H. Daly, B.F. Gherman, J.D. Spence
- CHED 861.** Computational investigation of isoquinoline alkaloids and scaffold replaced derivatives as LXR modulators. D.A. Spadoni, C. Todd, F. Payton-Stewart
- CHED 862.** Propagation of hyperbolic secant wave packets: Visualizing the quantum momentum and potential field with numerical analytic continuation. W. Garrett, C. Lechak, B.A. Rowland
- CHED 863.** Theoretical study of aerosol seeding via homoassociation of methane sulfonic acid. C.M. Kotte, H.K. Hernandez-Soto
- CHED 864.** Computational characterization of the form of Ag(phen) for amination and aziridination reactions. P.M. Birschnbach, J. Scanlon
- CHED 865.** Structure-based prediction of small molecule modulators of DNMT3A. Y. Markov, A. Schlessinger
- CHED 866.** Theoretical study of ligand effects on homogeneous hydrogenation catalyzed by iron-pyridone complexes. E.F. Curl, L. Boisvert, T.V. Harris
- CHED 867.** Mathematical model for copper homeostasis in *Pseudomonas aeruginosa*. J.C. Roth, B. Kozemzak, J. Parmar, P. Mendes
- CHED 868.** Effect of ligand chemistry in mononuclear metal catalysts on the intramolecular features of the water oxidation mechanism. K. Hunter, J. Alvarado, E.A. Jarvis
- CHED 869.** ONIOM model of malonate decarboxylation: Significance of the hydrogen bonding buckle. L. Andreola, I. Pathiraja, S.M. Frestine, A. Tamez, D.J. Fox, J.D. Evansack
- CHED 870.** Interaction energies of tricyclohexane complexes: Effects of substituent groups. A. Jimenez, K.R. Jorgensen
- CHED 871.** Effect of vacancy defects on ion transfer in carbon nanotubes. B.A. Collins, T.D. Shepherd
- CHED 872.** Coarse-grain simulations of confined water within carbon nanotube systems. J. Chisholm, T.D. Shepherd
- CHED 873.** Is a planar  $C_{16}N_{12}$  possible? M. Alsarraj, M. Vaziri, J. Song
- CHED 874.** Inductive and hyperconjugative effects on carbocations. J.J. Nysschen, B.A. Modhera, E.D. Glendening
- CHED 875.** Energetic and structural analysis of metallo-heterofullerene derivatives of  $C_{20}$ ,  $C_{18}M$  ( $M = 3d$  transition metals). J. McDonald, K.A. Beran
- CHED 876.** TD-DFT potential energy surfaces and nonadiabatic dynamics of indole by surface hopping with Newton-X. K.M. Vorwerk, W. Kernerly
- CHED 877.** Computational quantum chemistry studies of metal oxide clusters. S. Partovi, L.M. Thompson, H.P. Hratchian
- CHED 878.** Thermodynamic properties of the loss of  $CH_3SH$  from protonated methionine. D. Devore, P.B. Armentrout, J. Johnston
- CHED 879.** Withdrawn.
- CHED 880.** Theoretical study of the formation of  $CH_3SO_3H$  from the reaction of  $CH_3SO_2H$  and OH radical. W.L. Rebelsky, H.K. Hernandez-Soto
- CHED 881.** Computational study of CO adsorption on a platinum-modified faujasite zeolite. K.A. Parrish, M.D. Fellows, H.K. Hernandez-Soto
- CHED 882.** Gas-phase transition states of proline tripeptides. P. Arcoria, J.C. Poutsma, V.H. Wysocki, A. Somogyi
- CHED 883.** Influence of hyperconjugative and inductive effects on the acidities of carboxylic acids. R.C. Rudisell, E.D. Glendening
- CHED 884.** Effects of basis set on the energy levels of highly charged ions. J. Ortiz-Soto, J.I. Vega-Sánchez, N.A. Lopez, J.A. Santana
- CHED 885.** Theoretical investigation of  $N_2C=CO_2$ . V. Nguyen, D. Corey, J. Song
- CHED 886.** Exploring metal surface catalytic effects on Li-S batteries with DFT calculations. C.R. Bernard, J.A. Santana

- CHED **887**. Absorption and fluorescence of indole and tryptophan by TD-DFT. J. Gerard, W. Kennerly
- CHED **888**. Density functional theory investigation of the interaction between acetone and chloroform. M.E. Furgione, R.J. Olsen
- CHED **889**. Characterizing the Jahn-Teller effect in manganese trifluoride: A molecular modeling approach suitable for early undergraduate and AP high school chemistry students. K.A. Shaikh, S. Warrick, L. Gurung, D. Kwak, J.A. Bumpus
- CHED **890**. Solvent effects in the dynamics on potentials with post-transition state valley ridge inflection points. F. Malik, Z.C. Kramer, B.K. Carpenter, G.S. Ezra, S. Farantos, S. Wiggins
- CHED **891**. Computational study of the mechanistic effect of fluorine groups on the ring-opening polymerization of  $\epsilon$ -caprolactone with Al-centered catalysts. C. Ortiz, A. Longo, J.M. Fritsch, B. Wilson
- CHED **892**. Computational modeling of sodium laurate surfactant in the presence of aqueous divalent cations at the oil-water interface. K.T. Chippindale, K.E. Johnson
- CHED **893**. Thermodynamics and SN2 mechanism of the loss of ammonia from protonated methionine. A.A. Chen, P.B. Armentrout, J. Johnston
- CHED **894**. MR-MP energy levels of ions in the Li, Be and B isoelectronic sequences. N.A. Lopez, J.I. Vega Sánchez, J. Ortiz-Soto, J.A. Santana
- CHED **895**. Using molecular dynamics simulations to investigate novel reaction events: A case study with iron carbonyls. J. Liu, L. Wang
- CHED **896**. Investigation of micelle formation using molecular modeling and NMR. C. Lewis, F.H. Billiot, E. Billiot, K.F. Morris, Y. Fang
- CHED **897**. Computational investigations of aldol reactions of aromatic enolates and aldehydes. A. Zolfaghari, N.M. Wachter, S. Mazumder
- CHED **898**. Elucidation of electrochromic materials utilizing TDDFT. A.L. Tomlinson, A.R. Green
- CHED **899**. Computational studies of oxygen bond lengthening with group-10 metal clusters. D. Gray, M. Paul
- CHED **900**. Withdrawn.
- CHED **901**. Parameter development for pseudouridine. A. Ustoyev, M.C. Nagan
- CHED **902**. Molecular modeling studies on the realkylation of Aged-Acetylcholinesterase (AChE) by Quinone Methide Precursors (QMPs). R. Hopper, I. Pelfrey, R. McCauslin, R.J. Yoder
- CHED **903**. DFT analysis of various porpholactone isomers. R.F. Lalisse, M. Guberman-Pfeffer, J. Gascon, C. Bruckner
- CHED **904**. Protein-ligand docking with HADDOCK: The effects of input protein conformational differences on the success of docking. K.R. Reinke, J. Grinstead, A. Borvin
- CHED **905**. Substitution group effect on the inhibition of ubiquitin C-terminal hydrolases for Parkinson's disease study: Synthesis and computational analysis. M. Liang, D. Xiao
- CHED **906**. Utilization of molecular dynamics to examine the physical properties of hydrocarbon mixtures from 293-373 K. J. Winkler, T. Knippenberg

## Section I

Moscone Center

Hall D

### Undergraduate Research Posters

#### Environmental Chemistry

Cosponsored by ENVR and SOCED

N. Di Fabio, Organizer

12:00 - 2:00

- CHED **907**. Correlation study between particulate matter and PAH concentrations through the bio-monitoring of pine tree leaves. R. Moran, S. Cortez, S. Deprele
- CHED **908**. Differential impact of chitin and chitosan on heavy metal pollution in water samples. J. Caldwell, J. Mendez
- CHED **909**. Continued investigation of the mechanism of biosorption of lead. T. Robertson, D.J. Schauer
- CHED **910**. Atmospheric applications of deliquescence relative humidity determined by quartz crystal microbalance. A.C. Burrows, H. Holst, C.M. Strollo
- CHED **911**. Impact of the position of the chloro-substituent in chloroformate reactivity. J. Wirick, M.J. D'Souza
- CHED **912**. Withdrawn.
- CHED **913**. Changes to As, Cu, Fe, Mn and Zn concentrations in soil resulting from the application of poultry manure. R.D. Foust, K. Hull
- CHED **914**. Soil analysis for the greater Albion Community Garden Network. R. Ford, K.M. Metz
- CHED **915**. Assessment of heavy metals in subsistence-harvested alaskan pinniped vibrissae. C. Gotluru, T. Juneja, P. Ferdinando, K. Cash, K. Sekou, A. Hiron, D.G. Giarikos
- CHED **916**. Laboratory simulation of the open limestone channel at abandoned mine: Swank 13. J.M. Schulte, P. Youmbi, D. Madl, R. Krupa, J.Z. Bandstra, E.P. Zovinka
- CHED **917**. Study on the synthesis of ADA chelating cellulose and its adsorptive capability. L. Yi, S. Wenjian, P. Yang, J. Fangyuan, L. Xiaoxiao
- CHED **918**. Inventory platform manages chemical risks, addresses chemical accountability, and measures cost-effectiveness. L. Neff, K. Roeske, M.J. D'Souza
- CHED **919**. Singlet oxygenation of Lipitor and Lescol. G.D. Tejeda, K.E. O'Shea
- CHED **920**. Factors controlling the regioselectivity and rate of arene bromination by aqueous BrCl and related brominating agents: Influence of steric effects. K.R. Martin-Culet, J.D. Sivey
- CHED **921**. Investigating lead sources near a secondary lead smelting site: Using antimony as a pathfinder element. D. DeWilde, K. Ryncarz, N. Aist, M. Ketterer, S. Youtsey
- CHED **922**. Examination of the composition of the lipid component of natural organic matter using ultrafiltration with organic solvents and NMR analysis. A. Kub, J. Rice
- CHED **923**. Distinguishing between dissolved reactive phosphate and bioavailable phosphate for the development of a biophosphate sensor. A. Cooper, E. White, C. Lemus, H. Goodson
- CHED **924**. Photocatalytic degradation of tetracycline using floating PMMA-TiO<sub>2</sub> microspheres. A.C. Hartley, J.D. Glover, J.E. Boyd
- CHED **925**. Assessment of hydroxyl radicals production during ultrasonic irradiation for potential treatment of diphenhydramine pollution. J.M. Rosado, D. Cui, K.E. O'Shea
- CHED **926**. Photochemical degradation of oil in seawater. D. Chang, S. Hok, T. Bui, A. Lam, M. Eclevia, W.J. De Bruyn, C.D. Clark
- CHED **927**. Using 3-component hydrocarbon mixtures to model the properties of catalytic hydrothermal conversion fuels. S.Y. Ye, M. McLaughlin, D.J. Luning Prak
- CHED **928**. Ozone in Sequoia National Park: Linking ozone production in the San Joaquin Valley to trends in vegetative impacts in Sequoia National Park from 2000-2016. C. Buysse, S. Pusede, A. Kotsakis
- CHED **929**. Effects of anthropogenic activities on the water quality of the Huron River and its contributing streams. J. Vites, O. Hajihassani
- CHED **930**. Withdrawn.
- CHED **931**. Groundwater pollution reduction through biochar adsorption of herbicide Dacthal. O.O. Harrison, E. Baker, S.K. Saha, A. Saha
- CHED **932**. Modeling the kinetics of trace metal ion speciation: The influence of calcium ion on disjunctive ligand exchange. L. Rea, N.E. Boland
- CHED **933**. Human effect on potentially toxic metal concentrations in the soils of Scotland. K. McCarthy, C. Davidson
- CHED **934**. Viability of fecal coliform bacteria in beach sand and lake sediments. C.M. McManus, D.S. Karpovich, J.L. McEvoy
- CHED **935**. Determination of the mechanism for trihalomethanes and nicotinamide in basic medium for a water disinfection device. M. Dorko, S. Espy
- CHED **936**. Effect of silver nanoparticles with varying capping agents on the growth of kale (brassica oleracea). A. Agloro, A.L. Smalley
- CHED **937**. Fate and toxicity of BPA in two native plants, blue bush lake beans (*Phaseolus vulgaris*) and switchgrass (*Panicum virgatum*), to explore their phytoremediation potential. J.C. Murphy, A.K. Merrill, P. Das
- CHED **938**. Phase transitions of biologically-derived components in sea spray aerosols and investigation into the chemical complexity of aged SSA. M. Alves, A. Estillero, J. Trueblood, V.H. Grassian
- CHED **939**. Quantification of 11-nor-9-carboxy-tetrahydrocannabinol in wastewater from Washington State to estimate consumption patterns of cannabis use. A. LaRock, J. Sadetsky, D. Westerman, D.A. Burgard
- CHED **940**. Quantification of THC-COOH to estimate cannabis consumption trends via wastewater based drug epidemiology. J. Sadetsky, A. LaRock, R. Carpenter, D.A. Burgard
- CHED **941**. Urban and rural land use contributions to phosphorus and E. coli pollution: A case study on Bad Axe Creek. M. Dobulis, E.M. Greeson, K.L. Kwiatkowski, T. Benedict, O. Bishop, A. Yankley, K. Underwood, C.M. McManus, T. Sivy, D.S. Karpovich
- CHED **942**. Synthesis of amino acids coupled to 2,6-pyridine dicarboxylic acid, and evaluation of their affinity towards metals. E. Luta, A. Stedman, S.G. Tadj
- CHED **943**. Graphene-doped polyethylene electrodes used to produce hydroxyl radicals for water purification. A. Wallace, L. Slaymaker, R.J. Hamers
- CHED **944**. Characterizing heavy metal sequestration in a bioswale at Pomona College. Z. Evans, H. Van Ryswyk, M. Los Huertos
- CHED **945**. Analyzing the atmosphere of crystal cave: Understanding sources and sinks of trace gases. A.W. Jarnot, S. Hughes, D.R. Blake
- CHED **946**. Environmental drivers of cyanobacterial blooms and toxin production in Lake Winnebago, Wisconsin. A. Tomczyk, S.L. Bartlett, R.M. Kutzner, J. Piatt, T.R. Miller
- CHED **947**. Algal toxin dynamics and environmental indicators in Green Bay, Wisconsin. R. Kutzner, S.L. Bartlett, A. Tomczyk, J. Piatt, T.R. Miller
- CHED **948**. Estimation of the source of atmospheric inputs of selected metals and metalloids to the Pacific northwest (USA). M. Sousa, C. Welty, D. Price, M. Cummings, F.M. Dunnivant
- CHED **949**. Absorption and translocation of lead (II) Nitrate within *Coniandrum sativum*. J. Wilson, D.J. Schauer
- CHED **950**. Chemistry of imidazole forming reactions and reactive uptake of hydrocarbons. A. Sager, J.M. Ackendorf, M. Galloway
- CHED **951**. Photolysis of the suburban-use herbicide trifluralin on retail mulch surfaces. M. Kaur, F. Pavlovici, K.J. Bisceglia
- CHED **952**. Gadolinium complexes for catch-and-release of phosphates. C. Zeller, K. Peterson, S. Harris, V.C. Pierre
- CHED **953**. Synthesis of water-stable material-organic framework at room temperature. N. Le, K.T. Jackson, D. Eseoou, F. Mensah
- CHED **954**. Effect of substrate on the growth of *Manilkara bidentata* at Finca Nolla Camuy, Puerto Rico: Applications in environmental chemistry. F.A. Portero Camacho, K.R. Reyes Sanchez, R.J. Mayer Arzuaga

† Cooperative Cosponsorship

- CHED **955**. Total conversion of mixed algae lipids to biofuels over heterogeneous catalysts. E. Timmel, D.S. Heroux
- CHED **956**. Kinetic studies of the photolysis of dicarbonyls. M. Ryan, C.M. Strollo
- CHED **957**. Optimization of a cellular phone-based method for nitrate/nitrite detection using paper-based fluidic devices. K.L. Kwiatkowski, Z. Velasco, K. Cissell
- CHED **958**. Withdrawn.
- CHED **959**. Determining metal content in abandoned mine soils. C. Lupse, K. Brotherton, J.D. Leyba
- CHED **960**. Investigation of 3,4-Methylenedioxymethamphetamine (MDMA) in Minnesota's natural waters by headspace solid-phase microextraction (HS-SPME) GC-MS. M. Hanson, N.R. Lien
- CHED **961**. Caffeine and its metabolites as biomarkers: Analyzing caffeine, theobromine, and theophylline concentrations in wastewater discharge of the Winona, MN area waters and the development of greener analytical techniques. A. Paulson, J.L. Franz
- CHED **962**. Quantification of levoglucosan in PM<sub>2.5</sub> atmospheric aerosols using GC/MS: Seasonality of a biomass burning tracer in Central Arkansas. J. Gann, A. Gatmaitan, J. Higgins, D. Hughes, C.D. Hatch
- CHED **963**. Selective quantification of chlorine and bromine in water using halogen trapping agents. R.P. Dias, N.A. Race, J.D. Sivey
- CHED **964**. Measurement of multicomponent aerosol optical properties using pulsed laser cavity ring-down spectroscopy. H.E. Kay, A.N. Jarman, J. DeYoung, J.A. Land, K.S. Dooley
- CHED **965**. Effect of ozonization on the potential toxicity of biochar. A. Pullin, O. Sacko, J.W. Lee
- CHED **966**. Spatial determination of organic matter on sediment particles by scanning electron microscope analysis. M.M. Clay, F.M. Dunnivant
- CHED **967**. Heavy metal analysis of fish inhabiting varying light depth zones of the ocean. M. Sousa, C. Welty, F.M. Dunnivant
- CHED **968**. Dissolution of uranyl silicate minerals in uranyl peroxide nanocluster forming environments. C.J. Parker, H.L. Lobeck, E. Balboni, P.C. Burns
- CHED **969**. Formation of unanticipated ring cleavage products during OH<sup>•</sup> and SO<sub>4</sub><sup>•-</sup> water treatment. B. Skeel, J. Van Buren, C. Prasse, D.L. Sedlak
- CHED **970**. Determination of metal concentrations in sediments of Big Walnut Creek. H. Quinn, J.M. Esson, M. Hoggarth, K. Svitana, K. Lathrop, N. Hess
- CHED **971**. Novel compounds extracted from endophytes of *Bassia Scoparia*. K. Hardy, M.D. Halling
- CHED **972**. Multi-Regression factors influencing textile dye adsorption on activated carbon. S. Aanonsen, P.A. Sneltsinger, E. Alkhatib, A. Alanazi
- CHED **973**. Traces of chemical compounds in Carraizo Reservoir and Sergio Cuevas Water Treatment Plant in Puerto Rico. N.M. Casellas-Cruzado, G. Infante-Méndez
- CHED **974**. Studies on the organic matter in soils along a hypersaline lagoon. A. Colon Santiago, D. Soto Bonilla, W. Colon Colon, J.I. Ramirez Domenech
- CHED **975**. Enhancement of atmospheric nucleation by ion pairs. M.A. Olson, J. Schlecht, S. Pavlenko, S.J. Keasler
- CHED **976**. Fat from the Green iguana (*Iguana iguana*) as potential source of lipids for production of biodiesel. L. Renta Morales, L. Romero, L. Torres
- CHED **977**. Investigating the structure of humic acid using a molecular probe. C. Zdunich, J. LaFontaine, G. Chilom
- CHED **978**. Effect of humic acid treatment on the removal of methylene blue from aqueous solution. R. Wolsleger, O. Ruiz, G. Chilom
- CHED **979**. Novel compounds extracted from endophytes isolated from *Juniperus osteosperma*. S.A. Ellsworth, M.D. Halling
- CHED **980**. Chemical and optical properties of model brown carbon systems characterized by UV/visible spectroscopy and aerosol mass spectrometry. H. Welsh, M. Alexander, L. Hawkins
- CHED **981**. Natural homemade teeth whitening: A comparison of natural and commercial products. M. Nafea, M. Tomaraei, P.J. Iles, L.D. Giddings, R.V. Valcaroe, N.R. Bastian, M. Alvarez, R. Holcomb
- CHED **982**. Investigating the effects of copper-based nanoparticles/compounds in zucchini (*Cucurbita pepo*). M. Hernandez Molina, C. Tamez, J.A. Hernandez, J. Peralta, J.L. Gardea-Torresdey
- CHED **983**. Heavy metal indication through colored complexes and its bioapplication implications. M.R. Reeves, D.J. Schauer
- CHED **984**. Relationship between pH and the extent of hydration of atmospheric photosensitizers. M. Ippolito, M. Galloway
- CHED **985**. Comparison of organophosphate pesticide presence in honey using QuEChERS and gas chromatography mass spectrometry. C. Westgate, S.A. Waratuke
- CHED **986**. Environmental photochemistry of the polycyclic musks tonalide and galaxolide. B.G. Anderson, S.W. Beck, C.J. Heiling, D. Martinovic-Weigelt, K.H. Wammer
- CHED **987**. Environmental photochemistry of dienogest: Photolysis, regeneration, and product bioactivity. M.K. Hankard, S.M. Berg, N.C. Pflug, D.M. Cwiertny, D. Martinovic-Weigelt, K.H. Wammer
- CHED **988**. Aqueous photolysis of the steroid gestrione in the presence of sodium azide. J. O'Brien, S.M. Berg, N.C. Pflug, D.M. Cwiertny, K.H. Wammer
- CHED **989**. Abandoned heavy metal mine releases to the Middle Fork of the Salmon River. D. Price, M. Sousa, C. Welty, F.M. Dunnivant
- CHED **990**. Phytoremediation potential of switchgrass (*Panicum virgatum*) a native plant, to clean-up Bisphenol-A (BPA) contaminated aquatic systems. A.K. Merrill, J.C. Murphy, P. Das
- CHED **991**. Synthesis of platinum(II) water soluble luminescent dye for sensing. J. Oh, J.E. McGarrah
- CHED **992**. Survey of radiogenic metals in Salt Lake County, Utah. B. Mower, P.J. Iles, L.D. Giddings, R.V. Valcaroe, N.R. Bastian, M. Alvarez, R. Holcomb
- CHED **993**. Analysis of drinking water samples for perfluorooctanoic acid and 1,2,3,-trichloropropane by LC-MS in the Clovis metropolitan area. B. Flynn, D. Fujino, J. Ghuman, K. Johnson, J. Krauthammer, D. Dormedy
- CHED **994**. Electronic cigarette solution and vapor analysis with GC-MS and LC-MS. M. Lazernik, P. Cole, M. Jones, B. Shamp, D. Dormedy
- CHED **995**. Evaluation of pectin as a target for biosorption of heavy metals. M. Zerbe, D.J. Schauer

## Section I

Moscone Center

Hall D

### Undergraduate Research Posters

#### Geochemistry

Cosponsored by GEOC and SOCED

N. Di Fabio, Organizer

12:00 - 2:00

CHED **996**. Water adsorption on goethite: CCN activation from Frenkel, Halsey and Hill activation theory. R. Tumminello, R. Meredith, C.D. Hatch

CHED **997**. Nitrate reduction in prebiotic chemistry. V. Aguirre, S. Churchman, M.M. Baum, D. VanderVelde, L.M. Barge

CHED **998**. Water adsorption on montmorillonite: Comparison of washed and unwashed clays. M. Cassingham, R. Tumminello, J. Kim, C.D. Hatch

CHED **999**. Modeled impacts of sulfuric acid leaching solution on two groundwater types in the Upper Cienega Creek Watershed. C. Morel, R. Tucci, J. McIntosh

CHED **1000**. Sulfide-induced abiotic methylmercury transformation. C. Kanzler, A. Graham

## Section I

Moscone Center

Hall D

### Undergraduate Research Posters

#### Green Chemistry & Sustainability

Cosponsored by CEI and SOCED

Financially supported by IEC Green Chem; Green Chemistry Institute

N. Di Fabio, Organizer

12:00 - 2:00

CHED **1001**. Obtaining electricity from solar energy utilizing household products. D. Romero, E. Zuniga, E. Stemp, A. Calderon

CHED **1002**. Oxidative dimerization of 1-(2-thienyl)pyrene. L.M. Rhoda, J.G. Rowley

CHED **1003**. Green synthesis of novel analogues of resveratrol: Toward unlocking new treatments for degenerative diseases. E. Barth, L. Daley, S.P. George, D. Paull

CHED **1004**. Pressure controlled continuous flow reactor synthesis of amides from aniline derivatives. M. Turk, M.T. Wentzel

CHED **1005**. Microwave synthesis and functionalization of vinyllogous imines. B. Lanigan, A. Delawder, M. Manpadi

CHED **1006**. Green microwave nitration as an undergraduate organic chemistry lab procedure. M. Nauman, I.J. Levy

CHED **1007**. Towards green multistep synthesis in the Organic Chemistry laboratory curriculum: Conversion of alcohols to ketones via conventional heating. L.T. Walsh, I.J. Levy

CHED **1008**. Coffee grounds to ethanol: Green chemistry in the undergraduate lab. D. Schultz, A.E. Fischer

CHED **1009**. Application of natural fiber welding for the generation of novel horse hair composite structures. M.C. Scully, A.G. Burn, P.J. Fahey, D.P. Durkin, F. Vollrath, H.C. De Long, P.C. Trulove

CHED **1010**. Empirical model of Polymer Electrolyte Membrane Fuel Cells (PEMFC) using vulcan/Pt/Ce(III) catalysts in ethanol. L. Lotti Diaz, Y. Garcia Herrera, R. Guzman Blas

CHED **1011**. Development of a greener diastereoselective synthesis of diastereoisomeric. B. Leon, K. McCord, N. Aoki, M. Bell, E. Petillo, L. Bastin

CHED **1012**. Greening the synthesis of virstatin: Finding an alternative solvent to dimethyl formamide. M.T. McCauley, K.A. Daus

CHED **1013**. Mechanochemical oxidation leading to porphyrins. S. Everett-Hannah, T.D. Hamilton

CHED **1014**. Withdrawn.

CHED **1015**. Synthesis of room temperature ionic liquids. O. Alquzah, T.R. Hayden

CHED **1016**. Flipping pre-labs for organic chemistry. T. Edwards, T.R. Hayden

CHED **1017**. Improving efficiency in the synthesis of oxindole-3-acetic acid: A key intermediate in the synthesis of 3-bromooxindole-3-acetic acid. N. Ivanowsky, E.J. Brush

CHED **1018**. Green dissolution techniques for the analysis of lead, arsenic, and cadmium in contaminated soils. J. Andrews, J.D. Leyba

CHED **1019**. Withdrawn.

CHED **1020**. Synthesis of camphor using ionic liquids. F.C. Mayville, B.N. Gillott, K.M. Cappuccino, B.A. Dierolf

CHED **1021**. Influence of water in preparation of metal-organic frameworks. E.A. Morley, D.J. Strong, J.D. Heglund, D.A. Mellinger, J.J. Pak

CHED **1022**. 3D Printing dye-sensitized solar cells. P. Kurriss, J. Loebelenz, J.C. Warner

CHED **1023**. Fischer esterification using solar irradiation. C.R. Buckner, D.J. Swartling

CHED **1024**. Thermal stability of white turnip peroxidase in the presence of calcium chloride and ethylene glycol. C. Munson, A. Hoffman

CHED **1025**. Investigating the breakdown of cellulose materials in environmentally benign conditions. C.L. Boyd, A.A. Talorico, J.K. Berch

CHED **1026**. Ionic liquids as green extractants of biofuels. J. Melessa, A. Everett, D. Stapleton, A. Young, D. Thomas, R. Wolsleger, D. Warner, A.T. Koppisch, R.E. Del Sesto

CHED **1027**. Recycling AgCl waste into AgNO<sub>3</sub>. S. Max, J. Esbenshade

CHED **1028**. Surfactants with reversible linkers for micelle-facilitated organic synthesis. J.G. Hagggett, K. Craig, L. Krings, H. Martin, D. Brownholland



- CHED 1029.** Synthesis of a proline-surfactant conjugate for stereoselective micelle-catalyzed organic reactions. A.J. Szczodrowski, D. Brownholland
- CHED 1030.** Solventless Wittig reaction. P. Liang, W. Liang, S. Xie
- CHED 1031.** Green modifications to the Hajos pathway to an important steroid intermediate. C.H. Cooper, J.K. Berch
- CHED 1032.** Low toxicity extraction solvents for recovery of precious materials and environmental contaminants. G. Ifijeh, C. Nwokolo, R.E. Del Sesto
- CHED 1033.** Dehydration of alcohols by solar irradiation. S.M. Amin, D.J. Swartling
- CHED 1034.** Mechanochemical synthesis of porphine and bis-pocket porphyrin. D. Cordero, T.D. Hamilton
- CHED 1035.** Room temperature ionic liquids as a green alternative for the extraction of acetaminophen. V. Harris, T. Hayden
- CHED 1036.** Thermal decomposition pathways of guaiacol and 4-methylguaiacol under fast pyrolysis and gasification conditions. A. Nguyen, C. Luong, E.B. Ledesma
- CHED 1037.** Evaluating replacement anti-freeze additives for use in silicone fluid mixtures: Low temperature behavior of isolated and bulk water species. C.E. Miller, T.M. Alam
- CHED 1038.** Synthesis and investigation of the bactericidal properties of quaternary ammonium chloride monomers for thin-film copolymer coatings. M. Jung, C.L. Horgan, K. Hixon, N.E. Lee, S. Walker, R.W. Gurney
- Section I**  
Moscone Center  
Hall D  
**Undergraduate Research Posters**  
**Inorganic Chemistry**  
Cospponsored by INOR and SOCED  
N. Di Fabio, Organizer  
**12:00 - 2:00**
- CHED 1039.** Size and shape analysis of inorganic materials for solar energy conversion. S. Mackley, F.E. Osterloh
- CHED 1040.** Preparation and characterization of an iron oxide nanoparticle-bound copper(II) cyclam complex for phosphate ester hydrolysis. M. Cruz Reyes, B.R. Bodsgard
- CHED 1041.** Coordination chemistry of verdazyl polypyridyl analogs: Monometallic systems and self assembled grids. D.J. Brook, S. Shtargot, C. Fleming, G. Wantaniyakul, B. Ploof
- CHED 1042.** Potential green catalyst for the bleaching of cotton. D. Abraham, J.H. Davis
- CHED 1043.** Tetra-substituted porphyrin with exo-dentate binding groups: Toward catalytic metalloporphyrin assemblies. N. Maxi, T.D. Hamilton
- CHED 1044.** Comparison of commercial zeolite 4a and zif-95 on separation of methane from carbon dioxide and nitrogen. M. Yang, F. Tian
- CHED 1045.** Investigation of HKUST-1 and related composites with protein adsorption. R. Rupasinghe, Z. Mensinger
- CHED 1046.** Synthesis of imidazole, triazole, and benzimidazole salts. S. Steger, M.A. Guino-o
- CHED 1047.** Dilithium (citrate) crystals and their relatives. A. Cigler, J. Kaduk
- CHED 1048.** Synthesis and spectroscopic investigation of substituted salen and phthalocyanine chelating ligands. O. Staples, D. Perales, F.A. Fasulo, K. Wyss, J.M. Sears, T.J. Boyle, R.A. Kemp
- CHED 1049.** Probing the interaction of vanadate with alcohols and amines via  $^{51}\text{V}$ -NMR spectroscopy: An inorganic laboratory exercise. M.E. Donaldson, A. Taylor, C.M. Davis
- CHED 1050.** Synthesis of a seven coordinate catalyst for bleaching. R. Guthrie, J.H. Davis
- CHED 1051.** Continuing catalytic studies for the production of cyclic organic molecules using  $[(\text{C}_6\text{F}_5)_2\text{C}_2\text{H}_4]\text{Co}(\text{CO})_2$  as a catalyst. O.P. Fry, E. Hawrelak
- CHED 1052.** Withdrawn.
- CHED 1053.** Optimization of the crystallization of aluminum oxometallic clusters. M. Cole, E. Eitheim, T. Forbes
- CHED 1054.** Synthesis and NMR characterization of a new series of thiazole-2-carboxaldehyde thiosemicarbazone ligands and their Pd(II) complexes. K.L. Lawson, E.C. Lisic
- CHED 1055.** Speciation of mixed metal hydroxo-aquo aluminum clusters. A. Samuel, B. Fulton, D.W. Johnson, A.F. Oliveri, C. Colla, C.K. Perkins
- CHED 1056.** Fabrication and analysis of a photovoltaic cell with a bismuth vanadate photo-anode and potassium iron(III) hexacyanoferrate(II) cathode. J. Denney, K.E. Peterman
- CHED 1057.** New series of tungsten aryloxide pyridine complexes that exhibit contact shifted paramagnetic  $^1\text{H}$  NMRs. J. Herder, T. Graybill, M. Genzink, C. Kriley, G.J. Balaich
- CHED 1058.** Synthesis and NMR characterization of a new ligand, 2-acetylpyrazine-tert-butylthiosemicarbazone, and its palladium (II) complex,  $[\text{Pd}(\text{APZ-tBTSC})\text{Cl}]$ . S. Grossarth, A.R. Nesbitt, E.C. Lisic
- CHED 1059.** Synthesis, characterization, and unusual solvation and luminescent properties of terbium amine complexes. L.A. Ligon, J.J. Stace
- CHED 1060.** Exploring the coordination chemistry of a bulky succinimide ligand. C. Martin, X. Khani, G.J. McManus
- CHED 1061.** Synthesis and characterization of tris(4,4-dichloro-2,2-bipyridine) ruthenium (II). J. Bence, D.G. Giarikos
- CHED 1062.** Direct observation of ion pairing in aqueous solutions of lithium carbonate. L. Fredenburg, J.C. Goeltz
- CHED 1063.** Synthesis and reactivity of bromofumaronitrile (1-bromo-1,2-dicyanoethylene): Useful synthon for dicyanoacetylene. J. Lois, J.P. Fitzgerald
- CHED 1064.** Coordination chemistry of group 12 thiocyanate complexes containing bicyclic isothioureas. E. Rojas, P.M. Secondo
- CHED 1065.** Synthesis and characterization of a series of tris(3-phenylpyrazolyl)borato zinc(II) oxocyclohexadienolate complexes derived from *in situ* oxidation of parent catecholate complexes. D. Isaacs, M. Bezpalko, N.A. Piro, W.S. Kassel, W.G. Dougherty
- CHED 1066.** 5-acetyl-imidazol-2-ylidene-4-olate ligand (IMes-acac): Synthesis, coordination chemistry and evaluation of the electronic communication. S. DePeter, V. Mallardo, A. Nano, G. Dahm, N. Lukan, S. Bellemin-Laponnaz, V. César
- CHED 1067.** Synthesis and application of copper metal-organic framework for naked eye, colorimetric detection of toxic organic molecules. K. Curtin, J.K. Vohs
- CHED 1068.** Synthesis, characterization and electrochemistry of a ruthenium porphyrin carbon-bound diazeniumdiolate porphyrin complex. N. Xu, A. Bevak, B. Armstrong, E.G. Abucayon, G.B. Richter-Addo
- CHED 1069.** Temperature dependence of solution processed formamidinium iodide based perovskite thin films. M.C. So, C. Hutcherson
- CHED 1070.** Green chemistry catalysts for transfer hydrogenation reactions. K. Idrees, E. Rajaseelan
- CHED 1071.** Computational and experimental studies of methyltrioxorhenium catalyzed olefin hydrogenation. K. Idrees, N. Lambic, E.A. Ison
- CHED 1072.** Effects of solvent treatment on morphology of Methylammonium Lead Iodide (MAPbI<sub>3</sub>) perovskite thin films. V. Cherrette, M.C. So
- CHED 1073.** Synthesis and characterization of rhodium(III) complexes using mixed polypyridyl ligands. P. Nunez, D. Amarante
- CHED 1074.** Synthesis of tin phosphide and tin nanomaterials. C. Stevens, B.A. Hernandez-Sanchez, R.A. Kemp, D.A. Dickie, T.N. Lambert
- CHED 1075.** Importance of the zinc metal center and thione/selone antioxidant properties. A.M. Owen, J.M. Murphy, B. Stadelman, J.L. Brumaghin
- CHED 1076.** Synthesis and reactivity studies of rhodium complexes supported by a PNSi pincer ligand. B. Morse, C.J. Pell, O. Ozerov
- CHED 1077.** Development of a solid state educational lab. M.M. Scanlan, B.J. Bellott
- CHED 1078.** Synthetic and structural studies of low-melting ionic materials with carborane cluster anions. M. Raymond, A.R. Talosig, A.S. Svetlanova-Larsen
- CHED 1079.** Electrocatalytic reduction of CO<sub>2</sub> by  $[\text{Pd}(\text{dpk})\text{Cl}]$  and  $[\text{Pd}(\text{dpk})_2\text{Cl}]^{2-}$ . R. Higgins, R.M. Granger
- CHED 1080.** Catalytic activity of 1,3-bis(2-pyridyl)imidazolin-2-ylidene supported metal complexes. R. Carbone, R.J. Swails
- CHED 1081.** Coordination chemistry of group 12 thiocyanate complexes containing benzimidazole and its anionic analog. T. Lyons, P.M. Secondo
- CHED 1082.** Structure and activity of complexes supported by neutral and cationic N-heterocyclic carbene ligands. S. Kariofillis, R.J. Swails
- CHED 1083.** Imidazole for pyridine: Its influence on the coordination of nickel(II) aromatic oxime complexes. A.A. Ibarra, M.J. Prushan
- CHED 1084.** Applications of duplex pincer chemistry. K. Motley, J. Lohrman, K. Bowman-James
- CHED 1085.** Polynuclear inorganic and organometallic complexes of ruthenium and their biological activity. F.A. Beckford, M. Niece
- CHED 1086.** Palladium complexes of multidentate resorcinarene surfactants. A. Benedict, A.V. Skinner, B. Ramjee
- CHED 1087.** Microwave assisted syntheses of CB<sub>11</sub> carborene derivatives. A.B. Shaff, M.A. Juhasz
- CHED 1088.** Discoveries in the antimicrobial properties of ZnO plate and rod morphologies. A. Schnoebelen, A.T. Bloemer, B. Torrance, P. Window, W.L. Cody, E. Steinmiller
- CHED 1089.** Synthesis of ligands from the amides of 2,6-pyridinedicarboxylic acid. H. Sturm, J. Feder, J. Bodwin
- CHED 1090.** Preparation and reactivity of platinum(II) complexes with dipropylentriamine ligands. A. Zahn, K. Williams
- CHED 1091.** Structural analysis of vanadium and peptide complexes. A. Brechbill, J.A. Dabrowski
- CHED 1092.** Synthesis and characterization of novel fluoro-bridged copper(II) complexes. B. Johnson, L. Yang
- CHED 1093.** Synthesis and characterization of copper(II) complexes supported by pyridylamide ligands. G. Williams, L. Yang
- CHED 1094.** Switchable catalysis and related processes. A. Laughlin, J.L. Brosmer, P. Diaconescu
- CHED 1095.** Simultaneous electrodeposition and recrystallization of silicon on gallium. M. Cain, G. LeBlanc
- CHED 1096.** Systematic microwave-assisted synthesis of rhodium(I) and iridium(I) complexes with ambipolar polyimine ligands and the effect of the ligand's functional groups on their photophysical properties. B. Hua, G.A. Salazar-Garza, C.M. Williams, V. Nesterov, M.A. Omary
- CHED 1097.** Solid state synthesis of copper sulfide using a NaCl-KCl flux. S.A. Donnelly, B.J. Bellott
- CHED 1098.** Heterogeneous MOF built from heterotritopic linkers and infinite secondary building units. M.B. Morla, N.R. Catarineu, O.M. Yaghi
- CHED 1099.** Electrocatalytic conversion of CO<sub>2</sub> using molecular manganese carbonyl based catalysts. P.J. Smith, M. Stanbury, E. Gouré, J. Compain, S. Chardon-Noblat
- CHED 1100.** Peculiar properties of quantum dots: Cadmium sulfide/zinc sulfide nanoparticles. K. Parson
- CHED 1101.** UMCM-1 protein adsorption and the effects of post-synthetic modifications of UMCM-1-NH<sub>2</sub> on protein adsorption properties. A. Helmin, Z. Mensinger
- CHED 1102.** Dye sensitized solar cells: A push towards lowering cost and improving efficiency. K.L. Digan, C.A. Sweet, C.J. Timpson

‡ Cooperative Cosponsorship

- CHED 1103.** Synthesis of monometallic nickel (II) halide complexes with secondary phosphines as building blocks for hydrogenase mimics. **A. Frantz, N. Downes, T.W. Chapp**
- CHED 1104.** IR study of the particle-polymer interface in MOF mixed matrix membranes. **A.P. Odegard, J.C. Moreton, S. Cohen, L.B. Benz**
- CHED 1105.** Microwave assisted metal nanoparticle synthesis. **L. Felix, M.O. Montes**
- CHED 1106.** Cytotoxicity and uptake of platinum compounds in cancer cell lines. **H. Evie, B. Duke, K. Williams, B.B. Williams**
- CHED 1107.** Synthesis and characterization of  $[Rh(bopy)_2(dppz)]^{3+}$  and  $[Rh(bopy)_2(phi)]^{3+}$  (*bopy* = 2-Benzoylpyridine): New potential metallointercalators supported by a mixed nitrogen/oxygen donor ligand. **M.R. Norton, S.C. Haefner**
- CHED 1108.** Synthesis and characterization of some new iodobismuthates. **M. Barnhill, L. Peterson**
- CHED 1109.** Synthesis of polymerizable phosphines from inexpensive starting materials. **H.K. Nguyen, J.W. Gohdes**
- CHED 1110.** Synthesis of amido(thio) urea based rhenium (I) tricarbonyl complexes. **W. Evans, M.O. Odago**
- CHED 1111.** Employing flexible ligands to construct metal-organic frameworks. **A.J. Soares, G.J. McManus**
- CHED 1112.** Photophysics of cobalt-zirconium heterobimetallic materials with ancillary amine ligands. **M. Bedford, N. Celia, A. Stone, A. Hill**
- CHED 1113.** Optimization of trivalent americium oxidation by sodium bismuthate. **N. Byrne, P.I. Molina, K. Kozma, M.D. Nyman, L.M. Mascavage**
- CHED 1114.** Ruthenium polypyridyl complexes: Synthesis, spectroscopic characterization, and reactivity with CT-DNA. **J. Khuri, H. Acquaye**
- CHED 1115.** Remarkably sensitive  $^{13}C$  NMR approach to quantifying electronic characteristics of isocyanide ligands. **Z. Wood, J.C. Applegate, N.R. Erickson, M.D. Hart, M.V. Barybin**
- CHED 1116.** Synthesis and coordination chemistry of new sterically hindered Schiff-base ligands. **M. Suchewski, C.A. Bradley**
- CHED 1117.** Small molecule reactivity of  $Cp^*Co(I)$  fragments. **A. Kayser, C.A. Bradley**
- CHED 1118.** Development of a biomimetic hydrolysis catalyst consisting of a zinc containing molecular imprint polymer. **B. Doherty, J.W. Gohdes**
- CHED 1119.** Palladium-catalyzed cross-coupling reactions: A clean synthetic method to assemble complex organic molecular frameworks. **P. Pham, M. Young**
- CHED 1120.** Preparation of metal-organic frameworks containing N-heterocyclic carbene catalysts. **K. Campbell, B. Crabb, T. Sarver, M. Shoukry, M.C. Perry, L.G. Beauvais**
- CHED 1121.** Developing materials for the purification of natural gas: Thermodynamic and kinetic studies of small molecule binding to iron phosphine complexes. **R. Gustafson, J.W. Gohdes**
- CHED 1122.** Spin crossover and valence tautomerism in discrete and extended polymeric systems. **A. Nguyen, B. Ploof, D.J. Brook**
- CHED 1123.** Manganese(III) polymolybdate based single chain magnets. **B. McKenna, S. Nellutla**
- CHED 1124.** Synthesis and characterization of silylated drug derivatives. **C.L. Burton, D.L. Austin, K. Gwilt, W.W. Brennessel, B.M. Kraft**
- CHED 1125.** Systematic investigation into the bonding, electronic structure, and reactivity of metal/soft-donor biomimetic complexes. **H.C. Williams, E. Hanna, J. Brown-McDonald**
- CHED 1126.** Withdrawn.
- CHED 1127.** Investigation of group 13 bonding properties with bulky N-heterocyclic carbenes following the synthesis and characterization of an imidazolium salt precursor. **D. Carone, J.K. Vohs**
- CHED 1128.** Computational and experimental analysis of vanadium (V) dipicolinate using  $^{51}V$  NMR spectroscopy. **M. Feinman, J.M. Fautsch**
- CHED 1129.** Preparation of zeolitic materials from Western Pennsylvania coal fly ash. **A.M. Krol, D.A. Polvani**
- CHED 1130.** Further investigation of transition-metal substituted polyoxotungstates in non-polar solvents using 2D DOSY P-31 NMR and density functional theory. **W.B. Swanson, J.R. Verdi, M.M. Kozik**
- CHED 1131.** New multifunctional bis(amidinate) ligands for highly luminescent coinage metal assemblies: Synthesis, structures, and coordination behavior. **A. Calderon, O. Ugarte Trejo, N. Bhuvanesh, M. Stollenz**
- CHED 1132.** Investigation of antimicrobial properties of copper (II) ions in polyvinyl acetate. **K. Nelson, J.M. Fautsch**
- CHED 1133.** Energy-conserving inorganic pigments. **M.C. Bixby, J.L. Hunting**
- CHED 1134.** Electron-rich organometallics: Featuring multiple isocyanozulene ligands terminated with thiol anchoring groups. **K. Hicks, M.V. Barybin**
- CHED 1135.** Molecular tweezers for catalytic hydrogenation and dehydrogenation. **T. Bader, B. Haslp, G.M. Edverson**
- CHED 1136.** Synthesis and x-ray crystal structure studies of dinitrosyl iron complexes based on 1, 10 - phenanthroline derivatives. **C.A. Koroni, L. Li**
- CHED 1137.** Base-metal thiolate complexes using ONS and SNS ligands: Synthesis and amine-borane dehydrogenation catalysis. **H. Keita, U.K. Das, R. Baker**
- CHED 1138.** Immobilization of porphyrins in sol-gel matrices. **M. Schellman, C.H. Lisse**
- CHED 1139.** Isomers and their interconversions for eight-coordinate, dodecahedral, rhenium(V) centers supported by four or five hydride ligands. **A. Scorzelli, B. Macalush, G.A. Moehring**
- CHED 1140.** Influence of  $\alpha$ -methyl substitution on nickel(II) complexes derived from 2-pyridinemethanamine. **S. Lozowski, M.J. Prushan**
- CHED 1141.** Intramolecular hydrogen exchange at rhenium(V) pentahydride complexes stabilized by a primary amine ligand. **D.J. Streisel, A. Petrou, G.A. Moehring**
- CHED 1142.** Synthesis and structural characterization of (dppp)  $PtHSnPh_3$ . **S. Hocharoon, T.A. Mobley, K.E. Gilbert**
- CHED 1143.** Synthesis of Ru(II)(4,4'',4''-trtertbutyl-2,2',6',6'',2''-terpyridine) catalysts for CO<sub>2</sub> reduction studies. **V. Caro, T. Schneider, J. Nganga, A.M. Angeles Boza**
- CHED 1144.** Quaternary diamond-like sulfides: New candidate materials for infrared nonlinear optical devices. **M.M. Cribbs, J. Glenn, J.A. Aitken**
- CHED 1145.** Synthesis of new rhodium catalysts for mechanistic investigation of dihydrogen evolution. **J. Hopkins, Y. Peng, D. Lionetti, J.D. Blakemore**
- CHED 1146.** Progress towards tetradentate chiral metal complexes as Lewis acid catalysts. **B. Estepa Bernabeu, C. Streu**
- CHED 1147.** Structural and spectroscopic studies of copper(II) complexes with ligands derived from 3,3'-Binicotinic acid. **R.J. Rabuska, S.P. Watton, K. Jakobowski**
- CHED 1148.** Attempted synthesis and isolation of binuclear chromium quinone compounds for the purpose of oxidizing simple alcohols. **L.M. Whitt, R.F. Johnston**
- CHED 1149.** Investigation of titanium complexes containing 2-iminoimidazoline ligands with sterically hindering side groups. **C. Mazzone, J.K. Vohs**
- CHED 1150.** Sol-gel synthesis with applications to fireworks. **M.R. Glenn, G. Gould, K.A. Wozniak**
- CHED 1151.** Radiolysis of cosmic ice analogs of ammonia. **R. Tano-Menka, M. Thompson, C. Arumainayagam**
- CHED 1152.** Fabrication and characterization of ceria-containing aerogels. **L. Posada, M.K. Carroll, A.M. Anderson, B.A. Bruno**
- CHED 1159.** Hydroxy-pyridine-carboxylate iridium complexes as extremely active, tunable and pH-responsive water oxidation catalysts. **R. Hutchinson, G. Menendez Rodriguez, A. Macchioni**
- CHED 1160.** Attempts towards the preparation of substituted cyclohexane-1,3-diones as building blocks for dihydropyridine synthesis. **E. Janeira, H. Arndt**
- CHED 1161.** Synthesis of cholesterol functionalized gold nanoparticles for the treatment of cardiovascular disease. **R. Kress, D. Graham**
- CHED 1162.** Encapsulation of hydrophilic cargo within poly(lactic-co-glycolic acid) *micro- and nanoparticles*. **M.J. Austin, S. Schubert, M. Leiske, A. Traeger, U.S. Schubert**
- CHED 1163.** Exploring the protein-protein interactions of PqsR in *Pseudomonas aeruginosa*. **K. Senn, B. Woo, S. Chng**
- CHED 1164.** Investigating the optical properties of riboflavin interacting with metallic nanoparticles. **R. Warnock, G. Massaro, L. Latterini**
- CHED 1165.** Mild two-step quaternization of amine-tethered metal-organic frameworks for anion-exchange applications. **M. Molenda, Z. Hu, D. Zhao**
- CHED 1166.** P-docelyloxybenzyl dimethylamine oxide (pDoAO) gel as pH sensitive artificial gland. **N.E. Caldero-Rodriguez, P. Gentili**
- CHED 1167.** Novel composite material used as a lithium ion battery anode. **N. James, C. Streb**
- CHED 1168.** Synthesis of novel conjugated small molecules based on 2,1,3-benzothiadiazole and 2,1,3-benzoxadiazole for organic photovoltaic applications. **M. Matar Abed, J. Cameron, N. Findlay, P. Skabara**

## Section I

Moscone Center

Hall D

### Undergraduate Research Posters

### International Research Experience (IREU)

N. Di Fabio, Organizer

12:00 - 2:00

**CHED 1153.** Biomass derived furfuryl alcohol/water azeotrope as reaction medium for copper-catalyzed Ullmann-type condensation. **S. Fusi, L. Vaccaro**

**CHED 1154.** Synthesis and modification of 4-hydroxyproline rich polypeptide oligomers. **M. Gaviria, H. Arndt**

**CHED 1155.** Biogenic synthesis of silver nanoparticles using herb extracts. **L. Browder, D. Yong Wei Ying, W.S. Chin**

**CHED 1156.** Investigating the biosynthesis of terrein in *Aspergillus terreus*. **M. Villanueva, E. Skellam, R. Cox**

**CHED 1157.** Density functional theory: Determination of electrolyte redox potentials for rechargeable magnesium batteries. **A.T. Berry, J. Mueller**

**CHED 1158.** Synthesis of super potent antibiotic cystobactamide 861-2. **A. Deyett, A. Kirschning**

## Section I

Moscone Center

Hall D

### Undergraduate Research Posters

### Medicinal Chemistry

Cosponsored by MEDI and SOCED

N. Di Fabio, Organizer

12:00 - 2:00

**CHED 1169.** Synthesis and characterization of novel flavonoid derivatives as acetylcholinesterase inhibitors for the treatment of Alzheimer's disease. **J. DePhillips, S. Martin, A. Denning, J. Minnick**

**CHED 1170.** T-0632 Amine analogs as potential agonists for the GLP-1 receptor. **C. Lepore, G. Towers, D.R. Haines**

**CHED 1171.** Withdrawn.

**CHED 1172.** Kinetics of doxorubicin degradation in various conditions. **C. Green, E. Csuhi**

**CHED 1173.** Progress towards the synthesis of a novel bromo substituted aurone as a promising cyclooxygenase-2 inhibitor. **S. Forbes-Pentecost, M. Polk, C. Mills, S. Stephenson**

**CHED 1174.** Disaggregation of lysozyme amyloid fibrils by combined drug delivery of curcumin and epigallocatechin gallate via multilayer Ca-alginate hydrogel micro-encapsulation. **A.J. Ferriol-Alonso, C.M. Osorio-Cantillo**

- CHED 1175.** Structure-based drug design of novel therapeutics targeting metastatic breast cancer. L. Hosek, K. Tawara, M. King, D.L. Warner, C.L. Jorczyk
- CHED 1176.** Thiamine as a carrier for drug delivery to cancer cells. K. Hernandez, J. Ayala-Rosa, S. Jarwan, S.H. Abdelwahed
- CHED 1177.** Liquid-liquid extraction and analysis of the antioxidant, resveratrol, from red wine made at various fermentation temperatures. F.C. Mayville, E.N. Sauschuck, A.M. Myers
- CHED 1178.** Investigation on the organometallic reagents involved in transmetalation of the Michael addition pertaining to artemisinin synthesis. L.S. Gifford, D. Fish
- CHED 1179.** Synthesis and evaluation of ketone body esters for the treatment of neurological disorders. E. Higgins, S. Ulrich
- CHED 1180.** Exploration of trans-2-(1,2,3-triazolyl)-cyclohexanols as potential inhibitors for fungal glycosidases. M. Huey, B. Nguyen, M.R. Ruyonga, N.M. Samoshina, V.V. Samoshin
- CHED 1181.** Synthesis of multi-target ligands for the treatment of Alzheimer's disease. K. Stupar, D. Fish
- CHED 1182.** Identification of new inhibitors for low molecular weight protein tyrosine phosphatase isoform A. M. Olson, H.V. Jakubowski, E.J. McIntee
- CHED 1183.** Inhibition of CYP2A6 by alpha-substituted analogs of trans-cinnamic aldehyde. G. Moeen, S. Black, K. Ebisuya, J.M. Chan, J. Harrelson
- CHED 1184.** Effects of cannabinoids on TGFβ-complex protein, endoglin, in Ewing's sarcoma. W. Willis, J. Little, J. Rubin, M.D. Perry, L. Hensley
- CHED 1185.** Progress towards the synthesis of aspernigrin A and structural analogs. R.S. Arnold, Z. Cross, D. Lemen, B. Marburger, L.M. Martin, D. McDermond, A.M. Reeve
- CHED 1186.** Proteolytic activity of metal chelators as inhibitors of rattlesnake venom. Y. Flores, K. Combrink
- CHED 1187.** Synthesis and toxicological analysis of 5' sulfamoylated adenosine scaffolds for *MtBPL* drug development. M. Fuller, M. Bockman, S. Dawadi, C.C. Aldrich
- CHED 1188.** Assessing specificity of indazole derivatives as inhibitors to CYP2E1. H. Hart, G.P. Miller
- CHED 1189.** Development of small peptidomimetic molecules targeting the CDYL2 chromodomain via massively parallel synthesis. A. Estevez Davila, S.V. Frye, K.D. Barnash, L.A. Ingerman
- CHED 1190.** Poly(ethylene glycol) functionalized-4',4"-difluorobenzotriazine analogues. E. Houchen, N.M. Paul
- CHED 1191.** Progress toward the synthesis of a photosensitive ALK5 inhibitor. J. Newson, A. Rola, C. Streu
- CHED 1192.** Infection of T follicular helper cells during acute SIV infection of infant macaques by the oral route. M. Warren, B. Phillips, K. DeParis
- CHED 1193.** Ionic liquids as antimicrobial materials. C. Migliori, D. Stapleton, J. Melessa, K. Merrett, L. Simmons, Z. Pearson, G. Ilijeh, A. Everett, A. Young, D. Warner, D. Fox, A.T. Koppisch, R.E. Del Sesto
- CHED 1194.** Synthesis of novel ALK5 inhibitors. T. Hall, L. Kelsey, C. Streu
- CHED 1195.** Design and synthesis of a non-covalent macrocyclic proteasome inhibitor. M. Palmer, R. Dorn, M. Rocha, G. Merrill-Steskal, M.G. Gotz
- CHED 1196.** Acid-labile oleoyl-PEG orthoester micelles for controlled drug delivery. F.M. Ippoliti, L.E. Prevette
- CHED 1197.** Investigating leaving group effects towards a covalently binding Toll-like receptor agonist. A. Bhattacharya, A.C. Chon, A.P. Esser-Kahn
- CHED 1198.** De novo design of novel NOP receptor agonists for the treatment of post-traumatic stress disorder. M.R. Koebel, A. Cooper, S. Sirmulla
- CHED 1199.** Identification of potentially novel antimicrobial molecules produced by isolated *Streptomyces*. M. Almaraz, G. Palmer
- CHED 1200.** Extraction, quantification, and antioxidant analysis of annonacin from fruit of the North American Pawpaw (*Asimina triloba*). F.C. Mayville, E.C. Charamut, C.R. Kovaleski
- CHED 1201.** Withdrawn.
- CHED 1202.** Using light to kill cancer-development of a novel photodynamic therapy agent. A. Hamilton, J.E. Bradshaw
- CHED 1203.** Possible breast cancer photodynamic therapy agents: H<sub>2</sub>TTP-A4OH and H<sub>2</sub>TTP-A6OH. M. Richards, J.E. Bradshaw
- CHED 1204.** Targeted Inhibition of COX-2. C. Armstrong, C. Streu
- CHED 1205.** Explaining chemical space with light: Light-activated molecules to probe biosystems. M. Zafferani, C. Streu
- CHED 1206.** Metal chelate inhibitors of rattlesnake venom. J.G. Escobar, K. Combrink
- CHED 1207.** Synthesis of nonsteroidal analogs of CAMSA as anti-*Clostridium difficile* agents. A. Taylor, I. Donkor
- CHED 1208.** Design and synthesis of novel liver X receptor ligands. K.A. Payne, K.M. Lamark, D.A. Spadoni, D. Adams, R. Komati, K. Riley
- CHED 1209.** Rifamycin derivatives to treat *Mycobacterium abscessus*. K.N. Elizondo, K. Combrink, A. Ramirez-Ramos, S. Spring, F. Maurer
- CHED 1210.** Synthesis of oxazolidinones containing tricyclic fused rings. M.C. Audi, T. Lesmeister, A.N. Roux, J.T. Ippoliti
- CHED 1211.** Synthesis of potential AAC(6)-Ib inhibitors to combat bacterial resistance to aminoglycoside antibiotics. M. Simes, L. Miers, K.J. Labby
- CHED 1212.** Effects of FDA-approved compounds on biofilm formation and antibiotic sensitivity in *Staphylococcus haemolyticus*. L. Nguyen, M.S. Blackledge
- CHED 1213.** Development of a medicinal chemistry lab to demonstrate the effects of molecular weight and polarity on lipophilicity. A. Schrader, B. Buckner, M. Manpadi
- CHED 1214.** Synthesis of several polyamine analogs as possible growth inhibitors for breast cancer cells. F.C. Mayville, E. Phillips, E. Brown, A.L. Bielski
- CHED 1215.** Fragment library docking with HADDOCK: Identifying protein binding hotspots and improving site sampling. E. Elder, A. Bonvin, J. Grinstead
- CHED 1216.** Effect of cannabinoid treatment on CD99 expression in Ewing's sarcoma. D. Dwelle, L. Hensley
- CHED 1217.** Synthesis and structural analysis of novel quercetin antioxidant and antitumor agent: Antitumor activity on mouse T2A and T3PA cancer cells. E. Tharnish, C. Parry, A. Thomas, M. Grossmann, C. Kriley, M.M. Majreck, E. Reinheimer
- CHED 1218.** Dual COX-2/sEH inhibitor treats kidney damage in type 2 diabetic rats. K. Craig, A. Khan, J. Imig
- CHED 1219.** Investigation of FDA-approved small molecules as modulators of virulence in Methicillin-Resistant *Staphylococcus aureus* (MRSA). K. Gillard, T. Wilson, P. Vigueira, A. Sarkar, M.S. Blackledge
- CHED 1220.** DNA intercalation and Topoisomerase I inhibition studies of aryl sulfonamides. A. Jefferys, A. Hurley Predecki
- CHED 1221.** Computational and SRB analysis of novel naphthoquinone analogues. B. Tuhlei, M. Manpadi, Z. Medcalf
- CHED 1222.** Synthesis and analysis of tautomericly ambiguous cytosine-based analogs to induce viral mutagenesis. C.M. Clem, W.R. Fernandez, S.M. Hardage, S.E. Kuhn, V.K. Dunlap
- CHED 1223.** Cellular response to spider silk scaffolds. D. Montag, K. Hafner, M. Kennedy, D. Dean
- CHED 1224.** Computational simulations of chiral drug metabolism by mutated CYP2C9. A. Holcomb, G.P. Miller, M.D. Perry
- CHED 1225.** Mechanistic study of genetic response induced by novel naphthoquinone analogues. D.B. Sitapara, A. Delawder, J. Sparks, M. Manpadi
- CHED 1226.** Small molecule modulation of virulence behaviors in *Staphylococcus epidermidis*. R. Ulrich, M. Behrens, M.S. Blackledge
- CHED 1227.** Expression of β-cat-enin from diabetic and cancerous cells in the presence of glucose. R. Stahl, K.S. George Parsons
- CHED 1228.** Novel excipients that reduce the viscosity of concentrated monoclonal antibody formula novel excipients that reduce the viscosity of concentrated monoclonal antibody formulations. H.F. Gezaghagne, A.M. Larson, A.K. Weight, K. Love, C. Wescott, A. Bonificio
- CHED 1229.** Pillaring classic honeycomb SBLs as a method to 3-periodic MOFs. E.A. Alonso, J.F. Eubank
- CHED 1230.** Isolation of curcuminoids from turmeric *Curcuma longa*. S.A. Saey, N.Y. Ayala, B.E. Sturgeon
- CHED 1231.** Evaluation of antimicrobial properties of *Combretum laxum* extracts. J.G. Escobar, A.K. Addo-Mensah
- CHED 1232.** Synthesis and study of triple-headed, double-tailed amphiphiles as potent antiseptics. S.D. Kendrick, R. Elizabeth, K. Seifert, K.L. Caran
- CHED 1233.** Synthesis of novel casein kinase 1 inhibitors for treatment of Alzheimer's disease. C. Gettridge, J. Sridhar
- CHED 1234.** *In vitro* studies on non-toxic polysaccharide based drug/gene delivery systems: Safety/toxicity studies. R. Srinivasan, L. Hernandez, J. Murphy, J. Orona
- CHED 1235.** Changes in mechanical and chemical properties of rat femur and tibia bones exposed to simulated microgravity and cosmic radiation. H.N. Heacock, R. Mehta, B. Hill, P. Chowdhury, M. Dobretsov, L.M. Benzmilller, J. Barajas, S. Freyaldenhoven
- CHED 1236.** Energetics of molecular recognition of substituted-warfarins by serum albumin as a model for blood ADME drug properties. E. Munyaneza, E.J. Valente, K.M. Bishop, R. Bishop
- CHED 1237.** Molecular diversity of kavalactones from kava-kava root extractions. R. Bishop, M.A. Bowser, K.N. Brunck, L.C. Bishop, E. Munyaneza, K.M. Bishop
- CHED 1238.** Progress on the synthesis of a methoxatraxate-phenylalanine derivative for the treatment of glioblastoma in antibody-directed enzyme prodrug therapy. M.J. Rouffet, S. Frantz, P. Katherine, M. Dorrell
- CHED 1239.** Chemical analysis and antimicrobial activity of Maine *Ulva lactuca* after prolonged storage. J. Woolf, A.M. Deveau, K.M. Burkholder, Z. Miller-Hope, C. Russell, E. Lloyd
- CHED 1240.** Anti-bacterial synergy of medicinal herbs. B. Niemi, A.B. Waghe
- CHED 1241.** Synthesis and analysis of MTN inhibitors: A potential new class of antibiotics to treat drug resistant infections. R.B. Mukuna, H. Dossett, N. Hunter, P. Erstad, D. Xu, J.H. Thurston, K. Cornell
- CHED 1242.** Accumulation of phytochemical compounds in *Calendula officinalis* grown under differential light and nitrogen conditions. P. Tuladhar, S. Shrestha
- CHED 1243.** Isolation and modification of mithramycin SA. L. Hartline, P. Daniels, S. Brooks, A. Foster, D. Scott
- CHED 1244.** *Heracleum maximum* and *Psoralea corylifolia*: Toxicity/phototoxicity evaluation. B. Pinsky, G. Jones, C. King, J. Hoffmann, M. Morrow, P. Dhar
- CHED 1245.** Synthesis of 2-(2-trifluoromethylsulfonamido)phenylbenzimidazole derivatives as potential IspF inhibitors. M.J. Rouffet, C. Dunham
- CHED 1246.** Enhancing antibacterial properties using herbal extracts. J. Knapp, A.B. Waghe
- CHED 1247.** Antibiotic and hyaluronidase-inhibiting fractions from the *Rhododendron* flower. R. Wetzel, A. Hoffman

## Section I

Moscone Center  
Hall D

## Undergraduate Research Posters

## Nanochemistry

Cosponsored by SOCED

N. Di Fabio, Organizer

12:00 - 2:00

**CHED 1248.** EPR Characterization of incorporated membrane proteins into STMA-lipid nanoparticles. A. Bali, A.F. Craig, I. Sahu, D. Konkolewicz, G. Lorigan



- CHED 1249.** Employ of nanotechnology as a resource of improvement for the agricultural sector: Enhancement on the early growth of *Abelmoschus esculentus* treated seeds using green synthesized gold nanoparticles. **J. G. Noel-Torres**, C.N. Burgos-Feliciano, C. Pellicier-Rodríguez, C.M. Osorio-Cantillo
- CHED 1250.** Synthesis of functionalized superparamagnetic cobalt ferrite nanoparticles and optimization for specific phosphoprotein enrichment. **K. Dani**, B. Chen, S. Jin
- CHED 1251.** Infrared and surface-enhanced infrared absorption study of dopamine adsorption on Cu nanostructures. **M. Lindsey**, D. Perry
- CHED 1252.** Synthesis and characterization of core/shell, copper indium sulfide/silver gallium sulfide nanocrystals. **E. Searles**, S. Hughes
- CHED 1253.** Developing methods to examine the toxicity of CuInS<sub>2</sub>/ZnS nanocrystals using *Danio Rerio* (zebrafish) embryos. **C. Peterson**, S. Hughes
- CHED 1254.** Control of the surface density of thioctic acid on gold nanoparticles and its effect on stability and catalytic activity. **A. Crawford**, J. Park
- CHED 1255.** Use of scanning tunneling spectroscopy to characterize doped ZnO nanorods for solar cell applications. **A. Carr**, E. Adcock Smith, J.A. Phillips, K. Roberts, E.V. Iski
- CHED 1256.** Application of thermally stable silver halide monolayers to polycrystalline gold. **H.R. Morgan**, L.E. Jackson, J.A. Phillips, E.V. Iski
- CHED 1257.** Effect of gold nanoparticles and sudafoed on *Daphnia Magna*. **J. Chabrier Rodriguez**, R.M. Perez-Ortiz, N. Cardona, P. Ostolaza, J.I. Ramirez Domenech, E. Ferrer Torres
- CHED 1258.** Synthesis and characterization of mesoporous zirconia. **J. Roach**, D.S. Heroux
- CHED 1259.** Neurodevelopmental toxicity of low concentration silver nanoparticles in embryonic zebrafish (*Danio rerio*). **T. Hemphill**, V. Nicolae, A. Latta, S. Robertson, R. Manteca, C.C. Pena, J.J. Pak, M.A. Thomas, J.D. Harris
- CHED 1260.** Investigation of mixed monolayer systems on Au(111). **D. Fitzgerald**, E. Krisanda, C. Szytko, G. Avila-Bront
- CHED 1261.** Novel characterization of silver & gold nanoparticles utilizing a laser system. **R. Maharaj**, M.O. Montes, K.A. Beran
- CHED 1262.** Effect of ZnO nanoparticle morphology on photodegradation of Janus Green B Azo Dye. **H.V. Anderson**, C.C. Pena, J.D. Harris, J. Cowan, J.J. Pak, J. Croteau, D. Butt
- CHED 1263.** Enhancing drug delivery using antibiotic-incorporated silver nanofibers. **K. LaiHing**, J. Lewis, A. White
- CHED 1264.** Synthesis of magnetic nanoparticles for biomolecule attachment and future biosensors. **K. Burch**, G. LeBlanc, D. Wirth
- CHED 1265.** Characterization and photothermal effects of gold nanoparticles with gallic acid ligands. **E. Evans**, E. Hysi, B. Mellis
- CHED 1266.** Effects of silver nanoparticles and orphenadrine on *Daphnia Magna*. **G.M. Santiago Rivera**, Y. Santos-Vazquez, R.M. Perez-Ortiz, E. Ferrer Torres, J.I. Ramirez Domenech
- CHED 1267.** Synthesis and characterization of Au:Ag core-shell nanoparticles with 4-aminothiophenol Surface Enhance Raman Spectroscopy (SERS) tag. **M. Gladding**, B.D. Gilbert
- CHED 1268.** Stability of insulin bound on nanodiamonds. **A.T. Arshi**, B. Negru, M. Su, H. Shi, I. Jones
- CHED 1269.** Azide functionalization of nanoporous gold. **N.J. Chevalier**, D.T. Favre, E.C. Landis
- CHED 1270.** Synthesis and characterization of quantum dot@hexaniobate nanopods. **K. Moore**, T.T. Brown, J.B. Wiley
- CHED 1271.** Identification of novel folate-binding proteins. **K. Holton**, L.M. Watkins
- CHED 1272.** Silver halide monolayers: An EC-STM study of stability on a Au(111) surface. **L.E. Jackson**, J.A. Phillips, H.R. Morgan, G.H. Jones, E.V. Iski
- CHED 1273.** Characterization of DAPI and PACA as novel, hidden, tag molecules for SERS spectroscopy of silver-coated, gold nanoparticles. **V. Wood**, B.D. Gilbert
- CHED 1274.** Synthesis and characterization of redox-responsive porphyrin-loaded polysilsesquioxane nanoparticles for photodynamic therapy. **C.N. Mena**
- CHED 1275.** Electrochemical control of phase change properties in nanoparticles of silver selenide. **J. Yungbluth**, G. LeBlanc
- CHED 1276.** Soft microspheres with discrete fluorescent nanospheres for measuring forces during phagocytosis. **D. Hay**, B. Evans
- CHED 1277.** Growth of *Shewanella oneidensis* in the presence of toxic metals: A basis for sustainable semi-conducting nanoparticle biosynthesis. **A.M. Bell**, S. Lampa-Pastirk
- CHED 1278.** Synergistic enhancement of antibiotic activity with silver nanoparticles. **E. Stuffle**, G. Vildor, C. Stewart, K. LaiHing
- CHED 1279.** Nanodiscs stabilize *Anabaena* sensory rhodopsin trimers for regulatory binding studies. **A. Aguiar**, J.M. Massey, J. Andersen, E. Sandoval, J.A. Cappuccio
- CHED 1280.** Study of metalloporphyrins on gold surfaces via scanning tunneling spectroscopy. **L. Joseph**, D. Del Sesto
- CHED 1281.** Investigating the hard corona of novel nano-vehicles in model biological fluids. **A.W. Cheema**, N.T. Flynn, A.C. Webb
- CHED 1282.** Binding and thermodynamic studies of myoglobin with polyethylene glycol coated iron oxide nanoparticles. **A. Vanyo**, A. Fazal
- CHED 1283.** Effect of polyethylene glycol-coated magnetic nanoparticles on the catalytic activity of myoglobin. **A.A. Charbonneau**, A. Fazal
- CHED 1284.** Using plasmon molecular resonance to increase LSPR sensitivity. **A. Gray**, P. Hall-Osberg
- CHED 1285.** Chemical modifications to tailor electronic structure of 2-dimensional nano-materials. **S.S. Esdaille**, T. Schiros
- CHED 1286.** Comparing the synergistic enhancement of antibiotic activity between biologically and chemically synthesized silver nanoparticles. **G. Vildor**, K. LaiHing
- CHED 1287.** Infusion of silver-gold bimetallic nanoparticles in organic nanofibers for antimicrobial use. **C. Stewart**, E. Stuffle, K. LaiHing
- CHED 1288.** Gold nanoparticle depuration in wood frog (*L. sylvaticus*) tadpoles after post-exposure habitation in fresh water. **K.T. Lerner**, P.P. Fong, L.B. Thompson
- CHED 1289.** Incorporation of silver-based antibiotic in organic nanofibers for drug enhancement. **K. LaiHing**, A. Saunders, S. Parkins
- CHED 1290.** SERS detection of graphene oxide in acid-catalyzed sol-gels. **B. Wyatt**, E.J. Atkinson
- CHED 1291.** Monolayer deposition of colloidal quantum dots by spray-coating. **A.S. Abrams**, R.E. Mow, G.P. Murray, S.H. Tan, H. Van Ryswyk
- CHED 1292.** Scattering mediated absorption in photonic crystals. **N. Eldabagh**, J.J. Foley, K.R. Fernando
- CHED 1293.** Synthesis of gold and silver nanotriangles using plant extracts. **D. Perillo**, M. Schiza
- CHED 1294.** Quantifying the thermodynamics of the surface modification of oleate-capped CdSe quantum dots with dodecylphosphonic acid via isothermal titration calorimetry. **Z.B. Di Giusto**, J.D. Keene
- CHED 1295.** Hierarchical SnS nanostructures for efficient energy devices. **A.M. DeGrauw**, L.L. Whittaker
- CHED 1296.** Effect of silver nanoparticles on migratory properties of cultured fibroblasts. **O. Creech**, L. Seballos, B. Sharma
- CHED 1297.** Quantum dot growth using cysteine polymers in a one pot method. **S. Yang**, R. Nevarez, M. Garica, I. Gasparyan, Y. Nowry, P. Lee
- CHED 1298.** Effect of capping agents on the antibacterial properties of silver nanoparticles. **H.P. Nguyen**, A.L. Smalley
- CHED 1299.** Hybrid dual-layer zinc oxide dye-sensitized solar cells. **C. Tan**, K.W. Huang, H. Van Ryswyk
- CHED 1300.** Covalent immobilization of graphene on patterned SAMs for investigation of frictional properties. **M.L. Grandon**, M.B. Elinski, M. Negrito, Z. Liu, J.D. Batteas
- CHED 1301.** Hydrothermal synthesis and characterization of two dimensional tin sulfide nanosheets. **E. Juarez Diaz**, Y. Zayas Ortiz, N. Trejo, J.D. Dwyer, E.S. Aydil
- CHED 1302.** Nanotechnology and art in chemical education. **J. Garcia**, J. Liu, E. Chan, F. Schwebel, F. Mongue, J. Blatti, A. Quinonez, T. Kwan
- CHED 1303.** Partially poisoned palladium nanoparticles for selective chemical conversion: Hydrogenation of C=C bonds. **H. Nguyen**, Y. Shon
- CHED 1304.** Temperature effects on C<sub>60</sub> fullerene in alkane, alkene, fatty acid, and vegetable oil solutions. **L.D. Bienski**, C.L. Aronson, R. Ferrer, L.A. Pajarillo, B.S. Blackwell, J. Ballard, M. Kennedy, V. Te
- CHED 1305.** Gingivitis prevention: Integration of iron (II, III) oxide nanoparticles into commercial mouthwash. **J. Nguyen**, M. Osinski
- CHED 1306.** Effect of fluoxetine-conjugated gold nanoparticles on aquatic organisms. **R.J. Gawel**, P.P. Fong, L.B. Thompson
- CHED 1307.** Quantification of polyelectrolyte adsorption to gold nanoparticle surfaces. **C.M. Harris**, F.E. McFeaters, K. Andresen, L.B. Thompson
- CHED 1308.** Raman characterization of binary hydrates. **K. Keefe**, N. Ismail, C.A. Koh
- CHED 1309.** Towards improving drug delivery technology with dual-payload gold nanoparticles. **C. Akers**, D. Scott
- CHED 1310.** Seeded synthesis of nanomites by combining top-down and bottom-up strategies. **W.E. Scholl**, C.A. Lancaster, M.A. Ticknor, J.S. Shumaker-Parry
- CHED 1311.** Creation of PEG-capped aluminum nanoparticles for tissue engineering and energetics applications. **I. Stochl**, S. Sell, S.W. Buckner, P.A. Jelliss
- CHED 1312.** Study of the Impact of surface charge of silica nanoparticles on enhanced oil recovery (EOR). **L.M. Aponte-Reyes**, L.M. Aponte-Cruz, P. Loman-Cortes, J.L. Vivero-Escoto, M.P. Alvarez
- CHED 1313.** Characterizing the nanomechanical properties of  $\beta$ -amyloid aggregation on various lipid surfaces by atomic force microscopy. **B.S. Flaherty**, E.A. Yates
- CHED 1314.** Gold nanoshapes synthesis for surface enhanced Raman applications. **M. Snyder**, M. Schiza
- CHED 1315.** Doping of 2D nanomaterials: Investigation of chemical environment and electronic structure effect. **N. Cassel**, W. Archibald, S. Sambasivan
- CHED 1316.** Interactions of myoglobin with nanodiamond particles. **C. Sylvia**, B. Negru, M. Su, H. Shi, I. Jones
- CHED 1317.** Art of adsorption: Protein attachment onto charged nanodiamonds. **S.M. Tripathi**, B. Negru, M. Su, H. Shi, I. Jones
- CHED 1318.** Novel solution for powering our planet: Comparative study of a novel titania sol and a titania powder for the improved efficiency of dye-sensitized solar cells. **L. Joseph**, L. Klein
- CHED 1319.** Ultraviolet-Visible characterization of Buckminsterfullerene C<sub>60</sub> dissolved in organic monomers. **C.L. Aronson**, L.D. Bienski, L.A. Pajarillo, B.S. Blackwell, Z. Jones, R. Muzquiz, C. Anding, M. Bryant, R. Ferrer
- CHED 1320.** Synthesis of fluorescent, gallic acid capped gold nanoparticles. **K. Vazquez**, J. Hollingsworth, W. Crawford, B. Mellis

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- CHED **1321**. Effect of Ligand Identity on Quantum Dot Sensitized Solar Cell Performance. N. Hendrix, J. Snyder, K. Schnitzenbaumer
- CHED **1322**. Microwave assisted growth of cobalt doped ZnO nanorods. S. Huang, E. Adcock Smith, K. Roberts
- CHED **1323**. Evaluation of the effect of Ag, Au and ZnO nanoparticles on the kinetic of degradation of allura red AC and brilliant blue FCF dyes in wastewater. A. Rosado-Torres, J. Pacheco-Torres, J. Tirado-Robles, M. Santiago-Mercado, C.M. Osorio-Cantillo
- CHED **1324**. Metallic nanoparticle production by CVS protobiotic. H. Peng, M.O. Montes
- CHED **1325**. Glycerol mediated synthesis and applications of silver citrate nanoparticles. V.M. Wartenweiler, S. Laing, H. May
- CHED **1326**. Infrared and surface-enhanced infrared absorption study of dopamine adsorption on silver nanostructures. G. Cartwright, D. Perry
- CHED **1327**. Synthesis of gold, silica and silica@gold core shell nanoparticles for functionalization with anti-cancer drugs. F.D. Rodriguez, N.N. Sosa Cintron, E. Ferrer Torres, M.P. Alvarez, C. Osorio Cantillo, J.I. Ramirez Domenech
- CHED **1328**. Effect of the interaction of ZnO nanoparticles and the gentamicin in growing populations of *Staphylococcus aureus*. E. Ferrer Torres, S. Figueroa Gonzalez, C. Osorio Cantillo, J.I. Ramirez Domenech
- CHED **1329**. Stabilization of 4',6-Diamidino-2-Phenylindole (DAPI) in base-catalyzed sol-gels containing silver nanoparticles vs. solution using Surface Enhanced Raman Spectroscopy (SERS). D. Mason, E.J. Atkinson
- CHED **1330**. Surface-Enhanced infrared absorption studies of copper nanostructures formed by oblique-angle deposition. B. Branch, D. Perry
- CHED **1331**. Development of nanomaterials research project at a community college. J. Orozco, D. Mikhail, M. Ramos, S. Sanders, B. Bekker, S. Fan
- CHED **1332**. Withdrawn.
- CHED **1333**. Synthesis, characterization and antimicrobial activity of drug-loaded calcium alginate nanocapsules: Perspectives on their potential biomedical use. A. Anaya, T. Palacios-Hernández, M. Méndez-Rojas, A. Aburto Platas
- CHED **1334**. Study of protein-nanodiamond attached on silica surface with attenuated total reflection spectroscopy. M. Hallberg, B. Negru, M. Su, H. Shi, I. Jones
- CHED **1335**. Electrooptical dynamics of 4-cyano-4'-pentylbiphenyl mounted on ZnSe functionalized with alkanethiol self-assembled monolayers. E.C. Rossomme, A.R. Noble
- CHED **1336**. Antibacterial properties of metallic nanoparticle-doped MOFs in water. J. Walker, K. Couser, N. Le, K.T. Jackson
- CHED **1337**. Colloidal synthesis: A route towards nanometric cathode material for multivalent batteries. J. Bolotnikov, G. Nolis, J. Cabana
- CHED **1338**. Toxicological study of green synthesized silver and gold nanoparticles on germination and early growth of *Sesamum indicum* seeds. J. Pacheco-Torres, M. Santiago-Mercado, C. Torres-Martinez, C.M. Osorio-Cantillo

## Section I

Moscone Center

Hall D

## Undergraduate Research Posters

## Organic Chemistry

Cosponsored by SOCED

N. Di Fabio, Organizer

12:00 - 2:00

- CHED **1339**. Directed solid phase peptide synthesis of  $\alpha$ -conotoxin MII. J. Fothergill, O.M. McDougal
- CHED **1340**. Synthesis of quinoxalines and the analysis of their bond lengths via x-ray diffraction. J. DiSapio, R. Van Wart, G.A. Crundwell, N.M. Glagovich
- CHED **1341**. Design and synthesis of cyclic dipeptides for biomimetic epoxidation. C.R. Drisko, K.S. Huang
- CHED **1342**. Synthesis and metalation of *N*-methylbenzocarbaporphyrins. A.N. Latham, T.D. Lash
- CHED **1343**. Ozonolysis of cycloalkenes in the presence of unsaturated nucleophiles: Synthesis of tri-functional aldehyde-ester-alkene compounds. D.P. Soulsby, J. Ung
- CHED **1344**. Novel synthesis methods for naturally occurring THF derivatives. G. Pombar, Y. Yuan
- CHED **1345**. Exploring sequence effects in cucurbit[n]uril-peptide interactions. Z. Hirani, E.F. Babcock, A.R. Urbach
- CHED **1346**. Effects of neighboring sequence context on cucurbit[n]uril-peptide interactions. E.F. Babcock, Z. Hirani, A.R. Urbach
- CHED **1347**. One-pot dialkylation of cycloalkanones and their ring-closing metathesis to make bridged bicyclic compounds. D. Sacenti, A. Yoon, J.B. White
- CHED **1348**. Stereoselectivity of stilbene synthesis by palladium-catalyzed Heck reaction. K.J. Clark, N.S. Werner
- CHED **1349**. Rapid synthesis of *N*-(4-isopropylbenzyl)-*N*-methylformamide. S. Sundhagen, L.I. Bobyleva, M.M. Bobylev
- CHED **1350**. Examining syntheses and photochemical reactivity of 5,6-diethynylquinoxalines. A.J. Cortes, B.F. Gherman, J.D. Spence
- CHED **1351**. C<sup>1</sup>-C<sup>7</sup> Diradical cyclization of an anthracen-9-yl substituted enyne-enone. M.R. Hutchinson, B.F. Gherman, J.D. Spence
- CHED **1352**. Investigating cyclization channels of substituted enyne-enone derivatives. F. Sakdamart, B.F. Gherman, J.D. Spence
- CHED **1353**. Altering scents: Modifying the ionones and studying the effect on fragrance. S. Crosio, J.D. Pike
- CHED **1354**. Developing a colorimetric competitive displacement assay to screen for catalytic peptides. A. Gest, L. Witus
- CHED **1355**. Synthesis of silylated tetrahydropyrans from organosilanes. J. Hampton, A. Diez-Varga, C. Diez-Poza, V. Diez-Lebrato, G. González-Gil, A. Barbero
- CHED **1356**. Synthesis and characterization of mixed short and medium chain fatty acid triacylglycerols. G. Cabrera, R.P. D'Amelia, W.F. Nirode, L. Huang
- CHED **1357**. DNA-templated synthesis of macrocycles. S. Griffin, K.S. Huang
- CHED **1358**. One-pot synthesis of tetramisole-derived organocatalysts from amino alcohols. R. Morris, M. Paeth, P. Willoughby
- CHED **1359**. Progress toward the synthesis of deoxypodophyllotoxin. B. Rencher, D.I. Saavedra, M. Andrus
- CHED **1360**. Assessment of the handedness of *ortho*-phenylene folding. R. Pandian, G. Vemuri, C. Hartley
- CHED **1361**. NMR analysis of pyrrolizidine alkaloid monoesters from the plant family Boraginaceae. C.J. Burghard, P. Cantrell, L. Johnson, R.B. Kelley
- CHED **1362**. Progress towards the synthesis of F4-4. P.J. Hurst, D.I. Saavedra, M. Andrus
- CHED **1363**. Gold-catalyzed cycloetherification of epoxides. T. Silva, J.R. Vyvyan
- CHED **1364**. Mechanistic investigation of the formation of *N*-sulfonyl aldimines from aldehydes and iminoiodinanes. K.A. Scott, M.D. Hopkins, B. DeMier, A.A. Lamar
- CHED **1365**. Investigation of the effect of iminoiodinane reagent on the synthesis of *N*-sulfonyl aldimines from aldehydes. B. DeMier, M.D. Hopkins, K.A. Scott, A.A. Lamar
- CHED **1366**. Mild chlorination of arenes using organic dyes as visible-light photoredox catalysts. A.T. Bensalah, A.A. Lamar
- CHED **1367**. Rapid synthesis of *N*-methyl-*N*-(4-trifluoromethylbenzyl)formamide. S. Park, L.I. Bobyleva, M.M. Bobylev
- CHED **1368**. Rapid synthesis of *N*-vanillylbutyramide. J. Choi, L.I. Bobyleva, M.M. Bobylev
- CHED **1369**. Synthesis of calcitroic acid to determine its potential for prevention of colon cancer. V. Senych, O.B. Yu, L. Arnold
- CHED **1370**. Extending the substrate scope of the Chan-Lam cross-coupling reaction using photoredox catalysis. J. Marshall, A.J. Wommack, A. Schiro
- CHED **1371**. Synthesis and nucleic acid binding applications of diversely functionalized macrocyclic heteroarylopeptides. A.A. Fuller, C. Bosmajian, A. Mohan
- CHED **1372**. Synthesis of indolyl/indazolyl (N1 substituted) quinolones (C6 substituted) for study as possible anticancer/antibiotic/antimicrobial agents. L. Ito, K. Reicher, P. Schulzetenberg, T.M. Trygstad
- CHED **1373**. Induced-fit binding of cucurbit[7]uril to insulin B1-11 in aqueous solution. A.R. Karla, A.R. Urbach
- CHED **1374**. Applying a new amination method for the efficient synthesis of calothrixin B. M. Dekarske, L.M. Mori Quiroz, M.D. Clift
- CHED **1375**. Synthetic receptors and cyclic peptides. E. Boms, A.T. Bockus, A.R. Urbach
- CHED **1376**. PIB-bound pybox ligands. M. Gulley, T. Malinski, D. Bergbreiter
- CHED **1377**. Convergent synthesis of *trans*-alkene peptide isosteres. S.E. Huth, B.R. Sculimbrene
- CHED **1378**. Enantioselective catalytic phosphorylation. P.J. Endres, B.R. Sculimbrene
- CHED **1379**. Novel route to acridines. K. Berger, J. Javey, G. McCormick, E.H. Fort
- CHED **1380**. Kinetic scheme of the decarboxylative cross-ketonization of carboxylic acids with zirconia catalyst. O.A. Fraser, A. Cohen, A. Ignatchenko
- CHED **1381**. Analysis of the structure activity relationship between novel malonamides and their fluorescence characteristics. B.I. Gomez, J. Jennings, A.K. Franz
- CHED **1382**. Destruction of organophosphorus nerve agents using metal-organic frameworks. C. Whitaker, A. Brady, L. Webb
- CHED **1383**. Synthesis and photophysical studies of solvatochromic compounds containing fluorene-quinoxaline donor-acceptor chromophores. S.R. Johnson, L.M. Wickham, J.M. Nadeau
- CHED **1384**. Synthesis of thioether-substituted dibenzo[*fg,op*]naphthacene liquid crystals. C. Henry, P. Repasky, C. Hartley
- CHED **1385**. Synthesis of a perylenebisimide ligand for improving the light absorption properties of luminescent solar concentrators. H. Towns, R.C. Chambers
- CHED **1386**. Controlling the handedness of *ortho*-phenylene helices through substitution at the termini. E.B. Stopler, G. Vemuri, C. Hartley
- CHED **1387**. Synthesis and photocharacterization of a photodynamic oxytocin antagonist. R. Ryan, C. Streu, M. Kazmierczak
- CHED **1388**. Solid-state studies of benzonitrile oxides and their dimers: Crystal structure of a 1,2,4-oxadiazole. M. Neuzil, W.H. Ojala
- CHED **1389**. Solid-state structures and reactivity of halogenated benzonitrile oxides: Crystal structure of *bis*(3-chlorophenyl)furoxan. M. Stodolka, W.H. Ojala
- CHED **1390**. Solid-state chemistry of dimers of a sterically hindered benzonitrile oxide. K. Idzorek, W.H. Ojala
- CHED **1391**. Synthesis of a PFTase substrate containing a terminal olefin capable of tetrazine ligation. S. Auger, J. Wollack
- CHED **1392**. Evidence for formyl and  $\alpha$ -hydrogen bonding in asymmetric organic reactions from single crystal X-ray diffraction and density functional theory. J. Cosme-Silva, J.D. Evanscek, J. Rohde, B. Vernier, M. Novak, M. Kanzelberger
- CHED **1393**. Bioorthogonal synthesis of novel fluorophores. S.S. Rubeck, X. Shang, J. Guo
- CHED **1394**. Synthetic methodologies for pyrazolones analogues as potential drug candidates for pulmonary fibrosis. T. Bader, C.P. Jasperse, H. Abdulsalam
- CHED **1395**. Development of new analgesic drugs. M. Langereis, M. Hossain

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

‡ Cooperative Cosponsorship

- CHED 1396.** *N*-Heterocyclic carbene-catalyzed conversion of  $\alpha$ -amino alcohols to their corresponding epoxides. **S.T. Goralski, B.M. Saliba, K.R. Overly**
- CHED 1397.** Natural products to combat leishmaniasis: Synthesis of espinatol-based anti-parasitics. **A.T. Hargis, G.R. Naumiec**
- CHED 1398.** Use of peptoids for the detection of aromatic water contaminants. **A.A. Fuller, K. Tenorio, J. Huber**
- CHED 1399.** Synthesis of macrocyclic aromatic oligoamides. **A.A. Fuller, D. Tian, J. Tobias**
- CHED 1400.** Synthesis of 3-alkoxybenzoporphyryns. **R.A. Tomlovich, T.D. Lash**
- CHED 1401.** Synthesis and characterization of 5-(3'-thienyl)pentanoic acid capped lead sulfide nanoparticles for polymeric photovoltaic cells. **M.J. Strauss, R.W. Kopitzke, J. Zernke**
- CHED 1402.** Synthesis of heterodisubstituted pyridines via cyclization of methyl ketones, DMSO, and ammonium salts. **H. Cole, H. Clause, B. Bowers, S.K. Goforth**
- CHED 1403.** Synthesis of *O*-acylated amino acid surfactants with hydrophobic  $\alpha$ -alkenyl chains. **C. Young, A.P. Szczepanski, D. Brownholland**
- CHED 1404.** Microwave-assisted gold(I)-catalyzed Friedel-Crafts-like arylation of benzylic alcohols to afford 1,1-diarylmethanes. **R.G. Iafe, J.V. Oakley, T. Stanley**
- CHED 1405.** Synthesis of silylthynyl substituted *anti*-indaceno-dibenzothiophenes. **S. Durham, C.K. Frederickson, J. Marshall, M.M. Haley**
- CHED 1406.** 1,3-Dipolar cycloadditions to 1,4-quinones. **C. Wasacz, W. McMahon**
- CHED 1407.** Synthesis and evaluation of peptides for RNA world hypothesis. **M.Z. Jorge, R. Patel, K. Sweeney, U. Muller, J.G. Schellinger**
- CHED 1408.** Analysis of pyrrolizidine alkaloids in *Cryptantha maritima*. **C.R. Barton, M.M. Lease, M.E. Hillman, J.D. Jacobs, O.E. Starks, R.B. Kelley**
- CHED 1409.** Synthesis of naphthalene diimides with varying core substitutions for use in donor acceptor aromatic interactions. **M. Stern, J.J. Reczek**
- CHED 1410.** Development of a novel aldehyde C-H bond functionalization reaction using an organocatalytic methods for the nucleo-acylation of alkenes. **N.P. Biewer, K. McMahon**
- CHED 1411.** Studies of xenocoumarin-1-benzylideneacetone Michael adduct formation. **C. DeShambo, M. VanMieghem, M. Cherney, A. Koopmann, K.A. Bichler, S. Forst, J. McGraw**
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- CHED **1584**. Synthesis and evaluation of  
phenylglycine-derived amino-oxazo-  
lines as anti-oxidants. B. Maki, Y. Xiu
- CHED **1585**. Surfactant synthesis of hypo-  
phosphite esters involving phosphorus  
chemistry. A. Gonzalez, S. Deprele, V. Lee
- CHED **1586**. Synthesis of [2.1.2]-bicyclic  
heterocycles inspired by Lycojaponicum  
natural products. B. Maki, J. Alcon
- CHED **1587**. Comparison of iodina-  
tion methods on aryl heterocycles:  
The curious synthesis of 2,3,4-trio-  
do-5-methylthiophene. N. LeValley,  
J.B. Benedict, D.G. Patel
- CHED **1588**. Microwave-assisted general  
synthesis of highly-substituted anthraqui-  
none derivatives. A. Delahunty, J.J. Reczek
- CHED **1589**. Synthesis and phase  
behavior of new oxadiazole-based  
liquid crystals possessing multiple  
lateral groups. R. Grate, E. Scharrer
- CHED **1590**. Three component separation  
of an unknown sample in order to refresh  
student techniques before organic II  
laboratory. P.A. Shelton, S. Belton, J. Crews
- CHED **1591**. Far-red emitting squaraine  
dye: Synthesis, optical properties,  
and cyanide sensing. M.A. Valencia,  
T. Liu, X. Liu, K.D. Belfield
- CHED **1592**. Isoxazole-based inhibi-  
tors of the neuraminidase enzyme  
of the influenza virus. P. Rahman,  
J. Singh, R.W. Denton, A. Glanzer
- CHED **1593**. Synthesis and characterization  
of 5-(3'-thienyl)-1-mercaptopentane  
capped lead sulfide nanoparticles for  
polymeric photovoltaic cells. S.W. Steele,  
M.J. Strauss, J. Zemke, R.W. Kopitzke
- CHED **1594**. Benzylic amide synthesis using  
a heterogeneous catalyzed continuous  
flow reactor. M.T. Wentzel, J. Scheeler
- CHED **1595**. Fluorination of 2-hydroxybenzyl  
alcohol. S. Hernandez, R.E. Rosenberg
- CHED **1596**. Alteration of HMBC parameters  
to show  $^4J_{H-C}$  and  $^5J_{H-C}$  correlations for  
the structural elucidation of a fungal sec-  
ondary metabolite. E.J. Sperry, A. Jordan
- CHED **1597**. Better way to syn-  
thesize ketones. L. Farber,  
S. Baer, S. Zupetz, M. Filja
- CHED **1598**. Tetra-*meso*-substituted  
porphyrins via mechanochemistry:  
Reaction homology and applications of  
a porous catalyst. Q. Su, T.D. Hamilton
- CHED **1599**. Pre-monomer peptido-  
mimetic synthesis using thiol-ene  
click chemistry. X. Liu, L. Witus
- CHED **1600**. Regioselective ring opening  
of phenyl aziridines. A.J. Wong,  
J.A. Tarahomi, M.E. Hart
- CHED **1601**. Synthesis of thiol and  
carboxylate ligands for nanocrystals  
in luminescent solar concentra-  
tors. E. Woodward, R.C. Chambers
- CHED **1602**. Solid-state chemis-  
try of dimers of reactive nitrile  
oxides. S. Whitcomb, W.H. Ojala
- CHED **1603**.  $^{13}C$  Kinetic isotope effects  
and the mechanism of the Cope-type  
hydroamination of alkynes. R. Rivera,  
D. Singleton, Y. Nieves-Quinones
- CHED **1604**. Equilibrium constants in  
the Diels-Alder reactions of furan  
derivatives with *N*-(4-fluorophenyl)  
maleimide. W. Hollis, D. Stum, P.A. Deck
- CHED **1605**. Comparison of new isatin  
thiosemicarbazone derivatives: NMR  
structure determination. A. Susnjar,  
H.M. McFadden, E.C. Lisic

## Section I

Moscone Center

Hall D

## Undergraduate Research Posters

## Physical Chemistry

Cosponsored by SOCED

N. Di Fabio, Organizer

12:00 - 2:00

- CHED **1606**. New method for  
measuring acidity in metha-  
nol. C.G. Lamunu, E.D. Lorance
- CHED **1607**. Measuring adsorption phenom-  
ena using femtoliter arrays. G.M. Nishioka,  
K.S. Huggler, T.N. Dao, C.W. Sokolik
- CHED **1608**. Doping of a thermotropic  
liquid crystal with ferromagnetic plate-  
lets. M. Van Winkle, A. de la Cotte, A.G. Yodh
- CHED **1609**. Barriers to bond rotation  
in *N,N*-dimethylbenzamides probed  
using temperature dependent  $^1H$ -NMR  
spectroscopy. W.T. Grubbs, M. Ma
- CHED **1610**. Determination of acid and  
base effects on the surface chemistry of  
silver nanoparticles. P. Kraj, M.K. Parker,  
J.D. Mims, R. Vaiti, C.S. Seney
- CHED **1611**. Polyphosphate mediation in  
synthesis of doped alloy semiconductor  
nanoparticles. P. Kraj, D. Moore
- CHED **1612**. GC/QQQ limits of  
detection for biomolecules in  
abiotic aerosols. M.C. Roach,  
T.M. Christensen, J. Sebree
- CHED **1613**. Survey of proline conforma-  
tional behavior in protonated gas-phase  
XxxProGlyGly. A.E. Glass, K.A. Dickerson,  
D.A. Hales, T.J. El-Baba, D.E. Clemmer
- CHED **1614**. Synthesis of biofunction-  
alized self-assembled monolayers on  
zinc selenide. A. Merrill, A.R. Noble
- CHED **1615**. Fluorescence studies  
on a series of carboxylic acid  
dyes. R. Ashmore, M. Elioff
- CHED **1616**. Analysis of the quantum yield  
and photodegradation of anthraqui-  
none-based dyes. M. Thomas, S.J. Soback
- CHED **1617**. Coupling reactions catalyzed  
by palladium nanoparticle/carbon micro-  
sphere composites. S. Murphy, K.M. Metz
- CHED **1618**. Synthesis and characterization  
of lipid-coated nanoparticles as drug  
delivery vehicles. C. Munjar, B.D. Gilbert
- CHED **1619**. Plasma-assisted atomic  
layer deposition of GeS<sub>2</sub> thin films from  
GeCl<sub>4</sub> and H<sub>2</sub>S precursors in a student  
designed PAALD chamber. B. Poulter,  
M. Gonzalez, R. Rodriguez
- CHED **1620**. Millisecond enzyme  
kinetics in picoliter volumes. R. Law,  
J. Nguyen, T. George, P. Abbyad
- CHED **1621**. Underpotential deposition of  
nickel on electrodeposited p-type Cu<sub>2</sub>O  
films and its effects on photocatalytic  
activities and stability of p-type Cu<sub>2</sub>O  
films. N. Budin, S. Hilston, A. Fillingier
- CHED **1622**. Hyperfine analysis and global  
fitting of near-infrared electronic spectra  
of AuS. A. Parsons, S. Gleason, T.D. Varberg
- CHED **1623**. Properties of antioxidant deep  
eutectic solvents. D. Jones, J.C. Goeltz
- CHED **1624**. Mixed self-assembled mono-  
layers formed through the coadsorption  
of decylthiocyanate and octanethiol on  
Au(III) surfaces. R. Ginther, A.F. Raigoza
- CHED **1625**. Characterization of  
single-walled carbon nanotube-por-  
phyrin complexes with different  
metal centers. R. Selzer, R. Polvere
- CHED **1626**. Using ATR-IR spec-  
troscopy to study heteroge-  
neous catalysts. E. Christoffersen,  
J. Lindale, D.G. Kovacs
- CHED **1627**. Gas-phase measurement  
of the barrier to *cis*-trans inter-  
conversion of proline in a tetra-  
peptide. K.A. Dickerson, A.E. Glass,  
D.A. Hales, T.J. El-Baba, D.E. Clemmer
- CHED **1628**. Determination of the limiting  
equivalent conductivity and thermo-  
dynamic equilibrium constant for the  
formation of LaCl<sub>2</sub><sup>+</sup> ion-pairs at 25 °C  
using lanthanum chloride/sodium chloride  
mixtures. B. Durante, G.H. Zimmerman
- CHED **1629**. Synthesis and photophysics of  
lanthanide/transition metal heterobimetal-  
lic complexes. K. Burke, C. Heaney, A. Hill
- CHED **1630**. Tracking ultraviolet degrada-  
tion of *p*-aminobenzoic acid and two  
derivatives. G.F. Jocas, S.J. Soback
- CHED **1631**. Solvent mediation of uni-  
molecular helical exchange dynam-  
ics in the synthetic helical peptide  
Z-Aib<sub>6</sub>-β-Ala-OME. C. Foster-Spence,  
M.C. Rotondaro, J. Dickovick, M.A. Kubasik
- CHED **1632**. Fundamental structural studies  
of thiolate-protected gold clusters using  
Raman spectroscopy. L. Tsang, N. Hammer
- CHED **1633**. Withdrawn.
- CHED **1634**. Drugs and light: Predicting  
the photosensitivity of tolbutamide  
and sulfisoxazole using the change  
in dipole moment by Stokes shift  
analysis. A. Costley, A. Bills
- CHED **1635**. Characterization of the  
*N*<sup>6</sup>-methyl-formamidopyrimidine  
lesion. H. Pan, S.N. Bamberger,  
R.S. Bowen, C.K. Malik, T.L. Johnson-  
Salyard, C.J. Rizzo, M.P. Stone
- CHED **1636**. Microfluidic vibrational strong  
coupling of organometallic complexes in  
aqueous solutions. S.R. Casey, J.R. Sparks
- CHED **1637**. Study on the effect of  
salt concentration on the adsorp-  
tion and rupture of phospho-  
lipid vesicles on a silicon dioxide  
surface. A. Krone, I. Alhallak, P.J. Kett
- CHED **1638**. Detection of  
trace amounts of NO<sub>2</sub> using  
CW-CRDS. J. Kozubal, J.B. Dudek

- CHED 1639.** Investigating the photophysical properties of indolizine-squaraines. **R. Nelson, L.E. McNamara, T. Rill, A. Huckaba, N. Hammer, J.H. Delcamp**
- CHED 1640.** Quantification of binary solution non-ideality through temperature dependent measurements of viscosity, molar volume, and refractive index of mixtures of hexane/hexan-1-ol and anisole/methanol. **H.S. Slocumb, C.K. Kalcic, S.A. Price, G.R. Van Hecke**
- CHED 1641.** Systematic binary isobaric solid-liquid phase diagrams of straight-chained carboxylic acids. **C.M. Adams, G.R. Van Hecke**
- CHED 1642.** Ring opening metathesis polymerization of a ciprofloxacin-conjugated copolymer for pulmonary intracellular antibiotic delivery. **N. Warner, M. Zhao, D.M. Ratner, D.J. O'Leary**
- CHED 1643.** Synthesis and characterization of silver triangular nanoprisms. **M. Bruening, L. Peng, R.P. Van Duyne**
- CHED 1644.** Synthesis and characterization of lipid and silver coated gold nanoparticles with pMBA tags. **A.B. Smith, B.D. Gilbert**
- CHED 1645.** Spectroelectrochemical behavior of electrodeposited Zn on indium tin oxide surfaces and modeling of nanoparticle aggregation via Maxwell-Garnett theory. **C.M. Schneps, J.S. Kegerreis, J.N. Richardson**
- CHED 1646.** Thermodynamic effects of pendent chain length in the aggregation of perylene diimide derivatives. **X. Xu, J.M. Szarko**
- CHED 1647.** Spectroscopic and computational studies of the hydrogen bonding interactions of hydroxyethyl ethers. **A. Williams, J.T. Kelly, N. Hammer, S.R. Davis**
- CHED 1648.** Stable isotope chemistry in Titan haze aerosol. **A. Wold, T. Gautier, J. Stern, J. Sebree, M. Trainer**
- CHED 1649.** Synthesis and characterization of gadolinium-silica precipitation tubes. **C. Sabal, D.P. Weller, J.J. Pagano**
- CHED 1650.** Temperature and electric field dependence of asymmetric stretching of nitrate ion. **K. Jones, M.J. Nee**
- CHED 1651.** Phase transitions of barium hydrogen phosphate, a ferroelectric material, characterized by nuclear spin-lattice relaxation measurements. **A. Knoerdel, S. Holmes, R. Iuliucci, C.R. Dybowski**
- CHED 1652.** Rovibronic quantum chemical analysis of the anion  $\text{CCNH}_2^-$ . **C. Stephan, M.K. Bassett, R.C. Fortenberry**
- CHED 1653.** Ruthenium-based donor compounds as building blocks for proton-coupled electron transfer. **N. Odewade, E.R. Young**
- CHED 1654.** Green graphene-in-a-blender: Facile and simple method for the production of high quality 2-dimensional materials. **B. Hatfield, M. Puglia, C.V. Kumar**
- CHED 1655.** Fabrication and optical properties of aluminum nanocrystals. **C.D. Coplan, M.M. Swartz, M. Rodriguez, S. Blair, J.S. Shumaker-Parry**
- CHED 1656.** Spectroscopic and computational study of chlorine dioxide/water interactions. **S. Sutton, W.E. Cleland, N. Hammer**
- CHED 1657.** Improved efficiency in organic photovoltaics via luminescent/photovoltaic device coupling. **T. Morrissey, D.A. Rider, D.L. Patrick**
- CHED 1658.** Supramolecular assembly of donor-acceptor energy transfer system. **E.B. Conklin, E.R. Young**
- CHED 1659.** Thermal decomposition products of gas-phase acetoin. **S. Cole, M. Ellis, J. Sowards, L.R. McCunn**
- CHED 1660.** Effect of pH on the reversible metachromasy of crystal violet on  $\text{TiO}_2$ . **K. Plotzke, S. Coon**
- CHED 1661.** Spectroscopic and thermodynamic investigations of a mixed surfactant/polymer system at the oil-water interface. **C. Steen, B. Schabes, G.L. Richmond**
- CHED 1662.** Probing local secondary structure of transmembrane alpha helices of the S21 pinholin protein using electron paramagnetic resonance spectroscopy. **R. Serafin, D. Drew, R. McCarrick, G. Lorigan**
- CHED 1663.** Synthesis, NMR characterization, and kinetic studies of creatine pyroglutamate. **M. Gao, A.S. Wallner**
- CHED 1664.** Molecular structure and electronic properties of anthocyanidins for use as photosensitizers. **K. Calvelo, E.A. Jarvis**
- CHED 1665.** Role of low-energy ( $\gamma$ ). **C. Buffo, S. Baniya, C.R. Arumainayagam**
- CHED 1666.** Photodissociation dynamics of OCS at 230nm. **J. Johnstone, W. Wei, C.J. Wallace, S.W. North**
- CHED 1667.** Fluorescence anisotropy decay of FMN in LOV domains from *Rhodobacter sphaeroides* and *Chlamydomonas reinhardtii*. **K. Marincin, W.H. Newhart, S.K. Bailey, J. Johannsen, C.K. Johnson**
- CHED 1668.** Application of the Pitzer ion-interaction theory for the aqueous solution of  $\text{HCl} + \text{LaCl}_3$ ,  $\text{HCl} + \text{PrCl}_3$ ,  $\text{HCl} + \text{NdCl}_3$ ,  $\text{HCl} + \text{SmCl}_3$  at 25°C. **L. Roy, R.N. Roy, D. Gregory, C. Himes**
- CHED 1669.** Non-resonant two-photon excitation of phototriggers. **E.R. Lorenzo, S. Senadheera, A.L. Houk, R.S. Givens, C.G. Elles**
- CHED 1670.** Determination of rate constants for acetylperoxy/hydroperoxy self reactions and cross reaction via infrared kinetic spectroscopy. **J. Cowen, F.J. Grieman, A.O. Hui, M. Okumura, S.P. Sander**
- CHED 1671.** Theoretical and experimental study of  $\text{CH}_3\text{SO}_3\text{H}-\text{H}_2\text{SO}_4$  aerosol formation. **M.D. Fellows, H.K. Hernandez-Soto**
- CHED 1672.** Molecular dynamics simulations of polyisobutylene. **H. Ponce, M.M. Fuson**
- CHED 1673.** Effects of sodium chloride on the behavior of methylglyoxal at the air-water interface. **G. Lindquist, B. Gordon, N.A. Valley, S. Wren**
- CHED 1674.** Using evanescent-wave cavity ring-down spectroscopy and a chemical gradient to determine the free energy of adsorption of phosphotungstic acid to clean and silane-modified silica. **R.J. Korlewitz, M.A. Everest**
- CHED 1675.** Temperature dependency of laser optics. **N. Almeter, J. Orr**
- CHED 1676.** Covalency and rovibrational spectra of noble gas compounds. **C.M. Novak, R.C. Fortenberry**
- CHED 1677.** Photodegradation of bisphenol derivatives with gold-loaded titanium oxide nanoparticles. **M. McCausland, D. Brown**
- CHED 1678.** Sequential adsorption of decyl thiocyanate and octanethiol on Au(111). **D. Zoltek, A.F. Raigoza**
- CHED 1679.** Raman analysis of cobalt-zirconium heterobimetallic materials. **I. Bogacz, M. Bedford, N. Celia, A. Stone, C. Jahncke, A. Hill**
- CHED 1680.** Investigation of the reaction of formamide on pyrite. **N. Haddad, H.M. Bevssek**
- CHED 1681.** Stabilization of hexamethylene triperoxide diamine through addition of alkyl functional groups. **C. Downing, M. Dorko**
- CHED 1682.** Determining the feasibility of supercritical carbon dioxide + water for extracting organic compounds in extraterrestrial environments: A Monte Carlo simulation study. **K.J. Mei, J.M. Stubbs**
- CHED 1683.** Application of the CAF to viscosity and conductivity data of solutions containing Li salt and pyrrolidinium-based ionic liquids. **C.J. Van Hoozen, A.J. Lowry, A.M. Fleshman**
- CHED 1684.** Novel natural gas compressor: Interactions between water and natural gas contaminants. **D. Gallegos, D. Brown**
- CHED 1685.** Using the compensated Arrhenius formalism to investigate viscosity and conductivity trends in imidazolium-based ionic liquids. **W.J. Hetcher, A.M. Fleshman**
- CHED 1686.** Design and application of a novel nitrogen gas adsorption device. **S.S. Ward, B. Zanca, K.E. King, A. Leenig, A. Olaitan, K.S. Molek**
- CHED 1687.** Effect of solid catalyst concentration in a triphase catalytic reaction. **I. Blackburn, N. Shabestary**
- CHED 1688.** Pressure dependent ionic conductivity of complex lithium oxide solid electrolyte materials. **C.D. Torres, J. Ostrander, D.C. Teeters**
- CHED 1689.** Evidence of Fe<sup>3+</sup>-induced decomposition of two significant greenhouse gases. **C.L. Emmerling, A.B. Eden, W.S. Taylor**
- CHED 1690.** Identification of vibrational frequencies for  $\text{CH}_3\text{CHI}_2$  and  $\text{CH}_2\text{CHI}$  using matrix-isolation spectroscopy. **M. Avina, X. Zhang, S. Buchhorn, F.J. Grieman, S.P. Sander**
- CHED 1691.** MD study of the effect of alkyl aromatic content on thermophysical properties of surrogate catalytic hydrothermal conversion fuels. **M.Z. Gustafson, B.H. Morrow, D.J. Luning Prak, S. Maskey, J.A. Harrison**
- CHED 1692.** Thermodynamic characterization of a novel anthracycline/DNA binding mechanism. **J. Finan, S. Glazier**
- CHED 1693.** Correlation between the change in dipole moment and photosensitivity of ciprofloxacin: A better molecular predictor of photosensitivity in pharmaceutical drugs. **M. Nguyen, A. Bills**
- CHED 1694.** Characterization of oxide layers on zinc selenide. **M.A. Steves, S. Zwart, N. Heggren, A.R. Noble**
- CHED 1695.** Colors in chaos: An in-depth study of chemical oscillations. **G. Misiewicz, S. Glazier, D. Look**
- CHED 1696.** Unique hot carrier distributions from scattering mediated absorption. **K.R. Fernando, J.J. Foley, N. Eldabagh**
- CHED 1697.** Raman spectroscopic and computational study of the electron withdrawing effects on halogen bonding. **K. Allen, S. Nguyen, T.L. Ellington, G.S. Tschumper, D.L. Watkins, N. Hammer**

## Section I

Moscone Center

Hall D

## Undergraduate Research Posters

## Polymer Chemistry

Cosponsored by PMSE, POLY and SOCED

N. Di Fabio, Organizer

12:00 - 2:00

- CHED 1698.** Optimizing the procedure of electrospinning an antimicrobial nitric oxide wound care patch. **D.E. Blum, K. Malone, N. Beres**
- CHED 1699.** Synthesis and characterization of linear and branched valine-based poly(ester urea)s for hernia mesh repair. **L.L. Robinson, N.Z. Dreger, M. Wade, D. Luong, M. Becker**
- CHED 1700.** Synthesizing amikacin containing polymers for targeted drug delivery using ring opening metathesis polymerization. **D. Urman, R. Long, O. Ogba, D.M. Ratner, D.J. O'Leary**
- CHED 1701.** Dynamic Thiol-Michael chemistry for thermoresponsive rehealable and malleable networks. **B. Zhang, Z. Digby, J. Flum, P. Chakma, J. Saul, J. Sparks, D. Konkolewicz**
- CHED 1702.** Preparation of sodium dodecylsulfate micelle encased poly-pyrrole oligomers. **G. Ahmad, D. Moore**
- CHED 1703.** Effects of wound dressings on the rate of wound healing in rats. **M. Ware, K. Malone**
- CHED 1704.** Synthesis of generation 3-bis MPA dendrimers as a platform for novel nanotherapeutic drug delivery systems. **B.V. Redmond, J. Jackson, J. Manono, S. DiMaggio**
- CHED 1705.** Dispersion of pristine multi wall carbon nanotube by chain end modified poly (N-isopropyl acrylamide). **R. Francis, N. Joy**
- CHED 1706.** Calixarene-core star polymers: Building blocks for micelles and drug delivery. **C.L. Turpin, L.L. Hepp, P.S. Corbin**
- CHED 1707.** Sulfonated polyether ether ketone/expanded polyether ether ketone composite proton exchange membrane casting procedure. **E. Frampton, J. Romeo, A. Vong, J.H. Doan, E.S. Smotkin**
- CHED 1708.** Electrochemical polymerization of thiophene derivatives attached to lead sulfide nanoparticle. **T. Johnson, M.J. Strauss, S.W. Steele, J. Zinke, R.W. Kopitzke**

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

†Cooperative Cosponsorship



- CHED 1709.** Investigation of doped silica aerogels for drug delivery systems. **Y.T. Paung, M.K. Carroll, A.M. Anderson**
- CHED 1710.** Surface modification of ion conducting ceramic particles. **S. Veroneau, Y. Na, R.D. Miller**
- CHED 1711.** Characterization of metal-logs: Evaluation of thermal stability and analysis of supramolecular interactions. **N.E. Boissy, J. Crane**
- CHED 1712.** Calix[4]arene-based covalent porous polymers for water purification. **D. Shetty, I. Jahovic, A. Trabolski**
- CHED 1713.** Facile synthesis of functional amphiphilic poly(valerolactone)s for drug delivery applications. **A. Morrell, A. Yiu, J. Hao**
- CHED 1714.** Synthesis of functional poly( $\delta$ -valerolactone)s via post-polymerization modification. **A. Yiu, A. Morrell, J. Hao**
- CHED 1715.** Lipid membrane interaction thermodynamics of cell-penetrating peptides. **A. Folska, L.E. Prevette**
- CHED 1716.** Binding affinity of polycation-coated Au nanoparticles to gram positive bacterial cell walls. **H. Ganzel, L.E. Prevette**
- CHED 1717.** Thermal analysis of linear high molecular weight poly-DCPD (dicyclopentadiene) and its brominated derivatives. **D. Barvaliya, H.J. Schanz**
- CHED 1718.** Preparation of peptide-based biomaterials via microwave-assisted RAFT polymerization. **A.S. Magumbol, E.M. Giles, A. Jameson, A.F. Ennis, J.G. Schelling**
- CHED 1719.** New generations of anion-responsive liquid crystals. **A. Steen, A. Kinge, S. Cordero, L. Lam, K.A. Grabias, P. Cohn**
- CHED 1720.** Ionic conductivities of LiClO<sub>4</sub> polymer electrolytes for lithium-ion battery applications. **O. Vande Stouwe, L.J. Lyons**
- CHED 1721.** Towards getting control: Strategies for reproducible hydrogel networks. **J. Cubuk, M. Jani, D. Shah, H. Zhu, S. Qavi, R. Foudazi, S. Rajaraman, P. Cohn**
- CHED 1722.** Electrospinning alginate-based fibers for biomedical applications. **W.B. Weeks, K. Penton, A. Wilson, S.K. Hamilton, G. Buschle-Diller**
- CHED 1723.** Diarylethene conjugated polymers: The effect of the co-monomer on photochromic and redox properties. **A. Sidari, D.G. Patel**
- CHED 1724.** Phototunable azo polymers of intrinsic microporosity. **O. Chaarawi, M. Haaf**
- CHED 1725.** Organic light-emitting diodes and the effects of sidechains on polymer solubility. **P. Dang, E. Evans, G. Benito, A. Nguyen, C.A. Young**
- CHED 1726.** Differential scanning calorimetric analysis of elastomers for optimization of extended use. **A.K. Dent, D. Lindt**
- CHED 1727.** Frontal polymerization of acrylate monomers. **J. Jochum, B. McFarland**
- CHED 1728.** Direct arylation polymerization of benzodithiophene. **C.L. Cicha, T.M. Pappenfus**
- CHED 1729.** GPC Analysis of styrene polymerization using various initiators for undergraduate polymer laboratory. **G. Pearson, K. Allen**
- CHED 1730.** Electropolymerization and characterization of polyaniline-TiO<sub>2</sub> nanocomposites for corrosion protection. **E. Taylor, A.O. Sezer**
- CHED 1731.** Conjugate number effects on nanoparticle activity and stimuli response. **J. Jackson, B.V. Redmond, J.N. Shropshire, J.M. Manono, S.C. Dimaggio**
- CHED 1732.** Using multi-step synthesis for the production of hydrogels with adhesive properties. **M. Alcantar, J.M. Deardorff, C.H. Lisse**
- CHED 1733.** Synthesis of synthetic mimics enriched tryptophan copolymers for the use in antimicrobial studies. **J. Ewing, S.G. Mankoci, A. Joy**
- CHED 1734.** Analysis of solvent storage properties of polyurea-shell microcapsules containing a free-radical initiator core. **T. Halligan, B. McFarland**
- CHED 1735.** Synthesis of 1st and 2nd generation PAMAM (polyamidoamine) dendrimers. **P. McClimon, D.J. Oostendorp**
- CHED 1736.** Synthesis of kanamycin ROMP polymers for site-specific drug delivery. **R. Long, D. Urman, O. Ogba, D.M. Ratner, D.J. O'Leary**
- CHED 1737.** Nitrogen containing graphitic-like materials. **J. Brophy, J.O. Hoberg, B.A. Parkinson**
- CHED 1738.** Synthesis of stimuli-response nanomaterials as potential drug-delivery agents. **J.N. Shropshire, K. Watson, B.V. Redmond, J. Jackson, J. Manono, S. DiMaggio**
- CHED 1739.** Study of the active form of the polymerization catalyst formed between Tp<sup>+</sup>Rh(cod) and phenylacetylene using MALDI-TOF-MS. **W.J. Buck, J.D. Freeman, R.M. Tarkka**
- CHED 1740.** Characterization and optimization of expanding foams. **T. Naudet, D. Cuomo, D.E. Riegner**
- CHED 1741.** Castor oil as a renewable alternative to poly(ethylene oxide) in isosorbide-derived thermoset polymers. **J. Swartz, P. Wilbon, J. Brutman, M.A. Hillmyer, J.E. Wissinger**
- CHED 1742.** Controlled polymerization of D,L-lactide with a titanium(IV) tartrate. **B. Benson, B.M. Chamberlain**
- CHED 1743.** Withdrawn.
- CHED 1744.** Synthesis and characterization of polyaniline-MnO<sub>2</sub> nanocomposite for supercapacitors. **K. Hager, A.O. Sezer**
- CHED 1745.** NdCl<sub>3</sub> 3TEP-TIBA catalyst system for coordination polymerization of diene and vinyl monomers. **A. Yang, R.N. Kularatne, M.C. Stefan**
- CHED 1746.** Characterizing oligo (ethylene oxide) oxanorbornyl homopolymers and diblock copolymers for solid electrolyte supports. **R.A. Zhuraviev, D.A. Waldow**
- CHED 1747.** Removal of organic micropollutants in water with a microporous polymer as a platform for an undergraduate teaching lab. **E. Bravo, M. Haaf, A. Alsaiee, M. Klemes, W.R. Dichtel**
- CHED 1748.** Nanostructured lithography through self assembly of diblock copolymers. **L.R. Steiner, A. Christy, J.D. Harris, D. Estrada**
- CHED 1749.** Withdrawn.
- CHED 1750.** Toward photochromic nanohybrids based on upconverting nanoparticle: Nanocargos for drug delivery. **S. Zaid, C. Coudret**
- CHED 1751.** Biomedical applications of thiol-acrylate polymerization. **J.Z. Gombada, L.A. Garber, J.A. Pojman, D. Hayes**
- CHED 1752.** Design of supercapacitor separators based on polymeric-ceramic bio/composites: Enhancing performance for applications in biomedical implantable devices. **E.O. Ortiz Quiles, C.O. Alvarez-Sanchez, J. Lasalde-Ramirez, R. Masso-Ferret, E. Nicolau**
- CHED 1753.** Improving properties of poly-valerolactone through aryl ring stacking. **P. Sitarik, K. Allen**
- CHED 1754.** Synthesis of nanocrystal polymer ligands for dispersant-free LSCs. **F. Son, D.A. Rider, A. Morren, D.L. Patrick**

### Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

Sponsored by PROF, Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>†</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>†</sup>, POLY, PRES<sup>†</sup> and WCC

### The Write Thing to Do: Ethical Considerations in Authorship & the Assignment of Credit

Sponsored by CINF, Cosponsored by CHED, CPRM and ETHX<sup>†</sup>

### Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet

### Characterization of Natural Organic Matter

Sponsored by ENVR, Cosponsored by CHED

### Textbooks & the Practice of Science: Before, During & After Gutenberg

Sponsored by CINF, Cosponsored by CHED and HIST<sup>†</sup>

### Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences

Sponsored by ENVR, Cosponsored by ANYL and CHED

## MONDAY EVENING

### Section A

San Francisco Marriott Marquis  
Salons 1/2

### Innovating Materials for the Next Generation: Bringing Practical Applications into the Chemistry Classroom

Cosponsored by PMSE, POLY and RUBB

Financially supported by IPEC

S. C. Rukes, Organizer, Presiding

5:00 Introductory Remarks.

5:05 **CHED 1755.** Materials, materials: They are everywhere. **E.J. Escudero, S.C. Rukes**

5:25 **CHED 1756.** Cars: A rolling evolution of material choices. **A. Nydam, S.C. Rukes**

6:05 Intermission.

6:10 **CHED 1757.** Evolution of aircraft materials: Why are we building plastic airplanes? **A. Nydam, S.C. Rukes**

6:50 **CHED 1758.** Polymers, polymers everywhere. **D. Moore**

7:30 Intermission.

7:35 **CHED 1759.** Chemistry connections: Inspiring students with innovation. **K. Anderson, M. Enright**

8:15 **CHED 1760.** Composites and conductive materials: Making everyday materials do more. **S.C. Rukes**

8:30 **CHED 1761.** Nanotechnology for drug delivery. **S.C. Rukes**

8:45 Concluding Remarks.

### Section B

Moscone Center  
Hall D

### Successful Student Chapters

Cosponsored by SOCED

N. Di Fabio, Organizer

8:00 - 10:00

**CHED 1762.** Mississippi College ACS Student Chapter. **A. Smyly, B. Nash, S.G. Travis, T.D. Selby**

**CHED 1763.** Chemistry within the community: Successful student chapter at Eastern University, PA. **A. Crawford, K. Martinez, J. Bundens**

**CHED 1764.** Observing the effect of STEM outreach for grade 5-8 students through the Bridgewater State University chemistry club. **K. Dooley, P. Kurriss, E.J. Brush**

**CHED 1765.** Erskine College ACS student chapter: Outreach constantly, not periodically. **K. Squiggins, A. Houston, T. Hayden, J.E. Boyd**

**CHED 1766.** Universidad del Sagrado Corazon ACS Student Chapter: A new engine for chemistry in our society. **J.M. Rosado, I.J. Ovalle, B.M. De Llovio**

**CHED 1767.** Scientific community involvement. **B. Esterlen, B.J. Bellott**

**CHED 1768.** Missouri Western State University Alchemist Club: Transmuting students into scientists. **J. Moore, J. Wagner, M. Svay, N. Chapman, D. Stasko**

**CHED 1769.** Building a successful ACS student affiliate through community outreach, community service and professional development. **S. Cunnginham, D. West, N. Elmore, H. Hsieh, R. Ali, T. Nielsen, R. McFarland, R.V. Valcarce, P.J. Iles, L. Giddings, N.R. Bastian, W. Sanders, S. Richards, M. Alvarez, R. Holcomb**

**CHED 1770.** Increasing interest in chemistry. **J. Kuang-Nguyen, R. Hutchison, J.A. Darsey, D. Soni, O. Cossio**

**CHED 1771.** Successful ACS student chapter at Wilkes University: Community outreach events that apply green chemistry principles and science education. **J. Colvin, R. Hohol**

**CHED 1772.** Morehead State University. **B. Nicely, M.T. Blankenbuehler**

**CHED 1773.** Saint Vincent College Chemistry Club. **J. Centore, D. Fish, B. Tomiczek, G. Ngo, D. Carone**

- CHED 1774.** Keep calm and make bonds: Chemistry at Xavier University of Louisiana. V.C. Miles, T. McClelland, S. Bertrand, D.D. Daley, J. Adkins, I. Gill, M. Ndukwe, B.V. Redmond, M.R. Adams, C.M. Lawrence
- CHED 1775.** ACS-San Germán Chapter: Sustainable growth. A. Acosta, E. Franceschini-Silva, R. Flores-Morales, N. Irizarry, M. Jusino, M. Martinez-Mercado, I. Otero, C. Perez-Rodríguez, P. Silvestry, S. Vargas-Padilla, E. Velez, N. Caraballo, A.M. Gonzalez
- CHED 1776.** ACS UPR-RP Student Chapter: Inspiring tomorrow's society through chemistry. R. Colon Morillo, A. Gonzalez Lopez, F. Serrano Martinez, N.I. Alvarez Colon, C. Aponte Ortiz, M. Rivera Cora, K.M. Collazo Maldonado, J. Cosme Silva, E. Pagan Colon, D. Rosario Berrios, L.S. Martir Ramirez, L.A. Nieves Santiago, T.M. Dominguez Gonzalez, E. Albino Rivera
- CHED 1777.** SIUE Chemistry Club: Spreading chemistry knowledge on campus and in the community. E. Baldwin, B. Florea, H. Lupton, K. Link, E. Ross, M.W. Jones
- CHED 1778.** Angelo State University Green Chemistry Student Chapter. A.F. Sullivan, B.R. Holle, D. Herrick, K.A. Boudreaux, E. Osborne
- CHED 1779.** Saint Francis University Chemistry Club: Don't worry about it dad. R. Krupa, H. Schorr, W. Shee, E.P. Zovinka
- CHED 1780.** Santa Monica College Chemistry Club: A growing student chapter. S. Purucker, C. Vaughan, M. Martinez, T. Pecorelli
- CHED 1781.** Otterbein Student Chapter. E. Isaac, R. Grote, J.M. Esson
- CHED 1782.** South Dakota School of Mines and Technology: A successful student chapter of the American Chemical Society based on outreach and education promoting an appreciation of chemistry. T. Johnson, K. Giorgio, J. Meyer, T. Ryther, S. Jenkins, H. Leppert, M. Acevedo
- CHED 1783.** Eastern Oregon University ACS Student Member Chapter: Promoting community outreach and professional networking. D. Spikerman, B. Mandella, C.J. Burghard, A. Courtois, A.G. Cavinato
- CHED 1784.** DeSales University's ACS student chapter activities during the fall 2015 and spring 2016. F.C. Mayville, E.N. Sauschuck, A.M. Myers
- CHED 1785.** Chemistry in the Heidelberg University community. A.F. Bauer, C. Chandler, K. Scrudgers, D.E. Blum, M.N. Hogle, E.N. Riffle, N. Beres
- CHED 1786.** ACS Inter Ponce Student Chapter Forensic Chemistry Division. R.M. Perez-Ortiz, M.A. Reyes Caraballo, Y. Santos-Vazquez, G.M. Santiago Rivera, J.J. Ramirez Domenech, E. Ferrer Torres
- CHED 1787.** Pasadena City College Chemistry Club. L. Lupercio, L. Ramirez, D. Cagan, V.I. Jaramillo
- CHED 1788.** Chemistry, the Flint Water Crisis, and you. C. Wilhelm, A. Maxwell, D. Corey, N. Alawwa, M. Alsarraj, W. Yahr, T. Sanson, M.R. Wilhelm, J.L. Tischler, S.S. Grathoff
- CHED 1789.** University of Minnesota, Morris ACS Chemistry Club: Chemistry beyond the classroom. H. Goemann, D. Schultz
- CHED 1790.** Loras College American Chemical Society affiliated Chemistry Club. C. O'Bryan, B. Al-bazbob, B. Anderson
- CHED 1791.** Withdrawn.
- CHED 1792.** Mission of the College of Mount Saint Vincent science club. B. Hoyland, W. Lang, P. Nunez, P.K. Kerrigan
- CHED 1793.** Canisius College Student Chapter of the American Chemical Society. W.B. Swanson, L.T. Evans, C.B. Turniel, T.M. Turniel, P.M. Sheridan
- CHED 1794.** Leading a successful ACS student chapter. D. Lewis, L. Louis, A.J. Sanders
- CHED 1795.** TCU Chemistry Club: Effective organization and communication methods for outreach. S. Price, A.T. Vu, H. Villegas, E.V. Akhminen, M. Barnett, K. Upton, B. Niebuhr, A. Hassan, C.N. Simmons, I. Al Farra, N. Schmitt, B.G. Janesko, K.N. Green, J. Fry
- CHED 1796.** Chemistry is central at the University of Central Oklahoma: Successful student chemistry club chapter activities. A. Arnold, C.D. Fleming, K. Kordtsimon, G.S. Rodriguez, D.R. Rundle, C.B. Frech
- CHED 1797.** Mythbusters: The age old question, fact or fiction? T.J. Orr, S.A. Armstrong, J.D. Hall, J.L. Sims, J.T. Jatko, R.J. Baltz, B.A. Kelley, Q. Saunyama, G.D. White, K. Ding
- CHED 1798.** University of Tennessee at Martin student member chapter. T. Rinehart, W.L. Kuenzinger, M.E. Short, B. Ide, S. Oliva, A.H. Shelton
- CHED 1799.** Growing the student affiliate chapter at Ferris State University. T. Stothers, J. Goyola, M.A. Thomson
- CHED 1800.** Development of an active and engaged chemistry club. S. Pribil, K. Sorauf
- CHED 1801.** Aquinas Chemistry Society. C.R. Jensen, A. Wagner, J. McAfee, B. Arnson, A. Brock, E.A. Jensen
- CHED 1802.** Emergent Point: Becoming chemistry citizens. A. Almodovar Ortiz, Y. Cruz Reyes, J.I. Ramirez Domenech, E. Ferrer Torres
- CHED 1803.** Sacred Heart University Student Affiliates are salt bridging chemistry into the community coast to coast. S. Aanonsen, S. Baer, C. Domville, C. Infrerra, F. Divisconti, R. Russo, S. Zupetz, M. Filja, H. Jia, C. Rose, B. Kalach, L. Farber
- CHED 1804.** ACS Student Chapter at The University of Texas at Tyler. P. Hightower, R. Williams, L. Johnson, L.E. Boyd
- CHED 1805.** Best of both worlds: Adapting Detroit Mercy Chemistry Club activities to incorporate urban and suburban surroundings. M.J. Mio, R. Beltman, S.M. Fudalla, D.N. Maxwell, G. Nguyen, J. Pothoof, K.M. Suiter, R. Zouabi, K.R. Evans
- CHED 1806.** Igniting change: Gordon College's ACS chapter's influence on campus and the community. I. Ngo, V. Curfman, L.T. Walsh, K. Elliott, E. Percival, I.J. Levy
- CHED 1807.** Fostering a successful ACS chapter at a private liberal arts institution. A. Narro, D. Chavez, D. Ivan, J. Belmares, A. Roth-Rodriguez, M. Kopecki Fjetland
- CHED 1808.** Chemistry Club: Coming together to synthesize a brighter future. C. ACS Student Chapter, A.P. Zurmuhle, N. Eddy, J. Tran, P. Rodas, S. Jinata, G. Singh, B.F. Gherman, C.J. Kellen-Yuen
- CHED 1809.** Student Members of the American Chemical Society: Hofstra Chapter 2016-2017. S. Kim, A. Gaglio, M. Chambers, M. Kaur, A. Sica, A. Xiang, M. McNamara
- CHED 1810.** Small liberal arts college approach. J. Tobin, H. Fasiang, A. Horowitz
- CHED 1811.** Molloy Chemical Society at Saint Joseph's University. R. Kontos, C. Stow, M. Graziani, A. Sargent
- CHED 1812.** ChEmory: Emory University's undergraduate chapter of the American Chemical Society. S. Gupta, J. Fu, D. Salgueiro, K. Woolard, A. Kim, D.R. Mulford
- CHED 1813.** Promotion of a chemistry major identity through the Student Chemists Association at The College of New Jersey. K.M. Fomchenko, T.M. Townsend, M. Casale, A.R. O'Connor, B.C. Chan
- CHED 1814.** Student Affiliates of the American Chemical Society: Washington & Jefferson College 2016. J.D. Goltz, A.M. Krol, T. Yeung, J. Hosfelt, D.A. Polvani
- CHED 1815.** Student members of the American Chemical Society: University of Arizona Chapter. S. Avetian, J. Lopez, J.R. Pollard
- CHED 1816.** Angelo State University ACS Student Chapter. D. Herrick, A.F. Sullivan, E. Osborne, K.A. Boudreaux
- CHED 1817.** Barry University Chemistry Club: Sharing our passion for chemistry. E. Paulus, D. Cordero, N. Maxi, R. Gutierrez, T.D. Hamilton, G.H. Fisher
- CHED 1818.** Methods to improve university student engagement and contribution to scientific enrichment. N. Diaz, H.R. Aguilar
- CHED 1819.** Chemistry and camaraderie: Student activities at the University of New England. M. Wright, J. Woolf, B. Rivard, A.E. Keirstead
- CHED 1820.** Activities of the Monmouth University Chemistry Club. K. Muratore, B. Macalush, O. Adetunji, A. Scorzelli, G.A. Moehring, D. Szwajkajzer
- CHED 1821.** University of Northern Iowa ACS Student Chapter: Creating successful chemists. A. Wold, E. Dutton, J. Nederhoff, W.W. Andersen, M. Flesch, K. Plotzke, J. Prybil
- CHED 1822.** University of Utah ACS Student Chapter. A.M. DeGrauw, T. Xu, R. Reynolds, S. Lee, M. Pham, W.E. Scholl, A. Loret, H.L. Sebahar, T. Richmond
- CHED 1823.** University of Tampa American Chemical Society Chapter's outreach in the greater Tampa Bay area. W. Smith, N. Zembol, L. Henchey, J.A. Struss
- CHED 1824.** Solving the mystery of chemistry: Illinois Valley Community College Chemistry Club. K. Murphy, T. Perry, J. Meyer, S. Nelson, A. Ochuba, G. Braboy, M.E. Jollif, P.K. Yong
- CHED 1825.** Strategic anabolic reaction: Incorporation of a Division of Biotechnology to the ACS student chapter from the Interamerican University of PR Ponce Campus. L. Rivera Vazquez, J. Costas Feliciano, M. Barriera Diaz, J.I. Ramirez Domenech, E. Ferrer Torres
- CHED 1826.** Coloring the minds of our youth through chemistry. K. Weeber, N. Lygeris
- CHED 1827.** Suffolk University engaged with chemistry 2016-2017. K. Jenkins, K. Vu, A. Biyari, J. Bautista, N.M. Reed
- CHED 1828.** Chemistry marathon! J.K. Vale, L. Santos
- CHED 1829.** Green legacy: An optimal alternative for the UPR-Aguadilla. K. Negron-Teron, W. Lopez-Perez, B.J. Ramos-Santana, C.R. Ruiz-Martinez
- CHED 1830.** Putting the fun in funding: Finding new ways to fund the Detroit Mercy Chemistry Club. M.J. Mio, R. Beltman, S.M. Fudalla, D.N. Maxwell, G. Nguyen, J. Pothoof, K.M. Suiter, R. Zouabi, K.R. Evans
- CHED 1831.** Starting the year off with several bangs: The ACS Student Chapter at Sacramento City College. A. Thomas, S. Cook, I. Qureshi, G. Cruz-Velasquez, N. Le, V. Alino, W.J. Miller
- CHED 1832.** Solving mysteries through chemistry. T. Williams, A. Hudson, D. Whitman, C.K. Saner
- CHED 1833.** Expansion of the sphere of influence: KU Chemistry Club member recruitment and retention. R. Latimer, E. Lorenzo, P.R. Hanson, R.S. Black
- CHED 1834.** Successful student chapter: University of New Mexico student chapter of the American Chemical Society. A. Rauch, J. Platero, K. Thompson, J. Meyer-Hagen, J. Terr, L.J. Whalen
- CHED 1835.** Northeastern University Student Affiliates of the American Chemical Society: Building connections and foundations within our communities. J. Compton, B. Laramee, C. Gallin, T. DeLano, D. Dang
- CHED 1836.** Building professionals through their involvement with the FIU BBC-Science Club. M. Michel, S.N. Ike, J. Glenn, C. Cazimir, K. Pierrelouis, D. Read, V. Perez, M. Delgado, M. Exposito
- CHED 1837.** Centenary College of Louisiana: A tradition continued. V. Robert, H. Deshautelle, G. Doucet, M. Abo-Zahrah, T.M. Ticich
- CHED 1838.** SMACS @ FSU. A. Lette, B.M. Day, B.N. Norris
- CHED 1839.** Park University CHEM club success 2016-2017. J. Pham, G.S. Stelmacovich, A.N. McMullen, M.M. Klein, D.K. Howell, G.D. Claycomb
- CHED 1840.** Creating bonds within the UCSD American Chemical Society - Student Affiliates. D. Nguyen, T.J. Bussey, S. Brydges
- CHED 1841.** American Chemical Society Student Chapter at the University of St. Thomas, Houston, TX. P. Zaibag, A.V. Hernandez, N.B. Nguyen, T.J. Pham, M. Guirette, K. Vazquez, C.A. Young, J. Hollingsworth
- CHED 1842.** Colorado State University Chemistry Club: Collaborate, network, and connect. R. Schiffhauer, J. Brookhart, A. Detmer, N. Knostman, L. Monterosa Zavaleta, L. Paricio, M. Plonski, A. Rauker, I.M. Sitarik, B.P. Reynolds
- CHED 1843.** Achievements of KSU SAACS in fall 2016 for students in chemistry-related fields and local educational institutions. P. Jean, A. Calderon
- CHED 1844.** Using chemistry as a tool to stimulate interest, engage minds, encourage involvement and motivate to achieve. A. Almaguer, C. Garcia, M. Zamora, T.M. Rodriguez, U. Swamy

CHED **1845.** Carroll University Chemistry Club. N.P. Biewer, C. Garcia, K. McCarthy, L. Glodowski, C. Kraska, R.M. Kutzner, V.M. Wartenweiler, K.E. Molter

CHED **1846.** Efforts of a chapter to preserve its Outstanding award: The ACS Student Chapter of the University of Puerto Rico at Cayey. W.M. Lopez, M. Leon, E. Rivera Tirado

CHED **1847.** Western Washington University Student Chapter of the American Chemical Society. C. Crickmore, R. Blazevic, S.R. Emory, E. Raymond

CHED **1848.** Santa Clara University Student Member Chapter: Creating a successful balance of events to promote student involvement in the chemistry community. C. Dubois, J. Yin, L.S. Brunauer

CHED **1849.** Success through serving and sharing is instrumental: A Waynesburg experience. K. Wilson, B. Bosley, A. Narehood, K. Houser, J. Gearhart, E.A. Baldauff

CHED **1850.** Science is universal. C. LeBlanc, M. Yurkevicius, C. Murphy, C.K. O'Shea

CHED **1851.** Gruen Chemistry Society: Student affiliate activities at Olivet College. M.C. Carr, K.J. Nault, E.R. Cole, J.L. Elliston, S.M. Lewis

CHED **1852.** Truman State University Student Affiliate Chapter. S. DeBie, L. Chapman, T. Humphry

CHED **1853.** Chronicles of the jurassic outreach expedition in south Texas. M. Ochoa, A. Chrysler-Martinez, A. Hut, K. Moreno, L. Avila

CHED **1854.** Dynamic activities of the ACS student chapter at Inter American University of Puerto Rico - Metropolitan Campus. K.A. Parga Rivera, K.A. Lopez-Perez

CHED **1855.** Broadening the undergraduate impact of Nitany Chemical Society. C. Poirier, G. Leone

CHED **1856.** Activities for the Henderson State University student affiliate chapter. W. Garrett, J. Stephens, D. Bateman, B.A. Rowland

CHED **1857.** Student Affiliates of the American Chemical Society - South Dakota State University. F. Poppinga, A. Kub, L. Dirks, J. Soukup, M. Radtke

CHED **1858.** Celebrating NCW 2016 at University of Puerto Rico Humacao. L. Flores, A. Figueroa, J. Ramos, K. Orta, O. Rivera, J. Suarez

CHED **1859.** Ouachita Baptist University Student Chapter: Sharing chemistry. J.C. Bradshaw, A. Cole

CHED **1860.** Warriors Chemistry Club at Stanislaus State: Inspiring the next generation through chemistry awareness. J. Vivar, K. Chan, J.Y. Lo, S.K. Mendez, J. Godinez, K. Soares, E.A. Alemán

CHED **1861.** Lock Haven University of Pennsylvania Chemistry Club. S. Shreiber, T. Adams, S. Sujansky, K. Range

CHED **1862.** SMSU Chemistry Club: Inspiring future chemists one hydrogen balloon at a time. R.M. Sears, M.M. Bruns, V.J. Henry, N.J. Beyer

CHED **1863.** Chain reaction: Impacting the community through chemistry. G.E. Alvarez, T. Massas Le'Cleres, I. Rios Cruz, R.M. Zamora, A. Rivera, O. Alvarez, M. Rodriguez, A. Cruz, P. Velez Vega, P. Maldonado, P. Goyco, L. Perez, C. Beauchamp Perez, N.E. Crespo Rosado, D. Cordero DaSilva, A. Altiery, N. Tristani, J. Torres Candelaria

CHED **1864.** American Chemical Society student chapter at Peninsula College. B. Weintraub

CHED **1865.** Professional development through industrial speakers. C.M. Schreidah, J. Fife, E. Kenney, J. Culp, M. Klingberg, S. Cassidy, A. Prokay, G. LaFleur, E.P. Kippenhan

CHED **1866.** American Chemical Society Student Chapter of Idaho State University. P. Ropski, S. Spradlin, B. Poulter, E.A. Morley, W.C. Spence, J.J. Pak, C.M. Evilla

CHED **1867.** Kappa Epsilon Mu (K.E.M.) Club at Texas Woman's University: Reaching the community through chemistry. K. Slavens, D.B. Hernandez, T. Nguyen, S. Scott, K. Reyes, N. Mirsaleh-Kohan

CHED **1868.** Creating a triple bond: Linking PLU students with professional development, community outreach, and green chemistry. K. Cameron, O. Egejuru, C. Flanery, J. Wong, A.M. Munro

CHED **1869.** ACS Student Chapter at the University of Central Florida. R. Sapia, S.M. Kuebler, J. Lear, P. Velez, M. Tedlie, G. Versfeld, P. Vazquez

CHED **1870.** Illinois State University ACS Student Chapter year in review 2015-2016. A. Bruno, W.T. Darrow, A. Mandl, A.N. Latham, E. Jugovic, Z.E. Lawton, S. Huffman

CHED **1871.** For the students, by the students: Actively working to develop resources for CMU chemistry undergrads. S. Bedford, J. Groenevelt, J. Callus

CHED **1872.** Club activities and community outreach by ACS student chapter of Midland College. Z. Hunter, M. Ennis, K. Marrufo, A. Jones, S. Esan, J. Espinoza, D. Gable, J. Anderson, P. Nandakumar

CHED **1873.** Wayne State University American Chemical Society Student Affiliates. Y.K. Elghoul, A.R. Breckenridge, A. Dao, J.L. Stockdill

CHED **1874.** ACS UMET chapter: Engaging undergraduate students, pre-colleges, and kids for science through chemistry activities. A.C. Aponte, J.G. Medina-Feliciano, B. Hopgood, J. Morales, O.M. Primera-Pedrozo, M. Falero-Gil

CHED **1875.** When things go wrong: Navigating the realm of insurance and liability in student chapters. S. Taylor, N. Higdon, L. Laverman

CHED **1876.** Inception of an ACS Student Chapter at San Diego Miramar College. G.L. Smith, L. Yang, M. Troester, M.K. Antisdal

CHED **1877.** Southeastern Oklahoma State University ACS Student Members: 50 Years of chemistry from the savage storm. E.P. Landers, L. Chandler, K.L. Gaskill, P.S. Whitehead, M.D. Madewell, S.A. Eaves, N.L. Paiva

CHED **1878.** Delta State University ACS gives back: National Chemistry Week. A. Camarillo, A. Griffin, K. Penton, W.B. Weeks, S.K. Hamilton

CHED **1879.** ACS-UPRB Walking towards new directions by improving education in green chemistry. V.M. Blasky-López, J.C. Estarellas San Miguel, N.I. Estarellas-San Miguel, R. Gracia-Colón, A. Muñiz-Santiago, B. Padilla-Maldonado, K. Rodríguez-Robles, J. Oyola Cintron, L.J. Santiago-Pérez

CHED **1880.** UCA ACS: Serving as chemistry ambassadors in Central Arkansas. R. Mayo, J. DeYoung, S. Margis, R. Senn, S. Turner, G.R. Naumeic, K.L. Steelman, F.M. Yarberry

CHED **1881.** Cooking up a love for chemistry through culinary, mentoring, and community outreach events. J. Ulrich, L. Posada, K. Bolduc, B.L. Gay, J. Partridge, A. Huisman

CHED **1882.** GGC game changing: Georgia Gwinnett College chemistry outreach. D. Breaud, K. Coscia, N. Davis, W. Jones, A. Ko, J. Massey, J. Moon, R.K. Kalman, G.E. Rudd

CHED **1883.** Student Chapter of the American Chemical Society at Minot State University. S. Park, H. Lee, J. Torgunrud, S. Sundhagen, B. Hatfield, E.Y. Mojica, T. Dostert, T.A. Skinner

CHED **1884.** ACS UPR-Aguadilla: The challenge of innovation from the legacy to the future. R. Pitre-Yulfo, M.S. Arocho-Caban, B.J. Ramos-Santana, C.R. Ruiz-Martinez

CHED **1885.** Florida Southern College ACS student chapter growth 2016-2017. I. Mauzy, S.F. Wilson, K. Martinet, A. Branch, M. Hewett, K. Alexander, J.F. Eubank

CHED **1886.** Green island promoting green chemistry. C.G. Cortes Bula, C. Torres Martinez, A. Almodovar Ortiz, J.I. Ramirez Domenech, E. Ferrer Torres

CHED **1887.** UTPB Chemistry Club: Promoting chemistry in West Texas. C.B. Taylor, R. Maharaj, J. McDonald, D. Vinson

CHED **1888.** Demos in the den: Visual demonstration of chemistry in an auditorium. M. Sautter, D. McKinze, L. Gao

CHED **1889.** Solving mysteries through chemistry. A. Bajaj, M.J. D'Souza

## Section C

Moscone Center  
Hall D

## Sci-Mix

I. J. Levy, T. A. Miller, C. M. Muzzi, *Organizers*

8:00 - 10:00

**128, 136, 138, 142, 149, 152, 155, 159-160, 168, 172, 178, 187, 189, 192-193, 333, 344, 369, 393, 464, 468, 474, 509, 580, 589-590, 592, 644, 669, 721-722, 754, 767, 774, 778, 790, 793, 812, 814, 826, 835, 838, 889, 892, 896, 913, 919, 961, 965, 967, 997, 1003, 1037, 1055, 1113, 1121, 1150, 1175, 1219, 1238, 1241, 1259, 1305-1306, 1331, 1333, 1340, 1385, 1387, 1422, 1429, 1433-1434, 1475, 1510-1511, 1526, 1545, 1549, 1589, 1592, 1607, 1620, 1631, 1642, 1648, 1654, 1689, 1695, 1699, 1721, 1725, 1746, 1748, 1751-1752.** See previous listings.

## TUESDAY MORNING

### Section A

San Francisco Marriott Marquis  
Salons 1/2

### George C. Pimentel Award in Chemical Education: Symposium to honor Thomas A. Holme

S. Bretz, *Organizer*

M. Cooper, *Presiding*

8:30 Introductory Remarks.

**8:35 CHED 1890.** Silent students in the active learning chemistry classroom. J.S. Hutchinson, C. Owens, A. Munson, L. Tran Lu, K. Kincaid

**8:55 CHED 1891.** Chemical education: To infinity and beyond. M.D. Koppang

**9:15 CHED 1892.** Identity, inter-sectional, and the culture of science. M.G. Grunert Kowalske

9:35 Intermission.

**9:45 CHED 1893.** Measuring chemical representations use among organic chemistry students to understand how they interpret different aspects of molecular structures. J. Baluyut, J. Polifka, T. Holme

**10:05 CHED 1894.** Utilizing the Anchoring Concepts Content Map to track chemistry students' concept development and retention rates in general chemistry and organic chemistry. C.J. Luxford

**10:25 CHED 1895.** Comparison of representation use in biochemistry textbooks and associated assessment questions. K.J. Linenberger Cortes

10:45 Intermission.

**10:55 CHED 1896.** Aligning assessments: Advancing the capacity for criterion-referenced chemistry assessments. J.J. Reed

**11:15 CHED 1897.** Chemistry assessment in the digital age. L. Lockwood

**11:35 CHED 1898.** No Holme is an island: Systems thinking in chemistry education. P.G. Mahaffy

### Section B

San Francisco Marriott Marquis  
Salons 3/4

### ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences: Symposium in honor of Sandra Y. McGuire

*Cosponsored by CMA and WCC*

I. M. Warner, *Organizer, Presiding*

8:30 Introductory Remarks.

**8:40 CHED 1899.** LSU LA-STEM research scholars program: Reflections on program origin and early interactions with Professor Sandra McGuire. I.M. Warner, M.B. Crawford, S.E. McGuire, Z.S. Wilson-Kennedy, G. Thomas

**9:05 CHED 1900.** How to mentor students, support achievement, and lose weight: The remarkable mentoring of Sandra Y. McGuire. M.H. Towns

**9:30 CHED 1901.** Designing metacognition-based learning strategies to aid in the recruitment, retention, and graduation rates of STEM students with specialized learning accommodations. A. Kelley

9:55 Intermission.



**10:10 CHED 1902.** Chronic underrepresentation in STEM? Fix our institutions, not our students. J.T. Matsui

**10:35 CHED 1903. Award Address** (ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences sponsored by The Camille & Henry Dreyfus Foundation, Inc.). Metacognition: The key ingredient for academic success for underrepresented (and all) students! S.E. McGuire

**11:20** Concluding Remarks.

## Section C

San Francisco Marriott Marquis  
Salon 5

### GSSPC: Water Sustainability

#### Chemists in Pursuit of Clean Water

*Cosponsored by CEI and PRES*

*Financially supported by Georgetown University Department of Chemistry, Graduate Education Advisory Board*

I. Brekalo, J. P. England, Z. S. Sakhaei, Organizers

A. Adcock, Z. De los Santos, S. E. Ingram, Organizers, Presiding

J. Nelson, Presiding

**8:45** Introductory Remarks.

**8:50 CHED 1904.** Chemical contaminants in drinking water - from risk to rule. C. Sham

**9:20 CHED 1905.** Aquatic photochemistry: Pollutants, products, and policy. K.P. McNeill

**9:50 CHED 1906.** Safe and sustainable drinking water: How can we do it? S.D. Richardson

**10:20** Intermission.

**10:35 CHED 1907.** Supramolecular receptors for anions: The commercialization pathway of a nitrate-sensing molecule towards pollution prevention in precision agriculture. D.W. Johnson

**11:05 CHED 1908.** Technologies for enabling water reuse. J. Wilbur

**11:35** Concluding Remarks.

## Section D

San Francisco Marriott Marquis  
Salon 6

### Advances in e-Learning & Online Chemical Education

D. A. Canelas, L. A. Morsch, Organizers  
P. Sorensen, Organizer, Presiding

**8:30** Introductory Remarks.

**8:35 CHED 1909.** Lessons learned in 16 years of teaching chemistry online with a hands on laboratory component. R.R. Klepper

**8:55 CHED 1910.** CCCE OLCs. R.E. Belford, J.L. Muzyka

**9:15 CHED 1911.** Refining online chemistry strategies. J.E. Alexander, J.J. Wenz

**9:35** Intermission.

**9:55 CHED 1912.** Using traditional and 3D printed physical models in an online introductory chemistry course. J.D. Mendez

**10:15 CHED 1913.** Develop-your-own dynamic and engaging YouTube channel as an Open Educational Resource (OER) supplementing general and organic chemistry courses. D. Jackson

**10:35 CHED 1914.** From chemists know to shredded science: Using accessible online outreach videos to ignite interest in and aid understanding of chemical concepts. G. Grazioli

**10:55** Concluding Remarks.

## Section E

San Francisco Marriott Marquis  
Nob Hill A

### Advances in Teaching Organic Chemistry

S. F. Hornbuckle, Organizer, Presiding

**8:30 CHED 1915.** Using YouTube to promote student self-reflection in organic chemistry. D. Konkolewicz

**8:50 CHED 1916.** Working smarter, not harder: Teaching organic chemistry. S. Tong, R.M. Kissling

**9:10 CHED 1917.** Reducing extraneous cognitive load in undergraduate organic chemistry: Redistribution, not reduction. C. Filloux

**9:30** Intermission.

**9:45 CHED 1918.** Integrating biological applications into the organic chemistry laboratory using affordable instrumentation. E. Nam, M.P. Hill

**10:05 CHED 1919.** Design and evaluation of a mobile learning paradigm aimed at improving organic chemistry laboratory instruction at undergraduate level. H. Weizman, S. Wang

**10:25 CHED 1920.** Investigating student misconceptions in understanding acid-base reactions in undergraduate organic chemistry courses using various formative and summative assessment tools. M. Chatterjee, L. Katz, H. Shaaban, R. Ruvinsky

**10:45** Intermission.

**11:00 CHED 1921.** Undergraduate teaching assistants as part of the teaching-service model in large introductory organic chemistry courses. R.M. Kissling, S. Tong

**11:20 CHED 1922.** Probing the origin of student pattern recognition in the organic chemistry classroom. L.M. McNulty, J.J. Esteb

**11:40 CHED 1923.** Using organic chemistry to teach medical diagnosis skills. M. Ilies

**12:00** Concluding Remarks.

## Section F

San Francisco Marriott Marquis  
Nob Hill B

### Perspectives on Climate Change Literacy & Education: Local to International

*Cosponsored by CEI and IAC*

K. E. Peterman, Organizer

G. P. Foy, Organizer, Presiding

**8:30** Introductory Remarks.

**8:35 CHED 1924.** Geopolitical implications of climate change. K. O'Keefe, G.P. Foy, K.E. Peterman

**8:55 CHED 1925.** Tackling climate change illiteracy through a space lens. M. Sobhy, G.P. Foy, K.E. Peterman

**9:15 CHED 1926.** Climate policy at the boundary between science and society. A.N. Henderson, G.P. Foy, K.E. Peterman

**9:35 CHED 1927.** Indigenous peoples' role in climate change adaptation. N. Kovil, G.P. Foy, K.E. Peterman

**9:55 CHED 1928.** Energy & sustainability: An introductory course on the intersection of energy, climate, and society. B. Venkataraman

**10:15** Intermission.

**10:25 CHED 1929.** Sustainable food at COP22: Mapping the discussion. H.P. Melton, K.E. Peterman, G.P. Foy

**10:45 CHED 1930.** Health ramifications of climate change evaluated at the 22<sup>nd</sup> Conference of Parties (COP22). T. Yurasits, K.E. Peterman, G.P. Foy

**11:05 CHED 1931.** Climate justice at COP22. M. Smith, K.E. Peterman, G.P. Foy

**11:25 CHED 1932.** Withdrawn.

**11:45 CHED 1933.** Sustainable energy as the focus for a first year seminar. G.A. Moehring

**12:05** Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Nob Hill C

### Advancing Undergraduate Research Research Supportive Curricular Innovations

*Cosponsored by PROF*

*Financially supported by Council on Undergraduate Research*

B. L. Gourley, Organizer

R. M. Jones, Organizer, Presiding

**8:30** Introductory Remarks.

**8:35 CHED 1934.** Guided inquiry and drug discovery: A semester-long laboratory sequence for advanced undergraduates. M.S. Blackledge, K. Fogarty

**8:55 CHED 1935.** Theory and experiment laboratory: Modeling the research experience in a capstone curricular laboratory. B.L. Gourley

**9:15 CHED 1936.** Research-based organic chemistry laboratory. M. Bader, P.T. Pham

**9:35 CHED 1937.** Course-Based undergraduate research experience (CURE) in organic chemistry. L.C. Brown

**9:55 CHED 1938.** Petrochemical incorporation to grow material and characterization bound analytical curriculum: A new attempt to serve dual educational functions. M. Jiang

**10:15 CHED 1939.** Peptidomimetics from the classroom to the lab: Successful research outcomes from an upper-level class at a primarily undergraduate institute. D. Guarracino

**10:35** Intermission.

**10:50 CHED 1940.** Self-assembly of camptothecin-linked dipeptides. N.M. Paul, K.L. Neidrich, K.R. Boggs, A. Shieh, J.R. Parquette

**11:10 CHED 1941.** Another round of whiskey for the house: Community college students continue research on experimental new whiskey flavors. R.L. Silvestri

**11:30 CHED 1942.** Withdrawn.

**11:50 CHED 1943.** Leveraging student interest in environmental topics for undergraduate research in an interdisciplinary environmental research cluster. D.P. Pursell, K. Zimmermann, N. Khan, S. Park

**12:10 CHED 1944.** Developing an interdisciplinary medicinal chemistry undergraduate research program at a small, private, liberal arts university. J.R. Mays

### The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross

*Sponsored by WCC, Cosponsored by CHED, CMA and PROF*

### Producing Knowledgeable, Well-Rounded, T-Shaped Chemists for the 21st Century: Current Perspectives from High School, Undergraduate & Graduate Educators

*Sponsored by PROF, Cosponsored by BMGT, CHED and PRES*

### Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet

### Environmental Analytical Chemistry

*Sponsored by ENVR, Cosponsored by CHED*

### Processes, Technologies & Sensors for Food-Energy-Water Nexus Research

*Sponsored by ENVR, Cosponsored by CEI and CHED*

## TUESDAY AFTERNOON

### Section A

San Francisco Marriott Marquis  
Salons 1/2

### George C. Pimentel Award in Chemical Education: Symposium to honor Thomas A. Holme

S. Bretz, Organizer, Presiding

**1:30** Introductory Remarks.

**1:35 CHED 1945.** Developing student conceptual understanding in the physical chemistry laboratory. A. Grushow, S.S. Hunnicutt, R.M. Whitnell

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

‡ Cooperative Cosponsorship

**1:55 CHED 1946.** Stability and change: Investigating the blending of mathematics and chemical knowledge in the context of reasoning about chemical kinetics. M.H. Towns, K. Bain, A.C. Moon

**2:15 CHED 1947.** Adventures in assessment: Moving beyond my students liked it. J.E. Lewis

**2:35** Intermission.

**2:45 CHED 1948.** Holme-made assessment strategies: It would be really neat if. C.F. Bauer

**3:05 CHED 1949.** ACS Exams Online: Enhanced delivery, scoring and use of ACS Exams. D. Hart, K.L. Murphy

**3:25 CHED 1950.** ACS Exams: A tradition of excellence in research. K.L. Murphy, J.R. Raker

**3:45** Intermission.

**3:55 CHED 1951. Award Address** (George C. Pimentel Award in Chemical Education sponsored by Cengage Learning & the ACS Division of Chemical Education). Evidence and change, or the lack thereof. T. Holme

## Section B

San Francisco Marriott Marquis  
Salons 3/4

### The Role of Research Experiences in the ACS Certified Degree

T. J. Wenzel, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 1952.** Role of undergraduate research in the certified chemistry major. T.J. Wenzel

**1:55 CHED 1953.** Research experiences in the chemistry and biochemistry curriculum at Barnard College: A structure that supports student learning, faculty development, and safety for a diverse population. R.N. Austin

**2:15 CHED 1954.** Undergraduate research for CPT approval and for preparing minority students for success in PhD programs. C.G. Gutierrez, L.M. Tunstad

**2:35 CHED 1955.** Five phases for integrating the scientific method and communication skills with research experiences. B. Vernier, M.N. Srnec, A. Carlson, G.A. Buckholtz, E.S. Gawalt, J.D. Evanseck

**2:55** Intermission.

**3:10 CHED 1956.** Improving undergraduate education through innovative research experiences. N.T. Salzameda

**3:30 CHED 1957.** Starting a research program at primarily undergraduate institution: Practical strategies and supportive policies. M.L. Kovarik

**3:50 CHED 1958.** Use of active learning pedagogies and undergraduate research experiences to promote student success in chemistry at North Carolina A&T State University. S.O. Fakayode, M. Kanipes-Spinks

**4:10 CHED 1959.** It's research that makes the Gator chemistry major. L. McElwee-White

**4:30** Concluding Remarks.

## Section C

San Francisco Marriott Marquis  
Salon 5

### GSSPC: Water Sustainability

#### Chemists in Pursuit of Clean Water

*Cosponsored by CEI and PRES*

*Financially supported by Georgetown University Department of Chemistry, Graduate Education Advisory Board*

Z. De los Santos, J. P. England, Z. Sakhaei, *Organizers*

A. Adcock, I. Brekalo, S. E. Ingram, Z. S. Sakhaei, *Organizers, Presiding*

J. Nelson, *Presiding*

**1:45** Introductory Remarks.

**1:50 CHED 1960.** Role of polymeric structure in reverse osmosis water purification membranes. B.J. Sundell

**2:20 CHED 1961.** Nanoscale Zero-Valent Iron (nZVI) and iron oxide nanoparticle surface reactions and modification for environmental remediation. B.E. Koel

**2:50 CHED 1962.** Cactus mucilage: Cleaning water in a sustainable approach. N. Alcantar

**3:20** Intermission.

**3:35** Panel Discussion.

**5:05** Concluding Remarks.

## Section D

San Francisco Marriott Marquis  
Salon 6

### Course-Based Undergraduate Research Experiences (CUREs) in Chemistry

R. Waterman, *Organizer*

J. M. Heemstra, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 1963.** Student-designed research projects for freshman chemistry majors at UC-Berkeley. M.C. Douskey, M.T. Robak, A.M. Baranger, L. Armstrong, G. Kerstiens

**1:55 CHED 1964.** Partnership between a two-year transfer program and research faculty to develop a course-based research experience for general chemistry. K.S. Owens, A. Murkowski, A.M. Johansen, H. Price, L. Gitelman

**2:15 CHED 1965.** Freshman and authentic research, teaching biomedical chemistry through a sequence of course-based research experiences. S.C. Flynn, M. Fegley, N. Stamp

**2:35 CHED 1966.** Freshman-level research-based laboratories and the transition from student to researcher within the ReBUILDetroit program. A.L. Feig, K. Abraham, J. Andreoli, S. Chang, S. Conant, K.R. Evans, A. Fusaro, W. Hao, J. Kagey, G. Kuleck, K.C. Lanigan, A. Mathur, A. Matti, J. Thomson, D. Tomco, S. Welch

**2:55 CHED 1967.** Development of a bioinformatics driven research project as an introductory level course-based research experience. A. Leconte

**3:15** Intermission.

**3:30 CHED 1968.** Applying chemical instrumentation in the museum. K.L. Braun

**3:50 CHED 1969.** Embedding the study of heavy metal water contamination into the analytical chemistry laboratory curriculum. P. Cleary

**4:10 CHED 1970.** Research in an inorganic laboratory class. R. Waterman, J.K. Pagano

**4:30 CHED 1971.** Integrating hazard identification and risk assessment into course-based undergraduate research. S. Sigmann, D.E. Wheeler

**4:50 CHED 1972.** Integrating research opportunities into the inorganic chemistry curriculum at The College of New Jersey. A.R. O'Connor, B.C. Chan

## Section E

San Francisco Marriott Marquis  
Nob Hill A

### Advances in Teaching Organic Chemistry

S. F. Hornbuckle, *Organizer, Presiding*

**1:30 CHED 1973.** Learner-centered approach to teaching undergraduate organic chemistry. A. Brown

**1:50 CHED 1974.** Teaching organic chemistry with collaborative problem solving in the large lecture setting at UC Berkeley. M.T. Robak, A.M. Baranger

**2:10 CHED 1975.** Making organic chemistry accessible by promoting student learning through group problem solving. R. Broyer

**2:30** Intermission.

**2:45 CHED 1976.** Deriving of electrostatic potential maps and use of these as a means to predict reactivities between species. K.K. Bagga

**3:05 CHED 1977.** Evaluation of the relationship between spatial pattern recognition and learning stereochemical principles. J.J. Esteb, L.M. McNulty

**3:25 CHED 1978.** Determination of optical purity of  $\alpha$ -methylbenzylamine by formation of the camphor imine: An undergraduate organic chemistry experiment. S.A. Corlett, I.F. Germek

**3:45** Intermission.

**4:00 CHED 1979.** Spectroscopy by the numbers. N.M. Paul, C.S. Callam

**4:20 CHED 1980.** Back to basics: Improving learning in the organic chemistry laboratory. A.M. Reeve

**4:40 CHED 1981.** Using analgesics as a corner stone theme for the first semester of Organic Chemistry lecture and lab. R. Blough, M.J. Castaldi, J.K. Murray

**5:00** Concluding Remarks.

## Section F

San Francisco Marriott Marquis  
Nob Hill B

### Writing in Chemistry

S. A. Finkenstaedt-Quinn, *Organizer*

A. C. Moon, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 1982.** Faculty practices and beliefs about the effectiveness of writing in promoting student learning in STEM disciplines. S.A. Finkenstaedt-Quinn, G.V. Shultz, A. Ruggles Gere

**1:55 CHED 1983.** Modification of a junior-level capstone course to incorporate scientific writing. B. Wile

**2:15 CHED 1984.** Essay writing in the chemistry classroom to enhance learning and raise awareness of social issues affected by chemistry. A.L. Smalley, B.R. Fox

**2:35** Intermission.

**2:50 CHED 1985.** Interactive writing in a two-semester chemical analysis course sequence: Journal-formatted laboratory reports and literature reviews. R.W. Schaeffer

**3:10 CHED 1986.** Writing-to-learn with Calibrated Peer Review®. A.A. Russell

**3:30 CHED 1987.** When does this matter in real life? Using chemical knowledge to make fuel choices. R. Sansom

**3:50** Intermission.

**4:05 CHED 1988.** Expanding the students understanding and appreciation of chemistry through reading and writing. K.K. Bagga

**4:25 CHED 1989.** Use of the science writing heuristic to support instruction aligned to NGSS and the International Baccalaureate's MYP. N. Hike, D.J. Wink, S. Hughes-Phelan

**4:45 CHED 1990.** Development and implementation of a writing-to-learn intervention in introductory quantum mechanics. A.C. Moon, E. Zotos, S.A. Finkenstaedt-Quinn, A. Ruggles Gere, G.V. Szymczak

**5:05** Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Nob Hill C

### Advancing Undergraduate Research

#### Focus on Early Access to Research & Broadening Participation of Under-Represented Groups

*Cosponsored by CMAA, PROF and WCC*

*Financially supported by Council on Undergraduate Research*

R. M. Jones, *Organizer*

B. L. Gourley, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 1991.** Undergraduate researchers engaging in chemistry education research. S.E. Lewis, R. Queini, A. Dickerson

**1:55 CHED 1992.** Best practices for mentoring undergraduates in international research placements. J.C. Goeltz, R.S. Duran

**2:15 CHED 1993.** Implementation of the Henderson State University STEM bridge: Challenges and success in the first year. D. Bateman, B.A. Rowland

**2:35 CHED 1994.** Introducing incoming students to research via the Summer Opportunity for Intellectual Activity program. M.R. Prinsell, L.J. Moore

**2:55 CHED 1995.** FUTURE program: Engaging underserved populations through early research experiences. A.J. Reig

**3:15 CHED 1996.** Providing early research experiences for undergraduates. L.J. Silverberg

**3:35** Intermission.

**3:50 CHED 1997.** Rethinking the summer research experience for the new majority. M. Konkile

- 4:10 CHED 1998.** Global women and STEM undergraduate research training model. S. Deprele
- 4:30 CHED 1999.** Broadening participation in undergraduate STEM research at the community college. C.J. Foley, N. Leonhardt
- 4:50 CHED 2000.** Leveraging CREST-center funding to advance undergraduate research at multiple Minority Serving Institutions. K.R. Cousins, T. Usher, D.C. Smith, R. Zhang, P.K. Dixon
- 5:10 CHED 2001.** Collaborative field research: A gateway for undergraduate research experiences. J.C. Ingram, P. Beamer, K. Chief

### Section H

San Francisco Marriott Marquis  
Nob Hill D

#### Simulations, Animations & other Visualizations in Educating about Chemistry SAVE Chemistry!

R. Tasker, *Organizer*

R. M. Kelly, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 2002.** Animation perspectives: Making sense of contrasting molecular animations through commentaries. R.M. Kelly

**1:55 CHED 2003.** Development of interactive visualizations for use in chemistry courses. Z. Alghoul

**2:15 CHED 2004.** Simulations in chemistry. T. Gupta, G.R. Albing, Z.P. Ziolkowski

**2:35** Intermission.

**2:50 CHED 2005.** SwissChemCubes - how to play with and use it in classrooms. M.T. Müller, A. Togni

**3:10 CHED 2006.** Atomarium - 2D- and 3D Visualizations. M.T. Müller, A. Togni

**3:30 CHED 2007.** Tactile experiences with crystallography to SAVE chemistry! A. Sarjeant, P.A. Wood, S. Ward, A.G. Maloney

**3:50 CHED 2008.** Augmented reality chemistry: The use of augmented reality to generate 3-D molecular models from 2-D representations. D. Behmke

**4:10** Intermission.

**4:25 CHED 2009.** Using simulations in teaching physical chemistry. T. Engel

**4:45 CHED 2010.** Illustrating chemical evolution through collaboration with artists. B.J. McFarland

**5:05 CHED 2011.** Withdrawn.

**5:25** Concluding Remarks.

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

### Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet

#### Source Water Quality

*Sponsored by ENVR, Cosponsored by CHED*

#### Science & Perception of Climate Change

*Sponsored by ENVR, Cosponsored by CEI and CHED*

## WEDNESDAY MORNING

### Section A

San Francisco Marriott Marquis  
Salons 1/2

#### Using Chemistry Education Research to Inform the Design & Use of Assessment Materials

S. Villafane-Garcia, *Organizer*

J. J. Reed, *Organizer, Presiding*

S. Villafañe, *Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 2012.** State of assessment use in postsecondary chemistry education. R. Gibbons, J.J. Reed, E. Laga, J. Vega, K.L. Murphy, J.R. Raker

**8:55 CHED 2013.** Bringing the other elements to shore: Development of the anchoring concept content map for inorganic chemistry. K.A. Marek, K.L. Murphy, J.R. Raker, B.A. Reisner

**9:15** Intermission.

**9:30 CHED 2014.** Encounters with substances: Patterns in chemical identity thinking. C. Ngai, H. Sevan

**9:50 CHED 2015.** Making predictions and constructing explanations: An investigation into introductory chemistry students' understanding of structure-property relationships. R. Colvin, S. Underwood, M. Cooper

**10:10 CHED 2016.** Developing assessments to characterize student reasoning about interdisciplinary phenomena. S.M. Underwood, E. Scott, C. Anderson, K. Mashood, R. Matz, V. Sawtelle

**10:30** Concluding Remarks.

### Section B

San Francisco Marriott Marquis  
Salons 3/4

#### Communicating Science in the Twenty-First Century to Diversified Audiences

*Cosponsored by CPRC, CWD and PRES*

A. E. Neybert, C. A. Supalo, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 2017.** Diversity in communities when communicating science. D.J. Nelson

**8:55 CHED 2018.** Withdrawn.

**9:15 CHED 2019.** Using text-to-speech to provide scaffolding for blind students comprehension of organic chemistry molecular drawings. A.E. Neybert, N. TenBroek, C.A. Supalo

**9:35 CHED 2020.** Tools of a blind chemist. M.S. Minkara

**9:55** Intermission.

**10:10 CHED 2021.** Science study Includes the blind and visually impaired student. D. Posont, F. Wurtzel

**10:30 CHED 2022.** Project BLAST: A proactive approach to improving access to science and engineering for blind students. J. Principato

**10:50 CHED 2023.** Utilizing infographics to advance scientific communication skills. R.M. Jones

**11:10 CHED 2024.** Teaching students to break down the chemistry of everyday events via infographics. J.J. Meyers, R. Singiser

**11:30 CHED 2025.** Communicating chemical concepts through Braille and other tactile approaches. H. Wohlers, C.A. Supalo, L. Walton, C. Weceles, G. Williams

**11:50** Concluding Remarks.

### Section C

San Francisco Marriott Marquis  
Salon 5

#### Strategies Promoting Success of Two-year College Students

L. J. Anna, T. Higgins, A. M. Palmer, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 2026.** Reaching the hearts and minds of students with case studies and laboratory activities set in local and contemporary contexts. T.J. Terry

**8:55 CHED 2027.** Developing and implementing open educational resources (OER) for an introductory chemistry course at a two-year community college. K.J. Smith

**9:15 CHED 2028.** Tool box approach for student success in chemistry. J.E. Alexander

**9:35** Intermission.

**9:50 CHED 2029.** Identifying, recruiting, and motivating undergraduate researchers at a community college through collaboration with the honors program. D.J. Schauer

**10:10 CHED 2030.** Honors modules to infuse research into the curriculum and entuse students in chemistry. L.J. Anna, A. Palmer

**10:30 CHED 2031.** Establishing an ongoing substantive chemistry research program at a two-year college. C.L. Aronson, L.D. Bienski

**10:50** Intermission.

**11:05 CHED 2032.** Sharing portable instrumentation to expand instrumentation access and build stronger ties between two-year and four-year institutions. C.J. Stromberg, K.H. Bennett, D.J. Ellis, P. Wood, W. Nellis, P. Sheppard, C.A. Bradley

**11:25 CHED 2033.** National Science Foundation programs that support chemistry education at community colleges. T.B. Higgins, T.D. Kim, D. Rickey

**11:45** Concluding Remarks.

### Section D

San Francisco Marriott Marquis  
Salon 6

#### Course-Based Undergraduate Research Experiences (CUREs) in Chemistry

J. M. Heemstra, *Organizer*

R. Waterman, *Organizer, Presiding*

**8:30 CHED 2034.** Design, synthesis, and evaluation of small molecule sortase inhibitors: A CURE for the undergraduate organic chemistry lab. J. Antos, S.A. Reed

**8:50 CHED 2035.** CURE for the undergraduate organic chemistry laboratory. L.M. Stanley

**9:10 CHED 2036.** Discovery-based research using fragment synthesis and protein-observed <sup>19</sup>F NMR in an undergraduate organic laboratory. W.C. Pomerantz, S. Bur

**9:30 CHED 2037.** Leveraging CUREs to increase capacity for traditional undergraduate research experiences and generate student co-authored publications. J.M. Heemstra

**9:50 CHED 2038.** Known structure, unknown function: A research-based undergraduate biochemistry laboratory course. L.M. Columbus, C. Mura, C. Price

**10:10** Intermission.

**10:25 CHED 2039.** CURE in chemical biology. P.J. Beuning

**10:45 CHED 2040.** Discovery-based laboratory exercise using the colorful violacein pathway. J.A. Jones

**11:05 CHED 2041.** Bringing a stress-response research project into the biochemistry laboratory. R.E. Connor

**11:25 CHED 2042.** Luminescence screening for bioactive compounds: A research-based experiment for undergraduates. J.A. Prescher

**11:45 CHED 2043.** Taking a new research direction in the Biochemistry II teaching lab. B.J. McFarland

### Section E

San Francisco Marriott Marquis  
Nob Hill A

#### Research in Chemistry Education

D. P. Cartrette, D. R. Mulford, *Organizers*

M. Mack, *Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 2044.** Influence of an international field research experience on high school teachers' understandings of the practices of science and engineering. M. Orgill, J. Adams, S. Nealy, C. Kardash

**8:55 CHED 2045.** Evolution of high- and low-achieving students' knowledge structures over general chemistry courses. O. Gulacar, M. Seibel, B. Kung, A. Milkey, S. McLane

**9:15 CHED 2046.** Evaluating students' awareness of and attitudes toward scientific research at a public, open-access college. M. Anzovino

**9:35 CHED 2047.** Students' understanding of energy in chemical reactions and processes. K. Bain, H. Hamby, T. McCord, M.H. Towns

**9:55** Intermission.

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**10:10 CHED 2048.** Exploring learning outcomes when using multimedia for chemistry reaction mechanisms. A. Bongers, A.B. Flynn

**10:30 CHED 2049.** Peeking inside the black box: Making learning visible using an ethnographic perspective. L. Fallot, M.Z. Kalainoff, E.M. Kowalski

**10:50 CHED 2050.** Patterns of reactions: A card sort task to explore students' connections across organic chemistry reactions. K.R. Galloway, M.W. Leung, A.B. Flynn

**11:10** Concluding Remarks.

## Section F

San Francisco Marriott Marquis  
Nob Hill B

### Undergraduate Laboratory Experiments Involving Advanced Materials

*Cosponsored by MPPG<sup>2</sup>*

W. J. Miller, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 2051.** Laboratory experiments making applied materials. G. Lisensky

**9:20 CHED 2052.** Introducing green and nongreen aspects of noble metal nanoparticle synthesis: An inquiry-based laboratory experiment for chemistry and engineering students. I.E. Pavel Sizemore, S. Paluri, M. Newsome

**9:40** Intermission.

**9:55 CHED 2053.** Introduction of galvanic replacement reactions at the nanoscale to undergraduate students: Synthesis of hollow metal nanostructures. J. Chen

**10:15 CHED 2054.** Quantifying gold nanoparticle concentration in suspensions using smartphone colorimetry. C. Knutson, A.R. Campos, T.R. Knutson, A.R. Mozzetti, C.L. Haynes, R. Penn

**10:35 CHED 2055.** Undergraduate laboratory experiment modules for probing gold nanoparticle interfacial interactions. D. Zhang

**10:55** Intermission.

**11:10 CHED 2056.** Introducing undergraduates to functionalizing nanoparticle surfaces for solar cell applications. J. Zemke

**11:30 CHED 2057.** Fabrication and characterization of solution processed perovskite solar cells by undergraduates at California State University, Chico. M.C. So, J. Barnett, V. Cherrette, C. Hutcherson

**11:50 CHED 2058.** Investigating bandgap energies, materials, and design of light-emitting diodes. E.P. Wagner

**12:10** Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Nob Hill C

### Advancing Undergraduate Research

*Cosponsored by CMA, PROF and WCC*

*Financially supported by Council on Undergraduate Research*

R. M. Jones, *Organizer*

B. L. Gourley, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 2059.** Senior undergraduate research and assessment at Florida Southern College. D.C. Bromfield-Lee, A. Le

**8:55 CHED 2060.** Innovative undergraduate research program at Tennessee Tech. E.C. Lisic

**9:15 CHED 2061.** Undergraduate research in STEM fields at Georgia Southern University: A fifteen-year prospective from a former program director. M. Davis Mcgibony

**9:35 CHED 2062.** Transformative impact of developing and implementing a comprehensive undergraduate research program. B.E. Holmes, G.L. Heard

**9:55 CHED 2063.** Assessing undergraduate research in chemistry: A comparison study. R.M. Jones

**10:15 CHED 2064.** Using undergraduate research to enhance STEM education at the institutional and system-wide level. M.R. Malachowski, K.K. Karukstis, J. Osborn, E. Ambos

**10:35** Intermission.

**10:50 CHED 2065.** Organizing, assessing, and enriching undergraduate research experiences. K.D. Schurmeier

**11:10 CHED 2066.** Dreams, realities and strong contributions to diversity in STEM: Impact of an undergraduate research office at a Hispanic serving institution. L.E. Echegoyen, L. Diaz-Martinez, G. Corral

**11:30 CHED 2067.** Using case studies to understand undergraduate research experiences. S.L. Johnson, G.M. Bodner

**11:50 CHED 2068.** Investigation of learning outcomes from undergraduate research experiences. M.R. Helix, L.E. Cote, E.M. Stone, A.M. Baranger

**12:10** Discussion.

**12:25** Concluding Remarks.

## Section H

San Francisco Marriott Marquis  
Nob Hill D

### Research on Learning in the Lab

*Cosponsored by IAC<sup>2</sup>*

M. J. Chrzanowski, S. Sandi-Urena, *Organizers*  
S. Sandi-Urena, *Presiding*

**8:30** Introductory Remarks.

**8:35 CHED 2069.** Withdrawn.

**8:55 CHED 2070.** Scenarios as a tool for investigating risk perception in the general chemistry laboratory. S. Haxton, S.D. Wiediger

**9:15 CHED 2071.** Analysis of diverse and independent laboratory learning environments using Langer's mindfulness theory. E. Jimenez Alvarado, S. Sandi-Urena

**9:35** Intermission.

**9:50 CHED 2072.** Impact of nature of science instruction on the chemistry laboratory experience. G. Kerstiens, A.M. Baranger, M.C. Douskey, M.T. Robak, L. Armstrong

**10:10 CHED 2073.** Investigating the effect of a project-based laboratory curriculum on students' value of science. J.H. Carmel, J.S. Ward, A. Pollock, L.A. Posey, M. Cooper

**10:30 CHED 2074.** Exploring meta-cognitive activity in a collaborative third year organic chemistry laboratory. K. Mathabathe, M. Potgieter, M. Rollnick

**10:50 CHED 2075.** Learning in the tertiary level chemistry laboratory: Findings from phenomenology research. M.J. Chrzanowski, S. Sandi-Urena

**11:10** Concluding Remarks.

### Active Learning in the Undergraduate Analytical Chemistry Curriculum

*Sponsored by ANYL, Cosponsored by CHED*

## WEDNESDAY AFTERNOON

### Section A

San Francisco Marriott Marquis  
Salon 1/2

### Using Chemistry Education Research to Inform the Design & Use of Assessment Materials

S. Villafane-Garcia, *Organizer*

J. J. Reed, *Organizer, Presiding*

S. Villafañe, *Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 2076.** Fidelity of implementation: An overlooked construct in chemical education research. M.N. Stains

**1:55 CHED 2077.** Assessment of process skills in student responses to open-ended exam questions. J.A. Schmidt-McCormack, R.S. Cole, C. Fish, A.M. Falke, J. Lantz

**2:15 CHED 2078.** Community-produced assessment instrument for biochemistry: Linking research and practice. J.A. Loertscher, J.E. Lewis, A. Mercer, V.M. Thorsell

**2:35** Intermission.

**2:50 CHED 2079.** Response process validity study for a cross-disciplinary assessment. J.M. Trate, V. Fisher, A. Blecking, P. Geissinger, K.L. Murphy

**3:10 CHED 2080.** Evaluating the psychometric evidence of the approaches to teaching inventory and the implications for psychometrics in chemistry education research. J. Harshman, M.N. Stains

**3:30** Concluding Remarks.

### Section B

San Francisco Marriott Marquis  
Salon 3/4

### Communicating Science in the Twenty-First Century to Diversified Audiences

*Cosponsored by CPRC, CWD and PRES*

A. E. Neybert, C. A. Supalo, *Organizers, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 2081.** Auxiliaries of wisdom: Challenges of science education at an Orthodox Jewish College. J.M. Newman

**1:55 CHED 2082.** Developing and advocating for non-visual techniques in general and organic chemistry. E.D. Schlenker

**2:15 CHED 2083.** Chemistry a la CART: Making chemistry accessible for d/Deaf and hard of hearing. M.A. Postlewaite

**2:35 CHED 2084.** Developing hands-on learning modules for blind and visually impaired high school and undergraduate chemistry students. R. Dabke, S. Melaku, J. Schreck, Z. Gebeyehu, K.K. Griffin

**2:55** Intermission.

**3:10 CHED 2085.** Creation and assessment of a concept-based chemistry curriculum. P.K. Morehouse

**3:30 CHED 2086.** Game-based learning in chemistry. T. Gupta, G. Albing, J. Rosenbaum

**3:50 CHED 2087.** Service dogs in the chemistry laboratory. P.A. Redden

**4:10 CHED 2088.** Bridging the Sino-American divide in green chemistry: A parable of overcoming activation barriers in language, creeds, philosophies, diversity, and handicaps. L.A. Lucia

**4:30 CHED 2089.** Signaling safety in the chemistry classroom. A.A. Eroy-Reveles, J. Nagy, M. Estrada

**4:50** Concluding Remarks.

### Section C

San Francisco Marriott Marquis  
Salon 5

### Strategies Promoting Success of Two-year College Students

L. J. Anna, T. Higgins, A. M. Palmer, *Organizers, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 2090.** Student affective state and reading ability: Implications for prerequisites and instruction in introductory and general chemistry classes. J. Ross, C. Lai, L. Nuñez

**1:55 CHED 2091.** Impact of in-class calculation work-sheet in chemistry and physical science courses on student success. G. Gyanwali

**2:15 CHED 2092.** Rules for success for teachers and students in a two-year college. M.J. Kenney

**2:35** Intermission.

**2:50 CHED 2093.** Strategies for overcoming significant challenges faced by the two-year college student. D. Lewis, L. Louis, J.L. Sams, A.J. Sanders

**3:10 CHED 2094.** Opening doors to STEM teaching with a learning assistant program. C.P. Schick

**3:30 CHED 2095.** NSF scholarship programs for community college students and minority serving institutions. T.B. Higgins, T.D. Kim, D. Rickey

**3:50** Concluding Remarks.

### Section D

San Francisco Marriott Marquis  
Salon 6

### Course-Based Undergraduate Research Experiences (CUREs) in Chemistry

R. Waterman, *Organizer*

J. M. Heemstra, *Organizer, Presiding*

**1:30 CHED 2096.** Incorporating research-like experiences in a physical chemistry for the life sciences course. J.G. Rowley

**1:50 CHED 2097.** Integrating paper microfluidics research into the undergraduate curriculum: CUREs at Cal State LA. F.A. Gomez, W. Lee, K. Parducho

**2:10 CHED 2098.** Drugs and cells: A cross-disciplinary, medicinal chemistry laboratory course. T.W. Funk, J. Brandauer

**2:30 CHED 2099.** Distributed drug discovery experiments in undergraduate organic chemistry laboratories. W.L. Scott, A.A. Fuller, A.B. Dounay, M. O'Donnell, J.G. Samaritoni

**3:10** Intermission.

**3:30 CHED 2100.** Two-photon absorption spectroscopy on curcumin in solution: A state-of-the-art physical chemistry experiment. J. Donnelly, F. Hernandez

**3:50 CHED 2101.** Superlab: Junior-year integrated laboratory at Haverford College. C.H. Londergan

**4:10 CHED 2102.** Bringing the outdoors in: A multi-institution, multi-course, collaborative effort to integrate water quality projects into laboratory curricula. T. Sivy, A. Lukowski, E.M. Greeson, J. Tomasiak

**4:30 CHED 2103.** Integrated research lab at Guilford College: A course-based research experience for organic, inorganic, and physical chemistry students. A.G. Glenn, G.H. Webster, R.M. Whitnell

**4:50** Concluding Remarks.

### Section E

San Francisco Marriott Marquis  
Nob Hill A

#### Research in Chemistry Education

D. P. Cartrette, D. R. Mulford, *Organizers*

R. Komperda, *Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 2104.** Effect of self-explaining on scientific-skill development: Longitudinal study via latent transition analysis. A. Villalta-Cerdas

**1:55 CHED 2105.** Persistence in STEM: Development of a longitudinal model integrating self-efficacy, outcome expectations and performance in chemistry gateway courses. S. Srinivasan, K.L. Murphy

**2:15 CHED 2106.** Roles of personal and contextual factors in the characterization of the impact of the Cottrell Scholars Collaborative New Faculty Development Workshop. J. Harshman, M.N. Stains

**2:35** Intermission.

**2:50 CHED 2107.** Anxiety and enjoyment: Exploring students' academic emotions in general chemistry. S. Villafane-Garcia, X. Xu, J.R. Raker

**3:10 CHED 2108.** Describing student experiences in a project-based organic chemistry laboratory. N.L. Burrows, S.R. Mooring

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**3:30 CHED 2109.** Withdrawn.

**3:50** Concluding Remarks.

### Section F

San Francisco Marriott Marquis  
Nob Hill B

#### Undergraduate Laboratory Experiments Involving Advanced Materials

*Cosponsored by MPPGF*

W. J. Miller, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 2110.** Raman microscopy study of graphene: An upper-level undergraduate experiment. H. Liu, M.M. Ward

**1:55 CHED 2111.** Fabrication of polyvinylpyrrolidone micro-/nanostructures utilizing microcontact printing. W.C. Sanders

**2:15 CHED 2112.** Low-catalyst concentration atom transfer radical polymerization in the undergraduate laboratory: Synthesis of well-defined epoxide-containing polymers and their postpolymerization modification to fluorescent materials. N.V. Tsarevsky, S.R. Woodruff, P. Wisian-Nelson

**2:35** Intermission.

**2:50 CHED 2113.** Withdrawn.

**3:10 CHED 2114.** Colorimetric anion sensing in undergraduate analytical chemistry. M.O. Odago

**3:30 CHED 2115.** Solvent-water-partitioning of different pH-indicators: A classroom and a self-experiencing laboratory sequence. M.T. Müller, B. Escher

**3:50** Intermission.

**4:05 CHED 2116.** Analysis of metal oxide and organic UV absorbers in commercial sunscreens. R. Quinones

**4:25 CHED 2117.** It does rain in Southern California. J. Ashcroft, B. Last, R. Ehrmann, A. Cakmak, E. Bautista

**4:45 CHED 2118.** Simple experiment to introduce nanophytotoxicity to first-year undergraduate students. S. Ross, M. Owen, B. Pedersen, G. Liu, W.J. Miller

**5:05** Concluding Remarks.

### Section G

San Francisco Marriott Marquis  
Nob Hill C

#### Eliciting Attentiveness from Cyber-Savvy Students without Using Electronic Tools

K. Kostecka, *Organizer*

C. E. Cannon, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 2119.** Old school teaching (and learning!). P.F. Brandt

**1:55 CHED 2120.** Facilitating the formation of an e-free classroom community: A chemistry classroom exercise. B. Budy

**2:15 CHED 2121.** Course Preparation Assignments as a teaching tool in one-semester undergraduate biochemistry courses. N.J. Ronkainen

**2:35 CHED 2122.** Sneaking in the science. P.A. Redden

**2:55 CHED 2123.** Discussions during lecture in a large-enrollment chemistry course and during lab in a small-enrollment tribal college chemistry course. M.A. Griep, B. DeVore-Wedding

**3:15** Intermission.

**3:30 CHED 2124.** Physical presence and chemistry of art, color, and artifact conservation. M.J. Welsh

**3:50 CHED 2125.** Short writes and journals as effective teaching tools in nutritional chemistry. C.E. Cannon

**4:10 CHED 2126.** Science and science fiction in the classroom. D.A. Katz

**4:30 CHED 2127.** Use of science and science fiction based television and movie clips in the instruction of non-chemistry majors. K. Kostecka

**4:50** Concluding Remarks.

### Section H

San Francisco Marriott Marquis  
Nob Hill D

#### General Papers

S. A. Fleming, *Organizer*

V. Feng, *Presiding*

**1:30** Introductory Remarks.

**1:35 CHED 2128.** Determination of the overall antioxidant strength of teas combining metal nanoparticles, plasmonics, and fluorescence: Designing new experiments for the physical chemistry laboratory. J. Donnelly, F. Hernandez

**1:55 CHED 2129.** Fluorescent carbon dots: A new material to teach nanotechnology throughout chemistry curriculum. V. Feng, J. Kuether, R. Tapia Hernandez, S.N. Pham, B. Zhi, M. Krause, C.L. Haynes

**2:15 CHED 2130.** Fine-grained analysis of general chemistry texts' treatment of rates of change concepts in reaction kinetics. S. Seethaler, J. Czworkowski, L. Wynn

**2:35** Intermission.

**2:50 CHED 2131.** Guided inquiry experiment involving the intrinsic viscosity of a polymer in aqueous solution. A.L. Marsh

**3:10 CHED 2132.** Determination of essential minerals and toxic elements in Aggie Farm produce by ICP-OES: A problem based and guided inquiry learning experience in instrumental analysis laboratory course. S.O. Fakayode, N. Nickolas, L. Hordge, T. Jackson, D. Keyes, M. Duncan

**3:30 CHED 2133.** Withdrawn.

**3:50 CHED 2134.** Design of a rime-of-flight secondary ion mass spectrometer for hands-on undergraduate instruction. M.V. Lee

#### Active Learning in the Undergraduate Analytical Chemistry Curriculum

*Sponsored by ANYL, Cosponsored by CHED*

### WEDNESDAY EVENING

#### Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences

*Sponsored by ENVIR, Cosponsored by ANYL and CHED*

### Science & Perception of Climate Change

*Sponsored by ENVIR, Cosponsored by CEI and CHED*

### THURSDAY MORNING

#### Section A

San Francisco Marriott Marquis  
Sierra A

#### How Do We Teach Collaboration? Best Practices for Educating Future Researchers & Innovators

*Cosponsored by CHED*

*Financially supported by NSF Centers for Chemical Innovation*

B. Hames, M. Krause, D. Watt, *Organizers*  
M. DeBoever, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:10 CHED 2135.** Outreach as a cross-disciplinary collaboration: Design and implementation of an interactive aerosol chemistry display. H. Weizman, B. Hames

**8:30 CHED 2136.** Weaving chemistry, biology, and microbiology labs into common themes: Illustrating relevance across disciplines. K.V. Waynant, D. Felton, P. Hartzell, M. Ederer

**8:50** Intermission.

**9:00 CHED 2137.** Review on training undergraduate and graduate students to conduct interdisciplinary research. R.Y. Lai, P. Dussault, M. Schubert, A.E. Holmes

**9:20 CHED 2138.** Postdoctoral training within Nebraska MRSEC: A review. R.Y. Lai, J. Bosley

**9:40 CHED 2139.** Beyond the bench: Educating students in collaborative, innovative team science. J.M. Amador, M. Dolgos, D.A. Keszler, J.C. Giordan

**10:00** Intermission.

**10:10 CHED 2140.** Keys to successful collaboration: Insights from the Centers for Chemical Innovation. M. DeBoever, B. Hames, M. Krause, D. Watt

#### Section B

San Francisco Marriott Marquis  
Sierra B

#### Current Best Practices for Chemistry REU Programs

*Cosponsored by PRES*

M. A. Griep, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 CHED 2141.** Coordination of the chemistry REU program at the University of Nebraska-Lincoln. M.A. Griep

**8:25 CHED 2142.** How a partnership model for REU programs can lead to chemistry careers for underserved students. J.B. Halpern, S. Sinex, P. Sabila

**8:45 CHED 2143.** Summer International REU Program in the United Kingdom: Successes, challenges and best practices. M. Crowe, A.G. Glenn, T.A. Nile

**9:05 CHED 2144.** Summer REU program integrating deaf and hearing participants in chemistry research. K.L. Caran, G. MacDonald

**9:25** Intermission.

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9:40 CHED **2145**. Multi-Institution REU site on environmental/green chemistry. J.A. Rice, D. Asunskis, G.P. Nora

10:00 CHED **2146**. We can work(shop) it out: Benefits of technical workshops to REU programs. M.W. Peczu, J. Gascon, C. Bruckner, G.A. Crundwell

10:20 CHED **2147**. Providing laboratory safety education to REU audiences. R. Stuart, S.B. Sigmann

10:40 Concluding Remarks.

## Section C

San Francisco Marriott Marquis  
Sierra C

### Engaging Students in Physical Chemistry

Cosponsored by PHYS

C. M. Teague, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 CHED **2148**. Development of a guided inquiry experiment on symmetry and spectroscopy. C.M. Teague

8:55 CHED **2149**. Measuring the speed of sound and heat capacity ratio of gases by acoustic interferometry: A physical chemistry laboratory experiment. T.D. Varberg, B.W. Pearman, I.A. Wyse, K.L. Moffett

9:15 CHED **2150**. Incorporating science writing into the physical chemistry laboratory course. A.M. Fleshman

9:35 CHED **2151**. Incorporating research projects into an undergraduate physical chemistry laboratory course. M. Wilker

9:55 Intermission.

10:10 CHED **2152**. Connecting the dots in physical chemistry survey using narrative and authentic research. B.J. McFarland

10:30 CHED **2153**. Learning physical chemistry through data analysis. J. Selco

10:50 CHED **2154**. Engaging students in connecting representational levels for better understanding of thermodynamics. R.S. Cole, C. Stanford, A.C. Moon, M.H. Towns

11:10 CHED **2155**. Development of foundational and in-depth guided inquiry activities for physical chemistry. A.L. Marsh

11:30 Concluding Remarks.

## Section D

San Francisco Marriott Marquis  
Sierra H

### Instructors & Researchers: Advancing Graduate Student Education

G. Bhattacharyya, S. J. Hansen, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 CHED **2156**. Fighting the battle to disconnect science education with the descriptor K-12. G.M. Bodner

8:25 CHED **2157**. Becoming a graduate student in chemistry as a blind learner: Surfacing interventions for success from an autoethnographic case. C.A. Supalo

8:45 CHED **2158**. Guiding career planning and preparation: ACS Development of Individual Development Plan (IDP) resources. C.Y. Kuniyoshi, J.L. Wesemann, N.S. Goroff, N. Bakowski

9:05 CHED **2159**. Withdrawn.

9:25 Intermission.

9:40 CHED **2160**. Community: Promoting the success of students of color in graduate programs. L. Winfield, K.M. Jackson

10:00 CHED **2161**. Enhancing graduate education and broadening participation at Louisiana State University through LA-BRIDGE. G. Thomas, Z.S. Wilson-Kennedy, I.M. Warner, A. Wright

10:20 CHED **2162**. Withdrawn.

10:40 CHED **2163**. Discipline-specific graduate course on teaching methods: Cultivating change agents in chemical education. S. Brydges, H. Dembinski, M. Boerneke, K. Finzel, C. Weinstein, R. Peacock

11:00 Concluding Remarks.

## Section E

San Francisco Marriott Marquis  
Sierra I

### General Papers

S. A. Fleming, *Organizer*

M. L. Curry, *Presiding*

8:00 Introductory Remarks.

8:05 CHED **2164**. Withdrawn.

8:25 CHED **2165**. Improving scientific communication skills in students through professionalism in chemistry II. S. Gamagedara

8:45 CHED **2166**. What is the real cost of contingent faculty? Evaluation of the impact of teaching professionals on undergraduate socialization. K. Van Kirk

9:05 CHED **2167**. Promoting STEM education through an early STEM college hands-on research internship experience. S.O. Fakayode, J. Tinsley, V. Abiera, D. Mehta, J. Smith, N. Whitehead, B. Elzey, E. Appah

9:25 Intermission.

9:40 CHED **2168**. Molecular modeling across the undergraduate curriculum. T. Madison, E.P. Wagner

10:00 CHED **2169**. Reciprocal peer tutoring in general chemistry: Benefits to information retention and lowered student test anxiety. D.W. Carpenetti

10:20 CHED **2170**. Design and implementation of an undergraduate peer-learning program at UC Berkeley. P. Marsden, M.T. Robak, A.M. Baranger, S. Tischhauser

10:40 CHED **2171**. Research Experiences for Teachers (RET) site: Sustainable electronics. A.L. Curry, I. Hua, M.L. Curry

## Section F

San Francisco Marriott Marquis  
Sierra J

### General Papers

S. A. Fleming, *Organizer*

J. E. Owens, *Presiding*

8:00 Introductory Remarks.

8:05 CHED **2172**. Illuminating the photoredox-catalyzed Chan-Lam coupling reaction: Building understanding of a modern organic synthesis method. J. Marshall, P.M. Lundin, M.S. Blackledge, A.J. Wommack

8:25 CHED **2173**. Using the Suzuki-Miyaura reaction to introduce organic chemistry laboratory students to reaction development of a pharmaceutically active compound. P.M. Lundin

8:45 CHED **2174**. Detecting olive oil adulteration: A senior research project. R. Indralingam, C.T. Michael

9:05 CHED **2175**. Combining coffee bean trace element profiles and origins as sources of data for teaching principle component analysis. C.J. Taylor

9:25 Intermission.

9:40 CHED **2176**. Team-based learning in two upper-division chemistry elective courses: Mass spectrometry and environmental chemistry. J.E. Owens

10:00 CHED **2177**. Calculating charge densities for solvatochromic dyes: A computational chemistry project for the physical chemistry curriculum. B. Findley, T.F. Nedder

10:20 CHED **2178**. Identifying student misconceptions and analyzing student thought processes during construction and application of molecular orbital diagrams. A.D. Spurlock, J.L. Jenkins

10:40 CHED **2179**. Guided inquiry approach to understanding fluorescence spectroscopy. M.P. Hill, E. Nam

## Section G

San Francisco Marriott Marquis  
Sierra K

### General Papers

S. A. Fleming, *Organizer*

S. M. Tremain, *Presiding*

8:00 Introductory Remarks.

8:05 CHED **2180**. Elemental nucleogenesis is made simple with cartoon drawings of the quarks making hydrogen's protons and neutrons continuing on in heavier elements showing interesting trends in the chart of the nuclides. R.J. Schroeder

8:25 CHED **2181**. Reinforcing the foundations of chemical knowledge. K.D. Revell

8:45 CHED **2182**. How to maximize class time and bridge learning gaps using just-in-time-teaching. R. Glazener

9:05 CHED **2183**. Using student group presentations in biochemistry for program level assessment. S.M. Tremain

9:25 Intermission.

9:40 CHED **2184**. Using a shortened periodic table to teach general chemistry. M.J. Kenney

10:00 CHED **2185**. Preparation and characterization of cobalt coordination complexes: An advanced inorganic laboratory project. W.A. Neiwert

10:20 CHED **2186**. Withdrawn.

10:40 CHED **2187**. Teaching atomic structure as a threshold concept in chemistry for biologists. E. Loizidou, H. Jones

## Section H

San Francisco Marriott Marquis  
Sierra E

### The General Chemistry Course for a Changing World

D. A. Katz, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 CHED **2188**. Steps toward integrating the general chemistry course. D.A. Katz

8:25 CHED **2189**. General chemistry pedagogy to engineering students via polymer structure-property relationships. C.L. Aronson, R. Muzquiz, L.D. Bienski

8:45 CHED **2190**. Withdrawn.

9:05 Intermission.

9:20 CHED **2191**. Adaptive learning: Reflections and indications. E.C. Gravelly, G.P. Redd, T.C. Redd

9:40 CHED **2192**. Some considerations for teaching general chemistry in the global communities of the second machine age. C.A. Supalo

10:00 CHED **2193**. Pathways to success in general chemistry. K.L. Stone, S.E. Shaner, C.M. Fendrick

10:20 CHED **2194**. Introductory chemistry through social contexts. B. Venkataraman

10:40 Concluding Remarks.

### How Do We Teach Collaboration? Best Practices for Educating Future Researchers & Innovators

Cosponsored by CHED

## CHAS

### Division of Chemical Health and Safety

D. Decker, J. Pickel and F. Wood-Black,  
*Program Chairs*

## SUNDAY MORNING

### Nanocellulose Processing & Analysis

#### Novel Processes

Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC

## SUNDAY AFTERNOON

### Section A

Park Central San Francisco  
Olympic

### Best Practices in Selecting & Presenting Safety Training Content

Cosponsored by CCS and PRES

D. M. Decker, F. K. Wood-Black, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CHAS **1**. Connecting safety culture to the educational mission. R. Stuart

1:55 CHAS **2**. Preliminary results of the chemical safety information and education survey. E. Sweet

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at:  
[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)



**2:15 CHAS 3.** Building safety culture through targeted training. M.R. Wilhelm

**2:35 CHAS 4.** Flipped classroom techniques in safety training. R.M. Izzo

**2:55 CHAS 5.** Relevant content, positive attitude, and memorable presentation. K.P. Fivizzani

**3:15** Concluding Remarks.

### Section A

Park Central San Francisco

Olympic

#### Ask Dr. Safety: Chemical & Occupational Safety in the Cannabis Industry

*Cosponsored by CCS*

H. J. Elston, N. R. Langerman, *Organizers, Presiding*

**3:35** Introductory Remarks.

**3:40 CHAS 6.** Sensible approach to workplace drug testing for cannabis. J. Marcu, R.W. Phifer, E.M. Pryor

**4:00 CHAS 7.** Ask Dr. Safety: Chemical & occupational safety in the cannabis industry. N.R. Langerman, H.J. Elston

### Nanocellulose Processing & Analysis

#### Process Parameters

*Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC*

## MONDAY MORNING

### Section A

Park Central San Francisco

Olympic

#### Cannabis: Emerging Challenges in Regulations, Product Analysis & Processing

*Cosponsored by CCS and SCHB<sup>‡</sup>*

J. Marcu, E. M. Pryor, *Organizers, Presiding*

**9:00** Introductory Remarks.

**9:05 CHAS 8.** Cannabis analysis: An overview of testing requirements and challenges in a rapidly emerging industry. M.J. Wilcox, J. Marcu

**9:25 CHAS 9.** Quality control analysis of contaminants in the medical cannabis market in California: Pesticide, plant growth regulators, residual solvents, and microbiological contaminants in cannabis, cannabis extracts, and cannabis infused products. J. Wurzer

**9:45 CHAS 10.** States as cannabis laboratories: The far-reaching implications of federal non-recognition in the regulation of marijuana contaminants. J. Angermann, J. Strull

**10:05** Intermission.

**10:20 CHAS 11.** Assessing regulatory compliance at medical cannabis operations in the United States for patient focused certification. J. Marcu, K. Nevedal, S. Sherer

**10:40 CHAS 12.** Challenges cannabis laboratories face in product analysis representative samples. D. Chen

**11:00 CHAS 13.** Hemp as a nutritional supplement: Ensuring potency, safety, and regulatory compliance in manufacturing cannabis-derived health products. A. Pham

**11:20** Concluding Remarks.

### Nanocellulose Processing & Analysis

#### Properties

*Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC*

## MONDAY AFTERNOON

### Section A

Park Central San Francisco

Olympic

#### Cannabis: Emerging Challenges in Regulations, Product Analysis & Processing

*Cosponsored by CCS and SCHB<sup>‡</sup>*

J. Marcu, E. M. Pryor, *Organizers, Presiding*

**1:30** Introductory Remarks.

**1:35 CHAS 14.** Residual solvent contaminants in cannabis concentrates. J.T. Fishedick, D. Egerton

**1:55 CHAS 15.** Cannabis grow facilities: Identification and handling of hazardous wastes, a problem for Environmental Health Departments. D. Keenan, M. Duazo

**2:15 CHAS 16.** Thermal decomposition of THC on preparation of a distilled hash oil: A case study. D. Lane

**2:35** Intermission.

**2:50 CHAS 17.** THCA and CBDA: More than simply inactive precursors. G. Moreno

**3:10 CHAS 18.** Emerging challenges in cannabis regulations. R. Mirkarimi

**3:30 CHAS 19.** CANN History: The first year as a subdivision at the ACS. E.M. Pryor, J. Marcu, M.J. Wilcox, E.L. Oltermann, A. Pham

**3:50** Panel Discussion.

### Nanocellulose Processing & Analysis

#### Fundamentals

*Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC*

## MONDAY EVENING

### Section A

Moscone Center

Hall D

#### Sci-Mix

J. M. Pickel, *Organizer*

**8:00 - 10:00**

**CHAS 20.** Perception of risk in a quantitative analytical teaching laboratory. S. Haxton, S.D. Wiediger

**CHAS 21.** Absence of safety education in chemistry curriculum, and *Normalization of Deviance*. R.H. Hill

**CHAS 22.** Revisiting and revising The Safety Ethic. R.H. Hill

**CHAS 23.** Assessing risk for undergraduate research and demonstrations. R. Stuart, S.B. Sigmann

**CHAS 24.** Division of Chemical Health and Safety information poster. J.M. Pickel

**CHAS 25.** Cannabis analysis: A complex job under complex circumstances. M.J. Wilcox, J. Marcu

**CHAS 26.** Implementing sustainable practices in hands-off academic research labs. K.A. Miller

**CHAS 27.** Safety as a core value of a student chapter. C. Wilhelm

**CHAS 28.** Improving the safety culture of the University of California, Irvine through a graduate safety fellowship. T. Endean

**CHAS 29.** Assessing secondhand marijuana smoke using biological markers. B. Wei, L. Wang

## TUESDAY MORNING

### Section A

Park Central San Francisco

Olympic

#### Information Flow in Environmental Health & Safety

*Cosponsored by CCS and CINF<sup>‡</sup>*

R. Stuart, *Organizer, Presiding*

**9:00** Introductory Remarks.

**9:10 CHAS 30.** Chemical safety requires a system, not a solution. R. Stuart

**9:35 CHAS 31.** Chemical information necessary to establish laboratory ventilation control bands. E. Sweet

**10:00 CHAS 32.** Reaction safety information: Engaging the community in collecting and sharing of safety learnings. C. Nitsche, G. Whittick, M. Manfredi

**10:25** Intermission.

**10:35 CHAS 33.** Chemical management applications for the University of California. P. Painter, C. Carcamo

**11:00 CHAS 34.** Comparing GHS hazard statements between different sources. B.S. Clark, B. Murphy, P.D. Tran, D. Berleant, R. Stuart, R.E. Belford

**11:25 CHAS 35.** Talking chemical safety: Terminologies and keywords in various information sources. L. McEwen

**11:50** Panel Discussion.

## TUESDAY AFTERNOON

### Section A

Park Central San Francisco

Olympic

#### Information Flow in Environmental Health & Safety

*Cosponsored by CCS and CINF<sup>‡</sup>*

R. Stuart, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 CHAS 36.** Consult the SDS. S. Sigmann

**2:00 CHAS 37.** Graduate student perspective on the ACS online tool Hazard Assessment in Research Laboratories. K. Leahy

**2:25 CHAS 38.** Unique one-stop access to a multitude of chemical safety resources. A. Lederman

**2:50** Intermission.

**3:05 CHAS 39.** EPA CompTox chemistry dashboard: An online resource for environmental chemists. A.J. Williams, C. Grulke, J. Smith, K. Mansouri, A. McEachran, K. Dionisio, K. Phillips, G. Patlewicz, J. Fitzpatrick, T. Martin, A. Richard, J. Edwards

**3:30 CHAS 40.** Exposure driven risk assessment of nanoparticles: Towards a re-equilibration of the traditional risk = hazard x exposure equation. A. Mason, C. de Garidel-Thoron, S. Pekar, M. Auffan, J. Rose, M. van Tongeren, P.K. Westerhoff

**3:55 CHAS 41.** Assessing the activity and toxicity profile of small-molecules using freely accessible software and data: The contributions of chemical ontologies, metabolism prediction, and spectra prediction. Y. Djoumbou Feunang

### Recent Developments in TSCA Regulation: New Requirements for Chemicals in Commerce

*Sponsored by CHAL, Cosponsored by CHAS, ENWR and I&EC*

## WEDNESDAY MORNING

### Section A

Park Central San Francisco

Olympic

#### What Have We Learned & Where Are We Going: Post-Settlement in the University of California

*Cosponsored by CCS and PRES*

D. M. Decker, J. Palmer, *Organizers, Presiding*

**9:00** Introductory Remarks.

**9:05 CHAS 42.** Moving from compliance to safety in UC laboratories. C.A. Merlic

**9:30 CHAS 43.** 2700 Miles and a big step forward: The UC settlement and Princeton University. R.M. Izzo

**9:55 CHAS 44.** Beyond compliance: Building safety culture at UCLA. C. Dimock, S. Hsieh

**10:20** Intermission.

**10:35 CHAS 45.** Moving on after the settlement - the approach of a small University of California campus. K. Smith

**11:00 CHAS 46.** Continuous improvement opportunities in the UC system post-settlement agreement. C.A. Jakober, D.M. Decker

**11:25** Concluding Remarks.

### Cannabis: A Growing Sector for Business & Employment

*Sponsored by SCHB, Cosponsored by CHAS*

## WEDNESDAY AFTERNOON

### Section A

Park Central San Francisco

Olympic

#### What Have We Learned & Where Are We Going: Post-Settlement in the University of California

*Cosponsored by CCS and PRES*

D. M. Decker, J. Palmer, *Organizers, Presiding*

**1:30** Introductory Remarks.

**1:35 CHAS 47.** Establishing a student-enforced safety culture in academic research labs. K.A. Miller

**2:00 CHAS 48.** Successfully implementing a positive safety culture in an R1 research laboratory as a graduate safety officer. B. Armstrong, A.K. Franz

<sup>‡</sup> Cooperative Cosponsorship

2:25 CHAS 49. Heavy lifting of compliance: A graduate student perspective. A. Manlove, B. Anderson, N. Nunez

2:50 Intermission.

3:05 CHAS 50. UC-Davis: SOP task force committee. P.N. Serrano

3:30 CHAS 51. Continuing to promote careful chemistry in the post-settlement era. J.G. Palmer, L.S. Wong

3:55 Concluding Remarks.

ience. K. Deards, S. Krane, R. Guha, A. Magid

11:40 Panel Discussion.

#### Computer-Aided Peptide Design

##### In-Silico Peptide Modeling

Sponsored by COMP, Cosponsored by CINF

#### Should I Move My Computational Chemistry or Informatics Tools to the Cloud?

Sponsored by COMP, Cosponsored by CINF

## CINF

### Division of Chemical Information

E. Alvaro, Program Chair

#### OTHER SYMPOSIA OF INTEREST:

ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in honor of Yvonne C. Martin (see COMP, Tue)

Applications of Cheminformatics & Computational Chemistry in Environmental Health (see ENVR, Wed, Thu)

#### SOCIAL EVENTS:

Reception, 6:30 PM: Sun

Luncheon, 12:00 PM: Tue

#### BUSINESS MEETINGS:

Business Meetings, 12:30 PM & 3:00 PM: Sat

## SUNDAY MORNING

### Section A

Park Central San Francisco  
Metropolitan I

#### Materials Informatics & Computational Modeling

Cosponsored by COMP and POLY

R. J. Bienstock, M. A. Pasquinelli, *Organizers, Presiding*

8:30 CINF 1. Computer-aided design of novel materials with desired electronic and physical properties. T. Moot, O. Isayev, J. Cahoon, A. Tropsha

8:55 CINF 2. Leveraging informatics and machine learning to predict physical properties of organic compounds. M. Liosi, T. Spyriouni, X. Krokidis, L. Subramanian

9:20 CINF 3. Rational materials design via machine learning. J. Hachmann

9:45 Intermission.

9:50 CINF 4. Machine learning for large-scale MOF screening. D. Coupry, L. Groot, M.A. Addicoat, T. Heine

10:15 CINF 5. Accelerating materials research through the effective use of data. T. Mueller

10:40 CINF 6. Dark reactions project: Machine learning-assisted materials discovery using failed experiments. J. Schrier

11:05 Intermission.

11:10 CINF 7. Predicting properties of organic materials with models that blend informatics with quantum chemistry. D. Yaron, H. Li, C.R. Collins

11:35 CINF 8. Computer-based design of advanced materials: Chemically specific multiscale modelling of polymer-clay nanocomposites. P.V. Coveney, J. Suter, D. Groen

### Section B

Park Central San Francisco  
Metropolitan II

#### Open Access: Current Landscape, Challenges & Future Directions

E. Kajosallo, Y. Li, *Organizers*

G. Baysinger, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 CINF 9. Perspectives on open access. M.G. Hicks

9:05 CINF 10. Current landscape and the future direction of open access publishing. J. Heber

9:35 CINF 11. Setting a fee for publication. J. McLennan

10:05 Intermission.

10:20 CINF 12. Free the science: Innovations and business model for scientific publishing. M. Yess

10:50 CINF 13. Open access and the Royal Society of Chemistry. R. Kidd, R. Anand

11:20 CINF 14. American Chemical Society's view of open access. D.P. Henderson

11:50 Concluding Remarks.

### Section C

Park Central San Francisco  
Metropolitan III

#### Careers in Chemical Information

S. K. Cardinal, K. Deards, *Organizers*

K. Deards, *Presiding*

8:10 Introductory Remarks.

8:15 CINF 15. Twenty five years in cheminformatics: A career path through a diverse series of roles and responsibilities. A.J. Williams

8:45 CINF 16. Old chemists never die; They just go through transformations. D. Alberts

9:05 CINF 17. Challenges of the corporate librarian vs. academic librarian. V.K. Tucci

9:25 CINF 18. Computational chemistry career at the NIH. R.J. Bienstock

9:45 Intermission.

10:00 CINF 19. Interpreting chemistry: A day in the life of a data curator. S. Ward, M.P. Lightfoot, A. Sarjeant

10:20 CINF 20. Do's and don'ts of the job search: What you need to know to succeed. K. Deards

10:40 CINF 21. Preparing for careers in chemical information: A diversity of experience. K. Deards, S. Krane, R. Guha, A. Magid

11:40 Panel Discussion.

#### Computer-Aided Peptide Design

##### In-Silico Peptide Modeling

Sponsored by COMP, Cosponsored by CINF

#### Should I Move My Computational Chemistry or Informatics Tools to the Cloud?

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## SUNDAY AFTERNOON

### Section A

Park Central San Francisco  
Metropolitan I

#### Materials Informatics & Computational Modeling

Cosponsored by COMP and POLY

R. J. Bienstock, M. A. Pasquinelli, *Organizers, Presiding*

1:30 CINF 22. Computational studies of interfacial fracture in polymer composite materials. R.M. Elder, M.S. Walter, D. Knorr, T.W. Sirk

1:55 CINF 23. Guiding the synthesis of polyester electrolytes with hydrophobicity calculations. R.T. Mathers

2:20 Intermission.

2:25 CINF 24. Challenges and opportunities in modeling UV-Vis absorption spectra of organic chromophores: Utilization of Max A. Weaver Dye Library for TD-DFT benchmarking. E. Jakubikova

2:50 CINF 25. Design and optimization of polymers with high charability and high Tg using machine learning. R. Chaudret, L. Subramanian, R. Avakian, A. Mukhopadhyay

3:15 Intermission.

3:20 CINF 26. Quasi one-dimensional transport mechanisms in superionic conductors. J. Eapen, A. Annamareddy

3:45 CINF 27. Prediction of salt-responsive morphological phase diagrams for polyelectrolytes in semidilute regime. N.K. Li, T.A. Deaton, Y.G. Yingling

4:10 CINF 28. Thermal conductivity and reduced-order approximation based on covariance of heat current. J. Eapen, A. Raj

### Section B

Park Central San Francisco  
Metropolitan II

#### Open Access: Current Landscape, Challenges & Future Directions

G. Baysinger, Y. Li, *Organizers*

E. Kajosallo, *Organizer, Presiding*

1:15 Introductory Remarks.

1:20 CINF 29. Open access activities at Thieme publishers. S. Haak

1:50 CINF 30. Open research at Springer Nature. N. Quaderi

2:20 CINF 31. Seeing the forest for the trees: What's happening around the world with open access? A. Wise, P. Carton

2:50 CINF 32. Open access to chemical information. J. Zhang, P.A. Thiessen, A. Gindulyte, E. Bolton

3:20 Intermission.

3:35 CINF 33. ArXiv and SCOAP3: Evolution of open access and funding models. C. Hoover

4:05 CINF 34. bioRxiv: The development of a preprint service for the life sciences. J.R. Inglis

4:35 CINF 35. ChemRxiv – Building a preprint server for the benefit of the chemistry community. K. Davies, D.P. Henderson

5:05 Concluding Remarks.

### Section C

Park Central San Francisco  
Metropolitan III

#### Textbooks & the Practice of Science: Before, During & After Gutenberg

Cosponsored by CHED and HIST<sup>2</sup>

R. E. Belford, T. Gupta, *Organizers*

G. D. Patterson, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CINF 36. William Henry and The Elements of Experimental Chemistry. G.D. Patterson

1:55 CINF 37. Cannizzaro's sunto: A legendary text of chemistry. C.J. Giunta

2:15 CINF 38. Alexandre Édouard Baudrimont and his Introduction à l'étude de la chimie par la théorie atomique (Introduction to the Study of Chemistry by the Atomic Theory). V.V. Mainz

2:35 CINF 39. Chemistry for a popular audience: Josiah Parsons Cooke's The New Chemistry. R.A. Egolf

2:55 Intermission.

3:10 CINF 40. Basic organic textbook: From its beginning to its (digital) end. M.C. Caserio

3:30 CINF 41. Mechanistic turn in inorganic textbooks: Basolo and Pearson's Mechanisms of Inorganic Reactions. J.A. Labinger

3:50 CINF 42. Edgar Fahs Smith and elements of chemistry at Penn. G.D. Patterson

4:10 CINF 43. Panel discussion on lessons learned from historical textbooks. G.D. Patterson

4:30 Concluding Remarks.

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**Computer-Aided Peptide Design****Computational Approaches to Peptide ADME**

Sponsored by COMP, Cosponsored by CINF

**Should I Move My Computational Chemistry or Informatics Tools to the Cloud?**

Sponsored by COMP, Cosponsored by CINF

**SUNDAY EVENING****Section A**Park Central San Francisco  
Franciscan I & II**CINF Scholarships for Scientific Excellence: Student Poster Competition**S. J. Chalk, *Organizer***6:30 - 8:30****CINF 44.** Application of spectral and diffusion geometry descriptors to shape-based virtual screening. **M. Seddon**, D. Cosgrove, M. Packer, V.J. Gillet**CINF 45.** Evaluating performance of chemical fingerprinting methods and machine learning algorithms for *in silico* prediction of Ames mutagenicity. **D. Mehta**, P. Volarath, K. Arvidson**CINF 46.** Shape described by numbers – Comparing the shape fingerprint and shape multipole methods. **J. Zarnicka**, A.G. Leach, S.J. Enoch**CINF 47.** Water, water, everywhere... Modeling water molecules in protein-ligand complexes. **E. Nittinger**, P.A. Gibbons, V. Tsui, D.F. Ortwin, M. Rarey**CINF 48.** Mobilizing EPA's Comptox Chemistry Dashboard data on mobile devices. **K. Blinov**, **A. McEachran**, A.J. Williams**CINF 49.** Free online access to experimental and predicted chemical properties through the EPA's CompTox Chemistry Dashboard. **K. Mansouri**, C. Grulke, R. Judson, A.J. Williams**CINF 50.** Cheminformatics modeling of closantal analogues potentially relevant for creating river blindness. **M.A. Kuenemann**, S. Kuchibhotla, P. Kyaw Zin, D. Fourches**CINF 51.** Generation of structure-based pharmacophores in unbound state (apo) protein binding sites. **T. Seidel**, V. Reiner, G. Ibis, T. Langer**CINF 52.** Visualization in CDD vault: A new reactive web platform for multidimensional drug discovery data mining and visualization. **W.W. Smith**, B.A. Bunin, K. Gregory**CINF 53.** Investigating transport properties with multi-scale computable mesh models from heterogeneous structural datasets. **C. Lee**, J. Moody, J. McCammon, M. Holst, R.E. Amaro**CINF 54.** Toward automated verification of curated chemical property data. **A. Loyola**, S.J. Chalk**CINF 55.** Withdrawn.**CINF 56.** Semantically capturing NIST SRD 81 data using the SciData data model. **T. Schumann**, S.J. Chalk**MONDAY MORNING****Section A**Park Central San Francisco  
Metropolitan I**Advances in High-Throughput Screening**

Cosponsored by COMP and MEDI

R. J. Bienstock, S. Sirimulla, *Organizers*, *Presiding***8:15** Introductory Remarks.**8:20 CINF 57.** Maximizing PubChem for drug discovery. **S. Kim**, E. Bolton, S.H. Bryant**8:45 CINF 58.** Web servers and high throughput virtual screening. **R.J. Bienstock****9:10 CINF 59.** Recent advances in Autodock Vina molecular docking software. **S. Sirimulla****9:35** Intermission.**9:45 CINF 60.** Hyperspace, warp speed and time warp: Searching the chemical universe at ludicrous speed. **C. Detering****10:10 CINF 61.** PubChem BioAssay: What it takes to build a public HTS data warehouse. **Y. Wang****10:35 CINF 62.** Confidently targeting high quality hits from high-throughput screening. **M.D. Segall**, T. Mansley, P. Hunt, E. Champness**11:00** Intermission.**11:10 CINF 63.** Discovery of novel inhibitors of the galactokinase from high throughput and *in silico* screening. **M. Shen**, X. Hu, Y. Zhang, L. Liu, M. Boxer, M.D. Hall**11:35 CINF 64.** Structural modeling and identification of small molecule agonists of human relaxin family peptide receptor 1. **X. Hu**, C. Myhr, E. Barnaeva, I. Agoulnik, M. Ferrer, J.J. Marugan, N. Southall, A. Agoulnik**Section B**Park Central San Francisco  
Metropolitan II**Advances in Data Visualization**E. Davis, *Organizer*, *Presiding***8:10** Introductory Remarks.**8:15 CINF 65.** Expanding the target dimension: How to visualize a lot of models. **A. Clark****8:40 CINF 66.** Visualizing molecules in and out of context. **C. Batchelor**, N. Bailey, P. Corbett, **J. White**, J. Boyle**9:05 CINF 67.** Withdrawn.**9:30 CINF 68.** Scaffold histories: Visualizing temporal trends in scaffold properties. **B. Zdrzil**, R. Guha**9:55** Intermission.**10:10 CINF 69.** Shoring up the (data) base: Advances in materials data processing and visualization. **P. Schaal**, R. Padilla, S.J. Chalk, M. Klinge**10:35 CINF 70.** Data visualisation: Saying it all in a bite-sized chunk. **E. Champness**, M.D. Segall, P. Hunt, T. Mansley**11:00 CINF 71.** Scalable web-based molecular graphics and visualization of structure quality metrics. **A.S. Rose**, A.R. Bradley, Y. Valasatava, J. Duarte, A. Prlic, P. Rose**11:25 CINF 72.** Semi-interactive creation of 2D protein-ligand pose diagrams with PoseView-2. **T. Otto**, **M. Rarey****11:50** Concluding Remarks.**Section C**Park Central San Francisco  
Metropolitan III**Textbooks & the Practice of Science: Before, During & After Gutenberg**Cosponsored by CHED and HIST<sup>†</sup>R. E. Belford, G. D. Patterson, *Organizers*  
T. Gupta, *Organizer*, *Presiding***8:45** Introductory Remarks.**8:50 CINF 73.** Extensible electronic textbook. **R.E. Belford**, J.L. Holmes**9:10 CINF 74.** Supporting transmission of knowledge for chemical safety education: An information workflow supplement to the laboratory textbook. **L. McEwen**, S.B. Sigmann, R. Stuart**9:30 CINF 75.** Chemistry in context: How do we most effectively engage the non-science majors? **B.D. Fahman****9:50 CINF 76.** Facts versus foundation -- The evolution of learning needs for contemporary science students. **A.S. Tseng****10:10** Intermission.**10:25 CINF 77.** Indian textbooks: From the beginnings to the modern times. **P. Roy Chowdhury****10:45 CINF 78.** Alchemy to chemical science: The advance of texts for over 5,000 years in China from the oracle bones to e-learning resources and methodologies. **R.J. Rusay**, B. Koo, R. Daugherty, G. Dasgupta, D.S. Larsen**11:05 CINF 79.** Instructor support is key to adoption of open educational systems. **J.B. Halpern**, D.S. Larsen**Should I Move My Computational Chemistry or Informatics Tools to the Cloud?**

Sponsored by COMP, Cosponsored by CINF

**MONDAY AFTERNOON****Section A**Park Central San Francisco  
Metropolitan I**Advances in High-Throughput Screening**

Cosponsored by COMP and MEDI

R. J. Bienstock, S. Sirimulla, *Organizers*, *Presiding***1:15** Introductory Remarks.**1:20 CINF 80.** Spectral and diffusion geometry descriptions of molecular shape. **M. Seddon**, D. Cosgrove, M. Packer, V.J. Gillet**1:45 CINF 81.** Rapid, accurate, precise and reliable relative free energy prediction using ensemble based thermodynamic integration. **A.P. Bhati**, S. Wan, D.W. Wright, **P.V. Coveney****2:10 CINF 82.** Advanced HTS triage methods to identify false negative compounds. **L. Zhang**, M. Boehm, F.E. Lovering**2:35** Intermission.**2:45 CINF 83.** Withdrawn.**3:10 CINF 84.** Combining *de novo* design and macromolecular target prediction for high-throughput virtual screening. **G. Schneider**, L. Friedrich, A. Button, P. Schneider**3:35 CINF 85.** Chemical biology informatic approaches to enable high-throughput screening: Focused compounds sets, target enrichment, and hit expansion. **P. Kutchukian**, A. Wassermann, I. Wallace, C. Chang, W.L. Pettrilli, T. Kreamer, M. Kansara, C.L. Waller, J.E. Imbriglio, M. Glick**4:00** Intermission.**4:10 CINF 86.** AbbVie target prediction tool. **A. Seal**, **R. Gupta**, D. Debe, P. Hajduk**4:35 CINF 87.** Open innovation drug discovery: Structure blinded virtual screening. **N.I. Franklin****5:00** Concluding Remarks.**Section B**Park Central San Francisco  
Metropolitan II**The Write Thing to Do: Ethical Considerations in Authorship & the Assignment of Credit**Cosponsored by CHED, CPRM and ETH<sup>†</sup>J. N. Currano, P. A. Mabrouk, *Organizers*, *Presiding***1:10** Introductory Remarks.**1:15 CINF 88.** Authorship issues in academia of low and lower middle-income countries. **L. Anestidou****1:40 CINF 89.** What constitutes authorship? Guidance from the Committee on Publication Ethics (COPE). **H.L. Tierney****2:05 CINF 90.** Teaching students where credit is due: Attribution 101 for the mash-up generation. **J.N. Currano****2:30 CINF 91.** Influence of graduate students on authorship decision-making in undergraduate research partnerships. **A. Andes**, P.A. Mabrouk, A. Pattani**2:55** Intermission.**3:10 CINF 92.** Authorship issues and conflict in the U.S. academic chemical community. **J. Seeman**

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† Cooperative Cosponsorship



**3:35 CINF 93.** ORCID iDs & Project Credit: Contributor badges and getting credit for your work. C. Craig

**4:00 CINF 94.** Do not lose your invention by improperly naming inventors on the patent. X. Pillai

**4:25 CINF 95.** Hey—You stole my invention! Avoiding ethical pitfalls in determining inventorship, authorship, and honoring Non-Disclosure Agreement (NDA) obligations. J.L. Krieger

**4:50** Discussion.

**5:05** Concluding Remarks.

## Section C

Park Central San Francisco  
Metropolitan III

### Textbooks & the Practice of Science: Before, During & After Gutenberg

*Cosponsored by CHED and HIST<sup>2</sup>*

T. Gupta, G. D. Patterson, *Organizers*

R. E. Belford, *Organizer, Presiding*

**1:50** Introductory Remarks.

**1:55 CINF 96.** Developing and assessing effective cyberlearning within the Libretxts libraries. D.S. Larsen

**2:15 CINF 97.** Textbooks in transition: A new low-cost model for distributing chemistry textbooks and tools. M.A. Bishop

**2:35 CINF 98.** Democratization of learning and re-embedding the textbook. B. McCollum

**2:55 CINF 99.** MindTap general chemistry: Integrating scientific exploration and problem-solving within a textbook. W.J. Vining, S.M. Young, R. Day

**3:15** Intermission.

**3:30 CINF 100.** What should a textbook for 21st-century students look like? J. Moore, C.L. Stanitski

**3:50 CINF 101.** High school students and critical reading of science misinformation and inaccurate claims. A.S. Tseng

**4:10 CINF 102.** Textbooks and the SI base units. A challenge for authors and editors. P.F. Rusch

**4:30 CINF 103.** Panel discussion on textbooks of the future. R.E. Belford

**4:50** Concluding Remarks.

### Data Science Challenges in Computational Chemistry

*Sponsored by COMP, Cosponsored by CINF*

### Should I Move My Computational Chemistry or Informatics Tools to the Cloud?

*Sponsored by COMP, Cosponsored by CINF*

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

E. Alvaro, *Organizer*

**8:00 - 10:00**

**28, 44-45, 48-51, 53-54, 56, 86-87, 91, 101.** See previous listings.

**108, 121, 139, 160.** See subsequent listings.

## TUESDAY MORNING

### Section A

Park Central San Francisco  
Metropolitan I

### Text-Mining & Natural Language Processing for Chemical Information: From Documents to Knowledge

R. J. Bienstock, J. L. Nauss, *Organizers, Presiding*

**9:00 CINF 104.** From documents to knowledge. J.L. Nauss

**9:25 CINF 105.** Improving chemical names matching for verification, rating, and validation of PubChem compound records. L. Zaslavsky, D.M. Lowe, C. Wei, Z. Lu, E. Bolton

**9:50 CINF 106.** Advanced grammars for state-of-the-art Named Entity Recognition (NER). R.A. Sayle, D.M. Lowe

**10:15** Intermission.

**10:30 CINF 107.** Mining protein interactions from biomedical literature using semantic similarity. C. Schmitt, S. Cox, L. Christopherson, E. Scott, S. Firrincielli, N. Baker, E. Tutubalina, A. Tropsha

**10:55 CINF 108.** Automatic extraction of bioactivity data from patents. D.M. Lowe, S. Senger, R.A. Sayle

**11:20 CINF 109.** Text-mining strategies to support computational research in chemical toxicity. N. Baker, T. Knudsen, A.J. Williams, K. Crofton

### Section B

Park Central San Francisco  
Metropolitan II

### Open Access: Current Landscape, Challenges & Future Directions

G. Baysinger, E. Kajosallo, *Organizers*

Y. Li, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 CINF 110.** Increasing public access to federally-funded R&D results – The Department of Energy's Access Model and DOE PAGES. B. Hitson, J. Gilmore, C. Robinson, S. Studwell

**9:05 CINF 111.** Building communities and infrastructure to support openness. S. Bowman

**9:35 CINF 112.** Open access reporting: Improving the accuracy of data collection during the publishing process. M. Qiu, S. Akay, M. Blickem, S. Monasky

**10:05** Intermission.

**10:20 CINF 113.** Getting more than what you're paid for: Technologies driving revenue in an OA landscape. J. Wilcock

**10:50 CINF 114.** CHORUS – Driving the uptake and monitoring of public access by leveraging established standards and infrastructure for cost efficiency. S. King

**11:20 CINF 115.** Tales from the front lines: Supporting open access journals & repositories with research metrics. A. Michalek

**11:50** Concluding Remarks.

### Section C

Park Central San Francisco  
Metropolitan III

### Advanced Materials: Issues in Nanoinformatics & Nanosafety Data

Y. Cohen, M. G. Hicks, R. Liu, L. McEwen, *Organizers, Presiding*

**8:10** Introductory Remarks.

**8:15 CINF 116.** Meeting the challenges of nanoinformatics. J. Rumble

**8:40 CINF 117.** Conceptual analysis and chemical information: A case study in nanoscience. J.R. Bursten

**9:05 CINF 118.** Nanoinformatics platform for environmental impact assessment of engineered nanomaterials. M. Bilal, P. Church, H. Liu, R. Liu, Y. Cohen

**9:30 CINF 119.** Materials informatics: Computational and cheminformatics approaches towards properties assessment and rational design of advanced materials. B. Rasulev

**9:50** Intermission.

**10:05 CINF 120.** QNAR models for the rational design of nanomaterials. D. Fourches

**10:30 CINF 121.** Data visualization tool for exploring how nanomaterial properties correlate with toxicity in zebrafish assays. G. Lowry, S. Karcher, C. Hendren, M. Wiesner, B. Harper, S. Harper

**10:55 CINF 122.** Investigation of the interactions of macrophage and silver nanowires. E. Ogorodnik, G. Liu

**11:20 CINF 123.** Flexible database management system for nanoinformatics research and data integration. P. Church, M. Bilal, R. Liu, Y. Cohen

**11:45 CINF 124.** Tools and approaches for data deposition into nanomaterial databases. V. Tkachenko, R. Zakharov, A. Kabanov, K. Mills, T. Hickey, A. Tropsha

### Information Flow in Environmental Health & Safety

*Sponsored by CHAS, Cosponsored by CCS and CINF*

## TUESDAY AFTERNOON

### Section A

Park Central San Francisco  
Metropolitan I

### Text-Mining & Natural Language Processing for Chemical Information: From Documents to Knowledge

R. J. Bienstock, J. L. Nauss, *Organizers, Presiding*

**2:00 CINF 125.** Making the old new again: Modern technology provides access to historical chemical information. S.P. Kuhn, J. Tinsley, K.C. Schwall

**2:25 CINF 126.** Evolution of SciFinder to meet the changing needs for scientific information. P.Y. Ayala, Y. Wu, G. Gao, J.W. Taylor

**2:50 CINF 127.** Trends and relations. P. Corbett, N. Bailey, C. Batchelor, J. White, J. Boyle

**3:15** Intermission.

**3:30 CINF 128.** ChemAnalyzer: A text analytics platform for chemical surveillance. S. Gaurav, T. Roy, J. Zeng, L. E. Charles, M. Henry, K. Han, C. Corley

**3:55 CINF 129.** Addition of chemical search capabilities to PATENTSCOPE: Turning a full-text search system into a chemistry database. J. Eiblmaier, C. Mazenc, D. Geppert, L. Isenko, H. Saller

**4:20 CINF 130.** ChemExtractor: Enhanced rule-based capture and identification of PDF based property data. S.J. Chalk, T. Schumann, A. Loyola, M. Bastien, J. Turner

### Section B

Park Central San Francisco  
Metropolitan II

### Open Access: Current Landscape, Challenges & Future Directions

G. Baysinger, Y. Li, *Organizers*

E. Kajosallo, *Organizer, Presiding*

**1:15** Introductory Remarks.

**1:20 CINF 131.** Open up the open access conversation at a STEM-focused university. Y. Li

**1:50 CINF 132.** Work in progress: Status of open access at a major research university. G. Baysinger

**2:20 CINF 133.** Qualitative analysis of the Berkeley Research Impact Initiative (BRII) open access fund at UC Berkeley. S. Tepitzky

**2:50 CINF 134.** Open software in chemistry: Challenges and opportunities. L. Soto

**3:20** Intermission.

**3:35 CINF 135.** Using Caltech's institutional repository to track OA publishing in chemistry. D. Wrublewski, G.S. Porter

**4:05 CINF 136.** Impact of recent changes at MIT Libraries on MIT open access policy. E. Kajosallo

**4:35 CINF 137.** What price open access: Findings from the Pay It Forward Project. I. Anderson

**5:05** Concluding Remarks.

### Information Flow in Environmental Health & Safety

*Sponsored by CHAS, Cosponsored by CCS and CINF*

## WEDNESDAY MORNING

### Section A

Park Central San Francisco  
Metropolitan I

### Public-Private Partnerships: Fostering Drug Discovery & Data Sharing

*Cosponsored by COMP*

R. J. Bienstock, B. A. Bunin, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:40 CINF 138.** CCDC: A public-private research partnership. P. Davie, I. Bruno

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Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

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**9:05 CINF 139.** PubChem BioAssay: Grow with the support of the community. **Y. Wang**

**9:30 CINF 140.** Selection of cross-docking candidates and comparison of evaluation metrics in Continuous Evaluation of Ligand Pose Prediction (CELPP). **S. Liu, J. Wagner, C. Churas, S.M. Gathiaka, J. Grethe, M. Chiu, H. Yang, S. Burley, R.E. Amaro, M.K. Gilson**

**9:55 Intermission.**

**10:05 CINF 141.** Synthetically accessible virtual inventory (SAVI). **Y. Pevzner, W. Ihlenfeldt, M.C. Nicklaus**

**10:30 CINF 142.** Cross-platform HELM editor empowers HELM adoption. **J. Lee, R. Hotchandani**

**10:55 CINF 143.** HELM: A line-notation and software infrastructure for managing biopolymers. **J. Milton**

**11:20 CINF 144.** Tangled up in data: Enabling strong collaborations with transparent information sharing. **J. Neitz**

### Section B

Park Central San Francisco  
Metropolitan II

#### General Papers

**E. Alvaro, Organizer, Presiding**

**8:15** Introductory Remarks.

**8:20 CINF 145.** Withdrawn.

**8:40 CINF 146.** PubChem's literature and patent information for drug discovery. **S. Kim, P.A. Thiessen, T. Cheng, B. Yu, B.A. Shoemaker, J. Wang, E. Bolton, Y. Wang, S.H. Bryant**

**9:00 CINF 147.** QUDT toolkit: Development of framework to allow management of digital scientific units. **S.J. Chalk, R. Hodgson, S. Ray**

**9:20 CINF 148.** Mapping the 3D structures of small molecule binding sites. **J. Meyers, N. Brown, J. Blagg**

**9:40 CINF 149.** Predictions are tough, especially about the future: Assessing model quality, need for rapid automated model updates, and distributed computing. **V.R. Polyakov, E.J. Martin**

**10:00 Intermission.**

**10:15 CINF 150.** HLA-triggered adverse drug reactions: Challenges and opportunities for molecular modeling. **G. Van Den Driessche, D. Fourches**

**10:35 CINF 151.** Can machine learning methods usefully rank small molecules for their selective growth inhibition of cancer cell lines with the BRAF V600E gene mutation? **J. Langham**

**10:55 CINF 152.** Using the Structured Product Labeling format to index versatile chemical data. **V. Tkachenko, Y. Borodina, A.J. Williams**

**11:15 CINF 153.** Reinventing the IUPAC Gold Book. **S.J. Chalk, M. Kinnan, L. McEwen, H.A. Lawlor, D. Martinsen**

**11:35 CINF 154.** Computational screening of hydrogen storage in experimental metal-organic frameworks. **Y. Chung**

### Section C

Park Central San Francisco  
Metropolitan III

#### Assessment of Chemistry Collections & Services

**V. F. Scalfani, A. B. Twiss-Brooks, Organizers, Presiding**

**8:30** Introductory Remarks.

**8:35 CINF 155.** What about the books? Usage trends of chemistry monographs among graduate students in an era of transition. **D.W. Flaxbart**

**9:00 CINF 156.** Matching chemistry collections and user needs: A data-driven approach. **E. Alvaro**

**9:25 CINF 157.** Assessment of chemistry thesis and dissertation titles for collection development. **V.F. Scalfani**

**9:50 Intermission.**

**10:05 CINF 158.** Chemistry library as rallying point: Assessing how to save a branch library. **J.R. Garritano**

**10:30 CINF 159.** Withdrawn.

**10:55 CINF 160.** Assessing data management practices and needs through data management plans. **B. Westra**

**11:20** Concluding Remarks.

## WEDNESDAY AFTERNOON

### Section A

Park Central San Francisco  
Metropolitan I

#### Public-Private Partnerships: Fostering Drug Discovery & Data Sharing

*Cosponsored by COMP*

**R. J. Bienstock, B. A. Bunin, Organizers, Presiding**

**1:30** Introductory Remarks.

**1:35 CINF 161.** Extracting medicinal chemistry knowledge by a secure matched molecular pair analysis platform: Standardization enables merging with public data. **A. Dossetter, E.J. Griffen, A.G. Leach, S. Montague**

**2:00 CINF 162.** Enabling precision drug repurposing through innovative public-private partnerships. **D.J. Wild, J.J. Yang**

**2:25 CINF 163.** Innovative medicines initiative: From semantic data integration to risk assessment. **D. Digles, D. Goldmann, B. Zdravil, G.F. Ecker**

**2:50 Intermission.**

**3:00 CINF 164.** Present and futuristic collaborative drug discovery informatics innovations (CDD vault + bioassay express). **B.A. Bunin**

**3:25 CINF 165.** Supporting compound optimisation in not-for-profit and academic research. **M.D. Segall, T. Mansley, P. Hunt, K. Chibale, T. Paquet, J. Duffy**

**3:50 CINF 166.** tranSMART platform for translational medicine: An open source, open data and open science platform. **R. Potenzzone, K. Elliston**

**4:15** Discussion.

**4:30** Concluding Remarks.

### Section B

Park Central San Francisco  
Metropolitan II

#### General Papers

**E. Alvaro, Organizer, Presiding**

**1:00 CINF 167.** VIMAL: A cheminformatics toolkit for design of novel antiviral agents through textmining of scientific literature. **M. Karthikeyan, R. Pahujani, R. Vyas**

**1:20 CINF 168.** Know the breadth of your sources: The CAS content collection is your comprehensive resource. **E.N. Cheeseman**

**1:40 CINF 169.** Streamlining pharmaceutical supply chain processes: The emerging application of solid-state structural informatics. **M.J. Bryant, A.G. Maloney, N. Feeder**

**2:00 CINF 170.** Open Science Data Repository - the platform for materials research. **V. Tkachenko, R. Zakharov, I. Presniakov, S. Kalmykov**

**2:20 CINF 171.** Software tool that provides the critical information needed to enable toxicity-focused research. **N. Vaidya**

**2:40 Intermission.**

**2:55 CINF 172.** Chemistry Validation and Standardization Platform Version 2.0. **V. Tkachenko, R. Zakharov, C. Grulke, A.J. Williams**

**3:15 CINF 173.** Withdrawn.

**3:35 CINF 174.** ZINC: A free database of commercially available compounds for virtual screening. **J.J. Irwin**

**3:55 CINF 175.** Biomedical literature mining for protein-protein interactions analysis using electronic mailing system. **M. Karthikeyan, R. Vyas**

## MONDAY MORNING

### Section A

Park Central San Francisco  
Stanford

#### Non-Traditional Careers in Chemistry

**K. E. Bianco, Organizer**

**R. Franz, Presiding**

**9:00 CHAL 2.** Alternative careers in chemistry, an international perspective. **R. Franz**

**9:30 CHAL 3.** A PhD is not enough—Working at the intersection of science and business. **J. Chen**

### Section B

Park Central San Francisco  
Stanford

#### Patent Challenges & Chocolate: A Sweet & Sour Symposium

**J. J. Hasford, Organizer, Presiding**

**10:30 CHAL 4.** Interplay between patent office IPR challenges and district court patent infringement cases. **J.J. Hasford**

**11:00 CHAL 5.** Chocolate: Food of the Gods - 2016 Helen Free Award Lecture. **H.M. Peters, S.B. Peters**

#### Chemical Forensics

#### Investigations of Alleged Use & Source Attribution of Chemical Weapons

*Sponsored by ANYL, Cosponsored by CHAL and PRES*

## MONDAY AFTERNOON

### Section A

Park Central San Francisco  
Stanford

#### The Use of Scientific Information in IP-Related Matters

**E. N. Cheeseman, Organizer, Presiding**

**1:30 CHAL 6.** What exactly are you looking for? Searching for chemical information. **E.N. Cheeseman**

**2:00 CHAL 7.** Patent claims reciting scientific information: The now heightened definiteness requirement. **T.A. Ostomel**

**2:30 CHAL 8.** Your next breakthrough starts here – CAS content and solutions foster discovery and innovation. **K. Zielenbach**

**3:00 CHAL 9.** Survey of biosequence in patent claims and the impact on biosequence search methods. **K.L. Hoppe**

**3:30 CHAL 10.** Patents and basic scientific research: Discovery versus invention. **P. Campbell**

**4:00 CHAL 11.** Importance of Markush searching for FTO purposes. **P.F. Blasi**

#### Chemical Forensics

#### Chemical Attribution Signatures of Illicit Drugs & Toxic Chemicals

*Sponsored by ANYL, Cosponsored by CHAL and PRES*

## CHAL

### Division of Chemistry and the Law

**K. Bianco and J. Kennedy, Program Chairs**

#### SOCIAL EVENTS:

**Luncheon, 12:00 PM: Mon**

**Reception, 6:00 PM: Mon**

#### BUSINESS MEETINGS:

**Business Meeting, 5:00 PM: Sun**

## SUNDAY AFTERNOON

### Section A

Park Central San Francisco  
Stanford

#### Strengthening Your Patent Rights in Light of Recent Federal Circuit Court Decisions

**A. H. Berks, Organizer**

**X. Pillai, Organizer, Presiding**

**A. Berks, Presiding**

**1:00 CHAL 1.** Review of recent Federal Circuit decisions relevant to what scientists need to know about patent filing and prosecution. **X. Pillai, A. Berks**

## MONDAY EVENING

## Section A

Moscone Center  
Hall D

## Sci-Mix

K. E. Bianco, J. L. Kennedy, *Organizers*

8:00 - 10:00

CHAL **12.** Chocolate: Food of the gods. H.M. Peters, S.B. Peters

CHAL **13.** National Inventors Hall of Fame 2017. H.M. Peters, S.B. Peters

## TUESDAY MORNING

## Section A

Park Central San Francisco  
Stanford

### An International Perspective: Patent Eligible Subject Matter & Opposition Procedures

K. E. Bianco, *Organizer*

J. Gledhill, *Organizer, Presiding*

9:00 CHAL **14.** Patent opposition and invalidation procedures: What is the same and what differs in Australia, Europe, the United States, and China? K.E. Bianco, L. Wall, J. Gledhill, S. Zou

10:00 CHAL **15.** Hot topics in international patent law: What is allowable patent eligible subject matter? K.E. Bianco, J. Gledhill, L. Wall, S. Zou

11:00 CHAL **16.** Silicon Valley Regional Office of the U.S. Patent and Trademark Office. J. Cabeca

## Chemical Forensics

### Chemometrics & Statistics for Signature Discovery & Exploitation

*Sponsored by ANYL, Cosponsored by CHAL and PRES*

## TUESDAY AFTERNOON

## Section A

Park Central San Francisco  
Stanford

### Recent Developments in TSCA Regulation: New Requirements for Chemicals in Commerce

*Cosponsored by CHAS, ENVR and I&EC*

I. Hantman, *Organizer, Presiding*

2:30 CHAL **17.** Recent developments in TSCA regulation: New requirements for chemicals in commerce. I. Hantman, D.K. Liu, K. Matthews, M. Doa

## Section B

Park Central San Francisco  
Stanford

### Protecting & Capitalizing on Your Intellectual Property

J. L. Kennedy, *Organizer, Presiding*

12:00 CHAL **18.** Chemical patents: How to navigate the changing legal landscape to protect your chemical technology. J.L. Kennedy

12:30 CHAL **19.** Creating an intellectual property strategy and portfolio. J.L. Kennedy, J. Link

1:00 CHAL **20.** Licensing: Capitalizing on patents, trade secrets, and other intellectual property. J. Link

## Chemical Forensics

### Isotopic & Elemental Profiling for the Source Attribution of Materials

*Sponsored by ANYL, Cosponsored by CHAL and PRES*

## WEDNESDAY MORNING

## Section A

Park Central San Francisco  
Stanford

### Cannabis Law: Navigating Complex Regulatory & Legal Issues in States with Legal Cannabis Programs

J. Marcu, *Organizer, Presiding*

9:00 CHAL **21.** Clinical and analytical confirmation of new psychoactive substances. S. Vucinic

9:30 CHAL **22.** Navigating complex issues in states with legal cannabis programs. R. Mirkarimi

10:00 CHAL **23.** Using GxP management software in conjunction with quality assurance data to maintain regulatory compliance and support process improvement in the cannabis industry. J. Applen

10:30 CHAL **24.** Patient Focused Certification (PFC) – Quality standards of cannabis products for medical use. J. Marcu, S. Sherer, P. Kubu

11:00 CHAL **25.** Intellectual property issues (and solutions) for cannabis companies. R. Micheletti

## WEDNESDAY AFTERNOON

## Section A

Park Central San Francisco  
Stanford

### A Decade of U.S. Supreme Court Patent Jurisprudence

R. G. Bone, *Organizer, Presiding*

2:45 CHAL **26.** Survey of a decade of U.S. Supreme Court patent cases. R.G. Bone

3:15 CHAL **27.** Highlights of the last decade of Supreme Court patent jurisprudence. R.G. Bone

## Section B

Park Central San Francisco  
Stanford

### The Many Faces of CHAL: Where Chemistry Meets the Law

J. L. Kennedy, *Organizer*

K. E. Bianco, *Organizer, Presiding*

1:00 CHAL **28.** What is substantially similar? Interpreting federal law governing unscheduled drug-like chemicals that are substantially similar to listed controlled substances. G.B. Dudley

1:30 CHAL **29.** Impact of national printing inks ordinance on food packaging materials and packaged foods: New national rules during the time at harmonization of the EU rules. K. Salmen

2:00 CHAL **30.** Pharmaceutical products and compendial standards. S. Ramakrishna, L.M. Santos, R.A. Femia

## COLL

## Division of Colloid and Surface Chemistry

R. Nagarajan, *Program Chair*

## OTHER SYMPOSIA OF INTEREST:

ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend (see CATL, Sun, Mon)

Chemical Principles of Environmental, Cellular & Organismal Nanotoxicology (see ENVR, Wed)

Deposition & Etching of Nanostructures (see INOR, Wed)

Janus Particles: Synthesis, Characterization & Applications (see PMSE, Sun, Mon)

Molecular Engineering of Peptide Assembly (see PMSE, Mon, Tue, Wed)

Plasmonic Nanomaterials: From Physical Chemistry Fundamentals to Societal Impacts (see PHYSS, Wed, Thu)

## SOCIAL EVENTS:

Social Hour with Poster Session, 6:00 PM: Sun

Luncheon, 12:00 PM: Tue

## BUSINESS MEETINGS:

COLL Program & Executive Committee Meeting, 4:00 PM: Sat

Business Meeting, 5:30 PM: Sun

## SUNDAY MORNING

## Section A

Moscone Center  
2002

### Biomembrane Synthesis, Structure, Mechanics & Dynamics

J. Katsaras, S. Muralidharan, M. Nieh, A. N. Parikh, N. Srividya, *Organizers*

K. Morigaki, D. Y. Sasaki, *Presiding*

8:30 COLL **1.** Rationally designed peptoids insert into edge and face of bicelle structure. H. Najafi, S.L. Servoss

8:50 COLL **2.** Transport across droplet interface lipid bilayers via a pH gradient. S. Dixit, B. Guo, B. Tasseff, G.W. Faris

9:15 COLL **3.** Second harmonic generation studies of water-soluble peptoids adsorbed to phospholipid membranes. G.Y. Stokes, A.A. Fuller, A. Calkins, J. Rangel, M.R. Landry

9:40 COLL **4.** Lipid structure, lateral order and inter-membrane forces. U. Raviv, L. Fink

10:05 COLL **5.** Probing model membrane local dynamics. T. Gutberlet, M. Trapp, J. Peters, D. Posselt

10:30 COLL **6.** Tubulin on biomimetic mitochondrial membranes: Structural features and identification of lipid binding domain. D.P. Hoogerheide, S. Noskov, D. Jacobs, H. Nanda, T.K. Rostovtseva, S.M. Bezrukov

10:55 COLL **7.** Cell-free expression of biologically active integral membrane protein. A. Vaish, C. Chen, S. Guo

11:20 COLL **8.** Determining the mRNA nanoparticle structure using SANS and SAXS. Y. Xia, C.J. Bowerman, J. Chan, C. Clemente, A. Esposito, E. Miracco, B. Kangarlou, M. Nieh, E. Cheung, O. Almarsson

## Section B

Moscone Center  
2004

### Colloidal Nanoparticle Synthesis & Assembly

#### Nanoparticle Synthesis

H. Htoon, Y. Sun, S. Wu, *Organizers*

H. Fan, *Organizer, Presiding*

H. Zhang, *Presiding*

8:30 COLL **9.** How is the metal precursor reduced during a synthesis of colloidal nanocrystals? Y. Xia

9:00 COLL **10.** Crystal phase-controlled synthesis of novel noble metal nanomaterials. H. Zhang

9:30 COLL **11.** Synthesis of branched and polyhedral Pd-Cu nanostructures by seed-mediated co-reduction. M. Kunz, S.E. Skrabalak

9:50 COLL **12.** Solvent effect on ligand-metal interactions in Pd nanoparticle synthesis. W. Li, S. Ivanov, S. Mozaffari, A.M. Karim

10:10 COLL **13.** Colloidal synthesis of anisotropic noble metal nanostructures. Q. Zhang

10:30 COLL **14.** Salt-triggered deposition of polymer-coated noble metal nanoparticles on solid surfaces. B. De Geest

10:50 COLL **15.** Exotic syntheses of supported metal nanoparticles via metal-in-Li solutions. T. Xu

11:10 COLL **16.** Seeded growth of catalytically active copper-based nanostructures. J. Chen

11:40 COLL **17.** Designer noble metal nanostructures: Controlled synthesis and beyond. Y. Yin

## Section C

Moscone Center  
2006

### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

#### Surface Science is Alive & Well

*Cosponsored by CATL*

S. H. Kim, R. M. Rioux, *Organizers, Presiding*

8:30 COLL **18.** Surface science meets homogeneous catalysis: Cooperative properties of electrophilic organometallic ensembles. T.J. Marks

9:00 COLL **19.** First-principles, microkinetic modeling, and experiments for reaction mechanisms and improved catalysts. M. Mavrikakis



**9:30 COLL 20.** Sum frequency generation microscopy of surfaces. S. Baldelli

**10:00 COLL 21.** Surface spectroscopy and surface microscopy of catalytic processes: From model to technological materials, from UHV to *operando* conditions. G. Rupprechter, C. Rameshan, K. Foelttinger, Y. Suchorski

**10:30 COLL 22.** Vinyl acetate formation pathways and selectivity on model metal and alloy catalyst surfaces. W.T. Tysoe

**11:00 COLL 23.** Surface science for the 21<sup>st</sup> century. M. Salmeron

## Section D

Mosccone Center  
2008

### Chemistry & Physics of Tribology

#### Tribology Perspectives & Tribochemistry

F. Mangolini, M. Ruths, *Organizers, Presiding*

**8:30 COLL 24.** Lowering friction while saving the world: New approaches to lubrication. N.D. Spencer

**9:05 COLL 25.** Thermal and shear effects in boundary film formation. W.T. Tysoe

**9:40 COLL 26.** Measuring atomic wear of graphene using local stress and heat. S. Raghuraman, M.B. Elinski, J.D. Batteas, J. Felts

**10:00 COLL 27.** Tribochemistry of GaN, a surprisingly wear resistant semiconductor. G. Zeng, X. Yang, B.E. Koel, D. Borovac, C. Tan, N. Tansu, B. Krick

**10:20 COLL 28.** Optimization of a ReaxFF reactive force field for modeling tribochemical reactions of Cu-S and Cu-thiol/alkoxy systems. J. Yeon, W.T. Tysoe, A. Martini

**10:40 COLL 29.** Tribochemical aspects of mechanical mixing in tribological contacts. M. Dienwiebel, P. Stoyanov, P. Romero, R. Merz, P. Stemmer, M. Moseler

**11:00 COLL 30.** Effect of hydrogen and oxygen partial pressure on the tribochemistry of silicon oxide-containing hydrogenated amorphous carbon. F. Mangolini, K. Koshigan, M.H. Van Benthem, J. Ohlhausen, J.B. McClimon, J. Hilbert, J. Fontaine, R. Carpick

**11:20 COLL 31.** Wear mechanisms and regime transitions for self-mated silicon nitride lubricated by ionic liquid/water mixtures. A. Arcifa, A. Rossi, N.D. Spencer

**11:40 COLL 32.** Mechanochemistry at sliding interfaces – Tribo-polymerization of adsorbed molecules upon mechanical shear. S.H. Kim

## Section E

Mosccone Center  
2010

### Coacervation: Physics, Chemistry & Biology

R. Stewart, *Organizer*

P.L. Dubin, *Organizer, Presiding*

**8:30 COLL 33.** RNA-based complex coacervates. C.D. Keating

**9:10 COLL 34.** Spanning length scales in polymeric complex coacervate self-assembly. T.K. Lytle, J. Madinya, C.E. Sing

**9:40 COLL 35.** Sequence-encoded phase behavior of intrinsically disordered proteins. R.V. Pappu

**10:10 COLL 36.** Asymmetric segregation of P-granules by position dependent phase separation. F. Julicher

**10:40 COLL 37.** Intra- and intermolecular electrostatic complexes of cationic antimicrobial peptides with their anionic propeptides. N. Gomes de Oliveira Júnior, O. Franco, R. de Vries

**11:10 COLL 38.** Intrinsic disorder and overcrowding. V.N. Uversky

## Section F

Mosccone Center  
2012

### Applied Biosensing Based on Functional Colloids

R. Alvarez Puebla, L. Liz Marzan, J. Sagalés, G. F. Strouse, *Organizers*

W. Parak, *Organizer, Presiding*

**8:30 COLL 39.** Composite porous colloids for SERS-based biosensing. L. Liz Marzan

**9:00 COLL 40.** Functionalizing various metallic nanostructures with highly effective multi-coordinating polymers. W. Wang, A.K. Kapur, X. Ji, H.M. Mattoussi

**9:30 COLL 41.** Towards SERS-enabled diagnostics: Quantitative detection of glucose and other biomarkers. A. Henry

**9:50 COLL 42.** *In-situ* SERS detection at picoliter scale using substrate-less Ag nanoparticle-based liquid marbles. X. Ling

**10:20 COLL 43.** Low frequency vibrational mode surface enhanced Raman spectroscopy characterization of gold interactions with aqueous halides. M. Chan, W. Leng, P.J. Vikesland

**10:40 COLL 44.** High throughput optofluidic Surface-Enhanced Raman Spectroscopy (SERS) interrogation: Proof of concept via lectin detection of cancerous cells. M. Willner, K. McMillan, M. Zagnoni, D. Graham, P.J. Vikesland

## Section G

Mosccone Center  
2001

### Interfacial Phenomena & the Oil-Water Interface

*Financially supported by The Dow Chemical Company*

C. Acevedo, C. J. Tucker, *Organizers*

C. E. Mohler, *Organizer, Presiding*

**8:30 COLL 45.** Nanoengineering water-in-diesel/biodiesel microemulsion interfaces to minimize particulate and NOx emissions from diesel engines to minimize atmospheric pollution. P.A. Sermon

**8:50 COLL 46.** *Ulloborus walckenaerius* bioinspired attachable, self-standing, nanofibrous membrane for versatile use in oil-water separation. M. Tenjimbayashi, K. Sasaki, J. Abe, S. Shiratori

**9:10 COLL 47.** Interfacial interactions of granular particles with floating crude oil under different granular flow regimes. D. Boglaenko, B. Tansel

**9:30 COLL 48.** Fabricating reservoir micromodels by *in situ* grown calcium carbonate nanocrystals in microfluidic channels. W. Wang, S. Chang

**9:50 COLL 49.** Effects of confinement and composition on oil/water interface in nanopore environment. A. Alizadehmojarad, L. Vukovic

**10:10 COLL 50.** Impact of microemulsions on mobilization, emulsification, and solubilization of oil in heterogeneous rocks. T. Qin, L. Goual

**10:30 COLL 51.** Nanoengineering at the oil-water interface to maximize hydrocarbon production. P.A. Sermon, G. Georgiades

**10:50 COLL 52.** pH-responsive polymer coated nanoparticles for controlled emulsification of heavy oil. L. Qi, C. Song, G.J. Hirasaki, R. Verduzco

**11:10 COLL 53.** Surfactant Enhanced Oil Recovery (EOR): Role of reservoir wettability and oil-water interfacial tension in designing efficient surfactant systems. C. Acevedo, W. Yu, P.D. Patil

**11:30 COLL 54.** Formulation and utility of microemulsions in cleaning applications. C.J. Tucker, M.H. Keefe, K. Harris

## Section H

Mosccone Center  
2003

### Nanoscale Chemical Patterning & Characterization

S. A. Claridge, *Organizer*

W. Liao, *Organizer, Presiding*

**8:30 COLL 55.** Biodegradable and biocompatible regular nanopatterned surfaces for selective cell enrichment. G. Sicilia, A. Grabowska, I. Notingher, M. Alexander, M. Marlow

**8:50 COLL 56.** Tailoring 5–10 nm chemically orthogonal surface patterns on layered materials using sitting phases of polymerizable amphiphiles. J. Bang, K.K. Rupp, S.R. Russell, S.W. Choong, T.C. Davis, T. Hayes, A.G. Porter, J.T. Brooks, S.A. Claridge

**9:10 COLL 57.** Artificial membranes composed of fluid and polymerizable lipids: Fractional polymerization produces nanoscale domains with retained fluidity and enhanced stability. S.S. Saavedra

**9:40 COLL 58.** Chemical lift-off lithography and sensors. W. Liao

**10:10 COLL 59.** Patterning arrays of geometrically complex nanostructures on planar surfaces. P.S. Cremer, Z. Zhao, Y. Cai

**10:40 COLL 60.** Self-assembly of proteins into periodic nanostructures through spatially-confined nanofluids. J. Li

**11:10 COLL 61.** Modified soft lithographic approach for Surface-Enhanced Infrared Spectroscopy (SEIRA) substrates and their application to live cell monitoring. V. Colvin, N. Taheri, A. Bohoul

**11:40 COLL 62.** Characterizing and manipulating mercaptoalkanoic acid molecular ruler multilayers using scanning probe lithography. J.E. Neuman, A.M. Patron, C.P. Causey, T.J. Mullen

## Section I

Mosccone Center  
2005

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Colloids

R. Nagarajan, *Organizer*

U. Scheler, *Presiding*

**8:30 COLL 63.** Counterion-specific counterion condensation. U. Scheler

**9:00 COLL 64.** Carbonate rock wettability investigated with finer spatial resolution. O.B. Wani, C. Lai, M. Almahri, M. Chiesa, S. Al Hassan

**9:20 COLL 65.** Light scattered by hedgehog particles. J. Bahng, D. Montjoy, W. Chang, S. Link, N. Kotov

**9:40 COLL 66.** Cross-linked cationic diblock copolymer worms are superflocculants for micrometer-sized silica particles. N. Penfold, Y. Ning, P. Verstraete, J. Smets, S.P. Armes

**10:00 COLL 67.** Spray coating of colloidal and organic layers. W. Ohm, P. Zhang, S. Yu, A. Plech, D. Soderberg, S. Roth

**10:20 COLL 68.** Elucidating the reactivity and solution dynamics of redox active polymers and colloids. M. Burgess, E. Montoto, K. Hernandez-Burgos, J. Schuh, T. Wei, N. Gavvalapalli, J. Moore, J. Lewis, R. Ewoldt, J. Rodriguez Lopez

**10:40 COLL 69.** Particle zeta potentials remain finite in saturated salt solutions. A. Garg, C. Cartier, K.J. Bishop, D. Velegol

**11:20 COLL 70.** Issue of interchangeable use of reactivity assessment assays for nanoparticle colloids in liquid solution. X. Bi, P.K. Westerhoff

**11:40 COLL 71.** Propagation and separation of charged colloids by cylindrical gel electrophoresis. D.A. Bikos, T.G. Mason

**12:00 COLL 72.** Morphology and properties of fibers obtained by emulsion electrospinning. A. Samanta

## Section J

Mosccone Center  
2007

### Deposition & Etching of Nanostructures

*Cosponsored by INOR*

L. McElwee-White, A. V. Walker, *Organizers*

H. Fairbrother, *Organizer, Presiding*

#### 8:30 Introductory Remarks.

**8:35 COLL 73.** New strategies for selective deposition of nanoscale materials. F. Minaye Hashemi, D. Bobb-Semple, S.F. Bent

**9:05 COLL 74.** Using surface chemistry to direct the morphology of thin films and nanoobjects of energy materials. A.V. Walker

**9:35 COLL 75.** Laser-assisted focused electron beam induced synthesis: Photothermal enhancements to athermal electron beam induced reactions. P.D. Rack

#### 10:05 Intermission.

**10:20 COLL 76.** Time is of the essence: Using a fourth dimension to improve chemical vapor deposition. H. Pedersen

‡ Cooperative Cosponsorship

**10:50 COLL 77.** Real-time XPS monitoring of atomic layer deposition of  $\text{HfO}_2$  on Si surfaces. P. Shayesteh, J. Gallet, F. Bournel, J. Schnadt

**11:10 COLL 78.** Directed deposition and etching of functional nanostructures using electron beam and plasma irradiation. C.J. Lobo

### Mineral-Water Interface Chemistry

#### A Tribute to Glenn Waychunas

Sponsored by GEOC, Cosponsored by COLL and ENVR

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis, & Spectroscopy

Sponsored by PPOF, Cosponsored by ANYL<sup>+</sup>, BIOL<sup>+</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>+</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>+</sup>, POLY, PRES<sup>+</sup> and WCC

#### ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend

#### Honoring the Contribution to Single Crystal Catalysis

Sponsored by CATL, Cosponsored by COLL and WCC

#### Separation of Macromolecules & Particulates

Sponsored by POLY, Cosponsored by ANYL, COLL and PMSE

#### Janus Particles: Synthesis, Characterization & Applications

Sponsored by PMSE, Cosponsored by COLL and MPPG<sup>+</sup>

#### Synthesis of Catalysts by Non-Traditional Methods

#### Nanoparticle Catalysts

Sponsored by CATL, Cosponsored by COLL and INOR

#### Elucidation of Mechanisms & Kinetics on Surfaces

#### Theory

Sponsored by CATL, Cosponsored by COLL and ENVR

## SUNDAY AFTERNOON

### Section A

Moscone Center  
2002

#### Biomembrane Synthesis, Structure, Mechanics & Dynamics

J. Katsaras, S. Muralidharan, M. Nieh, A. N. Parikh, N. Srividyaa, *Organizers*

M. L. Longo, A. B. Subramaniam, *Presiding*

**2:00 COLL 79.** Lipid non-lamellar phases at the solid/liquid interface - structure and dynamics. T. Nylander, O. Soltwedel, M. Kaneva, C. Hirst, J. Holdaway, M. Yanez Arteta, M. Wadsater, J. Barauskas, H. Frielinghaus, O. Holderer

**2:25 COLL 80.** Stimulus-responsive behavior of giant vesicles consisting of amphiphilic diblock copolymers. E. Yoshida

**2:50 COLL 81.** Selective blood vessel deletion using liposomes: Studying the effect of liposome composition on *in vivo* behavior. A. Kros

**3:15 COLL 82.** Physical clotting of blood cells using associating biopolymers as the connective glue: An investigation into the mechanism using optical microscopy. S.R. Raghavan

**3:40 COLL 83.** Elastic and viscous properties of lipid bilayers: Application of neutron spin echo spectroscopy. M. Nagao, E.G. Kelley, R. Ashkar, R. Bradbury, P. Butler

**4:05 COLL 84.** Kinetic pathways of self-assembled systems by time-resolved small-angle scattering techniques. R. Lund

**4:30 COLL 85.** Neutron and X-ray scattering approaches for interdisciplinary structural biology. T. Forsyth

**4:55 COLL 86.** Opening the SANS toolbox for studying mRNA nanoparticle structure. C.J. Bowerman, Y. Xia, J. Chan, C. Clemente, A. Esposito, E. Miracco, B. Kangarou, M. Nieh, E. Cheung, O. Almarsson

### Section B

Moscone Center  
2004

#### Colloidal Nanoparticle Synthesis & Assembly

Y. Sun, S. Wu, *Organizers*

H. Fan, H. Htoon, *Organizers, Presiding*

**2:00 COLL 87.** Silicon nanocrystal assemblies. B.A. Korgel

**2:30 COLL 88.** Induction and microwave heating in syntheses of CdSe quantum dots: Effects of extreme high heating rate on their nucleation and growth kinetics. H. Luo, B.A. Kebede, E.J. McLaurin, V. Chikan

**2:50 COLL 89.** Enhanced emission of nanocrystal solids featuring slowly diffusive excitons. N.N. Kholmicheva, M. Zamkov

**3:10 COLL 90.** Detecting material state change in surface coated tensile samples using ultrasml CdSe quantum dots. T. Frecker, C. Brubaker, I. Njoroge, G. Jennings, D. Adams, S.J. Rosenthal

**3:30 COLL 91.** Ligand-induced freeze of gold nanostars and their SERS activities. X. Meng, C. Jiang

**3:50 COLL 92.** Chiral inorganic nanostructures. N. Kotov

**4:20 COLL 93.** Organic nanophotonic materials and devices. Y. Zhao

**4:50 COLL 94.** Study of Au nanoparticles self-assembly by in-situ transmission electron microscopy. Y. Liu, Y. Sun, X. Lin, T. Rajh

**5:20 COLL 95.** Synthesis and assembly of plasmonic metal oxide nanocrystals. D.J. Milliron

### Section C

Moscone Center  
2006

#### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

#### Catalyst Design

Cosponsored by CATL

S. H. Kim, R. M. Rioux, *Organizers, Presiding*

**2:00 COLL 96.** Dynamic evolution of catalytic surfaces. C.M. Friend

**2:30 COLL 97.** Metal nanoparticle catalysts based on classically immiscible and metastable alloys. S.M. Humphrey, G. Henkelman, P. Kunal, H. Li, H. Guo, G.W. Piburn

**3:00 COLL 98.** Catalysis on singly dispersed bimetallic sites. F. Tao

**3:30 COLL 99.** Ordered bimetallic catalysts for selective hydrogenation and dehydrogenation reactions. W. Huang

**4:00 COLL 100.** Ideal catalysts beyond single crystals: MOFs with metal oxide-like nodes. D. Yang, V. Bernales, C.J. Cramer, O.K. Farha, J.T. Hupp, L. Gagliardi, B.C. Gates

**4:30 COLL 101.** Catalyst synthesis by atomic layer deposition. P.C. Stair

**5:00 COLL 102.** New nanostructures for increased selectivity and stability in catalysis. F. Zaera

### Section D

Moscone Center  
2008

#### Chemistry & Physics of Tribology

#### Theoretical & Computational Advances in Tribology

F. Mangolini, *Organizer*

M. Ruths, *Organizer, Presiding*

C. M. Mate, *Presiding*

**2:00 COLL 103.** Scale dependence of friction and contact of nanometer to millimeter radius tips. T.A. Sharp, J. Monti, L. Pastewka, M.O. Robbins

**2:35 COLL 104.** Limits of Lifshitz theory. O. Siles-Brugge, C. Hunter, G.J. Leggett, N.H. Williams

**2:55 COLL 105.** Effect of load on current across gold-graphite nanocontacts. A. Martini, X. Hu, V. Zade, H. Kang, M. Lee

**3:30 COLL 106.** Examination of DLC adhesion and wear using MD and in-situ nanoindentation. J.D. Schall, R. Bernal, P. Chen, P. Tsai, Y. Jeng, R. Carpick, J.A. Harrison

**3:50 COLL 107.** Nonequilibrium molecular dynamics simulations of organic friction modifiers. J. Ewen, C. Gattinoni, H. Spikes, N. Morgan, D. Dini

**4:10 COLL 108.** Molecular dynamics simulations of multiply alkylated cyclopentane-based lubricant oils. V. Oklejas, P.P. Frantz, S.V. Didziulis

**4:30 COLL 109.** Dynamics and thermodynamics of lubricants in flow: A molecular and tribological approach. Y. Guo, L. di Mare, J. Wong

**4:50 COLL 110.** Withdrawn.

### Section E

Moscone Center  
2010

#### Coacervation: Physics, Chemistry & Biology

P. L. Dubin, R. Stewart, *Organizers*

Y. Wang, *Presiding*

**2:00 COLL 111.** Entropy the assembler (of polyelectrolytes). J.B. Schlenoff

**2:30 COLL 112.** Simple coacervation of polyguanidiniums and organic polyphosphates. R. Stewart, J.P. Jones, G.M. Weerasakare, I. Song

**3:00 COLL 113.** Exploring the coacervation/precipitation interface. P.L. Dubin, F. Cornet, A.J. Malanowski

**3:30 COLL 114.** Material dynamics in complex coacervates. S.L. Perry

**4:00 COLL 115.** Complex coacervation as a dynamic reservoir of intrinsically disordered proteins. S. Han

**4:30 COLL 116.** Coacervates from biopolymers for cartilage tissue regeneration. Ö. Karabiyik Acar, A. Kayitmazer, G. Kose

### Section F

Moscone Center  
2012

#### Applied Biosensing Based on Functional Colloids

R. Alvarez Puebla, L. Liz Marzan, W. Parak, J. Sagalés, *Organizers*

G. F. Strouse, *Organizer, Presiding*

**2:00 COLL 117.** Plasmonic supercrystals for SERS detection. R. Alvarez Puebla

**2:30 COLL 118.** Nanoparticles and stem cells, a powerful combination? W. Parak

**2:50 COLL 119.** Control of primary particle spacing in gold nanoparticle clusters for both high NIR extinction and full reversibility. E. Moaseri, B. Changalvaie, T. Truskett, K.P. Johnston

**3:10 COLL 120.** Modeling of degradation of virus and amyloid fibril by pre-designed nanoparticles. S. Sen, P. Kral

**3:30 COLL 121.** Spectroscopic quantification of surface groups on micro- and nanoparticles with conventional and cleavable reporter. T. Behnke, M. Moser, N. Nirmalananthan, U. Resch-Genger

**4:00 COLL 122.** *In vivo* biomolecule corona onto clinically-used blood-circulating liposomes. M. Hadjidemetriou, K. Kostarelos

### Section G

Moscone Center  
2001

#### Interfacial Phenomena & the Oil-Water Interface

Financially supported by The Dow Chemical Company

C. Acevedo, C. E. Mohler, C. J. Tucker, *Organizers, Presiding*

**2:00 COLL 123.** Continuous fabrication of hierarchical and asymmetric bijel structures via Solvent Transfer-Induced Phase Separation (STRIPS). K.J. Stebe

**2:30 COLL 124.** Molecular structure and bonding at nanoemulsion and planar oil/water interfaces. G.L. Richmond

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- 3:00 COLL 125.** Molecular structures of polymer surfaces in different chemical environments. **Z. Chen**
- 3:30 COLL 126.** Molecular studies of the assembly of co-surfactants at the oil-water interface. **R. Ciszewski, B. Muller, G. Richmond**
- 3:50 COLL 127.** Mass transfer of lipid-based amphiphiles to water-triglyceride interfaces. **T. Xu, S.R. Dungan**
- 4:10 COLL 128.** Investigating mass transfer and microstructures formation at liquid/liquid interfaces using FT-IR imaging spectroscopy. **R. Toor, M. Schmitt, R. Denoyel, M. Antoni**
- 4:30 COLL 129.** Specific anion effects on caffeine partitioning between aqueous and cyclohexane phases. **Y. Zhang, B.A. Rogers, N.O. Johnson, T.P. Light, T.S. Thompson, G. MacDonald**
- 4:50 COLL 130.** Protein mixture segregation at coffee ring: Real-time imaging of protein ring precipitation by mid-FTIR spectromicroscopy. **S. Choi, G. Birarda**
- 5:10 COLL 131.** Surface and interfacial exploration of a smooth liquids repellent sol-gel coating. **C. Urata, A. Hozumi**

## Section H

Moscone Center  
2003

### Nanoscale Chemical Patterning & Characterization

S. A. Claridge, *Organizer*

W. Liao, *Organizer, Presiding*

- 2:00 COLL 132.** Self-assembly in confined spaces: Using defects to advantage. **N. Nakatsuka, H. Cao, W. Liao, A. Vaish, T.J. Mullen, P.S. Weiss, A.M. Andrews**
- 2:30 COLL 133.** Controlling biomolecular structure and function at the bio/abio interface. **L.J. Webb**
- 3:00 COLL 134.** Probing nano-environments with high-throughput single-molecule tracking. **D.K. Schwartz**
- 3:30 COLL 135.** Stable by design: Understanding the role of monomer architecture in stabilizing noncovalent monolayers toward thermal and solvent processing of layered materials. **S.R. Russell, T. Villarreal, S.A. Claridge**
- 3:50 COLL 136.** Optically directed assembly of colloidal particles. **Y. Zheng**
- 4:20 COLL 137.** Laser directed crystallization and patterning of methylammonium lead halide perovskites from solution. **S. Chou, B. Swartzentruber, M.T. Janish, K.C. Meyer, L. Biedermann, S. Okur, B. Burckel, C.B. Carter, B. Kaehr**
- 4:40 COLL 138.** Tarnishing silver into semiconducting hybrid chalcogenides. **J. Hohman**
- 5:10 COLL 139.** Bottom-up preparation of ordered Rh(I) diisocyanide coordination polymers on gold surfaces and their conductivity and electrochemical stability. **G. Lee, C.P. Kubiak**

## Section I

Moscone Center  
2005

### Nanostructure Engineering & Surface Chemistry for Spectroscopy, Imaging & Alternative Energy Harvesting & Conversion

Financially supported by MilliporeSigma-Energy Materials; CH Instruments, Inc.; The University of Alabama (Chemistry, College of Arts & Science)

N. Hammer, S. Pan, *Organizers*

C. M. Hill, *Presiding*

- 2:00 COLL 140.** Investigation of charge-transfer complexes between TCNQ and indium phosphide quantum dots. **L. Beck, E.J. McLaurin**
- 2:20 COLL 141.** Anchoring group affects triplet energy transfer from semiconductor nanocrystals to molecules. **Z. Huang, X. Li, P. Xia, M.L. Tang**
- 2:40 COLL 142.** Long-range exciton transport in cesium lead halide perovskite nanocrystals organized in ordered nanoscale assemblies. **E. Penzo, A. Loujice, E. Barnard, N. Borys, A. Schwartzberg, R. Buonsanti, S. Cabrini, A. Weber-Bargioni**
- 3:00 COLL 143.** Stable n-type thermoelectric multilayer thin films with high power factor from carbonaceous nanofillers. **C. Cho, C. Yu, J.C. Grunlan**
- 3:20 COLL 144.** Rational design of Bi<sub>2</sub>Te<sub>3</sub>/graphene quantum dot hybrid nanosheet for enhanced thermoelectric performance. **S. Li, T. Fan, X. Liu, J. Luo, F. Liu, H. Meng, Y. Liu, F. Pan**
- 3:40 Intermission.**
- 3:50 COLL 145.** Polarized optical spectroscopy of semiconducting polymers in an aligned mesoporous silica system for the study of polaron dynamics. **K. Winchell, M.E. Voss, B.J. Schwartz, S.H. Tolbert**
- 4:10 COLL 146.** Ultrasensitive probing of the local electronic structure of nitrogen doped carbon and its applications to 2D electronics, catalysis and bio-physics. **S. Lee, R.A. Mori, B.K. Alpert, M.L. Baker, J. Berry, H. Cho, E. Denison, W.B. Doriese, J.W. Fowler, K.J. Gaffney, B. Gao, J. Gard, G.C. Hilton, K.D. Irwin, Y.I. Joe, S. Kaya, C. Kenney, J. Knight, T. Kroll, D. Li, R. Marks, M. Minitti, K. Morgan, D. Nordlund, G. O'Neil, H. Ogasawara, P. Pianetta, C. Reintsema, T. Schiros, D. Schmidt, D. Sokaras, Y. Song, D.S. Swetz, C. Titus, J. Ullom, T. Weng, C. Williams, A. Wolcott, B.A. Young**
- 4:30 COLL 147.** Probing the local electronic structure of a porphyrin-based single-layer covalent organic framework using STS. **C. Chen, T. Joshi, H. Li, H. Li, A.D. Chavez, Z. Pedramrazi, J.E. Bredas, W.R. Dichtel, M. Crommie**
- 4:50 COLL 148.** Structure formation, phase behavior, and dynamics of liquid crystals confined to nanopores. **H. Duran, T. Yildirim, M. Steinhart, H. Butt, G. Floudas**
- 5:10 COLL 149.** NiS doped 3D MoS<sub>2</sub>/graphene nanostructured hybrids as high performance hydrodesulfurization catalysts. **S. Lonkar, V. Pillai, S. Al Hassan**
- 5:30 COLL 150.** Flexible impedance biosensor for folate receptor detection in cancer diagnostic. **J.J. Fuentes-Rivera, C.R. Cabrera, G. Hernandez**

## Section J

Moscone Center  
2007

### Deposition & Etching of Nanostructures

Cosponsored by INOR

H. Fairbrother, L. McElwee-White, *Organizers*

A. V. Walker, *Organizer, Presiding*

- 2:00 COLL 151.** Deposition of self-assembled monolayers on TiO<sub>2</sub> in air and solution: Implications for photoreactivity and CO<sub>2</sub> photoreduction. **M.A. Hines, E.S. Skibinski, W.J. DeBenedetti**

- 2:30 COLL 152.** Microplasma-based deposition of functional nanomaterials for energy storage applications. **K.E. Mackie, M.J. Gordon**

- 2:50 COLL 153.** Deposition of mixed metal nanostructures from bimetallic precursors using electrons: Insights from surface science. **H. Fairbrother, J.A. Spencer, I. Unlu, R. Kumar, R. Thorman, O. Ingolfsson, S. Barth, K. Johnson, L. McElwee-White**

- 3:20 Intermission.**

- 3:35 COLL 154.** Selectivity in liquid phase etching of III-V materials on the path to developing a gas phase self-limited etching method. **A.J. Muscat**

- 4:05 COLL 155.** Surface chemistry issues relevant to ALD processes. **F. Zaera**

- 4:25 COLL 156.** From fundamental electron-induced chemistry to novel unconventional FEBID precursor materials. **J. Warneke, M. Rohdenburg, G.E. Johnson, J. Laskin, P. Swiderik**

### Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

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## SUNDAY EVENING

### Section A

Moscone Center  
Halls B/C

### Fundamental Research in Colloids, Surfaces & Nanomaterials

R. Nagarajan, *Organizer*

6:00 - 8:00

- COLL 157.** Influence of biomimetic brush nanostructures on the tribology of natural fiber bio-interfaces. **C. Cazeneuve, J. Vazquez, N. Baghdadli, G.S. Luengo**
- COLL 158.** Coacervation and precipitation in polysaccharide-protein systems. **F. Comert, A.J. Malanowski, F. Azarikia, P.L. Dubin**
- COLL 159.** miRNA sensing plasma modified magnetic micromotor. **L. Oksuz, G. Yurdabak Karaca, F. Kuralay, U. Koc, E. Uygun, A. Uygun Oksuz**
- COLL 160.** Nanotransformation of vancomycin for overcoming Gram-negative bacteria intrinsic resistance. **J. Hoyo, K. Ivanova, M. Fernandes, A. Francesko, T. Tzanov**
- COLL 161.** Fabrication of vanadium oxide thin films from colloidal vanadium oxide (VO<sub>2</sub>) nanocrystals for smart window applications. **Y. Jung, S. Chung**
- COLL 162.** Organic-inorganic microcapsules via immobilizing biocomponent colloidal particles at oil-water interface. **Y. Wu, J. Shen**
- COLL 163.** Templated formation of fullerene stripes with tunable nanometer spacing onto physisorbed monolayers. **C. Fang, M. Zimmt**
- COLL 164.** Forming supported lipid multilayers by self-spreading. **T. Liu, C. Hu, B. Sani**
- COLL 165.** Manganese-engineered iron oxide nanocomposites as T<sub>1</sub>-T<sub>2</sub> dual-modal contrast agents. **C. Lu**
- COLL 166.** Water buffer action under nanoscale confinement studied by fluorescent pH indicator. **J. Fu, L. Zhang**
- COLL 167.** Quartz Crystal Microbalance with Dissipation (QCM-D) study of bacterial attachment process on surfaces of different hydrophilicity. **Y. Lee**
- COLL 168.** Synthesis of CeO<sub>2</sub> supported noble metal nanoparticles using mixed-valent Mn<sub>2</sub>O<sub>3</sub> phase via galvanic replacement reaction. **D. Lee, I. Lee**
- COLL 169.** Control of dynamic wetting behaviors on smooth surface for liquid manipulator and slippery surface with multi functionality. **M. Tenjimbayashi, R. Togasawa, M. Higashi, S. Shiratori**
- COLL 170.** Anisotropic emission-tuned polymer nanoparticles through a scalable direct approach. **J.D. Ruiz Perez, S. Mecking**

<sup>+</sup> Cooperative Cosponsorship



- COLL 171.** Biofunctionalized silica-nanopores: Synthesis and characterization by solid state CP-MAS-NMR. **M. Brodrecht**, H. Breitzke, B. Kumari, T. Gutmann, G. Buntkowsky
- COLL 172.** Investigation of a nanoscale surface area coverage by a self assembly of amyloidogenic peptides. **P.J. Shevlin**, K. Brown, M. Abdelmalik, A. Olatunbosun, K. Yokoyama
- COLL 173.** Investigation of reversible self-assembly of amyloidogenic peptides at nano-scale interface. **J. Battaglia**, **J. Ehret**, M. Endo, A. Islam, K. Yokoyama
- COLL 174.** Fabrication of antifreeze infused hydrophilic polymer/nanoparticle composite anti-icing coating for solar cells via spray layer by layer method. **T. Yamazaki**, T. Moriya, T. Matsubayashi, M. Komine, M. Tenjimbayashi, S. Shiratori
- COLL 175.** Shea butter infused with natural oils to generate a novel and natural antimicrobial moisturizer. **A. Tremblay**, K. Melkonian, J.I. Rizzo
- COLL 176.** Effect of silica size on superhydrophobic property of filter media for water oil/separation. **P. Seeharaj**
- COLL 177.** Withdrawn.
- COLL 178.** Fabrication of nanoporous carbon as electrodes for supercapacitors. **P. Suwannasarn**, S. Wongkasemjit, T. Chaisuwan
- COLL 179.** Silver nanoplate shape control: Use of halide ions to promote vertical growth. **Y. Park**, S. Park, M. Kim
- COLL 180.** Luminescent solar concentrators using ZnTe/CdSe/CdS core/shell quantum dots. **A. McDarby**, D. Khon, M. Zamkov
- COLL 181.** Infusion of native oils to synthesize novel antimicrobial surfaces. **K. Velez**, J.I. Rizzo
- COLL 182.** Tuning localized surface plasmon resonances in Sn-doped  $\text{In}_2\text{O}_3$  through radial distribution of dopant atoms and core/shell architectures. **B. Crockett**, A. Jansons, K.M. Koskela, J.E. Hutchison
- COLL 183.** Pilot-plant study of using protein to reduce the lipophilic contaminants in paper mills. **A.H. Tayeb**, O.J. Rojas, L. Pal, M. Hubbe
- COLL 184.** Unraveling the importance of controlled architecture in bimetallic multilayer electrode toward efficient electrocatalyst. **M. Gu**, B. Kim
- COLL 185.** Rational design and fabrication of  $\text{TiO}_2$  p-n homojunction for photoelectrochemical and photocatalytic water splitting. **L. Pan**, G. Shen, J. Zou, X. Zhang
- COLL 186.** Preparation of 2D porous  $\text{Co}_2\text{O}_4$  nanofoils via graphene mimicking. **T. Han**
- COLL 187.** Morphological control of colloidal aluminum nanocrystals. **D. Renard**, C.J. Desantis, B. Clark, M. McClain, N.J. Halas
- COLL 188.** Room-temperature formation of Cu-Ag bimetallic heterostructured nanocrystals via galvanic exchange. **W.T. Osowiecki**, X. Ye, A. Alivisatos
- COLL 189.** Effect of ZnS on structural and optical properties of  $\text{CuInS}_2$  quantum dots. **A. Nguyen**, C.D. Heyes
- COLL 190.** Combined ionic and hydrogen bonding in polymer multilayer thin film for high gas barrier and stretchiness. **C. Cho**, F. Xiang, J.C. Grunlan
- COLL 191.** Direct amination of HPHT ND surfaces for biodetection. **P. Tran**, E.S. Favre, A. Hernandez, D. Nordlund, A. Wolcott
- COLL 192.** Assessment of color strength and pigment stabilization using microencapsulation of anthraquinone dyestuffs with epoxy resin. **S. Liao**
- COLL 193.** Control of cesium lead halide perovskite nanocrystal morphology and photonic properties. **M.J. Jurow**, A. Pan, J. Kang, A. Buyanin, M.A. Koc, M. Salmeron, P. Alivisatos, L. Wang, Y. Liu
- COLL 194.** Use of a simple and general approach to modify the surfaces of monodisperse metal oxide nanocrystals with a wide variety of silane coupling agents. **A.W. Jansons**, K.M. Koskela, R. Maust, J.E. Hutchison
- COLL 195.** Nano-tribological properties of single monolayers and mixed monolayers of octadecylcarboxylic acid and octacosanoic acid. **R. Thomas**, L. Clark, T. Perry, E.S. Gawalt, **M. Lim**
- COLL 196.** Synthesis and characterization of novel hydrogel beads for selective interactions with carbonaceous nanomaterials. **K.C. Tvrđy**, J. Rowland, N. Sundquist
- COLL 197.** Exploration of the growth mechanism of  $\text{AgGaS}_2$  semiconductor nanoparticles. **S. Paderick**, S. Hughes
- COLL 198.** Tuning the optical properties of  $\text{AgGaS}_2$  nanocrystals. **S. Hughes**, S. Paderick, M. Kessler
- COLL 199.** Tunable whiteness coloration behavior on rutile  $\text{TiO}_2$  ceramic pigment. **Y. Kim**, R. Yu, J. Yun
- COLL 200.** Describing the mechanisms involved in Amot associated membrane binding and fusion. **S. Sears**, A.C. Kimble Hill
- COLL 201.** Ferrocene-modified PEI microgels. **N. Sahiner**, S. Demirci, M. Yildiz
- COLL 202.** Decrystallization of crystals using gold nano-bullets and the metal-assisted and microwave-accelerated decrystallization technique. **N. Thompson**, Z. Boone-Kukoyi, R. Shortt, C. Lansiquot, B. Kioko, E. Bonyi, K. Aslan
- COLL 203.** Tailoring the surface architecture of gold nanoparticles to engage nanoparticle-cell interactions. **K.L. Kinnison**, G.W. Marquart, M.R. Mackiewicz
- COLL 204.** Withdrawn.
- COLL 205.** Withdrawn.
- COLL 206.** Withdrawn.
- COLL 207.** Laponite bioactive nanocomposites for orthopedic applications. **J.T. Wilk**, M.E. Hagerman
- COLL 208.** Withdrawn.
- COLL 209.** Probing the catalytic properties of Ni-based bimetallic phosphides for deep hydrodesulfurization. **P.J. Topalian**, D. Lyanage, S. Brock, M.E. Bussell
- COLL 210.** Dabrafenib drug release system based on gold nanoparticle carriers for treatment of melanoma cancer. **L. Running**, R. Espinal, M.R. Hepel
- COLL 211.** Controlled release of lenvatinib from multi-functional nanoparticles monitored by surface-enhanced Raman scattering. **T. Santiago**, **T. Durgan**, M.R. Hepel
- COLL 212.** Growth of  $\text{SiO}_2$  shells on fluorescent nanodiamond cores for biodetection. **P.J. Sandoval**, A.A. Len, A. Arreola, D. Nordlund, P. Cigler, A. Wolcott
- COLL 213.** Room temperature monolayer ZnS growth on CdS and CdSe cores. **M. Augspurger**, N. Razzgoniaeva, M. Zamkov, D. Khon
- COLL 214.** Ligand influence on the branching of gold nanocages. **L.M. Bouchet**, J. Berqueiro, E.A. Glitscher, M. Calderon
- COLL 215.** Proposing a two-molecule multiplexed neuromorphic system: The first step towards a chemically based artificial brain. **N. Nakatsuka**, C. Zhao, J. Abendroth, H. Chen, K.M. Cheung, S. Dominik, **L. Scarabelli**, K. Yang, B. Zhu, H. Yang, Y. Yang, M. Stojanovic, P.S. Weiss, A.M. Andrews
- COLL 216.** Synthesis of  $\text{MoS}_2/\text{Fe}_3\text{O}_4$  nanocomposites with peroxidase-like activity for applications in  $\text{H}_2\text{O}_2$  and glucose detection. **V. Nandwana**, W. Huang, E.W. Roth, V.P. Dravid
- COLL 217.** Hydrothermal formation of various metal oxides using oxalic acid as a capping agent. **Z. Zander**, D. McCarthy, B.G. DeLacy
- COLL 218.** Production and characterization of activated carbon containing polyvinyl alcohol microcapsules. **Q.T. Truong**, **C.A. Zoto**, N. Orbey, A. Moinaro, J. Ogilvie Battersby
- COLL 219.** Single step dipping method of fabricating  $\text{Fe}_3\text{O}_4/\text{PVDF-HFP}$  composite porous material for magnetically controllable oil-water separation. **J. Li**, M. Tenjimbayashi, S. Shiratori
- COLL 220.** Synthesis and characterization of metallic nanoparticles using dendrimer-templating technology. **S. Merlus**, M.L. Curry, A. Ethridge
- COLL 221.** Synthesis and surface properties of poly(methyl methacrylate-butyl acrylate)/polythiourethane core-shell nanoparticles by new click reaction with soap-free emulsion polymerization. **J. Kook**, Y. Kim, K. Hwang, J. Kim, J. Lee
- COLL 222.** High density immobilization of oligonucleotides on semiconductor and gold nanoparticles within seconds. **A. Sedighi**, U.J. Krull
- COLL 223.** *In situ* synthesis of Ag nanocrystal-embedded metal-organic framework microneedles showing electrical bistability properties. **S. Park**, K. Park, S. Im, M. Kim
- COLL 224.** One-step synthesis of silver nanoplates with high aspect ratios: Using coordination of silver ions to enhance lateral growth. **Y. Park**, B. Lee, M. Kim
- COLL 225.** Sum-frequency vibrational spectroscopy of electrified water interfaces. **H. Wang**, W. Liu, Y. Shen
- COLL 226.** Withdrawn.
- COLL 227.** Systematic examination of bimetallic architecture in Pt-Pd nanocatalysts. **J. Legere**, S.E. Skrabalak
- COLL 228.** Reporting rotational dynamics of intracellular cargos with Janus particles. **Y. Gao**, S.M. Anthony, Y. Yi, Y. Yu
- COLL 229.** Smart colorimetric patches based on plasmonic nanoparticle-decorated thermoresponsive microgels. **A. Choe**, J. Yeom, M. Kim, H. Ko
- COLL 230.** Antibacterial layer-by-layer coating of nanoparticles. **K. Ivanova**, A. Ivanova, T.J. Heinze, T. Tzanov
- COLL 231.** Optical properties and controllable chiro-optical handedness of symmetric and asymmetric dimer nanocrystals. **P.F. Stevenson**, M. Swartz, C. Coplan, V.A. Tamma, V.A. Apkarian, J.S. Shumaker-Parry
- COLL 232.** Peelable temporary coatings by waterborne self-crosslinkable urethane dispersions. **S. Shin**, H. Oh
- COLL 233.** Identification of Gram-positive bacterial cell wall components responsible for interactions with cationic nanoparticles. **K. Johnson**, E. Caudill, J.A. Pedersen, C.L. Haynes, V. Feng
- COLL 234.** Impact of natural organic matter on the interaction of functionalized diamond nanoparticles with model bacterium *S. oneidensis* MR-1. **J. Kuether**, R. Tapia Hernandez, A.C. Mensch, J.A. Pedersen, R.J. Hamers, V. Feng
- COLL 235.** Adsorption and decomposition of a chemical warfare agent simulant on copper and molybdenum oxides. **L. Trotochaud**, A.R. Head, R. Tsyshkevsky, S. Pletincx, Y. Yu, O. Karstioglu, B.W. Eichhorn, M.M. Kuklja, H. Bluhm
- COLL 236.** Withdrawn.
- COLL 237.** Encapsulation of responsive liquids in coaxial nanofibers via electrospinning. **J. Lundin**, D. Ratchford, R. Ananth, R. Casalini, J.H. Wynne
- COLL 238.** Efficient photocatalytic activity of  $\text{SnO}_2$ -deposited ZnS nanoparticles. **J. Lee**, J.K. Kim, D. Jeong, **D. Jang**
- COLL 239.** Carbon nanomaterials for biomedical applications as antioxidants and drug delivery vehicles. **L.G. Niewski**, W.K. Sikkema, E.L. Samuel, A.S. Jalliov, K. Mendoza, R. Zhang, R. Huq, C. Beeton, M. Sharpe, D. Baskin, T.A. Kent, J.M. Tour
- COLL 240.** Magnetically induced heat generation in magnetic nanoparticles for environmental remediation. **K.J. Coopersmith**, G. Larsen, S. Hunyadi Murph
- COLL 241.** Fabrication of Si nanopillar array for ultralow reflectivity. **F. Teng**, N. Li, L. Liu, D. Xu, N. Lyu
- COLL 242.** Nucleobase and nucleotide coordinated Au(I/III) nanoparticles for anticancer therapeutics. **Y. Huang**, W. Yeh
- COLL 243.** Identification of promising electrografting precursors for the modification of electrode surfaces. **S.E. Shaner**, S.N. Doden, M. Moin, F. Mujid, J.E. Newhouse
- COLL 244.** Synthesis and characterization of ceramic-coated  $\alpha$ -FeOOH yellow pigments. **Y. Kim**, R. Yu, J. Yun
- COLL 245.** Zwitterionic polymers for chronic wound management. **K. Ruseva**, K. Ivanova, E. Vasileva, **T. Tzanov**

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- COLL 246.** Solvent free synthesis of nanostructured MoS<sub>2</sub>/S-TiO<sub>2</sub> photocatalysts for visible light driven water splitting and dye removal. V. Pillai, S. Lonkar, S. Al Hassan
- COLL 247.** Second harmonic generation studies of indomethacin adsorption to phospholipid membranes. A.D. Fearon, G.Y. Stokes
- COLL 248.** Targeted detection of mRNA biomarkers using graphene oxide and upconversion nanoparticles. A. Kanaras, P. Vilela, A. El-Sagheer, T. Brown, T. Millar, O. Muskens
- COLL 249.** Synthesis of large spherical and anisotropic gold nanoparticle dimers using a seeded-growth method. J. Midelet, A. Heuer-Jungemann, A. El-Sagheer, T. Brown, M. Werts, A. Kanaras
- COLL 250.** Aptamer-gold nanoparticle colorimetric assay evaluation of the role of DNA, small molecule targets, and gold nanoparticle interactions via NMR. J.E. Smith, B. Orzech, D. Russel, C. Medley
- COLL 251.** Modification of zinc oxide nanoparticles with perfluorophosphonic acids. D. Shoup, R. Quinones
- COLL 252.** Modification of nitinol nanoparticles with self-assembled alkylphosphonate films. S. Garretson, R. Quinones
- COLL 253.** Withdrawn.
- COLL 254.** Withdrawn.
- COLL 255.** Designing a model cell membrane to investigate the absorption of nanoparticles in our skin. B. Yoder, A. Sostarecz
- COLL 256.** pH-induced conformational switch in novel amide-based amphiphiles and their potential application in liposomes for targeted drug delivery. C. van Beek, M. Beltran-Sanchez, N.M. Samoshina, V.V. Samoshin
- COLL 257.** Two-dimensional nanoparticle array and cluster formation by supercritical fluid deposition. J. Wang, G. Brown, C.M. Wai, S. Apt
- COLL 258.** Epoxide chemistry on the Si(100)-(2x1) surface. J.L. McCracken, A.J. Pohlman, S.M. Casey
- COLL 259.** Targeted delivery of chemotherapeutic drugs and adjuvants using gold nanoparticle carriers. M. Palmer, A. Marotta, A. Ortiz, M.R. Hepel
- COLL 260.** Static light scattering studies of the aggregation process in the isotropic phase of chromonic surfactants in water. L.E. Stevenson, G.R. Van Hecke, K.K. Karukstis
- COLL 261.** Withdrawn.
- COLL 262.** Highly active cuprous oxide photocathode for the selective photoelectrochemical reduction of carbon dioxide. S. Alden, D.A. Rider
- COLL 263.** Stabilization and reaction of small molecules on TiO<sub>2</sub>/Au(111) inverse model catalysts. J. Wilke, D. Boyle, D. Schlosser, V.H. Lam, W. Andahazy, A.E. Baber
- COLL 264.** Phenothiazine cored poly(aryl ether) dendrons: Phase selective gelation, hydrophobization, oil spill recovery, antiwetting property and formation of fluorescent ink. N. Lakshmi
- COLL 265.** Synthesis of perfluoro-acrylate-silane co-polymer nanocapsules using emulsifier-free emulsion polymerization: Water-oil repellent and surface properties. Y. Kim, J. Kook, K. Hwang, J. Ahn, J. Lee
- COLL 266.** Synthesis of lanthanum doped titanate nanotube through a facile hydrothermal route. N. Wongsrisujarit, M. Hasan, K. Yeung
- COLL 267.** Performance enhancement of fluorescent dyes using nanoparticle encapsulation strategies for LED applications. X. Ning, J. Chittigori, Y. Li, G. Horner, R. Sharma, C. Ullal, L. Schadler
- COLL 268.** Synthesis of carboplatin like Pt<sup>2+</sup> complexes with azide and alkyne functionalities for nanomedical applications. M.T. Wlodarczyk, O. Camacho-Vanegas, S.A. Dragulska, A. Jarzecki, P.R. Dottino, J.A. Martignetti, A.J. Mieszawska
- COLL 269.** Field theory for ligand alignment on nanoparticles: Prospects for self-assembly driven by phase transitions. P. Satish, J. Haberstroh, P.L. Geissler
- COLL 270.** Delivery of biomolecules into solid-supported lipid bilayers using nanolipoprotein particles. A. Dang, M. Coleman, T. Kuhl
- COLL 271.** Polyelectrolyte multilayers for controlled FGF-2 release and improved cell attachment on cell culture surfaces. I. Ding, A.M. Peterson
- COLL 272.** Removal kinetics of 2-Chloroethylthyl Sulphide (CEES) by iron oxide nanoparticles. S. Kim, Y. Choe, K. Baek, Y. Lee
- COLL 273.** Assembly and disassembly of fluorescent graphene oxide for optical detection of enzymatic activity. J. Ju, S. Jeon, T. Kang, H. Kim, M. Kim, S. Lee, J. Kim
- COLL 274.** Modification of the surface of zinc oxide nanoparticles in order to increase efficiency of solar cells. G. Behnke, R. Quinones
- COLL 275.** Alkyl desorption from Si(100)-2x1 by nonadiabatic hydrogen elimination. A. Pohlman, D. Kaliakin, S.A. Varganov, S.M. Casey
- COLL 276.** Aqueous multiphase emulsion droplets as cellular mimics: Production and utilization. C. Crowe, P. Torre, R. Poudyal, P.C. Bevilacqua, S.S. Mansy, C.D. Keating
- COLL 277.** Novel DNA origami structure for Doxorubicin delivery. S. Palazzolo, V. Kumar, C. Russo Spena, M. Hadla, S. Bayda, G. Corona, V. Canzonieri, G. Toffoli, F. Rizzolo
- COLL 278.** Label-free detection and quantification of specific proteins in complex biological fluids through clogging in cellulose paper. J. Pazzi, M. Xu, W. Cheung, A.B. Subramaniam
- COLL 279.** Paper-based growth of liposomes and proteoliposomes using PAPYRUS in ionic buffers. M. Xu, A.B. Subramaniam
- COLL 280.** Photochemical study of silver nanoparticles formed from the reduction of silver ions by humic acid. R. Leslie, D. Pullman
- COLL 281.** Nanoparticle system based on tripeptide oil in water emulsion to deliver Au nanocrystals and taxol for cancer therapy. S.A. Dragulska, M.T. Wlodarczyk, R. Uljin, A.J. Mieszawska
- COLL 282.** Decoupling mechanisms of palladium nanoparticle synthesis on a biotemplate. E. Retzlaff-Roberts, O. Adigun, G. Novikova, L. Wang, B. Kim, J. Ilavsky, J. Miller, S. Loesch-Fries, M.T. Harris
- COLL 283.** Direct correlation of atomic structure and emission dynamics in single colloidal core/shell nanostructures. K.R. Reid, J.R. McBride, S.J. Rosenthal, J. Macdonald, A.D. LaCroix
- COLL 284.** Effect of fluctuations on excited state rates in core/shell quantum dots. A. Balan, H. Eshet, J.H. Olschansky, E. Rabani, A. Alivisatos
- COLL 285.** Adsorption and decontamination of alpha-synuclein from medically and environmentally-relevant surfaces. H. Phan, S.L. Bartelt-Hunt, J.C. Bartz, J. Ayers, B. Giasson
- COLL 286.** Effects of ice-binding proteins from cold-adapted insect *Tenebrio molitor* on calcite crystallization. A. Kishishita, J. Lugo, X. Wen
- COLL 287.** Characterization of ordered naphthalene diimide films deposited in soils substrates from floating films at the air-water interface. J. Dillenburger, A. Muentner Edwards, J. Reczek
- COLL 288.** Investigations of cationic gemini surfactants by NMR relaxation and diffusion. B.J. Schepergerdes, S.J. Bachofer, M.D. Lingwood
- COLL 289.** Modular approach for the attachment of protein domains to the exterior of the P22 virus-like particle scaffold. D. Patterson, M. Hicks, M. Terra, B. Western, P. Krugler, T. Douglas
- COLL 290.** Zinc chalcogenide nanostructures as flame retardant coatings. Y. Wang, T. Athauda, Y. Vasquez, Q. Wang
- COLL 291.** Withdrawn.
- COLL 292.** Giant Nanocrystal Quantum Dots (gNQDs) as Förster Resonance Energy Transfer (FRET) donors. M. Chern, T. Nguyen, A. Mahler, A.M. Dennis
- COLL 293.** Advances in correlating the optical and structural behavior of single quantum dots. N. Orfield, J.R. McBride, N. Mishra, S.M. Click, S. Majumder, H. Htoon, J.A. Hollingsworth
- COLL 294.** Potential of indium tin oxide nanoparticles to produce reactive oxygen species in environmental systems as a result of Sn level and location. J. Grundy, C. Ngan, N.B. Saleh, L.E. Katz, M. Kirisits, C. Saez Cabezas, D.J. Milliron
- COLL 295.** Effect of micelle polydispersity on first order phase transitions in polyelectrolyte-colloid systems. D. Marco, P.L. Dubin
- COLL 296.** Modification of magnetite nanoparticle surface through Sn<sub>2</sub> substitution of the hydroxide functional group with a chloride group. I. Rios Cruz, P. Velez Vega, C. Beauchamp Perez, G.E. Alvarez, T. Massas Le'Cleres, F. Roman, V. Fernandez-Alos, O. Perales
- COLL 297.** Asymmetric silica encapsulation toward colloidal Janus nanoparticles: Concave nanoreactor for template-synthesis of electrocatalytic hollow Pt nanodendrite. J. Koo, D. Kim, K. Jin Goo, I. Lee
- COLL 298.** Functional interphases based on peptidomimetic-coated gold surfaces. C. Sugnaux, A. Kelleghan, P. Messersmith
- COLL 299.** pH-responsive Fenton reaction performing polymeric micelles: Applications in anticancer and antibacterial therapy. D. Yoo, J. Noh, E. Jung, D. Lee
- COLL 300.** Potential of nontoxic materials to treat dental hypersensitivity and promote tooth remineralization. A.D. Fritza, K. Rashwan, B. Karels, G. Sereda
- COLL 301.** Substitution effects in aniline on electrochromic properties of hybrid flexible device. A. Uygun Oksuz, E. Eren, C. Alver, G. Yurdabak Karaca
- COLL 302.** Removal of car batteries heavy metals contaminants from aqueous solutions with composite chitosan/alginate coated magnetite beads. K.M. Molina, V. Fernandez-Alos, F. Roman
- COLL 303.** Antitumoral activity of (-)-epicatechin loaded chitosan nanoparticles *in vitro* and *in vivo*. A. Perez Ruiz, I. Olivares Corichi, F. Ganem Rondero, J. Suarez Sandoval, J. García Sánchez
- COLL 304.** Morphology-controlled self-assembly and synthesis of photocatalytic nanocrystals. Y. Zhong, J. Wang, F. Bai
- COLL 305.** Morphology-controlled synthesis and metalation of porphyrin nanoparticles with enhanced photocatalytic performance. J. Wang, Y. Zhong, F. Bai
- COLL 306.** Investigation into the synthesis and oxidative toxicity associated with colloidal C<sub>60</sub> nanoparticles. S. Irving, K. Shumard, K.D. Ausman
- COLL 307.** Study on protein conformation and bio-activity of antibodies immobilized on varied nanofibrous membranes. C. Zhao, Y. Deng, B. Pan, Y. Si, G. Sun
- COLL 308.** Microfluidic multifunctional capacitive sensors using ionic liquid electrodes and CNT/PDMS composites for simultaneous sensing of pressure and temperature. S. Yoon, S. Chang
- COLL 309.** Surface modification of conductive polymer thin films by femtosecond laser direct writing. S. Chae, J. Choi, H. Kim
- COLL 310.** Photothermal heating of nanoparticles for activation of initiators for radical polymerization. T.M. Steeves, R.C. Steinhardt, A. Esser-Kahn
- COLL 311.** Ambient STM study of sequentially adsorbed octanethiol and biphenylthiol monolayers on Au(111). G. Avila-Bront
- COLL 312.** Rotating disk electrode characterization of soluble redox active polymers for use in nonaqueous redox flow batteries. J. Davila, K. Hernandez-Burgos, E. Montoto, J. Moore, J. Rodriguez Lopez
- COLL 313.** Synthesis of WS<sub>2</sub> by low-pressure chemical vapor deposition. Z. Luo, J. Qian, Z. Sun, D. Zhang
- COLL 314.** Effect of substituents on anthracene transmitters on triplet transfer from CdSe nanocrystals. P. Xia, Z. Huang, X. Li, J.J. Romero, V.I. Vullev, G.S. Pau, M.L. Tang
- COLL 315.** X-ray imaging observation of interfacial changes between epoxy and metal particles during thermal curing. S. Lee, Y. Kim, H. Lee, H. Kim, D. Noh
- COLL 316.** Effects of OH and Cl adsorption on the surface structure of α-Fe<sub>2</sub>O<sub>3</sub>: A density functional theory study. Q. Pang, H. DorMohammadi, O. Isgor, L. Arnaudottir
- COLL 317.** Solid-liquid equilibrium of binary mixtures with curved interface. F. Liu, L. Zargarzadeh, H. Chung, J.A. Elliott

- COLL 318.** Peptide loaded microgels as antimicrobial surface coatings. **L. Nyström**, R. Nordstrom, G. Frenning, B. Saunders, R. Alvarez-Asencio, M.W. Rutland, M. Malmsten
- COLL 319.** Coexisting coacervate systems to model aqueous phase separated compartments in biology. **G.A. Mountain**, C.D. Keating
- COLL 320.** Responsive nanogels as carriers for antimicrobial peptides. **R. Nordstrom**, L. Nyström, B. Saunders, M. Malmsten
- COLL 321.** Withdrawn.
- COLL 322.** Three dimensional (3D) plasmonic hot spot for label-free sensing and effective photothermal killing of multiple drug resistant superbugs. **S.J. Jones**, S.S. Sinha, A. Pramanik, P.C. Ray

## Section B

Moscone Center  
Halls B/C

### Colloidal Nanoparticle Synthesis & Assembly

H. Fan, H. Htoon, Y. Sun, S. Wu, *Organizers*

6:00 - 8:00

- COLL 323.** Asymmetric and multi-compartment polymersomes as structural analogues of eukaryotic cells. **A. Peyret**, E. Ibarboure, S. Lecommandoux
- COLL 324.** Assessing the influence of oxidizing agents when preparing colloidal spinel-type  $MgMn_2O_4$  nanocrystals. **G. Nolis**, J. Bolotnikov, J. Cabana
- COLL 325.** Hollow silica particles: Measurement of mechanical stability through mercury porosimetry, and development of a low cost, scalable process for hollow silica. **J. Lasio**, F. Woerner, A. Allgeier, C. Chan, J.D. Londono
- COLL 326.** Polyampholyte microgels: From molecular design to ionic traps and switches. **A. Pich**, W. Xu
- COLL 327.** Tannin-mediated layer-by-layer assembly of titania nanocrystals for efficient UV-protective colloidal materials. **H. Son**, B. Koo, J. Lee, K. Kim, J. Jang, M. Yoon, J. Cho, J. Kim, Y. Nam
- COLL 328.** Withdrawn.
- COLL 329.** Development of supramolecular particles made from guanosine derivatives to study and modulate the immune system. **M. Acosta Santiago**, S.E. Quiñonez González, J.M. Rivera
- COLL 330.** Fabrication and characterization of platinum coated with solution processed graphene. **Y. Zhang**
- COLL 331.** Electron microscopy in color: Revealing chemical complexity in emergent nanocrystal systems utilizing advanced STEM-EDS. **J.R. McBride**, K. Reid, S.J. Rosenthal
- COLL 332.** Hybrid lipid-coated silver nanoparticles differentially shielded from Ag<sup>+</sup> release. **M.R. Mackiewicz**, T.J. Miesen
- COLL 333.** Gadolinium oxide nanocrystals as T<sub>1</sub> MRI contrast agents: Balancing colloidal stability with surface accessibility. **V. Colvin**, N. Taheri, G. Stinnett, R. Paultler, P. Decuzzi, I. Al-Dhahir, A. Mendoza-Garcia
- COLL 334.** Engineering a thermoresponsive nanogel with a photothermal core for cancer cell specific binding. **Z. Yu**, D. Tang, K.J. Shea, X. Qi, H. Gu

- COLL 335.** Magnetic nanocapsule: A novel theranostic agent in biomedicine. **V. Nandwana**, A. Singh, J. Higham, M.M. You, T.S. Zheng, S. Shankar, V.P. Dravid
- COLL 336.** Using molecular dynamics to investigate the effect of intra- and inter-strand hydrogen bonding on sequence-chirality specific adsorption of single-stranded DNA (ssDNA) onto Single-Walled Carbon Nanotubes (SWCNTs). **K. Hinkle**, F.R. Phelan
- COLL 337.** Chiroptical responses of helical arrays of plasmonic nanoparticles around anisotropic nanopillars. **A. Jung**, C. Kim, B. Yeom
- COLL 338.** Solution-processed photovoltaic devices utilizing Semiconductor Excitonic Nanoshells (SENS). **N. Razgoniaeva**, M. Zankov
- COLL 339.** Hybrid nano-antibacterials to control biofilm-associated infections. **K. Ivanova**, J. Hoyo, T. Tzanov
- COLL 340.** Withdrawn.
- COLL 341.** Oxidation state dependence of capping agent for site-selective silica coating of gold nanorods. **J.G. Hinman**, J. Eller, J. Li, J. Li, C.J. Murphy
- COLL 342.** Precisely tuning size, dopant incorporation, and radial distribution of dopants in metal oxide nanocrystals via a continuous, living growth synthesis. **A.W. Jansons**, B. Crockett, K.M. Koskela, J.E. Hutchison
- COLL 343.** Biopolymer hydrogels embedded with lignin-silver nanocomposites with broad activity against antibiotic-resistant clinical isolates. **T. Tzanov**, P. Petkova, K. Ivanova, N. Slavin, H. Bach, I.S. Stefanov
- COLL 344.** Microwave-assisted synthesis and characterization of nanomaterials. **P.N. Njoki**, P. Nwokogu, T. Williams, R. Yehdego
- COLL 345.** Nitrogen enriched hierarchically nanoporous carbon derived from one-pot sol-gel synthesis of polybenzoxazine precursor for CO<sub>2</sub> capture and storage. **T. Chaisuwan**, S. Wongkasemjit, N. Manmuanpom
- COLL 346.** Occlusion of sulfate-based diblock copolymer nanoparticles within calcite: Effect of varying the surface density of anionic stabilizer chains. **S.P. Armes**, Y. Ning
- COLL 347.** Core@Shell architecture: Enhancing catalytic performance. **K. Koczur**, J. Legere, D. Chen, E.W. Harak, S.E. Skrabalak
- COLL 348.** Biocatalytic synthesis and characterization of ultra-long-chain fatty acid sugar alcohol monoesters. **Z. Guo**
- COLL 349.** Interaction of size-tailored PEGylated iron oxide nanoparticles with lipid membranes and cells. **N. Gal**, A. Scheberl, A. Lassenberger, L. Herrero Nogareda, E. Reimhult
- COLL 350.** Aqueous synthesis, characterization and optimization of novel nanostructures for water purification. **T. Eldred**, J.C. Poler
- COLL 351.** MRI reporter contrast agents for ultrasound ablative therapy. **J. Wang**, J. Yang, G. Anthony, S. Sammet, W.C. Trogler, A. Kummel
- COLL 352.** *Sapindus mukorossi* fruit extract mediated synthesis of silver nanoparticle and study of its catalytic and antibacterial activity. **A. Mitra**, G. Dinda, D. Halder, N. Pal, C. Vazquez Vazquez, M. Lápez-Quintela

- COLL 353.** Autocatalytic sol-gel synthesis of organic-inorganic hybrid material. **R. Francis**, G.P. Gopalan
- COLL 354.** Synthesis and adsorption studies of quaternized magnetic cellulose nanocomposite as adsorbent for hexavalent chromium removal. **J. Wanathampong**, T. Witton, K. Kasemwong
- COLL 355.** Hybrid microemulsion (uE)/sol-gel chemistry to synthesize and harvest  $CaTiO_3:Cr^{3+}$  NIR nanophosphors. **P.A. Sermon**, J. Eloi
- COLL 356.** Effects of the template removal methods and pH on formation of hierarchical porous silica using natural rubber as template. **C. Phattharachindanuwong**, N. Hansupalak, C. Warakulwit, J. Plank, Y. Chisti
- COLL 357.** Miniaturised continuous processing units for rapid synthesis and purification of liposomes. **N. Dimov**, E. Kastner, Y. Perrie, N. Szita
- COLL 358.** Nanoparticle synthesis and harvesting from W/O microemulsions (uE). **P.A. Sermon**, M. Worsley, J. Eloi

## Section C

Moscone Center  
Halls B/C

### Basic Research in Colloids, Surfactants & Nanomaterials

R. Nagarajan, *Organizer*

6:00 - 8:00

- COLL 359.** Platonic micelles: A novel aggregation behavior of sulfonatocalix[4]arene-based micelles. **S. Fujii**, K. Sakurai
- COLL 360.** Visible light photoactivity of 1-D TiO<sub>2</sub> by targeted decoration of transition metal nanodots. **M. Hasan**, S. Ferdousi, K. Yeung
- COLL 361.** Effects of osmolytes on caffeine partitioning thermodynamics. **T.S. Thompson**, A.P. Allsbrook, Y. Zhang
- COLL 362.** Elucidating distinct Au(111) and TiO<sub>2</sub>/Au(111) surface sites for the selective oxidation of ethanol to acetaldehyde. **D. Boyle**, J.A. Wilke, V.H. Lam, A.E. Baber

## Section D

Moscone Center  
Halls B/C

### Hierarchical Self-Assembly of Organic Monolayers, Bilayers & Films: Theory & Experiment

A. H. Flood, S. L. Tait, *Organizers*

6:00 - 8:00

- COLL 363.** Tuning dynamic two-dimensional supramolecular self-assemblies at surfaces by molecular design. **H.D. Castillo**, J. Dobscha, J.M. Espinosa Duran, S. Kim, S. Debnath, Y. Liu, D.C. Ashley, Y. Serada, B. Hirsch, M. Baik, D. Lee, K. Raghavachari, P. Ortoleva, A.H. Flood, S.L. Tait
- COLL 364.** Controllable self-assembly of peptoid material. **F. Jiao**, H. Jin, P. He, C. Chen, J.J. De Yoreo
- COLL 365.** Towards the design, synthesis, and characterization of the self-assemblies of shape-persistent tricarbo macrocycles. **J. Dobscha**, H.D. Castillo, Y. Liu, J.M. Espinosa-Duran, S. Debnath, Y. Serada, K. Raghavachari, P. Ortoleva, S.L. Tait, A.H. Flood

- COLL 366.** Self-assembly of designed helical-repeat protein on mica characterized using atomic force microscopy. **S. Zhang**, H. Pyles, D. Baker, J.J. De Yoreo
- COLL 367.** Rapid electro-formation of robust and transparent biopolymer gels in prescribed shapes. **A. Gargava**, H. Mani, S.R. Raghavan
- COLL 368.** Synthetic lipids for liposome derivatization, targeting and triggered release towards drug delivery applications. **M. Best**, A.M. Bayer, S. Alam, S. Whitehead
- COLL 369.** Interfacial carbene reactions on hard and soft material interfaces. **A. Shestopalov**
- COLL 370.** Carboranethiol self-assembled monolayers on gold surfaces. **N. Sohrabnia**, A. Yavuz, A. Yilmaz, **M. Danisman**
- COLL 371.** Withdrawn.

## Section E

Moscone Center  
Halls B/C

### Deposition & Etching of Nanostructures

*Cosponsored by INOR*

H. Fairbrother, L. McElwee-White, A. V. Walker, *Organizers*

6:00 - 8:00

- COLL 372.** Interfacial stress induced metal thin film surface reorganization. **J. Chen**, I. Tevis, M. Thurgon
- COLL 373.** Size and aging effects on antimicrobial efficiency of silver nanoparticles coated on polyamide fabrics activated by atmospheric DBD plasma. **A. Zille**, M. Fernandes, A. Francesco, T. Tzanov, M. Fernandes, F. Oliveira, L.M. Almeida, A.P. Souto, N. Carneiro, T. Amorim, M.F. Esteves
- COLL 374.** Hot Splash Coating (HSC): A method to create thin layers of doped carbon on metal surfaces. **M.R. Alves**, R. Silva

## Section F

Moscone Center  
Halls B/C

### Nanoscale Chemical Patterning & Characterization

S. A. Claridge, W. Liao, *Organizers*

6:00 - 8:00

- COLL 375.** Control of surface energy to optimize post CMP cleaning efficiency for microelectronics fabrication. **S. Ozbek**, T. Walker, **G. Basim**

## Section G

Moscone Center  
Halls B/C

### Interfacial Phenomena & the Oil-Water Interface

*Financially supported by The Dow Chemical Company*

C. Acevedo, C. E. Mohler, C. J. Tucker, *Organizers*

6:00 - 8:00

- COLL 376.** Self-propelled ionic gel at air-water interface. **K. Furukawa**, T. Teshima, Y. Ueno



## MONDAY MORNING

## Section A

Moscone Center  
2002

## Biomembrane Synthesis, Structure, Mechanics &amp; Dynamics

J. Katsaras, S. Muralidharan, M. Nieh, A. N. Parikh, N. Srividya, *Organizers*

K. Gawrisch, N. Malmstadt, *Presiding*

**8:30 COLL 377.** Lipid phase separation enhances fusion. Z. Imam, L.E. Kenyon, G. Ashby, M. Mendicino, F. Nagib, J.C. Stachowiak

**8:50 COLL 378.** Molecular interactions between model cell membranes and nanoparticles. Z. Chen

**9:15 COLL 379.** Phospholipid flippases of the human erythrocyte. S. Cook, M. Hosek, J. Lyles, J. Paterson, S. Smriti, M.L. Zimmerman, D.L. Daleke

**9:40 COLL 380.** Exploring the interactions of transition metal ions with lipid membranes. P.S. Cremer, M. Poyton, X. Cong, A. Sendek, S. Pullanchery, A. Baxter, S. Sun

**10:05 COLL 381.** Model system for separating viral membrane binding and fusion. S.G. Boxer, R. Rawle, P. Kasson, E. Webster

**10:30 COLL 382.** Stochastic molecular mechanisms in membrane traffic. J. Stachowiak

**10:55 COLL 383.** Blue fluorescent amino acid for studying membrane protein structure and dynamics. F. Gai

**11:20 COLL 384.** Novel application of cellulose paper as a platform for fabricating giant liposomes. K. Kresse, M. Xu, J. Pazzi, M. Garcia-Ojeda, A.B. Subramaniam

**11:45 COLL 385.** Investigating the mechanism of electromechanical coupling in voltage-gated ion channels by time-resolved x-ray & neutron interferometry. J.K. Blasie

## Section B

Moscone Center  
2004

## Colloidal Nanoparticle Synthesis &amp; Assembly

H. Htoon, Y. Sun, S. Wu, *Organizers*

H. Fan, *Organizer, Presiding*

Z. Jiang, *Presiding*

**8:30 COLL 386.** Enriching Ag nanocrystals with gold. D. Qin, X. Sun, Y. Wu

**9:00 COLL 387.** Configurational behavior and charge correlation of Zwitterionic brushes at the solid-water interface. W. Chen, J. Mao, J. Yu, M.V. Tirrell

**9:30 COLL 388.** Shape switchable patchy particles. X. Zheng, D. Pine, M. Weck

**9:50 COLL 389.** General strategy for assembling metal chalcogenide capped semiconductor nanocrystals into open, mesoporous films with precisely controlled properties. J. Ondry, S. Robbenolt, Y. Yan, E. Harr, H. Kang, S.H. Tolbert

**10:10 COLL 390.** Reversible self-assembly of monodisperse gold nanoparticle clusters in aqueous solution via pH-tunable interactions between surface ligands. E. Moaseri, B. Changalvaie, J. Bollinger, L. Johnson, T. Truskett, K.P. Johnston

**10:30 COLL 391.** Two-dimensional bipyramid plasmonic nanoparticle superstructure with four distinct orientational packing orders. Q. Shi

**10:50 COLL 392.** Watching nanoparticle growth with tandem *in situ* SAXS-XAS. T. Li

**11:20 COLL 393.** Multimodal resonant soft x-ray scattering for soft materials. C. Wang

**11:50 COLL 394.** Self-assembly of two-dimensional nanoparticle superlattice membranes: A study by synchrotron x-ray scattering. Z. Jiang

## Section C

Moscone Center  
2006

## Molecular Surface Science, Nanomaterials &amp; Catalysis: Symposium in honor of Gabor Somorjai at 80

## Soft Interfaces

*Cosponsored by CATL*

S. H. Kim, R. M. Rioux, *Organizers, Presiding*

**8:30 COLL 395.** Investigations of water structure at lipid interfaces. P.S. Cremer, S. Pullanchery, S. Sun

**9:00 COLL 396.** Interactions of surfactants and polyelectrolytes at water surface studied by surface tension and phase-sensitive sum frequency generation. K. Chou

**9:30 COLL 397.** Biomedical surface analysis: Recent advances and opportunities for characterizing immobilized proteins and functionalized gold nanoparticles. D.G. Castner

**10:00 COLL 398.** Surface-modified nanoparticles for biomedical imaging. P. Chen

**10:30 COLL 399.** Structure and function of surface immobilized peptides and enzymes in air. Z. Chen

**11:00 COLL 400.** *In-situ* surface spectroscopy and imaging: From electrocatalytic to live cell interfaces. D.H. Gracias

## Section D

Moscone Center  
2008

## Hierarchical Self-Assembly of Organic Monolayers, Bilayers &amp; Films: Theory &amp; Experiment

S. L. Tait, *Organizer*

A. H. Flood, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:40 COLL 401.** Hierarchical self-assembly of functionalized tricarbazolo triazolophane macrocycles at the liquid-solid interface. H.D. Castillo, J. Dobscha, B. Hirsch, Y. Liu, J.M. Espinosa-Duran, S. Debnath, Y. Serada, K. Raghavachari, P. Ortoleva, A.H. Flood, S.L. Tait

**9:00 COLL 402.** Predicting crystalline structures of organic photovoltaic materials involving alkoxybenzotrioles via multiscale computer-aided design. J.M. Espinosa Duran, H.D. Castillo, J. Dobscha, S. Debnath, S.L. Tait, A.H. Flood, K. Raghavachari, P. Ortoleva

**9:20 COLL 403.** First-principles modelling of supramolecular organic assembly driven by electrostatic interactions. A. De Vita

**9:50 COLL 404.** Electronic effects in the self-assembly of strong donor/acceptor mixtures on metal surfaces. R. Otero

**10:20 COLL 405.** Playing with electrons: How physics meets organic chemistry in the engineering of molecular interfaces. W. Hofer

**10:50 COLL 406.** Electronic structure of two-dimensional pi-conjugated networks: Impact of lattice symmetry. J.E. Bredas

**11:20 COLL 407.** Tuning charge transport in supramolecular assemblies of porphyrins on Au. J.D. Batteas

**11:50 COLL 408.** Entropic intermixing in a binary molecular system: A two-dimensional hydrogen-bonded molecular substitutional solid solution. J. MacLeod, J. Lipton-Duffin, D.F. Perepichka, F. Rosei

**12:10 COLL 409.** Self-assembly under confinement: Nanocorrals for understanding fundamentals of 2D crystallization. L. Verstraete, J. Greenwood, B. Hirsch, S. De Feyter

## Section E

Moscone Center  
2010

## Coacervation: Physics, Chemistry &amp; Biology

P. L. Dubin, *Organizer*

R. Stewart, *Organizer, Presiding*

**8:30 COLL 410.** Build-up and breakdown of a cytoskeleton in complex coacervate synthetic cells. J. Groen, E. Te Brinke, E. Spruijt, W. Huck

**9:00 COLL 411.** Actin encapsulation and assembly in polypeptide coacervates. S. Srivastava, P. McCall, S.L. Perry, D. Kovar, M. Gardel, M.V. Tirrell

**9:30 COLL 412.** Cell-like structures by coacervation: Polymer microcapsules with addressable inner compartments that can harbor biomolecules, colloids or microbial species. S.R. Raghavan, A. Lu, W.E. Bentley

**10:00 COLL 413.** Protein coacervation in the processing of biomolecular composites. A. Miserez, B. Gabryelczyk, C. Hao

**10:30 COLL 414.** Alternative solvent for biology. T. Nott, T. Craggs, P. Farber, J. Forman-Kay, A. Baldwin

**11:00 COLL 415.** Measuring the intracellular dew point: Phase transitions in cells. C. Brangwynne

## Section F

Moscone Center  
2012

## Applied Biosensing Based on Functional Colloids

R. Alvarez Puebla, W. Parak, J. Sagalés, G. F. Strouse, *Organizers*

L. Liz Marzan, *Organizer, Presiding*

**8:30 COLL 416.** Designing bio-functionalised colloids for biosensing. M. Stevens

**9:00 COLL 417.** Functionalizing iron oxide with genomic DNA: Materials for drug capture. C. Blumenfeld, M.D. Schulz, S. Hettis, R.H. Grubbs

**9:20 COLL 418.** Silica coated ferromagnetic nanoparticles in trace glycoprotein recovery for LC-MS. N. Sortedahl, E.J. Rodriguez, P. Wei, Y. Hua, D.A. Egas, M.J. Wirth

**9:40 COLL 419.** Synthesis, characterization and functionalization of inorganic, water soluble nanoparticles. J. Huehn, N. Feliu, W. Parak

**10:00 COLL 420.** Interpreting sensing mechanisms in nucleic acid-wrapped nanotube sensors through computational approaches. A. Alizadehmojarad, A. Beyene, E.G. Tindall, M.P. Landry, L. Vukovic

**10:20 COLL 421.** Fluorescent nanodiamond labelled with gold nanoparticles for enhanced optical and electron microscopy imaging. W. Liu, T. Weil

**10:40 COLL 422.** Understanding the interaction of nanoparticles and cells. N. Feliu, W. Parak

## Section G

Moscone Center  
2001

## Interfacial Phenomena &amp; the Oil-Water Interface

*Financially supported by The Dow Chemical Company*

C. Acevedo, C. E. Mohler, C. J. Tucker, *Organizers, Presiding*

**8:30 COLL 423.** Amphiphilic block copolymers at the oil-water interface. P. Alexandridis

**9:00 COLL 424.** Dynamic and thermodynamic factors controlling transient Marangoni flow at the oil/water interface under convective diffusion surfactant adsorption conditions. R.D. Tilton, G. Duner, S. Garoff, T.M. Przybycien

**9:30 COLL 425.** Dynamics of oil-water interfaces: Adsorption, polymerization, and transport. T. Squires

**10:00 COLL 426.** Formation of multi-nanoemulsions for colloidal synthesis. M. Zhang, P. Malo de Molina, M.E. Helgeson

**10:30 COLL 427.** Exploring the interfacial synergy between polymers and surfactants. B. Schabes, C. Steen, G. Richmond

**10:50 COLL 428.** Pickering nanemulsions using bespoke sterically-stabilized diblock copolymer nanoparticles. S.P. Armes

**11:10 COLL 429.** One-step formation of stable multiple emulsions. P.M. Guenoun, M. Protat, N. Bodin, N. Pantoustier, J. Dailant, F. Gobeaux, F. Malloggi, P. Perrin

**11:30 COLL 430.** Microemulsion interfacial tension and characteristic length scale model using a microscopic curvature approach and the HLD concept. V. Torrealba, R.T. Johns

**11:50 COLL 431.** Determining the dynamic interfacial tension during droplet/bubble generation using T-junction and co-flowing microchannels. K. Wang, X. Wang, L. Yang, G. Liu, G. Luo

## Section H

Moscone Center  
2003

### Nanoscale Chemical Patterning & Characterization

S. A. Claridge, W. Liao, *Organizers*  
S. Claridge, *Presiding*

**8:30 COLL 432.** Generation of patterned multifunctional surfaces using orthogonal click chemistries. K. Brooks, J. Yatvin, C.D. McNitt, R.A. Reese, C. Jung, V. Popik, J.J. Locklin

**8:50 COLL 433.** Bioinspired interfaces with controlled anisotropic wetting at scales <10 nm for ultrathin patterned films. S.W. Choong, S.R. Russell, J. Bang, J.O. Bechtold, J.K. Patterson, S.A. Claridge

**9:10 COLL 434.** Programming polymer nanoarchitectures by DNA origami technology. Y. Tokura, Y. Jiang, A. Welle, M.H. Stenzel, K.M. Krzemien, J. Michaelis, R. Berger, C. Barner-Kowollik, Y. Wu, T. Weil

**9:30 COLL 435.** Polymer pen chemical lift-off lithography. X. Xu, Q. Yang, K.M. Cheung, C. Zhao, N. Wattanatorn, J.N. Belling, J. Abendroth, L. Slaughter, C.A. Mirkin, A.M. Andrews, P.S. Weiss

**9:50 COLL 436.** Nanoimprint lithography using DNA nanostructure templates. H. Liu

**10:20 COLL 437.** Bottom-up approach to high density array of patterned polymer brushes. P. Gopalan

**10:50 COLL 438.** Surface assembly and packing preferences of fibrinogen mediated by the periodicity and alignment of block copolymer nanodomains. J. Hamm, T. Xie, A. Vora, P.J. Mulcahey, C. Liu, D.P. Sanders

**11:20 COLL 439.** Monolayer assembly of polyaromatics by shear-induced alignment and by 2D porous networks. C. Chen

## Section I

Moscone Center  
2005

### Nanostructure Engineering & Surface Chemistry for Spectroscopy, Imaging & Alternative Energy Harvesting & Conversion

*Financially supported by MilliporeSigma-Energy Materials; CH Instruments, Inc.; The University of Alabama (Chemistry, College of Arts & Science)*

N. Hammer, S. Pan, *Organizers, Presiding*

**8:30 COLL 440.** Actuable DNA origami-nanoparticle composites for energy harvesting and storage. A. Dehankar, J. Johnson, C. Castro, J.O. Winter

**8:50 COLL 441.** Studies of electrochemical reactions at individual nanostructures via combined electroanalytical and optical methods. C.M. Hill

**9:20 COLL 442.** Nanoelectrochemical techniques for high-resolution imaging and characterization of catalytic nanostructures. M.V. Mirkin, T. Sun, M. Zhou, Y. Yu, D. Wang, H. Xin

**9:50 COLL 443.** Detecting small molecule binding with membrane proteins. N. Tao

**10:20** Intermission.

**10:30 COLL 444.** Gold nanoparticle assisted delayed luminescence in conjugated polymers. L. Rothberg, R. Chakraborty

**11:00 COLL 445.** Growth of highly fluorescent gold and silver nano-clusters. D. Mishra, F. Aldeek, G. Palui, H.M. Mattoussi

**11:30 COLL 446.** Competitive partial charge transfer interactions with hydrogen-bonded solvent networks. N. Hammer

## Section J

Moscone Center  
2007

### ACS Award in Colloid Chemistry: Symposium in honor of Nicholas A. Kotov

P. Podsiadlo, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 COLL 447.** Colloidal assembly in alchemical space. S.C. Glotzer

**9:05 COLL 448.** Control of DNA-functionalized nanoparticle assembly. M. Olvera De La Cruz

**9:35 COLL 449.** Large-scale nanocrystal arrays. P. Mulvaney, C. Kinnear, H. Zhang, A. Roberts, T. James, J. Cadusch

**10:05** Intermission.

**10:15 COLL 450.** Surface patterning of nanoparticles with polymer patches. E. Kumacheva

**10:45 COLL 451.** Can particles mimic atoms and molecules? Z. Nie, C. Yi, S. Zhang, Y. Yang

**11:15 COLL 452.** Stimuli-responsive materials by nanoscale assembly and disassembly. Y. Yin

**11:45** Concluding Remarks.

### Mineral-Water Interface Chemistry

#### A Tribute to Glenn Waychunas

*Sponsored by GEOC, Cosponsored by COLL and ENVR*

### Science for a Sustainable Energy Future

#### Energy Storage

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC*

### ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend

### Honoring the Contribution to Nanocatalysis

*Sponsored by CATL, Cosponsored by COLL and WCC*

### Janus Particles: Synthesis, Characterization & Applications

*Sponsored by PMSE, Cosponsored by COLL and MPPG<sup>2</sup>*

### Functional Lignocellulosics & Nanotechnology

### Tuning Interfacial Phenomena with Ligno-Nanocellulosic Materials

*Sponsored by CELL, Cosponsored by CARB and COLL*

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Surface Science

*Sponsored by CATL, Cosponsored by COLL and ENVR*

## MONDAY AFTERNOON

## Section A

Moscone Center  
2002

### Biomembrane Synthesis, Structure, Mechanics & Dynamics

J. Katsaras, S. Muralidharan, M. Nieh, N. Srividya, *Organizers*

A. N. Parikh, *Organizer, Presiding*

J. Stachowiak, *Presiding*

**2:00 COLL 453.** Development of a porous photocatalytic matrix for encapsulation of membrane-bound proteins. K.E. Johnson, S. Gakhar, S.H. Risbud, M.L. Longo

**2:20 COLL 454.** Time-resolved second harmonic microscopy of molecular transport through living cell membranes. H. Dai

**2:45 COLL 455.** Chemical imaging of the lipid composition at the site of influenza budding. M.L. Kraft, A.N. Yeager, P.K. Weber, J. Zimmerberg

**3:10 COLL 456.** Modulating effects of small molecules on the structure and dynamics of lipid-membranes. X. Cheng

**3:35 COLL 457.** Crowding-induced mixing of lipid bilayers: Examination of mixing energy, reversibility, and dynamics. M.L. Longo

**4:00 COLL 458.** Effects of defects on lipid biomembranes. M. Nieh, Y. Xia, F. Heberle, J. Katsaras

**4:25 COLL 459.** Super-resolution stimulated emission depletion-fluorescence correlation spectroscopy reveals nanoscale membrane reorganization induced by pore-forming proteins. N. Kumar Sarangi, I. Ilangumaran Ponmalar, S. Visweswariah, J. Kumar Basu, G.K. Ayappa

**4:50 COLL 460.** Nanosafety and toxicity assessment by using spontaneous beating cardiomyocytes. S. Zou

## Section B

Moscone Center  
2004

### Colloidal Nanoparticle Synthesis & Assembly

H. Htoon, Y. Sun, S. Wu, *Organizers*

H. Fan, *Organizer, Presiding*

O. Chen, *Presiding*

**2:00 COLL 461.** Epitaxially connected quantum dot superlattices. T. Hanrath, F. Wise, L. Kourkoutis, F. Escobedo, K. Whitham, B. Savitzky

**2:30 COLL 462.** Nanocube superlattices of CsPbBr<sub>3</sub> perovskites and pressure-induced phase transformation at atomic and mesoscale levels. O. Chen, Y. Nagaoka, K. Hills-Kimball, R. Tan, R. Li, Z. Wang

**3:00 COLL 463.** Self-assembly of actinyl peroxide nanoclusters with cationic surfactant. Y. Gao, J. Szymanowski, T. Zhang, P.C. Burns, T. Liu

**3:20 COLL 464.** Stimuli-responsive colloidal architectures and porous membranes by melt-shear organization. S. Vowinkel, D. Scheid, M. Gallei

**3:40 COLL 465.** Framework stability vs. collapse: Quantifying the role of nearest-neighbor nanocrystal bonding as a key factor in determining order in mesoporous colloidal nanocrystal frameworks. T.E. Williams, D. Ushizima, P. Ercius, C. Zhu, D.J. Milliron, B. Helms

**4:00 COLL 466.** Assembly of free-standing, flexible, citrate-capped gold nanoparticle films at the air-water interface. L. Beecher, J.J. Houlihan, V.A. Apkarian, J.S. Shumaker-Parry

**4:20 COLL 467.** Complex superparamagnetic particle architectures: Obtaining novel properties by controlled assembly and combination of nano-building-blocks to nanostructured entities. K. Mandel

**4:40 COLL 468.** Nanoparticles, nanorods and shish-kebabs with precisely controlled dimensions, compositions, and architectures. Z. Lin

**5:10 COLL 469.** Synthesizing dual-emitting quantum dots on indium phosphide cores. A.M. Dennis, R. Toufanian, M. Chern, T. Nguyen, A. Mahler

## Section C

Moscone Center  
2006

### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

### Catalysts for Selective Chemical Transformations

*Cosponsored by CATL*

S. H. Kim, R. M. Rioux, *Organizers, Presiding*

**2:00 COLL 470.** Biomimetic catalysis in green organic transformations. J.E. Backvall

**2:30 COLL 471.** Fischer-Tropsch synthesis on cobalt catalysts-on the effect of water revisited. A. Holmen, E. Rytter

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**3:00 COLL 472.** Aspects of the Fischer Tropsch reaction mechanism in the light of chemical transient kinetics. N. Kruse

**3:30 COLL 473.** Selective hydrocarbon oxidation catalysis by Au atomic and nanoclusters. H. Kung, M.C. Kung

**4:00 COLL 474.** Probing the role of particle size in nickel phosphide hydrotreating catalysts. M.E. Bussell, P.J. Topalian, D. Liyanage, S. Brock

**4:30 COLL 475.** Competing forces in chiral surface chemistry: Enantiospecific adsorption versus enantiomer self-aggregation. A.J. Gellman, Y. Yun

**5:00 COLL 476.** Hot electron-mediated surface chemistry on solid-gas and solid-liquid interfaces. J. Park

## Section D

Moscone Center

2008

### Hierarchical Self-Assembly of Organic Monolayers, Bilayers & Films: Theory & Experiment

A. H. Flood, *Organizer*

S. L. Tait, *Organizer, Presiding*

**2:00 COLL 477.** Chemisorption impacts on physisorption: Perturbations of 2D self-assemblies at the liquid-solid interface. B. Hirsch, A. Braganca, J. Greenwood, O. Ivasenko, T. Phan, S. De Feyter

**2:20 COLL 478.** Nanoconfined self-assembly on a grafted graphitic surface under electrochemical control. T. Huynh, T. Phan, O. Ivasenko, S. F. L. Mertens, S. De Feyter

**2:40 COLL 479.** Surface-confined molecular nanostructures: Influencing molecule-surface interactions as well as electronic surface properties. M. Stoehr

**3:10 COLL 480.** Hierarchical assembly of Xe atoms in an atomically precise array of quantum boxes. T. Jung, L.H. Gade, M. Stoehr, J. Lobo Checa, J. Bjoerk, E. Ortega, E. Meyer, S. Kawai, S. Nowakowska, A. Waeckerlin

**3:40 COLL 481.** Templated 2D supramolecular assembly of fullerenes on graphite by five-coordinate gallium-porphyrin monolayers. J. Kamm, M.D. Hopkins

**4:00 COLL 482.** Supramolecular control of interfacial structure in organic semiconductors. D.F. Perepichka

**4:30 COLL 483.** Hierarchical self-assembly of novel organic polycyclic aromatic molecular systems into 1D and 2D nanomaterials. H.P. Rathnayake, H. Sims, J. Sharpsteen, P. Chinnappan

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**4:50 COLL 484.** Adsorption of n-alkanes on the surface of h-boron nitride: A thermodynamic and molecular dynamics study. N.A. Strange, J.Z. Larese

**5:10 COLL 485.** Multiscale and hierarchical organic materials by design, synthesis, and self-assembly. A.H. Flood, J. Dobscha, H.D. Castillo, J.M. Espinosa-Duran, Y. Sereda, S. Debnath, K. Raghavachari, P. Ortoleva, S.L. Tait

## Section E

Moscone Center

2010

### Coacervation: Physics, Chemistry & Biology

P. L. Dubin, R. Stewart, *Organizers*

S. L. Perry, *Presiding*

**2:00 COLL 486.** Resistance to cold cataract in the eye lens proteins of a cold-adapted fish. R.W. Martin, J. Bierma, A. Ledray, A. Kiss

**2:30 COLL 487.** Design and optimization of polyphosphate coacervates for use in biomedical devices. M. Filiaggi, A. Momeni

**3:00 COLL 488.** Complex coacervate for cardiac regeneration. Y. Wang

**3:30 COLL 489.** Discovery of a family of new LCST peptide polymers: Coacervation behavior and self-assembly. A. Chilkoti

**4:00 COLL 490.** Engineering Pickering emulsions using protein/polysaccharide complexes. Q. Huang

**4:30 COLL 491.** Functionality of protein-polysaccharide hydrogels. S.L. Turgeon, X. Le, C.J. Souza, L. Rioux

**5:00 COLL 492.** Using coacervation to achieve surface-selective particle deposition. L. Piculell

## Section F

Moscone Center

2012

### Applied Biosensing Based on Functional Colloids

L. Liz Marzan, W. Parak, J. Sagalés, G. F. Strouse, *Organizers*

R. Alvarez Puebla, *Organizer, Presiding*

**2:00 COLL 493.** Super Temporal-Resolved Microscopy (STReM) for measuring fast interfacial dynamics. C.F. Landes

**2:30 COLL 494.** New luminescence nanothermometers in different biological windows. f. Diaz, O. Savchuk, J. Carvajal, M. Aguilo

**3:00 COLL 495.** Improving surgery via selective detection of ovarian tumors using fluorescent nanoparticles. J.M. Berlin

**3:30 COLL 496.** Liver specific MRI contrast agents based on Mn<sup>2+</sup> containing nanoparticles. I. Lee

**4:00 COLL 497.** Targeted sensing and drug delivery using smart nanoparticles. A. Heuer-Jungemann, A. El-Sagheer, P. Lackie, T. Brown, A. Kanaras

## Section G

Moscone Center

2001

### Interfacial Phenomena & the Oil-Water Interface

Financially supported by The Dow Chemical Company

C. Acevedo, C. E. Mohler, C. J. Tucker, *Organizers, Presiding*

**2:00 COLL 498.** Strategies for making smart foams, emulsions and multiphase gels stabilized by functional particles. O.D. Velev

**2:35 COLL 499.** Probing hydrophobic interactions at solid/water/oil/air interfaces and surface interaction mechanisms of deformable emulsion droplets. H. Zeng, A. Faghijnejad, C. Shi, L. Zhang, L. Xie, J. Huang, X. Cui

**3:05 COLL 500.** Ion specific effects in Winsor III microemulsions. B. Trotter, M. Kadhum, B.J. Shiau, J.H. Harwell

**3:35 COLL 501.** How molecular structure of surfactants determine the dynamics and viability of wettability alteration. S. Das, Q. Nguyen, R.T. Bonnecaze

**4:05 COLL 502.** Effects of salinity on oil recovery: Experimental and theoretical studies of crude oil-water-calcite surface restructuring and associated physical and (electro)chemical interactions. J.N. Israelachvili, S. Chen, Y. Kaufman, D. Seo, A. Schrader, K. Kristiansen, H. Dobbs, N. Cadirov, J. Boles

**4:35 COLL 503.** Simple-to-apply wetting model to predict the thermodynamically stable and the metastable contact angles on textured/rough/patterned surfaces. Y. Kaufman, S. Chen, H. Mishra, A.M. Schrader, D. Lee, S. Das, J.N. Israelachvili

**4:55 COLL 504.** Molecular and colloidal phenomena at aqueous interfaces of structured oils. N.L. Abbott

## Section H

Moscone Center

2003

### Nanoscale Chemical Patterning & Characterization

S. A. Claridge, W. Liao, *Organizers*

S. Claridge, *Presiding*

**2:00 COLL 505.** New dimensions in patterning: Placement and metrology of chemical functionality at all scales. P.S. Weiss

**2:30 COLL 506.** Construction of highly ordered surface molecular nanostructures: From non-covalent interaction to covalent bond. D. Wang, L. Wan

**3:00 COLL 507.** Chemical orthogonality at the molecular limit: Structural lessons from the membrane applied to layered material interfaces. S.A. Claridge

**3:30 COLL 508.** Controlling molecular self-assembly on graphene and graphite at the nanoscale: Combining bottom-up and top-down strategies. S. De Feyter

**4:00 COLL 509.** Surface mass spectrometry and STM characterizations of compositionally patterned monolayers and their post-assembly chemical modifications. M. Zimmt, J. He, C. Fang, R.A. Shelp, O. Fejfar

**4:30 COLL 510.** Subsurface structure fingerprint of 2D materials and heterostructures by their nanomechanical response. Q. Tu, B. Lange, H. Kim, Y.G. Yingling, V. Blum, S. Zauscher

**4:50 COLL 511.** Quantitative connections between Raman spectroscopy and scanning tunneling microscopy in chemisorption on graphite. A. Brown, B. Hirsch, P. Walke, S. De Gendt, S. De Feyter

**5:10 COLL 512.** Chemisorption on graphitic substrates imaged at the single molecule level. B. Hirsch, A. Braganca, K. Tahara, T. Ishikawa, Y. Tobe, M. Melle-Franco, S. De Feyter

## Section I

Moscone Center

2005

### Nanostructure Engineering & Surface Chemistry for Spectroscopy, Imaging & Alternative Energy Harvesting & Conversion

Financially supported by MilliporeSigma-Energy Materials; CH Instruments, Inc.; The University of Alabama (Chemistry, College of Arts & Science)

N. Hammer, S. Pan, *Organizers, Presiding*

**2:00 COLL 513.** Optically transparent ultramicroelectrode for studying local electrochemical events of single Au nanoparticle using combined methods of electrochemistry and dark field scattering microscopy. Y. Ma, S. Pan

**2:20 COLL 514.** Structural plasmonics studied using ultrafast spectroscopy beyond the diffraction limit. K.L. Knappenberger

**2:50 COLL 515.** Directional charge-separation in organic semiconductor nanowire crystals. M. Barnes

**3:20 COLL 516.** Long-range catalytic communications within and between single nanocatalysts. P. Chen

**3:50** Intermission.

**4:00 COLL 517.** Observation of local redox events at individual plasmonic nanoparticles using spectroelectrochemistry methods. S. Pan

**4:30 COLL 518.** Photophysical investigation of electron ejection efficiencies of novel organic near-IR absorbing dyes into TiO<sub>2</sub> based semiconductor surfaces for dye-sensitized solar cell applications. L.E. McNamara, H. Cheema, J.H. Delcamp, N. Hammer

**4:50 COLL 519.** Mechanistic insights into multiple blinking states in small core-shell and core-multishell quantum dots. C.D. Heyes

**5:10 COLL 520.** Organo-Metal Halide (OMH) Perovskite Quantum Dots (PQDs): Effective surface passivation using peptides. J.Z. Zhang

## Section J

Moscone Center

2007

### ACS Award in Colloid Chemistry: Symposium in honor of Nicholas A. Kotov

P. Podsiadlo, *Organizer, Presiding*

**2:00** Introductory Remarks.

**2:05 COLL 521.** Non-additive interactions at chemically and structurally complex interfaces. N.L. Abbott

‡ Cooperative Cosponsorship



- 2:35 COLL 522.** Programmable materials from DNA bonds and nanoparticle atoms. C.A. Mirkin
- 3:05 COLL 523.** Nanoparticle assembly: Bridging size scales and dimensionalities. M. Niederberger
- 3:35** Intermission.
- 3:45 COLL 524.** Making all the puzzle pieces fit: Shape directed assembly of anisotropic nanocrystals into multi-component superlattices. C.B. Murray, T. Paik, N.J. Greybush, Y. Wu, S. Najm, C.R. Kagan
- 4:15 COLL 525.** Synthetic methodology for colloidal synthesis of inorganic nanomaterials: Limitations and opportunities. V. Srivastava, I. Fedin, H. Zhang, D.V. Talapin
- 4:45 COLL 526.** Building materials from colloidal nanoparticles. L. Cademartiri
- 5:15** Concluding Remarks.

### Science for a Sustainable Energy Future

#### Chemical & Biological Conversions Approaches to Energy Conversion

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE, POLY, PRES<sup>2</sup> and WCC

#### ACS Award in Industrial Chemistry: Symposium in honor of Jane Frommer

Sponsored by I&EC, Cosponsored by ANYL, BIOL, COLL, INOR, ORGN, PMSE and POLY

#### ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend

#### Honoring the Contribution to Nanocatalysis

Sponsored by CATL, Cosponsored by COLL and WCC

#### Janus Particles: Synthesis, Characterization & Applications

Sponsored by PMSE, Cosponsored by COLL and MPPG<sup>2</sup>

#### Functional Lignocellulosics & Nanotechnology

#### Modification & Analytics

Sponsored by CELL, Cosponsored by CARB and COLL

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Mechanistic Studies of Catalysis in Photocatalytic & Photoelectrodes

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

#### Elucidation of Mechanisms & Kinetics on Surfaces

#### Mechanisms

Sponsored by CATL, Cosponsored by COLL and ENVR

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

R. Nagarajan, *Organizer*

8:00 - 10:00

**11, 31, 44, 107, 135, 139, 145, 160-162, 165-166, 168-170, 178, 182-183, 187-188, 192-194, 200, 202, 215, 218, 221-222, 227-229, 231, 235, 239-240, 243, 246, 248, 257, 264, 267-271, 275-276, 280-281, 284, 290, 293-294, 298, 306-307, 310, 314, 316, 323, 338, 388, 417, 420, 466, 511.** See previous listings.

**593-594, 665, 699.** See subsequent listings.

## TUESDAY MORNING

### Section A

Moscone Center  
2002

#### Biomembrane Synthesis, Structure, Mechanics & Dynamics

J. Katsaras, S. Muralidharan, M. Nieh, A. N. Parikh, N. Srividya, *Organizers*

D. L. Daleke, C. Naumann, *Presiding*

**8:30 COLL 527.** Pattern recognition of membrane images to deduce cellular signaling status. G. Liu, Y. Liu, D. Hanna, M. Lohrer

**8:55 COLL 528.** Spontaneous phospholipid membrane formation by histidine ligation. A. Bhattacharya, N.K. Devaraj

**9:15 COLL 529.** Hydrogel-assisted membrane protein reconstitution for studying GPCR dependence on lipid composition. N. Malmstadt

**9:40 COLL 530.** Dimerization of a GPCR in membranes investigated by SANS. O. Soubias, J. Nickels, W.E. Teague, Jr., K.L. Weiss, K.G. Hines, J. Katsaras, K. Gawrisch

**10:05 COLL 531.** Toward a quantitative continuum model for membrane shape fluctuations. F.L. Brown

**10:30 COLL 532.** Interfacial proteins with *de novo* membrane formation. N.K. Devaraj

**10:55 COLL 533.** Hybrid model membrane combining micropatterned lipid bilayer and hydrophilic polymer brush. K. Morigaki, T. Nishimura, F. Tamura, Y. Tanimoto, K. Ando, Y. Sudo, F. Hayashi, Y. Iwasaki

**11:20 COLL 534.** pH-dependent behavior of lipid bilayer coatings on mesoporous silica nanoparticles. D.Y. Sasaki, C. Ashley, E. Carnes, S. Sankhagowit, C. Ting

**11:45 COLL 535.** Investigating electrostatic interactions between PIP<sub>2</sub> and the EphA2 receptor tyrosine kinase. X. Shi, S. Christie, R. Lingerak, G. Gilmore, P.G. Rodriguez, J. Muller-Greven, M. Buck, B. Wang, A.W. Smith

### Section B

Moscone Center  
2004

#### Colloidal Nanoparticle Synthesis & Assembly

Y. Sun, S. Wu, *Organizers*

H. Fan, H. Htoon, *Organizers, Presiding*

**8:30 COLL 536.** Designed nanoparticles architectures by self-assembly. O. Gang

**9:00 COLL 537.** Exploring plasmon-exciton coupling at the surface of TiO<sub>2</sub> nanorods. B.G. DeLacy, D. McCarthy, Z. Zander, Y. Rao, H. Fang, H. Dai

**9:30 COLL 538.** Room temperature, scalable cation exchange in PbS and CdSe quantum dots using a silver(I) complex. A.L. Morris, W.R. Tilluck, S.E. Benjamin, C. Lin, H. Hamo, E. Lozano, P.G. Van Patten

**9:50 COLL 539.** Controlled assembly of metallic nanoaggregates and their use in understanding cell uptake of nanoparticles. J.M. Berlin

**10:10 COLL 540.** Synthesis and assembly of gold nanoparticles/polymers: Spheres, prisms, octahedra, and rods...oh my! S.M. Budy, D. Hamilton, Y. Cai, M.K. Knowles, S.M. Reed

**10:30 COLL 541.** Transforming layered to nonlayered two-dimensional materials: Cation exchange of SnS<sub>2</sub> to Cu<sub>2</sub>SnS<sub>3</sub>. Y. Wang, Y.V. Morozov, M. Zhukovskiy, R. Chatterjee, S. Draguta, P. Tongying, S. Rouvimov, M.K. Kuno

**10:50 COLL 542.** DNA-assembled chain-like nanoparticle architectures with tailorable organizations. C. Tian, M. Cordeiro, D. DiMarzio, M. Liu, H. Xin, J. Lhermitte, C. Ma, O. Gang

**11:10 COLL 543.** Fabrication and application of inorganic nanoparticle superstructures. Z. Tang

**11:40 COLL 544.** Synchrotron-based x-ray techniques for in-situ superlattice discovery and processing of nanocrystal assemblies. Z. Wang

### Section C

Moscone Center  
2006

#### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

#### Surface Science of Functional Interfaces

Cosponsored by CATL

S. H. Kim, R. M. Rioux, *Organizers, Presiding*

**9:00 COLL 545.** Functionalizing surfaces with polymeric layers. N.D. Spencer

**9:30 COLL 546.** Alkyl-cyclens as effective sulfur- and phosphorus-free additives in engine oils for improved boundary lubrication. Y. Chung, Q.J. Wang, T.J. Marks, M. Delferro, M. Desanker, J. Lu, X. He

**10:00 COLL 547.** When surfaces get rough: Studies of the assembly and frictional properties of SAMs and graphene SAM-composites on surfaces with nanoscale roughness. J.D. Batteas

**10:30 COLL 548.** Depositing nanostructures using electron beams: Insights from surface science. H. Fairbrother

**11:00 COLL 549.** Surface structure dependence in oxide catalysis: Comparison of methanol reaction on CeO<sub>2</sub> oriented surfaces and nano crystallites. S.H. Overbury

**11:30 COLL 550.** Water speciation and mechanochemical reactions at/in multicomponent silicate glass surfaces. S.H. Kim

### Section D

Moscone Center  
2008

#### Hierarchical Self-Assembly of Organic Monolayers, Bilayers & Films: Theory & Experiment

S. L. Tait, *Organizer*

A. H. Flood, *Organizer, Presiding*

**8:30 COLL 551.** Topochemical synthesis of a two-dimensional polymer via [2+2] cycloaddition on the multigram scale. R. Lange, G. Hofer, T. Weber, N. Juergensen, U. Lemmer, G. Hernandez-Sosa, D. Schlüter

**8:50 COLL 552.** Structure elucidation of two-dimensional polymers synthesized at the air/water interface. V. Mueller, F. Shao, M. Moradi, R. Lange, R. Zenobi, T. Jung, B.T. King, D. Schlüter

**9:10 COLL 553.** Self-assembly and on-surface polymerization of bromine-functionalized pyrene derivatives on noble metal surfaces. B. Tran, T. Pham, F. Song, M. Nguyen, M. Kivala, M. Stoehr

**9:30 COLL 554.** Charged induced formation of crystalline network polymers. A.A. Raja, D. Kim, S. Subramanian, C.T. Yavuz

**9:50 COLL 555.** Exploring molecular assembly at surfaces. F. Rosei

**10:20 COLL 556.** Hierarchy of interactions and templation effects in supramolecular assembly at surface: From organic monolayers to thin films. G. Costantini

**10:50 COLL 557.** Sophisticated photoreponsive system made of supramolecular assembly of photochromic diarylethene at solid/liquid interface. K. Matsuda

**11:20 COLL 558.** Understanding intermolecular interactions driving the self-assembly of alkoxybenzotrienes on graphene. S. Debnath, J.M. Espinosa-Duran, J. Dobscha, H.D. Castillo, S.L. Tait, A.H. Flood, P. Ortoleva, K. Raghavachari

**11:40 COLL 559.** Stimuli responsive phase behavior in hydrogen-bonded bicomponent supramolecular networks. G. Velpula, J. Teyssandier, K.S. Mali, S. De Feyter

**12:00 COLL 560.** Structural transformations and self-assembly of interfacial methanol ice on hydrophobic surfaces. D. Yang, X. He

### Section E

Moscone Center  
2010

#### ACS Award for Research at an Undergraduate Institution: Symposium in honor of Maria Hepel

S. Andreescu, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 COLL 561.** Electroanalytical characterization of environmental chemical processes of engineered nanoparticles. A. Karimi, K. Kirk, E. Andreescu

**8:55 COLL 562.** Search for new properties and applications of micro- and nanohydrogels. M. Karbarz, E. Zabost, K. Kaniewska, M. Mackiewicz, K. Marcisz, Z. Stojek

**9:15 COLL 563.** Quasi-adiabatic proton exchange membrane fuel cell fixture for automotive cold-starts. C.A. Rice, A.O. Pistono

**9:35 COLL 564.** Nanocarbon bowls: Functionalization, structures, applications. M.A. Petrukhina

**9:55** Intermission.

**10:10 COLL 565.** Functionalized porous organometallic compounds as inhibitor of cell division. S. Bashir, B. Martinez, J.L. Liu

**10:30 COLL 566.** Relationship between phosphorous and metals in Lake Auburn. A. Bazilio

**10:50 COLL 567.** Characterization of three pathogenic L-ferritin mutants that cause neuroferritinopathy. F. Bou-Abdallah

**11:10 COLL 568.** Thread- and paper-based devices for use in enzyme assays for Point-of-Care (POC) diagnostic devices. A. Gonzalez, M. Gaines, C. Liu, L. Estala, F.A. Gomez

**11:30 COLL 569.** Modification of the paper-based NanoCerc antioxidant assay for high-throughput use: An analysis of twenty-four green teas for antioxidant activity throughout six consecutive infusions. E. Sharpe, F. Hua, S. Schuckers, E. Andreescu, R. Bradley

## Section F

Moscone Center  
2012

### Applied Biosensing Based on Functional Colloids

R. Alvarez Puebla, W. Parak, J. Sagalés, G. F. Strouse, *Organizers*

L. Liz Marzan, *Organizer, Presiding*

**8:30 COLL 570.** Genome-wide DNA methylation variations upon engineered nanomaterials and their implications in nanosafety assessment. S. Liu

**9:00 COLL 571.** Catalytic enhancement of multi-enzyme cascades co-localized on colloidal quantum dots. J. Vranish, M. Ancona, E. Oh, I. Medintz

**9:20 COLL 572.** Antibiofouling manganese oxide nanoparticles: Synthesis, characterization, and potential applications for T<sub>2</sub>-weighted MR imaging of tumors. X. Shi, P. Wang, J. Yang, B. Zhou, Y. Hu, F. Xu, L. Xing, M. Shen, G. Zhang

**9:40 COLL 573.** Quantum dot (QD)-fullerene (C<sub>60</sub>) conjugates for imaging real-time changes in cellular membrane potential. O.K. Nag, M. Stewart, A. Huston, J. Delehanty, A. Efros, K. Susumu, P. Dawson

**10:10 COLL 574.** Cerium oxide nanoparticles as novel biosensing tools: Properties, sensing mechanism and applications. A. Othman, G. Bulbul, A. Hayat, E. Andreescu

**10:30 COLL 575.** GlycoNanoparticle barcodes for pathogen identification. M.I. Gibson

## Section G

Moscone Center  
2001

### Chemistry & Physics of Tribology

#### Lubricants & Lubrication: From Macro to Nano

M. Ruths, *Organizer*

F. Mangolini, *Organizer, Presiding*

J. Yu, *Presiding*

**8:30 COLL 576.** Friction and lubrication from the nano (molecular) through the micro ( $\mu\text{m}$ -mm) to the macro (geological) scales, and over large time and velocity scales. J.N. Israelachvili

**9:05 COLL 577.** Nanorheology of complex fluids at interfaces: Bulk behavior and complex slip length. B. Cross, C. Barraud, F. Restagno, E. Charlaix

**9:25 COLL 578.** Binary and ternary systems with ionic liquids in confinement. M. Han, R.M. Espinosa-Marzal

**9:45 COLL 579.** Shear banding of piezoviscous fluids as a stability problem. B. Galiniche, L. di Mare, J. Wong

**10:05 COLL 580.** Local rheology of lubricants. J. Wong

**10:25 COLL 581.** Anomalous spreading kinetics of polymer lubricant films. C.M. Mate, B.A. Noble, B. Raeymaekers

**10:45 COLL 582.** Quantitative analysis of Raman spectra of fatty acid lubricants under pressure. R.X. Rammeloo, K. Guha, C.D. Bain

**11:05 COLL 583.** Controlling friction and adhesion using two-dimensional responsive microgels. S. Giasson

**11:25 COLL 584.** Interfacial properties of fluid lubricants on bearing material surfaces. J.M. Helt

**11:45 COLL 585.** Formulation chemistry for ultra-stable ester-based oils. T.E. Karis

**12:05 COLL 586.** Relation between adsorption and nanoscale tribological performance of organic friction modifiers. A. Pham, P. Nalam, V. Castillo, B. Thiebaut, R.M. Espinosa-Marzal

## Section H

Moscone Center  
2003

### Deposition & Etching of Nanostructures

*Cosponsored by INOR*

L. McElwee-White, A. V. Walker, *Organizers*

H. Fairbrother, *Organizer, Presiding*

**8:30 COLL 587.** Plasma-assisted atomic layer deposition for energy conversion and storage devices. M. Creatore

**9:00 COLL 588.** Tin alkyls as a tin source in hybrid molecular beam epitaxy. T. Wang, R.P. Harkins, A. Prakash, C.J. Cramer, B. Jalan, W.L. Gladfelter

**9:20 COLL 589.** Evidence for surface-plasmon-mediated precursor dissociation in ultrashort-pulsed-laser-induced surface chemistry. S. Randolph, M. Straw, A. Botman, J. Filevich

**9:50** Intermission.

**10:05 COLL 590.** Metalorganic chemical vapor deposition of 2D materials: Challenges and new approaches. J. Redwing

**10:35 COLL 591.** Atomic Layer Etching (ALE) using sequential thermal reactions: Atomic Layer Deposition (ALD) in reverse. S.M. George, Y. Lee, J. DuMont, N. Johnson, D. Zywotko

**10:55 COLL 592.** Sequential infiltration synthesis for nanoscale patterning. J. Elam, S.B. Darling, Y. Tseng, Q. Peng, M. Biswas, J. Libera, A. Mane, L. Ocola

## Section I

Moscone Center  
2005

### Nanostructure Engineering & Surface Chemistry for Spectroscopy, Imaging & Alternative Energy Harvesting & Conversion

*Financially supported by MilliporeSigma-Energy Materials; CH Instruments, Inc.; The University of Alabama (Chemistry, College of Arts & Science)*

N. Hammer, S. Pan, *Organizers*

S. Pan, *Presiding*

**8:30 COLL 593.** Insight into the recombination kinetics of colloidal silicon nanocrystals. S. Brown, J.B. Miller, E. Hobbie

**8:50 COLL 594.** Simultaneous time-dependent surface enhanced Raman spectroscopy, metabolomics and proteomics reveal cancer cell death mechanisms associated with Au-nanorod photo-thermal therapy. Y. Wu, M.R. Aili, M.A. El-Sayed

**9:10 COLL 595.** Synthesis of gold nanoprism with dual effects of plasmon resonance and non-linear optical property to improve the performances of organic solar cell. B. Gong, Y. Tai

**9:30 COLL 596.** Three dimensionally assembled gold nanostructures for visible light-driven water oxidation. H. Son, Y. Nam

**9:50** Intermission.

**10:00 COLL 597.** Plasmon-coupled resonance energy transfer: A real-space real-time computational electrodynamic approach. W. Ding, L. Hsu, G.C. Schatz

**10:20 COLL 598.** Development and molecular understanding of Plasmonic Photothermal Therapy (PPTT) in combating cancer. M.R. Aili, M.A. El-Sayed

**10:40 COLL 599.** Assembly of ring-like nanostructure arrays via drop evaporation method. Y. Bao, N. Scherer, T. Witten

**11:00 COLL 600.** Photo-oxidative degradation of single giant quantum dots. N. Orfield, S. Majumder, J.R. McBride, J.A. Hollingsworth, H. Htoon

**11:20 COLL 601.** Highly sensitive surface-enhanced Raman scattering substrate of Ag thin film fabricated by gas-timing RF magnetron sputtering. C. Sapcharoenkun, A. Klamcheun, A. Treetong, P. Kasamechonchung, T. Wutikhun, P. Ukahapunyakul

**11:40 COLL 602.** ALD-protected polyoxometalate water oxidation catalysts immobilized on light-absorbing metal oxide thin films for enhanced durability and photocurrent density. S.M. Lauinger, B. Piercy, W. Li, M.D. Losego, D. Wang, C.L. Hill

## Section J

Moscone Center  
2007

### ACS Award in Colloid Chemistry: Symposium in honor of Nicholas A. Kotov

P. Podsiadlo, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 COLL 603.** Nanoparticles' interactions with viruses. F. Stellacci

**9:05 COLL 604.** Nanoscale metal-organic frameworks: Emerging materials for catalysis. Z. Tang

**9:35 COLL 605.** Molecular mechanisms in formation of metal oxide colloids in sol-gel processes. V. Kessler, G. Seisenbaeva

**10:05** Intermission.

**10:15 COLL 606.** Toward the self-assembly of layered multi-nano-composite films with complex anisotropies. R. Blell, M. Rémi, H. Hu, S. Bharani, V. Lemaire, M. Pauty, O. Félix, G. Decher

**10:45 COLL 607.** Surface enhanced Raman scattering on cuprous oxide nanomaterials. C. Jiang

**11:15 COLL 608.** Seeded growth and chemical transformations in metal nanoparticles. L. Liz Marzan

**11:45** Concluding Remarks.

### Mineral-Water Interface Chemistry

*Sponsored by GEOC, Cosponsored by COLL and ENVIR*

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Molecular & Bio-Inspired Photocatalysts

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

### Functional Lignocellulosics & Nanotechnology

#### Tuning Interfacial Phenomena with Ligno-Nanocellulosic Materials

*Sponsored by CELL, Cosponsored by CARB and COLL*

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Electrons

*Sponsored by CATL, Cosponsored by COLL and ENVIR*

## TUESDAY AFTERNOON

### Section A

Moscone Center  
2002

### ACS Award Lectures

*Cosponsored by CATL and WCC*

R. Nagarajan, *Organizer*

H. Fairbrother, *Presiding*

**2:00** Introduction of Awardee.

**2:05 COLL 609. Award Address** (ACS Award in Colloid Chemistry sponsored by Colgate-Palmolive Company). Self-assembly of nanoparticles. N. Kotov

**2:50** Introduction of Awardee.

**2:55 COLL 610. Award Address**  
(ACS Award in Surface Chemistry sponsored by the ACS Division of Colloid & Surface Chemistry). Understanding of selective oxidation catalysis through surface science. C.M. Friend

**3:40** Introduction of Awardee.

**3:45 COLL 611. Award Address**  
(ACS Award for Research at an Undergraduate Institution sponsored by Research Corporation for Science Advancement). From nanogravimetry, photovoltaics, and plasmonics to elastic light scattering and Raman spectroscopy for theranostics and environmental remediation. M.R. Hepel

**4:30** Introduction of Awardee.

**4:35 COLL 612. Nano Letters Award**  
Lecture: Cool chemical transformations and hot carrier upconversion: Emerging plasmonic methods to improve renewable energy technologies. J. Dionne

## Section B

Moscone Center  
2004

### Deposition & Etching of Nanostructures

*Cosponsored by INOR*

H. Fairbrother, L. McElwee-White, *Organizers*

A. V. Walker, *Organizer, Presiding*

**2:00 COLL 613.** Cage molecule self-assembly. P.S. Weiss

**2:30 COLL 614.** Development of photo-activated iodo-ene reaction for molecular layer deposition. M. Lillethorup, D.S. Bergsman, S.F. Bent

**2:50** Intermission.

**3:05 COLL 615.** Perfluoropentacene films on gold surfaces grown by supersonic molecular beam deposition. A. Yavuz, N. Sohrabnia, G. Bracco, M. Danisman

**3:25 COLL 616.** Patterning diverse metallic materials directly from solution using laser thermal voxels. L.D. Zarzar, B. Swartzentruber, B. Donovan, P. Hopkins, B. Kaehr

**3:45 COLL 617.** Hybrid Monte Carlo and continuum modeling of electron-beam induced processes using liquid reactants. T.T. Hastings, S. Estandiarpour, E. Cao, S. Lami

### Mineral-Water Interface Chemistry

*Sponsored by GEOC, Cosponsored by COLL and ENVR*

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Novel Photocatalytic & Photoelectrode Materials

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

#### Functional Lignocellulosics & Nanotechnology

#### Dispersions, Gels, Foams, Colloids & Films

*Sponsored by CELL, Cosponsored by CARB and COLL*

#### Elucidation of Mechanisms & Kinetics on Surfaces

## Organic Oxygenates

*Sponsored by CATL, Cosponsored by COLL and ENVR*

## WEDNESDAY MORNING

### Section A

Moscone Center  
2002

#### Biomembrane Synthesis, Structure, Mechanics & Dynamics

J. Katsaras, S. Muralidharan, A. N. Parikh, N. Srividiya, *Organizers*

M. Nieh, *Organizer, Presiding*

J. Nickels, *Presiding*

**8:30 COLL 618.** Examining cell migration and cell junction dynamics using polymer gel-supported lipid bilayers. K.D. Shilts, Y. Ge, C. Naumann

**8:50 COLL 619.** Artificial biomembrane microsystems for highly sensitive analysis of membrane proteins. R. Watanabe

**9:15 COLL 620.** Synthesis and characterization of supported lipid bilayer membranes from complex lipid mixtures. G. Hardy, J. Shapter, M. Alam, S. Zauscher

**9:40 COLL 621.** Modulation of lipid membrane structure and dynamics in the presence of amyloid- $\beta$  peptide. T. HauB, M.A. Barrett, N.A. Dencher

**10:05 COLL 622.** Probing membrane protein organization and dynamics in planar model membranes using single molecule-sensitive confocal detection techniques. C. Naumann, Y. Ge, K. Shilts

**10:30 COLL 623.** Fusion processes of proteoliposomes into supported planar lipid bilayers. R. Tero, K. Fukumoto, M. Yoshida, A. Hirano-Iwata, M. Niwano

**10:55 COLL 624.** Topographic control of membrane functions. R. Ashkar, M. Zhermenkov, R.G. Toomey, R. Pynn, J. Katsaras, J. Carrillo, B. Sumpter

**11:20 COLL 625.** Tubule formation and retraction in the interaction of supported lipid bilayers with SDS. E.J. Eis, J. Churchwell, M. Staykova, C.D. Bain

**11:45 COLL 626.** Interfacial structure of water confined between phospholipid-coated surfaces probed by infrared-visible Sum Frequency Generation (SFG) spectroscopy. N. Dhopatkar, X. Shi, J. Brown, X. Li, A.W. Smith, A.N. Dhinojwala

### Section B

Moscone Center  
2004

#### Colloidal Nanoparticle Synthesis & Assembly

#### Synthesis & Growth

Y. Sun, S. Wu, *Organizers*

H. Fan, H. Htoon, *Organizers, Presiding*

**8:30 COLL 627.** In situ study of colloidal nanoparticle growth and assembly. H. Zheng

**9:00 COLL 628.** Polymer-assisted deposition: A simple process for a wider range of electronic materials. Q. Jia

**9:30 COLL 629.** *In situ* Variable-Temperature Liquid Cell Transmission Electron Microscopy (VT-LCTEM) study of size-stabilized Covalent Organic Framework (COF) nanoparticle nucleation and growth during solvothermal synthesis. L.R. Parent, B.J. Smith, C. Park, W.R. Dichtel, N.C. Gianneschi

**9:50 COLL 630.** Paramagnetically amplified optical activity of chiral nanoparticles. J. Yeom, A. Farias de Moura, N. Kotov

**10:10 COLL 631.** Photoluminescence blinking and polarization anisotropy of single colloidal semiconductor nanoplatelets. Z. Hu, A. Singh, J.A. Hollingsworth, H. Htoon

**10:30 COLL 632.** Migration and structural evolution of carbon-encapsulated Fe nanoparticles via *in situ* TEM. R.V. Grieshaber, Z. Liu, J. Yang

**10:50 COLL 633.** Two-phase synthesis of metal sulfide nanoparticles. L. Bian, J. Maier, S. Marra, K. Ring, P. Goulet

**11:10 COLL 634.** Multi-shelled metal oxides hollow microspheres: Synthesis and applications. D. Wang, J. Wang, R. Yu, H. Zhao

**11:40 COLL 635.** Effect of ligand asymmetry in the properties of nanoparticle membrane. X. Lin, Z. Jiang, J. Wang, S. Deshmukh, P. Karjanaboos, G. Kamath, Y. Wang, H. Chan, B. Narayanan, S. Sankaranarayanan, H. Jaeger

### Section C

Moscone Center  
2006

#### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

#### Technique Development in Interfacial Science

*Cosponsored by CATL*

S. H. Kim, R. M. Rioux, *Organizers, Presiding*

**8:30 COLL 636.** High-energy-resolution x-ray absorption spectroscopy: A powerful method to push the frontiers of in-situ x-ray absorption spectroscopy of catalysts. S.R. Bare, D. Sokaras, T. Kroll, A. Gallo, A.S. Hoffman, B.C. Gates

**9:00 COLL 637.** Degree of rate control: A tool for analyzing microkinetic models and high-throughput computational screening of catalyst materials. C.T. Campbell, Z. Mao

**9:30 COLL 638.** High spatial resolution mapping of catalytic reactions on single nanoparticles. E. Gross

**10:00 COLL 639.** Monitoring real-time dynamics of nanoparticle formation via trading space with time strategy and synchrotron x-ray absorption spectroscopy technique. S. Bakhti, N. Destouches, M. Ahmed, S. Alayoglu

**10:30 COLL 640.** Time-resolved characterization of hierarchical diffusion and reactions in acidic zeolites and zeotypes with Temporal Analysis of Products (TAP) experiments. E. Redekop, J. Martinez, M. Morten, B.T. Bleken, R. Fushimi, M. Mykland, U. Olsbye

**11:00 COLL 641.** Solution calorimetry methods for the study of catalytic solid-liquid interfaces. R.M. Rioux

### Section D

Moscone Center  
2008

#### Hierarchical Self-Assembly of Organic Monolayers, Bilayers & Films: Theory & Experiment

A. H. Flood, *Organizer*

S. L. Tait, *Organizer, Presiding*

**8:30 COLL 642.** Tuning the physical properties of MoS<sub>2</sub> membranes through organophosphonate-based surface functionalization. S. Schwarzwälder, R. Csiki, S. Zhao, K. Larsson, J. Schwartz, M. Stutzmann, U. Wurstbauer, A. Cattani-Scholze

**8:50 COLL 643.** Bottom-up hierarchical self-assembly of zwitterionic dendrimers into stimuli responsive dynamic nanotubes. S. Eghtesadi, M. Kashfipour, X. Sun, S. Lillard, T. Liu

**9:10 COLL 644.** 2D phase evolution and solvation in dimethyl formamide-lithium ethylene dicarbonate films on Ag(111). J.E. Reutt-Robey

**9:40 COLL 645.** Functionalization of 2D materials: The molecular approach. S. De Feyter

**10:10 COLL 646.** Supramolecular arrays and heterostructures on hexagonal boron nitride. P. Beton, V. Korolokov, J. Kerfoot, M. Baldoni, N. Besley, E. Besley, N.R. Champness, L. Yang, T. Taniguchi, K. Watanabe

**10:40 COLL 647.** Self-assembly and post-assembly chemical transformation of reactive compositionally patterned monolayers. M. Zimmt, C. Fang, J. He, R.A. Shelp, Y. Yang

**11:10 COLL 648.** Hierarchy in the self-assembly of novel chiral dyes for photovoltaic applications. D. Amabilino, F. Pop

**11:40 COLL 649.** Structure and function of bilayer organic photovoltaics. M.E. Thompson

### Section E

Moscone Center  
2010

#### Basic Research in Colloids, Surfactants & Nanomaterials

#### Biomolecular Systems

R. Nagarajan, *Organizer*

K. S. Raja, *Presiding*

**8:30 COLL 650.** Biophysical properties of salt-induced simple coacervation of interfacial mussel adhesive proteins. B. Yang, H.J. Cha

**8:50 COLL 651.** Effect of additives on the crystal morphology of amino acids: A theoretical and experimental study. E. Constance, M. Mohammed, K. Aslan

**9:10 COLL 652.** Adsorption behaviors of mussel proteins on biomaterials with different surface chemistries: A fundamental understanding of mussel inspired adhesive designs. Y. Wei, C. Lin, Y. Lai, Y. Tang, P. Wang, D. Li, Y. Huang

**9:30 COLL 653.** Sponge mimetic tubules: Programmable stigmergy scaffolds for 3D marine, mammalian cell culture and bioelectronics. K.S. Raja, K. Punia



**9:50 COLL 654.** Dynamic interactions of amelogenin with hydroxyapatite surfaces are dependent on protein phosphorylation and solution pH. **A.E. Gerdon**, C.P. Connelly, T. Cicuto, J.D. Leavitt, A. Petty, A. Litman, H. Margolis

**10:10 COLL 655.** Investigation of oligomerization of amyloidogenic peptides at nanoscale gold colloidal interface. **K. Yokoyama**

**10:30 COLL 656.** Hydrodynamic effects in concentrated protein solutions with repulsive and attractive interactions. **D. Corbett**, P.J. Davis, C. van der Walle, S. Uddin, A. Pluen, R. Curtis

**10:50 COLL 657.** Effects of macromolecular crowding on a coacervation-based model for intracellular organization. **A. Marianelli**, B. Miller, C.D. Keating

**11:10 COLL 658.** Effects of phosphatidylcholine vesicles on adsorption kinetics at an air-water interface. **J. Staton**, S.R. Dungan

**11:30 COLL 659.** New colloidal approaches for human norovirus cleanup and deactivation using surfactants and copper-ion based disinfectants. **B. Mertens**, M. Moore, L. Jaykus, O.D. Velev

**11:50 COLL 660.** Spin selectivity in DNA-mediated charge transport: Base sequence and structure relationships. **J. Abendroth**, N. Nakatsuka, M. Ye, D. Kim, E. Fullerton, A.M. Andrews, P.S. Weiss

## Section F

Moscione Center  
2012

### Applied Biosensing Based on Functional Colloids

R. Alvarez Puebla, L. Liz Marzan, W. Parak, J. Sagalés, G. F. Strouse, *Organizers*

N. Feliu, *Presiding*

**8:30 COLL 661.** Connecting the triangle. **J. Sagalés**

**8:50 COLL 662.** Optical visualization and quantification of enzyme activity using dynamic droplet lenses. **L.D. Zarzar**, J. Kalow, X. He, J. Walsh, T.M. Swager

**9:10 COLL 663.** Sandwich immunoassays for infectious disease diagnostics using noble metal nanoparticles. **C. Yen**, H. de Puig, J.O. Tam, M. Sanchez, M. Carre, J. Gomez-Marquez, I. Bosch, L. Gehrke, **K. Hamad-Schifferli**

**9:40 COLL 664.** Measuring heparin activity with a nanoparticle-functionalized catheter. **J. Wang**, F. Chen, **J.V. Jokerst**

**10:10 COLL 665.** Highly quenching nickel-gold core-shell magnetic plasmonic nanoparticles for biosensing. **P.N. Vakil**, G.F. Strouse

**10:30 COLL 666.** Enhanced energy coupling within a nanometal plasmon field for molecular ruler and in-vitro event mapping technologies. **G.F. Strouse**

## Section G

Moscione Center  
2001

### Chemistry & Physics of Tribology

#### Biotribology, Biomimetic Systems & Lubrication in Aqueous Media

F. Mangolini, M. Ruths, *Organizers*

B. Krick, J. Wong, *Presiding*

**8:30 COLL 667.** Updating the mechanics of cartilage and joint lubrication. **D. Burris**

**9:05 COLL 668.** Colloid-probe AFM on gels and humidity-dependent AFM on hydrophilic networks: Aqueous tribology and glass-rubber transitions. **G.D. Haugstad**

**9:25 COLL 669.** Nanotribological studies of polymer brushes fabricated by near-field and interferometric lithography. **Z. Zhang**, O. Al Jaf, S.P. Armes, **G.J. Leggett**

**9:45 COLL 670.** Wear protection without surface modification: Is it possible? **X. Banquy**, J. Faivre, B. Shrestha, J. Burdyska, G. Xie, F. Moldovan, L. David, T. Delair, S. Benayoun, K. Matyjaszewski

**10:05 COLL 671.** Effect of multivalent counterions to the structure and lubrication properties of polystyrene sulfonate brushes. **J. Yu**, M.V. Tirrell

**10:25 COLL 672.** Tactile and hair-hair friction behavior of hair fibers. **N. Nordgren**, L. Skedung, N. Baghdadi, M.W. Rutland, **G.S. Luengo**

**10:45 COLL 673.** Effects of 3D surface patterning on the tribology of human stratum corneum and the topology of a polyurethane skin surface model. **R. Jin**, I. Liao, X. Xu, C. Cazeneuve, J.C. Chang, J. Langer, **M. Ruths**, **G.S. Luengo**

## Section H

Moscione Center  
2003

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Nanomedicine

R. Nagarajan, *Organizer*

K. Slowinska, *Presiding*

**8:30 COLL 674.** Harnessing shape and bi-specific antibodies for improved cell-targeting efficiency of poly(ethylene glycol) capsules. **D. Song**, J. Cui, Y. Ju, H. Sun, K. Thurecht, F. Caruso

**8:50 COLL 675.** Galectin-1-based tumor-targeting for gold nanostructure mediated theranostics. **S.V. Jenkins**, D. Nedosekin, R. Dings, J. Chen, R. Griffin

**9:10 COLL 676.** Stem cell/nanoparticle conjugates for targeted cancer therapy. **J.M. Berlin**

**9:30 COLL 677.** Thermo-responsive hybrid peptide nanoparticles in targeting-free cell selection and uptake. **K. Slowinska**

**9:50 COLL 678.** Screening of prostate cancer cells using Zn(II) sensing SERS nanoprobe. **P.C. Ray**

**10:10 COLL 679.** Drug delivery using layered structured nanomaterials. **J.L. Colon**, J. Gonzalez, Y. Kan, V. Bakhmoutov, A. Clearfield

**10:30 COLL 680.** Probing the stability of liposomal spherical nucleic acids for therapeutic design. **B. Meckes**, R. Banga, C.A. Mirkin

**10:50 COLL 681.** Development and characterization of free-standing nano films loaded with iron nanoparticles for magnetic drug targeting. **M. Sakuragi**, H. Murayama, K. Taguchi, K. Kusakabe

**11:10 COLL 682.** Synthesis and biomedical application of metal and metaloxide nanocrystals. **Q. Zhang**, S. Tong, Y. Hu, G. Bao, **V. Colvin**

**11:30 COLL 683.** Nanolipoprotein particles for delivery of therapeutics to the brain. **S.F. Gilmore**, N.A. Be, H.A. Enright, M.A. Malfatti, A. Rasley, J. Osburn, S. Peters, N.O. Fischer

**11:50 COLL 684.** Formulation and study of highly stable, semifluorinated nanoemulsions with theranostic applications. **A.R. Barres**, S. Mecozzi

## Section I

Moscione Center  
2005

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Polymer Materials & Gels

R. Nagarajan, *Organizer*

T. J. McCarthy, *Presiding*

**8:30 COLL 685.** Ice adhesion reducing polymers and prepolymers based on siloxanes and F-POSS. **R. Simons**, S. Li, L. Russel, S. Bateman, J. Seebergh, D. Berry

**8:50 COLL 686.** Withdrawn.

**9:10 COLL 687.** Rediscovering silicenes: Water repellency and water permeability. **P. Bian**, **T.J. McCarthy**

**9:30 COLL 688.** Development of new multi-functional polycarbonate platforms. **N. Park**, J. Hedrick

**9:50 COLL 689.** Withdrawn.

**10:10 COLL 690.** Directly linear alignment as different deacetylation of chitosan under electric field. **Y. Chun**, Y. Ko, T. Do, U. Choi

**10:30 COLL 691.** Stimuli-responsive cyclodextrin-modified microgels: Functional carriers with dynamic crosslinks and binding domains. **A. Pich**, D. Schmitz

**10:50 COLL 692.** Shape stability and mechanical properties of rhombic dodecahedron multilayer hydrogel capsules at various pH. **N. Gupta**, J. Chen, V.A. Kozlovskaya, B. Xue, E.P. Khariampieva

**11:10 COLL 693.** Synthesis of monolithic  $Cu_2(OH)_2Br$  aerogels. **T.M. Fears**, J.D. Colvin, S.O. Kucheyev

**11:30 COLL 694.** Synthesis of poly(2-methoxyethyl acrylate)-based hydrogel particles for bio-coatings and carriers. **T. Kureha**, D. Suzuki

**11:50 COLL 695.** Gelation of vegetable and mineral oils by an efficient and versatile low-molecular-mass gelator. **D. Bajani**, J. Dey

### Bio-based Gels & Porous Materials

#### Biopolymer Hydrogels

*Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

#### Deposition & Etching of Nanostructures

*Sponsored by INOR, Cosponsored by COLL*

### Evolving Nanoparticle Reactivity throughout Nucleation, Growth & Dissolution

*Sponsored by GEOC, Cosponsored by COLL, ENVR and NUCL*

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Spectroscopy & Microscopy of Photocatalytic & PEC Materials

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

### Chemical Principles of Environmental, Cellular & Organismal Nanotoxicology

*Sponsored by ENVR, Cosponsored by COLL*

### Mineral-Water Interface Chemistry

*Sponsored by GEOC, Cosponsored by COLL and ENVR*

### Functional Lignocellulosics & Nanotechnology

#### Dispersions, Gels, Foams, Colloids & Films

*Sponsored by CELL, Cosponsored by CARB and COLL*

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Organic Oxygenates

*Sponsored by CATL, Cosponsored by COLL and ENVR*

## WEDNESDAY AFTERNOON

### Section A

Moscione Center  
2002

### Biomembrane Synthesis, Structure, Mechanics & Dynamics

S. Muralidharan, M. Nieh, A. N. Parikh, N. Srividya, *Organizers*

J. Katsaras, *Organizer, Presiding*

R. Ashkar, *Presiding*

**2:00 COLL 696.** Preparation, characterization, and application of nanopore-supported phospholipid bilayers. **D. Bryce**, J.P. Kitt, J.M. Harris

**2:20 COLL 697.** Biomimetic construction of phospholipid membranes. **R.J. Brea Fernández**, C.M. Cole, A.K. Rudd, N.K. Devaraj

**2:45 COLL 698.** Interplay of structure and dynamics in mixed lipid bilayers. **E.G. Kelley**, R. Ashkar, R. Bradbury, P. Butler, M. Nagao

**3:10 COLL 699.** Neutron scattering to study membrane systems: From lipid vesicles to living cells. **J. Nickels**, S. Chatterjee, C.B. Stanley, S. Qian, X. Cheng, D. Myles, R.F. Standaert, J. Elkins, J. Katsaras

**3:35 COLL 700.** Human lipoproteins at model cell membranes: Role of the lipoprotein class on lipid dynamics. **K. Browning**, T. Lind, S. Maric, S. Malekhaat-Häffner, G.N. Fredrikson, E. Bengtsson, M. Malmsten, M. Cardenas

**4:00 COLL 701.** Lipoprotein structure dependency on lipid cargo and exchange dynamics: Implications for atherosclerosis development. **S. Maric**, T. Lind, J. Lyngso, E. Bengtsson, G.N. Fredrikson, M. Moulin, M. Haertlein, T. Forsyth, J. Pedersen, M. Cardenas

‡Cooperative Cosponsorship

**4:25 COLL 702.** Probing the structure and dynamics of proteins using neutron scattering. **M. Sharp**

**4:50 COLL 703.** Effect of cholesterol on the elastic and viscous properties of dimyristoylphosphatidylcholine bilayers. **R. Bradbury, M. Nagao, E.G. Kelley**

## Section B

Moscone Center  
2004

### Colloidal Nanoparticle Synthesis & Assembly

Y. Sun, S. Wu, *Organizers*

H. Fan, H. Htoon, *Organizers, Presiding*

**2:00 COLL 704.** Observation of nucleation and growth during the formation of cadmium selenide and iron oxide nanoparticles and their use for biomedical imaging. **H. Weller**

**2:30 COLL 705.** Suppressed-blinking green-emitting giant quantum dots: From synthesis to structure to function. **J.A. Hollingsworth, N. Mishra, N. Orfield, J.R. McBride, C. Hanson, S. Click, Z. Hu, H. Htoon**

**3:00 COLL 706.** Tunable quasi-amorphous photonic materials with pigmentary colloidal nanostructures. **J. Han, E. Lee, J. Dudoff, M. Bagge-Hansen, J.R. Lee, A.J. Pascall, J.D. Kuntz, T. Willey, M.A. Worsley, Y.J. Han**

**3:20 COLL 707.** Chemical intercalation of superatomic solids. **E. O'Brien, X. Roy**

**3:40 COLL 708.** Self-assembly of nanoparticles via co-crystallization with proteins. **H. Kim, V. Colvin**

**4:00 COLL 709.** Reversible and precise self-assembly of Janus metal-organosilica nanoparticles through a linker-free approach. **H. Hu, Q. Zhang**

**4:20 COLL 710.** New class of branched and nanofibrous dendrimeric polymer particles with extraordinary adhesive and structure-building capabilities. **S. Roh, S.D. Stoyanov, O.D. Velev**

**4:40 COLL 711.** Controlling size in nanoparticle syntheses using the extended LaMer mechanism. **D. Huber**

**5:10 COLL 712.** Colloidal superparticles from colloidal crystallization in closed systems. **Y.C. Cao**

## Section C

Moscone Center  
2006

### Molecular Surface Science, Nanomaterials & Catalysis: Symposium in honor of Gabor Somorjai at 80

### Electrons & Photons in Interfacial Science

*Cosponsored by CATL*

S. H. Kim, R. M. Rioux, *Organizers, Presiding*

**2:00 COLL 713.** Surface bonding and chemistry for pyridine-catalyzed CO<sub>2</sub> reduction on GaP. **B.E. Koel**

**2:30 COLL 714.** Intercalation of metal ions into the interlayer region of layered manganese oxide for improved water oxidation electrocatalysis. **D.R. Strongin, A.C. Thenuwara, S. Shumlas, I.G. McKendry, R.C. Remsing, M. Zdilla, Q. Kang, M.L. Klein, E. Borguet, N. Attanayake, J. Sun, L. Frazier**

**3:00 COLL 715.** Understanding the surface reactions of the lithium-air battery and its consideration for usage in an automotive application. **C.J. Brooks, Q. Xu, E. Kreidler**

**3:30 COLL 716.** Experimental and computation studies of the reaction of hydrogen and organic peroxide on molybdenum hydrogen bronze surfaces. **N.F. Materer, A.W. Apblett**

**4:00 COLL 717.** Systematic approaches to modify the surface and electronic structure of TiO<sub>2</sub> nanocrystals. **C. Balasanthiran, S. Varapragasam, S. Mia, R.M. Rioux, J.D. Hoefelmeyer**

**4:30 COLL 718.** Photoelectrical response of mesoporous metal oxides decorated with size controlled platinum nanoparticles under argon and oxygen gas. **A. Sapi, A. Kukovec, Z. Konya**

## Section D

Moscone Center  
2008

### Hierarchical Self-Assembly of Organic Monolayers, Bilayers & Films: Theory & Experiment

S. L. Tait, *Organizer*

A. H. Flood, *Organizer, Presiding*

**2:00 COLL 719.** 4D nanolithography using a flow-through polymer printer. **A.B. Braunschweig**

**2:30 COLL 720.** Colored soaps for photonics. **M. Presselt, F. Herrmann-Westendorf, M. Kaufmann, S.K. Das, M.L. Hupfer, B. Dietzek**

**2:50 COLL 721.** Metal-organic coordination chains at surfaces: Chemical activity of single-site transition metal centers. **S.L. Tait, C. Tempas, L. Chen, T.W. Morris, C.G. Williams, M. Wang, D.L. Wisman, B.J. Cook, A.V. Polezhaev, K.G. Caulton**

**3:20 COLL 722.** Computational design of metal-ligand coordination centers for catalytic applications. **T.S. Rahman**

**3:50 COLL 723.** Two-dimensional organic heterostructures and Co-crystals. **A. Enders**

**4:20 COLL 724.** Axial binding to supported metal porphyrins at the solution-solid interface. **K. Hipps, U. Mazur Hipps**

**4:50 COLL 725.** Development of fragment-based quantum chemical models for understanding supramolecular interactions and self-assembly. **K. Raghavachari, A. Sengupta, S. Debnath**

**5:20 COLL 726.** Tuning the exchange coupling of transition metal complexes to gold substrates by magnetic fields. **T. Pope, K. Yang, H. Chen, L. Liu, D. Wang, L. Tao, W. Xiao, X. Fei, H. Luo, S. Du, T. Xiang, W. Hofer, H. Gao**

**5:40 COLL 727.** Theoretical studies of adsorption and self-assembly of probe organic molecules at metal oxide surfaces. **X. Gong, Y. Yu, Q. Cuan**

## Section E

Moscone Center  
2010

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Bionanomaterials

R. Nagarajan, *Organizer*

P. Kral, *Presiding*

**2:00 COLL 728.** Enhanced immobilization of His-tagged enzymes using porous nickel silicate covered magnetic nanoparticles. **M. Shin, B. Kang, N. Yoon, M. Kim, J. Ki, S. Han, J. Ahn, S. Haam**

**2:20 COLL 729.** Diffusion of biomolecules in vesicle assembled RNA-based coacervates. **F. Pir-Cakmak, W.M. Aumiller, B. Davis, C.D. Keating**

**2:40 COLL 730.** Atomistic modeling of highly specific bio-active nanoparticles and micelles. **P. Kral**

**3:10 COLL 731.** Controlling colloidal drug aggregate stability and protein adsorption. **A. Ganesh, J. Logie, C. McLaughlin, B. Shoichet, M.S. Shoichet**

**3:30 COLL 732.** Investigation of silk fibroin thin films for the improvement of bioactive peptide-based biosensors. **L. Soblosky, J.R. Uzarski**

**3:50 COLL 733.** Oligonucleotide - peptide complexes: Phase control by hybridization. **J. Viereg, M.J. Lueckheide, A. Marciel, L. Leon, M.V. Tirrell**

**4:10 COLL 734.** Ultra-rapid crystallization of L-alanine using monomode microwaves, indium tin oxide, and metal-assisted and microwave-accelerated evaporative crystallization. **C. Lansiquot, Z. Boone-Kukoyl, R. Shortt, N. Thompson, H. Ajifa, B. Kioko, E. Constance, T. Clement, B. Ozturk, K. Aslan**

**4:30 COLL 735.** Synthesis of platinum (II) - nuclear localization sequence peptide hybrid for nanoparticle development and anticancer therapy. **M. Wlodarczyk, O. Camacho-Vanegas, S. Dragulska, A. Jarzecki, P.R. Dottino, J.A. Martignetti, A.J. Mieszawska**

**4:50 COLL 736.** Design and evaluation of trigger-responsive DNA-drug nanostructures. **X. Tan, X. Lu, F. Jia, X. Liu, Y. Sun, J. Logan, K. Zhang**

**5:10 COLL 737.** Production of protein nanofibers using new timesaving methodologies for the design of innovative biomedical applications. **N.H. Silva, T. Carvalho, A.A. Silvestre, I. Marrucho, C. Freire**

## Section F

Moscone Center  
2012

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Carbon Materials

R. Nagarajan, *Organizer*

J. R. Uzarski, *Presiding*

**2:00 COLL 738.** Carbon nanotube-quantum dot nanohybrids: Coupling with single particle control in aqueous solution. **A. Attanzio, M. Palma**

**2:20 COLL 739.** Fabrication of laser-induced graphene under controlled gas atmosphere - from superhydrophilic to superhydrophobic. **Y. Li, D. Luong, J. Zhang, J.M. Tour**

**2:40 COLL 740.** Fabrication of carbon nanotubes conductive patterns by extrusion printing method. **A. Aldabahi, M. Panhuis, C. Fan**

**3:00 COLL 741.** Multiplexed graphene-based nanomaterials for discriminatory sensing: A combined fundamental and applied experimental approach. **J.R. Uzarski, E. Nailon, S. McGraw, M. Wiederoder, T. Lawton, C. Bright**

**3:30 COLL 742.** Withdrawn.

**3:50 COLL 743.** Shear thickening behavior of graphene nanoplatelets and carbon nanotubes containing fumed silica suspensions. **M. Zabet, K. Trinh, H. Toghiani, T. Lacy, C.U. Pittman, S. Kundu**

**4:10 COLL 744.** Plasma-enhanced graphene and graphene oxide based conducting polymer composites for solar cell and biosensor applications. **A. Ungun Oksuz, S. Cogal, G. Celik Cogal, S. Tunc, F. Kuralay, S. Erten Ela, M. Ormastova, S. Ahmad**

**4:30 COLL 745.** Synthesis and characterization of water-based dispersions of high-purity, thin graphene oxide sheets from different graphitic sources. **D. Jasim, K. Kostarelos**

**4:50 COLL 746.** Bioinspired Polydopamine (PDA) chemistry meets Ordered Mesoporous Carbons (OMCs): A benign surface modification strategy for versatile functionalization. **Y. Song, G. Ye, J. Wang, K. Matyjaszewski**

## Section G

Moscone Center  
2001

### Chemistry & Physics of Tribology Tribology in Extreme Environments & Advances in Solid Lubrication

F. Mangolini, M. Ruths, *Organizers*

X. Banquy, S. Didziulis, *Presiding*

**2:00 COLL 747.** Aging effects on the transient frictional behavior of MoS<sub>2</sub>-based solid lubricants for use in extreme environments. **M. Dugger**

**2:35 COLL 748.** Understanding friction in MoS<sub>2</sub>: Structure, oxidation and run-in. **J. Curry, M. Sidebottom, H. Luftman, N. Strandwitz, N. Argibay, B. Krick**

**2:55 COLL 749.** Lubricant effects in space system performance. **S.V. Didziulis, P.P. Frantz, V. Oklejas, J.M. Helt**

**3:15 COLL 750.** Interactions between oil-soluble phosphonium-phosphate ionic liquids and steel in the mixed and boundary lubrication regime. **S. Berkebile, N. Murthy, J. Mogonye**

**3:35 COLL 751.** Linking microstructure to wear-induced pitting corrosion in aged 2507 super duplex stainless steel. **J.M. Shockley, D. Horton, K.J. Wahl**

**3:55 COLL 752.** Amazing friction properties of graphene and water. **M. Salmeron, J. Park**

**4:30 COLL 753.** Effect of thickness and chemical reduction of graphene oxide on nanoscale friction. **J. Park, S. Kwon, H. Lee**

**4:50 COLL 754.** Studies of the dynamic frictional properties of 2D nanomaterials. **M.B. Elinski, Z. Liu, M. Negrito, J.D. Batteas**

**5:10 COLL 755.** Boron nitride nanomesh model system for stiction and adhesion. **S. Mertens**, A. Hemmi, S. Muff, O. Groening, S. De Feyter, J. Osterwalder, T. Greber

**5:30 COLL 756.** Understanding the influence of environment and surface patterning on the tribological behaviour of silicon-oxide containing diamond-like carbon (a-C:H:Si:O) films. **K. Koshigan**, J. Lengaigne, R. Carpick, J. Fontaine, J. Sapieha, L. Martinu

### Section H

Moscone Center  
2003

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Nanomedicine

R. Nagarajan, *Organizer*

M. Ruths, *Presiding*

**2:00 COLL 757.** Antioxidant carbon nanomaterials for treating autoimmune disorders. **L.G. Nilewski**, R. Huq, E.L. Samuel, W.K. Sikkema, R. Pautler, D.B. Corry, C. Beeton, J.M. Tour

**2:20 COLL 758.** Characterization of amphiphilic copolymer micelles for drug delivery. **X. Xu**, B. Gupta, S. Kaur, J. Nguyen, R. Jin, A.C. Watterson, **M. Ruths**

**2:40 COLL 759.** Tuning the drug uptake and release from silica nanostructures as a function of etching medium. **H. Thawani**, V. Patel, S. Singh, **A. Karakoti**

**3:00 COLL 760.** Filomicelles deliver retinoids and chemotherapeutics to durably control carcinoma cell fate. **P. Nair**, D.E. Discher

**3:20 COLL 761.** Influences of serum proteins on the uptake of Fe<sub>3</sub>O<sub>4</sub> nanoparticles by human breast cancer cells. **L. Guo**, T. Wang, N. He

**3:40 COLL 762.** Hyperthermia properties of superparamagnetic ferrite (MFe<sub>2</sub>O<sub>7</sub>) nanoparticles synthesized via the thermal decomposition method. **S. Sabale**, V. Jadhav, X. Yu

**4:00 COLL 763.** Microwave heating of synthetic skin for potential treatment of gout using the metal-assisted and microwave-accelerated decrystallization technique. **S. Toker**, Z. Boone-Kukoyi, N. Thompson, H. Ajifa, T. Clement, B. Ozturk, K. Aslan

**4:20 COLL 764.** Novel platelet-repellent polyphenolic surfaces and their micropattern for platelet adhesion detection. **L. Yang**, L. Han, L. Jia

**4:40 COLL 765.** Modeling of polymer based micelles and DNA delivery medicines. **Y. Han**, P. Kral

**5:00 COLL 766.** Surface modification of nanoscale diamond for biolabeling with the nitrogen vacancy center. **P. Tran**, P.J. Sandoval, J. Hnatek, E.S. Favre, A. Arreola, A.A. Len, I. Laaguidi, A. Hernandez, D. Nordlund, **A. Wolcott**

**5:20 COLL 767.** Classification of bacteria by surface enhanced Raman spectroscopy and principal component analysis. **S.J. Jones**, S.S. Sinha, P.C. Ray

### Section I

Moscone Center  
2005

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Colloidal Assembly

R. Nagarajan, *Organizer*

S. A. Santer, *Presiding*

**2:00 COLL 768.** Light driven diffusion: Manipulation of particle assembly. **S.A. Santer**

**2:20 COLL 769.** Block copolymer morphology switch via colloidal assembly and local reorganization. **D. Wright**, J.P. Patterson, M. Touve, A. Carlini, N.C. Gianneschi

**2:40 COLL 770.** Tailored nanoparticles by wet chemical particle technology: From lab to pilot scale. **K. Mandel**

**3:00 COLL 771.** Multipole re-expansion model for assembly of dielectric particles in external electric field. **G. Goel**, A. Nayeer, A. Ranjak, S. Gupta

**3:20 COLL 772.** Patchy particles via cluster fusion. **Z. Gong**, T. Hueckel, G. Yi, S. Sacanna

**3:40 COLL 773.** Modeling of magnetization in self-assembled magnetic nanocubes. **C. Wang**

**4:00 COLL 774.** Reconfigurable colloids via stimulated dewetting. **M. Yousef**, T. Hueckel, G. Yi, S. Sacanna

**4:20 COLL 775.** Burstable nanostructured micro-raspberries: Toward redispersible, adjustable nanoparticles from dry powders. **C. Stauch**, T. Ballweg, R. Luxenhofer, K. Mandel

**4:40 COLL 776.** Inducing an order-order morphological transition via chemical degradation of amphiphilic diblock copolymer nano-objects. **L.P. Ratcliffe**, C. Couchon, S.P. Armes, J.M. Paulusse

### Bio-based Gels & Porous Materials

#### Biopolymer Organogels

*Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

#### Deposition & Etching of Nanostructures

*Sponsored by INOR, Cosponsored by COLL†*

#### Evolving Nanoparticle Reactivity throughout Nucleation, Growth & Dissolution

*Sponsored by GEOC, Cosponsored by COLL, ENVR and NUCL*

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Devices, Assemblies & Hybrid Processes

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

### Functional Lignocellulosics & Nanotechnology

#### Responsive Materials & Biosensors

*Sponsored by CELL, Cosponsored by CARB and COLL*

#### Elucidation of Mechanisms & Kinetics on Surfaces

#### Mechanisms: Hydrogenation

*Sponsored by CATL, Cosponsored by COLL and ENVR*

## WEDNESDAY EVENING

### Chemical Principles of Environmental, Cellular & Organismal Nanotoxicology

*Sponsored by ENVR, Cosponsored by COLL*

#### Mineral-Water Interface Chemistry

#### A Tribute to Glenn Waychunas

*Sponsored by GEOC, Cosponsored by COLL and ENVR*

#### General Session

*Sponsored by GEOC, Cosponsored by COLL and ENVR*

## THURSDAY MORNING

### Section A

Moscone Center  
2002

### Biomembrane Synthesis, Structure, Mechanics & Dynamics

J. Katsaras, M. Nieh, A. N. Parikh, N. Srividya, *Organizers*  
S. Muralidharan, *Organizer, Presiding*

**9:00 COLL 777.** Controlled drug release from magneto-liposomes via ultrasound generation. **G. Podaru**, V. Chikan, P. Prakash

**9:20 COLL 778.** Mechanical characterization of self-assembled surfactant micelles at graphite surfaces via atomic force microscopy. **B.L. Micklavzina**, M.L. Longo, S. Zhang, H. He

**9:40 COLL 779.** Carbon nanotube enhancement of water and ion permeability of diblock copolymer membranes. **J. Sanborn**, R. Tunuguntla, X. Chen, A.N. Parikh, A. Noy

**10:00 COLL 780.** Shape morphogenesis in giant lipid vesicles in an osmotic field gradient. **S. Hong**, V. Sharma, V. Nguyen, D. Gettel, J. Sanborn, A.N. Parikh

**10:20 COLL 781.** Single-molecule detection of biomarker molecules in a nanometric gap structure with fluid lipid membrane. **K. Ando**

**10:40 COLL 782.** Phase separation and curvature generation in biphasic giant lipid vesicles reconstituting plant plasma membrane lipids. **S. Emami**, V. Ngassam, A.N. Parikh

**11:00 COLL 783.** Evaluating the interactions of lipid raft and proteins involved in phototransduction by using a micropatterned model membrane. **Y. Tanimoto**

**11:20 COLL 784.** Morphological consequences of surface-mediated spinodal decomposition inside giant vesicles. **W. Su**, D. Gettel, M. Chabanon, S. Hong, P. Rangamani, A.N. Parikh

**11:40 COLL 785.** Small molecule induced fusion of a model protocell membrane composed of fatty acids: A new insight into the membrane fusion monitored through fluorescence lifetime imaging microscopy. **N. Kundu**, N. Sarkar

### Section B

Moscone Center  
2004

### Colloidal Nanoparticle Synthesis & Assembly

H. Fan, H. Htoon, Y. Sun, S. Wu, *Organizers*

F. Bai, Y. Jang, *Presiding*

**8:30 COLL 786.** Modeling nanoparticle assembly: Using polymer coatings, interfaces, and pressure to build 1D, 2D, and 3D nanostructures. **J.M. Lane**

**9:00 COLL 787.** Constructing theranostics based on fluorescent carbon nanodots. **Z. Sun**

**9:30 COLL 788.** Engineering bimetallic nanocrystals as artificial enzymes for colorimetric detection of disease biomarkers. **X. Xia**, H. Ye

**10:00 COLL 789.** Tuning functional nanoparticulate and nanoporous structures using atomic layer deposition. **Y. Jiang**

**10:20 COLL 790.** Atomistic modeling of nanoparticle formation, modification and self-assembly in liquid cells. **P. Kral**

**10:40 COLL 791.** Modeling of self-assembly dynamics of charged nanoparticles in liquid cells. **F. Sanoj**

**11:00 COLL 792.** Modeling the nucleation and growth of palladium nanoparticles in the presence of capping ligands. **S. Mozaffari**, W. Li, C. Thompson, A.M. Karim

**11:20 COLL 793.** Cellulose nanocrystal-derived stimulus-responsive cholesteric microgels having catalytic properties. **S. Cho**, Y. Li, M. Seo, E. Kumacheva

**11:40 COLL 794.** Controlled self-assembly of porphyrin and applications. **F. Bai**

### Section C

Moscone Center  
2006

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Surface Studies

R. Nagarajan, *Organizer*

T. Lawton, *Presiding*

**8:30 COLL 795.** Probing heterogeneity and bonding at silica surfaces through single-molecule investigation of base-mediated linkage failure. **K. Lupo**, D. Hinton, J. Ng, N. Padilla, R.H. Goldsmith

**8:50 COLL 796.** Balancing multiple orthogonal functions simultaneously on a single surface. **T. Lawton**, J.R. Uzarski, S. Filocamo

**9:10 COLL 797.** Optimization of micro/nanocapsules attachment by tailoring the surface nature of textiles. **W. Akbar**, R. Ihnfeldt, **G. Basim**

**9:30 COLL 798.** Determining optimum surface preparations to control the selectivity of ethanol chemistry over TiO<sub>2</sub>/Au(111). **A. Baber**, D. Boyle, J. Wilke, V.H. Lam

**9:50 COLL 799.** Directing and morphing bouncing water droplets using chemically patterned surfaces. **T. Dong**, T.J. McCarthy

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

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**10:10 COLL 800.** Rapid covalent surface modifications using the Piers-Rubinsztajn reaction. **D. Flagg**

**10:30 COLL 801.** Single-nanogap level characterization of ultra-dense Nanogap-Enhanced Raman Scattering (NERS) array surface. **Y. Suh**

**10:50 COLL 802.** Reactions of persistent carbenes with silicon surfaces. **A.V. Zhukhovitskiy**, M. Mavros, K.L. Queeney, T. Wu, T.A. Van Voorhis, J.A. Johnson

**11:10 COLL 803.** On the role of non-bulk interfacial structures in rutile-anatase TiO<sub>2</sub> interfaces. **M. Nolan**, K.A. Gray

**11:30 COLL 804.** *In situ* chemical imaging of energy and environmental interfaces. **X. Yu**

**11:50 COLL 805.** CuInS<sub>2</sub>-ZnS-based electro optic devices: Surface, structure and surface. **G. Zaiats**, J.B. Hoffman, S. Kinge, P.V. Kamat

## Section D

Moscone Center  
2008

### Hierarchical Self-Assembly of Organic Monolayers, Bilayers & Films: Theory & Experiment

A. H. Flood, *Organizer*

S. L. Tait, *Organizer, Presiding*

**8:30 COLL 806.** From standing to sitting: Leveraging iterative phase segregation to create hierarchically nanostructured synthetic materials. **S.A. Claridge**

**8:50 COLL 807.** Effect of the first layer on polyelectrolyte multilayer structure. **X. Lyu**, A.M. Peterson

**9:10 COLL 808.** Partitioning of organic solutes into bilayers formed by non-ionic surfactants. **J. Siewmann**, M.S. Minkara, R.K. Lindsey, S.N. Jamadagni, D.M. Eike, P.H. Koenig

**9:40 COLL 809.** Beyond self-assembly: 2D chemical interactions and patterns, a computational approach to complex systems. **F. Zerbetto**

**10:10 COLL 810.** Understanding polymorphic accessibility and stability in molecular semiconductor thin films. **Y. Loo**

**10:40 COLL 811.** Principles and applications of grazing incidence small angle and wide angle x-ray scattering. **B. Lee**

**11:10 COLL 812.** Rational design of block copolymer compatibilizers for ternary blend polymer bulk heterojunction solar cells. **D. Kipp**, R. Verduzco, **V. Ganesan**

**11:40 COLL 813.** Nano-phase behavior of surface-adsorbed, monodisperse oligodimethylsiloxane-based block molecules. **J. Teyssandier**, J.A. Berrocal, B. de Waal, E.W. Meijer, S. De Feyter

**12:00 COLL 814.** Fast, facile, and scalable fabrication of slippery liquid-infused surfaces using layer-by-layer assembly enabled by in-situ proton transfer. **G.H. Zhu**, N. Zacharia

## Section E

Moscone Center  
2010

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Self-Assembly

R. Nagarajan, *Organizer*  
K. Sakurai, *Presiding*

**8:30 COLL 815.** Platonic micelles: Glutamic acids bearing calix[4]arene micelle: pH-controllable aggregation number corresponding to regular polyhedra. **S. Fujii**, K. Sakurai

**8:50 COLL 816.** Platonic micelles: Thermodynamic consideration of the micelles with the discrete aggregation numbers and mon-dispersity. **K. Sakurai**

**9:10 COLL 817.** Synthesis of epoxy-functional diblock copolymer nano-objects via polymerisation-induced self-assembly and their use as Pickering emulsifiers. **F. Hatton**, K. Thompson, S.P. Armes

**9:30 COLL 818.** Time-resolved small-angle x-ray scattering studies of the micellar nucleation event during polymerization-induced self-assembly. **M.J. Derry**, O. Mykhaylyk, S.P. Armes

**9:50 COLL 819.** pH-resolved self-assembly of microbial glycolipids: Mechanistic insights. **N. Baccile**

**10:10 COLL 820.** Hydrogen bonding asymmetric star-shape derivative of bile acid leads to supramolecular fibrillar aggregates that wrap into micrometer spheres. **T.T. Myllymäki**

**10:30 COLL 821.** Self-assembly of zwitterionic sulfobetaine siloxane onto silica nanoparticles for application as a versatile antifouling coating system. **B. Knowles**, P. Wagner, S. MacLaughlin, M. Higgins, P. Molino

**10:50 COLL 822.** Self-assembled protein vesicles made from recombinant fusion proteins. **Y. Jang**, W. Choi, J. Champion

**11:10 COLL 823.** Novel readily biodegradable disulfonate surfactants. **W. Yu**, Y. Cheng, E. Daugs, A. Argenton

**11:30 COLL 824.** Novel liposome-based Surface Enhanced Raman spectroscopy (SERS) substrate. **W. Lum**, I. Bruzas, Z. Gorunmez, S. Unser, L. Sagle

**11:50 COLL 825.** Block copolymer templated mono- and bimetallic catalysts for fuel cell electrocatalysis. **D.A. Rider**

## Section F

Moscone Center  
2012

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Metal Nanomaterials

R. Nagarajan, *Organizer*  
L. Cademartiri, *Presiding*

**8:30 COLL 826.** Initial growth of Au nanostructures on TiO<sub>2</sub>(110)-1x1 surface at elevated temperature. **X. Tong**

**8:50 COLL 827.** Polymer-like nanowires. **L. Cademartiri**

**9:10 COLL 828.** Functional and structural characterization of multi-functional gold nanoparticles. **L. Calzolari**, R. Capomaccio, I. Ojea Jimenez, D. Gilliland

**9:30 COLL 829.** Frugal innovation: Synthesis and applications of under-cooled metal particles. i. Tevis, J. Chen, C. Frankiewicz, A. Martin, **M. Thuo**

**9:50 COLL 830.** Withdrawn.

**10:10 COLL 831.** Chemical identity of surfactants control the electronic behaviors of the metallic core in gold nanoparticles. **B.J. Lear**, A. Cirri

**10:30 COLL 832.** Assessment of the physical stability of metal and metal oxide films for enhanced signal detection in colorimetric bioassays. **E. Bonyi**, Z. Kukoyi, O. Daodu, K. Aslan

**10:50 COLL 833.** Size and shape dissolution of silver nanoparticles. **Y. Hu**, Q. Zhang, V. Colvin

**11:10 COLL 834.** Hidden electrostatic asymmetry of gold nanorods. **J. Kim**, M. Lien, M. Han, S. Magonov, Y. Zhu, H. Ferguson, J. Schotland, Y. Chang, T. Norris, N. Kotov

**11:30 COLL 835.** Comparative roles of Zr(IV) and Ni(II) hetero-metal substituted polyoxometalates in oxidation solutions. **S.L. Giles**, J. Lundin, P.E. Pehrsson, R.B. Balow, W.O. Gordon, G.W. Peterson, B.T. Rasley, J.H. Wynne

**11:50 COLL 836.** Multi-stage transformation and lattice fluctuation at AgCl-Ag nanoparticle interface. **J.S. Du**, J. Park, Q. Kim, V.P. Dravid, D. Yang, D.A. Weitz

## Section G

Moscone Center  
2001

### Basic Research in Colloids, Surfactants & Nanomaterials

R. Nagarajan, *Organizer*

K. C. Tvrdy, *Presiding*

**8:30 COLL 837.** Novel sol-gel derived TiO<sub>2</sub>-SiO<sub>2</sub> particle systems for direct ink writing compositionally tailored GRIN glasses. **J.F. Destino**, T. Yee, N. Dudukovic, C. Meyers, D. Nguyen, E. Duoss, R. Dylla-Spears

**8:50 COLL 838.** New algorithm to model quantum growth dot dynamics. **K.C. Tvrdy**, N. Weeks

**9:10 COLL 839.** Damping of quantum dot acoustic phonons by chalcogenide surface ligands. **K. Schnitzenbaumer**, G. Dukovic

**9:30 COLL 840.** Microfluidic discovery platform: Toward nanoparticle functionalization through closed loop optimization. **K. Park**, S. Izor, J.D. Watt, D. Huber, D.H. Wang, L. Tan, R.A. Vaia

**9:50 COLL 841.** First steps in the Fischer-Tropsch reaction catalyzed by ultra-small ruthenium nanoparticles: A DFT study. **L. Cusinato**, L.M. Martínez-Prieto, B. Chaudret, I. Del Rosal, **R. Poteau**

**10:10 COLL 842.** Magnetic nanoparticles as contrast agents for reservoir imaging. **S. Al Hassan**, M. Subrati, G. Papavassiliou, D. Gournis, S. Pantelides, H. Kim

**10:30 COLL 843.** Characterization of nanoparticle interactions and thin film properties using MP-SPR. **N. Granqvist**, A. Jokinen, J. Kuncova-Kallio, J.W. Sadowski

**10:50 COLL 844.** Controlled nanoparticle morphology transitions induced by high-pressure ice-segregation. **J. Snitker**, M.O. Montes

**11:10 COLL 845.** Inorganic-organic hybrid electrical devices based on nanoparticle arrays for switchable current and spin transport. **R.C. Bruce**, C.A. Hacker

**11:30 COLL 846.** 2µm Ultrathin silica shells doped with iron (III) for low threshold of CPS and color doppler ultrasound performance and notable biodegradability. **C. Huang**, J. Yang, J. Wang, J. Oviedo, W.C. Trogler, A. Kummel, M. Kim

## Section H

Moscone Center  
2003

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Colloids in Environment & General Papers

R. Nagarajan, *Organizer*

K. Mandel, *Presiding*

**8:30 COLL 847.** Superparamagnetic carrier particles for water purification, resources recovery and substance sensing in fluids. **K. Mandel**

**9:00 COLL 848.** Colloidal gold nanorods uptake study on *C. fluminea* filter-feeding bivalve clams: Effect of aspect ratio and surface coating. **S. Abtahi**, P.J. Vikesland, C.J. Murphy, N.B. Saleh

**9:20 COLL 849.** Plasma modified catalytic micromotors. **L. Oksuz**, G. Yurdabak Karaca, E. Uygun, U. Koc, F. Kuralay, A. Uygun Oksuz

**9:40 COLL 850.** Thermochemistry of MAX and MXene phases. **G. Sharma**, M. Naguib, D. Feng, Y. Gogotsi, A. Navrotsky

**10:00 COLL 851.** Incorporating oxygenates into diesel fuel systems via stable reverse micelles. **M. Webb**, T. Riffi, W.J. Orts, **K. Aramthanapon**

**10:20 COLL 852.** Effect of viscosity on the propulsive motion of catalytic Janus motors. **P. Chatterjee**, E. Tang, P. Underhill

**10:40 COLL 853.** Manipulating single molecular junctions using electrochemical environments. **Y. Zang**, M.S. Inkpen, L. Venkataraman

**11:00 COLL 854.** Effect of moisture on the hydrolysis of basic salts. **X. Shi**, K. Lackner

**11:20 COLL 855.** Moisture-swing thermodynamics. **H. Azarabadi**, K. Lackner

## Section I

Moscone Center  
2005

### Basic Research in Colloids, Surfactants & Nanomaterials

#### Synthesis of Colloids & in Colloidal Media

R. Nagarajan, *Organizer*

M. Stefiik, *Presiding*

**8:30 COLL 856.** Organometallic route to layered zinc hydroxides and their exfoliated monolayers in apolar solvents. **A. Leung**, S.D. Pike, A.J. Clancy, H. Yau, M. Shaffer, C.K. Williams

**8:50 COLL 857.** Precision tunable nanomaterials from persistent micelle templates. **M. Stefiik**

**9:10 COLL 858.** Facile, single-pot preparation of nanoporous silica with AgNPs at the core and curst for controlled Ag<sup>+</sup> ion release. **M. Salman Haider**, G.N. Shao, K. Hee Taik

**9:30 COLL 859.** Selective electropolymerization of aniline on an ITO electrode using magnetic nanoparticles and a varying magnetic field. **D. Wirth**

**9:50 COLL 860.** Morphology, structure, and optical properties of 2D SnS nanoplates synthesized via a hot-injection method. **N. Trejo, A. Hunter, M. Nguyen, C. Wrasman, J. Dwyer, E.S. Aydil**

**10:10 COLL 861.** Synthesizing and screening high mobility nanoparticles. **D. Garcia-Rojas, G. Escalera, A. Mendoza-Garcia, C. Masterson, V. Colvin**

**10:30 COLL 862.** Surfactant-induced shape changes in oil droplets caged in deformable polymer shells as templates for the synthesis of anisotropic polymer particles. **X. Guo, N.L. Abbott, D.M. Lynn**

**10:50 COLL 863.** Synthesis and chemical transformation of nickel nanoparticles embedded in silica. **B.B. Lynch, B.D. Anderson, W.J. Kennedy, J.B. Tracy**

**11:10 COLL 864.** Carboxylate decomposition: A critical step in high temperature synthesis of metal oxide nanocrystals. **C. Masterson, A. Mendoza-Garcia, V. Colvin**

**11:30 COLL 865.** Synthesis and characterization of metal-doped synthetic melanin nanoparticles. **Z. Wang, Y. Li, Y. Huang, N.C. Gianneschi**

**11:50 COLL 866.** Effect of solution composition on Pu oxide nanoparticle morphology. **T. Parsons-Moss, J. Shusterman, D. Olive, Z. Dai, M. Zavarin, A. Kersting**

#### Bio-based Gels & Porous Materials

##### Aero-, Cryo- & Xerogels

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

##### Elucidation of Mechanisms & Kinetics on Surfaces

##### Mechanisms: Metals

Sponsored by CATL, Cosponsored by COLL and ENVR

##### Oxides

Sponsored by CATL, Cosponsored by COLL and ENVR

##### Functional Lignocellulosics & Nanotechnology

##### Responsive Materials & Biosensors

Sponsored by CELL, Cosponsored by CARB and COLL

## THURSDAY AFTERNOON

#### Bio-based Gels & Porous Materials

##### Open-Porous Carbon Materials

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

##### Elucidation of Mechanisms & Kinetics on Surfaces

##### Oxidation Reactions

Sponsored by CATL, Cosponsored by COLL and ENVR

##### Beyond Hydrocarbons

Sponsored by CATL, Cosponsored by COLL and ENVR

##### Functional Lignocellulosics & Nanotechnology

#### (nano)Paper: From Fundamentals to Applications/Antimicrobial, Functional Materials

Sponsored by CELL, Cosponsored by CARB and COLL

## COMP

### Division of Computers in Chemistry

**H. Woodcock, M. Feig and J. Shen,**  
Program Chairs

#### BUSINESS MEETINGS:

Business Meeting, 3:00 PM: Sat

#### SOCIAL EVENTS:

Social Hour, 7:00 PM: Sat

## SUNDAY MORNING

### Section A

InterContinental San Francisco  
Twin Peaks

#### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Allosteric Regulation & Mechanisms

Cosponsored by PHYS

C. Chang, Organizer

G. Verkhrivker, Organizer, Presiding

8:30 Introductory Remarks.

**8:45 COMP 1.** Allosteric mechanisms in receptor function and modulation: Toward a new pharmacology. **J. Changeux**

**9:30 COMP 2.** Allosteric functional mechanisms of molecular machines in the cell membrane. **H. Weinstein, M.V. LeVine, G. Khelashvili, M.A. Cuendet, A. Razavi**

**10:00 COMP 3.** Allostery driven by metal ions: Getting transition metal ions around cells safely. **K.M. Merz**

10:30 Intermission.

**10:50 COMP 4.** Dissecting and controlling protein allostery. **N. Dokholyan**

**11:20 COMP 5.** Entangled relationships: Protein flexibility, allostery, and mutation. **D. Livesay**

**11:50 COMP 6.** Toward rational allosteric engineering of molecular motor and switch protein function. **B. Grant**

### Section B

InterContinental San Francisco  
Fremont

#### Catalytic Materials from Molecular Insight

Cosponsored by CATL, MPPG<sup>†</sup> and PHYS

K. Honkala, B. Liu, Organizers

B. Liu, Presiding

**8:30 COMP 7.** Advances in density functional theory for molecules and materials. **N. Mardirossian, M.P. Head-Gordon**

**9:05 COMP 8.** New discovery tools for transition metal catalyst design. **T.Z. Gani, J.P. Janet, E. Ioannidis, H.J. Kulik**

**9:40 COMP 9.** Automated surface structure determination and reaction path identification. **B. Hammer**

10:15 Intermission.

**10:35 COMP 10.** Formation and structure of black anatase TiO<sub>2</sub>: A combined force field and first principles study. **S. Selcuk, X. Zhao, A. Selloni**

**11:10 COMP 11.** Discovery of new polymer photocatalysts for water splitting: The role of computational chemistry. **P. Guiglion, A. Monti, M.A. Zwijnenburg**

**11:45 COMP 12.** Theoretical water splitting mechanisms on manganese oxide clusters. **C.M. Aikens, A. Fernando, M. Just, K. Skinner, A.Z. Clayborne, T.N. Haddock**

### Section C

InterContinental San Francisco  
Howard

#### Strong Electron Correlation & Nonadiabatic Dynamics

Cosponsored by PHYS

G. Gidofalvi, E. Hohenstein, Organizers

A. E. DePrince, Organizer, Presiding

**8:30 COMP 13.** On-the-fly CASPT2 nonadiabatic dynamics. **T. Shiozaki**

**9:10 COMP 14.** Reaching towards FeMoCo. **Z. Li, S. Guo, A. Sokolov, G.K. Chan**

**9:50 COMP 15.** Reduced-order formulation of multi-reference perturbation theory via tensor hypercontraction. **C. Song, T.J. Martinez**

10:15 Intermission.

**10:30 COMP 16.** Coupled cluster theory for hundreds of atoms. **F. Neese**

**11:10 COMP 17.** Generalized active space method for affordable multi-reference calculations. **L. Gagliardi**

**11:50 COMP 18.** Construction of R12 geminal-projected particle-hole creation operators for many-electron systems using diagrammatic factorization approach. **M.G. Bayne, A. Chakraborty**

### Section D

InterContinental San Francisco  
Cathedral Hill

#### Computational Studies of Water

D. J. Sindhikara, Organizer

V. Mouchlis, Presiding

**8:30 COMP 19.** Thermodynamic characterization of water in biomolecular recognition. **R. Abel, S. Mondal, C. Masse, J. Greenwood, G. Harriman, M. Ashwell, S. Bhat, T. Beuming, R. Wester, L. Frye, R. Kapeller, R. Friesner**

**9:10 COMP 20.** Protein hydration free energies in explicit vs implicit solvent - a direct comparison. **P. Setny**

**9:40 COMP 21.** Testing a desolvation term in molecular docking on a model cavity. **T.E. Balus, M. Fischer, R.M. Stein, T.B. Adler, C.N. Nguyen, A. Cruz, M.K. Gilson, T.P. Kurtzman, B. Shoichet**

10:10 Intermission.

**10:25 COMP 22.** Conserved H<sub>2</sub>O in protein-ligand complexes: An evaluation of water prediction tools. **E. Nittinger, P.A. Gibbons, V. Tsui, M. Rarey, D.F. Ortwine**

**10:50 COMP 23.** Water prediction validated by x-ray crystallography in the B1 domain of neuropilin-1. **A. Chan**

**11:15 COMP 24.** Comparing water dynamics in cryo-EM and x-ray derived molecular models. **F. Tofoleanu, F.C. Pickard, S. Subramaniam, B. Brooks**

**11:40 COMP 25.** Toward a force-field validation engine: Attach-Pull-Release calculations of host-guest binding thermodynamics. **J. Yin, M.K. Gilson**

### Section E

InterContinental San Francisco  
Laurel Hill

#### Computer-Aided Peptide Design In-Silico Peptide Modeling

Cosponsored by CINF

Q. Deng, S. N. Ha, Organizers, Presiding

**8:30 COMP 26.** BRIKARD: A kinematics-based algorithm for the conformational sampling and design of macrocycles. **E. Coutisias**

**9:00 COMP 27.** Computational modeling of cyclic peptides. **S. McHugh, D. Slough, H. Yu, J. Rogers, Y. Lin**

**9:30 COMP 28.** Fragment-centric topographical mapping of protein-peptide interaction interfaces. **Y. Zhang**

10:00 Intermission.

**10:15 COMP 29.** Relative binding free energies from flexible peptide binding simulations. **A. Perez, J.A. Morrone, Q. Deng, S.N. Ha, K. Dill**

**10:45 COMP 30.** Recent advances in structure-based prediction of protein-peptide binding affinities. **T. Beuming, H. Li, E. Feyfant**

**11:15 COMP 31.** Stapled peptides: Specific reagents, potential therapeutics. **C. Verma**

### Section F

InterContinental San Francisco  
Nob Hill

#### Should I Move My Computational Chemistry or Informatics Tools to the Cloud?

Cosponsored by CINF

R. Alvarez, J. M. Blaney, Organizers

E. Metwally, V. Shanmugasundaram, Organizers, Presiding

8:30 Introductory Remarks.

**8:35 COMP 32.** Computational & data sciences in the cloud - To be or not to be. **R.K. Kondru**

**9:05 COMP 33.** Lessons learned in using Cloud BigCompute to transform computational chemistry research. **J. Stowe**

**9:35 COMP 34.** Getting our heads into the cloud: GSK experiences using cloud computing for structure based drug design. **A.P. Graves**

10:05 Intermission.

**10:20 COMP 35.** Practical lessons learned on a long and winding road to The Cloud. **N.R. Labello, G.A. Bakken**

**10:50 COMP 36.** Design anywhere: A mobile app for drug design. **H. Zhang, J. Lajiness, J. Hughes, M. Lajiness, J. Wang**

<sup>†</sup> Cooperative Cosponsorship

**11:20 COMP 37.** Accelerating discovery in the cloud: A cohesive workflow for the virtual screening and refinement of computationally-intensive libraries. E. Metwally

#### Materials Informatics & Computational Modeling

Sponsored by CINF, Cosponsored by COMP and POLY

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy

Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC

#### Quantum Dynamics in Large Scale Systems

#### Simulating Electrons on Large Scale

Sponsored by PHYS, Cosponsored by COMP

#### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG<sup>2</sup>

## SUNDAY AFTERNOON

### Section A

InterContinental San Francisco  
Twin Peaks

#### Undergraduate Research & National Meeting Roundtable

E. C. Sherer, *Organizer*  
M. C. Nagan, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 COMP 38.** Introduction to quantum chemistry. A.E. DePrince

**2:25 COMP 39.** Molecular mechanics in computational chemistry: An overview for undergraduates. C.L. Simmerling

**3:15** Discussion.

**4:05** Intermission.

**4:20** Panel Discussion.

**5:10** Concluding Remarks.

### Section B

InterContinental San Francisco  
Fremont

#### Catalytic Materials from Molecular Insight

Cosponsored by CATL, MPPG<sup>2</sup> and PHYS

B. Liu, *Organizer*  
K. Honkala, *Organizer, Presiding*

**1:30 COMP 40.** Insight into catalyst activity and selectivity drawn from molecular modeling. A.T. Bell

**2:05 COMP 41.** First-principles based multiscale multiparadigm methods with applications to complex material. W.A. Goddard

**2:40 COMP 42.** First principles kinetic modeling of methane oxidation over Pd and PdO. M. Jorgensen, M. Van den Bossche, H. Gronbeck

**3:15** Intermission.

**3:35 COMP 43.** Mechanism of CO and CO<sub>2</sub> hydrogenation over copper-based catalysts. F. Studt

**4:10 COMP 44.** Crystal phase effect on CO activation for Fischer-Tropsch synthesis. J. Liu, W. Li

**4:45 COMP 45.** Gold particle size effect for CO oxidation: A first-principles study. J. Liu, E. Hensen, I. Filot

### Section C

InterContinental San Francisco  
Howard

#### Strong Electron Correlation & Nonadiabatic Dynamics

Cosponsored by PHYS

A. E. DePrince, G. Gidofalvi, *Organizers*  
E. Hohenstein, *Organizer, Presiding*

**1:30 COMP 46.** Accurate nonadiabatic dynamics. D.R. Yarkony

**2:10 COMP 47.** Painless modeling of dynamics near conical intersections. B.G. Levine, G.A. Meek

**2:50 COMP 48.** Energy dissipation at metal surfaces: The surprisingly high non-adiabaticity of Na diffusion on Cu(111). S.P. Rittmeyer, K.U. Reuter

**3:15** Intermission.

**3:30 COMP 49.** Dynamics of electron transfer near a metals surface. J.E. Subotnik, W. Dou, W. Ouyang

**4:10 COMP 50.** Single-reference dynamics of strongly correlated systems: How far can we go? M. Barbatti

**4:50 COMP 51.** New theoretical approaches to simulate photoinduced proton-coupled electron transfer reactions. P. Huo

### Section D

InterContinental San Francisco  
Cathedral Hill

#### Computational Studies of Water

#### Binding & Biology

D. J. Sindhikara, *Organizer*

F. L. Kearns, *Presiding*

**1:30 COMP 52.** Methods and models for condensed phase simulation of water. T.L. Head-Gordon

**2:00 COMP 53.** Capturing dynamics, along with thermodynamics, in the Implicit Solvent using the SuperPosition Approximation (IS-SPA) model. P.T. Lake, M. McCullagh

**2:30 COMP 54.** Good from far, far from good: Comparing quantum and classical hydration of model ions. R.C. Remsing

**3:00** Intermission.

**3:15 COMP 55.** Modeling radical interactions with water. J. Arey, P. Tentscher

**3:35 COMP 56.** New dissociative water model. O. Akin-Ojo

**3:55 COMP 57.** Rate theory in two-dimensional reaction coordinate space: Applications to ion-pairing. S. Roy, M.D. Baer, C.J. Mundy, G.K. Schenter

**4:15 COMP 58.** Enhanced modeling of water in two-dimensions with rose potentials. C.J. Fennell

**4:35 COMP 59.** How to model chemical reactions in electrolytes? S. Ringe, H. Oberhofer, K.U. Reuter

### Section E

InterContinental San Francisco  
Laurel Hill

#### Computer-Aided Peptide Design

#### Computational Approaches to Peptide ADME

Cosponsored by CINF

Q. Deng, S. N. Ha, *Organizers, Presiding*

**1:30 COMP 60.** ADME analysis of therapeutic peptides: Preserving product value. J.H. Hochman

**2:00 COMP 61.** Factors for governing cell permeability and oral bioavailability in macrocycles. S. Lokey

**2:30 COMP 62.** High throughput method for the indirect detection of intramolecular hydrogen bonding. S. Sciabola

**3:00** Intermission.

**3:15 COMP 63.** Property trends among permeable cyclic peptides. A. Mathiowetz

**3:45 COMP 64.** Mechanism-based ADME/PK prediction, with applications to macrocycles. M.P. Jacobson

**4:15 COMP 65.** Design of technology-compatible cyclic peptide scaffolds with oral bioavailability. A. Golosov

**4:45 COMP 66.** PepSee — A new tool for peptide analysis & design. M. Gastreich, M. Skovgaard

### Section F

InterContinental San Francisco  
Nob Hill

#### Should I Move My Computational Chemistry or Informatics Tools to the Cloud?

Cosponsored by CINF

R. Alvarez, E. Metwally, *Organizers*

J. M. Blaney, V. Shanmugasundaram, *Organizers, Presiding*

**1:30** Introductory Remarks.

**1:35 COMP 67.** Cloud first strategy that accelerates informatics and computations in drug discovery. J. Feng

**2:05 COMP 68.** High performance and/or cloud computing for free energy prediction using molecular dynamics simulations? S. Wan, D.W. Wright, S.J. Zasada, A.P. Bhati, P.V. Coveney

**2:35 COMP 69.** Lessons learned in developing and delivering a secure, multi-tenant environment for drug discovery R&D informatics. W.W. Smith, B.A. Bunin

**3:05** Intermission.

**3:20 COMP 70.** What's with all this GPU-accelerated cloud computing stuff? M.E. Berger

**3:50 COMP 71.** Cloud is the only place for computational chemistry: Why this is a once-in-a-lifetime opportunity for the field to leap forward. P.C. Hawkins, A.G. Skillman, R. Tolbert, J. LaFon, C. Bruce, A. Nicholls

**4:20 COMP 72.** Enhancing internal computational capabilities with the cloud. J. Duca, D. Chin, C. Hajdin, S. Litster

#### Materials Informatics & Computational Modeling

Sponsored by CINF, Cosponsored by COMP and POLY

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Novel Reactions, Methodologies & Syntheses in Organic Chemistry

Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC

#### Quantum Dynamics in Large Scale Systems

#### Simulating Quantum Nuclei on Large Scale

Sponsored by PHYS, Cosponsored by COMP

#### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG<sup>2</sup>

## MONDAY MORNING

### Section A

InterContinental San Francisco  
Twin Peaks

#### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Dynamics & Modeling of Allosteric Systems

Cosponsored by PHYS

C. Chang, G. Verkhivker, *Organizers*  
Z. Luthey-Schulten, *Presiding*

**8:30 COMP 73.** Energy landscape theory: From folding to function in genetic networking. P.G. Wolynes

**9:00 COMP 74.** Touring the protein folding landscape: The view depends on how and where you look. S. Marqusee

**9:30 COMP 75.** Exploring allostery from protein folding to function using coarse-grained models. C.L. Brooks

**10:00** Intermission.

**10:20 COMP 76.** Exploring protein function: The convergence of structure based models and co-evolutionary information. J.N. Onuchic

**10:50 COMP 77.** Significance of neuronal structural complexity and spatial heterogeneity in modulating dopamine reuptake dynamics. C. Kaya, M.H. Cheng, E. Block, T. Bartol, T. Sejnowski, A. Sorkin, J.R. Faeder, I. Bahar

**11:20 COMP 78.** Exploring fitness and free energy landscapes of proteins for allostery and binding. R.M. Levy

### Section B

InterContinental San Francisco  
Fremont

#### Catalytic Materials from Molecular Insight

Cosponsored by CATL, MPPG<sup>2</sup> and PHYS

K. Honkala, *Organizer*  
B. Liu, *Organizer, Presiding*

**8:30 COMP 79.** First-principles modeling and design of catalytic materials. P. Sautet

**9:05 COMP 80.** Electroreduction of CO<sub>2</sub> to hydrocarbons and alcohols. E. Skulason, J. Hussain, H. Jonsson



**9:40 COMP 81.** Engineering metal/SnOx interfaces for electrochemical CO<sub>2</sub> reduction. H. Xin, S. Wang

**10:15** Intermission.

**10:35 COMP 82.** Structure, stability, and reactivity of nano-structured oxides supported on metals. A. Vojvodic

**11:10 COMP 83.** Toward modeling practical catalysis from first principles. W. An, Y. Liang, H. Kim, S. Liu, P. Liu

**11:45 COMP 84.** Electrochemical reduction of nitric oxide on Pt-surfaces: A combined DFT and KMC approach. H. Chun, V. Apaja, A.Z. Clayborne, J.P. Greeley, K. Honkala

## Section C

InterContinental San Francisco  
Howard

### Strong Electron Correlation & Nonadiabatic Dynamics

*Cosponsored by PHYS*

A. E. DePrince, E. Hohenstein, *Organizers*  
G. Gidofalvi, *Organizer, Presiding*

**8:30 COMP 85.** DMRG: Orbital selection, dynamic correlation, and nuclear gradients. M. Reiher

**9:10 COMP 86.** Wavefunction forms based on identities from combinatorics. P. Ayers

**9:50 COMP 87.** Coupled-Cluster Valence Bond Singles and Doubles (CCVB-SD): Block-tensor based implementation and application to polyacenes. J. Lee, D. Small, M.P. Head-Gordon

**10:15** Intermission.

**10:30 COMP 88.** New vistas on the strong correlation problem. G.E. Scuseria

**11:10 COMP 89.** Perturbative multireference similarity renormalization group approaches for ground and excited states. C. Li, K.P. Hannon, F.A. Evangelista

**11:50 COMP 90.** GPU-accelerated state-averaged complete active space self-consistent field and derivative methods enable accurate, large-scale nonadiabatic dynamics simulations. J.W. Snyder, E. Hohenstein, B. Curchod, B. Fales, R.M. Parrish, T.J. Martinez

## Section D

InterContinental San Francisco  
Cathedral Hill

### Computational Studies of Water

#### Phenomena & Properties

D. J. Sindhikara, *Organizer*

T. E. Balus, *Presiding*

**8:30 COMP 91.** Water structuring above planar hydrophobic surfaces. U. Schnupf, J. Brady

**8:55 COMP 92.** Monte Carlo simulations probing the liquid/vapor interface of water/hexane mixtures. M.S. Minkara, D.J. Stein, C.J. Peters, J. Siepmann

**9:20 COMP 93.** Surface potential of water with *ab initio* molecular dynamics. T.T. Duignan, M.D. Baer, G.K. Schenter, C. Mundy

**9:45 COMP 94.** Deviation of the surface tension of water suggests the possible emergence of a new form of liquid upon supercooling. F. Wang

**10:10** Intermission.

**10:25 COMP 95.** Modelling the refractive index of the air-water interface. F. Longford, J.W. Essex, C. Skylaris, J.G. Frey

**10:45 COMP 96.** Understanding the sensitivity of nucleation free energies to the molecular model in water and ion/water systems. S.J. Keasler, M.A. Olson, J. Schlecht, S. Pavlenko, J. Siepmann

**11:05 COMP 97.** Hydrophobic polymer collapse: Unravelling molecular mechanisms for osmolyte protection and denaturation. N. van der Vegt

**11:25 COMP 98.** Fluctuation phenomena and structure of revPBE water at ambient and high pressure (up to 360 MPa). M. Galib, G.K. Schenter, J. Fulton, C.J. Mundy

**11:45 COMP 99.** Predictive description of electronic properties in aqueous solutions. T. Pham, M. Govoni, R. Seidel, S.E. Bradforth, E. Schwegler, G.A. Galli

## Section E

InterContinental San Francisco  
Laurel Hill

### Drug Design

#### Docking & Protein-Ligand Interaction Analysis

M. R. Landon, Y. Tseng, *Organizers*

T. Abramyan, *Presiding*

**8:30 COMP 100.** Protein-ligand scoring with convolutional neural networks. D. Koes, M. Ragoza, E. Idrubo, J. Hochuli, J. Sunseri

**8:55 COMP 101.** Predicting hot and warm spots on proteins for fragment binding. P. Rathi, F. Ludlow, R.J. Hall, C. Murray, P. Mortenson, M. Verdonk

**9:20 COMP 102.** PlayMolecule DeepSite: Protein binding site detector using 3D convolutional neural networks. G. De Fabritiis

**9:45** Intermission.

**10:05 COMP 103.** Understanding protein-ligand binding at the molecular level: Using swap-based methods to visualise binding free energy components. C.J. Woods, M. Malaisree

**10:30 COMP 104.** Docking - old hat or hats off. C. Lemmen, C. Detering, M. Gastreich

**10:55 COMP 105.** Interrogating protein ligand interactions- Knowledge base from PDB/CSD and energy decomposition methods. J.H. Voigt, U. Schmitz

**11:20 COMP 106.** Development of a novel CHARMM-based flexible receptor-flexible ligand docking procedure. S.K. Vankayala, J.D. Larkin, H.L. Woodcock

## Section F

InterContinental San Francisco  
Nob Hill

### Should I Move My Computational Chemistry or Informatics Tools to the Cloud?

*Cosponsored by CINP*

R. Alvarez, V. Shanmugasundaram, *Organizers*

J. M. Blaney, E. Metwally, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:35 COMP 107.** Steps to getting science in the cloud at Merck. R. Pete, S.A. Johnson, B. Sherborne

**9:05 COMP 108.** Deploying large-scale binding-affinity calculations to the cloud. B.T. Hannigan

**9:35 COMP 109.** Xcellerate informatics: A cloud-based solution for clinical data integration and real-time monitoring of clinical trials. D.K. Agrafiotis

**10:05** Intermission.

**10:20 COMP 110.** Cyrus's journey to the cloud: How we got there and what we've learned. L. Nivon

**10:50 COMP 111.** Distributed computing resources, from grid to cloud: Welcome to the HPC world! E. Arnout

**11:20 COMP 112.** Druggability assessment of the structural proteome with inclusion of light protein flexibility. A.C. Cheng, F. Boulnois, K. Loving, A. Lin

### Advances in High-Throughput Screening

*Sponsored by CINP, Cosponsored by COMP and MED*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

*Sponsored by PROF, Cosponsored by ANYL<sup>1</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>3</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>4</sup>, POLY, PRES<sup>5</sup> and WCC*

### Quantum Dynamics in Large Scale Systems

#### Fragmentation & Linear Scaling: Ab Initio & DFT

*Sponsored by PHYS, Cosponsored by COMP*

### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

*Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG<sup>2</sup>*

## MONDAY AFTERNOON

### Section A

InterContinental San Francisco  
Twin Peaks

### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Theory & Experiment

*Cosponsored by PHYS*

C. Chang, G. Verkhivker, *Organizers*

I. Bahar, *Presiding*

**1:30 COMP 113.** Allosteric effects of weak transient protein-protein interactions: Crowding in cells and evolutionary consequences. E. Shakhnovich, S. Bhattacharyya, S. Bershtein

**2:00 COMP 114.** Ribosome biogenesis in replicating cells: Integration of experiment and theory. Z. Luthey-Schulten

**2:30 COMP 115.** Systematic perturbation of a fundamental biological switch. T. Kortemme

**3:00** Intermission.

**3:20 COMP 116.** Role of electrostatics in allosteric regulation. M.P. Jacobson

**3:50 COMP 117.** Molecular principles for optimizing protein-DNA interactions. K. Levy

**4:20 COMP 118.** Mediation of allosteric communication by inter-domain bridges. J. Guo, C. Guo, H. Zhou

**4:50 COMP 119.** Phospholipase A2: A unique paradigm of allosteric regulation by membranes. V. Mouchlis, J. McCammon, E.A. Dennis

## Section B

InterContinental San Francisco  
Fremont

### Catalytic Materials from Molecular Insight

*Cosponsored by CATL, MPPG<sup>2</sup> and PHYS*

K. Honkala, B. Liu, *Organizers*

A. Z. Clayborne, *Presiding*

**1:30 COMP 120.** Catalyst design on the computer. J.K. Norskov

**2:05 COMP 121.** Static or dynamic? A first-principles multiscale modeling perspective on the nature of the surface of operating catalysts. K.U. Reuter

**2:40 COMP 122.** First principles analysis of reactivity trends at the interface between metal nanoparticles and doped oxide supports. J. Greeley, T.S. Choksi, P. Majumdar, Z. Zhao, Y. Cui, W.F. Schneider, F. Ribeiro

**3:15** Intermission.

**3:35 COMP 123.** Catalysis of ice formation. A. Michaelides

**4:10 COMP 124.** First-principles insights to the CO oxidation on oxidized Rh. A. Hellman

**4:30 COMP 125.** Group additivity for adsorbed polyols at a Pt(111) surface under aqueous conditions. B. Schweitzer, G. Gu, S. Steinmann, C. Michel, P. Sautet, D.G. Vlachos

**4:50 COMP 126.** General structure-activity relationships for transition metal oxides. V. Fung, F. Tao, D. Jiang

## Section C

InterContinental San Francisco  
Howard

### Strong Electron Correlation & Nonadiabatic Dynamics

*Cosponsored by PHYS*

A. E. DePrince, G. Gidofalvi, *Organizers*

E. Hohenstein, *Organizer, Presiding*

**1:30 COMP 127.** Nonadiabatic dynamics of photoinduced proton-coupled electron transfer processes. S. Hammes-Schiffer

**2:10 COMP 128.** Nonadiabatic molecular dynamics for spin-forbidden processes. D. Fedorov, R. Zaari, S.A. Varganov

**2:50 COMP 129.** Can quantized vibrational effects be obtained from Ehrenfest mixed quantum-classical dynamics? J.J. Goings, D.B. Lingerfelt, X. Li

**3:15** Intermission.

**3:30 COMP 130.** Charge transfer dynamics, excited state energetics, and organic photovoltaics. N. Ananth

**4:10 COMP 131.** Optomechanical control of photochemical quantum yields in a biological chromophore model. M. Olivucci, L. Frutos, A. Valentini

<sup>‡</sup>Cooperative Cosponsorship

**4:50 COMP 132.** Quantum dynamics in CS<sup>+</sup> collision with H using time dependent wave packet dynamics. **R. Kaur, D. Thogluva**

## Section D

InterContinental San Francisco  
Cathedral Hill

### Data Science Challenges in Computational Chemistry

*Cosponsored by CINF*

M. Feig, *Organizer*

C. L. Simmerling, G. Vacek, *Organizers, Presiding*

**1:30 COMP 133.** Meaningful state space discretization at the macro-cluster level. H. Liu, M. Li, J. Fan, S. Huo

**2:00 COMP 134.** Building Markov state models of diffusion processes in many-particle systems from generic order parameters. J.F. Rudzinski, M. Radu, K. Kremer, T. Bereau

**2:30 COMP 135.** Understanding and applying multistate reweighting in a broad molecular simulation context. M.R. Shirts

**3:00** Intermission.

**3:15 COMP 136.** Cluster analysis of molecular simulation trajectories for systems where both conformation and orientation of the sampled states are important. T. Abramyan, J. Snyder, A.A. Thyparambil, S. Stuart, R.A. Latour

**3:45 COMP 137.** HTMD: High-throughput molecular dynamics for molecular discovery. G. De Fabritiis

**4:15 COMP 138.** Geometric searching in large collections of protein-ligand interfaces. T. Inhester, E. Nittinger, M. Rarey

**4:45 COMP 139.** Proper data extraction and curation in an era of linked open data – Are we there yet? B. Dzdrzil, G.F. Ecker

## Section E

InterContinental San Francisco  
Laurel Hill

### Drug Design

#### Computational Methods & Approaches

M. R. Landon, Y. Tseng, *Organizers*

J. L. Paulsen, *Presiding*

**1:30 COMP 140.** Common hits approach: Combining pharmacophore modeling and molecular dynamics simulations. M. Wieder, A. Garon, U. Perricone, T. Seidel, S. Boresch, T. Langer

**1:55 COMP 141.** Protein binding sites dynamics in drug discovery. D. Janezic, J. Konc

**2:20 COMP 142.** New approaches for binding site and ligand prediction and their use in drug discovery. J. Konc, D. Janezic

**2:45** Intermission.

**3:05 COMP 143.** pmemdGT: An efficient and accurate GPU-accelerated thermodynamics integration simulation package. T. Lee, D.M. York

**3:30 COMP 144.** Efficient free energy perturbation Hamiltonian replica exchange molecular dynamics method for absolute binding affinity predictions. W. Jiang

**3:55 COMP 145.** Calculating the absolute binding free energies for octa-acids and guests. F. Tofoleanu, J. Lee, F.C. Pickard, G. Koenig, J. Huang, M. Baek, C. Seok, B. Brooks

**4:20 COMP 146.** Hybrid quantum and classical free energies: Separating the wheat from the chaff with configuration space overlaps. C. Cave-Ayland, C. Skylaris, J.W. Essex

## Section F

InterContinental San Francisco  
Nob Hill

### Should I Move My Computational Chemistry or Informatics Tools to the Cloud?

*Cosponsored by CINF*

R. Alvarez, E. Metwally, *Organizers*

J. M. Blaney, V. Shanmugasundaram, *Organizers, Presiding*

**1:30** Introductory Remarks.

**1:35 COMP 147.** Using the cloud for massive scale-up of computationally intensive physics-based simulations. V. Eylich, J. Watney, Y. Zhao, L. Wang, S. Mondal, S. Bhat, R. Abel

**2:05 COMP 148.** CHARMM interface and graphics: A flexible web-user interface for education and application of molecular simulation and multi-scale modeling. J. Smock, V. Schalk, Y. Pevzner, B.T. Miller, H.L. Woodcock

**2:35 COMP 149.** AceCloud: Molecular dynamics simulations in the cloud. M. Harvey, G. De Fabritiis

**3:05** Intermission.

**3:20 COMP 150.** Virtual screening in the cloud with Pharmit. D. Koes

**3:50 COMP 151.** Research informatics: Get ready for the cloud! M. Van Daelen

**4:20** Discussion.

**4:40** Concluding Remarks.

### Advances in High-Throughput Screening

*Sponsored by CINF, Cosponsored by COMP and MEDI*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC*

#### Quantum Dynamics in Large Scale Systems

#### Fragmentation & Linear Scaling: Semiempirical & DFTB

*Sponsored by PHYS, Cosponsored by COMP*

#### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

*Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG<sup>2</sup>*

#### Undergraduate Research Posters

#### Computational Chemistry

*Sponsored by CHED, Cosponsored by COMP and SOCED*

## MONDAY EVENING

### Section A

Moscone Center

Hall D

### Sci-Mix

H. L. Woodcock, *Organizer*

**8:00 - 10:00**

**236, 240-247, 261, 267, 277, 283-284, 286, 290, 305-306, 310-312, 331, 341, 345, 347, 349, 353-357, 360, 362, 365, 368, 375, 377, 383, 389-391, 396-398, 402-403, 406, 410, 416-417, 419, 421, 424, 426.** See subsequent listings.

## TUESDAY MORNING

### Section A

InterContinental San Francisco

Twin Peaks

#### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Theory & Experiment

*Cosponsored by PHYS*

C. Chang, G. Verkhivker, *Organizers*

H. Weinstein, *Presiding*

**8:30 COMP 152.** Structural mechanisms of the allosteric regulation of Ras. J. Kuriyan

**9:00 COMP 153.** Ancient origins of allosteric activation-Exploitation for novel cancer drugs. D. Kern

**9:30 COMP 154.** Fractal nature of protein interior and its implications for allostery. A. Kornev, S.S. Taylor

**10:00** Intermission.

**10:20 COMP 155.** How EGF and insulin activate their receptors. D. Leahy, J. Kavran, P. Byrne

**10:50 COMP 156.** Genetically tunable frustration controls allostery in an intrinsically disordered transcription factor. V.J. Hilser

**11:20 COMP 157.** Role of intrinsically disordered proteins in allosteric regulation of cellular signaling. P.E. Wright

### Section B

InterContinental San Francisco

Fremont

#### Catalytic Materials from Molecular Insight

*Cosponsored by CATL, MPPG<sup>2</sup> and PHYS*

B. Liu, *Organizer*

K. Honkala, *Organizer, Presiding*

**1:30 COMP 158.** Computational catalysis: Rigor and relevance. J. Sauer

**2:05 COMP 159.** Diesel oxidation catalysts with improved low temperature activity identified from computational screening. Y. Song, J.S. Arevalo, W. Epling, L. Grabow

**2:40 COMP 160.** Operando catalysis: Computing the state of a zeolite catalyst at reaction conditions. W.F. Schneider, C. Paolucci, H. Li, S. Li

**3:15** Intermission.

**3:35 COMP 161.** Complete catalytic cycle for fast and standard NH<sub>3</sub>-SCR reaction. H. Falsig

**4:10 COMP 162.** Understanding diffusion during catalytic fast pyrolysis of biomass over H-ZSM-5 by multiscale modeling. L. Bu, B. Knott, P.N. Ciesielski, M.R. Nimlos, D. Robichaud, S. Kim

**4:30 COMP 163.** Adsorption and activation of water on cuboctahedral rhodium and platinum nanoparticles. A.S. Bazhenov, L. Leferts, K. Honkala

**4:50 COMP 164.** Structural study of the Ziegler-Natta catalyst. V. D'Anna, P. Sauter

## Section C

InterContinental San Francisco  
Howard

### Strong Electron Correlation & Nonadiabatic Dynamics

*Cosponsored by PHYS*

A. E. DePrince, E. Hohenstein, *Organizers*

G. Gidofalvi, *Organizer, Presiding*

**8:30 COMP 165.** Direct patching exchange-correlation potential in density functional theory. C. Huang

**9:10 COMP 166.** Unpaired densities in singlet polyradicals: Local electron correlation treatment in extended multi-reference approaches in comparison with quasi correlated tight binding. H. Lischka

**9:50 COMP 167.** Derivative coupling vectors from a Davidson approach. J.A. Kammeraad, P.M. Zimmerman

**10:15** Intermission.

**10:30 COMP 168.** Time-dependent two-component relativistic spin dynamics. X. Li

**11:10 COMP 169.** Excited-state dynamics of mPflou fluorescent protein. S. Faraji, A. Krylov

**11:50 COMP 170.** Nonadiabatic couplings and the choice of density functional: Exchange cannot be neglected. A.V. Akimov

## Section D

InterContinental San Francisco  
Cathedral Hill

### Molecular Mechanics

#### Sampling Long Time Scales

M. Feig, *Organizer*

J. V. Vermaas, *Presiding*

**8:30 COMP 171.** Enhancing conformational sampling by modifying the underlying velocity distribution: Digitally filtered hybrid Monte Carlo. C.S. Pervane, J.W. Essex

**8:55 COMP 172.** Novel enhanced sampling approach for cryptic site discovery on protein targets. F. Gervasio

**9:25 COMP 173.** Rapid protocol for free energy calculations via multi-dimensional expanded ensemble simulations. B. Radak, B. Roux

**9:55** Intermission.

**10:10 COMP 174.** MS-Fold: Protein structure prediction guided by covalent labeling mass spectrometry data. M. Marletti, S.H. Hinckley, V.H. Wysocki, S. Lindert

**10:40 COMP 175.** Fast free energy calculations from proximal distribution functions. S. Ou, B.M. Pettitt

**11:10 COMP 176.** Unraveling the mechanistic basis of the CRISPR-Cas9 system via molecular simulations. **G. Palermo, Y. Miao, R. Walker, M. Jinek, J. McCammon**

**11:40 COMP 177.** pH-dependent conformational change and its impact on *E. coli* glycinamide ribonucleotide transferase catalytic activity. **P. Gupta, A.E. Roitberg**

### Section E

InterContinental San Francisco  
Laurel Hill

#### ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in honor of Yvonne C. Martin

*Cosponsored by BIOL, MEDI and WCC*

D. J. Kempf, Y. C. Martin, *Organizers*

T. R. Stouch, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:40 COMP 178.** QSAR: How my success relied on pillars built by Yvonne Connolly Martin. **G. McGaughey**

**9:05 COMP 179.** Big data, small data: Pharmacology-based similarity measures and statistically-derived amino acid weightings to inform kinase selectivity. **M. Torrent**

**9:30 COMP 180.** Integrated hit generation: Iterative design of experiments, screening sets, and compounds. **J.M. Jansen, P.S. Lee, V.R. Polyakov, L. Tian, E.J. Martin**

**9:55** Intermission.

**10:10 COMP 181.** Recent advances in applying computation to (bio) catalyst design. **K.W. Lexa**

**10:35 COMP 182.** Innovation/evolution of cheminformatics evergreens. **M. Lee**

**11:00 COMP 183.** Impact of quantitative drug design: Mighty oaks from little acorns grow. **M. Holloway**

**11:25** Concluding Remarks.

### Section F

InterContinental San Francisco  
Nob Hill

#### State-of-the-Art Methods for Modeling Materials Chemistry

*Cosponsored by CATL and MPPG<sup>†</sup>*

B. G. Janesko, J. A. Keith, *Organizers, Presiding*

**8:30 COMP 184.** Multi-scale modeling of nanomaterials: From DFT to molecular dynamics simulations. **F. Martin-Martinez, Z. Qin, G. Jung, M.J. Buehler**

**8:55 COMP 185.** Reliable computational design of biological-inorganic materials to the large nanometer scale using INTERFACE-FF. **H. Heinz**

**9:20 COMP 186.** Advances in atomic-scale methods for materials chemistry. **S.B. Sinnott**

**9:45 COMP 187.** Inference-boosted first-principles molecular dynamics for chemo-mechanical modelling. **A. De Vita**

**10:10** Intermission.

**10:30 COMP 188.** Modeling the formation of sodium and calcium aluminosilicate gels at the mesoscale using coarse-grained Monte Carlo. **K. Yang, C. White**

**10:45 COMP 189.** Simulations of polymer membranes with chain altering and conservative Monte Carlo moves. **A. Bick, L. Subramanian**

**11:10 COMP 190.** Solvation and encapsulation of photoactive species: Insights from excited state DFTB. **N. Garcia, A. Banducci, Z. Pollard, K. Komoto, T. Kowalczyk**

**11:35 COMP 191.** Recent DFTB extension for improving accuracy and boosting the efficiency for computational applications to nanomaterials. **T. Frauenheim**

**12:00 COMP 192.** Entropy sampling for zeolite-catalyzed reactions at operating conditions. **K. De Wispelaere, T. Bligaard, J.K. Norskov, V. Van Speybroeck**

**12:15 COMP 193.** Self-adaptive Reactive Force Fields (SERFF): Force matching for molecular dynamics simulation of reactive materials. **N. Goldman**

#### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

##### Single Crystal Catalysis

*Sponsored by CATL, Cosponsored by COMP*

##### Quantum Dynamics in Large Scale Systems

##### Large-Scale Simulations in Materials Systems

*Sponsored by PHYS, Cosponsored by COMP*

## TUESDAY AFTERNOON

### Section A

InterContinental San Francisco  
Twin Peaks

#### Material Science

##### Properties

C. M. Aikens, *Organizer*

R. C. Remsing, *Presiding*

**1:30 COMP 194.** Breaking badly: DFT-D2 gives sizeable errors for tensile strengths in bulk solids. **B.M. Wong, N. Ilawe**

**2:00 COMP 195.** Simulation of shock-wave properties in fused silica using soft-core potential. **S. Izvekov, E.F. Byrd, N. Weingarten, B.M. Rice**

**2:30 COMP 196.** Reactive modeling of silica formation. **J. Deetz, R. Faller**

**3:00** Intermission.

**3:30 COMP 197.** Nanoscale charge balancing mechanism in alkali substituted C-S-H gels from first-principles calculations. **O. Ozcelik, C. White**

**4:00 COMP 198.** Impact of environment on mechanical and physical properties of polyethylene: Comparison between experiments and simulation. **A. Shamloo, A. Soldera, D. Rodrigue**

**4:30 COMP 199.** Computational studies of crystallization on the nanoscale. **J. Delhommelle, C. Desgranges**

**5:00 COMP 200.** Modeling and simulations of functionalized magnetic nanoparticles as drug delivery systems. **K. Karathanou, Z. Cournia**

### Section B

InterContinental San Francisco  
Fremont

#### Catalytic Materials from Molecular Insight

*Cosponsored by CATL, MPPG<sup>†</sup> and PHYS*

K. Honkala, B. Liu, *Organizers*

A. Z. Clayborne, *Presiding*

**8:30 COMP 201.** Catalysis by functionalized nanoparticles. **N. Lopez**

**9:05 COMP 202.** Computational design of nanoalloy catalysts from DFT, genetic algorithms and machine learning. **T. Vegge, P.C. Jennings, T. Bligaard, H.A. Hansen**

**9:40 COMP 203.** Subnanometer metal clusters as catalysts for energy conversion and storage. **L.A. Curtiss, C. Liu, P. Zapol, S. Vajda**

**10:15** Intermission.

**10:35 COMP 204.** Alloying supported Pt clusters with boron: Coke antagonist. **A. Alexandrova, M. Ha, E. Jimenez-Izai**

**11:10 COMP 205.** Revealing the pathway of CO<sub>2</sub> reduction in a multicenter iron carbonyl catalyst using an *ab initio* nano-reactor. **L. Wang, M.E. Hutchings, Y. Qiu**

**11:30 COMP 206.** Ab initio study of the hydrogen-producing mechanisms of cobaloximes in acetonitrile-water mixtures. **J. Chen, P. Sit**

**11:50 COMP 207.** Protein-environment effect on catalysis performance in H<sub>2</sub>-producing [NiFe] hydrogenases. **S. Qiu, L.M. Azofra, D.R. MacFarlane, C. Sun**

### Section C

InterContinental San Francisco  
Howard

#### Strong Electron Correlation & Nonadiabatic Dynamics

*Cosponsored by PHYS*

G. Gidofalvi, E. Hohenstein, *Organizers*

A. E. DePrince, *Organizer, Presiding*

**1:30 COMP 208.** Two-electron reduced density matrices in electronic structure and dynamics. **D.A. Mazziotti**

**2:10 COMP 209.** Using single-excitation wavefunctions to compute exciton-binding energies in singlet fission materials. **N. Mayhall**

**2:40 COMP 210.** Strong correlation in coupled F-centers. **B.G. Janesko**

**3:10** Intermission.

**3:25 COMP 211.** Quantum chemistry strategies: Addressing strongly correlated transition metal and heavy element species. **C. Plascencia, S. Yuwono, G. Schoendorff, A.K. Wilson**

**4:05 COMP 212.** Recent developments with the multifacet graphically contracted function electronic structure method. **R. Shepard, S.R. Brozell, G. Gidofalvi**

**4:45 COMP 213.** Multi-reference electron correlation with large active spaces from time-dependent perturbation theory with density matrix renormalization group. **A. Sokolov, G. Chan**

### Section D

InterContinental San Francisco  
Cathedral Hill

#### Quantum Mechanics

A. E. DePrince, *Organizer*

N. J. Deyonker, *Presiding*

**1:30 COMP 214.** Atropisomerization of 8-membered dibenzolactam: Experimental NMR and theoretical DFT study. **A. Buevich**

**1:55 COMP 215.** Computational study of the photoelectron spectra of Europium-oxide, -hydride, and -hydroxide. **H. Harb, L.M. Thompson, H.P. Hratchian**

**2:20 COMP 216.** Reaction mechanism of group II introns hydrolytic splicing investigated by QM/MM MD simulations. **L. Casalino, G. Palermo, U. Roethlisberger, A. Magistrato**

**2:45 COMP 217.** Reactive first principles Monte Carlo simulations of nitrogen/oxygen and hydrogen sulfide/carbon dioxide mixtures. **E. Fetisov, M. Shah, I.W. Kuo, C. Knight, J. Siepmann**

**3:10** Intermission.

**3:25 COMP 218.** Combining quantum and QSAR methods for prediction of acid dissociation constants. **L. Hosseini-Gerami, R. Leth, P. Hunt, M.D. Segall**

**3:50 COMP 219.** Computational investigation of o-aminomethylphenylboronic acid saccharide receptors. **J. Larkin**

**4:15 COMP 220.** TINKTEP: Polarizable QM/MM based on linear-scaling DFT and the AMOEBA force field. **J. Dziedzic, M.P. Head-Gordon, T.L. Head-Gordon, C. Skylaris**

**4:40 COMP 221.** Solvent/enzyme-perturbed transition state sampling and its applications. **Z. Yang, Y. Li, J. Park, C. Doubleday, K.N. Houk**

### Section E

InterContinental San Francisco  
Laurel Hill

#### ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in honor of Yvonne C. Martin

*Cosponsored by BIOL, MEDI and WCC*

D. J. Kempf, T. R. Stouch, *Organizers*

Y. C. Martin, *Organizer, Presiding*

**1:30 COMP 222.** Collaborating to bring resources to neglected diseases research. **D.J. Kempf**

**2:00 COMP 223.** NTD drug discovery booster: A novel approach for hit to lead chemistry. **B. Perry**

**2:30 COMP 224.** Combining strengths of phenotype and target-based approaches to discover novel TB drugs. **J. Sacchetti**

**3:00** Intermission.

**3:15 COMP 225.** Antitubercular 3-(4-aminophenyl)oxazolidin-2-ones: Progress towards better, safer TB agents. **C.B. Cooper**

**3:45 COMP 226.** Tylosin analogs as anti-filarial agents: Medicinal chemistry optimization and candidate selection. **T.W. Von Geldern, D.J. Kempf, K. Marsh, H.E. Morton, L. Ford, J. Turner, S. Ward, M. Taylor, A. Hoerauf, S. Specht**

<sup>†</sup>Cooperative Cosponsorship



**4:15 COMP 227. Award Address** (ACS Award for Computers in Chemical & Pharmaceutical Research sponsored by ACS Division of Computers in Chemistry). CADD and chemoinformatics within an inter-institution collaboration for TB drug discovery. Y.C. Martin

## Section F

InterContinental San Francisco  
Nob Hill

### State-of-the-Art Methods for Modeling Materials Chemistry

Cosponsored by CATL and MPPG<sup>†</sup>

B. G. Janesko, J. A. Keith, *Organizers, Presiding*

**1:30 COMP 228.** Recent advances in the quantum simulation of materials. G.E. Scuseria

**1:55 COMP 229.** Making density-functional embedding theory applicable to spin-polarized materials and covalent materials. C. Huang, A.B. Munoz, M. Pavone

**2:20 COMP 230.** Ab-initio materials spectra. J. McClain, T. Berkelbach, Q. Sun, G. Chan

**2:45 COMP 231.** Alchemy, chemical space, and quantum mechanics. O. von Lilienfeld

**3:10** Intermission.

**3:30 COMP 232.** Finite-temperature *ab initio* many-body perturbation and coupled-cluster calculations of condensed matter. S. Hirata

**3:55 COMP 233.** Self-consistent many-body methods for bond-making and breaking. P. Rinke

**4:20 COMP 234.** Fast and accurate quantum Monte Carlo methods for material science. D. Alfe, A. Zen, M. Gillan, S. Sorrella, A. Michaelides

**4:45 COMP 235.** Extending the applicability of quantum Monte Carlo methods to large molecules. C. Filippi

### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

#### Electrocatalysis

Sponsored by CATL, Cosponsored by COMP

#### Quantum Dynamics in Large Scale Systems

#### Large-Scale Simulations in Biological Systems

Sponsored by PHYS, Cosponsored by COMP

## TUESDAY EVENING

### Section A

Moscone Center  
West Hall

#### Chemical Computing Group Graduate Student Travel Awards

K. N. Kirschner, C. L. Simmerling, *Organizers*

**6:00 - 8:00**

**COMP 236.** QM-NEW: An efficient and accurate QM/MM free energy estimator and its application to pKa predictions. F.L. Kearns, P.S. Hudson, S. Boresch, H.L. Woodcock

**COMP 237.** Automatic and systematic construction of active spaces from the atomic valence orbitals. E.R. Sayfutyarova, G. Chan

**COMP 238.** Controlling coherent electron transfer in bi-nuclear platinum complexes. P.J. LeStrange, D.B. Lingerfelt, X. Li, L.X. Chen

**COMP 239.** Molecular simulations provide crucial insights into the mechanisms of biocatalysis in ionic liquids. K. Sprenger, J. Pfandner

## Section B

Moscone Center  
West Hall

### COMP Poster Session

H. L. Woodcock, *Organizer*

**6:00 - 8:00**

**COMP 240.** Investigating the fluorescence mechanism of boron-nitrogen based glucose chemosensors and non-traditional hydrogen bonding in B<sub>2</sub>H<sub>6</sub>-benzene complexes. F.L. Kearns, C. Robart, M.T. Kemp, J. Larkin, H.L. Woodcock

**COMP 241.** New approach for detection and visualization of aggregation-prone regions. C. Williams

**COMP 242.** Microsecond molecular dynamic simulations on the second hydride transfer transition state of *Pseudomonas mevalonii* 3-hydroxy-3-methylglutaryl reductase using Q2MM. T. Quinn, B.E. Haines, J. Lei, H. Jiang, X. Huang, P. Helquist, O. Wiest

**COMP 243.** Benchmarking excited state absorption via LR/RT-TDDFT for a series of organic chromophores. J. Asher, D.N. Bowman, N. Govind, C.J. Cramer

**COMP 244.** Steric effects in the computational modeling of enediyne cyclization reactions. K. Hoang, C.Q. Li, B.F. Gherman, J.D. Spence

**COMP 245.** Hybridity calculation of catalysts using DFT methods. H. Fallah, K.R. Brereton, A.J. Miller, T.R. Cundari

**COMP 246.** Modeling 10000 antibodies in about an hour: Leveraging the power of the Amazon Cloud. E. Metwally

**COMP 247.** Improving drug design by predicting exposed polarity. F. Ruggiu, B. Shirley, J.M. Jansen, H.E. Moser

**COMP 248.** Prediction of API oxidative liability: *In silico* approach towards antioxidant selection, a collaboration of the Medicinal Chemistry, Formulation Sciences and DMPK departments at AbbVie. H. Geneste, L. Asmus, G. Backfisch, M. Degenhardt, F. Oellien

**COMP 249.** Design of novel inhibitors for the aldehyde dehydrogenases. E. Selner, C. Magee, L.W. Peterson, M.L. Cafiero

**COMP 250.** DFT analysis of the selectivity of known bioactive ligands in the sulfotransferase and catechol-o-methyltransferase enzymes. C. Pinckney, C. Magee, L.W. Peterson, M.L. Cafiero

**COMP 251.** Towards more accurate models of organic electro-optic materials: Computing the hyperpolarizabilities of dimer and tetramer charge-transfer chromophores. J. Maat, C. Isborn, X. Sosa Vazquez

**COMP 252.** Design and synthesis of novel inhibitors for the tyrosine hydroxylase enzyme. R. Evans, L.W. Peterson, M.L. Cafiero

**COMP 253.** Analysis of random alloy nanoparticles as catalysts for oxidation reduction reactions. F. Al-Qaithi, J. Duncan, B. Corona, C. Lee, E. Trevino, G.A. Henkelman

**COMP 254.** Exponential relationships capturing atomistic short-range repulsion from the Interacting Quantum Atoms (IQA) method. A. Wilson, P. Popelier

**COMP 255.** Withdrawn.

**COMP 256.** Machine-learning-assisted characterization of chemical transitions: Inhomogeneous mechanisms underlying reactions in homogeneous solution. J. Zhang, Z. Zhang, Y. Gao

**COMP 257.** Computational outlook on ferroelectricity: Transition state optimizations and charge analysis. M. Romero, D. Miller, E. Zurek

**COMP 258.** New approaches to the computational chemistry and computer-assisted application of calculation for steroids. E.J. Parish, G. Ren, Y. Lo, M. Hsiao, H. Honda, T. Wei

**COMP 259.** Novel application of mathematical model to the development of biosensor for high blood cholesterol. G. Ren, Y. Lo, H. Honda, E.J. Parish

**COMP 260.** Interplay between crystallization and glass transition in bimetallic nanoalloys. S. Bechelli, C. Desgranges, J. Delhommelle

**COMP 261.** Molecular simulation of gas adsorption in metal-organic frameworks. G. Karuppasamy, C. Desgranges, J. Delhommelle

**COMP 262.** Nitrogen-doped graphene nanoflakes: Electronic and optical properties depending on flake sizes and dopant positions. C. Lin

**COMP 263.** Hydrogen placement on potential organic ferroelectric NUBHOH. M. Ynfante-Corral

**COMP 264.** Activity coefficients of sodium chloride (NaCl) at varying concentrations and temperatures calculated using molecular dynamics simulations. A. Kasinski, P.B. Moore, R.L. Napoleone

**COMP 265.** Investigating the hydration of polyamide 6 using theoretical difference infrared spectroscopy. B. Thomsen, Y. Sugita, K. Yagi

**COMP 266.** Simulating the binding pathways of sialic acid and oseltamivir to H274Y neuraminidase with molecular dynamics simulations. D.F. Dacres, E.M. Lewis, R. Wenner, A.W. Van Wynsberghe

**COMP 267.** Polypeptide bonding to surface studied by computational analysis of x-ray photoelectron spectra. I. Tolbatov, D. Chipman

**COMP 268.** Solvation free energies via alchemical free energy calculations: Applications and challenges. G. Duarte Ramos Matos, D.Y. Kyud, G. Calabró, D.L. Mobley

**COMP 269.** Mechanistic analysis of a palladium-catalyzed enantioselective decarboxylative allylic alkylation reaction. A. Sargent, A.T. Morehead

**COMP 270.** Computing aqueous absorption spectra: Effect of solute polarity and basis set on convergence with respect to the amount of explicit solvent. J. Milanese, C. Isborn

**COMP 271.** Ionization potential optimized hybrid exchange-correlation functional: Improving the accuracy of both core excitation energies and ground state properties. Y. Jin, R.J. Bartlett

**COMP 272.** Localizing frustration in proteins using coevolutionary information. B. Sirovetz

**COMP 273.** Ab initio molecular dynamics simulations, reaction energy profiles and reaction rates constants expressions relevant to Titan's atmosphere: CH + C<sub>2</sub>H<sub>2</sub> and H + CH<sub>2</sub>CCH<sub>3</sub>. X. Torres-Garcia, J.M. Lopez-Encarnacion

**COMP 274.** Divergent mechanistic pathways in a metal-catalyzed hydroacylation reaction. E. Bolger, A.T. Morehead, A. Sargent

**COMP 275.** DFT, CCSD and CASSCF investigations of 1,1 elimination transition state geometries and post-transition state complexes of hydrofluorocarbons. M. Nestler, G.L. Heard, B.E. Holmes

**COMP 276.** Vanddraabe: Identification and statistical analysis of structurally conserved waters via R. E.X. Esposito

**COMP 277.** Plunger method for simulating polymer crystal-melt interfacial tensions. Q. Chen, D. Kozuch, S. Milner

**COMP 278.** Fullerene based materials for cathodic applications in lithium ion battery. P. Sood, K. Kim, S.S. Jang

**COMP 279.** Towards understanding the chemical physics of the spinach fluorogenic RNA aptamer. K. Range, I. Bieker, D.M. York

**COMP 280.** Molecular dynamics simulation study of Normetanephrine (NMN) on amyloid-beta 40 monomer aggregation for treatment of Alzheimer's disease. K. Shim, J. Kim, C. Shin, J.R. Kim, S.S. Jang

**COMP 281.** Analysis of the role of the electronic structure on lithium diffusion in Li10GP2S12 and -Li3PS4 solid electrolytes. A.T. Hall, N. Leclerc, N. Adelstein

**COMP 282.** Novel approaches to the bioinformatics application of spreading factor in the domain identification and functional prediction. Y. Lo, G. Ren, H. Shyu, H. Honda, T. Wei

**COMP 283.** Density functional solution for nondynamic and strong correlation. J. Kong, E. Proynov, F. Liu

**COMP 284.** Automating isotope effects computations and analyses. A. Brueckner, S. Cevallos, O. Ogba, D.J. O'Leary, P. Cheong

**COMP 285.** Atomic-scale simulations of self-assembling peptide-conducting polymer hybrid materials. H. Pan, Z. Pollard, E. James, A. Murphy, T. Kowalczyk

**COMP 286.** Color-based illustration of the maximum overlap method. Z. Pollard, K. Le, T. Kowalczyk

**COMP 287.** Accurate estimate of ligand-binding affinity using alchemical free energy calculation via metadynamics. Y. Tanida, A. Matsuura

**COMP 288.** Modeling rhodium-catalyzed hydroacylation of formylstyrene: Competitive formation of indanone and tetralone products. T. Shoopman, A.T. Morehead, A. Sargent

**COMP 289.** Transition state of a 17 minute timescale drug unbinding event. S. Lotz, A. Dickson

**COMP 290.** Visualization of convolutional neural network scoring of protein-ligand binding. J. Hochuli, M. Ragoza, D. Koes

**COMP 291.** Auto generation of Markush structure for maximizing composition patent claim. P. Wang, Y. Tseng

**COMP 292.** Putting electrostatics and water at the center of structure-based drug design. T. Cheeseright, M.D. Mackey, G. Tedesco, P. Tosco, S. Tomasio

- COMP 293.** Understanding the behaviour of multifunctional gold nanoparticles (AuNPs). **A. Raman**, C. Jaime, V.F. Puentes
- COMP 294.** Effect of ethanol infiltration into dentin collagen fibrils using molecular dynamics simulation. **J. Liu**, S. Davis, H. Du, E. Cho, Z. Abrams, M. Lee, J. No, S. Jee, S.S. Jang
- COMP 295.** Novel Zn binding moiety for LpxC identified by data mining, virtual screening, and experimental validation. **P.S. Lee**, C. Bellamacina, J. Bojkovic, Z.K. Sweeney, J. Fu, L. Xie, W. Shu, K. Uehara, L. McDowell, A. Lingel
- COMP 296.** Impact of sequence homology on DNA microarray hybridization interactions: A Monte Carlo molecular simulation study. **K.J. Mei**, C. Lucy, M. Pham, **J.M. Stubbs**
- COMP 297.** Investigation of rhodium catalysts and reactants for hydroacylation reactions. **E. Schneider**, J. Scanlon
- COMP 298.** Sulfur bonds: Exploration of a novel non-covalent intermolecular bond and its role in drug development. **M.R. Koebel**, G. Schmadeke, S. Sirimulla
- COMP 299.** Mixed reality visualization application for drug discovery research. **G. Uranga**, S. Sirimulla
- COMP 300.** Connectivity-based hierarchy to eliminate systematic errors: Accurate combustion properties of biofuel molecules using DFT. **S. Debnath**
- COMP 301.** Molecular dynamics simulation of the behavior of copper atoms in hydrated zeolite Cu-SSZ-13. **D. Clavijo Gutierrez**, A. Chaparro, E. Jaramillo
- COMP 302.** Quantum mechanical calculations of UV-VIS spectra of conjugated molecules. **I. Bieker**, B. May
- COMP 303.** Synthesis and structure prediction of a novel, potentially electroactive, organic material. **S. Jacinto**, K.R. Cousins, T. Usher
- COMP 304.** Ab initio characterization of halogen bonds involving molecular ionic halogen bond donors. **K. Tran**, K. Riley
- COMP 305.** CMDnavigator: A tool for interactive analysis and visualization of peptide data. **A.S. Bayden**, D.J. Diller, J.H. Audie, K. Diller
- COMP 306.** Spatially extended active sites: Building favorable electrostatic interactions in natural and designed enzymes. **T.A. Coulther**, P.J. Beuning, **M.J. Ondrechen**
- COMP 307.** Mixed lithium indium halides as solid-electrolytes: Computational experiments on drivers of Li<sup>+</sup> diffusion. **T.C. Alves**, A. Zevgolis, **N. Adelstein**
- COMP 308.** Identification of promiscuous enzymes for the aza-Morita-Baylis-Hillman reaction. **K. Ozturk**, S. Sayin, **N. Celebi-Olcum**
- COMP 309.** Estimating kinetic rates for  $\beta$ -cyclodextrin. **H. Pratt**, B.R. Jagger, C. Lee, R.E. Amaro
- COMP 310.** Conformational dynamics of histone lysine methyltransferases by millisecond-timescale molecular dynamics on Folding@home. **R.P. Wiewiora**, S. Chen, K. Beauchamp, M. Luo, J.D. Chodera
- COMP 311.** Multiscale estimation of kinetic rates of trypsin with benzamide using a hybrid molecular dynamics, brownian dynamics, and milestoning approach. **B.R. Jagger**, L. Votapka, A. Heyneman, R.E. Amaro
- COMP 312.** Prediction of pH dependent NMR chemical shifts. **E. Artakis**, C.L. Brooks
- COMP 313.** Generic interface streamlines access to results from expertly prepared 3D models. **T. Mansley**, E. Champness, C. Leeding, P. Hunt, N. Foster, M. Segall
- COMP 314.** Computational studies of electrochemical initiation of reactions involving nitrogen-radical precursors. **S. Calderon**, H.P. Hratchian
- COMP 315.** Bond dissociation enthalpies of halomethanes, haloethanes, haloethenes, and haloacetylene. **K.R. Jorgensen**
- COMP 316.** Photocatalytic and electronic implications from first principles characterization of oxygen depletion localized on TiO<sub>2</sub> brookite nanoparticle surfaces. **K.G. Johnson**, E.A. Jarvis
- COMP 317.** Ab initio characterization of intramolecular and energetic features of the water oxidation mechanism for mononuclear ruthenium and iron catalysts. **K. Hunter**, E.A. Jarvis
- COMP 318.** Computational study of how  $\beta$ -loop dynamics regulate HCV polymerase activity in the presence and absence of thumb-site-II inhibitors. **N. Ibrahim**, J. Li, K. Johnson, S. Kirmizialtin
- COMP 319.** DFT design of inhibitors of the LpxC enzyme. **C. Dishuck**, R. Roldan, A.J. Dewar, L.W. Peterson, M.L. Cafiero
- COMP 320.** DFT study of the selectivity of phenylalanine hydroxylase. **M.C. Perchik**, L.W. Peterson, M.L. Cafiero
- COMP 321.** Modeling excited states of the OH radical reaction with cyclopentadiene and the cyclopentadienyl radical. **P.B. Orndorff**, J.B. Foresman
- COMP 322.** DFT study of the selectivity of the tyrosinase active site. **D. Wilson**, S. Fields, L.W. Peterson, M.L. Cafiero
- COMP 323.** Linkage isomerization in phosphine substitution reactions of CpRu(PPh<sub>3</sub>)<sub>2</sub>NCS. **D. Dang**, R.U. Kirss
- COMP 324.** DFT study of the selectivity of monoamine oxidase B (MAOB). **S. Jelinek**, M. Morris, L.W. Peterson, M.L. Cafiero
- COMP 325.** Structural insights of a PI3K/mTOR dual inhibitor with the morpholino-triazine scaffold. **T. Takeda**, Y. Wang, S.H. Bryant
- COMP 326.** Effect of Gly to Ser mutations at the integrin-binding site on type I collagen. **A. Mekkat**, H. Yu, B. Brodsky, Y. Lin
- COMP 327.** Mechanism for the stereoselectivity in metal-salen catalyzed electroreductive cyclization reactions. **L. Bellini**, M.N. Cihak, B.E. Silva, B.F. Gherman, J.A. Miranda
- COMP 328.** Withdrawn.
- COMP 329.** Approach for analyzing protein pockets using properly interacting probe molecules. **H. Sato**, A. Matsuura
- COMP 330.** Elucidating the mechanism of protein unfolding and translocation by the ClpY ATPase during protein degradation. **Y. Shih**, G. Stan
- COMP 331.** Quantum mechanical investigation of the inner sphere reduction mechanism of the [(NSNSN)Co(III)Cl<sup>+</sup>] and [(NSSSN)Co(III)Cl<sup>+</sup>] cations by iron(II). **W. Smith**, T.A. Jackman, O. Sode
- COMP 332.** Molecular simulation of transport of DNA grafted nanoparticles. **S. Ciobotarescu**, J. McLaughlin, C. Desgranges, J. Delhomelle
- COMP 333.** Molecular simulations of bubble formation in metastable liquids. **B. Gonzalez**, L. Huber, C. Desgranges, J. Delhomelle
- COMP 334.** Subset system study of diisopropylammonium bromide: An organic ferroelectric crystal. **C.M. Sanchez**
- COMP 335.** Investigation of different binding kinetics among the neuraminidase inhibitors. **G. Kang**, A.W. Van Wynsberghe
- COMP 336.** Examining the binding pathways of peramivir to wild-type neuraminidase through molecular dynamics simulations and MM/GBSA analysis. **R. Wenner**, A.W. Abera, B.J. Banman, A.W. Van Wynsberghe
- COMP 337.** DFT study of the selectivity of DOPA-decarboxylase. **E. Harrison**, A.R. Ritter, L.W. Peterson, M.L. Cafiero
- COMP 338.** Modeling material properties and charge transfer for lithium-ion batteries. **L. Raguette**, R. Jom
- COMP 339.** Analysis of MM/GBSA free energy calculations to investigate the binding pathways of neuraminidase. **E.M. Lewis**, P.F. Marris, L.M. Krause, A.W. Van Wynsberghe
- COMP 340.** Novel approaches to the computer assisted informatics of oxysterol and 7-ketocholesteryl benzoate. **E.J. Parish**, **G. Ren**, Y. Lo, **H. Honda**
- COMP 341.** Automated selection of active orbital spaces. **C.J. Stein**, M. Reiher
- COMP 342.** Computational studies of the UV/visible absorption spectra of selected merocyanine dyes. **I. Tolbatov**, S. Grimme
- COMP 343.** Examining ligand recognition in RNA aptamers via molecular dynamics simulations. **P. Gasper**, A.A. Chen
- COMP 344.** Development of a coarse-grained model of polypeptides for studying self-assembly in solution. **P. Du**, R. Kumar
- COMP 345.** Fragment ER: Efficient and accurate binding free energy calculation method for protein-ligand complex. **T. Masuda**, R. Tanimura, N. Matubayasi
- COMP 346.** Accurate absorption spectra of aqueous estrogen derivatives via molecular dynamics/EOM-CCSD. **D. Ruskka**, M. Paul, S.N. Eustis
- COMP 347.** Visualising the molecular drivers behind drug resistance. **M. Malaisree**, C.J. Woods
- COMP 348.** Predicting polythiophene electronic structures: Statistical model screening for the efficient discovery of OPV materials. **M. Cole**, I. Kanal, G. Hutchison
- COMP 349.** Molecular simulation study of the 3,4-dihydroxymandelic acid on amyloid beta 40 monomer for treatment of Alzheimer's disease. **E. Tumurbaatar**, J. Kim, C. Shin, S. Jang, J.R. Kim
- COMP 350.** Modelling UV-vis spectra for a series of alkenyl substituted pyrroles. **R. Fair**
- COMP 351.** Computationally predicted signatures of EGFR exon 20 insertions in non small cell lung cancer and its response to irreversible inhibitors. **B. Su**, D. Huang, P. Wang, O. Lin, Y. Tseng
- COMP 352.** Longtime simulation of dynamical fractures in vault nanoparticles through multiscale molecular dynamics. **J.M. Espinosa Duran**, A. Abi Mansour, P. Ortoleva
- COMP 353.** Molecular modeling of small molecule inhibitors of the Hv1 proton channel. **V.T. Lim**, A.D. Geragotelis, N. Lim, J.A. Freitas, D.L. Mogley, D. Tobias
- COMP 354.** *In silico* measurements of the ionic current in a K<sup>+</sup> ion channel using weighted ensemble simulations. **S. Capponi**, H. Siddiqi, J. Adelman, J. Rosenberg, M. Grabe
- COMP 355.** Ligand- and receptor-based virtual screening for inhibitors of the signal transducer and activator of transcription 5 (STAT5). **E. Gianti**, G. Fiorin, M.L. Klein, R.J. Zauhar
- COMP 356.** Incorporating continuum solvent-based receptor desolvation into molecular docking. **R. Stein**, T.E. Balias, B. Shoichet
- COMP 357.** Evaluating use of tens to hundreds of active ligands in pharmacophore hypothesis perception. **E.T. Mack**, S.L. Dixon, C.D. Von Bargen, M.P. Repasky
- COMP 358.** Density functional theory study of the binding of tyrosine and phenylalanine with graphene. **D.A. Daggag**, J. Lazare, T. Dinadayalane
- COMP 359.** Molecular modeling of multicompartiment micelle nanoreactors. **C.P. Callaway**, P. Sood, S. Jang
- COMP 360.** Identification of ZIKA virus inhibitors using insilico screening. **M. Rivera**, S. Sirimulla
- COMP 361.** Non-adiabatic QM/MM: A hybrid approach to doing non-adiabatic excited state dynamics. **D.A. Tracy**, J. Bjorgaard, S. Tretiak, A.E. Roitberg
- COMP 362.** Rationalization and visualization of non-bonded interactions using extended Hückel theory. **A. Ajamian**, C. Williams, P. Labute, N. Li
- COMP 363.** Simulations of small molecule diffusion in polyelectrolyte solutions. **P.K. Walhout**, Z. He, A.A. McMillan, T.D. Sedlacek
- COMP 364.** Python program for solving problems in computer-aided peptide design. **A.S. Bayden**, J.H. Audie, D.J. Diller
- COMP 365.** Effects of virion structural changes on binding events related to molecular mechanisms of influenza infections by brownian dynamics simulations. **S.E. Kochanek**, J.D. Durrant, R.E. Amaro
- COMP 366.** IKK $\beta$  dynamic structure regulates NF- $\kappa$ B pathway in inflammatory response. **T.T. Nguyen**, J. Schiffer, G. Ghosh, R.E. Amaro

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

**COMP 367.** Engineering increased activity into a ketosteroid isomerase homologue through predictive computational methods. **G. Levine**, T.A. Coulther, P.J. Beuning, M.J. Ondrechen

**COMP 368.** Information-driven fully flexible HADDOCKing: Performance on a benchmark of protein-ligand complexes. **J. Grinstead**, A. Thureau, J.P. Rodrigues, K.R. Reinke, A.F. Ramsing, T.L. Wormwood, A. Bonvin

**COMP 369.** Docking studies of camodulin and fulvic acid. **F.C. Zhang**, L. Liu, Y. Wu

**COMP 370.** First-principles study of di-substituted donor moieties on NLO properties: Theoretical paradigms of interactive computation. **M. Janjua**

**COMP 371.** Study on the interaction between resveratrol and CopC by spectroscopic and docking methods. **Z. Song**, **F.C. Zhang**

**COMP 372.**  $C_{60}$ Pd: A novel heterogeneous catalytic material for Suzuki-Miyaura reaction. **M.C. Padole**, P. Deshpande

**COMP 373.** Withdrawn.

**COMP 374.** PYCED: An efficient technique to simulate charge and exciton dynamics coupled with DFT methods for large systems. **P. Ramos**, M. Pavanello

**COMP 375.** Theoretical investigation of electron-nuclear dynamics in the  $[Au_{10}(SH)_6]^{-1}$  thiolate-protected gold nanocluster. **R.D. Senanayake**, A.V. Akimov, C.M. Aikens

**COMP 376.** Withdrawn.

**COMP 377.** Predicting *N*-methylated cyclic peptide structures to inform force field development. **D. Slough**, H. Yu, S. McLugh, Y. Lin

**COMP 378.** ALKBH7 variant related to prostate cancer exhibits altered substrate binding. **A. Walker**, P. Silvestrov, T.A. Müller, R.H. Podolski, G. Dyson, R.P. Hausinger, G.A. Cisneros

**COMP 379.** Withdrawn.

**COMP 380.** Supramolecular effects in radical chemistry. **G. Gomes**, I. Alabugun

**COMP 381.** Withdrawn.

**COMP 382.** *In silico* discovery of high performance organic polymers for optical applications. **M. Afzal**, J. Hachmann, C. Cheng

**COMP 383.** Linear absorption spectra from explicitly time-dependent equation-of-motion coupled-cluster theory. **D.R. Nascimento**, A.E. DePrince

**COMP 384.** Withdrawn.

**COMP 385.** Plasmonic resonances: A systematic analysis of metallic nanoparticles using real-time, time-dependent DFTB. **N. Ilawe**

**COMP 386.** Withdrawn.

**COMP 387.** Kirkwood Buff derived force field for some biologically important oxo anions. **N. Naleem**, P.E. Smith

**COMP 388.** Withdrawn.

**COMP 389.** Scaffold repurposing of ring-constrained nucleosides: A molecular modeling perspective. **A. Ciancetta**, D. Tosh, K.A. Jacobson

**COMP 390.** Systematic parameterization of lignin for the CHARMM force field. **J.V. Vermaas**, L. Petridis, G. Beckham, M.F. Crowley

**COMP 391.** Elucidating the functional roles of spatial organization in cross-membrane signal transduction by a hybrid simulation method. **Y. Wu**

**COMP 392.** Insights into the nature of glass formation from ultra-efficient simulations of the supercooled state. **D.S. Simmons**, J. Hung, T.K. Patra, J. Mangalala, V. Meenakshisundaram

**COMP 393.** Toward polarizable AMOEBA thermodynamics at fixed charge efficiency using a dual force field approach: Application to peptides and proteins. **J.M. Litman**, S.D. LuCore, C. O'Connell, **M.J. Schnieders**

**COMP 394.** Understand protein functions by comparing the similarity of local structural environments. **Y. Wu**

**COMP 395.** Large-scale v2RMD-driven CASSCF methods. **A.E. DePrince**

**COMP 396.** Ligand residence times from simulation using loosely coupled parallel trajectories. **A. Dickson**

**COMP 397.** Elucidating mechanisms of RNA recognition and processing in the exosome complex via enhanced sampling molecular dynamics simulations. **L. Vukovic**

**COMP 398.** Incorporation of sigma hole scoring function in Autodock Vina. **S. Sirimulla**

**COMP 399.** Hard-sphere Monte Carlo model of nanomaterial toxicity. **N. Assefa**

**COMP 400.** Investigating the structure of PEI-nucleic acid gene delivery complexes using molecular dynamic simulations. **N. Walker**

**COMP 401.** Elucidating binding mechanisms of ABA analogues: Activation of PYL5 receptor by pyrabactin and quinabactin. **M. Meigooni**, C. Zhao, D. Shukla

**COMP 402.** Binding site protonation and self-correcting occlusion control the Na<sup>+</sup>/K<sup>+</sup>-pump selectivity. **H. Rui**, P. Artigas, B. Roux

**COMP 403.** Towards a rational design of macrolide antibiotics in order to combat the bacterial resistance. **A. Pavlova**, J.M. Parks, A.K. Oyelere, J. Gumbart

**COMP 404.** Physiologically relevant transmembrane potential modelling of complex lipid bilayer systems. **X. Lin**, A. Gorfe

**COMP 405.** Interaction affinity of biological molecules with 2D materials. **N. Saikia**, K. Waters, U. Saikia, M. Seel, R. Pandey

**COMP 406.** Comparative analysis of the structural determinants of endogenous cannabinoids and activity of illicit drugs on cannabinoid receptors. **V.K. Yadav**, K.M. Elokely, M.L. Klein

**COMP 407.** Catalytic mechanism of RNase A transphosphorylation. **M. Huang**, D.M. York

**COMP 408.** Implementation of analytical gradient for FMO RI-MP2 method. **B.Q. Pham**, M.S. Gordon

**COMP 409.** Modeling and simulation of AcrB multi drug transporters functional dynamics. **S. Jamshidi**, M. Sutton, K.M. Rahman

**COMP 410.** Through-space and through-bond stabilization of cis alkenyl anions. **H. Villegas**, K.B. Wiberg, B.G. Janesko

**COMP 411.** Community participation in the D3R Continuous Evaluation of Ligand Pose Prediction (CELPP) competition. **J. Wagner**, S. Liu, S.M. Gathiaka, R. Malmstrom, M.K. Gilson, R.E. Amaro

**COMP 412.** Simulation of the interaction between polymer-encapsulated air microbubble and blood cell in the blood vessel. **Z. Wang**

**COMP 413.** Unified framework for computer-aided biologics design. **A. Deschenes**

**COMP 414.** Challenges in the discovery of macrocyclic cyclophilin inhibitors. **U. Schmitz**, D. Shivakumar

## Section C

Moscone Center

West Hall

### NVIDIA GPU Award

M. E. Berger, C. L. Simmerling, *Organizers*

6:00 - 8:00

**COMP 415.** Multiscale modeling of poly(ethylene oxide) with ionic liquids: GPU enabled first-principles force fields. **C. Son**, J. McDaniel, J.R. Schmidt, Q. Cui, A. Yethiraj

**COMP 416.** GPU implementation of molecular docking with applications to receptor flexibility and energy landscape sampling. **J. Sunseri**, D. Koes

**COMP 417.** Calculation of host-guest binding free energies via the AMOEBA polarizable force field. **M.L. Laury**, J.W. Ponder

**COMP 418.** ANAKIN-ME: Using deep learning to develop a fully-transferable and chemically accurate GPU-accelerated potential. **J.S. Smith**, O. Isayev, A.E. Roitberg

**COMP 419.** GPU-enabled real-time electron dynamics of nitrogen-doped graphene nanoflakes. **S.I. Allec**, B.M. Wong

## Section D

Moscone Center

West Hall

### OpenEye Outstanding Junior Faculty Award

C. L. Simmerling, *Organizer*

6:00 - 8:00

**COMP 420.** Multiscale simulations to elucidate enzymatic processing of DNA and RNA. **M. De Vivo**

**COMP 421.** Accounting for water in early stage drug discovery and design. **T.P. Kurtzman**

**COMP 422.** Accelerating real-time electron dynamics calculations of large plasmonic systems. **B.M. Wong**

**COMP 423.** Multireference quantum chemistry and conical intersections at the nanoscale. **B.G. Levine**

**COMP 424.** Elucidating heterogeneous ice nucleation mechanisms using large scale rare event simulations. **S. Sarupria**, B. Glatz, R. Defever, W. Hanger, L. Ngo, A. Apon

## Section E

Moscone Center

West Hall

### Wiley Computers in Chemistry Outstanding Postdoc Award

C. L. Simmerling, *Organizer*

6:00 - 8:00

**COMP 425.** Electronic transitions in the condensed phase: Real-time and linear-response time-dependent density functional theory. **M. Provorse**, C. Isborn

**COMP 426.** Phospholipases A<sub>2</sub> a pharmaceutical target to diminish inflammation. **V. Mouchlis**, J. McCammon, E.A. Dennis

## WEDNESDAY MORNING

### Section A

InterContinental San Francisco

Twin Peaks

### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Dynamics & Modeling of Allosteric Systems

*Cosponsored by PHYSS*

G. Verkhivker, *Organizer*

C. Chang, *Organizer, Presiding*

8:30 **COMP 427.** Allosteric through the lens of a computational microscope. **R.E. Amaro**

9:00 **COMP 428.** Discrete molecular dynamics approach to the study of protein conformational changes. **M. Orozco**

9:30 **COMP 429.** Molecular simulations of membrane sensing and remodeling dynamics. **G. Hummer**, R. Covino, A. Bahrami, R. Bhaskara, J. Köfinger

10:00 Intermission.

10:20 **COMP 430.** ATP hydrolysis as a driver of conformational change, an example of GroEL. **J. Liu**, K. Kavran, Y. Wang, K. Jia, **R.L. Jernigan**

10:50 **COMP 431.** Conformational transition in kinase from explicit solvent simulations and Markov model analysis. **Q. Cui**

11:20 **COMP 432.** Surveying key residues for protein allostery using rigid residue scan method. **P. Tao**

### Section B

InterContinental San Francisco

Fremont

### Material Science

#### Organic

C. M. Aikens, *Organizer*

A. Abbaspour Tamijani, *Presiding*

8:30 **COMP 433.** Functional group dependent conductance of stilbene: A first-principles transport study. **M.R. Neupane**, C. Carlin, C.B. Rinderspacher, J. Andzelm

9:00 **COMP 434.** Design principles for organic photovoltaic materials from ab initio simulations. **M.B. Goldey**, D. Reid, J.J. De Pablo, G.A. Galli

9:30 **COMP 435.** DFT evidence of unforeseen bending in linearly fused polycyclic rings of hexasilabenzenoids. **A. Gupta**, J. Arora

10:00 Intermission.



**10:30 COMP 436.** Identification of next-generation materials for organic solar cells via a collaborative theory-experimental approach. **S.A. Lopez**, N.C. Davy, A. Oh, A. Aspuru-Guzik, Y. Loo

**11:00 COMP 437.** Theory linked with experiment in discovering new functional organic/organometallic materials. **K.R. Cousins**, T. Usher, R. Zhang, D. Miller, D.C. Smith

**11:30 COMP 438.** Capturing the role of temperature in crystal polymorph stability using molecular modeling. **E. Dybeck**, N. Abraham, N.P. Schieber, **M.R. Shirts**

**12:00 COMP 439.** Predicting relative polymorph stability using multi-state reweighting methods and Jacobian mapping. **N.P. Schieber**, E. Dybeck, M.R. Shirts

## Section C

InterContinental San Francisco  
Howard

### Drug Design

#### Structure-Based Approaches

M. R. Landon, Y. Tseng, *Organizers*

C. Dickson, *Presiding*

**8:30 COMP 440.** Structural insight into sodium-dependent sugar transporters and their inhibition mechanism. **P. Bisignano**, C. Ghezzi, A. Paz, C. Kalyanaraman, M.P. Jacobson, R. Friemann, J. Abramson, E. Wright, M. Grabe

**8:55 COMP 441.** Structural insight into KRAS A146 mutations from molecular simulations. **T. Abramyan**, K. Rossman, D. Kireev

**9:20 COMP 442.** Interdependence of inhibitor recognition in HIV-1 protease subsites. **J.L. Paulsen**, F. Leidner, D. Ragland, N. Kurt Yilmaz, C.A. Schiffer

**9:45** Intermission.

**10:05 COMP 443.** Systematic investigation of increased protein flexibility in protein-ligand docking with mixed-resolution Monte Carlo. **J.M. Spiriti**, D.M. Zuckerman

**10:30 COMP 444.** Computational investigation of the DNA binding domain of p53: A drive towards novel therapeutics. **J.W. Essex**, M.P. Cridle, Z. Ouaray, C. Verma

**10:55 COMP 445.** Origin of preferential binding of aryl chloride groups in serine protease S1 pockets: An application of Fragment Symmetry-Adapted Perturbation Theory (F-SAPT) to drug protein binding. **D.L. Cheney**, D.F. Sitkoff, R.M. Parrish, C. Sherrill

**11:20 COMP 446.** Dealing with x-ray data in structure-based design: Estimating and visualizing electron density support. **A. Meyder**, E. Nitinger, G. Lange, R. Klein, **M. Rarey**

## Section D

InterContinental San Francisco  
Cathedral Hill

### Molecular Mechanics

#### Foldamers, Carbohydrates, Macrocycles & Cyclic Peptides

M. Feig, *Organizer*

J. F. Rudzinski, *Presiding*

**8:30 COMP 447.** Computational investigations of functional arylamide foldamers. **V. Pophristic**, Z. Liu, A. Abramyan, S. Makeneni

**9:00 COMP 448.** Mutations tuning the structure and dynamics of amylin fibrils. **F. Tofeleanu**, Y. Yuan, B. Brooks, N. Buchete

**9:30 COMP 449.** Molecular dynamics modeling of fluorescent rosette nanotubes. **A. Gonzales**, B. Legesse, T. Yamazaki, H. Fenniri

**9:55** Intermission.

**10:10 COMP 450.** Developing enhanced sampling methods for cyclic peptides. **S. McHugh**, J. Rogers, H. Yu, Y. Lin

**10:35 COMP 451.** Cyclization, docking, and sampling macrocycles with prime. **D.J. Sindhikara**, T. Day, K. Borrelli

**11:05 COMP 452.** Seeing the invisible: Dynamics of glycans on neuronal NMDA receptors. **A. Sinitskiy**, N. Stanley, V.S. Pande

**11:35 COMP 453.** Revealing the *T. reesei* Cel6A hydrolysis mechanism via transition path sampling. **H. Mayes**

## Section E

InterContinental San Francisco  
Laurel Hill

### Quantum Mechanics

A. E. DePrince, *Organizer*

D. Nascimento, *Presiding*

**8:30 COMP 454.** Intersystem crossings kinetics in complex systems: Implementation of minimum energy crossing point search within the fragment molecular orbital method. **D.S. Kaliaikin**, Y. Alexeev, D.G. Fedorov, S.A. Varganov

**8:55 COMP 455.** One- and three-electron bonding in conjugated hydrocarbons. **M. Alkan**, A. Rogachev

**9:20 COMP 456.** Nonadiabatic molecular dynamics with delta-SCF excited states. **A.V. Akimov**

**9:45 COMP 457.** Nonadiabatic transition state theory: Application to intersystem crossing in  $C_2CS$ . **A.O. Lykhin**, S.A. Varganov

**10:10** Intermission.

**10:25 COMP 458.** Electronic structure of single molecule magnets. **B. Vlaisavljevich**, D.E. Freedman, S.T. Liddle, L. Gagliardi, T. Shiozaki

**11:00 COMP 459.** Computational study of metal-oxo reactive species in porous media with strongly correlated methods. **K.D. Vogiatzis**, L. Gagliardi, E. Pidko

**11:35 COMP 460.** Modelling the pump-probe spectroscopy of opsin mimics. **B. Demoulin**, G. Cerullo, I. Rivalta, M. Garavelli

## Section F

InterContinental San Francisco  
Nob Hill

### State-of-the-Art Methods for Modeling Materials Chemistry

*Cosponsored by CATL and MPPG<sup>‡</sup>*

B. G. Janesko, J. A. Keith, *Organizers, Presiding*

**8:30 COMP 461.** Calculations of NMR shifts in metallic and insulating solids. **P. Blaha**

**8:55 COMP 462.** Computational studies of metal oxide clusters as models for surface defect sites: Modeling electron detachment with efficient electronic structure methods. **H.P. Hratchian**

**9:20 COMP 463.** Nonlinear properties from TDDFT: Trials and tribulations. **S.M. Parker**, F.U. Furché

**9:45 COMP 464.** Scalable all-electron theory of real-world molecules and materials - examples: Light harvesting and NMR. **V. Blum**

**10:10** Intermission.

**10:30 COMP 465.** Functional 2D and 3D borides. **P.J. Robinson**, Z. Cui, **A. Alexandrova**

**10:55 COMP 466.** Challenges in calculating the bandgap of triazine-based carbon nitride structures. **S.N. Steinmann**, S. Melissen, T. Le Bahers, P. Sautet

**11:10 COMP 467.** Optical properties of highly absorbing Helquat derivatives: *Ab initio* study. **D. Galaktionov**, E. Muchová, P. Slavicek

**11:25 COMP 468.** Finding intersystem crossing points between two single-reference potential energy surfaces. **X. Sheng**, L.M. Thompson, H.P. Hratchian

**11:40 COMP 469.** Describing a strongly correlated model material system with a mean-field method. **J. Kong**, E. Proynov, J. Yu, R. Pachtar

**12:05 COMP 470.** *Ab initio* modeling of charge transport defects in quantum dot arrays. **M.B. Goldey**, N.P. Brawand, M. Voros, G.A. Galli

### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

*Sponsored by CATL, Cosponsored by COMP*

#### Photocatalysis

*Sponsored by CATL, Cosponsored by COMP*

*Sponsored by CATL, Cosponsored by COMP*

### Public-Private Partnerships: Fostering Drug Discovery & Data Sharing

*Sponsored by CINF, Cosponsored by COMP*

## WEDNESDAY AFTERNOON

### Section A

InterContinental San Francisco  
Twin Peaks

#### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Inhibition & Therapeutic Applications of Allosteric Mechanisms

*Cosponsored by PHYS*

C. Chang, G. Verkhrivker, *Organizers*

R. E. Amaro, *Presiding*

**1:30 COMP 471.** PROGNOSTIX: A pipeline for personalized diagnostics and drug. **J. Skolnick**

**2:00 COMP 472.** Investigating allosteric regulation and cryptic pocket formation through enhanced sampling simulations. **F. Gervasio**

**2:30 COMP 473.** Prediction on allosteric and cryptic sites on ligand-free protein structures. **S. Vajda**, D. Kozakov, D.R. Hall

**3:00** Intermission.

**3:20 COMP 474.** Computational riboswitch detection and design using inverse RNA folding simulations with ligand binding information. **M. Drory**, I. Kifer, S. Sengupta, Z. Yakhini, **D. Barash**

**3:50 COMP 475.** Fine-tuned allosteric regulation of neuronal NMDA receptors with potential therapeutic importance. **N. Stanley**, A. Sinitskiy, B.D. Sellers, V.S. Pande

## Section B

InterContinental San Francisco  
Fremont

### Material Science

#### Electron Transfer & Nanoparticles

C. M. Aikens, *Organizer*

M. Provorse, *Presiding*

**1:30 COMP 476.** Functional mode hot electron transfer theory. **J. Elenewski**, J. Cai, W. Jiang, **H. Chen**

**2:00 COMP 477.** Scaling relationships for nonadiabatic energy relaxation times in warm dense matter: Toward understanding the equation of state. **A.V. Akimov**

**2:30 COMP 478.** Investigation of many-body correlation in excitonic and biexcitonic systems using electron-hole multicomponent coupled-cluster theory (eh-mcCC). **B.H. Ellis**, A. Chakraborty

**3:00 COMP 479.** Unraveling excitation energy transfer mechanisms in plasmonic nanoantennas. **N. Ilawe**, M.B. Oviedo, B.M. Wong

**3:30** Intermission.

**4:00 COMP 480.** Luminescence properties of  $Au_{30}(SH)_{24}$  and  $Au_{22}SH_{18}$  nanoparticles. **K. Weerawardene**, C.M. Aikens

**4:30 COMP 481.** Theoretical study of the chiroptical activity of BINAP- and DIOP-stabilized undecagold clusters. **N. Karimova**, C.M. Aikens

**5:00 COMP 482.** Double ring tubular structures of boron clusters stabilized by metal atom doping:  $M@B_{14}$  ( $M = Cr, Fe, \text{ and } Ni$ ). **P. Saha**, A. Rahane, N. Sukumar, V. Kumar

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

<sup>‡</sup>Cooperative Cosponsorship

## Section C

InterContinental San Francisco  
Howard

## Molecular Mechanics

## Membrane-Interacting Proteins &amp; Peptides

M. Feig, *Organizer*

S. Lindert, *Presiding*

**1:30 COMP 483.** Structure-kinetic relationships of passive membrane permeation from multiscale modeling. C. Dickson, V. Hornak, R.A. Pearlstein, J. Duca

**2:00 COMP 484.** Modeling permeability through outer-membrane channels in gram-negative pathogens. S. Acosta-Gutierrez, I. Bodrenko, S. Susruta, G. Mallocci, M. Scorciapino, M. Ceccarelli

**2:25 COMP 485.** Studying the substrate specificity and reactivity of MycG: A multifunctional enzyme. S. Yang, J.M. Grandner, M. Demars, D.H. Sherman, K.N. Houk

**2:50** Intermission.

**3:05 COMP 486.** Graded activation and free energy landscapes of a muscarinic G protein-coupled receptor. Y. Miao, J. McCammon

**3:35 COMP 487.** Structural insights into conformation and dynamics of the cannabinoid CB2 receptor through an extended MD simulation of CP 55, 940-CB2 complex. P. Pandey, K. Roy, R.J. Doerksen

**4:05 COMP 488.** Cell-scale computational modeling methodologies for living membranes. J.V. Vermaas, E. Tajkhorshid

**4:35 COMP 489.** Oncogenic mutations differentially affect bax monomer, dimer, and oligomeric pore formation in the membrane. M. Zhang, J. Zheng, R. Nussinov, B. Ma

## Section D

InterContinental San Francisco  
Cathedral Hill

## Quantum Mechanics

A. E. DePrince, *Organizer*

J. Larkin, *Presiding*

**1:30 COMP 490.** QM cluster model examination of constrained biphenyl dihedral rotation within a modified threonyl-tRNA synthetase: A transition state trapped? T.J. Summers, N.J. Deyonker

**2:05 COMP 491.** High-level characterization of the properties of R-X... $\pi$  interactions in protein-ligand complexes. K. Riley, K. Tran

**2:30 COMP 492.** Improved energy decomposition analysis for studying covalent bonds. D.S. Levine, M.P. Head-Gordon

**2:55** Intermission.

**3:10 COMP 493.** Developments in stochastic coupled cluster theory. A.J. Thom

**3:35 COMP 494.** Electron propagator theory and correlation-bound anions. J.V. Ortiz

**4:00 COMP 495.** Improving efficiency of semi-direct MP2 through over-subscription. E. Fought, V. Sundriyal, M. Sosonkina, T.L. Windus

**4:25 COMP 496.** Development of a many-body carbon dioxide potential and its application to clusters up to  $(\text{CO})_{13}$ . O. Sode

## Section E

InterContinental San Francisco  
Laurel Hill

## Drug Design

## Structure-Activity Relationships &amp; Pharmacophores

M. R. Landon, Y. Tseng, *Organizers*

J. M. Spiriti, *Presiding*

**1:30 COMP 497.** Combining protein interaction potentials with water analysis in structure-based design. T. Cheeseright, M.D. Mackey, G. Tedesco, S. Tomasio, P. Tosco

**1:50 COMP 498.** Optimization of shape fingerprints for protein-ligand systems. J. Zarnicka, A.G. Leach, S.J. Enoch

**2:10 COMP 499.** Deep learning profile-QSAR 2.0  $\text{IC}_{50}$  predictions as accurate as 4-pt  $\text{IC}_{50}$ s: Applications to polypharmacology. E.J. Martin, V. Polyakov, L. Tian

**2:30 COMP 500.** Towards in-silica screening of molecule permeation through outer membrane channels in Gram-negative bacteria. I. Bodrenko, S. Acosta Gutierrez, T. D'Agostino, S. Samanta, S. Salis, G. Mallocci, M. Scorciapino, M. Ceccarelli

**2:50** Intermission.

**3:10 COMP 501.** Withdrawn.

**3:30 COMP 502.** GPCR activation: Principle component analysis as a diagnostic signature correlated with SAR. D.L. Harris, J.B. Thomas, Y. Zhang, E. Gay, S. Runyon

**3:50 COMP 503.** Molecular simulation of EFdA and related analogs to determine the structural basis of HIV-1 drug resistance. D. Das, Y. Takamatsu, S. Kohgo, S. Hattori, H. Hayashi, K. Matsuda, S. Sarafianos, H. Mitsuya, K. Maeda

**4:10 COMP 504.** Automated extraction of pharmacophores and toxophores from large-scale *in vitro* pharmacology data. A. Dossetter, E.J. Griffen, A.G. Leach, J. Stacey, L. Reid, S. Montague

## Section F

InterContinental San Francisco  
Nob Hill

## State-of-the-Art Methods for Modeling Materials Chemistry

*Cosponsored by CATL and MPPG<sup>†</sup>*

B. G. Janesko, J. A. Keith, *Organizers, Presiding*

**1:30 COMP 505.** Towards a chemically accurate description of reactions of molecules with transition metal surfaces. G. Kroes

**1:55 COMP 506.** Towards accurate and reliable simulations water at interfaces, and more.... A. Michaelides

**2:20 COMP 507.** Understanding and eliminating delocalization error in transition metal chemistry. T.Z. Gani, Q. Zhao, H.J. Kulik

**2:45 COMP 508.** Development of a general framework for coupling machine learning and *ab initio* approaches in materials chemistry. A. Kolpak

**3:10** Intermission.

**3:30 COMP 509.** ANAKIN-ME: A general purpose and chemically accurate deep learned potential. J.S. Smith, O. Isayev, A.E. Roitberg

**3:55 COMP 510.** Efficient parallelization of the calculation of exact exchange for plane-wave DFT. T.A. Barnes, J. Deslippe, P. Kent, D. Prendergast

**4:10 COMP 511.** Application of *ab initio* many-body perturbation theory with Gaussian basis sets to the singlet and triplet excitations of organic molecules. S. Hamed, T. Rangel, F. Bruneval, J. Neaton

**4:25 COMP 512.** QM/MM simulations of TADF materials. P. de Silva, T. Zhu, T.A. Van Voorhis

**4:50 COMP 513.** Accurate level alignment at molecule-metal interfaces from an optimally-tuned range-separated hybrid functional. Z. Liu, D.A. Egger, S. Refaely-Abramson, L. Kronik, J. Neaton

**5:05 COMP 514.** Hybrid functional pseudopotentials. L. Tan, J. Yang, A.M. Rappe

## Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

## Transition Metal &amp; Metal Oxide Catalysis

*Sponsored by CATL, Cosponsored by COMP*

## Public-Private Partnerships: Fostering Drug Discovery &amp; Data Sharing

*Sponsored by CINP, Cosponsored by COMP*

## THURSDAY MORNING

## Section A

InterContinental San Francisco  
Twin Peaks

## Allosteric Interactions &amp; Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

## Inhibition &amp; Therapeutic Applications of Allosteric Mechanisms

*Cosponsored by PHYS*

C. Chang, G. Verkhivker, *Organizers*

M. P. Jacobson, *Presiding*

**8:30 COMP 515.** Computer-aided discovery of allosteric modulators for a muscarinic G-protein-coupled receptor. Y. Miao, J. McCammon

**9:00 COMP 516.** Structure-based design of allosteric K-Ras inhibitors. A. Gorfe

**9:30 COMP 517.** Kinase allostery atlas. D. Kozakov

**10:00** Intermission.

**10:20 COMP 518.** Mechanisms for allosteric inhibition of protein tyrosine phosphatase 1B. H.P. Hendrickson, J. Lipchok, B. Douglas, I. Rivalta, N. Ten, V.S. Batista, J. Loria

**10:50 COMP 519.** Order in the disordered polybasic domain of K-Ras. P.S. Srivastava, Y. Zhou, H. Liang, K. Cho, J. Hancock, A. Gorfe

**11:20 COMP 520.** Exploring the therapeutic landscape of chromatin via integrative computational modeling: An allosteric regulation from transition metal agents. G. Palermo, Z. Adhiksan, T. Riedel, Z. Ma, R. Muhammad, U. Roethlisberger, P. Dyson, C. Davey

## Section B

InterContinental San Francisco  
Fremont

## Material Science

## Functional Materials &amp; High-Throughput Screening Methods

C. M. Aikens, *Organizer*

N. Saikia, *Presiding*

**8:30 COMP 521.** Assessing the potential of  $\text{LaCrO}_3$  as a *p*-type semiconducting oxide. A.L. Gavin, G.W. Watson

**9:00 COMP 522.** Interatomic potential for a perovskite electrolyte derived from first principles. A.K. Lucid, G.W. Watson

**9:30 COMP 523.** High-throughput screening of transparent conducting oxides. C. Sutton, R.J. Baldock, L.M. Ghiringhelli, M. Scheffler

**10:00 COMP 524.** Gibbs energies of solids through materials informatics. C. Bartel, A. Deml, S. Miller, J. Rumpitz, A.W. Weimer, S. Lany, C. Musgrave, V. Stevanovic, A. Holder

**10:30** Intermission.

**11:00 COMP 525.** *In silico* design of 3D covalent organic frameworks for gas adsorption applications. R. Mercado, R. Fu, B. Smit

**11:30 COMP 526.** Understanding of spectacular gas adsorption/separation phenomena in metal-organic frameworks. R. Pillai, G. Maurin, S. Krause, S. Kaskel, J. Yoon, J. Chang

**12:00 COMP 527.** Cryptands as cathode materials for batteries. H. Gokturk

## Section C

InterContinental San Francisco  
Howard

## Molecular Mechanics

## Force Fields

M. Feig, *Organizer*

F. Tofoleau, *Presiding*

**8:30 COMP 528.** Toward more accurate force fields through direct chemical perception. D.L. Mobley, C. Bannan, C. Zanette, C.I. Bayly, J.D. Chodera, M.R. Shirts, J. Fass, B. Manubay, P. Eastman, M.K. Gilson

**9:00 COMP 529.** Systematic exploration of hydration thermodynamics and kinetics of various approximate polarization schemes. F.C. Pickard, A.C. Simmonett, G. Koenig, J. Huang, B. Brooks, J.W. Ponder

**9:30 COMP 530.** Consistent integration of experimental and *ab initio* data into effective molecular force fields. L. Vlicek

**10:00** Intermission.

**10:15 COMP 531.** Refined AMBER force field (FUJ) force field for phospholipids. N. Kamiya, H. Fujitani

**10:45 COMP 532.** Force field development for water interacting with Pt surfaces. A.W. Goetz, R.F. de Morais, B. Schweitzer, P. Fleurat-Lessard, P. Sautet, S. Steinmann, C. Michel

**11:15 COMP 533.** Biocompatible force field for thiolated gold nanoclusters in macromolecular environments. J. Gascon

**11:45 COMP 534.** Thermodynamic calculations of cyclodextrin host-guest binding: A comprehensive evaluation of force field performance. N.M. Henriksen, M.K. Gilson

## Section D

InterContinental San Francisco  
Cathedral Hill

## Quantum Mechanics

A. E. DePrince, *Organizer*  
J. J. Foley, *Presiding*

**8:30 COMP 535.** Strong-field ionization in molecules using range-separated time-dependent density functional theory. A. Sissay, A. Bruner, P. Abanador, F. Mauger, M. Gaarde, K. Schafer, K. Lopata

**9:05 COMP 536.** Non-linear conductivity of metals from real-time time-dependent density functional theory. X. Andrade, A.A. Correa

**9:30 COMP 537.** Excited state absorption from real-time time-dependent density functional theory simulations: Predicting molecular optical response by excited state density propagation. D.N. Bowman, J. Asher, S. Fischer, N. Govind, C.J. Cramer

**9:55 COMP 538.** Quantum mechanical models with statistical effects and statistical models without quantum effects. J. Parkhill

**10:30** Intermission.

**10:45 COMP 539.** Linear-response, stability and single-particle excited states in noncollinear spin density functional theory. G. Scalmani, F. Egidi, M.J. Frisch, X. Li

**11:10 COMP 540.** Many-pair expansion: A systematically improvable correction scheme for including strong and long-range correlations in DFT. P. de Silva, T. Zhu, T.A. Van Voorhis

**11:35 COMP 541.** Unconventional Kohn-Sham theory: Implementation and application of complex-restricted and general orbital density functional theories. L.W. Bertels, M.P. Head-Gordon

**12:00 COMP 542.** Polarizabilities of  $\pi$ -conjugated chains revisited: Improved results from broken-symmetry, range-separated DFT. B.M. Wong, M.B. Oviedo, N. Ilawe

## Section E

InterContinental San Francisco  
Laurel Hill

## Drug Design

## Applications

M. R. Landon, Y. Tseng, *Organizers*  
M. Korczynska, *Presiding*

**8:30 COMP 543.** Molecular simulations disclose a novel mode of one-stranded intercalation in nucleosomes that is DNA topology dependent. G. Palermo, Z. Ma, Z. Adhiksan, B. Murray, T. von Erlach, P. Dyson, C. Davey, U. Roethlisberger

**8:50 COMP 544.** Withdrawn.

**9:10 COMP 545.** Rational bioavailability design: Optimizing bioavailability in lead op with Global Sensitivity Analysis of Physiologically-Based PK (GSA of PBPK). E.J. Martin, P. Daga, B. Madej

**9:30 COMP 546.** Is alternative binding sapping the strength of current oxime countermeasures? B.J. Bennion, T. Carpenter, F.C. Lightstone, T. Nguyen, C.A. Valdez

**9:50** Intermission.

**10:10 COMP 547.** Rational bioavailability optimization using physiologically-based pharmacokinetics simulations. B.D. Madej, E.J. Martin

**10:30 COMP 548.** Ligand based drug discovery of novel dengue-2 NS2B-NS3 protease inhibitors. M.M. Nawil, S. Abdul Hamid, M. Hariono, R. Othman, S. Othman, R. Yusuf, N.A. Rahman, H. Wahab

**10:50 COMP 549.** Virtual fragment screening and linking discovers Jumonji histone demethylase inhibitors. M. Korczynska, D.D. Le, M. Siklos, N. Younger, E. Gregori-Puigjané, A. Tumber, T. Krojer, S. Velupillai, C. Gileadi, R. Nowak, E. Iwasa, S.B. Pollock, I. Ortiz Torres, U. Oppermann, B. Shoichet, D.G. Fujimori

**11:10 COMP 550.** Molecular drug design targeting a bacterial RNA structure: Atomic resolution mechanistic studies of highly selective unnatural ligand mimic of the *E. coli* FMN riboswitch. L. Xiao

### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

## Biomass Catalysis

Sponsored by CATL, Cosponsored by COMP

## THURSDAY AFTERNOON

## Section A

InterContinental San Francisco  
Twin Peaks

### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

## Mechanisms &amp; Molecular Simulations

Cosponsored by PHYS

C. Chang, G. Verkhivker, *Organizers*  
S. Vajda, *Presiding*

**1:30 COMP 551.** Glutamate receptor ion channel activation mechanism revealed by computer experiment. X. Wu, B. Brooks

**2:00 COMP 552.** CaMKII: A molecular dynamics study of the effects of phosphorylation on its dodecameric form. I. General

**2:30 COMP 553.** Computational tools for the evaluation of laboratory-engineered biocatalysts. M. Garcia-Borras, A. Romero-Rivera, S. Osuna

**3:00** Intermission.

**3:20 COMP 554.** Constant-pH simulations on capability class computers: First applications. B. Radak, J. Phillips, W. Jiang, K. Schulten, B. Roux

**3:50 COMP 555.** Directional motion in chiral molecules out of equilibrium. D. Slochow, M.K. Gilson

## Section B

InterContinental San Francisco  
Fremont

## Material Science

## Surfaces &amp; Catalysts

C. M. Aikens, *Organizer*  
A. Shamloo, *Presiding*

**1:30 COMP 556.** Growth mechanism of small PdGa bimetallic clusters on MgO (100) surface. N. Kumar, D. Chatteraj, I. Kaul, C. Majumder, P. Ghosh

**2:00 COMP 557.** Surface characterization of supported catalysts: The interplay between modeling and experiments. V. D'Anna, C. Michel, P. Sautet

**2:30 COMP 558.** Density-functional study of the La<sub>2</sub>Zr<sub>7</sub>O<sub>7</sub> low-index faces. Y. Mantz, Y. Duan

**3:00 COMP 559.** Formation and diffusion of oxygen vacancies in complex transition-metal oxides from diffusion quantum Monte Carlo. J.A. Santana, J. Krogel, P. Kent, F. Reboredo

**3:30** Intermission.

**4:00 COMP 560.** Decorating the (110) facet of rutile-type crystallites with CH<sub>4</sub>: A first-principles investigation. A. Abbaspour Tamijani

**4:30 COMP 561.** Dynamics of self-assembled guanine nucleobases on graphene. N. Saikia, K. Waters, S.P. Karna, R. Pandey

**5:00 COMP 562.** Computational study of the binding of methane and aromatic amino acids with graphene. T. Dinadayalane, J. Lazare, D. Daggag

## Section C

InterContinental San Francisco  
Howard

## Molecular Mechanics

## Protons &amp; Electrons

M. Feig, *Organizer*  
A. Levit, *Presiding*

**1:30 COMP 563.** Assessing and optimizing efficiency in nonequilibrium molecular dynamics/Monte Carlo simulations. B. Radak, B. Roux

**1:55 COMP 564.** High-performance molecular dynamics at constant pH and constant redox potential using AMBER. V.D. Cruzeiro, M. Amaral, A.E. Roitberg

**2:20 COMP 565.** Unraveling the dynamics of the redox conformational protection of nitrogenase. F. Feixas, M. Gimferrer, P. Salvador, M. Garcia-Borras

**2:45 COMP 566.** Self-activated mechanism for efficient nucleic acids polymerization. V. Genna, P. Visosich, E. Ippolito, P. Carloni, M. Devivo

**3:10** Intermission.

**3:25 COMP 567.** NH<sub>3</sub> binding to the S<sub>2</sub> state of the O<sub>2</sub>-evolving complex of Photosystem II points at H<sub>2</sub>O binding during the S<sub>2</sub> → S<sub>3</sub> transition: Insights from QM/MM, EXAFS, and femtosecond x-ray diffraction. M. Askerka, D. Vinyard, J. Wang, G.W. Brudvig, V.S. Batista

**3:50 COMP 568.** Thermal isomerization relaxation of azobenzene derivatives studied with QM/MM and transition path sampling. A. Muzdalo, P. Saalfrank, M. Santer

**4:15 COMP 569.** Structural and electronic features of Mg<sup>2+</sup>-RNA binding motifs: Insights from combined classical molecular dynamics and quantum mechanics simulations. L. Casalino, G. Palermo, N. Abdurakhmonova, U. Roethlisberger, A. Magistrato

## Section D

InterContinental San Francisco  
Cathedral Hill

## Quantum Mechanics

A. E. DePrince, *Organizer, Presiding*

**1:30 COMP 570.** Large-scale selected configuration interaction based on a Davidson-Liu flow. R.M. Parrish, T.J. Martinez

**2:05 COMP 571.** Complex basis functions for metastable electronic states: Methodology and applications. A. White, C.W. McCurdy, M.P. Head-Gordon

**2:30 COMP 572.** Excited states for orbital-optimized second-order perturbation theory. E. Ramos, M.P. Head-Gordon

**2:55 COMP 573.** Unique electronic dynamics from scattering mediated absorption. J.J. Foley

**3:30** Intermission.

**3:45 COMP 574.** Geminals for dispersion interactions and long-range correlation. J.F. Gonthier, M.P. Head-Gordon

**4:10 COMP 575.** Hybrid classical/quantum approach for large-scale studies of quantum systems with density matrix embedding theory. N.C. Rubin

**4:35 COMP 576.** Examining the excited state deactivation pathways of 5-hydroxymethylcytosine. J. Mato, K. Keipert, M.S. Gordon

**5:00 COMP 577.** Theoretical studies of the catalytic transition metal nanoparticles with flexible structures. G. Wei, Z. Liu

## Section E

InterContinental San Francisco  
Laurel Hill

## Drug Design

## Applications

M. R. Landon, Y. Tseng, *Organizers*  
P. Bisignano, *Presiding*

**1:30 COMP 578.** Exploiting water density fluctuations in ion channel drug design. E. Gianti, L. Delemotte, M.L. Klein, V. Carnevale

**1:55 COMP 579.** Adding pharmacophores to shape and electrostatics - too much of a good thing? T. Cheeseright, M.D. Mackey, S. Tomasio

**2:20 COMP 580.** Investigation of the molecular electrostatic potentials and the average electron densities of non-classical bioisosteres. A.A. Arabi, C.F. Matta

**2:45** Intermission.

**3:05 COMP 581.** From protons to fragments with XModeScore: How we can use x-ray data coupled with quantum mechanics to explore these elusive species in binding. L. Westerhoff, O. Borbulevych

**3:30 COMP 582.** Key role of the  $\beta$ 5- $\beta$ 6 loop conformation in the substrate specificity of OXA-48-like enzymes: Implications for the  $\beta$ -lactamase-mediated antibiotic resistance. L. Dabos, R. Bonnin, L. Dortet, T. Naas, B.I. Iorga

**3:55 COMP 583.** *In silico* analysis of Z-77 variants for optimal inhibition of *E. coli* beta-glucuronidase. K.T. Lane, H. Gullickson



**4:20 COMP 584.** 2A but not 2B: Towards structure-based discovery of new Serotonin receptor modulators. **A. Levit, D. Wacker, J.D. McCorvy, B.L. Roth, B. Shoichet**

### Designed Catalysis: Materials Genome Approach to Heterogeneous Processes

### Machine Learning Tools for Catalyst Genome

Sponsored by CATL, Cosponsored by COMP

## ENFL

## Division of Energy and Fuels

**D. J. Heldebrant, Program Chair**

### OTHER SYMPOSIA OF INTEREST:

**Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials** (see CATL, Mon, Tue)

**Chemistry & Physical Chemistry of Thermal Processes for the Circular Carbon Economy** (see CELL, Mon)

**Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis** (see CATL, Mon, Tue, Wed)

**Rising Star Award Symposium** (see WCC, Mon)

**Science for a Sustainable Energy Future: Energy Storage** (see PRES, Mon)

### SOCIAL EVENTS:

**Executive Committee Meeting, 4:00 PM:** Sun

**Dinner, 6:00 PM:** Tue

### BUSINESS MEETINGS:

**Program Meeting, 12:00 PM:** Sun

**Business Meeting & Social, 12:00 PM:** Mon

## SUNDAY MORNING

### Section A

Grand Hyatt San Francisco  
Belvedere

### Advanced Analytical Techniques for Determination of Minor & Trace Elements in Petroleum Value Chain

J. Casey, *Organizer*

J. Nelson, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 ENFL 1.** Recent improvements of the ICP/MS capabilities of the 8800 for the petroleum industry. **L. Charles-Philippe, C. Sanchez Rodriguez, F. Chainet, M. Milland, L. Ayouni, S. Carboneaux, J. Todoli, A. Desprez**

**9:20 ENFL 2.** Determination of trace elements in petroleum feedstocks by ICP-MS: From total content towards their distribution. **F.A. Lopez-Linares, L. Poirier, M.M. Boduszynski, C.E. Rechsteiner, M. Moir, D. Leong, C.F. Ovalles, E. Rogel, J. Nelson**

**9:50 ENFL 3.** Use of GC-ICP-MS for analysis of petroleum and petrochemicals in a service laboratory. **W. Geiger, B. McElmurry, J. Anguiano**

**10:20** Intermission.

**10:40 ENFL 4.** Using the MS/MS capabilities of the Agilent 8900 ICP-QQQ for ultra-trace analysis of elements in the petroleum value chain. **M. Kelinske, J. Nelson**

**50** high to low-abundance minor, trace and ultra-trace elements in crude oils by ICP-OES and QQQ-ICP-MS: New methods of geochemical fingerprinting. **J. Casey, Y. Gao**

**11:30 ENFL 6.** Simultaneous measurement of twenty-five trace elements in aviation turbine engine and diesel fuels by inductively coupled plasma tandem mass spectrometry. **G.T. Eldridge, R.K. Larsen, M.E. Peretich, R.P. Shah, A. Metz**

**11:55 ENFL 7.** Measurement of copper in aviation turbine engine fuel by inductively coupled plasma tandem mass spectrometry and comparison to graphite furnace atomic absorption spectrometry. **A. Metz, R.K. Larsen, M.E. Peretich, G.T. Eldridge**

### Section B

Grand Hyatt San Francisco  
Filmore C

### C1 Catalysis

Cosponsored by CATL

K. Ding, N. Kumar, *Organizers*

J. J. Spivey, *Organizer, Presiding*

K. Ding, *Presiding*

**8:30** Introductory Remarks.

**8:35 ENFL 8.** Strategies to selectively oxidize methane to methanol. **J.A. Lercher**

**9:15 ENFL 9.** Nature of active sites and mechanism of selective methane oxidation by Cu and Fe-modified zeolite catalysts. **A. Szczeniowski, G. Li, J. Gascon, E. Hensen, E. Pidko**

**9:35 ENFL 10.** Copper oxide clusters as active catalytic sites of Cu/MOR zeolite for methane to methanol conversion: Size matters? **D. Palagin, A.J. Knorpp, A.B. Pinar, M. Ranocchiaro, J.A. van Bokhoven**

**9:55 ENFL 11.** Defining the active sites of low-temperature methane hydroxylation in iron and copper zeolites. **B.E. Snyder, P. Vanelderen, J. Woertink, B.F. Sels, R.A. Schoonheydt, E.I. Solomon**

**10:15** Intermission.

**10:30 ENFL 12.** Biological methane oxidation. **A.C. Rosenzweig**

**11:10 ENFL 13.** Chemical transformation of shale gas components under mild conditions in liquid. **F. Tao**

**11:40 ENFL 14.** Direct conversion of methane to methanol and ethanol. **C. Okolie, Y. Belhseine, L. Kovarik, E. Stavitski, C. Sievers**

### Section C

Grand Hyatt San Francisco  
Orpheum

### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Cosponsored by CATL, MPPG<sup>†</sup> and PMSE

Y. H. Hu, R. T. Koodali, H. Wang, *Organizers*

Y. Li, Y. Ng, *Presiding*

**8:30** Introductory Remarks.

**8:35 ENFL 15.** Acid treatment enables suppression of electron-hole recombination in hematite for photoelectrochemical water splitting. **Y. Li**

**9:15 ENFL 16.** Nanostructured hybrid electrodes for photoelectrochemical CO<sub>2</sub> conversion: Synthetic aspects and structure-property relationships. **E. Kecsényi, A. Kormanyos, B. Endrodi, C. Janaky**

**9:45 ENFL 17.** Vitamin C as a surface modifier for solar hydrogen production. **T. Dramstad, D. Harts, B. Selvaratnam, R.T. Koodali**

**10:05** Intermission.

**10:15 ENFL 18.** Bismuth-based ternary oxide for photocatalytic and photoelectrochemical water splitting. **Y. Ng**

**10:55 ENFL 19.** Engineering nanomaterials for energy conversion. **X. Zheng**

**11:25 ENFL 20.** Structure and properties of hydrothermally prepared MoS<sub>2</sub> thin films on gold substrate. **A.S. Ichimura, R. Stadia, J. Macias, B. Gunn, A. Newaz, C. Tassone**

**11:55 ENFL 21.** Photoelectrocatalytic reduction of CO<sub>2</sub> on organic/inorganic nanocomposite photoelectrodes. **A. Kormanyos, D. Hursan, K. Rajeshwar, C. Janaky**

**12:15** Concluding Remarks.

### Section D

Grand Hyatt San Francisco  
Curran

### Catalysis for Unconventional Energy Sources

Cosponsored by CATL and MPPG<sup>†</sup>

X. Wang, *Organizer*

Y. H. Hu, *Organizer, Presiding*

F. Li, *Presiding*

**8:30** Introductory Remarks.

**8:35 ENFL 22.** Thermochemical studies of catalyst stability and function. **A. Navrotsky**

**9:15 ENFL 23.** Mn-containing mixed metal oxides for chemical looping oxidative dehydrogenation of ethane. **F. Li**

**9:45 ENFL 24.** Sustainable production of bio-based alcohols, esters, aromatics and polyols from lignin: The art of the right catalyst. **Y. Li, R. Ma, X. Ma**

**10:15** Intermission.

**10:30 ENFL 25.** Visible light photocatalytic production of H<sub>2</sub>. **Y.H. Hu**

**11:10 ENFL 26.** Catalyzing energy storage for optimum use of intermittent renewable energy resources. **M. Isaacson**

**11:50 ENFL 27.** Light absorbers, interfaces, and catalysts for solar-to-fuel conversion: First-principles calculations. **Y. Ping**

**12:20** Concluding Remarks.

### Section E

Grand Hyatt San Francisco  
Sequoia

### Subsurface Technologies for Recovery of Fossil & Geothermal Energy

Cosponsored by CATL and GEOC

C. Fernandez, M. A. Reynolds, *Organizers*

C. Fernandez, *Presiding*

**8:30** Introductory Remarks.

**8:35 ENFL 28.** Results from Newberry volcano EGS demonstration, 2010-2015. **T. Cladouhos, S. Petty, M.W. Swyer, M. Uddenberg, K. Grasso, Y. Nordin**

**9:10 ENFL 29.** TOGA: Compositional simulation of three-phase, multi-component, and non-isothermal processes for carbon dioxide utilization and storage in partially depleted oil and gas reservoirs. **C. Oldenburg, L. Pan**

**9:35 ENFL 30.** Experiments, simulations, and reduced physics modeling for risk assessment of well integrity at CO<sub>2</sub> storage sites. **N. Huerta, J. Iyer, V. Vasylykivska, S.A. Carroll, W.L. Du Frane, B. Kutcho, L. Li, H. Mason, P. Roy, S.D. Walsh**

**10:00 ENFL 31.** Development of an electrochemical sensor for downhole tracer and pH measurements in real-time. **R.F. Hess, B. Klammer, L. Goldfarb, W.C. Corbin, T.J. Boyle, W.G. Yelton, A.T. Cashion**

**10:25** Intermission.

**10:30 ENFL 32.** Caustic-cracking likely cause of failure in geothermal production casing – well redesign and cementing changes key to replacement well success. **D. Bour, M. Gao, R. Krishnamurthy, R. Rudolf, R. Hausler**

**11:05 ENFL 33.** Made-to-order metal-organic frameworks for gas capture and storage. **M. Eddaoudi, D. Alezi, Y. Belmabkhout**

**11:30 ENFL 34.** Self-healing polymer-cement composites for geothermal wells and their properties. **M. Childers, K.A. Rod, M.T. Nguyen, M. Elbakshwan, S. Gill, W. Um, J. Chun, V. Glezakou, T.J. Roessendaal, T. Wietsma, P.K. Koech, N. Huerta, B. Kutcho, C. Fernandez**

**11:55 ENFL 35.** Microbial consortia encapsulated with ultralight kaolinite proppant for in-situ microbially enhanced methane recovery. **K. Han, J. Fierrez, A. Szendrei, V. Nguyen, J. McLennan, T.D. Sparks**

**12:20** Concluding Remarks.

### Section F

Grand Hyatt San Francisco  
Cypress

### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

Cosponsored by CATL, COMP, GEOC and MPPG<sup>†</sup>

V. Glezakou, R. Rousseau, *Organizers*

S. Raugai, *Presiding*

**8:30 ENFL 36.** Reaction dynamics of CO<sub>2</sub> in amine solutions from DFT-based simulations. **W. Andreoni, C. Ma, F. Pietrucci**

**9:15 ENFL 37.** Understanding the structure and dynamics of CO<sub>2</sub>-reactive aprotic heterocyclic anion ionic liquids: A molecular simulation study. **E. Maginn, Q. Sheridan, W.F. Schneider**

**10:00** Intermission.

**10:30 ENFL 38.** March toward task-specific CO<sub>2</sub> capture solvents. **V. Glezakou, R. Rousseau, D.C. Cantu, D. Malhotra, D.J. Heldebrant, P.K. Koech**

**11:05 ENFL 39.** Polymorphic transitions of CO<sub>2</sub> molecular crystals: Thermodynamics, kinetics and confinement effects. **I. Gimondi, M. Salvalaglio**

### Cellulose Structure & Biosynthesis in the Plant Cell Wall

Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL

### Electrocatalysis for Energy Generation & Storage

**Oxygen Reduction***Sponsored by CATL, Cosponsored by ENFL***SUNDAY AFTERNOON****Section A**Grand Hyatt San Francisco  
Belvedere**Advanced Analytical Techniques for Determination of Minor & Trace Elements in Petroleum Value Chain**J. Casey, *Organizer*J. Nelson, *Organizer, Presiding*

1:30 Introductory Remarks.

**1:35 ENFL 40.** Comparison of existing methods for analysis of finished biofuels using Microwave Plasma Atomic Emission Spectroscopy (MP-AES) - moving the biofuels industry forward. **T. Alleman, G. Gilleland****2:00 ENFL 41.** Multi-elemental determination of petroleum products using the Agilent 5110 ICP-OES. **E. Kulikov, N. Divodolich, P. Lowenstern****2:25 ENFL 42.** Elemental analysis of asphaltene by tandem LIBS- LA-ICP-OES. **F.A. Lopez-Linares, J. Gonzalez, J.R. Chirinos, D. Oropeza, D. Quarles, C. Ovalles, E. Rogel, R.E. Russo****2:50 ENFL 43.** Determination of total chloride in petroleum crude samples by Combustion Ion Chromatography (CIC). **M. Dutta, A. Pathiparampil, S.H. Roby, F.A. Lopez-Linares****Section B**Grand Hyatt San Francisco  
Filmore C**C1 Catalysis***Cosponsored by CATL*K. Ding, J. J. Spivey, *Organizers*N. Kumar, *Organizer, Presiding*K. Ding, *Presiding***1:30 ENFL 44.** Methane activation by oxide catalysts: The role of coadsorption. **H. Metiu, S. Chretien, H.H. Kristoffersen****2:10 ENFL 45.** *In-situ* studies of Ni-Ce-O catalysts for the reforming of methane: Insights from TR-XRD, XANES, and NAP-XPS. **J. Rodriguez, Z. Liu, S.D. Senanayake, D. Grinter****2:50 ENFL 46.** Au@PdO<sub>2</sub> with PdO<sub>2</sub>-rich shell and Au-rich core embedded in Co<sub>3</sub>O<sub>4</sub> nanorods for catalytic oxidation of methane. **Y. Zhu**

3:10 Intermission.

**3:25 ENFL 47.** Oxidative coupling of methane on Na<sub>2</sub>WO<sub>4</sub>/Mn/SiO<sub>2</sub> catalyst: Mechanistic studies and a new reactor concept. **R. Schomaecker****4:05 ENFL 48.** Theoretical study on oxidative coupling of methane using MgO. **H. Aljama, J.K. Norskov, F. Abild-Pedersen****4:25 ENFL 49.** Oxidative coupling of methane over tungsten-based nanomaterials. **W. Liu, W. Falston, G. Melaet, G.A. Somorjai****4:45 ENFL 50.** Pulsed regeneration of Mo/HZSM-5 methane dehydroaromatization catalysts. **E. Hensen, N. Koshinov****Section C**Grand Hyatt San Francisco  
Orpheum**Advanced Materials & Technologies for Solar Energy Conversion & Storage***Cosponsored by CATL, MPPG<sup>†</sup> and PMSE*Y. H. Hu, R. T. Koodali, H. Wang, *Organizers*Y. Ng, N. Wu, *Presiding*

1:30 Introductory Remarks.

**1:35 ENFL 51.** Tuning charge separation and migration in semiconductors for solar energy conversion. **N. Wu****2:15 ENFL 52.** Nanostructured carbon based materials for photocatalytically reduce carbon dioxide to fuels. **H. Li****2:35 ENFL 53.** Withdrawn.**2:55 ENFL 54.** Finite temperature modeling of metal oxides for solar thermochemical water splitting. **S. Miller, K. Sun, A.W. Weimer, C. Musgrave**

3:15 Intermission.

**3:25 ENFL 55.** Multicomponent transport in membranes for solar fuels devices. **D. Miller, B. Beckingham****3:45 ENFL 56.** Phase-pure and photoactive scheelite from atomic layer deposition. **M. Stefik****4:05 ENFL 57.** Reinforced perovskite solar cells designed with integrated polymer scaffolding for robust, efficient photovoltaics. **A. Printz, N. Rolston, B. Watson, R. Dauskardt****4:25 ENFL 58.** Empirical extraction of the spatial collection efficiency of photovoltaic and photoelectrochemical devices. **G. Segev, H. Dotan, D. Klotz, D. Grave, Y. Levy, B. Stannowski, A. Rothschild****4:45 ENFL 59.** Photothermal-enhanced catalysis in core-shell plasmonic hierarchical Cu<sub>2</sub>S<sub>3</sub> microsphere@zeolitic imidazole framework-8. **F. Wang, Y. Huang, Q. Li, Y. Wang, D. Xu****5:05 ENFL 60.** Photoelectrochemical properties and behavior of  $\alpha$ -SnWO<sub>3</sub> photoanodes synthesized by hydrothermal conversion of WO<sub>3</sub> films. **Z. Zhu, P. Sarker, C. Zhao, L. Zhou, R. Grimm, M. Huda, P. Rao**

5:25 Concluding Remarks.

**Section D**Grand Hyatt San Francisco  
Curran**Catalysis for Unconventional Energy Sources***Cosponsored by CATL and MPPG<sup>†</sup>*Y. H. Hu, X. Wang, *Organizers*M. Fan, X. Fan, *Presiding*

1:30 Introductory Remarks.

**1:35 ENFL 61.** Catalyst design for liquid fuels from lignin: Hydrogenolysis without hydrogenation. **S.L. Scott, Z.R. Jones, A. Chamas, L. Qi, M.B. Foston****2:15 ENFL 62.** Non-conventional: Catalytic upgrading of biomass pyrolysis vapour enabled by non-conventional energy (microwave). **X. Fan****2:45 ENFL 63.** Strategies of removing surface states from photoanodes. **Y. Li, X. Yun, H. Chen, Y. Li****3:15 ENFL 64.** High-yield synthesis of Pt-based two-dimensional nanoplates for methanol electro-oxidation reaction. **L. Chen, Q. Zhang**

3:35 Intermission.

**3:50 ENFL 65.** New approach to reduction in CO<sub>2</sub> capture cost. **M. Fan, M.A. Assiri, S. Toan, Q. Lai, A.G. Russell****4:30 ENFL 66.** Synthesis and characterization of high density multicyclic fuels based on sesquiterpanes and alkyl diamondoids. **B.G. Harvey, K.W. Harrison, M.C. Davis, W.W. Merriman**

5:00 Concluding Remarks.

**Section E**Grand Hyatt San Francisco  
Sequoia**Innovative Chemistry & Materials for Electrochemical Energy Storage****Cathode Materials***Cosponsored by MPPG<sup>†</sup> and PMSE*J. Guo, E. Pomerantseva, *Organizers*Y. Mo, *Organizer, Presiding*

1:30 Introductory Remarks.

**1:35 ENFL 67.** Combining reversible oxygen charge transfer and Li-excess to achieve high capacity cathodes. **G. Ceder****2:05 ENFL 68.** Conversion cathodes for next-generation Li and Li-ion batteries. **E. Zhao, F. Wu, J. Lee, H. Kim, W. Gu, G. Yushin****2:35 ENFL 69.** Withdrawn.**2:55 ENFL 70.** Cu(bpy)V<sub>4</sub>O<sub>10</sub>: A 3D metal-organic framework as a cathode material for Li-ion batteries. **H. Zhou, T. Young, S. Ang, T. Froedge, B. Yan**

3:15 Intermission.

**3:25 ENFL 71.** In situ TEM studies of electrochemistry at nanoscales. **R. Shahbazian Yassar****3:55 ENFL 72.** Sodium-ion Batteries (SIB): Battery systems poised for grid storage. **C.S. Johnson, E. Lee****4:25 ENFL 73.** Withdrawn.**4:55 ENFL 74.** Li-O<sub>2</sub> batteries based on oxyhalogen-sulfur chemistry. **X. Wang, S. Meng****Section F**Grand Hyatt San Francisco  
Cypress**Computations for CO<sub>2</sub> Capture, Conversion & Sequestration***Cosponsored by CATL, COMP, GEOC and MPPG<sup>†</sup>*V. Glezakou, R. Rousseau, *Organizers*C. Skylaris, *Presiding***1:30 ENFL 75.** Aminasilicone CO<sub>2</sub> capture solvents. **R.J. Perry****2:15 ENFL 76.** Dual nature of extended solvent structure in CO<sub>2</sub>-binding organic liquids: Thermodynamic vs kinetic stability. **D.J. Heldebrant, D. Cantu, D. Malhotra, V. Glezakou, R. Rousseau, P.K. Koehn****2:50 ENFL 77.** Energetically efficient non-aqueous amine-based solvents as carbon dioxide capture material. **D. Malhotra, P.K. Koehn, D.J. Heldebrant, V. Glezakou, D.C. Cantu, R. Rousseau, F. Zheng, M. Bearden****3:15 ENFL 78.** Computational aided design and synthesis of advanced carbon capture solvents. **J. Page, D. Malhotra, D.C. Cantu, P.K. Koehn, V. Glezakou, R. Rousseau, D.J. Heldebrant**

3:40 Intermission.

**4:00 ENFL 79.** CO<sub>2</sub> interactions for capture, conversion, or sequestration: From proteins and metal organic frameworks to scrubbers and beyond. **A.K. Wilson****4:35 ENFL 80.** Weak interactions of CO<sub>2</sub> with functional groups of porous materials: Computational studies with correlated methods. **K.D. Vogiatzis****5:05 ENFL 81.** New advances in carbon dioxide capture using diamine-appended metal-organic frameworks. **P.J. Milner, J.R. Long****Hollyweird Chemistry***Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC***Cellulose Structure & Biosynthesis****Evolution of Synthases & Fine Structure of Microfibrils***Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL***Electrocatalysis for Energy Generation & Storage****CO<sub>2</sub> Reduction***Sponsored by CATL, Cosponsored by ENFL***MONDAY MORNING****Section A**Grand Hyatt San Francisco  
Belvedere**Advances in Chemistry of Energy & Fuels****Separations**D. J. Heldebrant, *Organizer, Presiding*

8:30 Introductory Remarks.

**8:35 ENFL 82.** Controlling cooperative CO<sub>2</sub> adsorption in diamine-appended Mg<sub>2</sub>(dobpdc) metal-organic frameworks. **R.L. Siegelman, T. McDonald, M.I. Gonzalez, J. Martell, P.J. Milner, J.A. Mason, J.R. Long****8:55 ENFL 83.** Polyphosphazene based membranes for gas separations. **H.B. Nulwala, Z. Li, D. Luebke, H. Alilcock****9:15 ENFL 84.** Synthesis of a novel monolith combined activated carbon and zeolite-NaUSY for CO<sub>2</sub> capture by Electric Swing Adsorption (ESA). **Q. Zhao, F. Wu, P. Webley****9:35 ENFL 85.** DFT studies of CO<sub>2</sub> reduction pathways on Cu-based electrodes. **A.R. Asthagiri****9:55 ENFL 86.** Fabrication of zeolite membranes for propylene/propane separation. **S. Shrestha, P.K. Dutta****10:15 ENFL 87.** Catalytic removal of eibenzothiophene using CoMoS<sub>2</sub> synthesized using elemental sulfur. **J.G. Parsons, J.S. Sollner, D.F. Gonzalez, J.H. Leal, T.M. Eubanks****10:35 ENFL 88.** Hydrate formation in microcapsules for temperature-sensitive release of encapsulants. **Y. Seo, J. Park, S. Kim, S. Lee**<sup>†</sup>Cooperative Cosponsorship

**10:55 ENFL 89.** Dynamic windows based on reversible metal electrodeposition with fast switching, neutral color, and excellent durability. **C. Barile**, T.S. Hernandez, M.T. Strand, D.J. Slotcavage, M.D. McGehee

**11:15** Concluding Remarks.

## Section B

Grand Hyatt San Francisco  
Filmore C

### C1 Catalysis

*Cosponsored by CATL*

K. Ding, J. J. Spivey, *Organizers*

N. Kumar, *Organizer, Presiding*

K. Ding, *Presiding*

**8:30 ENFL 90.** Unexpected C1 catalysis. **P.C. Stair**

**9:10 ENFL 91.** Understanding the role of interfaces in gold nanocluster catalysis through gas phase CO oxidation. **Z. Wu**

**9:40 ENFL 92.** Synergy and anti-synergy between palladium and gold in nano-particles dispersed on a reducible support. **J. Carter**, S. Althabhan, E. Nowicka, S. Freakley, D. Morgan, P. Shah, S. Golunski, C.J. Kiely, G. Hutchings

**10:00 ENFL 93.** Role of water in CO oxidation and PROx over Au catalysts: Developments in hydrogen purification from methane. **B.D. Chandler**, J. Saavedra, T. Whittaker, C. Pursell

**10:20** Intermission.

**10:30 ENFL 94.** Methanol to gasoline transformation study over modified zeolite. **E. Sulman**, V. Doluda, N. Lakina, M. Sulman

**10:50 ENFL 95.** Promotion mechanisms of iron oxide-based high temperature water-gas shift catalysts by chromium and copper. **M. Zhu**, T. Rocha, T. Lunkenbein, R. Schloegl, A. Knop-Gericke, **I.E. Wachs**

**11:30 ENFL 96.** Conversion of methanol on zeolites containing transition metals. **E.P. Schreiner**, R.F. Lobo

**11:50 ENFL 97.** Mechanistic understanding of H-MOR with enhanced stability for carbonylation of dimethyl ether. **Y. Li**, S. Huang, X. Ma

**12:10 ENFL 98.** Impact of copper oxidation states on the reactivity in partial oxidation of methanol. **H. Chi**, C.M. Andolina, J. Li, G. Zhou, G. Vesper, J. Yang

## Section C

Grand Hyatt San Francisco  
Orpheum

### Advanced Materials & Technologies for Solar Energy Conversion & Storage

*Cosponsored by CATL, MPPG<sup>+</sup> and PMSE*

R. T. Koodali, H. Wang, *Organizers*

Y. H. Hu, *Organizer, Presiding*

G. Cao, *Presiding*

**8:30** Introductory Remarks.

**8:35 ENFL 99.** Control and understand the impacts of nano and microstructures on perovskite solar cell performance. **G. Cao**

**9:15 ENFL 100.** Aliphatically linked conjugated small molecules for crystal structure engineering and stability enhancement in organic solar cell. **X. Jeanbourquin**, A. Gasperini, A. Rahmanudin, K.A. Sivula

**9:35 ENFL 101.** Assessing the use of polymer/ceramic composites as a hybrid material for supercapacitor separator. **E.O. Ortiz-Quiles**, C.O. Alvarez-Sanchez, J. Lasalde-Ramirez, R. Masso-Ferret, E. Nicolau

**9:55** Intermission.

**10:10 ENFL 102.** Novel carbon nanomaterials for 3<sup>rd</sup> generation solar cells. **Y.H. Hu**

**10:50 ENFL 103.** Small Urbach energies in CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3-x</sub>Br<sub>x</sub> perovskites that remain constant under degradation. **C.M. Sutter-Fella**, D. Miller, Q. Ngo, E. Roe, F. Toma, I. Sharp, M. Loneragan, A. Javey

**11:10 ENFL 104.** Single walled carbon nanotubes in TiO<sub>2</sub> nanofiber photoelectrodes for high performance perovskite and dye-sensitized solar cells. **T.J. Macdonald**, M. Batmunkh, J. Shapter, T. Nann, I.P. Parkin

**11:30 ENFL 105.** Silicon nanowires for solar-to-fuel conversion. **Y. Su**, C. Liu, S. Brittan, J. Tang, A. Fu, N. Kornienko, Q. Kong, H. Zhang, P. Yang

**11:50** Concluding Remarks.

## Section D

Grand Hyatt San Francisco  
Curran

### Catalysis for Unconventional Energy Sources

*Cosponsored by CATL and MPPG<sup>+</sup>*

Y. H. Hu, X. Wang, *Organizers*

S. Chen, X. Fan, *Presiding*

**8:30** Introductory Remarks.

**8:35 ENFL 106.** Reductive disassembly of lignin to fuels and chemicals with porous metal oxide catalysts. **P.C. Ford**, J.A. Barrett, C.M. Berni, M.A. Chui

**9:15 ENFL 107.** Why use sugars to make renewable fuels and materials when the CMF and levulinic acid platforms are one step from raw biomass? **M. Mascal**

**9:55 ENFL 108.** Performance of mesoporous alumina supported iron catalyst on Fischer-Tropsch synthesis: Effect of CO<sub>2</sub> and CH<sub>4</sub> content in syngas. **S. Badoga**, A.K. Dalai

**10:15** Intermission.

**10:30 ENFL 109.** Structural engineering of functional nanomaterials for effective electrocatalytic reduction of oxygen. **S. Chen**

**11:10 ENFL 110.** Understanding and promoting methane activation using nanocrystal catalysts. **M. Cargnello**, E.D. Goodman, J.H. Maalouf, V.V. Miller, A.R. Riscoe, J.J. Willis, C. Wrasman, L. Wu, A. Yang

**11:40 ENFL 111.** CO conversion into liquid hydrocarbons using Co-containing catalyst synthesized in subcritical conditions. **E. Sulman**, A. Stepacheva, A. Gavrilenko, M. Markova, V. Molchanov, M. Sulman

**12:00** Concluding Remarks.

## Section E

Grand Hyatt San Francisco  
Sequoia

### Innovative Chemistry & Materials for Electrochemical Energy Storage

#### Flow Batteries & Organic Electrodes

*Cosponsored by MPPG<sup>+</sup> and PMSE*

J. Guo, E. Pomerantseva, *Organizers*

Y. Mo, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 ENFL 112.** Lithium redox flow battery as an emerging technology for large-scale energy storage. **G. Yu**

**9:05 ENFL 113.** Asymmetric sulfonated Diels-Alder poly(phenylene)s: Effect of membrane morphology on vanadium redox flow battery performance. **T.D. Largier**, C.J. Cornelius

**9:25 ENFL 114.** Manipulate the chemical composition and substrate nature to push the cycling stability limit of polypyrrole. **T. Liu**, Y. Song, Y. Li, X. Liu

**9:45 ENFL 115.** Reaction mechanism of Sb-based negative electrode materials for Na batteries investigated by operando x-ray absorption spectroscopy: What can we really learn? **L. Stievano**, A. Darwiche, M. Sougrati, C. La Fontaine, L. Monconduit

**10:05** Intermission.

**10:15 ENFL 116.** Selective block polysulfone anion exchange membranes: Electro-transport characterization and performance in vanadium redox flow batteries. **T.D. Largier**, W. Khan, C.J. Cornelius

**10:35 ENFL 117.** Sulfur polymers for stable lithium-sulfur batteries. **M. Preefer**, B. Oschmann, R. Seshadri

**10:55 ENFL 118.** Organic materials for energy storage: Exploiting steric strain to tune oxidation potentials. **A. Prins**, N.J. Mortimer, D.R. Henton, A. Dumitrascu, T.F. Guarr

**11:15 ENFL 119.** Unraveling charge storage in organic radical polymers for battery electrodes. **J.L. Lutkenhaus**, F. Li, S. Wang

**11:35 ENFL 120.** Electrochemical swing process for carbon capture using a polymer-based battery. **S. Voskian**, T. Hatton

## Section F

Grand Hyatt San Francisco  
Cypress

### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

*Cosponsored by CATL, COMP, GEOC and MPPG<sup>+</sup>*

V. Glezakou, R. Rousseau, *Organizers*

M. Salvalaglio, *Presiding*

**8:30 ENFL 121.** Fate of dissolved carbon dioxide in water under extreme conditions. **G.A. Galli**

**9:15 ENFL 122.** Polymeric carbon dioxide at high pressures. **S. Scandolo**

**9:50 ENFL 123.** Molecular simulations of the reactivity of H<sub>2</sub>O-bearing supercritical CO<sub>2</sub> fluids with silicate minerals. **S.N. Kerisit**, E.J. Bylaska, A.R. Felmy, T. Schaefer, J. Loring

**10:25** Intermission.

**10:45 ENFL 124.** Multiscale simulation approaches in the ONETEP linear-scaling DFT program. **C. Skylaris**

**11:20 ENFL 125.** Molecular dynamics and possible catalytic chemistry by molten metals or salts. **H. Metiu**, E.W. McFarland, M.J. Gordon, V. Agarwal, D.C. Upham, H.H. Kristoffersen

## Science for a Sustainable Energy Future

### Energy Storage

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVF, GEOC, I&EC, MEDI, MPPG<sup>+</sup>, ORGN and PROF*

### Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

### Cellulose Structure & Biosynthesis

#### Mechanism of Synthesis

*Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL*

### Electrocatalysis for Energy Generation & Storage

#### Oxygen Evolution

*Sponsored by CATL, Cosponsored by ENFL*

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

### Chemistry & Physical Chemistry of Thermal Processes for the Circular Carbon Economy

*Sponsored by CELL, Cosponsored by ENFL and ENVF*

## MONDAY AFTERNOON

## Section A

Grand Hyatt San Francisco  
Belvedere

### Advances in Chemistry of Energy & Fuels

#### Chemical Looping, Cracking & Gasification

D. J. Heldebrant, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 126.** Investigation of unique phase formation for trimetallic copper iron manganese oxygen carrier. **W. Benincosa**, R.V. Siritwardane, H. Tian, J. Riley

**1:55 ENFL 127.** Investigation on the reducibility and regenerability of ferrites as oxygen carrier. **Y. Cao**

**2:15 ENFL 128.** Reactivity and recyclability of Cu-based oxygen carrier in solid fuels Chemical Looping with Oxygen Uncoupling (CLOU). **P. Wang**, B.H. Howard, N. Means, D. Shekhwat, D. Berry

**2:35 ENFL 129.** Kinetic analysis of the interactions between calcium ferrite and coal char for chemical looping gasification applications: Identifying reduction routes and modes of oxygen transfer. **J. Riley**, R.V. Siritwardane, H. Tian, W. Benincosa

**2:55** Intermission.

**3:00 ENFL 130.** Behavior and catalytic effects of alkaline metals during co-gasification of coal and biomass. **X. Ran**, J. Feng, **W. Li**



**3:20 ENFL 131.** Exploration on the mechanism of deacidification during catalytic cracking of high acidic crude. X. Wei, A. Mao

**3:40 ENFL 132.** Design and synthesis of Vanadium-Titanium-incorporated Mesoporous Silica (VTI/MCF) catalysts for the oxidative dehydrogenation of propane to propylene. Z. Xie, Z. Zhao

**4:00** Concluding Remarks.

## Section B

Grand Hyatt San Francisco  
Filmore C

### C1 Catalysis

*Cosponsored by CATL*

K. Ding, *Organizer*

N. Kumar, J. J. Spivey, *Organizers, Presiding*

**1:30 ENFL 133.** Natural gas conversion to higher-value products: Challenges and opportunities. J.J. Spivey, Z. Wang, S. Kanitkar, N. Kumar, D. Berry, D. Shekawat, D. Haynes

**2:10 ENFL 134.** Co<sub>2</sub>C nanostructures with facet effect for Fischer-Tropsch to olefins. F. Yu, Y. An, Z. Li, L. Zhong, Y. Sun

**2:30 ENFL 135.** Metal organic framework-mediated synthesis of cobalt catalysts for higher oxygenates synthesis. Z. Wang, G. Laddha, S. Kanitkar, J.J. Spivey

**2:50 ENFL 136.** Elucidating the nature of Fe species during pyrolysis of the Fe-BTC MOF into highly active and stable Fischer-Tropsch catalysts. T. Wezendonk, M. Makkee, F. Kapteijn, J. Gascon

**3:10** Intermission.

**3:25 ENFL 137.** Selective formation of long-chain hydrocarbons from CO<sub>2</sub> hydrogenation over TiO<sub>2</sub> supported Co-Cu-K catalysts. Z. Shi, P. Gao, S. Dang, L. Zhong, H. Wang, Y. Sun

**3:45 ENFL 138.** CO<sub>2</sub> electrocatalytic and photoelectrocatalytic conversion for oxygenate synthesis. W. Chen, X. Bai, R. Ge, W. Wei, Y. Sun

**4:05 ENFL 139.** Electronic structure tuned electrochemical CO<sub>2</sub> reduction on silver-based electrodes. Z. Wang, J. Zhou

**4:25 ENFL 140.** CO<sub>2</sub>-utilized chemical looping reforming with phase transition of Fe<sub>3</sub>O<sub>4</sub>-NiO to NiFe<sub>2</sub>O<sub>4</sub> in perovskite catalysts. J.W. Lee, D. Kang, H. Lim

**4:45** Concluding Remarks.

## Section C

Grand Hyatt San Francisco  
Orpheum

### Advanced Materials & Technologies for Solar Energy Conversion & Storage

*Cosponsored by CATL, MPPG<sup>‡</sup> and PMSE*

R. T. Koodali, H. Wang, *Organizers*

Y. H. Hu, *Organizer, Presiding*

J. Z. Zhang, *Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 141.** Origin of instability and surface chemistry approach to stabilization of organ-metal halide perovskites. J.Z. Zhang

**2:15 ENFL 142.** Picosecond light-induced rotational disordering in the hybrid perovskites. A. Lindenberg

**2:45 ENFL 143.** Multiscale patterned photoelectrodes for enhanced light harvesting in mesoscopic solar cells. J. Kang, S. Jang, Y. Son, A. Lim, J. Kim, J. Jeong, M. Choi, Y. Sung

**3:05 ENFL 144.** Phase change capsule with water-absorbable polymeric shell for thermal energy storage and delivery. T. Do, Y. Ko, U. Choi

**3:25** Intermission.

**3:40 ENFL 145.** Overcoming the mechanical fragility of perovskite solar cells using novel cross-linking chemical additives and scaffolds. B. Watson, N. Rolston, K. Bush, A. Printz, R. Dauskardt

**4:00 ENFL 146.** Exploring highly efficient hydrogen peroxide generation on reduced graphene oxide electrocatalysts. H. Kim, B.D. McCloskey

**4:20 ENFL 147.** Nanostructured promoted titania photocatalysts for solar fuels. R. Trofimovaite, C.M. Parlett, M. Isaacs, S. Kumar, A.F. Lee

**4:40 ENFL 148.** Hybrid organic-inorganic quantum dot superlattices for photovoltaics. D. Yang, Z. Guan, M. Law, A. Abelson

**5:00 ENFL 149.** Tailored annealing and surface treatment of Bi<sub>2</sub>S<sub>3</sub> thin film to enhance optoelectronic performance. Z. Zhu, S. Iyemperumal, A.D. Carl, L. Zhou, R. Grimm, N.A. Deskins, P. Rao

**5:20** Concluding Remarks.

## Section D

Grand Hyatt San Francisco  
Curran

### ENFL Distinguished Researcher Award: Symposium in honor of Mieczyslaw M. Boduszynski

C. F. Ovalles, *Organizer*

M. M. Boduszynski, M. Moir, *Organizers, Presiding*

C. Ovalles, *Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 150.** Do asphaltenes really exist? M. Moir

**2:05 ENFL 151.** Confirmation of the Boduszynski continuum by high-resolution Fourier transform ion cyclotron resonance mass spectrometry. R.P. Rodgers, Y. Corilo, D.C. Podgorski, S. Rowland, P.M. Lalli, A.C. Clingenpeel, J. Lu, A.G. Marshall

**2:35 ENFL 152.** Equivalent distillation: Examining the properties of non-distillable materials in crude oils. E. Rogel, J. Vien, M. Roye, T. Miao

**3:05** Intermission.

**3:25 ENFL 153.** Compatibility of heavy oils and bitumen. Blending, refining and upgrading. P. Rahimi

**3:55 ENFL 154.** Insights from Dr. M. M. Boduszynski that influenced research on instrumental induced thermal cracking and large paraffins' existence. L.A. Carbognani

**4:25 ENFL 155.** From a dream to a fact: Direct measurement of vanadium and nickel distribution in VGO's. F.A. Lopez-Linares, M.M. Boduszynski, C.E. Rechsteiner, M. Moir, D. Leong, L. Poirier, J. Nelson

**4:55 ENFL 156.** Preparative separation of petroleum residua and asphaltene fractions using inert supports. Mietek's pioneer work. C.F. Ovalles, E. Rogel, M. Moir

**5:25** Concluding Remarks.

## Section E

Grand Hyatt San Francisco  
Sequoia

### Innovative Chemistry & Materials for Electrochemical Energy Storage

#### Capacitors

*Cosponsored by MPPG<sup>‡</sup> and PMSE*

J. Guo, Y. Mo, *Organizers*

E. Pomerantseva, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 157.** Development of pseudocapacitance in oxide materials. B. Dunn

**2:05 ENFL 158.** MnO and MnNCN for Li-ion capacitors. G. Cao

**2:35 ENFL 159.** Understanding supercapacitor by joint density functional theory. C. Zhan, Y. Zhang, P.T. Cummings, D. Jiang

**2:55 ENFL 160.** Highly-integrated and flexible 3D supercapacitors prepared with vertically aligned CNTs and reconfigurable solid state electrolyte films. H. Kim, S. Hong, R. Lavall, Y. Jung

**3:15 ENFL 161.** 3-Dimensional nonwoven and textile substrates associated with iridium oxide nanoparticles for the improvement of specific capacitance. S. McGraw, K. Chow, D. Wickramasinghe, R. Czerw, K. Senecal

**3:35** Intermission.

**3:45 ENFL 162.** Improving the capacitance of graphene aerogel electrodes via a facile ion-intercalation strategy. T. Liu, C. Zhu, M.A. Worsley, Y. Li

**4:05 ENFL 163.** Fabrication of an advanced, high-performance all-solid-state asymmetric supercapacitor with polypyrrole wrapped cobalt vanadium oxide hydrate as positive and graphene nanoplatelets as negative electrode for power device applications. A. Maitra, B.B. Khatua

**4:25 ENFL 164.** Facilitated charge transport in PANI/ $\alpha$ -Ni(OH)<sub>2</sub>/iron oxide doped reduced graphene oxide composite based hybrid pseudocapacitive electrode material for supercapacitor with excellent power characteristics. A.K. Das

**4:45 ENFL 165.** On the double layer capacitance of graphite. H. Liu

**5:05 ENFL 166.** Nickel tungstate nanoparticles decorated reduced graphene oxide nanocomposite as anode material for Li-ion battery. R. Kumar

## Section F

Grand Hyatt San Francisco  
Cypress

### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

*Cosponsored by CATL, COMP, GEOC and MPPG<sup>‡</sup>*

V. Glezakou, R. Rousseau, *Organizers*

S. N. Kerisit, *Presiding*

**1:30 ENFL 167.** Interactions of CO<sub>2</sub> with metal oxide nanoclusters, metal organic frameworks, and clays. L. Flores, K.S. Thanthirivatte, J.G. Murphy, W.B. Copeland, D.A. Dixon

**2:05 ENFL 168.** Computational studies of electrochemical reduction of CO<sub>2</sub> to CO using transition metal dichalcogenide nanoflakes. C. Liu, L.A. Curtiss

**2:30 ENFL 169.** CO<sub>2</sub> activation employing a silylium-phosphine frustrated Lewis pair. P. Hunt

**3:05** Intermission.

**3:25 ENFL 170.** Tuning activity and selectivity toward CO<sub>2</sub> conversion: Going from metal, metal alloy to metal-oxide. S. Kattel, B. Yan, J.G. Chen, J. Rodriguez, P. Liu

**4:00 ENFL 171.** Regulation of the redox properties of tungsten-alkylidyne complexes by ligand design. B. Rudsteyn, H.B. Vibbert, R. May, E. Wasserman, I. Warnke, M.D. Hopkins, V.S. Batista

**4:25 ENFL 172.** Nitrogenase reduction of N<sub>2</sub> and CO<sub>2</sub>. S. Raugel, L.C. Seefeldt, B.M. Hoffman

## Section G

Moscone Center  
Halls B/C

### Advances in Chemistry of Energy & Fuels

D. J. Heldebrandt, S. J. Riley, *Organizers*

**2:00 - 4:00**

**ENFL 173.** Application of the immobilized lipase on graphene oxide/Zn<sub>0.5</sub>Fe<sub>1.5</sub>O<sub>4</sub> composite nanoparticles to produce biodiesel in nonaqueous media. R.K. Sharma, N. Kumar, C.A. O'Neill, K. Gaur, M. Saxena, G. Morell, K. Griebenow

**ENFL 174.** Integrated electrochemical-biological systems for the production of fuels and chemicals from CO<sub>2</sub>. A.D. Antoniak-Pablant, F. Kracke, J. Deutzmann, T.F. Jaramillo, A. Spormann

**ENFL 175.** High performance terpenoid biofuel production by oleaginous yeast *Rhodospiridium toruloides*. X. Zhuang

**ENFL 176.** Production of biodiesel from vegetable oil. V. Martinez, G.C. Peña

**ENFL 177.** Lipid analyses of assembled and naturally occurring algal communities cultivated in agricultural wastewater. A.R. Good, P.K. Thomas, G.P. Dunn, K. Feris, M.P. Callahan

**ENFL 178.** Withdrawn.

**ENFL 179.** Withdrawn.

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<sup>‡</sup> Cooperative Cosponsorship

- ENFL **180.** Simultaneous production of biodiesel and valuable co-products from *in-situ* transesterification of wet microalgae. H. Im, J. Park, B. Kim, J.W. Lee
- ENFL **181.** Tremella-like N,O-codoped hierarchical porous carbon nanosheets derived from cattle bone for fast and stable sodium storage. J. Niu, J. Liang, R. Shao, M. Dou, F. Wang
- ENFL **182.** Analysis of oxygenates in bio-oils. A.B. Padmaperuma, M.V. Orlate, T. Lemmon, M. Swita, S.D. Burton, B.A. Hofstad
- ENFL **183.** Production, blending, and upgrading of advanced renewable fuels for the co-optimization of fuels and engines. E. Monroe, R.W. Davis, A. George, J.M. Gladden
- ENFL **184.** Enhancement of methane production by varying operating conditions in anaerobic digesters fed with cow manure and barley. B. Tütal, Ç. Akyol, O. Ince, E. Ozbayram, P. Kurt Polat, K. Yagdi, B. Ince
- ENFL **185.** Effects of alkylamine electrolyte additives on activity and selectivity in electrochemical carbon dioxide reduction. J. Lin, C. Hahn, T.F. Jaramillo
- ENFL **186.** Mechanism of CO<sub>2</sub> reduction monitored by rapid-scan FT-IR spectroscopy on two different catalysts: Cobalt(II) tetraaza macrocyclic complexes and copper nanoparticles. H. Sheng, H.M. Frei
- ENFL **187.** Effects of the performance of hydrogen selective membrane for CO<sub>2</sub> capture on the techno-economics of integrated gasification combined cycle. G. Lee, J. Park, K. Hwang, J. Park, M. Park
- ENFL **188.** Waste and cost reduction by reprocessing used motor oil into a synthetic diesel fuel. J.K. Shurtleff
- ENFL **189.** High resolution mass spectrometric analysis of crude oil vacuum resid and its chromatographically separated fractions using an orbitrap mass spectrometer. M. Hurt
- ENFL **190.** Perspective of methane hydrate formation kinetics with promoters: A perspective of methane hydrate formation kinetics with promoters. P. Rangsunvigit, A. Siangjai, K. Inkong, S. Kulprathipanja
- ENFL **191.** Study on the origin of corrosive hydrogen chloride in crude oil distillation from the viewpoint of organic chlorides. B. Wu, J. Zhu, R. Ma
- ENFL **192.** Functionalization of asphaltenes by acid treatment. M.N. Siddiqui
- ENFL **193.** Pitch-based nitrogen-doped mesoporous carbon for flue gas desulfurization. X. Song
- ENFL **194.** Influence of ensemble and ligand effects of PdAu catalyst on formic acid dehydrogenation: Experimental and computational studies. C. Yoon, H. Ham
- ENFL **195.** Formic acid dehydrogenation over PdNi alloy catalysts: Experiments and theoretical investigation. C. Yoon, D. Lim, R. Tamarany
- ENFL **196.** Developing catalysts and methods for low temperature electrochemical oxidation of methane. M.J. Boyd, C. Hahn, T.F. Jaramillo
- ENFL **197.** Hydrodesulfurization of dibenzothiophene using lanthanum doped CoMoS<sub>2</sub> catalysts. C. Valdes, D.F. Gonzalez, J.G. Parsons
- ENFL **198.** CeO<sub>2</sub>/graphene and Nb<sub>2</sub>O<sub>5</sub>/graphene supported Pt and PtCo catalysts towards methanol and ethanol oxidation and oxygen reduction reactions. V. Kepeniene, L. Tamasauskaitė Tamasiunaite, A. Selskis, E. Norkus
- ENFL **199.** Gas agents effect of co-gasification of coal and biomass on alkali metal migration and its catalytic performance. L. Wang, J. Feng, W. Li
- ENFL **200.** Catalytic methane decomposition and oxidative regeneration by CO<sub>2</sub> over nickel-carbon core-shell catalyst. J.W. Lee, D. Kang, H. Lim
- ENFL **201.** Structural and elemental influence of various MOFs on the performance of Fe@C catalysts for Fischer-Tropsch synthesis. T. Wezendonk, M. Makkee, F. Kapteijn, J. Gascon
- ENFL **202.** High-performance hydrogen evolution from MoS<sub>2</sub><sub>(21-3)</sub> P<sub>x</sub> solid solution. R. Ye, Y. Liu, M.J. Yacaman, B.I. Yakobson, J.M. Tour
- ENFL **203.** Adsorption and dehydrogenation of ethane, propane and butane on Rh<sub>13</sub> clusters supported on unzipped graphene oxide and TiO<sub>2</sub>(110): A DFT study. C. Chang, M. Tsai
- ENFL **204.** Synthesis of mesoporous silica-supported and size-constrained bismuth vanadate for photocatalytic oxygen evolution and environmental remediation applications. D. Harts
- ENFL **205.** Earth-abundant nickel-iron hybrid catalysts for solar fuels production. B. Weintraub
- ENFL **206.** Activation and stabilization of copper chalcopyrite light absorbers for photoelectrochemical hydrogen production. D. Palm, T. Hellstern, A. DeAngelis, N. Gaillard, T.F. Jaramillo
- ENFL **207.** Polyvinyl chloride and cubic ZnSnO<sub>3</sub> nanoparticles based nanocomposite as high output power and durable piezoelectric nanogenerator. S. Paria
- ENFL **208.** Vanadium-doped zinc oxide nanosheets-polymer composite for piezoelectric energy harvesting. J. Nah, S. Shin, Y. Kwon, M. Lee
- ENFL **209.** Synthesis and application of freestanding 3D Fe-coordinated nitrogen doped carbon for energy storage and Oxygen Reduction Reaction (ORR) using iron doped poly(1,8-diaminonaphthalene) precursor. C. Ortuno-Quintana, K. Ramirez, J. Lu
- ENFL **210.** Electrochemical behavior of shape controlled Pt-Rh nanoparticles for ammonia oxidation in alkaline medium for direct alkaline fuel cell application. R.A. Martinez-Rodriguez, F.J. Vidal-Iglesias, J. Solla-Gullón, C.R. Cabrera, J.M. Feliu
- ENFL **211.** Withdrawn.
- ENFL **212.** Desymmetrized bay-annulated indigo donor-acceptor materials: Methodology, self-assembly, and use in organic electronics. M. Kolaczowski, B. He, M. Roders, A. Ayzner, Y. Liu
- ENFL **213.** Highly efficient radial-junction microwire solar cells by acid based doping process. I. Hwang, K. Seo
- ENFL **214.** Fabrication of ceramic selective emitter for a thermophotovoltaic system with enhanced efficiency. K. Park, J. Kim, D. Kim, Y. Kim
- ENFL **215.** Organic photovoltaic properties of 6-(2-thienyl)-4H-thieno[3,2-b]indole based conjugated polymers containing fluorinated benzothiadiazole. A. Yi, S. Chae, I. Jeong, J. Kim, H. Suh, H. Kim
- ENFL **216.** Nanostructured tungsten carbide for Pt-free counter electrode of dye-sensitized solar cells. J. Kim, J. Kang, M. Lee, Y. Son, J. Jeong, A. Lim, H. Park, Y. Sung
- ENFL **217.** Fabrication of cobalt oxides embedded carbon nanofibers for high performance energy storage devices. C. Ranaweera, C. Zhang, S. Bhoyate, A. Jimenez, P.K. Kahol, R. Gupta
- ENFL **218.** Improving performance of 2-cyanoethyltrimethoxysilane (CNETMS)-based capacitors through the incorporation of charge blocking layers. Y. Park, M. Kathaperumal, J.W. Perry
- ENFL **219.** Flexible energy storage device based on nanostructured cobalt sulfide. S. Alogayli, C. Ranaweera, Z. Wang, P.K. Kahol, K.S. Siam, R. Gupta
- ENFL **220.** Vanadium hexacyanoferrates Prussian blue analogues for multiple-redox enabled high performance aqueous rechargeable batteries. J. Lee, G. Ali, D. Kim, H. Jung, K. Chung
- ENFL **221.** Synchrotron-based x-ray diffraction study on the effect of cobalt substitution in the electrochemical performance of NaFeO<sub>2</sub> as a cathode material for Na-ion batteries. D. Susanto, G. Ali, W. Choi, W. Chang, K. Chung
- ENFL **222.** Perfluorinated anion-based single-ion conducting polymers. I. Popovs, X. Sun, S. Dai
- ENFL **223.** Effect of TiO<sub>2</sub> morphology @ Ti foam anode on the performance of lithium ion battery. K. Nam, H. Choe
- ENFL **224.** High energy capacity flexible lithium-ion batteries using silicon particle anode. J. Im, K. Cho, S. Yoon, E. Hwang, Y. Kwon, Y. Lee, J. Ahn
- ENFL **225.** Application of PEG-based solid polymer electrolyte to all-solid-state Li-O<sub>2</sub> batteries. S. Cho, J. Yom, W. Yoon
- ENFL **226.** Improvement of cycling performances of high-voltage lithium-ion battery using fluorinated functional additives. J. Im, J. Ahn, K. Cho, S. Yoon, E. Hwang, Y. Kwon
- ENFL **227.** Wearable fibrous lithium ion batteries. S. Ha, G. Lee, C. Lee, S. Kim, Y. Lee
- ENFL **228.** Kinetic analysis of irreversible behavior in silicon monoxide anode by GITT, EIS and CV for lithium ion battery. J. Yom, S. Cho, W. Yoon
- ENFL **229.** Solid polymer electrolytes for multifunctional material systems. W. Andrews, C.C. Browder
- ENFL **230.** Li<sub>2</sub>ZrO<sub>5</sub>: A cathode material for lithium-ion batteries. Y.E. Chipangura, A. Stein, N. Tran
- ENFL **231.** Carbon nanofibers as current collector for Li/deep eutectic catholyte battery system. K. Kawase, J. Abe, Y. Kobayashi, S. Shiratori
- ENFL **232.** SnO<sub>2</sub> nanoneedle@carbon nanofiber composite material as self-standing anode material for lithium-ion batteries. K. Takahashi, J. Abe, K. Kawase, Y. Kobayashi, S. Shiratori
- ENFL **233.** Morphology and electrochemical property of carbon/iron oxide composites fabricated by electrodeposition. Y. Kobayashi, J. Abe, K. Kawase, K. Takahashi, S. Shiratori
- ENFL **234.** Sub-10-nm Co<sub>3</sub>O<sub>4</sub> nanoparticles/graphene composites as high-capacity anodes for lithium ion batteries. K. Jang, J. Jang, H. Song, K. Cho, F. Auxilia, M. Ham
- ENFL **235.** Ether and siloxane functional IIs in propylene carbonate for Li-ion batteries. S.N. Chavan, D. Mandal
- ENFL **236.** Etching of aluminum cathode current collector and its electrochemical properties for Li-ion batteries. S. Yoon, K. Cho
- ENFL **237.** Electrochemical characteristics of the self-standing iron oxide/carbon composite electrospun nanofibers. J. Abe, K. Kawase, S. Shiratori
- ENFL **238.** Computational experiments on drivers of Li<sup>+</sup> diffusion using lithium-oxyhalide anti-perovskites. Z. Mehmedović, N. Adelstein
- ENFL **239.** Simplified correlation equations for density, transport, and thermal properties of supercritical carbon dioxide in geothermal heat extraction and carbon sequestration applications. P.X. Tran, M. Massoudi, P. Wang, M.L. McKoy
- ENFL **240.** First-principles calculations of thermoelectric properties of Bi<sub>2</sub>Te<sub>3</sub> and PbTe. H. Kim, G. Choi, M. Ha, W. Lee
- ENFL **241.** Development of a kinetic model for the hydrodechlorination of trichloromethane over Pt-Pd/KIT-6. H. M. Son, S. Sung, S. Lee, J. Cho, S. Kim, J. Bae, M. Park

### Rising Star Award Symposium

Sponsored by WCC, Cosponsored by BIOL, ENFL and PROF

### Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

### Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials

#### Lignin Conversion & Upgrading

Sponsored by CATL, Cosponsored by CARB and ENFL

#### Cellulose Structure & Biosynthesis

#### Synthase Trafficking & Synthesis of plant (1->3),(1->4)-D-glucans

Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL

#### Electrocatalysis for Energy Generation & Storage

#### Fuel Cells, Electrolytes & Batteries

Sponsored by CATL, Cosponsored by ENFL

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Mechanistic Studies of Catalysis in Photocatalytic & Photoelectrodes

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

## MONDAY EVENING

## Section A

Moscone Center  
Hall D

## Sci-Mix

D. J. Heldebrant, *Organizer*

8:00 - 10:00

23, 27, 48, 54, 57, 82, 96, 98-99, 104-105, 107, 117, 120, 126, 165, 174, 183, 186. See previous listings.

242, 271, 275, 279, 286-287, 293, 294, 300, 316, 327, 333, 340, 358, 367, 381, 398, 410, 412, 421, 442, 446-447, 455. See subsequent listings.

## TUESDAY MORNING

## Section A

Grand Hyatt San Francisco  
Belvedere

## Advances in Chemistry of Energy &amp; Fuels

## Fuel Cells, Photocatalysts &amp; Hydrogen

D. J. Heldebrant, *Organizer*

Z. Li, *Presiding*

8:30 Introductory Remarks.

8:35 ENFL 242. Catalytic hydrogen generation from formic acid and its subsequent utilization to produce electricity: An indirect formic acid fuel cell. M. Czaun, A. Goepfert, B. Yang, J. Kothandaraman, S. Greenberg, S.G. Prakash, G. Olah

8:55 ENFL 243. Withdrawn.

9:15 ENFL 244. Synthesis of bio-inspired covalently functionalized graphene nanohybrid and comparison of the effect of different electron transfer pathway on the photocatalytic hydrogen production efficiency. J. Yan

9:35 ENFL 245. Ligand engineering of lead chalcogenide nanoparticle solar cells. M. Voros, N.P. Brawand, G.A. Galli

9:55 ENFL 246. Effect of geometrical site confinement in high-efficient iron-doped cobalt oxides electrocatalysts toward oxygen evolution reaction. S. Hong, Y. Hsu, H. Chen

10:15 ENFL 247. Superior performance of borocarbonitrides,  $B_xC_yN_z$ , as stable, low-cost metal-free electrocatalysts for the hydrogen evolution reaction. H. Chakraborty, M. Chhetri, S. Maitra, U. Waghmare, C. Rao

10:35 Intermission.

10:40 ENFL 248. Molecular modeling of activated carbon-based electrochemical double layer capacitors. S. Schweizer, L. Subramanian, J. Hill

11:00 ENFL 249. Exploration of inorganic and hybrid porous materials as proton conductors. S. Devautour-Vinot, P. Mileo, D. Damanesco Borges, R. Semino, G. Maurin, F. Paesani, H. Jobic, N. Stenou, F. Nouar, C. Serre

11:20 ENFL 250. Nanoporous Sn and SbSn anode for Li and Na ion batteries through one-step selective etching. T.C. Lin, J.B. Cook, E. Detsi, J. Weker, S.H. Tolbert

11:40 ENFL 251. Inkjet printing assisted fabrication of hierarchical Ni@ MnO<sub>2</sub> dendritic nanostructured electrode for flexible micro-supercapacitor with artistic design. Y. Lin, Y. Gao, Z. Fan

12:00 ENFL 252. Open porous hierarchical SiC@nanographene@phosphorus structure and its electrochemical performance as a Li-ion anode. D. Zhao, B. Li, J. Zhang, C. Niu

12:20 Concluding Remarks.

## Section B

Grand Hyatt San Francisco  
Filmore C

## Functional Porous Materials for Sustainable Energy

*Cosponsored by CATL and MPPG<sup>‡</sup>*

N. L. Rosi, S. Shanmugam, *Organizers*

R. Motkuri, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 ENFL 253. Reticular materials for clean energy and water. O.M. Yaghi

9:05 ENFL 254. Single site catalysis in metal-organic frameworks. C.J. Doonan, A. Burgun, C. Sumbly

9:25 ENFL 255. Metal organic frameworks: Functional porous materials for energy-efficient and selective gas capture and separation. B. Li, H. Wang, J. Li

9:45 ENFL 256. Encapsulation of bio-catalysts into nanoporous materials. C. Tsung

10:05 Intermission.

10:15 ENFL 257. Metal-organic frameworks for artificial photosynthesis. W. Lin

10:35 ENFL 258. Metal organic framework derived, nitrogen doped carbon for high stability room temperature sodium-sulfur battery. Y. Zhu

10:55 ENFL 259. First principles-based computational design concept for highly functional materials for energy systems. B. Han

11:15 ENFL 260. Fundamentals and applications of electrically conductive two-dimensional MOFs. M. Dinca, D. Sheberla, L. Sun, M. Campbell, E. Miner

11:35 Concluding Remarks.

## Section C

Grand Hyatt San Francisco  
Orpheum

## Advanced Materials &amp; Technologies for Solar Energy Conversion &amp; Storage

*Cosponsored by CATL, MPPG<sup>‡</sup> and PMSE*

R. T. Koodali, H. Wang, *Organizers*

Y. H. Hu, *Organizer, Presiding*

Z. Wu, *Presiding*

8:30 Introductory Remarks.

8:35 ENFL 261. Exploring two-dimensional materials as novel photocatalysts for hydrogen production from water splitting. Z. Wu

9:15 ENFL 262. Exploring new opportunities in organic-inorganic hybrid perovskites. T. Xu

9:45 ENFL 263. Thin films of methylammonium lead halide perovskite via hydrolysis of N-methylformamide as source of methylammonium ions. S. Accornero, M. Arciniegas, M. Prato, S. Marras, L. Manna

10:05 ENFL 264. Efficient TiO<sub>2</sub> thin films prepared via adsorptive self-assembly for photovoltaic self-cleaning and anti-soiling applications. R. Isaifan, T. Rhadfi, A. Samara, B. Aissa, A. Abdallah

10:25 ENFL 265. Phase-stabilized  $\alpha$ -CsPbI<sub>3</sub> quantum dots and fabrication of all-inorganic perovskite devices. A. Marshall, A. Swarnkar, E. Sanehira, J. Luther

10:45 Intermission.

11:00 ENFL 266. 2D layer as a protection against film degradation on perovskite solar cells. M.S. Holanda, A. Nogueira

11:20 ENFL 267. Dense silica barrier films for improved efficiency and stability of perovskite solar cells deposited in ambient air. N. Rolston, A. Printz, S. Dong, B. Watson, R. Dauskardt

11:40 ENFL 268. Flexible crystalline silicon photovoltaics with vertically aligned microwire array. I. Hwang, H. Um, K. Seo

12:00 ENFL 269. Neutral-color semi-transparent crystalline silicon solar cells. K. Lee, N. Kim, H. Um, I. Hwang, K. Seo

12:20 Concluding Remarks.

## Section D

Grand Hyatt San Francisco  
Curran

## Applications of X-Ray &amp; Neutron Scattering Techniques in Energy Technologies

## Catalysis

*Cosponsored by ANYL*

K. Herwig, *Organizer*

R. E. Winans, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 ENFL 270. Characterization of Pt/C during electrocatalytic hydrogen addition reactions. J. Fulton, N. Singh, D.M. Camaioni, N. Govind, D.C. Cantu, R. Rousseau, M. Balasubramanian, S. Russell, C.T. Campbell, J.A. Lercher

9:05 ENFL 271. Following chemistry and catalysis in metal-organic frameworks using advanced synchrotron x-ray scattering tools. A. Platero Prats, K.W. Chapman, D.M. Camaioni, C.J. Cramer, O.K. Farha, J. Fulton, L. Gagliardi, J.T. Hupp, C. Lu, A.B. Martinson, A. Stein, D.G. Truhlar

9:35 ENFL 272. VISION challenge: The world's first high-throughput inelastic neutron scattering spectrometer. A. Ramirez-Cuesta, Y. Cheng, L. Daemen

10:05 Intermission.

10:20 ENFL 273. Investigation on catalytic metal nanoparticle synthesis. H. Zhao, Y. Lei

10:50 ENFL 274. *In situ* isotope-contrasted stroboscopic studies of the local atomistic structure of catalytic materials. D. Olds, K. Page, A. Päcklar, P. Peterson, J.R. Neilson

11:20 ENFL 275. Characterizing the local structure and reactivity of nanoscale catalysts through combined x-ray scattering and vibrational spectroscopy measurements. P. Chupas

11:50 Concluding Remarks.

## Section E

Grand Hyatt San Francisco  
Sequoia

## Innovative Chemistry &amp; Materials for Electrochemical Energy Storage

## Solid-State Electrolytes &amp; Beyond Li

*Cosponsored by MPPG<sup>‡</sup> and PMSE*

J. Guo, Y. Mo, *Organizers*

E. Pomerantseva, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 ENFL 276. Quest for novel electrolytes - Challenges and opportunities. S. Meng

9:05 ENFL 277. Stability and cycling of metallic lithium with an inorganic solid electrolyte. N.J. Dudney, M. Chi, E. Herbert, J. Sakamoto

9:35 ENFL 278. Novel alkali superionic conductor solid electrolytes. S. Ong, Z. Zhu, I. Chu

10:05 ENFL 279. 3D all solid state Li-ion microbatteries. A. Talin

10:35 Intermission.

10:45 ENFL 280. Understanding Li<sup>+</sup> diffusion behavior in amorphous and crystalline Li<sub>3</sub>PS<sub>4</sub> solid electrolytes, via *ab-initio* simulations. N. Leclerc, N. Adelstein

11:05 ENFL 281. Aluminum triflate in diglyme: A potential electrolyte for Al-ion batteries. E.J. Menke, L. Reed, A. Arteaga

11:25 ENFL 282. Synthesis of a magnesium battery electrolyte without need for conditioning or promoters. T. Hou, C.W. Monroe

11:45 ENFL 283. Fundamental investigations of magnesium electrode/electrolyte interface using *operando* ambient pressure x-ray photoelectron spectroscopy. Y. Yu, A. Baskin, C. Valero-Vidal, N. Hahn, K.R. Zavadil, B.W. Eichhorn, D. Prendergast, E.J. Crumlin

12:05 ENFL 284. Sodium electrolyte degradation: Evaluating pure electrolyte degradation through a safe and convenient NMR technique. P.L. Barnes, H. Xiong, K. Smith, E.J. Dufek

## Section F

Grand Hyatt San Francisco  
Cypress

## Biomass &amp; Biofuel Processing

*Cosponsored by CELL, MPPG<sup>‡</sup> and WCC*

J. Fu, S. Turn, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 ENFL 285. Demonstration of fast pyrolysis technologies at pilot-scale. E. Wilcox, T. Dunning

8:55 ENFL 286. Fast pyrolysis: Comparing effects of feedstock and run conditions on fast pyrolysis products produced at the pilot scale. T. Dunning, E. Wilcox

9:15 ENFL 287. Lignocol: Low ash, low sulfur coal replacement from fast pyrolysis of biomass. M.R. Rover, A. Friend, R.G. Smith, R.C. Brown

9:35 ENFL 288. Ex-situ catalytic fast pyrolysis in a DCR - Effect of pyrolysis conditions. M. Jarvis, J. Olstad, Y. Parent, K.A. Magrini

9:55 Intermission.

10:10 ENFL 289. Upgrading biomass pyrolysis vapors to fungible hydrocarbon intermediates. K.A. Magrini, M. Jarvis, J. Olstad, Y. Parent, S. Deutch, M. Yung, K. Iisa

<sup>‡</sup>Cooperative Cosponsorship



**10:30 ENFL 290.** Recovering and upgrading biogenic carbon from pyrolysis waste streams to produce chemical intermediates. **C. Mukarakate**, A. Starace, R.J. Evans, K.A. Magrini

**10:50 ENFL 291.** Biofuel production by catalytic pyrolysis vapor upgrading: Effects of nickel loading and pretreatment on modified ZSM-5. **M. Yung**, A. Starace, C. Mukarakate, K.A. Magrini

**11:10 ENFL 292.** Constant volume pyrolysis of biomass for the production of char with high fixed-carbon content. **M. Legarra Arizaleta**, S. Van Wesenbeeck, S. Turn, T.J. Morgan

### Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials

#### Carbohydrate Processing & Upgrading of Biomass-Derived Molecules

Sponsored by CATL, Cosponsored by CARB and ENFL

#### Cellulose Structure & Biosynthesis

#### Biochemistry & Cellular Biology

Sponsored by CELL, Cosponsored by BIOL, BIOT, CARB and ENFL

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Molecular & Bio-Inspired Photocatalysts

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

## TUESDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Belvedere

#### Advances in Chemistry of Energy & Fuels

#### Batteries

D. J. Heldebrant, *Organizer*  
Z. Li, *Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 293.** First-principles molecular dynamics of non-arrhenius Li<sup>+</sup> diffusion in solid electrolytes for batteries. **A. Zevgolis**, N. Adelstein

**1:55 ENFL 294.** Nanoporous LiMn<sub>2</sub>O<sub>4</sub>: An extrinsically pseudocapacitive cathode material for Li-ion batteries. **B. Lesel**, J. Ko, J.B. Cook, Y. Yan, B. Dunn, S.H. Tolbert

**2:15 ENFL 295.** Electrochemical activation and reduction of SF<sub>6</sub> in nonaqueous Li cells for primary energy delivery. **B. Gallant**, Y. Li

**2:35 ENFL 296.** Withdrawn.

**2:55** Intermission.

**3:05 ENFL 297.** Withdrawn.

**3:25 ENFL 298.** Large-scale preparation of redox active organics for symmetric nonaqueous redox flow batteries. **J. Saraidaridis**, R. Straker, C.S. Sevov, J. Suttill, M.S. Sanford, M.C. Willis, C.W. Monroe

**3:45 ENFL 299.** Self-healing polymer for high capacity anodes. **C. Wang**

**4:05 ENFL 300.** Effect of ion stabilization and thermal annealing on cycling behavior of bilayered vanadium oxides in Na-ion batteries. **M. Clites**, E. Pomerantseva

**4:25 ENFL 301.** Morphology tailored porous hollow Cu<sub>2</sub>O nanospheres fabricated by Ostwald ripening for Li-ion battery applications. **P. Rai**, S. Shilpa, A. Sharma

**4:45** Concluding Remarks.

### Section B

Grand Hyatt San Francisco  
Filmore C

#### Functional Porous Materials for Sustainable Energy

Cosponsored by CATL and MPPG<sup>2</sup>

R. Motkuri, S. Shanmugam, *Organizers*

N. L. Rosi, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 302.** Design and synthesis of amine-functionalized porous materials for carbon capture. **Y. Sun**, H. Zhou

**2:00 ENFL 303.** Metal organic frameworks for carbon activation and conversion. **A.J. Morris**, J. Zhu, P. Usov

**2:20 ENFL 304.** Diamine-appended metal-organic frameworks as cooperative adsorbents for energy-efficient CO<sub>2</sub> separations. **J. Martell**, P.J. Milner, R.L. Siegelman, J.R. Long

**2:40 ENFL 305.** Withdrawn.

**3:00** Intermission.

**3:10 ENFL 306.** Functional Metal-Organic Frameworks (MOFs): Design and preparation. **O.K. Farha**

**3:30 ENFL 307.** Amine functionalized porous polymer microspheres for enhanced CO<sub>2</sub> capture. **N.A. Dogan**, E. Ozdemir, **C.T. Yavuz**

**3:50 ENFL 308.** Porous materials for capture of fluorinated species. **O. Miljanic**

**4:10 ENFL 309.** Production of stable metal organic heat carrier nanofluids. **S.K. Nune**, P. McGrail, M. Nandasiri, J. Jenks, N. Phillips

**4:30** Concluding Remarks.

### Section C

Grand Hyatt San Francisco  
Orpheum

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Cosponsored by CATL, MPPG<sup>2</sup> and PMSE

R. T. Koodali, H. Wang, *Organizers*

Y. H. Hu, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 310.** Withdrawn.

**2:15 ENFL 311.** Ionic-liquid electrolyte solidified by surface modified nanoparticles for dye-sensitized solar cells. **Y. Lin**, Y. Fang, P. Ma

**2:35 ENFL 312.** Rapid microwave-hydrothermal synthesis of TiO<sub>2</sub>-MgO for photocatalytic energy and environmental remediation applications. **B. Selvaratnam**, R.T. Koodali

**2:55 ENFL 313.** Effect of ligands on photochemical charge transfer in CdSe quantum dot films – A surface photovoltage spectroscopy study. **B. Nail**, M.J. Greaney, H. Lu, J. Zhao, S.E. Bradforth, R.L. Brutchey, F.E. Osterloh

**3:15** Intermission.

**3:30 ENFL 314.** Thin film upconversion sensitized by zinc-blende CdSe nanocrystals. **J. Tamayo**, L. Chen, J.J. Locklin, P. Xia, M. Tang

**3:50 ENFL 315.** Solar energy harvesting scheme utilizing low dimensional micro- and nano-structures. **Y. Chueh**

**4:10 ENFL 316.** Hybrid (organic/inorganic) electrode design from bacterially precipitated CdS for PEC/storage applications. **Y. Feng**, E. Ngaboyamahina, K. Marusak, J.T. Glass, S. Zauscher

**4:30 ENFL 317.** Impact of monolayer of alkyl amine on the crystalline orientation and performance of CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> solar cells. **M. Ong**, Q. Liu, A. Lopez, X. Wang, D. Jiang, F. Zhou

**4:50** Concluding Remarks.

### Section D

Grand Hyatt San Francisco  
Curran

#### Applications of X-Ray & Neutron Scattering Techniques in Energy Technologies

#### Energy Sources & Combustion

Cosponsored by ANYL

K. Herwig, R. E. Winans, *Organizers*

A. Ramirez-Cuesta, *Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 318.** Solvent swelling and surface energies in sequentially processed polymer:fullerene solar cells: Controlling vertical phase segregation in organic photovoltaics. **P. Yee**, M.T. Fontana, R. Huber, J.C. Aguirre, S.A. Jenekhe, B.J. Schwartz, S.H. Tolbert

**2:05 ENFL 319.** *In-situ* SAXS studies of the density fluctuations of supercritical n-heptane. **S. Lee**, S. Lee, R.E. Winans

**2:35 ENFL 320.** *In-situ* x-ray scattering and neutron imaging of combustion: Nanoparticles/soot and their formation and phase transitions. **F. Ossler**

**3:05** Intermission.

**3:20 ENFL 321.** New insights into thermal effect of crude oil adsorbed clay minerals by *in situ* USAXS/SAXS study. **S. Lee**, R.J. Klingler, J. Ilavsky, R.E. Winans, T. Fischer, D.K. McCarty, M.O. Wigand

**3:50 ENFL 322.** Effect of surfactant adsorption on pore accessibility and water uptake in organic-rich shales. **S. Das**, J. Adeoye, B. Ellis

**4:20 ENFL 323.** XRF analysis of water pretreated/leached banagrass to determine the effect of temperature, time and particle size on the removal of inorganic elements. **T.J. Morgan**, L.K. Andersen, H. Cui, S. Turn

**4:50** Concluding Remarks.

### Section E

Grand Hyatt San Francisco  
Sequoia

#### Innovative Chemistry & Materials for Electrochemical Energy Storage

#### 2D Energy Storage Materials

Cosponsored by MPPG<sup>2</sup> and PMSE

J. Guo, Y. Mo, *Organizers*

E. Pomerantseva, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 324.** 2D materials for energy storage and electrochemical actuation. **M. Chhowalla**

**2:05 ENFL 325.** Few layered black phosphorus nanosheets for Li/Na storage. **A. Yan**

**2:35 ENFL 326.** Two-dimensional transition metal carbides – New materials for electrochemical capacitors. **M. Lukatskaya**, Y. Gogotsi

**3:05** Intermission.

**3:15 ENFL 327.** Nanostructured bilayered V<sub>2</sub>O<sub>5</sub> cathode for rechargeable batteries: Na- and Mg- ion case. **S. Tepavcevic**, Y. Liu, V. Stamenkovic, C.S. Johnson, **T. Rajh**

**3:45 ENFL 328.** Design of materials for energy storage. **C.S. Ozkan**

**4:15 ENFL 329.** Layered nanocomposites for energy storage. **N. Kotov**

**4:45 ENFL 330.** High performance electrochemical capacitors based on conductive two-dimensional frameworks. **M. Lukatskaya**, D. Feng, T. Lei, Z. Bao

### Section F

Grand Hyatt San Francisco  
Cypress

#### Biomass & Biofuel Processing

Cosponsored by CELL, MPPG<sup>2</sup> and WCC

J. Fu, S. Turn, *Organizers, Presiding*

**1:30** Introductory Remarks.

**1:35 ENFL 331.** Effect of feedstock and pyrolysis-catalyst on the yield of hydro-treated refinery intermediate. **R.J. French**, D. Carpenter, D. Howe, T.L. Westover

**1:55 ENFL 332.** Pd nanoparticles stabilized in polymeric matrix in fatty acid hydrodeoxygenation. **A. Stepacheva**, V. Matveeva, J. Wärnå, P. Mäki-Arvela, D. Murzin, **E. Sulman**

**2:15 ENFL 333.** Quantitative depolymerization of uncondensed technical lignin at 120 °C with supported nickel catalysts. **L. Shuai**

**2:35 ENFL 334.** Deoxygenation of triglycerides in catalytic cracking process with enhanced hydrogen transfer activity. **I. Shimada**, S. Kato, N. Hirazawa, Y. Nakamura, H. Ohta, K. Suzuki, T. Takatsuka

**2:55** Intermission.

**3:10 ENFL 335.** Magnetically recoverable catalysts for cellulose conversion into ethylene- and propylene glycols. **E. Sulman**, O. Manaenkov, J.J. Mann, Y. Losovyj, B. Stein, O. Kislitzka, D.G. Morgan, M. Pink, Z. Shifrina, V. Matveeva, L. Bronstein

**3:30 ENFL 336.** Next-generation biomass fractionation with deep eutectic solvents. **M.B. Foston**, J. Meyer

**3:50 ENFL 337.** Catalytic pulping of wood. **R.C. Johnston**, J.M. Parks, A. Rudie, J.J. Bozell, **T.J. Elder**

**4:10 ENFL 338.** Co-extraction of hemicelluloses and polyphenolic compounds from four hardwood species using pressurized hot water: Influence of the process on extraction yields and mechanisms. **N. Beaufils**, L. Candy, P. Pontalier, L. Rigal, G. Vilarem

#### Catalytic Conversion of Lignocellulosic Biomass to Fuels, Chemicals & Materials

Sponsored by CATL, Cosponsored by CARB and ENFL

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Novel Photocatalytic & Photoelectrode Materials

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

## WEDNESDAY MORNING

### Section A

Grand Hyatt San Francisco  
Belvedere

#### Advances in Chemistry of Energy & Fuels

##### Fuel Life Cycle & Analysis

D. J. Heldebrant, *Organizer*

A. Padmaperuma, *Presiding*

8:30 Introductory Remarks.

8:35 ENFL **339**. Molecular characterization of Dissolved Organic Matter (DOM) in petroleum refinery wastewater by FT-ICR MS with  $\pm$ ESI and +APPI ionization. C. He, Z. Fang, Y. Li, S. Zhao, Q. Shi

8:55 ENFL **340**. Impact of biodiesel blends on chemical composition of nitro-PAH and carbonyl compound emissions and stimulation of inflammatory responses in cells. Y. Han, J. Kasumba, N.K. Fukagawa, B. Holmen

9:15 ENFL **341**. Computational analysis of the combustion and atmospheric decomposition of the cis and trans isomers of hydroxyalkenylperoxy radicals. S. Mondal, A. Davis

9:35 ENFL **342**. Comprehensive analysis of molecular compositional changes of crude oils during biosouring. J. Nowak, P. Shrestha, R. Weber, J.D. Coates, A. Goldstein

9:55 Intermission.

10:00 ENFL **343**. Effects of thermal cracking of N-decane on ignition delay time in shock tube. P. Shan-Shan, G. Liu, X. Zhang, L. Wang, G. Li

10:20 ENFL **344**. Distribution, qualitative, and quantitative analyses of chlorides in distillates from ZJ crude oil. R. Ma, J. Zhu, B. Wu, X. Li, J. Xue

10:40 ENFL **345**. Hindered diffusion of sulfur-containing compounds in residue fractions through membranes and catalyst. Z. Chen, K. Yuan, M. Zheng, B. Wang, C. Xu

11:00 Concluding Remarks.

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### Section B

Grand Hyatt San Francisco  
Filmore C

#### Functional Porous Materials for Sustainable Energy

Cosponsored by CATL and MPPG<sup>†</sup>

R. Motkuri, N. L. Rosi, *Organizers*

S. Shanmugam, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 ENFL **346**. New family of catalysts for solar fuels: Cofactor-like catalysts on mesoporous MOF supports. J.T. Hupp, O.K. Farha, A. Peters

9:00 ENFL **347**. Porosity gradient within metal-organic frameworks. C. Liu, N.L. Rosi

9:20 ENFL **348**. Surface modification of metal-organic framework nanoparticles through controlled radical polymerization: A general approach. T. Li, S. He

9:40 ENFL **349**. Porous and layered materials for gas sorption and separation applications. E. Muthusamy

10:00 Intermission.

10:10 ENFL **350**. Functional metal-organic frameworks for the energy-intensive separations. M. Eddaoudi, A. Cadiau, K. Adil, Y. Belmabkhout, P. Bhatt

10:30 ENFL **351**. Dehydrobenzoannulene-based covalent organic frameworks. P. McGrier

10:50 ENFL **352**. Reusable photocatalytic metal-organic frameworks for organic transformations. X. Yu, S. Cohen

11:10 ENFL **353**. Robust metal organic frameworks for adsorption chiller applications. R. Vemuri, J. Zheng, P. McGrail

11:30 Concluding Remarks.

### Section C

Grand Hyatt San Francisco  
Orpheum

#### 13th International Symposium on Heavy Oil Upgrading, Production & Characterization

Cosponsored by CATL

C. Mesters, Y. Zhang, *Organizers*

J. J. Adams, *Organizer, Presiding*

Y. Zhang, *Presiding*

8:30 Introductory Remarks.

8:35 ENFL **354**. Basic research of solvent deasphalting coupling fluidization thermal conversion process for heavy oil. H. Song

8:55 ENFL **355**. Subsurface upgrading of heavy oils via solvent deasphalting. C.F. Ovalles

9:15 ENFL **356**. Effect of solvent and solvent-to-bitumen ratio on the liquefying point of asphaltenes in the solvent deasphalting process. A. Turuga, A. De Klerk

9:35 ENFL **357**. Nature of virgin and generated asphaltenes from thermal and/or steam catalytic cracking of Athabasca bitumen vacuum residue and its deasphalted oil. L.A. Carbognani, E. Rogel, C. Ovalles, F.A. Lopez-Linares, J. Carbognani, P. Pereira Almaco, J. Vien, A. Pradhan

9:55 ENFL **358**. Propane-Steam Assisted Gravity Drainage (propane-SAGD) as a follow-up process to SAGD. T. Kar, C. Ovalles, I. Benson, B. Hascakir

10:15 Intermission.

10:30 ENFL **359**. 1350 F<sup>+</sup> by in-line filtration coupled with ICP-MS. F.A. Lopez-Linares, L. Poirier, C.F. Ovalles, E. Rogel, J. Nelson

10:50 ENFL **360**. Heat induced fouling of crude oils related to asphaltene stability and composition. J.J. Adams, P. Eaton, J.F. Schabron

11:10 ENFL **361**. Fouling apparatus to measure heat induced asphaltene fouling of crude oils. J.J. Adams, R. Grimes, J.F. Schabron

### Section D

Grand Hyatt San Francisco  
Curran

#### Applications of X-Ray & Neutron Scattering Techniques in Energy Technologies

##### Fuel Cells

Cosponsored by ANYL

K. Herwig, R. E. Winans, *Organizers*

S. Lee, *Presiding*

8:30 Introductory Remarks.

8:35 ENFL **362**. Using neutron imaging to understand transport phenomenon in fuel cell and batteries. D.L. Jacobson, D. Hussey, J. LaManna, E.M. Baltic

9:05 ENFL **363**. Using small angle x-ray scattering as a key tool to develop next generation polymer electrolyte membrane for electrochemical energy conversion. A.M. Herring, A. Motz, Y. Liu, H. Sarode, T. Pandey

9:35 ENFL **364**. X-ray absorption spectroscopy characterization of bimetallic iron-nickel nanoparticle electrocatalysts. L.F. Greenlee, S. Candelaria

10:05 Intermission.

10:20 ENFL **365**. Revealing oxygen anion transport pathways in SOFC materials through in-situ neutron diffraction. S. McIntosh, A. Huq, A. Tomkiewicz, M. Tamimi, C. Sarno

10:50 ENFL **366**. Application of high resolution neutron imaging to polymer electrolyte fuel cells. R. Mukundan, D. Spornjak, D. Hussey, D.L. Jacobson, R. Borup

11:20 Concluding Remarks.

### Section E

Grand Hyatt San Francisco  
Sequoia

#### Innovative Chemistry & Materials for Electrochemical Energy Storage

##### Electrolytes & Interface

Cosponsored by MPPG<sup>†</sup> and PMSE

Y. Mo, E. Pomerantseva, *Organizers*

J. Guo, *Organizer, Presiding*

8:30 ENFL **367**. Anion-redox batteries and lithium metal protection. J. Li

9:00 ENFL **368**. Spontaneously formed interfacial phases for energy applications. J. Luo

9:30 ENFL **369**. Crosslinkable organic-inorganic hybrid as binders for thermal stability-enhanced ceramic coated separator. B. Jung, S. Yang, H. Choi, B. Lee, M. Park, S. Han

9:50 ENFL **370**. Development of a highly conductive PEO-based solid polymer electrolyte. C.C. Browder

10:10 ENFL **371**. Stabilizing water in batteries. K. Xu

10:40 ENFL **372**. Computational study of the operation mechanism of tris(trimethylsilyl) phosphite as a multi-functional additive for lithium-ion batteries. D. Kim, H. Park, W.I. Choi, B. Roy, J. Seo, I. Park, Y. Kang, M. Koh

11:00 ENFL **373**. Interface identification of the solid electrolyte interphase on graphite. E. Zvereva, D. Caliste, P. Pochet, T. Deutsch

11:20 ENFL **374**. Substituent effects on the enhanced thermal stability of organosilicon electrolytes for lithium-ion batteries. S.L. Guillot, A. Peña-Hueso, M. Usrey, R.J. Hamers

11:40 ENFL **375**. Insights into the sodium-oxygen battery cathode electrochemistry. J.E. Nichols, B.D. McCloskey

12:00 ENFL **376**. High-loading sulfur-graphene oxide electrodes toward practical Li/S cells. Y. Hwa, E.J. Cairns

### Section F

Grand Hyatt San Francisco  
Cypress

#### Biomass & Biofuel Processing

Cosponsored by CELL, MPPG<sup>†</sup> and WCC

J. Fu, S. Turn, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 ENFL **377**. Determination of bio-originated fuel content using a modified direct LSC method in the presence of quenching. C. Doll, C.W. Wright, S.M. Morley, B. Wright

8:55 ENFL **378**. Transportation fuels derived from biomass: Qualitative and quantitative analysis of reactive species. A.B. Padmaperuma, M.V. Olarte

9:15 ENFL **379**. Assessing factors responsible for lignocellulosic biomass saccharification: Fluorescence is brilliant. T. Auxenfans, B. Chabbert, G. Paes

9:35 ENFL **380**. Fluorescent probes dynamics to determine biomass characteristics impact on lignocellulosic enzymes activity and mobility. M. Herbut, G. Paes

9:55 Intermission.

10:10 ENFL **381**. Sustainable technologies towards a biorefinery: Extraction and tunable enrichment of microalgal triacylglycerides using supercritical carbon dioxide. T.A. Kwan, J.B. Zimmerman

10:30 ENFL **382**. Kinetics of phosphate precipitation from the nutrients-rich algal hydrolysate. A. Teymouri, B. Stuart, S. Kumar

10:50 ENFL **383**. Maximizing atom (N, P, & C) economy via process integration in the conversion of microalgae to bioproducts and biofuels. A. Teymouri, C.R. Talbot, A. Samaratinga, B. Stuart, S. Kumar

11:10 ENFL **384**. Parametric optimization of syngas production from algal biomass gasification via central composite design. A. Raheem, R. Harun, M. Zhao

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Spectroscopy & Microscopy of Photocatalytic & PEC Materials

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

<sup>†</sup>Cooperative Cosponsorship

## WEDNESDAY AFTERNOON

## Section A

Grand Hyatt San Francisco  
Belvedere

## Advances in Chemistry of Energy &amp; Fuels

## Biomass &amp; Biofuels

D. J. Heldebrant, *Organizer*

A. Padmaperuma, *Presiding*

## 1:30 Introductory Remarks.

**1:35 ENFL 385.** Potential additives to improve biofuels properties and their effects on fuel characteristics. J. Fu, S. Turn

**1:55 ENFL 386.** Lignin-derived multi-cyclic high density biofuel by alkylation and hydrogenated intramolecular cyclization. G. Nie, J. Zou, X. Zhang

**2:15 ENFL 387.** Chemical reactions and structural identification of a coniferyl alcohol dimer causing instability in wood-derived pyrolysis oils. J. Joseph, M. Rasmussen, E.A. Stemmler, B. Jensen, B.G. Frederick

**2:35 ENFL 388.** Preparation of bimetallic catalysts and activity test on hydrodeoxygenative upgrading of bio-oil. S. Oh, J. Choi

## 2:55 Intermission.

**3:05 ENFL 389.** Tailor-made organic heterogeneous catalysts for the continuous-flow production of alkyl levulinates. L. Vaccaro, A. Marroccoli, V. Trombettoni

**3:25 ENFL 390.** Sterically protected and electronically activated azamacrocyclic catalysts for lignin depolymerization: A new approach to biomass valorization. M. Chorghade

**3:45 ENFL 391.** Performance and structural evaluation of the torrefaction of bamboo under a high gravity (higee) environment using a rotating packed bed. M.G. de Luna, M.V. Pillejera, W. Chen

**4:05 ENFL 392.** Development of novel nitrogenous base-tethered cobalt-Schiff base complexes for the selective catalytic cleavage of lignin. R.E. Key, J.J. Bozell

## 4:25 Concluding Remarks.

## Section B

Grand Hyatt San Francisco  
Filmore C

## Functional Porous Materials for Sustainable Energy

*Cosponsored by CATL and MPPG<sup>2</sup>*

N. L. Rosi, S. Shannugam, *Organizers*

R. Motkuri, *Organizer, Presiding*

## 1:30 Introductory Remarks.

**1:35 ENFL 393.** Porous metal-organic framework materials for gas storage and separation. B. Chen

**1:55 ENFL 394.** Metal-organic framework templated low temperature CO oxidation catalysts. C.W. Abney, J.T. Patterson, G. Veith, R. Unocic, S. Dai

**2:10 ENFL 395.** Synthesis of benzobisoxazole-linked two-dimensional covalent organic frameworks & their properties for carbon-dioxide capture. D. Pyles, J. Crowe, L. Baldwin, P. McGrier

**2:25 ENFL 396.** Microporous graphene-like frameworks for gas and energy storage applications. A. Coskun

## 2:40 Intermission.

**2:50 ENFL 397.** Advanced porous organic polymers: Task-specific design and functionalization. S. Ma

**3:10 ENFL 398.** Hierarchical porous carbon materials platform with exceptional surface area and pore volume for energy and environmental applications. L. Estevez, J. Zheng, A. Garcia, R. Vemuri, S. Jeong, W. Xu, P. Bhattacharya, X. Li, Y. Shin, R. Motkuri, J. Zhang

**3:25 ENFL 399.** Microporous materials for the effective adsorption and separation of CO<sub>2</sub> from flue gases. S. Proding, M.A. Derewinski, R. Motkuri

## 3:40 Concluding Remarks.

## Section C

Grand Hyatt San Francisco  
Orpheum

## 13th International Symposium on Heavy Oil Upgrading, Production &amp; Characterization

*Cosponsored by CATL*

C. Mesters, Y. Zhang, *Organizers*

J. J. Adams, *Organizer, Presiding*

Y. Zhang, *Presiding*

**1:30 ENFL 400.** Monitoring production and transportation of heavy crude oil using near infrared spectroscopy. T. Miao, A.R. Pradhan, M. Moir, E. Lee

**1:50 ENFL 401.** Comparisons and structural characterization of petroleum cut samples from different origins: Impact of hydrotreatment processes. F. Albrieux, J. Barbier, J. Ponthus

**2:10 ENFL 402.** Molecular composition building strategies for petroleum feedstock. S. He, L. Zhang, Q. Shi, S. Zhao

**2:30 ENFL 403.** Molecular characterization of sulfur-containing compounds in vacuum residue by FT-ICR MS and GC×GC-TOFMS. X. Cai, W. Wang, J. Zhou, Z. Liu, Y. Liu, S. Tian

**2:50 ENFL 404.** Characterization and behavior of interfacially active asphaltenes from crude oil. J.J. Adams, J.F. Schabron, J. Loveridge, R. Grimes, L. Goual, G. Javanbakht

**3:10 ENFL 405.** Molecular-level analysis of petroleum interfacially active species reveals the components responsible for stable emulsion formation. R.P. Rodgers, Y. Corilo, D.C. Podgorski, S. Rowland, P.M. Lalli, W.K. Robbins, A.C. Clingenpeel

## 3:30 Intermission.

**3:45 ENFL 406.** Study of asphaltene retention on iron oxide under poor solvent conditions. E. Rogel, M. Roye

**4:05 ENFL 407.** Influence of metal halides on coke formation. G. Carvalho do Prado, Riya, M. Hyrve, A. De Klerk

**4:25 ENFL 408.** Reservoir rock-asphaltene interaction impacts asphaltene stability. B. Hascakir

## Section D

Grand Hyatt San Francisco  
Curran

## Applications of X-Ray &amp; Neutron Scattering Techniques in Energy Technologies

## Gas Storage &amp; Ion Conduction

*Cosponsored by ANYL*

R. E. Winans, *Organizer*

K. Herwig, *Organizer, Presiding*

## 1:30 Introductory Remarks.

**1:35 ENFL 409.** Characterizing phase transitions in metal-organic frameworks and nanoparticle superlattices. J.A. Mason, J.R. Long, C.A. Mirkin

**2:05 ENFL 410.** Neutron scattering studies of hydrogenous materials for next-generation energy storage. M. Dimitrievska, W. Tang, H. Wu, W. Zhou, T.J. Udovic

**2:35 ENFL 411.** Functional porous materials for guest storage, selectivity and catalysis. S. Yang

## 3:05 Intermission.

**3:20 ENFL 412.** Neutron scattering to probe battery interfaces and dynamics. G. Veith, J. Browning, M. Doucet, J. Kim

**3:50 ENFL 413.** Neutron scattering studies on atomic-scale proton diffusion processes in a solid oxide electrolyte. N. Jalarvo, Y. Cheng, J. Balachandran, P. Ganesh, C.A. Bridges, M. Paranthaman, Z. Bi, D. Gout, O. Gourdon

## 4:20 Concluding Remarks.

## Section E

Grand Hyatt San Francisco  
Sequoia

## Innovative Chemistry &amp; Materials for Electrochemical Energy Storage

## Anode Materials &amp; Li-S

*Cosponsored by MPPG<sup>2</sup> and PMSE*

Y. Mo, E. Pomerantseva, *Organizers*

J. Guo, *Organizer, Presiding*

## 1:30 Introductory Remarks.

**1:35 ENFL 414.** Design principles of non-graphitic carbon electrodes for energy storage. Z. Li, Z. Jian, C. Bomnier, P. Greaney, X. Ji

**2:05 ENFL 415.** Enhanced performance of high volumetric energy density sulfur cathode for Li-sulfur batteries. D. Lv, J. Liu, Q. Li, S. Chen, G. Graff, J. Zhang, J. Liu

**2:35 ENFL 416.** Boron doped fullerene based materials for electrochemical applications. P. Sood, K. Kim, S.S. Jang

**2:55 ENFL 417.** Electrospinning-assisted and self-assembled construction of hybrid SnO<sub>2</sub>-Co<sub>3</sub>O<sub>4</sub> nanotubes for greater lithium storage properties. J. Zhang

**3:15 ENFL 418.** High-performance Ge microwire Li-ion battery anodes as prepared by the electrochemical liquid-liquid-solid deposition process at T = 80 °C. L. Ma, E. Fahrenkrug, E. Gerber, A. Crowe, F.A. Venable, B.M. Bartlett, S. Maldonado

## 3:35 Intermission.

**3:45 ENFL 419.** Discrete nanographene encapsulated Si nanoparticles and their properties as Li-ion battery anode. B. Li, D. Zhao, C. Niu

**4:05 ENFL 420.** Rational design of silicon nanolayer embedded microporous carbon micro-cages for high energy and power lithium-ion batteries. Y. Son, J. Ma, J. Cho

**4:25 ENFL 421.** Overcoming micro-silicon particle fracture within graphene cages for stable battery anodes. Y. Li, Y. Cui

**4:45 ENFL 422.** Edge plane-activated graphite/Si composite for lithium ion battery anodes: Toward fast charge capabilities at high energy density electrodes. J. Cho, N. Kim

**5:05 ENFL 423.** Low-cost tire-derived carbon/metal oxide composite electrodes for improved high-capacity lithium-ion battery anodes. Y. Li, A.M. Levine, R. Lee, K. Akato, A.K. Naskar, S. Dai, M. Paranthaman

## Section F

Grand Hyatt San Francisco  
Cypress

## Biomass &amp; Biofuel Processing

*Cosponsored by CELL, MPPG<sup>2</sup> and WCC*

J. Fu, S. Turn, *Organizers, Presiding*

## 1:30 Introductory Remarks.

**1:35 ENFL 424.** Operational issues using biomass-derived feedstocks in a Davison circulating riser. J. Olstad, M. Jarvis, Y. Parent, K.A. Magrini

**1:55 ENFL 425.** Potential applications of alkali metal sorbents (Li<sub>2</sub>ZrO<sub>3</sub>, Li<sub>2</sub>SiO<sub>3</sub>, and Na<sub>2</sub>ZrO<sub>3</sub>) as bifunctional material for biomass gasification. M.H. Memon, M. Zhao

**2:15 ENFL 426.** Novel alkaline thermal treatment of biomass for hydrogen production with carbon capture and storage potential. A.A. Park, M. Stonor, J.G. Chen

**2:35 ENFL 427.** Reversibility of the reaction catalyzed by the molybdenum-containing formate dehydrogenase from *Cupriavidus necator* (*Ralstonia eutropha*). X. Yu, D. Niks, R. Hille, A.K. Mulchandani

## 2:55 Intermission.

**3:10 ENFL 428.** Role of materials derived from biodiesel production on cold flow properties of model biodiesel. M. Senra, L. Soh, R. Elias, S. McCartney

**3:30 ENFL 429.** Homogeneous catalytic biodiesel production from wet spent coffee grounds by integrating lipid extraction and conversion. J. Park, B. Kim, J.W. Lee

**3:50 ENFL 430.** Combined production of levulinic acid and sulfonated carbon from glucose in one-pot reaction. S. Kang, G. Zhang, F. Qin, X. Fu, H. Yin, Y. Xu

## Light-Driven Chemistry: Photoelectrochemistry &amp; Photocatalysis

## Devices, Assemblies &amp; Hybrid Processes

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at:  
[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)



## THURSDAY MORNING

## Section A

Grand Hyatt San Francisco  
Belvedere

## Advances in Chemistry of Energy &amp; Fuels

## Fuels &amp; Lubricants

D. J. Heldebrandt, *Organizer*

A. Padmaperuma, *Presiding*

## 8:30 Introductory Remarks.

**8:35 ENFL 431.** Composition-property relationships of hydrocarbon fuels based on GC×GC-MS/FID. X. Shi, G. Liu, X. Zhang, L. Wang, G. Li

**8:55 ENFL 432.** Characterization of petroleum using borate fusion and ICP-OES analyses. J. Anzelmo, P. Daigle, J. Pitre

**9:15 ENFL 433.** Correlating crude oil and kerogen properties to asphaltene fractions using infrared spectroscopy and chemometrics. R. F. Dias, J. E. Birdwell

**9:35 ENFL 434.** Contribution to the total acid number of petroleum phenols and its response in electrospay mass spectrometry analysis. M. Hu, C. Xu, Q. Shi

**9:55 ENFL 435.** Molecular composition analysis of lubricant base oils by using RICO redox derivatization followed by ESI FT-ICR MS. S. Ma, C. S. Hsu, Y. Zhou, Q. Shi

## 10:15 Intermission.

**10:25 ENFL 436.** Computer-aid gasoline molecular composition reconstruction on the basis of GC-FID data. C. Cui, L. Zhang, Q. Shi, S. Zhao

**10:45 ENFL 437.** Multiobjective feature selection approach to Quantitative Structure Property Relationship (QSPR) for predicting the octane number of compounds found in gasoline. Z. Liu, L. Zhang, A. Elkamel, S. Zhao, C. Xu

**11:05 ENFL 438.** Developing a high- and low-cetane classifier for biologically produced chemicals using variable quality training data. L. S. Whitmore, R. L. McCormick, R. W. Davis, J. M. Gladden, B. A. Simmons, A. George, C. Hudson

**11:25 ENFL 439.** Aluminum nanoparticles as energy additive of jet fuel: Synthesis, stability, ignition, and propulsion performance. X. E. J. Zou, X. Zhang

**11:45 ENFL 440.** Understanding and characterization of 100 low lead aviation fuels for general aviation. C. Huang

## 12:05 Concluding Remarks.

The use of any device to capture images (e.g., cameras and camera phones) or sound (e.g., tape and digital recorders) or to stream, upload or rebroadcast speakers or presentations is strictly prohibited at all official ACS meetings and events without express written consent from ACS.

## Section B

Grand Hyatt San Francisco  
Union Square

## Functional Porous Materials for Sustainable Energy

*Cosponsored by CATL and MPPG<sup>†</sup>*

R. Motkuri, S. Shanmugam, *Organizers*

N. L. Rosi, *Organizer, Presiding*

## 8:30 Introductory Remarks.

**8:35 ENFL 441.** Linker engineering on metal-organic frameworks as a platform for sustainable catalysis. W. Huang, L. M. Stanley, X. Li, R. Van Zeeland

**8:55 ENFL 442.** Investigating bulk-like vapor-liquid coexistence in microporous metal-organic frameworks via molecular simulations and NMR relaxometry. E. Braun, S. K. Schnell, J. A. Reimer, B. Smit

## 9:10 ENFL 443. Withdrawn.

**9:25 ENFL 444.** Adsorptive desulfurization over mesoporous materials. G. Liu, Y. Shi, X. Zhang

## 9:40 Intermission.

**9:50 ENFL 445.** Porous metal-organic frameworks for Li-O<sub>2</sub> and Li-ion batteries. Y. Wang, Y. Zhao, Q. Li

**10:05 ENFL 446.** Synthesizing particulate carbon with controlled morphology. H. Ho, A. K. Naskar

**10:20 ENFL 447.** Cobalt-containing Porous Organic Polymer (POP) as precursor of new electrode catalyst for oxygen reduction reaction. Y. Yuan, D. Liu

**10:35 ENFL 448.** Synthesis and characterization of SBA-15 supported catalysts for styrene oxidation. S. Sharma, V. Chaudhary

## 10:50 Concluding Remarks.

## Section C

Grand Hyatt San Francisco  
Sunset

## 13th International Symposium on Heavy Oil Upgrading, Production &amp; Characterization

*Cosponsored by CATL*

C. Mesters, Y. Zhang, *Organizers*

J. J. Adams, *Organizer, Presiding*

Y. Zhang, *Presiding*

**8:30 ENFL 449.** Detailed characterization of vacuum residue through hydrotreatment and hydrocracking for marine fuel application. W. Weiss, I. Merdrignac, J. Barbier

**8:50 ENFL 450.** Study on the FCC process in a downer reactor. C. Zhang, W. Qian, F. Wei

**9:10 ENFL 451.** Development of functionalized polymers for the removal of nitrogen and sulfur compounds from bitumen-derived heavy gas oil. P. Misra, S. Badoga, A. Dalai, J. Adjaye

**9:30 ENFL 452.** Customized catalyst for MIP process to increase cleaner gasoline and propylene production. J. Gong, W. Jiang

**9:50 ENFL 453.** Acceleration of TiO<sub>2</sub>-catalyzed oil upgrading in microdroplets. Y. Lai, Z. Zhou, C. Basheer, R. Zare

## 10:10 Intermission.

**10:25 ENFL 454.** High-resolution mapping of core and shale samples: Combination of laser-induced breakdown spectroscopy with infrared microscopy for advanced characterization. F. A. Lopez-Linares, D. Quarles, J. Gonzalez, T. Miao, L. Poirier

**10:45 ENFL 455.** Carbon dioxide storage in heavy oil reservoirs. B. Hascakir

## 11:05 Concluding Remarks.

## Section D

Grand Hyatt San Francisco  
Curran

## Innovative Chemistry &amp; Materials for Electrochemical Energy Storage

## Electrochemical Catalysis &amp; Energy Conversion

*Cosponsored by MPPG<sup>†</sup> and PMSE*

Y. Mo, E. Pomerantseva, *Organizers*

J. Guo, *Organizer, Presiding*

## 8:30 Introductory Remarks.

**8:35 ENFL 456.** Construction and intelligent manipulation of nanocarbon composite electrodes toward energy storage and mechanical conversion devices. G. Wu

**8:55 ENFL 457.** Solar-driven water oxidation and decoupled hydrogen production mediated by an electron-coupled-proton buffer. L. Cronin

**9:15 ENFL 458.** Facile synthesis of 3D PtBi intermetallic nanoplates with highly catalytic activity toward methanol/ethanol oxidation. X. Yuan, Q. Zhang

**9:35 ENFL 459.** Series of ionomers and their SiO<sub>2</sub>-TiO<sub>2</sub> inorganic-organic nanocomposites for PEM fuel cells. F. Huang, T. D. Largier, B. Motealleh, C. J. Cornelius

## 9:55 Intermission.

**10:05 ENFL 460.** Synthesis and characterization of Au-Ru core-branched nanoparticles for oxygen evolution reaction catalysts. L. Glog, S. Cheong, Y. Li, C. Zhao, J. Gooding, R. Tilley

**10:25 ENFL 461.** Valence- and element-dependent water oxidation behaviors: *In-situ* x-ray scattering, absorption and electrochemical impedance spectroscopies. H. Chen

**10:45 ENFL 462.** Sulfonated poly(phenylene)s/novel branched polysulfone-based polymer blend for PEM fuel cell. B. Motealleh, T. D. Largier, F. Huang, C. J. Cornelius

**11:05 ENFL 463.** High-performance flexible thermoelectric generator based on carbon nanotube yarn. J. Choi, Y. Jung, H. Kim, C. Park

## ENVR

## Division of Environmental Chemistry

S. Obare and S. Al-Abed, *Program Chairs*

## OTHER SYMPOSIA OF INTEREST:

**ACS-CEI Award for Incorporating Sustainability into Chemistry Education** (see CHED, Mon)

**Perspectives on Climate Change Literacy & Education: Local to International** (see CHED, Tue)

**Environmental Challenges & Solutions in Unconventional Oil & Gas Development** (see GEOC, Wed, Thu)

**Elucidation of Mechanisms & Kinetics on Surfaces** (see CATL, Sun, Mon, Tue, Wed, Thu)

**Mineral-Water Interface Chemistry: A Tribute to Glenn Waychunas** (see GEOC, Sun, Mon, Tue, Wed)

**Chemistry & Physical Chemistry of Thermal Processes for the Circular Carbon Economy** (see CELL, Mon)

## SOCIAL EVENTS:

**Reception**, 6:00 PM: Tue

**Breakfast**, 7:45 AM: Mon

## BUSINESS MEETINGS:

**Program Planning Committee Meeting**, 2:00 PM: Sun

**Long Range Planning Committee Meeting**, 3:00 PM: Sun

**Executive Committee Meeting**, 7:00 PM: Sun

## SUNDAY MORNING

## Section A

San Francisco Marriott Marquis  
Salons 10/11

## Tribute to Jerry Schnoor

J. G. Burken, D. M. Cwiertyny, C. L. Just, *Organizers, Presiding*

**8:30 ENVR 1.** Climate change adaptation for infrastructure: A grand challenge for civil and environmental engineering. D. A. Dzombak, C. Samaras

**9:00 ENVR 2.** Mechanisms governing algal mitigation of atmospheric CO<sub>2</sub> in shallow saline lakes of the Chilean Altiplano region. A. L. Prieto, A. de la Fuente

**9:20 ENVR 3.** Substrate specificity of kinetic isotope effects associated with the dioxygenation of (nitro)aromatic contaminants is due to uncoupling of O<sub>2</sub> activation. S. G. Pati, H. E. Kohler, A. Pabis, P. Paneth, R. E. Parales, T. B. Hofstetter

**9:40 ENVR 4.** Carbon and nitrogen isotope fractionation reveals the biodegradation of 2,4-dinitroanisole. T. B. Hofstetter, J. Bolotin, M. Palatucci, J. C. Spain

## 10:00 Intermission.

**10:15 ENVR 5.** From phytoremediation to nanotechnology: A tribute to Jerald Schnoor. J. L. Gardea-Torresdey

**10:45 ENVR 6.** Nanoparticle surface affinity as a predictor of trophic transfer. N. Geitner, S. Marinakos, C. Guo, N. O'Brien, M. Wiesner

<sup>†</sup>Cooperative Cosponsorship

11:05 ENVR 7. Impact of cerium oxide nanoparticles on the uptake and accumulation of cadmium in soybean (*Glycine max L.*). X. Ma, L. Rossi, P. Schwab

## Section B

San Francisco Marriott Marquis  
Salons 12/13

### Oxidation Processes, Nanoparticles & Membranes in Water & Wastewater Treatment: A Symposium in honor of Prof. Jun Ma

#### Oxidation Processes

Financially supported by Sciex China

D. D. Dionysiou, J. Fang, *Organizers*

V. K. Sharma, *Organizer, Presiding*

A. T. Stone, *Presiding*

#### 8:30 Introductory Remarks.

8:40 ENVR 8.  $\text{Bi}_2\text{WO}_6$ -graphene nanocomposites with laminar structure for environmental remediation. B. Ren, M. Nadagouda, D.D. Dionysiou

9:05 ENVR 9. Photocatalytic inactivation mechanisms of bacteria as well as the decomposition of Antibiotic-Resistance Genes (ARG). G. Li, H. Yin, Q. Jiang, T. An

9:30 ENVR 10. Activation of peroxides by phosphate ion for water purification. Y. Yang, J. Kim, J.J. Pignatello

9:50 ENVR 11. Degradation of the typical macrolide antibiotic roxithromycin by  $\text{UV}/\text{H}_2\text{O}_2$ : Reaction kinetics and degradation byproducts. W. Li, X. Xu, Y. Tang, Y. Zhang

#### 10:10 Intermission.

10:25 ENVR 12. Overlooked oxidation states of chemical elements in treatment plants and the environment: Interconnections between speciation and reactivity. A.T. Stone, X. Xia, W. Liao

10:50 ENVR 13. Catalytic ozonation processes not relying on hydroxyl radical oxidation. T. Zhang

11:15 ENVR 14. Role of the propagation reactions on the hydroxyl radical formation in the ozonation and catalytic ozonation of real waters. Y. Liu, J. Ma, J. Jiang, L. Zhang

11:35 ENVR 15. Reaction kinetics and degradation pathway of antipyrine during chlorine dioxide disinfection process. X. Jia, L. Zhang, L. Feng, Y. Liu

## Section C

San Francisco Marriott Marquis  
Salons 14/15

### Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet

Cosponsored by CHED

Financially supported by AEESP

M. J. McGuire, F. L. Rosario, *Organizers*

J. A. Pedersen, *Organizer, Presiding*

#### 8:00 Introductory Remarks.

8:10 ENVR 16. Three decades of research at CIRSEE Suez on taste and odor in drinking water, under the umbrella of Prof. I.H. Mel Suffet. A.L. Bruchet

8:35 ENVR 17. Estimates of threshold, recognition and objection concentrations for crude 4-methylcyclohexanol and methyl t-butyl ether in water. M.J. McGuire, I.H. Suffet

9:00 ENVR 18. Chemical spill of crude MCHM into the Elk River. J. Rosen

9:25 ENVR 19. From Philly to smell A - tracking, measuring, and controlling non-H2S odor nuisances. J. Witherspoon, S. Cowden, I.H. Suffet

9:50 ENVR 20. Importance of sensory analysis and odor activity values in the determination of odorants causing nuisance in the wastewater treatment process. T. Vitko, Y. Zhou, I.H. Suffet

#### 10:15 Intermission.

10:30 ENVR 21. Determination of the primary odor nuisances from wastewater treatment plants. Y. Zhou, T. Vitko, I.H. Suffet

10:55 ENVR 22. Occurrence and fate of sensory compounds in water reuse. S.W. Krasner, A. Jia, C. Lee, T.R. Slifko

11:20 ENVR 23. Two phase interactions: A lynchpin of environmental chemistry. I.H. Suffet

## Section D

San Francisco Marriott Marquis  
Golden Gate C1

### Understanding Dissolved Organic Matter Reactivity: Honoring George Aiken, the DOM Whisperer

Y. Chin, *Organizer*

D. M. McKnight, *Organizer, Presiding*

#### 8:00 Introductory Remarks.

8:10 ENVR 24. In defense of DOM molecular models. J. Leenheer

8:45 ENVR 25. Investigation of the effect of solvent polarity and temperature on the optical properties of dissolved organic matter. J.A. Korak, G. McKay, P.R. Erickson, D.E. Latch, K.P. McNeill, G. Aiken, F.L. Rosario

9:10 ENVR 26. Carbon tracing: Environmental applications of wet oxidation total organic carbon cavity ring-down spectroscopy. C. Conaway

9:35 ENVR 27. High resolution mass spectrometry of leachate from soils subject to simulated wildfire heating. J. Webster, R. Young, T. Borch, F.L. Rosario

#### 10:00 Intermission.

10:10 ENVR 28. Using the reverse osmosis/electrodialysis method to isolate natural organic matter from rivers and estuaries in coastal Georgia. E.M. Perdue, S. Driver

10:45 ENVR 29. Isolation of Dissolved Organic Matter (DOM) with XAD resins: Early studies. E.M. Thurman

11:10 ENVR 30. Classification analysis of humic substances fractionated using size exclusion chromatography based on numerical descriptors generated from the data of Fourier transform mass spectrometry. I.V. Perminova, A.V. Kudryavtsev, M. Kazachkov, A. Konstantinov, E. Belyaeva, A. Gaspar, P. Schmitt-Kopplin, G. Abbt-Braun, F. Frimmel

11:35 ENVR 31. Dependence of reduced sulfur in Everglades dissolved organic matter on sulfate enrichment. B. Poulin, J.N. Ryan, K.L. Nagy, T. Dittmar, A. Stubbins, W. Orem, D.P. Krabbenhoft, G. Aiken

## Section E

San Francisco Marriott Marquis  
Sierra A

### Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse

Financially supported by AEESP

D. D. Dionysiou, X. He, K. E. O'Shea, X. Quan, *Organizers*

G. Li Puma, D. Minakata, *Organizers, Presiding*

#### 8:00 Introductory Remarks.

8:05 ENVR 32. Molecular modeling of aqueous radical chemistry: Estimating chemical properties and elucidating reaction pathways. J. Arey, P. Tentscher, J.J. Guerard, D. Trogolo

8:40 ENVR 33. Linking treatment to toxicology - Screening for toxic transformation products formed during oxidative treatment of organic contaminants. C. Prasse, B. Drew-Ford, D. Nomura, D.L. Sedlak

9:05 ENVR 34. Effect of solution conditions on reactive oxidant production during chlorine photolysis. D. Manley, C.K. Remucal

9:30 ENVR 35. Enhancing photocatalytic degradation of the cyanotoxins microcystin-LR and nodularin with the addition of sulfate-radical producing oxidants. M.G. Antoniou, I. Boraie, D.K. Pantelide, M. Abhishek, C. Edwards, L. Lawton

#### 9:55 Intermission.

10:10 ENVR 36. Mechanistic insight into reactivity of chlorinated radicals in UV/chlorine advanced oxidation system. D. Minakata, D. Kamath, S. Maetzold, D. Perram

10:45 ENVR 37. Ag/AgCl @ chiral  $\text{TiO}_2$  nanofibers plasmonic photocatalyst for removal of contaminants of emerging concern in simulated and urban wastewater. G. Li Puma, D. Wang, Y. Li

11:10 ENVR 38. Impact of halides on the degradation of amino acid residues in biomolecules. Y. Komaki, J. Choe, W. Mitch

11:35 ENVR 39. Investigation of radical chloramine reaction kinetics and thermodynamics under advanced oxidation processes. J. Gleason, S.P. Mezyk, K.P. Ishida

## Section F

San Francisco Marriott Marquis  
Sierra B

### Contaminants of Emerging Concern in Natural & Engineered Systems

Cosponsored by AGRO, ANYL and CEI

L. M. Blaney, A. J. Hernandez, *Organizers, Presiding*

#### 8:30 Introductory Remarks.

8:35 ENVR 40. Mineral-catalyzed hydrolysis of organophosphorus flame retardants - a potential major fate-controlling sink in soil and aquatic environments. Y. Fang, E. Kim, T.J. Strathmann

8:55 ENVR 41. Drug co-binding at mineral surfaces. J. Xu, R. Marsac, D. Costa, J. Boily, F. Wu, K. Hanna

9:15 ENVR 42. Discrete molecular dynamics to screen for co-contaminant risk potential of nanomaterials in agriculture. N. Geitner, M. Wiesner

9:35 ENVR 43. Molecular dynamics simulation and experimental study of the adsorption of phthalate esters on clay surfaces. J. Willemsen, I.C. Bourg

#### 9:55 Intermission.

10:15 ENVR 44. Fixed-bed adsorption of contaminants of emerging concern from water using  $\text{Cu}^{2+}$  amino grafted SBA-15. K. Ortiz-Martinez, F. Roman, A.J. Hernandez

10:35 ENVR 45. Development of pH-responsive block copolymers membranes reinforced with nanocellulose for the adsorption of emerging contaminants. J. Herrera, L. Rivera, E.O. Ortiz Quiles, E. Nicolau

#### 10:55 ENVR 46. Withdrawn.

#### 11:15 ENVR 47. Withdrawn.

11:35 ENVR 48. Simultaneous removal of multiple contaminants of emerging concern via biofiltration. K. Greenstein, J. Lew, E. Dickenson, E. Wert

#### 11:55 Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Sierra C

### Accurate Mass/High Resolution Mass Spectrometry for Environmental Monitoring & Remediation

Cosponsored by ANYL

T. Anumol, R. Marfil-Vega, T. M. Young, *Organizers, Presiding*

8:00 ENVR 49. Identification of known, suspected, and unknown contaminants by nontarget analysis of Polar Organic Chemical Integrating Sampler (POCIS) extracts. E.T. Furlong, L.K. Kanagy, W.T. Foreman, D.A. Alvarez

8:25 ENVR 50. Broad-scope screening for organic contaminants in wastewater at the sub-sewershed scale to identify source contributions. J. Teerlink, C. Alaimo, T.M. Young

8:50 ENVR 51. Organic contaminants monitoring during water treatments by UHPLC-HRAM: From influent to effluents. D.D. Yang, T. Anumol

9:15 ENVR 52. When does a GAC filter become a biofilter for removing seasonal trace organics? Application of LC/QTOF analysis to evaluate (bio-) filter performance. R. Marfil-Vega, M. Surmeier, O. Schneider, E. Dickenson

9:40 ENVR 53. Non-targeted analysis reveals a novel bacterial metabolite of pyrene implicated in genotoxicity of bioremediated soil. Z. Tian, A. Gold, J. Nakamura, Z. Zhang, J. Vila, D. Singleton, L. Collins, M. Aitken

#### 10:05 Intermission.

10:20 ENVR 54. LC/Q-TOF-MS for the identification of environmental metabolites and degradation products. I. Ferrer, E.M. Thurman, J. Zweigenbaum

10:45 ENVR 55. Identifying Poly- and Perfluoroalkyl Substances (PFAS) transformation products in a wastewater treatment plant. E. Houtz, M. Wang, W. Duong, J. Park

11:10 ENVR 56. Quantitative comparison of perfluorinated organic compounds in drinking water between tandem triple quadrupole MS/MS and high resolution mass spectrometry using orbitrap technology-knowns and unknowns. E. George

**11:35 ENVR 57.** Comprehensive targeted and untargeted analysis of Per- and Polyfluoroalkyl Substances (PFASs) in Australian Wastewater and recycled water. **T. Coggan, T. Anumol, B. Clarke**

## Section H

San Francisco Marriott Marquis  
Sierra J

### Green Chemistry & the Environment

*Cosponsored by CEI*

*Financially supported by AEESP*

A. M. Balu, R. Luque, *Organizers*

S. O. Obare, *Organizer, Presiding*

T. Dittrich, D. Vardon, *Presiding*

**8:00** Introductory Remarks.

**8:05 ENVR 58.** Orientation of organic synthesis in water. **C. Len**

**8:40 ENVR 59.** Purification of environmental contaminants from post combustion carbon capture solvents. **S. Bhatnagar, J. Thompson, F. Onneweer, M. Combs, K. Abad, H. Nikolic, K. Liu**

**9:00 ENVR 60.** Bio-based  $\gamma$ -valerolactone and furfuryl alcohol as novel reaction media. **L. Vaccaro, S. Santoro**

**9:20 ENVR 61.** Bimetallic Ru-Sn/AC for the aqueous phase catalytic conversion of microbial acids to alcohols. **D. Vardon, A. Settle, T. Eaton, V. Vorotnikov, G. Beckham**

**9:40** Intermission.

**9:55 ENVR 62.** Measurement of heterocyclic aromatic amines as tracers of anthropogenic contributions to fine particulate matter. **D. Thai, J. Miller-Schulze, A. Lai, M.R. Olson, J.J. Schauer**

**10:15 ENVR 63.** Microwave-induced target oriented synthesis of curcumin-pyrazole derivatives: Potentially important for neuroprotective properties in Alzheimer's disease. **B. Dayal, B. Patel**

**10:35 ENVR 64.** Inorganic-organic microcapsule emulsion for surface and air disinfections. **W. Han, Y. Lai, Q. Chang, H. Leung, Y. Li, Y. Yang, C. Wu, K. Yeung, J. Kwan, C. Chao, Z. Yang**

**10:55 ENVR 65.** Fe-assisted hydrothermal liquefaction of oil palm empty fruit bunch to bio-oil. **Y. Miyata, K. Sagata, M. Hirose, Y. Yamazaki, A. Nishimura, N. Okuda, Y. Arita, Y. Hirano, Y. Kita**

**11:15 ENVR 66.** Kinetic study on the adsorption of humic acid fractions onto clay minerals. **M. ElSayed, M. Khalaf, J. Rice**

**11:35 ENVR 67.** Formation of metal-humate complexes in sediments and environmental impact of heavy metal adsorption in the presence of humic acids. **J. Hizal Yücesoy, R. Apak**

## Section I

San Francisco Marriott Marquis  
Sierra K

### Have Great Lakes Restoration Programs Been Successful? The Case of Legacy & Emerging Pollutants

J. J. Pagano, *Organizer*

K. C. Hornbuckle, *Organizer, Presiding*

**8:00 ENVR 68.** Trends of legacy and emerging contaminants in the Great Lakes based on passive sampling of air and water. **R. Lohmann, C. McDonough, Y. Liu, M. Khairy, P.A. Helm, D.C. Muir**

**8:30 ENVR 69.** Organophosphate flame retardants in the lower Great Lakes: Spatial distribution and air-water exchange. **C.A. McDonough, P.A. Helm, D. Muir, R. Lohmann**

**8:50 ENVR 70.** Spatial and temporal trends of particle phase organophosphate ester concentrations in the atmosphere of the Great Lakes. **A. Salamova, A. Pevery, M. Venier, R.A. Hites**

**9:10 ENVR 71.** Pharmaceuticals and personal care product chemicals in waters and fish in a Great Lakes urban wetland. **D.C. Muir, X. Wang, D. Simmons, J. Sherry**

**9:30 ENVR 72.** GLFMSP Legacy and emerging chemical trends. **B.S. Crimmins, S. Fernando, C. Zhou, H. Zhou, S. Fakouri Baygi, B. Parvizian, P.K. Hopke, T. Holsen, J.J. Pagano, M. Milligan**

**9:50** Intermission.

**10:00 ENVR 73.** How do we reduce chemicals of concern in the Great Lakes after picking the low hanging fruit? **M.L. Diamond, P.A. Helm, L. Jantunen, D. McGoldrick, J. Truong, A. Soehl**

**10:20 ENVR 74.** Concentration trends and elimination rates for polychlorinated dioxins/furans, and dioxin-like polychlorinated biphenyls in Lake Ontario salmonid eggs: 2004-2015. **A.J. Garner, J.J. Pagano**

**10:40 ENVR 75.** Airborne PCBs and OH-PCBs inside and outside rural schools and urban schools near Lake Michigan. **R.F. Marek, A. Awad, N. Herkert, P.S. Thorne, K.C. Hornbuckle**

**11:00 ENVR 76.** Impact of waves on contaminant fate in Great Lakes beach environments. **D.M. O'Carroll, C. Robinson, S. Malott**

**11:20 ENVR 77.** Biomonitoring legacy and emerging Great Lakes contaminants in susceptible Great Lakes populations. **Z. Li, W. Wattigney, S. Naik, E. Irvin-Barnwell, A. Ragin-Wilson**

**11:40 ENVR 78.** GLRI success: Educating government and business towards reducing PBDEs and other chemicals of concern in the Great Lakes and beyond. **A. Blum, M.L. Diamond, G. Peaslee, A. Soehl**

## Mineral-Water Interface Chemistry

### A Tribute to Glenn Waychunas

*Sponsored by GEOC, Cosponsored by COLL and ENVR*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy

*Sponsored by PROF, Cosponsored by ANYL<sup>+</sup>, BIOL<sup>+</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>+</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>+</sup>, POLY, PRES<sup>+</sup> and WCC*

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Theory

*Sponsored by CATL, Cosponsored by COLL and ENVR*

## SUNDAY AFTERNOON

### Section A

San Francisco Marriott Marquis  
Salons 10/11

### Tribute to Jerry Schnoor

J. G. Burken, D. M. Cwiertny, C. L. Just, *Organizers, Presiding*

**1:30 ENVR 79.** My academic journey with electron transfer on Fe minerals and my U. Iowa colleague, Jerry Schnoor. **M. Scherer, L.N. Andrade, Z. Zhou, J.D. Culpepper, D. Latta**

**2:00 ENVR 80.** Modeling adsorption of copper on goethite in natural water systems: Effect of solution chemistry. **J. Han, S.M. Nomaan, L.E. Katz**

**2:20 ENVR 81.** Adsorption, aggregation, and morphological transformation of graphene and graphene oxide with binding pollutants in water. **B. Chen, K. Yang, W. Jun, X. Zhu**

**2:40 ENVR 82.** Advancing materials and reactor design for catalytic technologies for treatment of nitrate-contaminated water. **T.J. Strathmann, C.J. Werth, A. Bergquist, X. Huo**

**3:00** Intermission.

**3:15 ENVR 83.** Environmental applications of nanoparticle-enabled sensing. **P.J. Vikesland, H. Wei, W. Leng, V.R. Breazal, M. Willner**

**3:45 ENVR 84.** Formation and properties of iron(III)-precipitates and their effects on the distribution and fate of phosphorus and arsenic in rice fields and in water treatment. **S.J. Hug, A.C. Senn, R. Kaegi, A. Voegelin**

**4:05 ENVR 85.** Comparison of trace compound migration through a natural aquifer sand. **P. Behra**

### Section B

San Francisco Marriott Marquis  
Salons 12/13

### Oxidation Processes, Nanoparticles & Membranes in Water & Wastewater Treatment: A Symposium in honor of Prof. Jun Ma

### Iron & Manganese Chemistry

*Financially supported by Sciex China*

D. D. Dionysiou, J. Fang, V. K. Sharma, *Organizers*

D. A. Reckhow, T. Zhang, *Presiding*

**1:30** Introductory Remarks.

**1:35 ENVR 86.** Iron(III)-based metal organic frameworks as heterogeneous Fenton-like catalysts for organic pollutant degradation. **C. Gao, X. Guan**

**2:00 ENVR 87.** Activation of manganese oxidants with bisulfite for enhanced oxidation of organic contaminants: The involvement of Mn(III). **X. Guan**

**2:25 ENVR 88.** Role of dissolved Mn(III) in transformation of organic contaminants: Non-oxidative versus oxidative mechanisms. **E. Hu, F. He**

**2:45 ENVR 89.** Cd(II) removal by manganese dioxide formed in situ from permanganate by thiosulfate: Influence of permanganate: Thiosulfate molar ratio. **P. Wang, J. Jiang, J. Ma, H. Cheng, Z. Huang, B. Jia**

**3:05** Intermission.

**3:20 ENVR 90.** Implementation of ferrate for drinking water treatment. **J.E. Tobiason, D.A. Reckhow, J. Goodwill, Y. Jiang, J. Cunningham, X. Mai**

**3:45 ENVR 91.** Synergetic effect of the oxidation of fluoroquinolone antibiotics by a combined use of ferrate(VI) and peroxymonosulfate. **M. Feng, Z. Wang, V.K. Sharma**

**4:10 ENVR 92.** Ferrate(VI) interactions with Natural Organic Matter (NOM) in drinking water treatment. **Y. Deng, Y. Liang, C. Li, T. Waite**

**4:35 ENVR 93.** Withdrawn.

## Section C

San Francisco Marriott Marquis  
Salons 14/15

### Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet

### Physical & Chemical Processes

*Cosponsored by CHED*

*Financially supported by AEESP*

M. J. McGuire, J. A. Pedersen, *Organizers*

F. L. Rosario, *Organizer, Presiding*

**1:30 ENVR 94.** Granular activated carbon adsorption of specific organic compounds: A forty year retrospective of the 1979 National Academy of Science report. **R.S. Summers**

**1:55 ENVR 95.** Fate of contaminants of emerging concern and geosmin in GAC biofilters: The roles of sorption and biodegradation. **R.M. Hozalski, B. Ma, W. Arnold**

**2:20 ENVR 96.** Prediction of the adsorption capacities of organic pollutants on activated carbons in natural waters: Model development and validations. **T. Lin, W. Bunmahotama, W. Hung**

**2:45 ENVR 97.** Predicting adsorption isotherms from adsorbent and adsorbate properties. **D. Knappe, I. Mezzari, T. Speth**

**3:10** Intermission.

**3:25 ENVR 98.** Can GAC be used to control priority unregulated DBPs in drinking water? **S.D. Richardson, A.A. Cuthbertson, S.Y. Kimura, H.K. Liberatore, C. Joseph, D. Knappe, B.D. Stanford, R.S. Summers, E. Dickenson**

**3:50 ENVR 99.** Mn(II) oxidation in Fenton and Fenton-type systems: Identification of reaction efficiency and reaction products. **J. Pena, C.M. Van Gucht**

**4:15 ENVR 100.** Sequential manganese desorption-Adsorption in anthracite coal and silica sand filter media. **C.J. Gabelich, F. Gerringer, C. Chou**

**4:40 ENVR 101.** Treating ion-exchange waste brines with a reduction-coagulation-filtration process using ferrous chloride. **N. Homan, P.G. Green, T.M. Young**

**5:05 ENVR 102.** Ozone-derived NDMA in water reuse: Formation and mitigation. **E. Marti, J.R. Batista, E. Dickenson**



## Section D

San Francisco Marriott Marquis  
Golden Gate C1

### Understanding Dissolved Organic Matter Reactivity: Honoring George Aiken, the DOM Whisperer

Y. Chin, D. M. McKnight, *Organizers*  
K. Cawley, *Presiding*

**1:30 ENVR 103.** X-ray Raman spectroscopy: An alternative approach for characterizing the carbon chemistry of organic matter. E.J. O'Loughlin, B. Mishra, W.T. Cooper, M. Tfaily, J. Jastrow, R.A. Gordon, M. Balasubramanian, K.M. Kemner

**2:05 ENVR 104.** Forces holding organic matter molecules together: Involvement of exceptionally strong hydrogen bonds. J.J. Pignatello, J. Ni

**2:30 ENVR 105.** Petroleum as a surrogate to unlock the compositional and structural continuum of dissolved organic matter. D.C. Podgorsek, P. Zito, M.A. Tarr, R.G. Spencer

**2:55 ENVR 106.** Electrochemical characterization of natural organic matter and its role as an electron transfer mediator in biogeochemical process. P.G. Tratnyek, A.S. Pavitt, J.T. Nurmi

**3:20** Intermission.

**3:30 ENVR 107.** Reactivity of natural organic matter determined by electrospray ionization coupled to Fourier transform ion cyclotron resonance mass spectrometry. P.G. Hatcher

**4:05 ENVR 108.** Withdrawn.

**4:30 ENVR 109.** PARAFAC analysis of irradiation- and oxidation-induced changes in fluorescent dissolved organic matter extracted from poultry litter. K. Mangalgiri, S. Timko, M. Gonsior, L.M. Blaney

**4:55 ENVR 110.** Characterization of organic matter in wastewater from unconventional oil and gas production. W.H. Orem, M. Varonka, A. Bates, T. Schell, M. Engle

**5:20** Concluding Remarks.

## Section E

San Francisco Marriott Marquis  
Sierra A

### Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse

*Financially supported by AEESP*

D. D. Dionysiou, G. Li Puma, D. Minakata, K. E. O'Shea, *Organizers*

X. He, X. Quan, *Organizers, Presiding*

**1:30 ENVR 111.** Ozone regeneration of GAC for prolonged adsorption of brominated THMs. X. He, M. Elkouz, M. Inyang, E. Dickenson, E. Wert

**2:05 ENVR 112.** Development of a computer-based prediction platform for transformation products during ozonation of micropollutants: Kinetics and mechanisms. M. Lee, L. Blum, E. Schmid, K. Fenner, U. von Gunten

**2:30 ENVR 113.** Ozonation of substituted phenolic model compounds: Yields and toxicology of *p*-benzoquinones and polyphenols. P.R. Tentscher, B. Escher, N. Bramaz, K. Schirmer, M. Bourgin, U. von Gunten

**2:55 ENVR 114.** Synergy during the oxidative degradation of organics using ozone combined a carbon nanotube electrochemical filter. B.M. Chaves, M.W. Dezotti, C.D. Vecitis

**3:20** Intermission.

**3:35 ENVR 115.** Mineralization as a mechanism for TOC removal: Study of ozone/ozone-peroxide oxidation using FT-IR. S.A. Carr

**4:00 ENVR 116.** Comparison of the kinetics of the UV/chlorine and the UV/H<sub>2</sub>O<sub>2</sub> processes in the degradation of PPCPs in simulated water and real water. K. Guo, Z. Wu, B. Yao, W. Song, C. Shang, J. Fang

**4:25 ENVR 117.** Chloramine chemistry in AOP treated wastewaters. L. Twight, S.P. Mezyk, K.P. Ishida

**4:50 ENVR 118.** Impact of the UV photolysis of monochloramine on 1,4-dioxane removal: New insights into potable water reuse. S.D. Patton, W. Li, K.D. Couch, S.P. Mezyk, H. Liu

## Section F

San Francisco Marriott Marquis  
Sierra B

### Contaminants of Emerging Concern in Natural & Engineered Systems

*Cosponsored by AGRO, ANYL and CEI*

L. M. Blaney, A. J. Hernandez, *Organizers, Presiding*

**1:30** Introductory Remarks.

**1:35 ENVR 119.** Using fluorescent dissolved organic matter and contaminants of emerging concern to identify leaking wastewater collection systems. K. He, N. Rogers, L.M. Blaney

**1:55 ENVR 120.** Transport and transformation of pharmaceuticals and other contaminants of emerging concern from wastewater discharge through surface water to drinking water intake and treatment. E.T. Furlong, S.T. Glassmeyer, D.W. Kolpin, M. Mills, M. Zimmerman, T. Jones-Lepp, M. Waldron

**2:15 ENVR 121.** Contaminants of emerging concern in Portuguese rivers. A.R. Ribeiro, J. Sousa, M. Barbosa, M.R. Pereira, A.M. Silva

**2:35 ENVR 122.** Estimating the Seattle, WA legal recreational cannabis market share using wastewater-based epidemiology. D.A. Burgard, J.R. Williams, C.J. Banta-Green

**2:55 ENVR 123.** Use of chemical fate & transport research in environmental risk assessment. E.M. Wong, E.L. Libelo, M. Titcombe Lee

**3:15** Intermission.

**3:35 ENVR 124.** Bioaccumulation and estrogenicity of hormones and UV-filters in *Procambarus clarkii*. K. He, A. Timm, L.M. Blaney

**3:55 ENVR 125.** Mixtures of contaminants of emerging concern commonly detected in Great Lakes tributaries reduce reproductive potential in wild and laboratory exposed fishes. H.L. Schoenfuss, L.C. Wang, Z.G. Jorgenson, S.J. Choy, J. Banda, D.J. Gefell, M. Annis, W. Tucker, S.M. Elliott, M.E. Brigham

**4:15 ENVR 126.** Spatio-temporal occurrence, bioaccumulation, and trophic transfer of select contaminants of emerging concern in a semi-arid river influenced by snow-melt. S. Haddad, C. Scott, B. Burket, S. James, G. Saari, L. Kristofco, K. Chambliss, M. Luers, C. Rogers, B.W. Brooks

**4:35 ENVR 127.** Evaluating the impacts of metformin and mixtures of other dominant contaminants of emerging concern in Milwaukee Estuary and Lake Michigan. R. Klaper, J. Crago, N. Niemuth

**4:55 ENVR 128.** Application of water cooling towers for monitoring environmental releases of tritium. R. Brigmon, D. Kaplan, C. Milliken, T. Jannik, H.A. Brant, B. Viner

**5:15** Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Sierra C

### Accurate Mass/High Resolution Mass Spectrometry for Environmental Monitoring & Remediation

*Cosponsored by ANYL*

T. Anumol, R. Marfil-Vega, T. M. Young, *Organizers, Presiding*

**1:30 ENVR 129.** Unknown microcystin screening using LC-MS/MS, triggered information dependent acquisition, and confirmation by Q-TOF analysis with Personal Compound Database and Library. R.A. Trenholm, B. Vanderford

**1:55 ENVR 130.** Expanding targets of UPLC-ToF-MS metabolomics and <sup>15</sup>N labeling in Cyanobacterial Harmful Algal Bloom (CHAB) research: Microcystins and beyond. W.K. Strangman, A. Stewart, J.L. Wright

**2:45 ENVR 131.** Method development of a 2D LC HRMS extraction and detection method for organophosphorus flame retardants in environmental water samples. L. Mullin, M. Mella, C. Mallet, D. Stevens, I. Ericston Jogsten, G. Cleland

**3:10 ENVR 132.** Identification of emerging contaminants from the waste water influenced Tioga River using high resolution accurate mass LC/MS and statistical analysis. J. Zweigenbaum, T. Anumol, L. Kennedy

**3:35** Intermission.

**3:50 ENVR 133.** Comprehensive workflow for micropollutant identification and prioritization using HR/AM tandem mass spectrometry and cheminformatics. L. Ferguson, G.J. Getzinger

**4:15 ENVR 134.** Smart target method development for detection of antiviral compounds in aqueous environmental samples based on suspect screening and HRMS. D. Barcelo, B. Zonja, J. Guillen, M. Lopez de Alda

**4:40 ENVR 135.** LC-HRMS data combined with cluster analysis to compare wastewater treatment efficiency. J.E. Schollée, M. Bourgin, C.S. McArdell, J. Hollender

**5:05 ENVR 136.** Using the US EPA's CompTox Dashboard to support identification and screening of emerging organic contaminants in the environment. A. McEachran, J. Sobus, S. Newton, M. Strynar, A.J. Williams

## Section H

San Francisco Marriott Marquis  
Sierra J

### Green Chemistry & the Environment

*Cosponsored by CEI*

*Financially supported by AEESP*

A. M. Balu, R. Luque, *Organizers*  
S. O. Obare, *Organizer, Presiding*

T. Dittrich, D. Vardon, *Presiding*

**1:30 ENVR 137.** Withdrawn.

**1:50 ENVR 138.** Aluminum-cycle ion exchange process for hardness removal: A new approach for sustainable softening. M. German, J. Li, A.K. Sengupta

**2:10 ENVR 139.** Chlorate formation in on-site hypochlorite generators: Dependence on pH-level, temperature and storage time. L. Kriem, R.N. Biagioni

**2:30 ENVR 140.** Alpha-pinene isomerization over silica supported heteropolyacids. L. Frattini, M. Isaacs, C.M. Parlett, K. Wilson, G. Kyriakou, A.F. Lee

**2:50 ENVR 141.** Bandgap engineering of Bi<sub>2</sub>Ti<sub>2</sub>O<sub>7</sub> through foreign ion incorporation via solution combustion synthesis. G.F. Samu, K. Rajeshwar, C. Janaky

**3:10** Intermission.

**3:25 ENVR 142.** Mesoporous manganese oxide catalyzed aerobic oxidative coupling of anilines to aromatic azo compounds. B. Dutta, S.L. Suib

**3:45 ENVR 143.** Effect of elevated atmospheric CO<sub>2</sub> on arsenic uptake in different ecotypes of *Arabidopsis thaliana*: Implications for phytoremediation efficacy. V. Fernandez-Alos, J. Barnaby, M. Tomecek, E. Codling, L. Ziska

**4:05 ENVR 144.** Electrochemical generation of H<sub>2</sub>O<sub>2</sub>: Development of a reactor with carbon catalysts for portable low-cost water purification. Z. Chen, S. Chen, S. Siahrostami, P. Chakthranont, C. Hahn, D. Nordlund, D. Sokaras, J.K. Norskov, Z. Bao, T.F. Jaramillo

**4:25 ENVR 145.** Biopolymers as treatment agents for crude oil-contaminated seawater. T. Ameh, R. Srinivasan, C. Thompson, B. Bellows, M. Murphy

**4:45 ENVR 146.** Bio-inspired doped calcium carbonate particles for effluent removal from waste water. H. Ramesh, K. Radhakrishnan, S. Kumar Nadar, A. Raichur

**5:05 ENVR 147.** Waste shell biorefinery: Dream or reality? N. Yan

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## Section I

San Francisco Marriott Marquis  
Sierra K

## Integrated &amp; Sustainable Environmental Remediation

Cosponsored by CEI

S. K. Brar, R. Galvez, *Organizers*  
M. Cledon, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 ENVR **148**. Effect of synergistic interaction between Ce and Mn on the CO<sub>2</sub> capture of calcium-based sorbent: Textural properties, ability of donating electrons, and generation of oxygen vacancy. H. Guo, J. Feng, Y. Zhao, X. Ma, S. Wang

1:55 ENVR **149**. Chemical and adsorptive characterization of solids to capture greenhouse gases under standard conditions of temperature and pressure. B. Delgado, A. Avalos Ramirez, R. Lagacé, A. Giroir-Fendler, S. Godbout

2:15 ENVR **150**. Biodegradation of hexabromocyclododecane by *Rhodospseudomonas palustris* sp. R. Wang, T. Chang, Y. Peng, Y. Shih

2:35 ENVR **151**. Withdrawn.

2:55 ENVR **152**. Assessment of changes in ecotoxicity of dredged marine sediment by sediment treatments for TPH removal. K. Kim, G. Joo, B. Jeong, K. Nam, Y. Choi

3:15 Intermission.

3:30 ENVR **153**. Sediment contaminant accumulation in stormwater catchment basins: New implications for management guidelines. V. Craver, L. Schiffman, V. Kasaraneni, T. Boving

3:50 ENVR **154**. Advanced study of unconventional oil behaviour in regard to surface water oil spills. R. Galvez

4:10 ENVR **155**. Integrated municipal solid waste management: Renewable energy and activated carbons for leachate treatment. J.L. Goldfarb, C. Gopu

4:30 ENVR **156**. Removal of chlortetracycline from water using immobilized laccase onto adsorptive membrane. M. Taheran, M. Naghdi, S.K. Brar, E.J. Knystautas, M. Verma, R.Y. Surampalli, J.R. Valero

4:50 ENVR **157**. Electrochemical deposition for the recovery and separation of metals: A novel approach for reclaiming rare earth and specialty elements from industrial waste and processing streams. M. O'Connor, R. Coulthard, D. Plata

5:10 ENVR **158**. Withdrawn.

## Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG, ORGN and PROF

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Novel Reactions, Methodologies &amp; Syntheses in Organic Chemistry

Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC

## Mineral-Water Interface Chemistry

## A Tribute to Glenn Waychunas

Sponsored by GEOC, Cosponsored by COLL and ENVR

## Elucidation of Mechanisms &amp; Kinetics on Surfaces

## Surface Science

Sponsored by CATL, Cosponsored by COLL and ENVR

## MONDAY MORNING

## Section A

San Francisco Marriott Marquis  
Salons 10/11

## Tribute to Jerry Schnoor

J. G. Burken, D. M. Cwiertny, C. L. Just, *Organizers, Presiding*

8:00 ENVR **159**. Nanoparticle surface affinity as a predictor of nanoparticle fate, biouptake and trophic transfer. M. Wiesner, N. Geitner, A. Turner, N. O'Brian

8:30 ENVR **160**. Analytical and toxicological studies of emerging water disinfection byproducts halobenzoquinones. X. Li, W. Wang, J. Li, G. Huang, L. Blackstock-Jmaiff, I. Vander Meulen, J. Zhang

8:50 ENVR **161**. DLVO energy of interaction of macromolecule-coated silver nanoparticles. T. Zhu, D. Lawler

9:10 ENVR **162**. Waste acid as the energy source for desalination, softening and mechanical work. A.K. Sengupta, M. German

9:30 Intermission.

9:45 ENVR **163**. Phytorensic methods from the air: Hyperspectral Image (HSI) comparison of plant responses to energetics exposure and drought stress. P. Manley, A. Ghulam, Z. Yin, M.Y. Berezin, C.E. Johnson, J.G. Burken

10:15 ENVR **164**. Differential response of *Arabidopsis thaliana* to Polychlorinated Biphenyls (PCBs) and their hydroxylated metabolites (OH-PCBs). B. VanAken, S. Subramanian, J.L. Schnoor

10:35 ENVR **165**. Photolysis of 2,4-dinitroanisole and its metabolites in *Arabidopsis* leaves. H. Schroer, C.L. Just

10:55 ENVR **166**. Innovations in passive sampling for bioavailable contaminants in sediments. D.D. Reible, X. Shen, M. Rakowska, S. Yan

## Section B

San Francisco Marriott Marquis  
Salons 12/13

## Oxidation Processes, Nanoparticles &amp; Membranes in Water &amp; Wastewater Treatment: A Symposium in honor of Prof. Jun Ma

## Advanced Oxidation Processes

Financially supported by Sciex China

D. D. Dionysiou, J. Fang, V. K. Sharma, *Organizers*

Y. Lee, W. Mitch, *Presiding*

8:00 Introductory Remarks.

8:05 ENVR **167**. Understanding chloramine-driven photochemistry for water reuse applications. H. Liu

8:30 ENVR **168**. Transformation of benzophenone-4 by chlorine, chloramine, and UV/chlorine. J. Lu, Y. Ji

8:50 ENVR **169**. Comparison of UV/free chlorine, UV/monochloramine, and UV/hydrogen peroxide advanced oxidation processes for contaminant degradation under scenarios relevant to potable reuse. Y. Chuang, W. Mitch

9:10 ENVR **170**. Investigation of the iopamidol degradation by UV/chlorine. X. Kong, J. Jiang, J. Ma, J. Fang

9:30 ENVR **171**. Reactive chlorine species significantly contributes to the degradation of trimethoprim in the UV/chlorine process. Z. Wu, K. Guo, C. Shang, J. Fang

9:50 Intermission.

10:05 ENVR **172**. Radical chemistry of the UV/chlorine process on the degradation of micropollutants in water treatment. J. Fang, K. Guo, Z. Wu, M. Pan, Z. Ren, C. Shang

10:30 ENVR **173**. Formation and conversion of sulfate radical and hydroxyl radical in UV/peroxymonosulfate system. Y. Guan, J. Ma

10:55 ENVR **174**. Degradation of chlorophenol by hydroxylamine and peroxymonosulfate. L. Chen, J. Zhang, P. Wang, Y. Huang, B. Wu

11:15 ENVR **175**. Kinetic study of hydroxyl and sulfate radical-mediated oxidation of pharmaceuticals in wastewater effluents. L. Lushi, B. Yao, S. Hou, J. Fang, S. Yan, W. Song

11:35 ENVR **176**. Denitration and renitration processes in sulfate radical-based oxidation of nitroaromatic compounds. Y. Ji

## Section C

San Francisco Marriott Marquis  
Salons 14/15

## Chemistry of Water Treatment from Sorption to Taste &amp; Odor: Symposium honoring the Contributions of Mel Suffet

## Physical &amp; Chemical Processes

Cosponsored by CHED

Financially supported by AEESP

J. A. Pedersen, F. L. Rosario, *Organizers*

M. J. McGuire, *Organizer, Presiding*

8:00 ENVR **177**. Efficient anaerobic membrane bioreactor treatment of municipal wastewater for energy and biosolids reduction. P. McCarty, J. Kim, C. Shin, J. Bae

8:25 ENVR **178**. Optimization of urban groundwater recharge systems that infiltrate combined stormwater and recycled water through surface spreading basins. J.L. Bradshaw, R.G. Luthy

8:50 ENVR **179**. Thermal air oxidation during biomass char formation and its effects on adsorption of organic compounds. J.J. Pignatello

9:15 ENVR **180**. Modeling organic contaminant sorption by biochar and activated carbon: Insights into concentration independent removal and isotherm curvature. K. Shimabuku, J. Paige, M. Luna Agüero, R.S. Summers

9:40 ENVR **181**. Advanced oxidation-driven transformation of Contaminant Candidate List (CCL<sub>2</sub>) compounds in drinking water. K. Linden, U. von Gunten, H. Mestankova, A.M. Parker, S. Canonica, K. Schirmer

10:05 Intermission.

10:20 ENVR **182**. Toxicity profiles and metastable disinfection byproducts. D.A. Reckhow, Y. Yu

10:45 ENVR **183**. Regeneration of strong base ion exchange resin for hexavalent chromium removal. J.A. Korak, M. Arias-Paic

11:10 ENVR **184**. Options for hydrogen sulfide remediation in complex water matrices. L.E. Schweitzer

11:35 ENVR **185**. Water disinfection: From laboratory bench to full scale. Where we are and where we need to go. C.N. Haas, B. Farouk, W. Wei

## Section D

San Francisco Marriott Marquis  
Golden Gate C1

## Understanding Dissolved Organic Matter Reactivity: Honoring George Aiken, the DOM Whisperer

Y. Chin, D. M. McKnight, *Organizers*  
R. M. Cory, *Presiding*

8:00 Introductory Remarks.

8:10 ENVR **186**. What can simple measurements of DOM tell us when made in new ways? B. Bergamaschi

8:45 ENVR **187**. Characterization of dissolved organic matter during municipal wastewater treatment. C.K. Remucal, A. Maizel, S. Berg

9:10 ENVR **188**. Characterization of fluorescent DOM in textile dyeing wastewater. C. Cheng, J. Wu, B. Liu, J. Tang, K.M. Saleem

9:35 ENVR **189**. Reactivity towards N-Nitrosamines of bulk and trace organics of wastewater origin. P.K. Westerhoff, J. Rice, D. Hanigan, A. Dotson

10:00 Intermission.

10:10 ENVR **190**. National Ecological Observatory Network (NEON): Dissolved organic matter quantity and quality. K. Cawley

10:45 ENVR **191**. Relationships between microbial activity, nutrients, and organic matter chemistry in urban-impacted rivers. R.S. Gabor, R. Smith, J.F. Shah, P.D. Brooks

11:10 ENVR **192**. Concentration-discharge relationships during the recession of an extreme flood in the Boulder Creek Watershed: Patterns of lithologic solute concentrations contrast with decreases in concentration and changes in chemical quality of dissolved organic material. G. Rue, D.M. McKnight, N. Rock, R.S. Gabor, M. Tfaily

11:35 ENVR **193**. Pb and Hg mobilization by dissolved organic matter in an ombrotrophic peatland. J. Jeremiason, S.D. Sebestyen, E. Baumann, E. Seelen, A. Agather

‡ Cooperative Cosponsorship

## Section E

San Francisco Marriott Marquis  
Sierra E

### Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse

Financially supported by AEEP

D. D. Dionysiou, X. He, G. Li Puma, D. Minakata, X. Quan, *Organizers*

K. E. O'Shea, *Organizer, Presiding*

A. Pintar, *Presiding*

**8:00 ENVR 194.** Improved electron-hole separation/migration in anatase TiO<sub>2</sub> nanotube/reduced graphene oxide composites for efficient photocatalytic degradation of bisphenol A. G. Zerjav, S. Arshad, P. Djinicovic, I. Junkar, J. Kovac, J. Zavasnik, A. Pintar

**8:35 ENVR 195.** Nitrogen doped porous carbon with peroxymonosulfate activation capability for effective water treatment. G. Wang, X. Quan, S. Chen, H. Yu

**9:00 ENVR 196.** Post-illumination activity of SnO<sub>2</sub> nanoparticle-decorated Cu<sub>2</sub>O nanocubes by H<sub>2</sub>O<sub>2</sub> production in dark from photocatalytic memory. L. Liu, W. Sun, W. Yang, Q. Li, J. Shang

**9:25 ENVR 197.** Photocatalytic removal of triclosan and triclocarban by zinc oxide and nitrogen-doped reduced graphene oxide. M. Hwangbo, T. Alivio, Y. Shi, S. Banerjee, K. Chu

**9:50** Intermission.

**10:05 ENVR 198.** Efficient contaminant degradation by hydrogen peroxide activated graphite-supported Fe-TAML catalyst. Y. Chang, C. Miller, D. Waite

**10:30 ENVR 199.** Evaluations of biotrickling filters for the removal of mixtures of trihalomethanes under two environmental conditions. B. Mezgebe, G. Sorial, E. Sahle-Desessie

**10:55 ENVR 200.** Reactivity of trichloramine (NCl<sub>3</sub>) with amino acids prior to advanced oxidation process treatment. L. Watts, J. Gleason, S.P. Mezyk, K.P. Ishida

**11:20 ENVR 201.** Photocatalytic activity enhancement of ZnO thin films under visible light using Bi<sub>2</sub>O<sub>3</sub> dots. J.C. Medina, N.S. Portillo-Veléz, M. Bizarro, A. Hernández-Gordillo, S.E. Rodil

## Section F

San Francisco Marriott Marquis  
Sierra B

### Contaminants of Emerging Concern in Natural & Engineered Systems

Cosponsored by AGRO, ANYL and CEI

L. M. Blaney, A. J. Hernandez, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:35 ENVR 202.** Role of Mn-oxide controlling the pathways of glyphosate degradation. H. Li, D. Jaisi

**8:55 ENVR 203.** Kinetic study of thermal monochloramine reactions with nitrogenous compounds. J. Gleason, S.P. Mezyk, K.P. Ishida

**9:15 ENVR 204.** Impact of sulfate ions on electrochemical oxidation of recalcitrant organic compounds using boron-doped diamond anodes. A. Farhat

**9:35 ENVR 205.** Effect of chlorination and chloramination on the removal of micropollutants in wastewater treatment plants. N. Bilgin Saritas, E. Aydin, E. Pehlivanoglu Mantas

**9:55** Intermission.

**10:15 ENVR 206.** Investigation of radical chlorine species reactions in advanced oxidation processes. S.P. Mezyk, J. Castillo, J. Gleason, K.P. Ishida

**10:35 ENVR 207.** Coupled titanium dioxide photocatalysis and filtration to mitigate organic matter and estrogens. C. Johnson, P.J. McNamara, B. Mayer

**10:55 ENVR 208.** Kinetic study of organo-phosphate flame retardant reactions with hydroxyl radicals. S.P. Mezyk

**11:15 ENVR 209.** Regulated and unregulated halogenated disinfection byproduct formation from chlorination of high salinity groundwaters. A. Szczuka, W. Mitch

**11:35** Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Sierra C

### Accurate Mass/High Resolution Mass Spectrometry for Environmental Monitoring & Remediation

Cosponsored by ANYL

T. Anumol, R. Marfil-Vega, T. M. Young, *Organizers, Presiding*

**8:00 ENVR 210.** Characterization of nitro-substituted polycyclic aromatic hydrocarbons from standard diesel particulate matter using liquid chromatography orbitrap mass spectrometry. M.S. Bataineh

**8:25 ENVR 211.** Identifying trace environmental contaminants in CO<sub>2</sub> capture solvents from coal-fired power plants using high resolution Time-of-Flight Mass Spectrometry (TOF-MS). J.G. Thompson, S. Bhatnagar, K. Liu

**8:50 ENVR 212.** Utilization of soft and hard ionization techniques with 2-dimensional gas chromatography and high-resolution mass spectrometry for unknown identification in hydraulic fracturing fluid, flowback and produced water samples. J. Rosenblum, K. Linden, A.J. Dane, E. Thurman, I. Ferrer

**9:15 ENVR 213.** Nontarget analysis of hydraulic fracturing flowback waters throughout the fracturing process using LC-QToF-MS. K. Oetjen, P.C. Winkler, T.Y. Cath, J. Blotvogel, T. Borch, R. Young, C.P. Higgins

**9:40 ENVR 214.** Identifying endocrine disrupting compounds in treated sewage sludge using non-targeted LC/MS/MS and CALUX cell-based bioassays. G. Pecora, T.M. Young, T. Anumol

**10:05** Intermission.

**10:20 ENVR 215.** Exploring the great unknown: Role of NTA in ensuring water safety. S.A. Snyder

**10:45 ENVR 216.** Resolving masses and bottlenecks for long-term LC-MS monitoring with the enviMass workflow version 3.2. M.J. Loos, S. Ruppe, J. Mazacek, H. Singer

**11:10 ENVR 217.** Suspect and non-target screening of organic contaminants in stormwater runoff and exposed fish. E.P. Kolodziej, B. Du, J. Lofton, J. McIntyre, N. Scholz, J. Davis, J.E. Baker

**11:35** Discussion.

**11:55** Concluding Remarks.

## Section H

San Francisco Marriott Marquis  
Sierra J

### Sulfidation of Metal-Based Engineered & Natural Nanomaterials: Implications for Their Fate & Effects in the Environment

Y. Bi, P. K. Westerhoff, *Organizers*

D. Fan, P. G. Tratnyek, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 ENVR 218.** Rates, mechanisms, and impacts of sulfidation of metal and metal oxide nanoparticles on their fate and effects in wastewater treatment plants and freshwater wetland mesocosms. G. Lowry, J.P. Stegemeier

**8:35 ENVR 219.** Formation and oxidative stability of metal sulfide nanoparticles and 2D nanosheets. Z. Wang, Y. Zhang, E. Gray, A. Peterson, R. Hurt

**9:05 ENVR 220.** Dissolution behavior of silver nanoparticles and formation of secondary sulfidated silver nanoparticles in municipal wastewater by single particle ICP-MS. S. Ghoshal, M.M. Azodi

**9:25 ENVR 221.** Silver nanoparticles fate at the solution/biofilm/mineral interface. M. Desmau, G. Alexandre, C. Levard, G. Ona-Nguema, V. Vidal, M. Auffan, P.J. Eng, M.F. Benedetti

**9:45 ENVR 222.** Electroanalytical methods in characterization of metal sulphide nanoparticles in water environment. M. Margués, I. Coha, M. Lovrić, I. Ciglenecki

**10:05** Intermission.

**10:20 ENVR 223.** Spectroscopic investigation of the mechanism and kinetics of the sulfidation of Fe<sup>III</sup>-(oxyhydr)oxide nanoparticles. N. Kumar, V. Noël, J. Pacheco, K. Maher, G.E. Brown

**10:50 ENVR 224.** Oxidation of synthetic iron(II) monosulfide at circumneutral pH when exposed to aerobic conditions: Fe-mineral transformations and oxidizing capacity of the system. C. Miller, R. Collins, D. Waite

**11:10 ENVR 225.** Reductive immobilization of hexavalent chromium by polysulfide-reduced iron (hydro) oxides. M. Shi, J. Li, J.S. Zheng

**11:30 ENVR 226.** Trichloroethene dechlorination by mechanochemically sulfidated zero valent iron: Reaction pathway, kinetics and electron efficiency. Y. Gu, F. He

## Section I

San Francisco Marriott Marquis  
Sierra K

### Advances & Applications in Water Sensing Technologies for Drinking Water, Re-Use, Agri-Tech & Research

C. Moldaenke, W. Zhang, *Organizers*

M. E. Romero-Gonzalez, P. L. Schorr, *Organizers, Presiding*

**8:00 ENVR 227.** Advances in sensing technologies for water monitoring. M.E. Romero-Gonzalez

**8:20 ENVR 228.** Fluorescence spectroscopy: A tool to monitor presence of contaminants in water reuse systems. J. Wasswa, N. Mladenov

**8:40 ENVR 229.** Highly stable SERS nanoprobe for pH detection in confined water environment. H. Wei, M. Willner, L.C. Marr, P.J. Vikesland

**9:00 ENVR 230.** Ultra-trace electrochemical sensing of heavy metals using nanostructured bismuth doped carbon complex: Real time on site environmental application. K.M. Zeinu

**9:20 ENVR 231.** Optimization of coagulation process for the removal of Natural Organic Matter (NOM) characterized by Excitation-Emission Fluorescence Matrix (EEM) via 2-level Full Factorial Design (FFD) methodology. R.C. Go, C. Kan, M.G. de Luna

**9:40 ENVR 232.** Validation and optimization of an alternative method for NDMA analysis requiring less time, cost, and sample volume. S. Roback, M.H. Plumlee, H. Kodamatani, T. Fujioka

**10:00** Intermission.

**10:15 ENVR 233.** Development of NanoAptamer assay and portable analyzer for the detection of bisphenol A. H. Lim, E. Lee, S. Lee, B. Chua, A. Son

**10:35 ENVR 234.** Conjugated molecule based resistive sensor for microbial detection in water with *E. coli* as a case study. A.N. Mallya, D.C. Ramamurthy

**10:55 ENVR 235.** Molecular imprinted composite sol-gel layers for conductometric sensing of environmental toxins. A. Mujahid, T. Hussain, H. Munir

**11:15 ENVR 236.** Fluorometer using the pigment phycoerythrin as an early warning system for the appearance of difficult to treat cyanobacterial T&O compounds and cyanotoxins in comparison to UV-EEM online parameters as amino acids. C. Moldaenke, H. Dahlhaus, W. Schmidt, M. Wagner, S. Kueppers, P.L. Schorr

**11:35 ENVR 237.** Withdrawn.

## Mineral-Water Interface Chemistry

#### A Tribute to Glenn Waychunas

Sponsored by GEOC, Cosponsored by COLL and ENVR

#### Science for a Sustainable Energy Future

##### Energy Storage

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG, ORGN and PROF

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

Sponsored by PROF, Cosponsored by ANYL, BIOL, CHED, CMA, COLL, COMP, CWD, ENVR, INOR, MEDI, MPPG, ORGN, PHYS, PMSE, POLY, PRES and WCC

#### Teaching, Researching & Community Building in the Global Chemical Enterprise

Sponsored by IAC, Cosponsored by BMGT, ENVR, I&EC, PRES and PROF

#### Advances in Treatment Processes for Metals & Metalloids

Sponsored by GEOC, Cosponsored by ENVR



### Chemistry & Physical Chemistry of Thermal Processes for the Circular Carbon Economy

Sponsored by CELL, Cosponsored by ENFL and ENVR

#### Elucidation of Mechanisms & Kinetics on Surfaces

##### Surface Science

Sponsored by CATL, Cosponsored by COLL and ENVR

## MONDAY AFTERNOON

### Section A

San Francisco Marriott Marquis  
Salons 10/11

#### Tribute to Jerry Schnoor

J. G. Burken, D. M. Cwiertny, C. L. Just, *Organizers, Presiding*

1:00 ENVR 238. Withdrawn

1:30 ENVR 239. Phytoforensic methods to affirm impacts of endophytic degradation in field phyto remediation process. S.L. Doty, M.J. Blaylock, J. Freeman, C. Cohu, J.G. Burken, A. Simon, J. Isebrands

1:55 ENVR 240. Health risk for residents via inhalation exposure to particle-bound hydrophobic organic compounds and heavy metals in a typical e-waste recycling zone. P. Luo, C. Huang, L. Bao, S. Li, E. Zeng

2:20 ENVR 241. Withdrawn.

2:45 Intermission.

3:00 ENVR 242. Trees as indicators of vapor intrusion risk. J.L. Wilson, M. Limmer, V. Samaranyake, J. Schumacher, J.G. Burken

3:25 ENVR 243. Use of environmental fate models in U.S. EPA TSCA new chemicals assessments. M. Card, E.L. Libelo, K. Mayo-Bean, D. Lynch

3:50 ENVR 244. Arsenic in geogenic soil from Hong Kong: Speciation, mobilization, and bioaccessibility. J. Cui, Y. Zhao, J. Li, D. Tsang, C. Poon, T. Chan, W. Wang, X. Li

4:15 ENVR 245. Modeling ion exchange equilibria in cross-linked cationic surfactant nanoparticle solutions. M. Chen, C.T. Jafvert

4:40 Panel Discussion.

### Section B

San Francisco Marriott Marquis  
Salons 12/13

#### Oxidation Processes, Nanoparticles & Membranes in Water & Wastewater Treatment: A Symposium in honor of Prof. Jun Ma

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

### Heterogeneous Catalytic Oxidation Processes in Water & Wastewater Treatment

Financially supported by Sciex China

J. Fang, Y. K. Sharma, *Organizers*

D. D. Dionysiou, *Organizer, Presiding*

T. An, *Presiding*

1:00 Introductory Remarks.

1:05 ENVR 246. Three-dimensional MnO<sub>2</sub> porous hollow microspheres for enhanced activity as ozonation catalysts in water treatment. C. He, Y. Huang, W. Xu, X. Tan

1:30 ENVR 247. Enhanced degradation of organic micropollutants via heterogeneous photo-Fenton reactions on α-FeOOH. W. Zhang, G. Zhang, P. Wang

1:55 ENVR 248. Comparison of catalytic ozonation by LaFeO<sub>3</sub> and LaCoO<sub>3</sub>: Benzotriazole degradation, elimination of bromate and reaction mechanism. Y. Zhang, Y. Xia, Q. Li, B. Xu, F. Qi

2:15 ENVR 249. Visible light activated nanosized bismuth titanates for photocatalytic degradation of bisphenol A. M.K. Patil, B. Ren, M. Nadagouda, D.D. Dionysiou

2:35 Intermission.

2:50 ENVR 250. Enhanced visible-light-responsive photocatalytic degradation of emerging pollutants by ZnFe<sub>2</sub>O<sub>4</sub>/TiO<sub>2</sub> heterostructures. R. Doong

3:15 ENVR 251. LaFeO<sub>3</sub> perovskite as a nanocatalyst for diclofenac degradation by heterogeneous activation of oxone process: Efficiency and mechanism. Y. Rao

3:40 ENVR 252. Efficient degradation of carbamazepine in aqueous solution by bismuth oxybromide-activated peroxide oxidation. X. Liu, J. Li, T. Zhang

4:00 ENVR 253. BiOI microspheres for pre-treatment of winery wastewater. A. Mera

4:20 ENVR 254. Degradation of dimethyl phthalate by peroxomonosulfate activated with Zn-NiOx. G. Zhang, J. Zhang, P. Zhou, Y. Zhang

### Section C

San Francisco Marriott Marquis  
Salons 14/15

#### Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet

##### Characterization of Natural Organic Matter

Cosponsored by CHED

Financially supported by AEEESP

M. J. McGuire, F. L. Rosario, *Organizers*

J. A. Pedersen, *Organizer, Presiding*

1:00 ENVR 255. Abbreviated review of photochemistry of natural organic matter then (1989) and now (2017). W.J. Cooper, B.A. Cottrell

1:25 ENVR 256. Environmental photochemistry of organic matter. F.L. Rosario

1:50 ENVR 257. Assessing dissolved organic matter photo-reactivity in a subtropical wetland ecosystem: Correlations between optical properties, antioxidant capacity, and the photochemical formation of reactive intermediates. G. McKay, W. Huang, C. Romera-Castillo, F.L. Rosario, R. Jaffe

2:15 ENVR 258. Post treatment challenges at advanced potable reuse plants: Corrosion, metals mobilization and the reappearance of disinfection byproducts. S. Roback, K.P. Ishida, M.H. Plumlee, J. Dadakis, W. Mitch, S.E. Fendorf, D. Hokanson

2:40 Intermission.

2:55 ENVR 259. Isolation and characterization of natural organic matter from Pony Lake, Antarctica. E.M. Perdue, S. Driver

3:20 ENVR 260. NOM: From unfiltered supplies to water boil orders. W.C. Becker

3:45 ENVR 261. Impact of pre-oxidation on the removal of regulated and emerging disinfection byproducts by activated carbon. E.M. Verdugo, M. Gifford, S.D. Richardson, R.S. Summers, B.D. Stanford, E. Dickenson

4:10 ENVR 262. Characterization and monitoring of dissolved organic matter at drinking water treatment plants: Methods and application. M. Philibert, C. Cazin, F. Zraïck

### Section D

San Francisco Marriott Marquis  
Golden Gate C1

#### Understanding Dissolved Organic Matter Reactivity: Honoring George Aiken, the DOM Whisperer

D. M. McKnight, *Organizer*

Y. Chin, *Organizer, Presiding*

1:00 ENVR 263. Watershed tea in arctic lakes: Comparing carbon chemistry and cycling in red zinger vs. chamomile waters. R.M. Cory, C.P. Ward, J. Bowen, A. Trusiak, L. Treibergs

1:35 ENVR 264. Permafrost dissolved organic matter leachability and reactivity in the presence of various solutions from an Alaskan Sub-Arctic watershed. K.R. Gagne, J.J. Guerd

2:00 ENVR 265. Relating the reactivity of triplet excited states of dissolved natural organic matter to organic matter quality and land cover in mixed-use watersheds. A.J. McCabe, W. Arnold

2:25 ENVR 266. Cross-scale advances in CDOM biogeochemistry: From molecular to ecoregional perspectives. P.L. Brezonik, C.G. Griffin, J.C. Finlay, L.G. Olmanson, R.M. Hozalski, B.J. Allen, W. Arnold, M.E. Bauer

2:50 Intermission.

3:00 ENVR 267. From the Antarctic to the Arctic: An expeditionary approach to the environmental chemistry and reactivity of dissolved organic matter. D.M. McKnight

3:35 ENVR 268. Location matters: Groundwater flow direction (recharge vs. discharge) controls DOM and DIN gradients and cycling in the bed sediments of a groundwater flow-through lake. R.L. Smith, D.B. Kent, D.R. LeBlanc, J. Bohlke, D.A. Repert, D. Stoilker, R. Hull, T.D. McCobb, J. Underwood, C. Conaway, A.P. Reed

4:00 ENVR 269. Evidence for conservative transport of dissolved organic carbon in major river basins in Maine. T. Huntington, C. Roesler, G. Aiken

4:25 ENVR 270. Is disturbance mobilizing or creating the aged carbon exported in streams? R.T. Barnes, D. Butman, P. Raymond, H. Wilson

4:50 Concluding Remarks.

### Section E

San Francisco Marriott Marquis  
Sierra A

#### Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse

Financially supported by AEEESP

D. D. Dionysiou, G. Li Puma, D. Minakata, K. E. O'Shea, X. Quan, *Organizers*

X. He, *Organizer, Presiding*

T. An, R. Pupo Nogueira, *Presiding*

1:00 ENVR 271. Application of photo-fenton process for the degradation of antibiotics and disinfection of anaerobic pre-treated hospital effluent. J.A. Perini, A.L. Tonetti, R. Pupo Nogueira

1:35 ENVR 272. Analogies and differences between bacterial and viral inactivation during photo-Fenton treatment of wastewater. S. Giannakis, C. Pulgarin

2:00 ENVR 273. Effect of porous structure on the heterogeneous Fenton oxidation regeneration of magnetic carbon. Y. Xiao, J.M. Hill

2:25 ENVR 274. Coupling photocatalysts and ferrate oxidation: Towards an innovative solution for wastewater treatment. T. Pigot

2:50 Intermission.

3:05 ENVR 275. Photochemical and photocatalytic transformation mechanism and risk assessment of typical synthetic musks in water: Theoretical study. G. Yanpeng, G. Li, T. An

3:40 ENVR 276. Theoretical study of the reaction of OH radicals with benzoic acid in the gas and aqueous phase. C. Wu, A. De Visscher, I. Gates

4:05 ENVR 277. Activation of Fe-tpena by hydrogen peroxide to form an unselective strong oxidant at circum-neutral pH. C. Miller, Y. Chang, D.P. de Sousa, C.J. McKenzie, D. Waite

4:30 ENVR 278. Degradation mechanisms of algal odorants of β-cyclotriol and β-ionone during UV photolysis and UV/chlorination reactions. T. Kim, T. Kim, M. Kim, K. Zoh

### Section F

San Francisco Marriott Marquis  
Sierra B

#### Contaminants of Emerging Concern in Natural & Engineered Systems

Cosponsored by AGRO, ANYL and CEI

L. M. Blaney, A. J. Hernandez, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 ENVR 279. Novel method for the quantification of the total *N-nitrosamines* concentration (TONO) in water. F. Breider, U. von Gunten

1:25 ENVR 280. Formation of vegetable-derived disinfection byproducts. Y. Komaki, J. Choe, W. Mitch

1:45 ENVR 281. NDMA precursor transformation and identification during reverse osmosis and UV/peroxide water treatment for indirect potable reuse. D. Hanigan, I. Ferrer, E. Thurman, S. Roback, K.P. Ishida, M.H. Plumlee, P.K. Westerhoff

**2:05 ENVR 282.** Study of N-Nitrosodimethylamine (NDMA) formation in the untreated surface water using preformed chloramines. **S. Prabakar, F. Samadi, A. Kruzic**

**2:25** Intermission.

**2:45 ENVR 283.** Fate of micropollutants in high-capacity wastewater treatment plants in Istanbul metropolitan area. **S.C. Tuzun, E. Aydin, E. Pehlivanoglu Mantas**

**3:05 ENVR 284.** Biotransformation of trace organic compounds in aerobic, anaerobic and anoxic conditions. **N. Lm, B. Vanderford, E. Dickenson, D. McAvoy**

**3:25 ENVR 285.** Prevalence and elimination of extracellular antibiotic resistance genes in five full-scale membrane reactors. **S. Zhou, Y. Wang**

**3:45 ENVR 286.** Roles played by ammonia oxidizers of a nitrifying activated sludge community in micropollutant biotransformation. **Y. Men, P. Han, S. Archermann, Y. Yu, D.E. Helbling, D.R. Johnson, M. Wagner, K. Fenner**

**4:05 ENVR 287.** Inhibition of the cometabolic transformation of 1,4-dioxane by *Rhodococcus rhodochrous* 21198 grown on isobutane. **M.F. Azizian**

**4:25** Concluding Remarks.

## Section G

San Francisco Marriott Marquis  
Sierra C

### Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences

*Cosponsored by ANYL and CHED*

*Financially supported by AEESP*

**M. A. Benvenuto, E. Roberts-Kirchhoff, Organizers, Presiding**

**1:00** Introductory Remarks.

**1:05 ENVR 288.** First-year, course-based chemistry research experience: Development and implementation of a research methods course for chemistry and biochemistry majors. **K.R. Evans, M.J. Mio, E. Roberts-Kirchhoff**

**1:25 ENVR 289.** First-year, course-based chemistry research experience: Implementation of a research-based chemistry laboratory course for chemistry and biochemistry students as part of a research coordination network. **K.C. Lanigan, A. Matti, D. Tomco, K.R. Evans**

**1:45 ENVR 290.** Introductory campus and distance-delivered course to engage first year undergraduates in environmental chemistry. **J.J. Guerard, S.M. Hayes**

**2:05 ENVR 291.** Community based undergraduate research: Measurement of hazardous air pollutants with regard to environmental justice. **K. Zimmermann, L. Young**

**2:25 ENVR 292.** Environmental toxicology experiments in the general chemistry laboratory curriculum UC-Berkeley. **M.C. Douskey, A.M. Baranger, M. Robak, L.B. Armstrong, G. Kerstiens, C.W. Tam, P. Pande**

**2:45 ENVR 293.** Incorporating environmental chemistry concepts into an analytical chemistry lecture/laboratory course. **D.E. Latch**

**3:05** Intermission.

**3:10 ENVR 294.** Can field sampling still be educationally valuable without obvious trends in the data? **S.J. Bachofer**

**3:30 ENVR 295.** Analysis of heavy metals in water using cloud point extraction and flame atomic absorption spectrometry. **A. Rihana-Abdallah, Z. Li**

**3:50 ENVR 296.** Semi-synthetic microcystins and their role in public health. **J. Westrick, J. Birbeck, G. O'Neill**

**4:10 ENVR 297.** Selenium removal from power plant waters using layered double hydroxide materials. **M. Li, L. Farnen, C.K. Chan**

**4:25 ENVR 298.** Real-time electronic sensor based on black phosphorus/Au NPs/DTT hybrid structure for arsenic ion detection. **G. Zhou, J. Chen**

**4:40** Concluding Remarks.

## Section H

San Francisco Marriott Marquis  
Sierra J

### Sulfidation of Metal-Based Engineered & Natural Nanomaterials: Implications for Their Fate & Effects in the Environment

**P. G. Tratnyek, P. K. Westerhoff, Organizers**

**Y. Bi, D. Fan, Organizers, Presiding**

**1:00** Introductory Remarks.

**1:05 ENVR 299.** Reactivity of nanoparticulate iron sulfide (mackinawite). **K.F. Hayes**

**1:35 ENVR 300.** Reactivity and bioavailability of mercury sorbed to or coprecipitated with iron sulfides. **N. Rivera, H. Hsu-Kim**

**2:05 ENVR 301.** Technetium stabilization in low solubility sulfide phases. **M. Asmussen, C. Pearce, J. Newway, A. Lawter, R. Clayton, N.P. Qafoku**

**2:25 ENVR 302.** Environmental application and implication of sulfide modified nanoscale zerovalent iron. **Y. Su, A.A. Keller, X. Zhou, Y. Zhang**

**2:45** Intermission.

**3:00 ENVR 303.** Effects of sulfidation on the reactivity of iron and iron oxides with contaminants. **P.G. Tratnyek, D. Fan, Y. Lan, A. Agrawal**

**3:30 ENVR 304.** Understanding the effect of sulfidation on the reactivity of zero-valent iron materials. **W. Yan, Y. Han**

**3:50 ENVR 305.** Degradation of chlorinated hydrocarbons by nanoscale zero-valent iron treated with bisulfide and stabilized with carboxymethylcellulose. **A. Agrawal**

**4:10 ENVR 306.** From the lab to the field: Development of sulfidized nanoiron for 1,2-dichloroethane degradation. **D.M. O'Carroll, A. Nunez Garcia, C. de Boer, C. Kocur, H. Boparai, A. Chowdhury**

**4:40 ENVR 307.** Sulfidized nZVI particles for groundwater treatment: Synthesis, complex characterization and laboratory-scale testing. **J. Filip, J. Slunský, J. Nosek, J. Semerád, J. Kašlík, J. Oborná, J. Bachorik, I. Medrik**

## Section I

San Francisco Marriott Marquis  
Sierra K

### Nanomaterials in Consumer Products: Formulation, Characterization & Applications Across the Product Life Cycle

**S. Hussain, A. J. Kennedy, Organizers**

**C. Sayes, Organizer, Presiding**

**1:00** Introductory Remarks.

**1:10 ENVR 308.** Identification and quantification of ENPs in cosmetics, food and the environment: Critical assessment of FFF-ICPMS and single-particle (multi-element) ICPMS. **F. Von Der Kammer, A. Praetorius, M. Velimirovic, A. Gundlach-Graham, D. Günther, T. Hofmann**

**1:40 ENVR 309.** Development and application of methods that reliably measure graphene oxide release from aged polymer nanocomposites. **D.G. Goodwin, D. Jacobs, L. Sung**

**2:00 ENVR 310.** Aging of wood stains containing CeO<sub>2</sub> nanoparticles as UV filters. **L. Scifo, A. Mason, P. Chaurand, D. Borschneck, V. Vidal, C. Levard, J. Rose**

**2:20 ENVR 311.** TiO<sub>2</sub> nanoparticles in sunscreen lotion: Asymmetric flow field-flow fractionation hyphenated to ICPMS for their characterization. **M. Velimirovic, S. Wagner, M. Gráf, M. Ehler, F. Abdolapur Monikh Fazal, F. Von Der Kammer, T. Hofmann**

**2:40** Intermission.

**2:55 ENVR 312.** Environmentally relevant physicochemical transformations of silver nanoparticles used in consumer products. **S.R. Al-Abed, A. Gitipour, I. Radwan**

**3:25 ENVR 313.** Release and transformation of ZnO nanoparticles from coated surfaces during simulated dermal contact. **J.G. Clar, E. Baumann, A. Remsen, T. Treye, T. Luxton**

**3:45 ENVR 314.** Determination of anions on the surface of Printed Circuit Boards (PCBs) by IPC-TM- 650 method 2.3.28 using HPIC. **B. Huang, J. Rohrer**

**4:05 ENVR 315.** Influence of wear and tear on the release of silver nanoparticles from sports socks. **V. Gagnon, M. Button, D. O'Carroll, K. Weber**

**4:25 ENVR 316.** *In vitro* characterization of Reactive Oxygen Species (ROS)-generating capacity of commercially available MesoSilver™ used as dietary supplement. **H. Rong, S. Garg, T. Waite**

**4:45** Concluding Remarks.

### Science for a Sustainable Energy Future

#### Chemical & Biological Conversions Approaches to Energy Conversion

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG, ORGN and PROF*

#### Teaching, Researching & Community Building in the Global Chemical Enterprise

*Sponsored by IAC, Cosponsored by BMGT, ENVR, I&EC, PRES and PROF*

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

*Sponsored by PROF, Cosponsored by ANYL, BIOL, CHED, CMA, COLL, COMP, CWD, ENVR, INOR, MEDI, MPPG, ORGN, PHYS, PMSE, POLY, PRES and WCG*

#### Elucidation of Mechanisms & Kinetics on Surfaces

##### Mechanisms

*Sponsored by CATL, Cosponsored by COLL and ENVR*

#### Undergraduate Research Posters

##### Environmental Chemistry

*Sponsored by CHED, Cosponsored by ENVR and SOCED*

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

**S. O. Obare, Organizer**

**8:00 - 10:00**

**74.** See previous listings.

**632-634, 640-641, 645, 647, 649-650, 654, 659-666, 669-670, 675-677, 683, 687, 689-690, 710, 713, 715, 717, 720, 725, 735, 737-740, 746-747, 749, 752, 755, 758, 761-764, 770-772, 774-776, 778-780, 785, 789-790, 792, 794, 799-805, 812, 814-818, 820-821, 824-825, 829, 862, 864-865, 870, 878-882.** See subsequent listings.

## TUESDAY MORNING

### Section A

San Francisco Marriott Marquis  
Salons 10/11

#### ACS Award for Creative Advances in Environmental Science & Technology: Symposium in honor of Dr. Douglas R. Worsnop

*Financially supported by ES&T Journal, ES&T Letters*

**M. Canagaratna, S. O. Obare, Organizers**

**J. L. Jimenez, Organizer, Presiding**

**8:00** Introductory Remarks.

**8:10 ENVR 317.** How clusters form atmospheric aerosol particles: Nucleation in the CLOUD experiment at CERN. **U. Baltensperger**

The use of any device to capture images (e.g., cameras and camera phones) or sound (e.g., tape and digital recorders) or to stream, upload or rebroadcast speakers or presentations is strictly prohibited at all official ACS meetings and events without express written consent from ACS.

**8:35 ENVR 318.** Probing the formation, behavior, and evolution of organic particulate matter through high-resolution mass spectrometry. **N.M. Donahue**

**9:00 ENVR 319.** From aerosol mass spectrometry to global models of aerosol formation. **K. Carslaw**

**9:25 ENVR 320.** Highly oxidized molecules in atmospheric chemistry. **T.F. Mentel**

**9:50** Intermission.

**10:10 ENVR 321.** Why molecular structure matters in the chemistry of atmospheric organic aerosol formation. **P. Ziemann**

**10:35 ENVR 322.** Bringing on-line aerosol and gas measurements close to home. **J.P. Abbatt**

**11:00 ENVR 323.** Molecular description of SOA formation: From new particle growth rates to aqueous organic chemistry. **J. Thornton**

**11:20 ENVR 324.** Chemical changes arising from the heterogeneous oxidation of atmospheric organic aerosol. **J.H. Kroll**

**11:40 ENVR 325.** Atmospheric chemistry and role of isoprene hydroxy hydroperoxides: Prototype preindustrial VOC oxidation products. **F. Keutsch**

## Section B

San Francisco Marriott Marquis  
Salons 12/13

**Oxidation Processes, Nanoparticles & Membranes in Water & Wastewater Treatment: A Symposium in honor of Prof. Jun Ma**

**Disinfection/Oxidation Byproducts Formation & Control**

*Financially supported by Sciex China*

**D. D. Dionysiou, V. K. Sharma, Organizers**

**J. Fang, Organizer, Presiding**

**S. D. Richardson, Presiding**

**8:00** Introductory Remarks.

**8:05 ENVR 326.** Relative effectiveness of ferrate, chlorine dioxide, zone and peroxone for control of disinfection byproduct precursors. **D.A. Reckhow, X. Ma, J. Bliss, J. Gao**

**8:30 ENVR 327.** Impacts of hydraulic fracturing on drinking water: High resolution-MS uncovers new chemical by-products of concern. **S.D. Richardson, H.K. Liberatore, M.J. Plewa, L.H. Cizmas, J.M. Vanbriesen**

**8:55 ENVR 328.** Titanium dioxide and zinc oxide nanoparticles: Disinfection byproduct formation in synthetic freshwater. **L.H. Cizmas, C. Gray, V.K. Sharma, T. McDonald**

**9:15 ENVR 329.** Ozone microbubbles: Mass transfer and formation of disinfection by-products. **P. Li, Y. Yang, C. Wu, Y. Wang**

**9:35 ENVR 330.** Determination of trace concentrations of oxyhalides and bromide in municipal and bottled waters using a compact ion chromatography system. **J. Hu, J. Rohrer**

**9:55** Intermission.

**10:10 ENVR 331.** Disinfection byproducts as challenge targets for AOP treatment during potable reuse. **W. Mitch, Y. Chuang**

**10:35 ENVR 332.** NDMA formation during chlorination and ozonation of N, N-dimethyl hydrazine compounds: Reaction kinetics, mechanisms, and implications for NDMA formation control. **Y. Lee**

**11:00 ENVR 333.** UV/PMS disinfection: An efficient method for inactivation of four kinds of dominant fungal spores in groundwater. **G. Wen, X. Xu, T. Huang**

**11:20 ENVR 334.** Enhanced bactericidal effect towards *E. coli* and removal of 1,1,1-trichloroethane by reduced graphene oxide supported FeCu. **A. Ahmad, X. Guo, Y. Xu**

## Section C

San Francisco Marriott Marquis  
Salons 14/15

**Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet**

**Environmental Analytical Chemistry**

*Cosponsored by CHED*

*Financially supported by AEESP*

**M. J. McGuire, J. A. Pedersen, Organizers**

**F. L. Rosario, Organizer, Presiding**

**8:00 ENVR 335.** Interaction of cationic pharmaceuticals with dissolved natural organic matter. **J.A. Pedersen, I. Christl, B. Liu**

**8:25 ENVR 336.** Development, validation, and implications of a broad spectrum screening method for Pharmaceuticals and Personal Care Products (PPCPs) in wastewater effluents, source waters, and finished drinking waters. **A.D. Eaton, A. Haghani**

**8:50 ENVR 337.** Things you can't do with a GC-M. **S.A. Snyder**

**9:15 ENVR 338.** Using dark matter accurate mass to discover NDMA precursors in wastewater. **E.M. Thurman, I. Ferrer, D. Hanigan, P.K. Westerhoff**

**9:40 ENVR 339.** Polarity rapid assessment method: A promising tool for characterizing NDMA precursors in water. **C. Chen, X. Liao, S. Li, E. Bei, J. Wang, X. Zhang**

**10:05** Intermission.

**10:20 ENVR 340.** Analysis of water quality: A journey beyond the Abbott's building. **C.D. Hertz**

**10:45 ENVR 341.** Analytical chemistry and stormwater modeling. **M.K. Stenstrom**

**11:10 ENVR 342.** Understanding how hydrophobic organic pollutants distribute in urban runoff by using perylene as a probe. **M. Hsu, I.H. Suffet**

**11:35 ENVR 343.** Disparate antibiotic resistance gene levels revealed across four major cities in California: A survey in drinking water, air, and soil at 24 public parks. **C.M. Echeverria Palencia, J.A. Jay, V. Thulsiraj, N.K. Tran, C.A. Ericksen, I. Melendez, M.G. Sanchez, D. Walpert, T. Yuan, E. Ficara, N. Senthilkumar, M. Hernandez-Cira, D. Gamboa, H. Haro, S. Paulson, Y. Zhu**

## Section D

San Francisco Marriott Marquis  
Golden Gate C1

**Understanding Dissolved Organic Matter Reactivity: Honoring George Aiken, the DOM Whisperer**

**Y. Chin, D. M. McKnight, Organizers**

**P. Maurice, Presiding**

**8:00** Introductory Remarks.

**8:10 ENVR 344.** Nanoscale metal-organic matter interactions. **H. Hsu-Kim, C. Jiang, U. Ndu**

**8:45 ENVR 345.** Radium and thallium binding to dissolved organic matter. **L. Martin, C. Simonucci, E. Viollier, M.F. Benedetti**

**9:10 ENVR 346.** Complexation with dissolved organic matter affects aqueous uranium speciation and adsorption. **K.M. Campbell, C. Fuller, J. Schaper, G. Aiken**

**9:35 ENVR 347.** Influence of dissolved organic matter on the stability of trace level hexavalent chromium in surface and ground water samples. **V.I. Furdul, S. Maedler**

**10:00** Intermission.

**10:10 ENVR 348.** Can we predict metal binding by DOM? **E. Tipping, S. Lofts, A. Stockdale**

**10:45 ENVR 349.** Detection of aqueous complexes of arsenic and iron with dissolved organic matter. **H.V. Kulkarni, N. Mladenov, O. Prakash, A. Herrea**

**11:10 ENVR 350.** Hg-DOM interactions during removal of Hg from natural and polluted ecosystems. **F. Diaz, L.E. Katz, D. Lawler**

**11:35 ENVR 351.** Photoreduction of Hg(II) and photodemethylation of methylmercury: The key role of thiol sites on dissolved organic matter. **D.E. Latch, J.D. Jeremiason, G. Aiken, J.C. Portner, A.J. Hiranaka, M.T. Dvorak, K.T. Tran**

## Section E

San Francisco Marriott Marquis  
Sierra A

**Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse**

*Financially supported by AEESP*

**D. D. Dionysiou, X. He, G. Li Puma, D. Minakata, X. Quan, Organizers**

**K. E. O'Shea, Organizer, Presiding**

**A. Sanroman, M. Valnice Boldrin Zanoni, Presiding**

**8:00 ENVR 352.** Withdrawn

**8:35 ENVR 353.** Photoelectrochemical cell for simultaneous electricity generation and heavy metals recovery from wastewater. **D. Wang, G. Li Puma**

**9:00 ENVR 354.** Enhanced photoelectrocatalytic degradation of organic pollutants in artificial photosynthesis systems. **L. Zeng, X. Li**

**9:25 ENVR 355.** Enhanced filtration performance of carbon nanotube-based membrane by electrochemical assistance. **F. Xinfei, X. Quan**

**9:50** Intermission.

**10:05 ENVR 356.** Withdrawn.

**10:40 ENVR 357.** Electrochemically enhanced microfiltration for water detoxification and fouling control in advanced wastewater treatment. **K. Choo, H. Park, H. Park**

**11:05 ENVR 358.** Removal of pharmaceuticals from different waters by conventional ozonation and an electro-peroxone process. **H. Wang, W. Yao, G. Yu, Y. Wang**

**11:30 ENVR 359.** Development of a novel high throughput Ti<sub>2</sub>O<sub>3</sub>-based reactive electrochemical filter: A case study on efficient mineralization of Perfluorooctanoate (PFOA). **H. Lin, C. Wang, J. Niu**

## Section F

San Francisco Marriott Marquis  
Sierra B

**Green Chemistry Adoption: Progressive Changes by Different Industry Sectors**

*Cosponsored by CEI, MEDI, ORGN and SCHB\**

*Financially supported by AEESP*

**S. O. Obare, Organizer**

**N. Vaidya, Organizer, Presiding**

**8:30** Introductory Remarks.

**8:40 ENVR 360.** Exemplifying green chemistry with sterically protected and electronically activated azamacrocyclic catalysts. **R. Chorghade, M. Chorghade**

**9:00 ENVR 361.** Overview of more sustainable and greener chemistry implementation in industry. **D.J. Constable**

**9:40 ENVR 362.** Seamless integration of green chemistry at Pfizer from development to discovery. **D.T. Richter**

**10:00 ENVR 363.** Design and evolution of the BMS process greenness scorecard. **D.K. Leahy, E. Simmons, V. Hung, W. Fleming, J. Sweeney, M. Miller**

**10:20** Intermission.

**10:35 ENVR 364.** Leading the textile and footwear industries towards zero discharge of hazardous chemicals: The ZDHC Foundation. **N. Sponler**

**10:55 ENVR 365.** Data and tools needed to enable toxicity-aware product-development within different industries. **N. Vaidya**

**11:15 ENVR 366.** Recent green progress in the preparative and analytical separations industries. **J.P. McCauley**

**Technical program information known at press time.**

**The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)**

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## Section G

San Francisco Marriott Marquis  
Sierra C

### Innovative Materials & Technologies for Sustainable Water Purification

#### Adsorption Technologies

*Cosponsored by CEI*

B. P. Chaplin, J. Choe, J. Liu, D. Shuai, W. Zhang, *Organizers*

E. L. Cates, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 ENVR **367**. Measuring and modeling U(VI) adsorption to engineered iron oxide nanoparticles. Z. Pan, W. Li, J. Fortner, D. Giammar

8:25 ENVR **368**. Magnetic porous nanocomposites for water remediation. K. Ventura, R. Arrieta, V. Jabbari, D. Villagran

8:45 ENVR **369**. Removal of Cu<sup>2+</sup> in aqueous system by different amine types on silica nanotube. Y. Chun, Y. Ko, T. Do, U. Choi

9:05 ENVR **370**. Adsorption of chlorpheniramine and N-nitrosodimethylamine formation potential toward nano-sized graphene oxide-iron oxide particle and suspension. W. Chen, C. Li, C. Chen

9:25 ENVR **371**. Highly efficient and specific capture of radioactive iodine in water by using gold nanoparticle-immobilized dextran gel columns. J. Jeon, M. Choi, H. Shim, S. Yun, S. Park, D. Choi, B. Jang

9:45 Intermission.

10:00 ENVR **372**. Innovative materials for water treatment: From custom designed adsorbents to scalable membranes. A. Orlov, G. Ramakrishnan, S.M. Uchimiya

10:40 ENVR **373**. Silver binding affinity of silica/melanin nanoparticles. A.P. Zane, M. Morgan, E. Botts, D. Olivera, J. Hoyle

11:00 ENVR **374**. Removal of hexavalent chromium from aqueous solutions by a novel biochar supported nanoscale iron sulfide composite. Y. Gong, H. Lyu, J. Tang

11:20 ENVR **375**. Fluorinated nanoporous networks for charged organic contaminant removal from water. J. Byun, H.A. Patel, D. Thirion, C.T. Yavuz

11:40 ENVR **376**. Sorption of heavy metals using tungsten oxide based sorbents. C.K. Perkins, T. Reed, Z. Brown, A.W. Apblett

## Section H

San Francisco Marriott Marquis  
Sierra J

### From the Bench to the Field: Evaluating Innovative Remediation & Detection Technologies

S. R. Al-Abed, H. Henry, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR **377**. Case study comparing novel remediation technologies for boron contaminated groundwater. J.L. McKernan, Z. Hendren, A. Vengosh, C. Northeim, S. Fang

8:25 ENVR **378**. Enhanced non-fouling membranes for water purification and recycling. D. Battaglia, P. Clement, J. Lange, E.P. Giannelis

8:45 ENVR **379**. Magnetic nanocomposite materials as capture agents for organic pollutants in water treatment. A.M. Gutierrez, T. Dziubla, J. Hill

9:05 ENVR **380**. Bi-phase Catalyst for PCB removal from sediments and ground water. S.M. Lomnicki, B. Subramanian, S.R. Al-Abed, J.L. McKernan

9:25 Intermission.

9:45 ENVR **381**. Field study on the *in situ* treatment of a DNAPL source by nanoscale zero-valent iron: Effects of site oxidants. J. Ahn, C. Kim, H. Kim, K. Hwang, I. Hwang

10:05 ENVR **382**. Aspen Park Solvents long term cleanup of a DNAPL in fractured bedrock. P. Stevenson

10:25 ENVR **383**. On-site soil remediation experience in a large contaminated site by various solvents caused by illegal dumping of wastes. K. Kawamoto

10:45 ENVR **384**. From the bench to the field: Translating a novel plasmonic mercury sensor into a portable instrument for soils and sediments. J. Crosby, J. James, D. Lucas, C.P. Koshland

11:05 ENVR **385**. Monitoring trichloroethylene, benzene, and other VOCs in air using cavity ring-down spectroscopy and chemical dispersion. C.R. Viteri, A.E. Miller, M.A. Armen, B.A. Richman

11:25 ENVR **386**. Withdrawn.

## Section I

San Francisco Marriott Marquis  
Sierra K

### Processes, Technologies & Sensors for Food-Energy-Water Nexus Research

*Cosponsored by CEI and CHED*

*Financially supported by Electric Power Research Institute (EPRI), National Science Foundation (NSF)*

W. J. Cooper, *Organizer*

S. Bushart, N. S. Rao, *Organizers, Presiding*

W. Cooper, *Presiding*

8:00 Introductory Remarks.

8:05 ENVR **387**. Intensive aquatic protein production using duckweed as a model platform. A. McQuilling, J. Lawson, S. Mukhtar, W. Grieco

8:25 ENVR **388**. Vibration-driven droplet motion on a flapping film for water collection. M. Derby, R. Huber, N. Doughramaji, X. Chen

8:45 ENVR **389**. Redox-based electrochemical technologies for energy-efficient water purification and wastewater treatment. X. Su, T.F. Jamison, T. Hatton

9:05 ENVR **390**. Highly permeable thin film composite membranes with nanocomposite barrier layer for desalination applications. K. Liu, H. Ma, B.S. Hsiao

9:25 ENVR **391**. Capacitive nutrient removal and recovery from anaerobic membrane bioreactor effluent. Z. Ge, Z. Ren

9:45 Intermission.

10:00 ENVR **392**. Olefin/paraffin separation properties of graphene oxide membranes. B. Yoo, S. Lee, H. Park

10:20 ENVR **393**. Toward energy-neutral and decentralized water re-use with flow-electrode capacitive deionization. K. Hatzell, M. Hatzell, M. Dixit, D. Moreno

10:40 ENVR **394**. Characterization and implications of cometabolic bio-methanol production by ammonia oxidizing bacteria. Y. Su, L. Arellano-Garcia, S. Sathyamoorthy, K. Chandran

11:00 ENVR **395**. Carbon nanotube enabled water treatment. S. Ragunath, S. Roy, S. Mitra

11:20 ENVR **396**. Algae cultivation on a pilot-scale Algal Turf Scrubber® from dairy wastewater for bioremediation and sustainable biofuel production. J. Yan

11:40 Concluding Remarks.

### Mineral-Water Interface Chemistry

*Sponsored by GEOC, Cosponsored by COLL and ENVR*

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

*Sponsored by CATL, Cosponsored by ENVR and I&EC*

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Electrons

*Sponsored by CATL, Cosponsored by COLL and ENVR*

## TUESDAY AFTERNOON

## Section A

San Francisco Marriott Marquis  
Salons 10/11

### ACS Award for Creative Advances in Environmental Science & Technology: Symposium in honor of Dr. Douglas R. Worsnop

*Financially supported by ES&T Journal, ES&T Letters*

J. L. Jimenez, S. O. Obare, *Organizers*

M. Canagaratna, *Organizer, Presiding*

1:30 ENVR **397**. Recent advances in atmospheric chemistry studies: Applications of mass spectrometric methods. J.T. Jayne

1:50 ENVR **398**. Dielectric spectroscopy and glass transitions of organic molecules and mixtures prepared from submicron particle deposition. P. Davidovits

2:10 ENVR **399**. Toward understanding aqueous-phase chemistry of secondary organic aerosol via aerosol mass spectrometry. Q. Zhang

2:30 ENVR **400**. Aerosol mass spectrometry of refractory black carbon particles: Black carbon particles in the atmosphere. T.B. Onasch

2:50 ENVR **401**. Aerosol composition and properties in the developing world. H. Coe

3:10 Intermission.

3:25 ENVR **402**. Bright future of the potential aerosol mass concept and chamber. W. Brune

3:50 ENVR **403**. Recent results on organic aerosol sources and properties, and on the experimental systems used to study them. J. Jimenez

4:15 ENVR **404**. Award Address (ACS Award for Creative Advances in Environmental Science & Technology sponsored by the ACS Division of Environmental Chemistry & the ACS Publications Journals Environmental Science & Technology & Environmental Science & Technology Letters). Mass spectrometry of atmospheric aerosol: 1 nanometer to 1 micron. D.R. Worsnop

## Section B

San Francisco Marriott Marquis  
Salons 12/13

### Oxidation Processes, Nanoparticles & Membranes in Water & Wastewater Treatment: A Symposium in honor of Prof. Jun Ma

#### Membrane & Adsorption Technologies

*Financially supported by Sciex China*

D. D. Dionysiou, J. Fang, V. K. Sharma, *Organizers*

S. Lin, L. Tang, *Presiding*

1:30 Introductory Remarks.

1:35 ENVR **405**. Membrane fouling behavior of composite coagulant PAC-PDMAAC under different membrane materials in coagulation-ultrafiltration combined process. X. Shen, B. Gao, Q. Yue

2:00 ENVR **406**. Anti-oil-fouling membranes in membrane distillation: Drivers, materials development, and force spectroscopy for mechanisms elucidation. S. Lin, Z. Wang

2:25 ENVR **407**. Bioinspired polydopamine and silver nanoparticles form *in situ* on membrane surface to mitigate biofouling. L. Tang, K.J. Livi, K. Chen

2:45 ENVR **408**. Preparation and properties of PVDF adsorption membrane. Y. Zhang

3:05 ENVR **409**. Development of nanocomposite membrane process for drinking water treatment. P. Wang, D. Song, Z. Sun, L. Ru, H. Wang, F. Wang, H. Jiang, J. Ma

3:25 Intermission.

3:40 ENVR **410**. Enhanced removal of trace antimony(V) in water by iron oxide supported by chitosan/cellulose acetate. J. Yang, H. Chen, Z. Li, R. Bai

4:05 ENVR **411**. Adsorption behavior of Cu(II) ions from aqueous medium on TEMPO-mediated oxidized cellulose nanofibers. P. Liu, A. Mathew, H. Sehaqui

4:25 ENVR **412**. Adsorption of Cs in water using functionalized, templated and magnetic mesoporous composites. K. Guo, F.X. Han, Z. Arslan, R. Zhang, Y. Zhang, C. Rogers

4:45 ENVR **413**. Ammonia nitrogen adsorption onto modified zeolites at low temperature. L. Qiu, Q. Qiu, L. Zhu, S. Zhang

5:05 ENVR **414**. Critical effect of solute species and concentrations on cation exchange behavior of thin-film composite membranes in forward osmosis. X. Lu, W. Cheng, Y. Yang, J. Ma

## Section C

San Francisco Marriott Marquis  
Salons 14/15

**Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet**

**Source Water Quality**

*Cosponsored by CHED*

*Financially supported by AEESP*

J. A. Pedersen, F. L. Rosario, *Organizers*

M. J. McGuire, *Organizer, Presiding*

**1:30 ENVR 415.** Wildfires: Burning questions regarding drinking water supplies and treatment. A.D. Revchuk, I.H. Suffet

**1:55 ENVR 416.** Laboratory simulation of wildfire heating: Effects on DOM and water treatment. A.K. Hohner, F.L. Rosario

**2:20 ENVR 417.** Effect of fire-impacted source water on ozonation kinetics in drinking water treatment. Z. Wu, M. Mizel, T.M. Young

**2:45 ENVR 418.** Mobilization of nitrogenous pyrogenic soil organic matter in wildfire-affected watersheds and its impact on the formation of haloacetonitriles. Y. Yu, F.L. Rosario

**3:10** Intermission.

**3:25 ENVR 419.** Evaluation of prevailing flush guidelines to reduce water lead exposures: Implications for regulations and public health outreach. A.L. Katner, K. Pieper, J. Parks, K. Brown, C. Hu, H. Lin, X. Wang, J. Diaz, M. Edwards

**3:50 ENVR 420.** Barriers to access to chemical data for source water vulnerability assessments. J. Rosen

**4:15 ENVR 421.** Mexico City: The case for integrative science and policy. T.J. Downs

**4:40 ENVR 422.** Federal framework for regulating acidization, a sister-technology to hydraulic fracturing. K. Abdullah, I.H. Suffet, M. Stenstrom, T. Malloy

## Section D

San Francisco Marriott Marquis  
Golden Gate C1

**Understanding Dissolved Organic Matter Reactivity: Honoring George Aiken, the DOM Whisperer**

Y. Chin, D. M. McKnight, *Organizers*

E. J. O'Loughlin, *Presiding*

**1:30 ENVR 423.** Comparison of the properties of different natural organic matter samples from the Suwannee River (GA, USA). P. Maurice

**2:05 ENVR 424.** Effects of dissolved organic matter on the fate and transformation of nanosized zero-valent iron in aqueous system. C. Kim, Y. Chin, J. Ahn, M.L. Wei-Haas, B. McAdams, I. Hwang

**2:30 ENVR 425.** Impact of Natural Organic Matter (NOM) on the formation and reactivity of iron oxide particles formed on Fe(III) and Fe(II) addition: Comparison of terrigenous NOM versus Algalenetic NOM. S. Garg, K. Wang, D. Waite

**2:55 ENVR 426.** Dark formation of hydrogen peroxide upon oxidation of dissolved organic matter. C. Chu, N. Walpen, M. Sander, K.P. McNeill

**3:20** Intermission.

**3:30 ENVR 427.** Exploring the relationships between the redox and mineral adsorption properties of DOM. B. McAdams, G. Aiken, J. Hudson, Y. Chin

**4:05 ENVR 428.** Dissolved organic matter-mediated solar degradation of endocrine-disrupting pollutants in natural waters. J. Gray, D.E. Latch, K. Daumit, G. Aiken

**4:30 ENVR 429.** Understanding DOM-organic contaminant attenuation of non-polar organic pollutants. M. Hsu, I.H. Suffet

**4:55 ENVR 430.** Effect of NOM and water hardness on Diffusive Gradient in Thin-Film (DGT) prediction of bioaccumulation by yellow lampmussel and fathead minnow. G.L. Mills, R. Philipps, R. Bringoff

**5:20** Concluding Remarks.

## Section E

San Francisco Marriott Marquis  
Sierra A

**Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse**

*Financially supported by AEESP*

X. He, G. Li Puma, D. Minakata, K. E. O'Shea, X. Quan, *Organizers*

D. D. Dionysiou, *Organizer, Presiding*

D. Hermosilla, *Presiding*

**1:30 ENVR 431.** 1,4-dioxane treatment by advanced oxidation processes: Current situation, future perspectives, and potential industrial implementation. D. Hermosilla, H. Barndök, N. Merayo, A. Blanco

**2:05 ENVR 432.** Withdrawn.

**2:30 ENVR 433.** TiO<sub>2</sub> Photocatalytic degradation of the flame retardant, tris (2-chloroethyl) phosphate: Kinetic and mechanistic studies. A. Abdullah, K.E. O'Shea

**2:55 ENVR 434.** Kinetic modeling of sunlight-assisted degradation of trace organic substances. H. Vo

**3:20** Intermission.

**3:35 ENVR 435.** Withdrawn

**4:00 ENVR 436.** Color-stripping of dye-containing wastewater by a new H<sub>2</sub>O<sub>2</sub>/Cu(II)-phenanthroline AOP. E. Walger, F. Molton, C. Duboc, N. Marlin, G. Mortha

**4:25 ENVR 437.** Withdrawn

**4:50 ENVR 438.** Is it time to replace traditional UV lamps by UV-Light Emitting Diodes (UVLEDs) in water treatment industry? Towards sustainable photovoltaic-powered UVLED photoreactors. M. Eskandarian

## Section F

San Francisco Marriott Marquis  
Sierra B

**Green Chemistry Adoption: Progressive Changes by Different Industry Sectors**

*Cosponsored by CEI, MEDI, ORGN and SCHB<sup>†</sup>*

*Financially supported by AEESP*

S. O. Obare, *Organizer*

N. Vaidya, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ENVR 439.** Sustainable applications of magnetic nano-catalysts and graphitic carbon nitrides. R.S. Varma

**1:55 ENVR 440.** Advancing greener peptide and oligonucleotide syntheses. M.E. Kopach

**2:15 ENVR 441.** Chemetry's Shuttle™ process: New technology platform to produce caustic soda and EDC while eliminating chlorine gas and saving energy. M.K. Leclerc

**2:35 ENVR 442.** Green process development using chiral resolution. N.A. Vaidya

**2:55 ENVR 443.** Evolution of chiral HPLC toward greener techniques. R. Romero

**3:15** Intermission.

**3:30 ENVR 444.** Biologics: The new frontier for green chemistry in the pharmaceutical industry. K. Budzinski, D. O'Connor

**3:50 ENVR 445.** Key consideration when choosing a manufacturing solvent in pharmaceutical manufacturing. A. Mehta

**4:10** Panel Discussion.

## Section G

San Francisco Marriott Marquis  
Sierra C

**Innovative Materials & Technologies for Sustainable Water Purification**

**Adsorption Technologies**

*Cosponsored by CEI*

E. L. Cates, J. Choe, J. Liu, D. Shuai, W. Zhang, *Organizers*

B. P. Chaplin, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ENVR 446.** Hemoglobin/iron oxide composite: Synthesis, characterization and adsorption of organic dyes. M. Essandoh, R.A. Garcia

**1:55 ENVR 447.** Cationic materials for reversible, selective perchlorate trapping. S. Oliver

**2:15 ENVR 448.** Selective silica separations from waste water using ion-exchange media. K. Sasan, T.M. Nenoff, P.V. Brady, J. Krumhansl

**2:35 ENVR 449.** Withdrawn.

**2:55** Intermission.

**3:10 ENVR 450.** Removal of oxyanion pollutants from water by bicomponent metal oxide adsorbents. Y. Zou, Y. Wang

**3:30 ENVR 451.** Removal of heavy metals from drinking water using hydrothermal char. M.T. Timko

**3:50 ENVR 452.** Rapid removal of phosphate from wastewater using magnetized fast pyrolysis biochar from waste Douglas fir. A.G. Karunanayake, M. Crowley, R. Anderson, T.E. Misna

**4:10 ENVR 453.** Withdrawn.

**4:30 ENVR 454.** Removal of perfluoroalkyl substances from water using molecularly engineered coatings on sand and silica. P. Edmiston

**4:50 ENVR 455.** Arsenic, cadmium, nickel and lead adsorption mechanism, kinetics and thermodynamics of copper based and iron based metal organic framework. A. Yurdusen, Y. Yurum

## Section H

San Francisco Marriott Marquis  
Sierra J

**From the Bench to the Field: Evaluating Innovative Remediation & Detection Technologies**

S. R. Al-Abad, H. Henry, *Organizers, Presiding*

**1:30 ENVR 456.** Unexpected ring cleavage products from OH<sup>•</sup> and SO<sub>4</sub><sup>•-</sup> treatment of contaminants. J. Van Buren, C. Prasse, B. Skeel, D.L. Sedlak

**1:50 ENVR 457.** Mechanisms on the impacts of alkalinity, pH and chloride on heterogeneous persulfate activation for groundwater remediation. W. Li, H. Liu

**2:10 ENVR 458.** Enhanced bioremediation of PAH contaminated soils: Combining novel molecular techniques with targeted bioaugmentation strategies. L. Redfern, C.K. Gunsch

**2:30 ENVR 459.** Investigating polychlorinated biphenyl biodegradation potential in contaminated sediments with chemical and molecular biology approaches. Y. Liang, A. Martinez, J. Ewald, A. Awad, J.L. Schnoor, T. Mattes

**2:50** Intermission.

**3:10 ENVR 460.** Metagenomic analysis of mobile elements and phage in Trichloroethene (TCE) dechlorinating communities. R. Keren, V. Brisson, M. Xinwei, M. Yujie, K. Yu, J.F. Banfield, L. Alvarez-Cohen

**3:30 ENVR 461.** Probing active acidophilic methanotrophs involved in chlorinated solvent biodegradation. Y. Shao, K. Chu

**3:50 ENVR 462.** Bioprocess development for 1,4-dioxane treatment: Bench through field investigation. F. Shirazi, A. Razavi, A. Gregg, C. McGrath, N. Hlavacek, J. Salanitro

**4:10 ENVR 463.** Biomarkers for validating natural and enhanced biodegradation of 1,4-dioxane in groundwater. P. Gedalanga, Y. Miao, A. Madison, T. Richards, W. Gierke, H. Holbrook, R. Mora, D. Chiang, S. Mahendran

**4:30 ENVR 464.** From infancy to full-scale demonstration: The twenty year development of electrokinetically-enhanced bioremediation for successful treatment of chlorinated solvents in clays and silts. N.D. Durant, J. Wang, E. Cox, D. Gent

## Section I

San Francisco Marriott Marquis  
Sierra K

**Science & Perception of Climate Change**

*Cosponsored by CEI and CHED*

*Financially supported by AEESP*

S. O. Obare, *Organizer*

E. Schoffers, *Organizer, Presiding*

**1:30 ENVR 465.** How culture shapes the climate change debate. A.J. Hoffman

**2:10 ENVR 466.** Climate science literacy: An imperative for the next generation. G.P. Foy

**2:40 ENVR 467.** Facing the new world of climate disruption. J.A. Bell

**3:00 ENVR 468.** Visualizing and understanding the science of climate change. P.G. Mahaffy

**3:30 ENVR 469.** Why do students respond favorably to attempts to teach climate change? G.M. Bodner

<sup>†</sup> Cooperative Cosponsorship

3:55 ENVR **470**. Does science get lost in translation? How popular media frames the climate change debate. E. Schoffers

4:15 ENVR **471**. Educating communities about the impact of climate change. C.M. Crudden

4:35 ENVR **472**. ACS action needed to influence attitudes and behavior on climate change. B.Z. Shakhshiri

5:00 Panel Discussion.

### Mineral-Water Interface Chemistry

Sponsored by GEOC, Cosponsored by COLL and ENVR

### Recent Developments in TSCA Regulation: New Requirements for Chemicals in Commerce

Sponsored by CHAL, Cosponsored by CHAS, ENVR and I&EC

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

Sponsored by CATL, Cosponsored by ENVR and I&EC

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Organic Oxygenates

Sponsored by CATL, Cosponsored by COLL and ENVR

## WEDNESDAY MORNING

### Section A

San Francisco Marriott Marquis  
Salons 10/11

### Great Achievements in Environmental Science & Technology: James J. Morgan Award Symposium

Financially supported by ES&T Journal, ES&T Letters

A. Grostern, Organizer

D. Sedlak, Organizer, Presiding

8:00 Introductory Remarks.

8:05 ENVR **473**. Biological and chemical activities of extracts from plastics collected from the North Pacific Gyre and plastics treated with UV-light. D. Schlenk, S.L. Coffin, J. Gan

8:30 ENVR **474**. Explaining the presence of respiratory tract opportunistic bacterial pathogens in drinking water systems. L. Raskin, S. Haig, N. Kotlarz, J. LiPuma

8:55 ENVR **475**. Stable isotope view of the formation of *N*-nitrosodimethylamine during water disinfection with chloramine. T.B. Hofstetter, S. Spahr, U. von Gunten

9:20 ENVR **476**. Is bioremediation of PAH contaminated soil worth it? S. Simonich

9:45 ENVR **477**. Photochemical conversions at the interfaces of semiconductor hybrids for environmental applications. W. Choi

10:10 Intermission.

10:25 ENVR **478**. Impacts of the Minamata Convention on mercury in Asia. N. Selin, A. Giang, L.C. Stokes, E.S. Corbitt, D.G. Streets, V.J. Karplus, D. Zhang, K.M. Mulvaney, M. Li, C. Li, S.Y. Kwon

10:50 ENVR **479**. Investigation into the transfer of biological species from the ocean to the atmosphere: Mother nature's way of controlling climate? K.A. Prather, C. Gaston

11:15 ENVR **480**. Working on environmental challenges as an engineer gone wrong. M.S. Mauter

11:45 Concluding Remarks.

### Section B

San Francisco Marriott Marquis  
Salons 12/13

### Oxidation Processes, Nanoparticles & Membranes in Water & Wastewater Treatment: A Symposium in honor of Prof. Jun Ma

#### Nanoparticles & Nanomaterials

Financially supported by Sciex China

J. Fang, Organizer

D. D. Dionysiou, V. K. Sharma, Organizers, Presiding

8:00 Introductory Remarks.

8:05 ENVR **481**. Nanostructured eco-materials based on clay minerals: Synthesis and applications in organic contaminants transformation and heavy metal removal. C. Wang

8:30 ENVR **482**. Application of natural organic matter coated magnetic iron oxide nanoparticles for the remediation of arsenic and selenium. M. Rashid, Y. Cai, G. Sterbinsky, K.E. O'Shea

8:50 ENVR **483**. Withdrawn.

9:10 ENVR **484**. Nanoparticles removed by  $AlCl_3$  in the process of coagulation. L. Zhang

9:30 ENVR **485**. Advances of nano-sized metal oxides formed *in situ* for the enhanced coagulation of surface water and removal of heavy metals, algae. L. Wang, Y. Liu, J. Ma

9:50 Intermission.

10:05 ENVR **486**. Synthesis of novel carbon spheres and their supported Fe nanoparticles for removal of metronidazole. X. Wang

10:25 ENVR **487**. N-doped carbon nanotubes for advanced oxidation processes. R.R. Rocha, O. Soares, A. Gonçalves, J. Órfão, J. Figueiredo, M.R. Pereira

10:45 ENVR **488**. Catalytic effects of carbon nanomaterials in abiotic transformation of organic contaminants: Implications for water and wastewater treatments. W. Chen, L. Duan, C. Zhang, M.B. Tomson, P.J. Alvarez

11:05 ENVR **489**. Development and application of layered carbon materials in advanced oxidation processes for water purification. F. Qi, B. Xu, Z. Song

11:25 ENVR **490**. Investigations on oxidation processes, nanoparticles, and membranes in water and wastewater treatment with engineering applications. J. Ma, J. Jiang, P. Wang, Y. Zhou, Y. Gao, H. Cheng, X. Liu, D. Song

### Section C

San Francisco Marriott Marquis  
Salons 14/15

### Chemical Principles of Environmental, Cellular & Organismal Nanotoxicology

Cosponsored by COLL

C. Celle, L. L. Charlet, J. Simonato, C. Vulpe, Organizers

B. Gilbert, S. Lehman, Organizers, Presiding

D. Arndt, Presiding

8:00 ENVR **491**. Contribution of phagolysosomal membrane permeability to micro and nanoparticle toxicity. A. Holian

8:30 ENVR **492**. Structure activity relationships of engineered nanomaterials in inducing NLRP3 inflammasome activation and chronic lung fibrosis. T. Xia

9:00 ENVR **493**. Imogolite nanotubes as model HARN: Synthesis strategies and toxicological assessment. A. Mason, C. Levard, E. Doelsch, A. Avellan, C. Mauroy, W. Liu, J. Rose, C. Santaella, W. Achouak

9:20 ENVR **494**. Impact of silver nanowire length and diameter on rainbow trout RTgillW1 and RTgutGC cell lines. D. Arndt, D. Toybou, J. Simonato, C. Celle, B. Gilbert, L.L. Charlet, C. Vulpe, S. Lehmann

9:40 ENVR **495**. Toward safer silver nanowires by design: Modulation of characteristics and evaluation of dermal toxicity. S. Lehmann, B. Gilbert, M. Viau, D. Toybou, J. Simonato, C. Celle, T. Maffei, L.L. Charlet

10:00 Intermission.

10:20 ENVR **496**. Spectroscopic insights into the role of defects in nano-bio interactions. R. Podila, J. Brown

10:50 ENVR **497**. Identifying the molecular mechanisms responsible for differences in toxicity of complex nanomaterials across organisms. R. Klaper, J. Zozich, J. Crago, B. Curtis, V. Feng, M. Hang, R.J. Hamers, C.L. Haynes, E. Melby, C.J. Murphy, N. Niemuth, G. Orr, T.A. Qiu, K. Zhang

11:10 ENVR **498**. Biological impact of nanoscale lithium-intercalating battery materials to model bacterium *Bacillus subtilis*. V. Feng, M. Hang, T. Linn, B. Miller, R.J. Hamers

11:30 ENVR **499**. Integrated chemical and toxicological investigation of fullerene after UV/UV-chlorine drinking water treatment. C. Zhang, Q. Zhang

### Section D

San Francisco Marriott Marquis  
Golden Gate C1

### Novel Membrane Materials & Processes for Water Purification

D. Jassby, B. Mi, Organizers, Presiding

8:00 ENVR **500**. Artificial water channel based membranes. M. Kumar, Y. Shen, T. Ren

8:30 ENVR **501**. Artificial water channels exhibiting enhanced dipolar water translocation. M.D. Barboiu

8:50 ENVR **502**. Two-dimensional  $MoS_2$  nanosheets: An emerging material for advanced water separation membranes. Z. Wang, S. Zheng, J. Urban, B. Mi

9:10 ENVR **503**. Covalent organic frameworks as novel membrane materials. L. Valentino, M. Matsumoto, W.R. Dichtel, M. Abdulsalam, A. Livingston, B.J. Marinas

9:30 ENVR **504**. Polycrystalline metal-organic framework membranes for water purification. D. Zhao, X. Wang

9:50 Intermission.

10:10 ENVR **505**. Development of polymer-graphene oxide based filter coatings for simultaneous removal of heavy metals, nitrate and microorganisms. D.F. Rodrigues, P. Bandara, E.T. Nades

10:40 ENVR **506**. Understanding graphene oxide swelling properties in aqueous phase. S. Zheng, J. Urban, Q. Tu, S. Li, B. Mi

11:00 ENVR **507**. Breathable graphene oxide toxicant barriers. R. Spitz, M. Cruz, N. Mahfouz, Y. Qiu, R. Hurt

11:20 ENVR **508**. Co-assembly of graphene oxide and magnetic bimetallic nanoparticle for highly efficient removal of tetracycline. P. Tabrizian, S. Rahaman

### Section E

San Francisco Marriott Marquis  
Sierra A

### Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse

Financially supported by AEESP

D. D. Dionysiou, X. He, G. Li Puma, K. E. O'Shea, X. Quan, Organizers

D. Minakata, Organizer, Presiding

N. H. Ince, Presiding

8:00 ENVR **509**. Single, simultaneous and sequential applications of ultrasonic frequencies to eliminate pharmaceutical residues in water. N.H. Ince, A. Ziyhan Yavas

8:35 ENVR **510**. Kinetic, product, and computational studies of the ultrasonically induced degradation of 4-methylcyclohexanemethanol (MCHM). D. Cui, A.M. Mebel, L.E. Arroyo-Mora, H. Holness, K. Furton, K.E. O'Shea

9:00 ENVR **511**. High performance Magnéli phase reactive electrochemical membranes for oxidation and reduction of water contaminants. B.P. Chaplin, S. Nayak

9:25 ENVR **512**. Co-effects of UV/ $H_2O_2$  and natural organic matter on the surface properties and colloidal stability of cerium oxide nanoparticles. X. Wu, C.W. Neil, H. Jung, Y. Jun

9:50 Intermission.

10:00 ENVR **513**. Abatement of polychloro-1,3-butadienes in aqueous solution by ozone, UV-photolysis, and advanced oxidation processes ( $O_3/H_2O_2$  and UV/ $H_2O_2$ ). M. Lee, T. Merle, D. Rentsch, S. Canonica, U. von Gunten

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**10:25 ENVR 514.** Treatment of 11-nor-9-carboxy- $\Delta^9$ -tetrahydrocannabinol (THC-COOH) through advanced oxidation processes. Y. Park, A. Mackie, G. Gagnon

**10:50 ENVR 515.** Withdrawn.

**11:15 ENVR 516.** Use of multivariable analysis (anova) to compare irradiation sources on diuron destruction by photocatalysis using TiO<sub>2</sub>-P25 Impregnated with Sm<sup>3+</sup>, Eu<sup>3+</sup> and Gd<sup>3+</sup>. J. Torres Torres, J. Arevalo Perez, H. Perez Vidal, I. Cuauhtemoc Lopez

**11:40 ENVR 517.** Treatment of emerging contaminants by UV/H<sub>2</sub>O<sub>2</sub> in water detoxification & reuse applications. Y. Huang, Y. Liu, W. Abdelraheem, K.H. Cochran, E.G. Xu, S.D. Richardson, D. Schlenk, D.D. Dionysio

## Section F

San Francisco Marriott Marquis  
Sierra B

### Aquatic Photochemistry

Cosponsored by GEOC

Financially supported by AEESP

W. Arnold, V. Lin, *Organizers*

K. P. McNeill, *Organizer, Presiding*

**8:30 ENVR 518.** Identification and toxicity testing of the photochemical degradation products of octyl methoxycinnamate, a common organic UV filter chemical. C. Berg, H. Stein, J. Maung, L. O'Connor, A. Pagano, M.G. Paulick, L. MacManus-Spencer

**8:50 ENVR 519.** Photochemical fate of lampricides in tributaries of the Great Lakes. C.K. Remual, M. McConville, A. Ward

**9:10 ENVR 520.** Effect of agricultural dissolved organic matter on the photolytic fate of poultry antibiotics. K. Mangalgi, L.M. Blaney

**9:30 ENVR 521.** p-Nitroanisole/pyridine and p-nitroacetophenone/pyridine actinometers revisited: Quantum yield corrections based on ferrioxalate. J.R. Laszakovits, S. Berg, J. O'Brien, K.H. Wammer, C.M. Sharpless

**9:50 ENVR 522.** Singlet oxygenation of dienes in water and methanol: Domoic acid, sorbate, and sorbic alcohol. M. Jaramillo, K.E. O'Shea

**10:10** Intermission.

**10:20 ENVR 523.** Photomineralization of 5-halogenosalicylic acids: A self-sustained reaction via the formation of Light Induced Secondary OH precursors (LIS-OH). R. Tafer, M. Sleiman, P. De sainte claire, P. Vicendo, A. Boulkamh, C. Richard

**10:40 ENVR 524.** Compound specific isotope analysis of aqueous photo-degradation of substituted chlorobenzenes. E. Passeport, N. Zhang, L. Wu, H. Herrmann, B. Sherwood Lollar, H. Richnow

**11:00 ENVR 525.** QSARs for phenols and phenolates: Oxidation potential as a predictor of reaction rate constants with photochemically produced oxidants. W. Arnold, Y. Oueis, M. O'Connor, J. Rinaman, M. Taggart, R. McCarthy, K. Foster, D.E. Latch

**11:20 ENVR 526.** Chemically accurate aqueous redox potentials for organic pollutants via high-speed cyclic voltammetry and Molecular Dynamics (MD)/Equation-of-Motion Coupled Cluster (IP-EOM-CCSD) simulations. M. Paul, D. Ruuska, S.N. Eustis

**11:40 ENVR 527.** Use of 4-(dimethylamino) benzonitrile to probe the photosensitizing and inhibitory effects of dissolved organic matter. S. Canonica, F. Leresche, L. Ludvíková, D. Heger, P. Klan, U. von Gunten

## Section G

San Francisco Marriott Marquis  
Sierra C

### Innovative Materials & Technologies for Sustainable Water Purification

#### Membrane & Other Treatment

Cosponsored by CEI

E. L. Cates, B. P. Chaplin, J. Liu, D. Shuai, W. Zhang, *Organizers*

J. Choe, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 ENVR 528.** Pseudocapacitive deionization: Desalination of water using high capacity MnO<sub>2</sub> electrodes. S. Hand, R. Cusick

**8:55 ENVR 529.** Molecular insight of ethinyl-estradiol (EE2) interaction with polymer membranes in waste water purification. C.D. Domínguez Bope, A. Nalaparaju, N.K. Chun, Y. Cheng, B. Cao, L. Lu

**9:15 ENVR 530.** Effect of pre-ozonation and membrane modification with carbon nanotubes on fouling control. J. Guo

**9:35 ENVR 531.** Porous CNT Joule heaters in ionizable environments and their use in desalination: Frequency dependent stability and application in MD. A.V. Dudchenko, C. Chen, A. Cardenas, J. Rolf, D. Jassby

**9:55** Intermission.

**10:10 ENVR 532.** Next generation of water purification membranes made of 2D nanomaterials: Promises and challenges. B. Mi, S. Zheng, Z. Wang, C. Finnerly

**10:50 ENVR 533.** Toward a multi-layered multi-functional filter: Using cellulose acetate electrospun nanofibers and renewable nanomaterials for water purification. C. Fausey, J.B. Zimmerman

**11:10 ENVR 534.** Nanoscale zero-valent iron in mesoporous carbon (nZVI@C): Stable nanoparticles for precious metal extraction. W. Teng, J. Fan, W. Zhang, D. Zhao

**11:30 ENVR 535.** Preventing regrowth of nitrosamines during wastewater reuse by manipulating chloramine chemistry. D. McCurry

## Section H

San Francisco Marriott Marquis  
Sierra J

### Poly- & Per-Fluoroalkyl Substances: Where, What, When, Why, Who & How

K. Chu, L. S. Lee, J. Liu, V. Yingling, *Organizers, Presiding*

**8:00 ENVR 536.** Perfluoroalkyl ether carboxylic acids: Occurrence in the Cape Fear river watershed and fate in drinking water treatment processes. D. Knappe, M. Sun, L. Dudley, E. Arevalo, M. Strynar, A. Lindstrom

**8:25 ENVR 537.** Minnesota Poly- and Perfluoroalkyl Substance (PFAS) megaplume: A case study of PFAS fate and transport and implications for site investigation and drinking water treatment. V. Yingling

**8:50 ENVR 538.** Poly- and perfluoroalkyl substances in soil following aqueous film forming foam deployment during firefighting efforts after the train derailment in Lac-Mégantic, Québec. S. Mejia-Avenidaño, G. Munoz, S. Vo Duy, M. Desrosiers, S. Sauvé, J. Liu

**9:15 ENVR 539.** Estimating the number PFAS contaminated airports in Canada. S. Milley, P. Fortin, N. Battye, D. Looch, I. Koch, D. Reynolds, K. Weber

**9:40** Intermission.

**10:10 ENVR 540.** Biodegradability of Polyfluoroalkyl Phosphates (PAPs), fluorotelomer alcohol-based surfactants. M. Lewis, M. Kim, N. Wang, K. Chu

**10:35 ENVR 541.** Isomer-Specific biotransformation of N-Ethyl Perfluorooctane Sulfonamide Ethanol (EtFOSE) in aerobic soil. J. Liu, G. Zhong, W. Li, S. Mejia-Avenidaño

**11:00 ENVR 542.** Sorption of Poly- and Perfluoroalkyl Substances (PFASs) relevant to Aqueous Film Forming Foam (AFFF)-impacted groundwater by biochars and activated carbon. X. Xiao, B. Ulrich, B. Chen, C.R. Higgins

**11:25 ENVR 543.** Fate and transport modeling of co-occurring PFOS, MTBE, and BTEX in a fractured chalk aquifer. I. Ross, J. Burdick, J. McDonough, J. Miles, J. Hurst, E. Houtz

**11:50** Concluding Remarks.

## Section I

San Francisco Marriott Marquis  
Sierra K

### Whole Organism Metrology to Support Nanotoxicology Research in the Environment

S. K. Hanna, C. M. Sims, *Organizers*

M. Johnson, B. C. Nelson, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:35 ENVR 544.** Agglomeration of *Escherichia coli* with positively charged nanoparticles can lead to artifacts in a standard *Caenorhabditis elegans* toxicity assay. S.K. Hanna, A.R. Montoro Bustos, A.W. Peterson, V. Reipa, L.D. Scanlan, S. Hosbas Coskun, T. Cho, M. Johnson, V.A. Hackley, B.C. Nelson, M.R. Winchester, J.T. Elliott, E. Petersen

**9:00 ENVR 545.** High-throughput single-cell ICP-MS methods development and application to study algae and nanoparticles interaction and toxicity to unicellular organism cyanobacteria. H. Shi, K. Li, H. Zhang, H. Jiang, C. Stephan

**9:25 ENVR 546.** Separation, sizing, and quantitation of engineered nanoparticles in an organism model using inductively coupled plasma mass spectrometry and image analysis. M. Johnson, S.K. Hanna, A.R. Montoro Bustos, C.M. Sims, L. Elliott, A. Lingayat, A.C. Johnston, B. Nikoobakht, J.T. Elliott, D. Holbrook, K.C. Scott, K.R. Murphy, E. Petersen, L. Yu, B.C. Nelson

**9:50** Intermission.

**10:05 ENVR 547.** Single cell and single particle ICP-MS analysis of nanohybrids. J. Lead

**10:30 ENVR 548.** Systems-level approach to characterizing effects of ENMs in terrestrial organisms and ecosystems. C.M. Rico, M.G. Johnson, J.R. Reichman, C.P. Andersen

**10:55 ENVR 549.** Nanoparticle uptake in plant cells: A nano-CT and hyperspectral imaging study. A. Mason, A. Avellan, C. Levard, F. Schwab, D. Borschneck, C. Perrine, C. Santaelia

**11:20 ENVR 550.** Novel image and data fusion method to improve spatial resolution and spectral content of biological images using ToF-SIMS. T.M. Millilo, R. Fischione, A. Montes, J.A. Gardella

### Evolving Nanoparticle Reactivity throughout Nucleation, Growth & Dissolution

Sponsored by GEOC, Cosponsored by COLL, ENVR and NUCL

### Mineral-Water Interface Chemistry

Sponsored by GEOC, Cosponsored by COLL and ENVR

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

### Fundamental Structure-Activity Relationships: The Interface of Operando with Physical Sciences

Sponsored by CATL, Cosponsored by ENVR and I&EC

### Elucidation of Mechanisms & Kinetics on Surfaces

### Organic Oxygenates

Sponsored by CATL, Cosponsored by COLL and ENVR

## WEDNESDAY AFTERNOON

### Section A

San Francisco Marriott Marquis  
Salons 10/11

### Pesticides in Surface Water: Monitoring, Modeling, Mitigation, Risk Assessment & Regulation

Financially supported by Compliance Services International (CSI)

Y. Luo, D. Young, *Organizers*

J. Gan, K. S. Goh, *Organizers, Presiding*

**1:30** Introductory Remarks.

**1:35 ENVR 551.** Agricultural and urban pesticide signatures in wadeable streams from regional stream-quality studies. L.H. Nowell, B.J. Mahler, P.W. Moran, M. Shoda, J.E. Norman, P.C. Van Metre, W.W. Stone

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

‡ Cooperative Cosponsorship

- 1:55 ENVR 552.** Reconnaissance study of current-use pesticides in 12 urban and agricultural surface water sites in California. M.L. Hladik, J. Orlando
- 2:15 ENVR 553.** Pesticides in wastewater: Linking pesticide use patterns to sewershed monitoring results. J. Teerlink, R. Budd, Y. Xie, C. Alaimo, T.M. Young
- 2:35 ENVR 554.** Influence of rainfall event characteristics on urban pesticide runoff. A. Gorgoglione, F. Bombardelli, T.M. Young
- 2:55 ENVR 555.** Concentrations of synthetic pyrethroids in surface water and sediment from agricultural and urban land use areas. J. Giddings, J. Frew, D. Campana, J. Wirtz, B. Finch
- 3:15** Intermission.
- 3:35 ENVR 556.** Passive samplers for *in situ* monitoring of pesticides in urban surface water. J. Gan, W. Lao, C. Liao, A. Xue, J. Richards, K.A. Maruya
- 3:55 ENVR 557.** Continuous Low Level Aquatic Monitoring (C.L.A.M.) samplers for organic contaminant screening in urban runoff: Development of an analytical approach. M. Vasquez, S. Mohammed, H. Tsai, G. Cho, M. Ensminger
- 4:15 ENVR 558.** Analyses of polar pesticides and glyphosate in Mekong Delta. N. Tran-Thi, M. Do, L. Truong, T. Nguyen, T. Nguyen, Q. Chau, L. Tran, D. Orange, P. Behra
- 4:35 ENVR 559.** Environmental monitoring of systemic insecticides in surface water ecosystems: Development and application of an ultrasensitive and automated analytical method. J.M. Montiel León, S. Vo Duy, G. Munoz, M. Amyot, S. Sauv e
- 4:55 ENVR 560.** Desorption of known persistent organic pollutants from atmospheric dust and black carbon into aquatic ecosystems. T. Togashi, C. Bowyer, R.A. Lyons
- 5:15** Concluding Remarks.

## Section B

San Francisco Marriott Marquis  
Salons 12/13

### Advances in Resource Recovery & Conservation in Water Systems

*Cosponsored by AGFD, CEI and GEOC*

S. Ahuja, L. M. Blaney, T. H. Boyer, *Organizers, Presiding*

**1:30** Introductory Remarks.

- 1:40 ENVR 561.** Urea hydrolysis characterization and inhibition by chemical addition. H. Ray, D. Saetta, T.H. Boyer
- 2:00 ENVR 562.** Urea hydrolysis inhibition in waterless urinals for water conservation and nutrient recovery. D. Saetta, T.H. Boyer
- 2:20 ENVR 563.** Electrochemical stripping to recover nitrogen from source-separated urine. W.A. Tarpeh, K.L. Nelson
- 2:40 ENVR 564.** Life cycle comparison of urine source separation and centralized wastewater treatment. T.H. Boyer, K. Landry
- 3:00** Intermission.
- 3:20 ENVR 565.** Advanced spatial modeling and lifecycle assessment for real world implementation of decentralized nitrogen recovery. O. Kavvada, W.A. Tarpeh, A. Horvath, K.L. Nelson

- 3:40 ENVR 566.** Solution to pollution is not dilution: An integrated system for total nutrient recovery from source separated urine. N. Jagtap
- 4:00 ENVR 567.** Mechanisms and modeling of pathogen fate in pilot scale nutrient recovery reactors. H. Bischel, K. Udert, T. Kohn
- 4:20 ENVR 568.** Physical-chemical interactions of biochar and pharmaceuticals in synthetic urine. A. Solanki, T.H. Boyer
- 4:40 ENVR 569.** Fate of human BK polyomavirus through urine diverted for fertilizer. H. Goetsch, N. Love, M. Imperiale, K. Wigginton
- 5:00** Concluding Remarks.

## Section C

San Francisco Marriott Marquis  
Salons 14/15

### Contaminants in Urban & Coastal Estuarine Ecosystems

#### Advanced Analytical Techniques to Assess Chemical Profiles

*Cosponsored by AGRO*

K. L. Armbrust, G. P. Cobb, P. Saranjampour, *Organizers, Presiding*

- 1:30 ENVR 570.** Combining chemical and bioanalytical methods to screen for emerging contaminants in California's receiving waters. K.A. Maruya, A. Mehinto, M. Raphael, E.D. Nelson, E. Hoh, S.A. Snyder, R. Fadness, J. Lyons
- 1:55 ENVR 571.** Regional trends in sediment quality in southern California: Responses to multiple stressors. S. Bay, N.G. Dodder, D. Gillett, K. Schiff
- 2:20 ENVR 572.** Examining urban metabolism and contaminants of emerging concern in coastal environments: A pilot study in Hong Kong and Taipei. S. Burket, J. Zheng, K. Chambliss, S. Chung, B.W. Brooks
- 2:45 ENVR 573.** Dissolved PAHs and PBDEs in the Narragansett Bay Watershed using passive polyethylene samplers. W. Zhao, M. Khairy, M. Cai, R. Lohmann
- 3:10** Intermission.
- 3:30 ENVR 574.** Ecotoxicological assessment of Polycyclic Aromatic Hydrocarbons (PAHs) and metals in the Mississippi River coastal watershed and offshore shoaling regions of the northern Gulf of Mexico. L. Basirico, R.J. Portier, H. Rockett
- 3:55 ENVR 575.** Quantifying Polycyclic Aromatic Hydrocarbons (PAHs) distribution and accumulation in coastal Louisiana using natural radioisotope tracers. K. Maiti, P. Adhikari, W. Bam
- 4:20 ENVR 576.** Assessment of emerging contaminants from wastewater treatment systems along Louisiana coastal and estuarine waterways. M.S. Miles
- 4:45 ENVR 577.** Stereoisomer-specific distribution of 1,2,5,6,9,10-hexabromocyclododecane and 1,2-dibromo-4-(1,2-dibromoethyl)cyclohexane in sediment and marine organisms from the South China Sea. Y. Ruan, X. Zhang, J.C. Lam, B. Zhu, P.K. Lam
- 5:10 ENVR 578.** Distribution and abundance of microplastic pollution on Sandy Hook Bay beaches is higher than on New Jersey coastal beaches. K. Veasey, S. Rosenstein

## Section D

San Francisco Marriott Marquis  
Golden Gate C1

### Novel Membrane Materials & Processes for Water Purification

D. Jassby, B. Mi, *Organizers, Presiding*

- 1:30 ENVR 579.** Novel membranes with special wetting properties for anti-fouling and anti-wetting membrane distillation. Z. Wang, Y. Huang, S. Lin
- 2:00 ENVR 580.** Accurately determining convective heat transfer coefficients in membrane distillation cases. M.S. Mauter, M. Leitch, G. Lowry
- 2:20 ENVR 581.** Modification of permeate surface by hydrophilization to enhance flux in membrane distillation for desalination. S. Ragnath, S. Roy, S. Mitra
- 2:40 ENVR 582.** Desalting water with electric double-layers: Assessing impacts of material chemistry and operation strategies on capacitive deionization energy consumption and cost. S. Hand, R. Cusick
- 3:00** Intermission.

- 3:20 ENVR 583.** Sunlight enables reduced graphene oxide/bacterial nanocellulose ultrafiltration membranes to resist biofouling. Y. Jun, Q. Jiang, D. Ghim, S. Tadeepalli, H. Kwon, K. Liu, Y. Min, J. Luan, S. Singamaneni
- 3:50 ENVR 584.** Surfactant-stabilized oil separation from water using ultrafiltration and nanofiltration. X. Zhu, A.V. Dudchenko, D. Jassby

- 4:10 ENVR 585.** Integration of reactive ceramic membrane with ozonation for advanced treatment of reclaimed water. X. Zhang

- 4:30 ENVR 586.** Novel nanohybrids enables microwave radiation to disinfection water. N.B. Saleh

- 4:50 ENVR 587.** Integration of *in-situ* ozonation and ceramic UF membrane for effective algae and MC-LR removal and membrane fouling control in the treatment of algal-rich water. Z. Zhang, Y. Tao, X. Zhang

## Section E

San Francisco Marriott Marquis  
Sierra A

### Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse

*Financially supported by AEESP*

X. He, D. Minakata, K. E. O'Shea, X. Quan, *Organizers*

D. D. Dionysiou, G. Li Puma, *Organizers, Presiding*

A. Ghauch, *Presiding*

- 1:30 ENVR 588.** Degradation of antibiotics in UV-persulfate activated systems: Application to Chloramphenicol. A. Ghauch, M. Amasha, A. Baalbaki, R. El Asmar, O. Tantawi
- 2:05 ENVR 589.** Electrochemical enhancement of oxidation process using persulfate activated by nanosized zero-valent iron. C. Kim, I. Hwang
- 2:30 ENVR 590.** Selective degradation of sulfamethoxazole by peroxymonosulfate without activating agents: Self-activation and nonradical pathways. R. Yin, W. Guo, H. Wang, J. Chang, N. Ren

- 2:55 ENVR 591.** Activation of persulfate with vanadium species for PCBs degradation: A mechanistic study. G. Fang, W. Wu, C. Liu, Y. Deng, D. Zhou

**3:20** Intermission.

- 3:35 ENVR 592.** Effect of synthesis parameters in the removal of 4-chlorophenol under visible light irradiation using ammonium iron (II) sulfate-doped nano-titania photocatalyst. F.A. Villaluz, M. Lu, M.G. de Luna

- 4:00 ENVR 593.**  $\beta$ - $\text{Bi}_2\text{O}_3$  thin films on different substrates for photodegradation of organic dyes. T. Gadhil, L. G omez, M. Bizarro, J.C. Medina, P. Jagdale, A. H ernandez-Gordillo, A. Tagliaferro, S.E. Rodil

- 4:25 ENVR 594.** Evaluation of heterogeneous photocatalysis degradation of ketoprofen in aqueous solution with catalysts  $\text{TiO}_2/\text{Mo}/\text{Ag}$ . A. Suarez, V. Rodr iguez Gonzalez, E.F. Sarria, L. Clavijo

- 4:50 ENVR 595.** Micromotors as tools for efficient water decontamination. D. Vilela Garcia, J. Parmar, S. Sanchez

**5:15** Concluding Remarks.

## Section F

San Francisco Marriott Marquis  
Sierra B

### Aquatic Photochemistry

*Cosponsored by GEOC*

*Financially supported by AEESP*

W. Arnold, K. P. McNeill, *Organizers*

V. Lin, *Organizer, Presiding*

- 1:30 ENVR 596.** Characterizing the role of photochemical processes in the oxidation of hydrocarbons released during the Deepwater Horizon disaster. C.P. Ward, C. Reddy

- 1:50 ENVR 597.** Time dependence of aldehyde and ketone photoproduct generation from crude oil-seawater systems under solar irradiation. X. Cao, M.A. Tarr

- 2:10 ENVR 598.** Steric hindrance reduces aquatic photochemical transformation rates of alkylated sulfur heterocycles. P. Saranjampour, K.L. Ambrust, B. Marx

- 2:30 ENVR 599.** Photolysis of aromatic pollutants in salty water and ice. T.F. Kahan, A. Stathis, P. Malley, J. Grossman

- 2:50 ENVR 600.** Petroleum provides model compounds to assess the compositional and structural controls of dissolved organic matter photoreactivity. P. Zito, M.A. Tarr, D.C. Podgorski

**3:10** Intermission.

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**3:20 ENVR 601.** Investigating the photochemical pathways of organic sulfur in forming COS and CS<sub>2</sub> in natural waters. **M. Modiri Gharehveran, A. Shah**

**3:40 ENVR 602.** Counter-ions influence nitrate photolysis yields through altering interfacial concentrations. **K.M. Callahan, D. Tobias**

**4:00 ENVR 603.** Characterization of photooxidants in atmospheric particles. **R. Kaur, C. Anastasio**

**4:20 ENVR 604.** Is gas-aerosol particle interface the same as the air/water interface? **Y. Rao, Y. Wu, X. Li, Y. Wu, Y. Qian, H. Dai**

**4:40 ENVR 605.** From the desert to the city: Dust as a photochemical source of hydroxyl radical and singlet oxygen in aqueous aerosol. **S.A. Styler, S.R. Schneider, C.D. Cote**

## Section G

San Francisco Marriott Marquis  
Sierra C

### Innovative Materials & Technologies for Sustainable Water Purification

#### Photocatalytic

*Cosponsored by CEI*

E. L. Cates, B. P. Chaplin, J. Choe, J. Liu, W. Zhang, *Organizers*

D. Shuai, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ENVR 606.** Boosting the photocatalytic activity of m-BiVO<sub>4</sub> with Pd nanodomains and BiOBr nanosheets dual heterojunction: Highly efficient photocatalytic degradation of polychlorinated biphenyls. **E. Zahran, M. Palmi, S. Angarano, M.R. Knecht, L. Bachas**

**1:55 ENVR 607.** Tailored graphitic carbon nitride: Selective production of oxidative species and applications for organic micropollutant removal. **Q. Zheng, D. Shuai**

**2:15 ENVR 608.** Synthesis and application of highly reductive TiO<sub>2</sub>-based photocatalysts for hexavalent chromium and nitrate removal. **G. Chen, H. Liu**

**2:35 ENVR 609.** Microreactor-inspired photocatalytic PBR for intensified solar photocatalysis: A study of the effects of packing material on light absorption. **B. Ramos, S. Ookawara, A.S. Teixeira**

**2:55** Intermission.

**3:10 ENVR 610.** Towards multifunctionality in water treatment: Developing photoactive selective adsorbents for inorganic contaminants using nano-enabled biomaterials. **L. Pincus, J. Yamani, J.B. Zimmerman**

**3:30 ENVR 611.** Designing photocatalytic nano-adsorbents with greater specificity through shape and size using advanced spectroscopy techniques. **A.W. Lounsbury, N. Billmyer, J. Yamani, D. Peak, J.B. Zimmerman**

**3:50 ENVR 612.** Physical and chemical characterization of iron (III) oxide produced by SORAS technique for the removal of arsenic in drinking water. **E. Araya, J. Valverde-Cerdas, J.M. Cubero-Sesin, D. Méndez, L.G. Romero**

**4:10 ENVR 613.** Antimicrobial applications of visible-light-responsive photocatalysts. **H. Shen, D. Shuai**

## Section H

San Francisco Marriott Marquis  
Sierra J

### Poly- & Per-Fluoroalkyl Substances: Where, What, When, Why, Who & How

K. Chu, L. S. Lee, J. Liu, V. Yingling, *Organizers, Presiding*

**1:30 ENVR 614.** Encapsulation of legacy and emerging perfluoroalkyl substances by cyclodextrins. **M.J. Weiss-Errico, Z. Hopkins, D. Knappe, K.E. O'Shea**

**1:55 ENVR 615.** Protective effects of β-cyclodextrin in biological systems contaminated with perfluoroalkyl substances. **M.J. Weiss-Errico, K.E. O'Shea**

**2:20 ENVR 616.** Novel approach to the enhancement of PFAS adsorption in groundwater systems. **Y. Aly, M.F. Simcik**

**2:45 ENVR 617.** Selective and fast adsorption of perfluorooctane sulfonate from wastewater by magnetic fluorinated vermiculite. **S. Deng, P. Meng, G. Yu**

**3:10** Intermission.

**3:40 ENVR 618.** Abiotic transformation of perfluorooctane sulfonate by catalyzed permanganate under amenable in-situ conditions. **S. Park, L.S. Lee**

**4:05 ENVR 619.** Remediation of per- and polyfluoroalkyl substances using heat-activated persulfate. **T. Bruton, D.L. Sedlak**

**4:30 ENVR 620.** Remediation of perfluorinated surfactants in groundwater by injection of nanoscale zerovalent iron particles. **Y. Zhang, Y. Zhi, J. Liu, S. Ghoshal**

**4:55 ENVR 621.** Degradation of Poly- and Per-Fluoroalkyl Substances (PFAS<sub>n</sub>) using photocatalyst zinc oxide. **K. Chu, Y. Shao**

**5:20** Concluding Remarks.

## Section I

San Francisco Marriott Marquis  
Sierra K

### Whole Organism Metrology to Support Nanotoxicology Research in the Environment

S. K. Hanna, M. Johnson, *Organizers*

B. C. Nelson, C. M. Sims, *Organizers, Presiding*

**1:30 ENVR 622.** Development of correlative optical microscopy and focused ion beam tomography for quantitation of metal nanoparticles in whole cells. **K. Jeerage, A. Sanders**

**1:55 ENVR 623.** Single cell ICP-MS: Quantifying exposure and dose of gold and silver nanoparticles to freshwater algae. **R. Merrifield, J. Lead, C. Stephan**

**2:20 ENVR 624.** Optofluidic Surface Enhanced Raman Spectroscopy (SERS) interrogation for targeted detection of individual cells. **M. Willner, D. Graham, M. Zagnoni, P.J. Vikesland**

**2:45 ENVR 625.** Quantitative analysis of the physicochemical properties of cerium oxide nanomaterials and their influence on nano-bio interactions. **C.M. Sims, R.A. Maier, A.C. Johnston-Peck, J.M. Gorham, S.K. Hanna, V.A. Hackley, B.C. Nelson**

**3:10** Intermission.

**3:25 ENVR 626.** Transfer and accumulation of TiO<sub>2</sub> nanoparticles along a marine benthic food chain. **J. Zhao, Z. Wang, B. Xing**

**3:50 ENVR 627.** Toxicity studies of silver nanoparticles on the anaerobic sulfate reducing bacteria *Desulfovibrio alaskensis*. **M.O. Montes, J.M. Snitker**

**4:15 ENVR 628.** Effects of pH and dissolved organic carbon on the toxicity of silver nanowires to *Daphnia magna*: Acute toxicity and spICP-MS measurement of silver nanowire uptake. **L.D. Scanlan, M.D. Montano, N. Karunaratne, M. Eng, T. Cun, J.Y. Hsu, C. ter Haar, B. Gilbert, C. Vulpe**

**4:40 ENVR 629.** Monitoring toxicity of oral magnetite nanoparticles *in vivo* using drosophila melanogaster. **X. Bi**

### Evolving Nanoparticle Reactivity throughout Nucleation, Growth & Dissolution

*Sponsored by GEOC, Cosponsored by COLL, ENVR and NUCL*

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

### Fundamental Structure-Activity Relationships: The Interface of Operando with Physical Sciences

*Sponsored by CATL, Cosponsored by ENVR and I&EC*

### Elucidation of Mechanisms & Kinetics on Surfaces

#### Mechanisms: Hydrogenation

*Sponsored by CATL, Cosponsored by COLL and ENVR*

## WEDNESDAY EVENING

### Section A

Moscone Center  
Hall D

### Accurate Mass/High Resolution Mass Spectrometry for Environmental Monitoring & Remediation

*Cosponsored by ANYL*

T. Anumol, R. Marfil-Vega, T. M. Young, *Organizers*

**6:00 - 8:00**

**ENVR 630.** Screening and quantitation of micro-pollutants from sewage water in the process of bank filtration using UHPLC-HRAM. **E. George**

**ENVR 631.** Assessment of biotransformation of macrolide antibiotics using target and non-target analyses by ultraperformance liquid chromatography/quadrupole-time-of-flight mass spectrometry and antibiotic bioassay. **S. Terzic, N. Udikovic-Kolic, I. Krizman, I. Senta, I. Mihaljevi, T. Smital, M. Ahel**

**ENVR 632.** Withdrawn

**ENVR 633.** Polypropylene glycol surfactants and their degradation products as potential indicator compounds for shallow groundwater impacted by hydraulic fracturing fluids. **J.D. Rogers, I. Ferrer, E.M. Thurman, J. Rosenblum, A.R. Bielefeldt, J.N. Ryan**

**ENVR 634.** Microcystin screening in water samples using LC-MS/MS and triggered information dependent acquisition for non-targeted variant detection. **R.A. Trenholm, B. Vanderford**

**ENVR 635.** Levels, profiles and potential risks of dioxins and dioxin-like compounds in atmosphere surrounding industrial sources. **G. Liu, M. Zheng, L. Yang, R. Jin, Q. Zhu**

**ENVR 636.** Determination and quantitative of plant metabolites by using triple quadrupole liquid chromatography coupled to mass spectrometry. **Y. Huang, L. Zhao, A.S. Adeleye, T. Anumol, A.A. Keller**

**ENVR 637.** Withdrawn

**ENVR 638.** Use of gas chromatography orbitrap mass spectrometry for small molecule discovery: Iodinated disinfection byproducts as case study. **C. Postigo, C. Cojocariu, S.D. Richardson, P. Silcock, D. Barceló**

**ENVR 639.** Python script to streamline non-targeted GCxGC/TOFMS data analysis of remediated soil samples. **I. Titalay, O. Ogba, L. Chibwe, E. Hoh, P. Cheong, S.L. Simonich**

### Section A

Moscone Center  
Hall D

### Advances & Applications in Water Sensing Technologies for Drinking Water, Re-Use, Agri-Tech & Research

P. L. Schorr, *Organizer*

**6:00 - 8:00**

**ENVR 640.** Withdrawn

**ENVR 641.** Nano-sized TiO<sub>2</sub> thin film synthesis and characterization on quartz slides, borosilicate beads and quartz cylinders for use in photocatalytic degradation of organic contaminants. **M. Russell, S.R. Kanel, D. Kempisty**

**ENVR 642.** Engineering analysis of water reuse through water sensing spectrophotometers. **P.L. Schorr**

### Section A

Moscone Center  
Hall D

### Advances in Resource Recovery & Conservation in Water Systems

S. Ahuja, L. M. Blaney, T. H. Boyer, *Organizers*

**6:00 - 8:00**

**ENVR 643.** Effect of humic analogue on microbial leaching of iron from hematite into seawater. **A. Aneksampant**

**ENVR 644.** Phosphorus recovery using pelletized adsorptive materials: Study of desorption for potential reuse. **E. Martin, M. Nadagouda, S. Chae**

**ENVR 645.** Integrated seawater aquaculture and agriculture as an avenue for food and energy security in arid regions. **Z. Almheiri**

**ENVR 646.** Efficacy of Hydrotalcite-based nanocomposites for sorbing heavy metal in industrial wastewater. **Y. Li, J. Ma, P.J. Alvarez**

**ENVR 647.** Phosphate ion exchange on cross-linked cationic surfactant micelles across dialysis membranes. **M. Chen, C.T. Javvert**

‡ Cooperative Cosponsorship



## Section A

Moscione Center  
Hall D

### Applications of Cheminformatics & Computational Chemistry in Environmental Health

C. Grulke, A. J. Williams, *Organizers*

6:00 - 8:00

ENVR **648.** Integrating chemometrics and computational chemistry in the workflow of suspect screening analysis of polycyclic aromatic hydrocarbon biotransformation products. I. Titaley, L. Chibwe, K.R. Glaesemann, P. Cheong, S.L. Simonich

ENVR **649.** Molecular dynamics study of the influence of activated carbon pore structures on dioxin adsorption. F. Gao, S. Ou, C. Liu, H. Li, B.J. Teppen, C.T. Johnston, S. Boyd

ENVR **650.** Progress towards a general model to predict hydroxylated polycyclic aromatic hydrocarbon stabilities. D. Walden, I. Titaley, O. Ogba, S. Simonich, P. Ha-Yeon Cheong

ENVR **651.** Delivering an informational hub for data at the National Center for Computational Toxicology. A.J. Williams, C. Grulke, J. Smith, K. Mansouri, A. McEachran, G. Patlewicz, J. Fitzpatrick, A. Richard, J. Edwards

## Section A

Moscione Center  
Hall D

### Aquatic Photochemistry

Cosponsored by GEOC

Financially supported by AEESP

W. Arnold, V. Lin, K. P. McNeill, *Organizers*

6:00 - 8:00

ENVR **652.** FT-ICRMS analysis of photochemically degraded and burned surrogate oil. M.D. Seivert, C.A. Davis, A.M. McKenna, Y. Corilo, R.A. Snyder, W.H. Jeffrey, P.P. Vaughan

ENVR **653.** Direct and indirect photochemical transformation of imidazolium, pyridinium, pyrrolidinium, and piperidinium ionic liquids. S.G. Pati, W. Arnold

ENVR **654.** Formation of brown carbon in snow and ice through SOA-like chemistry. M. Barr, A.M. Grannas, V. Boschi

ENVR **655.** Photochemical transformation of nicotine in the wastewater effluent. L. Lushi, S. Yan, W. Song

ENVR **656.** Photoreactivity of plant elicitor acibenzolar S-methyl in solutions and on plant surfaces. M. Sleiman, M. Stawinoga, S. Wang, P. Goupil, C. Richard, P. De Sainte Claire

ENVR **657.** Removal of arsenic by UV photoreduction in the presence of dithionite. B. Jung, A. Abdel-Wahab

ENVR **658.** Photochemical reactions of hematite-soot mixtures in various environmentally representative scenarios. J. Rodriguez, J. Rodriguez, A. Reddy, H. Casique, A.M. Johansen

ENVR **659.** Fluorescence spectroscopy for determining photochemical degradation rates of natural and industrial crude oil with DOC and GC×GC/TOF-MS analysis. K. Snyder, N. Mladenov, A. Nour, C. Campbell, M. McConnell, R. Luna, E. Hoh

ENVR **660.** Modeling singlet oxygen production by dissolved organic matter. J.R. Laszakovits, Y. Chin, A. MacKay, C.M. Sharpless

ENVR **661.** Exploration of the role of ambient conditions in organic aerosol growth via photosensitized oxidation of VOCs. M. Galloway, M.G. Ippolito, J.M. Ackendorf, A. Sager

ENVR **662.** Antioxidant response to singlet oxygen production under light stress on the polyphasic rise of chlorophyll a fluorescence induction curves of *Botryococcus braunii*. F.M. Joaquin, G. Gulihur, K. Doble, V. Barcelo Bovea, K. Griebenow

ENVR **663.** Biological toxicity of extracts from photochemically degraded crude oil water accommodated fractions. P. Bann, S. Bifulco

ENVR **664.** Fractionation and biological toxicity studies of crude oil water accommodated fractions with dispersant. C. Brannon, P. Bann, S. Bifulco, J. Fair, M.D. Seivert, W.H. Jeffrey, P.P. Vaughan

## Section A

Moscione Center  
Hall D

### Bioprocesses for Engineered Nanomaterials in Soil-Plant Systems

J. C. White, B. Xing, Y. Yang, *Organizers*

6:00 - 8:00

ENVR **665.** *In-situ* study of the evolution of quantum dots in contact with the biofilm/mineral interface. M. Desmau, G. Alexandre, C. Levard, G. Ona-Nguema, V. Vidal, J. Stubbs, G. Charron, Y. Sivry, M.F. Benedetti

ENVR **666.** Effects of carbonaceous nanomaterials on soil-grown soybean and its symbiosis with nitrogen-fixing bacteria: A mesocosm study. Y. Wang, D.C. Bouchard, R.M. Nisbet, J.P. Schimel, J.L. Gardea-Torresdey, P. Holden

ENVR **667.** Molecular mechanisms underlying biotransformation of carbon nanotubes by *Mycobacterium vanbaalenii* PYR-1. Y. You, J. Angermann, B. Xing, S. Kim, O. Kweon, C. Cerniglia, Y. Yang

## Section A

Moscione Center  
Hall D

### Chemical Principles of Environmental, Cellular & Organismal Nanotoxicology

Cosponsored by COLL

C. Celle, L. L. Charlet, B. Gilbert, S. Lehman, J. Simonato, C. Vulpe, *Organizers*

6:00 - 8:00

ENVR **668.** Stability and cytotoxicity of synthesized CeO<sub>2</sub> nanoparticles in water. Y. Lin, L. Shen, Y. Shi

ENVR **669.** Predictive insight into the silver nanomaterial protein corona fingerprint. M.R. Findlay, D.N. Freitas, M. Mobed-Miremedi, K. Wheeler

ENVR **670.** Exploring impacts of complex nanomaterials using the nematode *C. elegans*. N. Niemuth, M. Hang, X. Zhang, R.J. Hamers, C.J. Murphy, R. Klaper

ENVR **671.** Characterization of biophysical characteristics that impact individual peptide binding to an engineered nanomaterial within a complex blood protein corona. M. Nguyen, K. Wheeler

ENVR **672.** Modeling the environmental fate of graphene oxide and its transformation products in surface waters. D.C. Bouchard, B. Avant, X. Chang, L. Guiney, Y. Han, M. Henderson, M. Hersam, C. Knights, S. Martin, J. Spear, R.G. Zepp

ENVR **673.** Characterization of the dissolution properties of copper oxide nanoparticles in cell culture media and their effects on *in-vitro* toxicity. S. Jang, W. Kim, E. Cho, S.I. Yang

ENVR **674.** Inhibition effects of silver nanoparticles and ions on toxic airborne fungi. E. Cho, J. Lee, S.I. Yang

ENVR **675.** Nanotoxicology of NMC, PAH-AuNP, Citrate-AuNP and *D. melanogaster*. B. Curtis, M. Hang, R.J. Hamers, X. Zhang, C.J. Murphy, R. Klaper

## Section A

Moscione Center  
Hall D

### Chemistry & Application of Advanced Oxidation Processes for Water Detoxification, Treatment & Reuse

Financially supported by AEESP

D. D. Dionysiou, X. He, G. Li Puma, D. Minakata, K. E. O'Shea, X. Quan, *Organizers*

6:00 - 8:00

ENVR **676.** Photodegradation of antibiotic in organic matter solution using H<sub>2</sub>O<sub>2</sub>/UV process. A.S. Batista, N. Silva, L. Gil da Barbara, I.V. Corrêa, A.S. Teixeira

ENVR **677.** Degradation of a toxic molecule in industrial effluents using UV/PS activated systems: Application to o-toluidine. A. Ghauch, A. Baalbaki, M. Amasha, S. Al Hakim, Y. Nehme, R. El Asmar

ENVR **678.** Withdrawn

ENVR **679.** Withdrawn

ENVR **680.** Withdrawn

ENVR **681.** Effects of bulk water temperature on PAH degradation by ultrasonically activated persulfate. W.P. Fagan, J. Zhao, L.K. Weavers

ENVR **682.** Withdrawn.

ENVR **683.** Gaseous VOC abatement in a Circulating Fluidized Bed (CFB) riser reactor: A Computational Fluid Dynamics (CFD) modeling approach. D. Matsumoto, L. Diniz, J.L. de Paiva, A.S. Teixeira, R. Guardani, T. Hewer

ENVR **684.** Photocatalytic decomposition of imidacloprid by TiO<sub>2</sub>-Fe<sub>3</sub>O<sub>4</sub> nanocomposite in a PV-UV-LED continuous photoreactor. M. Eskandarian, M. Fazli, M. Rasoulifard

ENVR **685.** Natural enhancement of Solar Disinfection (SODIS) via the photo-Fenton process towards bacterial and chemical contaminant elimination in developing countries. S. Giannakis, C. Pulgarin

ENVR **686.** Photocatalytic degradation of C.I. basic red 46 in thin film fixed bed photoreactor: Non linear regression analysis and intermediates. M. Berkani, M. Bouhelassa, B. Abdelkrim, M. Bouchareb, Y. Kadmi

ENVR **687.** Influence mechanisms of textile-dyeing sludge characteristics on degradation of anilines by integrated ultrasound-permanganate treatment. X. Ning, J. Liang, T. An, J. Sun, X. Lu, Y. Zhang

ENVR **688.** Efficient degradation of DBP by magnetic nano-fiber GO-MnFe<sub>2</sub>O<sub>4</sub> as ozonation catalyst in the water. Y. Ren, J. Ma, H. Zhang

ENVR **689.** Chloroperoxidase oxidative transformation of oxarsonone. Y. Tan, X. Wang, K.E. O'Shea

ENVR **690.** Bioactivity-oriented approach to investigate fate and transformation of selected personal care products during chlorination. L. Li, W. Han, K. Yeung

ENVR **691.** Simultaneous photocatalytic Cr(VI) reduction and ciprofloxacin oxidation over TiO<sub>2</sub>/FeO composite under aerobic conditions: Performance, durability, pathway and mechanism. Z. Diao

ENVR **692.** Elimination of analgesic residuals in water by ultrasound and ultrasound-assisted catalytic processes. A. Zilyan Yavas, N.H. Ince

ENVR **693.** Photocatalytic removal of toluene in a TiO<sub>2</sub>/SiO<sub>2</sub> circulating fluidized bed reactor. L. Diniz, D. Matsumoto, T. Hewer, A.S. Teixeira, J.L. de Paiva, R. Guardani

ENVR **694.** Withdrawn.

ENVR **695.** Application of iron mining residue for heterogeneous photo-fenton degradation of sulfathiazole and sulfamethazine. S.C. Ayala, P. Hammer, R. Pupo Nogueira

ENVR **696.** 17-Ethinylestradiol degradation promoted by persulfate activated with UV-light. C. Rackov, A.G. Camara, T.A. Ferreira, H.N. Maia de Oliveira, M. Vianna, O. Chivone-Filho, C.A. Oller do Nascimento

ENVR **697.** Semicontactor nanomaterials for solar photocatalytic activity. L. Gustin, B. Dallakoti, X. Cao, M.A. Tarr

ENVR **698.** Toxicity removal by electro-peroxone process. D. Amado Piña, G. Roa Morales, G. Santana Martínez, C. Barrera-Díaz, P. Balderas-Hernández, R. Romero Romero, R. Natividad

ENVR **699.** Ag nanoparticles stabilized with starch deposited on the TiO<sub>2</sub> and TiO<sub>2</sub>-CeO<sub>2</sub> systems. J.C. Arevalo Perez, J.G. Torres Torres, I. Sanchez Lombardo, A. Cervantes, A. Cordero, A.A. Silahua

ENVR **700.** Probing electron trapping energy states of TiO<sub>2</sub>-WO<sub>3</sub> composites and their consequences on photocatalytic activity for bisphenol A removal. G. Zerjav, S. Arshad, P. Djinic, A. Pintar

ENVR **701.** Removal of alkyl nitrate chemical contaminants in wastewaters using advanced oxidative processes. S. Arciva, B. Daws, S.P. Mezyk, M.P. Schramm

ENVR **702.** Bromine atom reactions under advanced oxidation process conditions. A. Lechner, S.P. Mezyk

ENVR **703.** Withdrawn.

ENVR **704.** Design of hierarchical photocatalyst for waste water treatment. B. Barbero, C.M. Parlett, A.F. Lee, K. Wilson

ENVR **705.** Withdrawn.

ENVR **706.** QSAR prediction of rate constants for the reaction of ozone with organic compounds using quantum chemical descriptors beyond HOMO. P.R. Tentscher, U. von Gunten

## Section A

Mosccone Center  
Hall D

**Chemistry of Water Treatment from Sorption to Taste & Odor: Symposium honoring the Contributions of Mel Suffet**

M. J. McGuire, J. A. Pedersen, F. L. Rosario, *Organizers*

6:00 - 8:00

ENVR 707. Photochemical reactivity of thermally-altered water soluble organic matter. K.D. Couch, F.L. Rosario, G. McKay, Y. Yu, A. Retuta

ENVR 708. Characterizing the properties and release kinetics of dissolved organic carbon from thermally treated soils in arid climates. A. Retuta, Y. Yu, F.L. Rosario

ENVR 709. Do all reduced sulfur compounds in foul air vary in the same manner over a daily fluctuation in the wastewater treatment process? T. Vitko

## Section A

Mosccone Center  
Hall D

**Clay Minerals Selectivity & Its Environmental Applications**

M. ElSayed, *Organizer*

6:00 - 8:00

ENVR 710. Use of NMR carbon-type distributions to assess the extent of preferential adsorption of natural organic matter components. M. Khalaf, G. Chilom, J.A. Rice

ENVR 711. Sorption of substituted pyridines to aluminosilicate clays: Building predictive models for cationic amines. D. Haas Freeman, J. Sullivan, D. Vasudevan

## Section A

Mosccone Center  
Hall D

**Contaminants in Urban & Coastal Estuarine Ecosystems**

*Cosponsored by AGRO*

K. L. Armbrust, P. Saranjampour, *Organizers*

6:00 - 8:00

ENVR 712. Determination of total copper concentration and copper speciation in Humboldt Bay, California through use of competitive ligand exchange-adsorptive cathodic stripping voltammetry. M.A. Amezcua, N. Tuttle, M.P. Hurst

ENVR 713. Soil degradation and sorption of azithromycin in simulated California river and river bed conditions. M.L. Maier, R.S. Tjeerdema

ENVR 714. Anti-depressant and legacy contaminant fate in the Gulf of Mexico. J. Landry, K.L. Armbrust

ENVR 715. Potential mechanisms of 2,6-dichloro-4-nitroaniline (Dicloran) phototoxicity to *Pimephales promelas* (Fathead Minnow). E.N. Vebrosky, K.L. Armbrust

ENVR 716. Analysis of metabolites of Polycyclic Aromatic Hydrocarbons (PAH) in fish bile: A 15-year temporal survey of PAH exposure in Puget Sound, WA. C. Gallagher, D. Da Silva

ENVR 717. From sediment to top predators: Broad exposure of polyhalogenated carbazoles in San Francisco Bay (U.S.A.). Y. Wu, H. Tan, R.A. Sutton, D. Chen

ENVR 718. Withdrawn.

## Section A

Mosccone Center  
Hall D

**Contaminants of Emerging Concern in Natural & Engineered Systems**

*Cosponsored by AGRO, ANYL and CEI*

L. M. Blaney, A. J. Hernandez, *Organizers*

6:00 - 8:00

ENVR 719. UV-driven antibiotic-to-antibiotic transformation pathways and kinetics of sulfonamides. D. Ocasio, H.A. Adejumo, K. Mangalgiri, K. He, L.M. Blaney

ENVR 720. Photolytic fate of organo-selenium and -tin chemicals and their carbon analogs in the natural environment. M. Hopanna, S. Steiny, L.M. Blaney

ENVR 721. Photocatalytic degradation of 1,4-dioxane and trihalomethanes by zinc oxide. M. Hwangbo, Y. Shi, E. Claycomb, B.S. Abada, K. Chu

ENVR 722. Occurrence and fate of low molecular weight aldehydes in potable water reuse systems. E. Marron, C. Prasse, D. Sedlak

ENVR 723. Occurrence of phthalic acid esters and alkylphenols in the Asan Lake region, Korea. Y. Lee, T. Kim, J. Lee, W. Choe, K. Zoh

ENVR 724. Withdrawn.

ENVR 725. Enabling time dependent predictions of emerging organic chemicals in the environment using the OrganoFate model. R. Thakar, D. Elsbury, K. Garner, A.A. Keller

ENVR 726. Toxicity and degradation of a polyalkylene glycol-based hydraulic fluid. Y. Yang, K.K. Das, R. Murnane, J. Hou, V. Edivveerasingam

ENVR 727. Identification of PAH oxidation products on secondary organic aerosols. A. Kramer, S. Simonich, A. Zellenyuk, K. Suski, D. Bell

ENVR 728. Hexachlorobutadiene in agricultural soils from the Yangtze River Delta of China. J. Sun, X. Li

ENVR 729. Adsorptive removal of contaminants of emerging concern from water with imprinted zeolite carbon composites functionalized with extra-framework Cu<sup>2+</sup>. B. Fernandez-Reyes, K.M. Gonzalez-Ramos, K. Ortiz-Martinez, A.J. Hernandez

ENVR 730. Predicting sorption of anionic pharmaceuticals to soils: An evaluation of potential probe compounds. L. Alper, A. Lopez, D. Vasudevan

ENVR 731. Characterizing in-situ methane-enhanced biostimulation potential for 1,4-dioxane biodegradation in groundwater. V. Sadeghi, D. Chiang, R. Mora

ENVR 732. Withdrawn.

ENVR 733. New analytical method for analysis of a broad range of chemicals found in Australian waters and wastewaters. A. Kahl

## Section A

Mosccone Center  
Hall D

**Environmental Chemistry: Undergraduate & Graduate Classroom, Laboratory & Local Community Learning Experiences**

*Cosponsored by ANYL and CHED*

*Financially supported by AEESP*

M. A. Benvenuto, E. Roberts-Kirchhoff, *Organizers*

6:00 - 8:00

ENVR 734. Seasonal differences in mercury concentrations in fish from Flint Creek, Alabama: Implications for monitoring. P. Okweye

ENVR 735. Measurement of hazardous air pollutants with regard to environmental justice policy in the Atlanta metropolitan region. W. Hudson, D. Patel, K. Zimmermann

ENVR 736. Adsorption of herbicide on the model solid/liquid interface. P. Orlović-Leko, K. Vidović, I. Ciglenečki

ENVR 737. Localized surface plasmon resonance and electrochemical analysis of electron transfer mediators. D. Panfilov, P.W. Hall

ENVR 738. Effects of wastewater treatment on Azithromycin. E. Avila, A. Hermelinda, M. Perri

ENVR 739. Withdrawn.

ENVR 740. Gas-phase mercury cycles during May at urban/industrial sites on Svalbard. S. Le Cras, M.H. Hermanson, A. Nikulina

ENVR 741. Synthesis of a series of podand ligands all incorporating long-chain aliphatic moieties. G. Nguyen, J. Pothoof, S. Tinawi, M.A. Benvenuto

ENVR 742. Analysis of mineral cosmetics with a handheld X-ray fluorescence analyzer. S. Thomas, G. Nguyen, D. Stokes, T. Tieu Ngo, M.A. Benvenuto, E. Roberts-Kirchhoff

## Section A

Mosccone Center  
Hall D

**From the Bench to the Field: Evaluating Innovative Remediation & Detection Technologies**

S. R. Al-Abed, H. Henry, *Organizers*

6:00 - 8:00

ENVR 743. Enhanced field screening methods of soil gas in petroleum hydrocarbon contaminated sites. C.S. Chen, C. Tien, C. Kuo

ENVR 744. Evaluation of oxidizer hazard in sorbents used to solidify transuranic waste for the waste isolation pilot plant. B.A. Crawford, T. Hayes, J. Lucchini, C. Chancellor, C. Poulos

ENVR 745. Development and demonstration of high pressure direct push jet injection for controlled emplacement of treatment agents in low-permeability geologic matrices. N.D. Durant, C. Ross, W. Slack

ENVR 746. Utilization of multivariate analysis for evaluating geo-material performance on fluoride removal from water. E. Kim, J. Park, S. Han, Y. Lim, K. Kong, J. Do

ENVR 747. Identification and quantification of polycyclic aromatic hydrocarbon breakdown products in thermally remediated soil from the Wyckoff/Eagle Harbor Superfund site. L. Santiago Delgado, E.L. Davis, S. Simonich

ENVR 748. Electrokinetic enhanced amendment transport at a contaminated field site. D.M. O'Carroll, A. Chowdhury, J. Gerhard, N. Head, A. Inglis, A. Nunez Garcia

## Section A

Mosccone Center  
Hall D

**General Posters**

S. R. Al-Abed, S. O. Obare, *Organizers*

6:00 - 8:00

ENVR 749. Removal of microcystin-LR using powdered activated carbon: Effects of water quality and activated carbon properties. A. Bajracharya, J.J. Lenhart

ENVR 750. Adsorption of fluoride in aqueous solution using Jamun (*Syzygium cumini*) seed derived activated carbon. R. Araga, C. Sharma

ENVR 751. Fabrication and characterization of surface-patterned thin-film composite membranes. O. Heinz, S.H. Maruf, M. Aghajani, A.R. Greenberg, Y. Ding

ENVR 752. Image analysis for assessment of nanomaterial uptake and elimination kinetics. T. Kefela, M. Mortimer, P. Holden

ENVR 753. Modification of graphene oxide with magnesium oxide: Synthesis, characterization, and demonstration with high-rate adsorption of methylene blue. M. Heidarizad, S.S. Sengor

ENVR 754. Caffeine analysis of wastewater using online SPE-LC high resolution mass spectrometry. S. Spence, P.R. Gardinali

ENVR 755. Correlation of chemical composition of wood smoke and diesel exhaust particulate matter with light absorbance and toxicity. K. Kukowski, B.C. Brinckmann, R. Cochran, J.A. Øvreik, A. Kubatova

ENVR 756. Factors affecting the fate of dissolved organic carbon in groundwater. L.K. McDonough, A. Baker, D. O'Carroll, M. Andersen

ENVR 757. Comprehensive real-time fenceline monitoring using SIFT-MS. V.S. Langford, B.J. Prince, D.B. Milligan, T. Wilks, T. Potter

ENVR 758. Removal of chromium(VI) and chromium(III) ions from aqueous solution using bio-char generated from agricultural waste products. D.F. Gonzalez, K. Flores, M. Gonzalez, A. Cantu, C. Serna, T.M. Eubanks, J.G. Parsons

ENVR 759. Effect of adsorber and desorber unit interactions on N-nitrosamine formation during amine-based carbon capture. Z. Wang, Z. Zhang, W. Mitch

ENVR 760. Characterization of heavy metal adsorption using precipitates in acid mine water from abandoned metal mine. J. Kim, J. Kim, C. Seo, J. Seo, Y. Kim

ENVR 761. Quantitative analysis of tetrabromobisphenol-A and tribromobisphenol-A in dust from consumer electronics. E. Gaulke, C.R. Butler, A. Schoffstall, L.E. Lowe, J.E. Owens

ENVR 762. Comparison of the persistence of caffeine in constructed wetlands versus convention wastewater treatment systems. P.R. Alvaro, C. Tripp, M.P. Hurst

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- ENVR 763.** Reduction of ferric iron in aqueous soot slurries. H. Casique, A. Reddy, C. Neuman, **A.M. Johansen**
- ENVR 764.** Detailed examination of particulate matter from waste vegetable oil biodiesel combustion: Oxidative potential relationships to fuel feedstock and blend ratio composition. **B. Holmen**, B. Rukavina, J. Kasumba, J. Reed, Y. Han, N.K. Fukagawa
- ENVR 765.** Novel approaches to the study of bio-based products and anaerobic digestion per compost environment standard. E.J. Parish, G. Ren, H. Honda, **S. Lee**, Y. Lo
- ENVR 766.** Novel development to the application of life cycle approach to design greener products. G. Ren, E.J. Parish, **H. Honda**, Y. Lo
- ENVR 767.** Novel approaches to the application of estimation methods to reduce carbon emission on climate change. G. Ren, E.J. Parish, H. Honda, **Y. Lo**
- ENVR 768.** Influence of dissolved organic carbon on mercury transport in watersheds affected by historical gold and mercury mining in northern California. **C.N. Alpers**, J.A. Fleck, M. Marvin-DiPasquale, G. Aiken
- ENVR 769.** Identification of fungal genus level using DNA barcode method. D. Kim, D. Kang, J. Lee, E. Cho, S.I. Yang
- ENVR 770.** Relationships between dissolved organic matter and mercury cycling in California ecosystems affected by historic mining. **J.A. Fleck**, C. Alpers, M. Marvin-DiPasquale, G. Aiken
- ENVR 771.** Occurrence of micropollutants in the Han River, Seoul, Korea. **M. Kim**, S. Tak, T. Kim, J. Lee, W. Choe, Y. Lee, K. Zoh
- ENVR 772.** Light-based technology for surface disinfection. N. Wong, N. Zhan, **Q. Chang**, J. Kwan, K. Yeung
- ENVR 773.** Simplified method for concentrating volatile disinfection byproducts. **K.E. Furst**
- ENVR 774.** Biocomposite magnetic coated chitosan beads for removal of estrone products from water systems. **S.M. Rios-Bonilla**, V. Fernandez-Alos, O. Perales, F. Roman
- ENVR 775.** Effect of UV and chlorination-dechlorination tertiary treatment on pharmaceutical loads in Chicago WWTP effluent. **A. Welch**
- ENVR 776.** Evaluation of swellable organically modified silica passive samplers in complex matrices. **S. Pitell**, P. Edmiston
- ENVR 777.** Study of degradation products derived from hydrocortisone by ozonolysis. **T. Rahman**, T. Siddiquee
- ENVR 778.** Elimination of tetrakis (hydroxymethyl) phosphonium chloride from surface water using biochar as an adsorbent. **S.R. Akech**, O.O. Harrison, A. Saha
- ENVR 779.** Using waste products of the seafood industry to reduce anthropogenic carbon dioxide emissions. **B. Barnes**, P. Sharma, U. Onuchukwu, V. Volkis
- ENVR 780.** Investigation of anti-depressant load reduction in wastewater treatment plant effluent by hypochlorite disinfection. **R.A. Mole**, P. Edmiston
- ENVR 781.** Recyclable superparamagnetic adsorbent based on mesoporous carbon for sequestration of radioactive cesium. **S. Husnain**, W. Um, Y. Chang, Y. Chang
- ENVR 782.** Magnetite graphene oxide encapsulated in alginate beads for remediation of heavy metals contaminated wastewater. **C.V. Huong**, A.D. Dwivedi, T.T. Le, S. Seo, E. Kim, Y. Chang
- ENVR 783.** Comparing removal efficiencies of 1,4-dioxane and arsenite by nZVI-common oxidants system: Persulfate, peroxymonosulfate and hydrogen peroxide. **Y. Kang**, E. Kim, H. Yoon, D. Oh, Y. Chang
- ENVR 784.** Impacts of diverse nanoscale zero-valent iron on aquatic and terrestrial organisms: Physicochemical insight on nanomaterials. **H. Yoon**, M. Pangging, M. Jang, Y. Hwang, Y. Kang, J. Kim, Y. Chang
- ENVR 785.** Inhibition and gene expression of wastewater nitrifying enrichments exposed to cyanide. **V. Kapoor**, M. Elk, J. Santo Domingo
- ENVR 786.** Extraction chromatography using various thiosemicarbazone ligands for metal complexation and the potential environmental applications. **K. Richards**, E.C. Liscic
- ENVR 787.** Decomposition characteristics of model organic contaminants by persulfate/ZVI system. **Y. Kim**, H. Kwon
- ENVR 788.** Magnetization of silicotitanate for separation of cesium from aqueous phase using a magnetic separating system. **Y. Kim**, J. Kim, W. Lim, S. Choi, H. Kwon
- ENVR 789.** Detection of volatile arsenic-sulfur species in environments of high level of sulfide. **J. Zhang**, S. Jamison
- ENVR 790.** Chemical changes during anaerobic decomposition of hardwood, softwood, and old newsprint under mesophilic and thermophilic conditions. **F. De la Cruz**
- ENVR 791.** Implication of nanomaterial embedded polymer composites in the environment: Decomposition kinetics and nanorelease of environmentally aging CNT composites based of activation energy calculation. **C. Han**, E. Sahle-Demessie, A. Zhao, J. Wang
- ENVR 792.** Conceptual design of a cyclone separator for the separation and recovery of the immobilized anionic radionuclides using a flow analysis. **T. Park**, Y. Choi
- ENVR 793.** Influence of oxygen concentration in aqueous solutions of electrolyte on the process of singlet oxygen generation during electrochemical disinfection of contaminated water. **N. Barashkov**, T. Sakhno, I. Irgibayeva
- ENVR 794.** Development of an analytical method for the measurement of the metabolites of Organophosphate Flame Retardants (OPFRs) in human urine using liquid chromatography-tandem mass spectrometry. **J. She**
- ENVR 795.** Assessment of the interactions of herbicides with manganese dioxide to evaluate its availability as a possible remediation process. **E. Segura**, N. López-Santiago, A. Cenicerros, M.E. Gutierrez Ruiz
- ENVR 796.** Adsorption of copper and lead to ZnS nanomaterial. **J. Cantu**, J.G. Parsons
- ENVR 797.** Method development for the chromatographic/mass spectrometric detection of arsenic species in sulfidic waters. **A. Harper**, D. Bolden, J. Zhang
- ENVR 798.** Adsorption of chromium(VI) metal ions via amino modified biochar. **K. Flores**, D.F. Gonzalez, J.G. Parsons
- ENVR 799.** Analysis of heavy metal content in the Conasauga, Oostanaula and Coosa Rivers utilizing the PerkinElmer NexION 350D ICP-MS. W. Hudson, C. Fernandes, D. Jones, **K. Zimmermann**
- ENVR 800.** Alteration of membrane-adherent biofilm properties by acoustic cavitation. **A.N. Rosi**, I. Mergos, M. Olu, H. Verweij, P. Mouser, L.K. Weavers
- ENVR 801.** Oxidation of 3,5,6-trichloro-2-pyridinol by heat-activated persulfate. **R. Mogharbel**, F.M. Zullo, C. Yestrebtsky
- ENVR 802.** Reformulation of treatment system for remediation of polychlorinated biphenyls in paint. **A. Almutairi**, C.G. Lewis, K. Duranceau, C. Clausen, C. Yestrebtsky
- ENVR 803.** Dechlorination of octachlorodibenzofuran by zero valent magnesium in acidified ethanol system. **A. Mogharbel**, C. Yestrebtsky
- ENVR 804.** Wastewater analysis: Challenges and optimization of solid phase extraction methods. **C. Good**, P. Edmiston

## Section A

Moscone Center

Hall D

### Green Chemistry & the Environment

Cosponsored by CEI

Financially supported by AEEPS

A. M. Balu, R. Luque, S. O. Obare, *Organizers*

6:00 - 8:00

**ENVR 805.** Withdrawn.

**ENVR 806.** Distribution of microplastic pollution in a tributary of the Three Gorges Reservoir: A case study in Xiangxi River. **K. Zhang**, H. Hu, X. Xiong, C. Wu, P.K. Lam

**ENVR 807.** Focal plane array-based micro-FT-IR imaging as an effective tool for microplastic monitoring within wastewater treatment facilities. **A.S. Tagg**, J.P. Harrison, M. Sapp, E.L. Bradley, C. Sinclair, J.J. Ojeda

**ENVR 808.** Bioactive compounds in okra seed extract as novel anti-hepatitis C virus agents. **B. Dayal**, K. Basun

**ENVR 809.** Microplastic size effect on sorption coefficient and toxicity of polychlorinated biphenyl. **R. Jiang**, W. Lin, E. Zeng

**ENVR 810.** Relative performance of different peroxide advanced oxidation processes on the Oil Sands Process-Affected Water (OSPW) remediation. **M. Meshref**, A. Singh, M. Belosevic, M. Mohamed Gamal El-Din

**ENVR 811.** Fe-assisted hydrothermal liquefaction and sequential catalytic cracking for production of light olefins from protein-rich microalgae. **Y. Hirano**, Y. Arita, Y. Kasai, N. Funakoshi, A. Nishimura, M. Taniguchi, K. Sagata, Y. Kita

**ENVR 812.** Nitrogen and sulfur content of natural organic matter. **S. Coleman**, J. Rice

**ENVR 813.** Reactions in poly( $\alpha$ -olefins): A replacement for alkane solvents. **T. Malinski**, M.L. Harrell, D.E. Bergbreiter

**ENVR 814.** Protecting palladium: Balancing stability and reactivity in support-tether design. **D. Paull**, S.P. George

**ENVR 815.** Influence of engineered nanoparticles on microorganism growth in the presence and absence of  $\beta$ -lactam antibiotics. **K. Current**, N.M. Dissanayake, S.O. Obare

**ENVR 816.** Influence of the engineered iron oxide nanoparticles on the growth and mutagenicity of microorganisms. **N.M. Dissanayake**, K. Current, S.O. Obare

**ENVR 817.** Conversion of carbon dioxide to formic acid mediated by light driven electron storage systems. **J.M. Arachchilage**, S.O. Obare

**ENVR 818.** Chemical speciation of anthropogenic nanoparticles. **S.O. Obare**

**ENVR 819.** Polymers that substantially degrade, decompose or depolymerize: Draft interpretation affecting the notification of new polymers under Canadian new substances notification regulations. **G. Hammond**

**ENVR 820.** Extracting calcium and strontium cations from hydraulic fracturing flowback water using pyridine based small molecules. **S.G. Tajc**

**ENVR 821.** Withdrawn.

**ENVR 822.** Monolithic aerogels of graphene-mixed metal oxides for air purification and disinfection. **W. Chen**, Z. Li, K. Yeung

## Section A

Moscone Center

Hall D

### Have Great Lakes Restoration Programs Been Successful? The Case of Legacy & Emerging Pollutants

K. C. Hornbuckle, J. J. Pagano, *Organizers*

6:00 - 8:00

**ENVR 823.** Pyrogenic carbon materials in facilitating the abiotic degradation of DDT and its metabolites. **K. Ding**, W. Xu

**ENVR 824.** Air-Water exchange of legacy and emerging contaminants in Lake Michigan near Chicago. **A. Boesen**, A. Martinez, K.C. Hornbuckle

## Section A

Moscone Center

Hall D

### Innovative Materials & Technologies for Sustainable Water Purification

Cosponsored by CEI

E. L. Cates, B. P. Chaplin, J. Choe, J. Liu, D. Shuai, W. Zhang, *Organizers*

6:00 - 8:00

**ENVR 825.** Effects of biological decontamination on chemical contaminants in emergency drinking water. **E. Brack**, W. Zukas, N. Farhadi, M. McPartin, T. Tian

**ENVR 826.** Study on new method of TiO<sub>2</sub> nanorod arrays preparation and photocatalytic performance. **G. Wang**, Y. Shih, Y. Su

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**ENVR 827.** Nanoconfined water in graphene hydrogel as superadsorbents for water purification. J. Ma, Y. Sun, M. Yang, M. Zhang, F. Yu, F. Yang, K. Chu, J. Zheng

**ENVR 828.** Ceria nanoparticles for sustainable heavy metal water filtration application. M.J. King, L. MacManus-Spencer, M.E. Hagerman

**ENVR 829.** Reversible, selective trapping of perchlorate from water in record capacity by a cationic metal-organic framework. I. Colinas

**ENVR 830.** Withdrawn

**ENVR 831.** Cloning and expression of protocatechuate dioxygenase gene from *Klebsiella pneumoniae*: Application for degradation of sulfonated aromatic amines. S. Dixit, S. Garg

**ENVR 832.** Preparation and application of substrate-immobilized TiO<sub>2</sub> nano-photocatalysts for organic micropollutants removal. S. Hong

**ENVR 833.** Properties evolution of fresh nanoscale Zero-Valent Iron (nZVI) in aerobic and anaerobic water. A. Liu

**ENVR 834.** Synthesis of biochars using household and agricultural byproducts (orange peel, pistachio shells, and corn stover) and their application in lead adsorption from aqueous solutions. S. Mireles, H. Rivera, J. Kang, T. Trad, J.G. Parsons

**ENVR 835.** Withdrawn.

**ENVR 836.** Enhanced photoelectrochemical performance of the TiO<sub>2</sub> nanotube arrays sensitized with Fe<sub>3</sub>O<sub>4</sub>-graphene oxide for glycerol oxidation. N. Pico, M. Niño, Á. Meléndez

**ENVR 837.** Understanding on the effects of pH and organic carbon concentration on nutrients removal in SBR process for treating domestic wastewater. S. Lee, M. Park, S. Yeon, D. Park

**ENVR 838.** Individual water purification. W. Zukas, E. Brack, T. Tiano, J. Dunn, T. Oriard, Z. Gleason, K. Weitz, I. Norris

**ENVR 839.** Fundamental study on chromium biosorption by natural biomass. H. Yang, D. Park, N. Kim

**ENVR 840.** Modeling study of continuous biosorption process for metal removal and recovery by fermentation biowaste. N. Kim, J. Seo, H. Yang, D. Park

**ENVR 841.** Hydrothermal treatment of sewage sludge to improve biological nitrogen removal process. M. Park, S. Lee, S. Yeon, D. Park

**ENVR 842.** Optimization of anoxic-oxic process for the treatment of domestic wastewater with low C/N/P ratio. S. Yeon, S. Lee, M. Park, D. Park

## Section A

Moscone Center  
Hall D

### Integrated & Sustainable Environmental Remediation

*Cosponsored by CEI*

S. K. Brar, M. Cledon, R. Galvez, *Organizers*

6:00 - 8:00

**ENVR 843.** Comprehensive performance of vermiculite filter on treating typical pollutants. Y. Wang, M. Xing

**ENVR 844.** Iron stability on the inner surface of PVC-U drinking pipe. J. Wang, T. Tao

**ENVR 845.** Remediation of s-triazine herbicide spills via adsorption and biodegradation using hydrophobic bio-silica particles. S. Yeom, J.K. Sakkos, A. Aksan, L.P. Wackett

**ENVR 846.** Synthesis and application of chemically-modified solid wastes as filtering devices of antibiotics from wastewater. B. Sohn

**ENVR 847.** Synthesis and characterization of stabilized oxygen-releasing CaO<sub>2</sub> nanoparticles for soil remediation. C. Yeh, W. Chang, R. Wang, Y. Shih

**ENVR 848.** Synthesis of magnetic iron oxide nanoparticles for removal reactive black 5: Reaction mechanism. M. Chang, Y. Shih

**ENVR 849.** Soil organic matter in native prairies and prairie restorations: Structural studies of humic acids with carbon-13 NMR spectroscopy. A.K. Poladi, J.S. McConnell

**ENVR 850.** Soil organic matter in native prairies and prairie restorations: Humic and fulvic acid fractions. S. Bomma, K. Pallemati, N. Voleti, J.S. McConnell

**ENVR 851.** Soil organic matter in native prairies and prairie restorations: Organic carbon content. L.R. Morgan, B.M. Mullins, J.S. McConnell

**ENVR 852.** Distribution of soil phosphorus and nitrate in the Spring Lake watershed region of western Illinois. S. Nicioli, K.E. Ribordy, J. Boeckler, J.S. McConnell

**ENVR 853.** Metals removal from Acid Mine Drainage (AMD) using Bioelectrochemical System (BES). J. Liu, M. Peiravi

**ENVR 854.** Removal of oxyanion pollutants via cationic transition metal coordination polymers. D. Popple, S. Citrak, K. Tabler-Miller, A. Alvarenga, K. Stone-Hunter, S. Oliver

**ENVR 855.** Comparative analysis of compost and alkaline battery oxide amendments for reducing lead solubility and phytoavailability. N. Abo-Sido, C. Gallagher, G. Jerz, B. Love, D. Brabander

**ENVR 856.** CO<sub>2</sub> Mineralization and utilization by high-gravity carbonation process: Past, present and future. S. Pan, M. Wang, S. Pei, Y. Chen, P. Chiang

**ENVR 857.** Degradation of textile azo-dyes using enzymatic treatment with soybean peroxidase. L.G. Cordova Villegas, N. Biswas, K.E. Taylor

**ENVR 858.** Virucidal activity and mechanism of an antimicrobial surface coating. Q. Chang, H. Leung, J. Kwan, K. Yeung

## Section A

Moscone Center  
Hall D

### Nanomaterials in Consumer Products: Formulation, Characterization & Applications Across the Product Life Cycle

S. Hussain, A. J. Kennedy, C. Sayes, *Organizers*

6:00 - 8:00

**ENVR 859.** Manganese oxide (MnO) nano-powder in microorganism ionizing respirator gen-1 (MIR-1) for personal protection against airborne pathogens. M. Park, B. Chua, A. Son

**ENVR 860.** Synthesis of nano-structured MoS<sub>2</sub> materials doped with lanthanide element for upconversion enhancement of solar cell performance. J. Wu

**ENVR 861.** Monitoring released TiO<sub>2</sub> and ZnO nanoparticles in swimming pool. S. Lee, S. Jang, Y. Yim, S.I. Yang

**ENVR 862.** Withdrawn

**ENVR 863.** Fate and transport of nanoscale zinc oxide in subsurface environment. S.R. Kanel, S.R. Al-Abed

## Section A

Moscone Center  
Hall D

### New Challenges in Environmental Chemistry: Marine Ecosystems & Microplastics

A. Kahl, *Organizer*

6:00 - 8:00

**ENVR 864.** World oceans under serious threat: Debris polystyrene generate styrene oligomer in ocean water and sand areas. M. Okada, K. Koizumi, K. Yamada, B. Kwon, K. Saitoh, T. Takemura, N. Maximenko, K. Saido, T. Hiaki

## Section A

Moscone Center  
Hall D

### Novel Membrane Materials & Processes for Water Purification

D. Jassby, B. Mi, *Organizers*

6:00 - 8:00

**ENVR 865.** Novel membranes for sea water desalination via membrane distillation. S. Ragunath, S. Roy, S. Mitra

**ENVR 866.** Surface modification of reverse osmosis membrane by graphene oxide grafting with different oxidation degrees. W.H. Mak, D. Jun, B. McVerry, M. Kowal, X.W. Huang, R.B. Kaner

**ENVR 867.** Advanced membranes enabled by atomic layer deposition. Y. Wang

**ENVR 868.** Examining relationship of surface chemistry to silica scaling and combined silica-foulant fouling with modified RO membranes. A. Quay, T. Tong, M. Elimelech

## Section A

Moscone Center  
Hall D

### Pesticides in Surface Water: Monitoring, Modeling, Mitigation, Risk Assessment & Regulation

J. Gan, K. S. Goh, Y. Luo, D. Young, *Organizers*

6:00 - 8:00

**ENVR 869.** Flow-weighted sampling to measure efficacy of a constructed water quality treatment pond in Folsom, CA. M. Ensminger, L.R. Oki, S. Teh, J. Sisneroz, B. Pitton, L. Deanovic, M. Stillway, K.S. Goh

**ENVR 870.** Development of a California-based receiving waterbody model for pesticide registration evaluation. Y. Xie, Y. Luo, N. Singhasemanon, K.S. Goh

**ENVR 871.** Aquatic risk evaluation of new pesticide products as part of California pesticide registration – a preventive approach for surface water protection. N. Singhasemanon, Y. Luo, X. Deng

**ENVR 872.** Protecting surface water from pesticide contamination in California. K.S. Goh

**ENVR 873.** Analyses of surface water monitoring results for pesticides in agricultural areas of central coast and Southern California. X. Deng, D. Wang, K. Kelley, K.S. Goh

**ENVR 874.** Pesticide mitigation using wood-chip bioreactors in agricultural regions of California. S.D. Wagner, X. Deng, G. Bates, P. Krone-Davis, R. Clark, J. Adelaars, K.S. Goh

**ENVR 875.** Integrated vegetated ditch system reduces chlorpyrifos loading in agricultural runoff. B. Phillips

**ENVR 876.** Developing passive sampling methods for bioavailable current-used pesticides in sediment. W. Lao, G. Kim, K.A. Maruya

**ENVR 877.** Effectiveness of California's surface water regulations at lowering pyrethroid concentrations in surface waters. R. Budd, D. Wang, M. Ensminger

**ENVR 878.** Towards a spatio-temporal analysis of pesticide concentrations. S. Jiao, O. Sonmez, D. Long

**ENVR 879.** Analysis of 3 commercial tampon brands for presence of herbicide glyphosate. A. Corcoran, A. Hernandez, S. Koenig

## Section A

Moscone Center  
Hall D

### Poly- & Per-Fluoroalkyl Substances: Where, What, When, Why, Who & How

K. Chu, L. S. Lee, J. Liu, Y. Yingling, *Organizers*

6:00 - 8:00

**ENVR 880.** Systematic investigation of the effects of perfluoroalkyl acid chain length and ionic head group on human serum albumin binding. J. Ulrich, A. Glaser, L. MacManus-Spencer

**ENVR 881.** Perfluorohexanoic acid pharmacokinetics in mouse, rat, microminipig, pig, monkey and human. R.C. Buck, S.A. Gannon

**ENVR 882.** Short-chain fluorotelomer-based substances – Common biodegradation pathways. R.C. Buck

## Section A

Moscone Center  
Hall D

### Science & Perception of Climate Change

*Cosponsored by CEI and CHED*

*Financially supported by AEESP*

S. O. Obare, E. Schoffers, *Organizers*

6:00 - 8:00

**ENVR 883.** Economic analysis of the refinery CO<sub>2</sub>-Urea-DMC industrial chain. Y. Han, Q. Jiang, Z. Song

**ENVR 884.** Novel approaches of environmental effects to reduce the climate change on macroeconomic energy consumption for green marketing. G. Ren, E.J. Parish, H. Honda, S. Lee

**ENVR 885.** Tackling drought with climate engineering. H. Gokturk

## Section A

Mosccone Center  
Hall D

### Sulfidation of Metal-Based Engineered & Natural Nanomaterials: Implications for Their Fate & Effects in the Environment

Y. Bi, D. Fan, P. G. Tratnyek, P. K. Westerhoff, *Organizers*

6:00 - 8:00

- ENVR 886.** Fe<sup>0</sup>- and sulfidized Fe<sup>0</sup>-activated persulfate in oxidative degradation of benzoic acid: A comparative study. C. Lee, M. Rayaroth, Y. Chang, Y. Chang
- ENVR 887.** Withdrawn.
- ENVR 888.** Controlled evaluation of surface coating effects on silver nanoparticle dissolution. C. Liu, W. Leng, P.J. Vikesland
- ENVR 889.** *In situ* chemical reduction with Z-loy micrometal ZVI and sulfide and bioaugmentation cultures. J. Freim, M. Lee, J. Harvey, D. Raymond
- ENVR 890.** Effect of NaBH<sub>4</sub> on catalytic reduction of p-nitrophenol by nanoscale zerovalent iron. S. Bae, S. Gim, H. Kim, K. Hanna
- ENVR 891.** Preliminary study on wettability alternation of surface of carbonate rocks using SiO<sub>2</sub> nanofluids. D. Wang
- ENVR 892.** Material and reactivity characterization of iron sulfides and sulfidated zerovalent iron during reductive dechlorination. Y. Lan, E.C. Butler, P.G. Tratnyek
- ENVR 893.** Abiotic transformation of hexabromocyclododecane by sulfidated nanoscale zerovalent iron: Kinetics, mechanism and influencing factors. D. Li, Y. Zhong, W. Huang, P. Peng
- ENVR 894.** Effect of aging on reactivity and surface chemistry of sulfidated nanoscale zerovalent iron. S. Ghoshal, S. Rajajayavel

### Advances in Treatment Processes for Metals & Metalloids

Sponsored by GEOC, Cosponsored by ENVR

### Contaminants Transport, Uptake & Remediation at Contaminated Sites

Sponsored by GEOC, Cosponsored by ENVR

### Environmental Challenges & Solutions in Unconventional Oil & Gas Development

Sponsored by GEOC, Cosponsored by ENVR

### Mineral-Water Interface Chemistry

Sponsored by GEOC, Cosponsored by COLL and ENVR

## THURSDAY MORNING

## Section A

Mosccone Center  
2007

### Pesticides in Surface Water: Monitoring, Modeling, Mitigation, Risk Assessment & Regulation

Financially supported by Compliance Services International (CSI)

K. S. Goh, D. Young, *Organizers*

J. Gan, Y. Luo, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 895. Withdrawn.

8:25 ENVR 896. Examination of the relative contributions of aqueous and dietary uptake to pyrethroid accumulation in organisms at different aquatic trophic levels. J. Frew, J. Giddings

8:45 ENVR 897. Toxicity of pesticide mixtures in the USGS national water quality network. M. Shoda, W.W. Stone

9:05 ENVR 898. Characterization of sediment chemistry, sediment toxicity and macroinvertebrate communities in wadeable streams of the southeastern United States. P. Moran, N. Kemble, L.H. Nowell, I. Waite, C. Ingersoll, P. Van Metre, B.J. Mahler

9:25 ENVR 899. Electrolytic degradation of pesticides in surface water using an activated carbon-based electrode system. Y. Li, W. Mitch

9:45 Intermission.

10:05 ENVR 900. Urban surface water runoff mitigation of Fipronil and its primary degradation products. L. Greenberg, Z. Cryder, J. Richards, M. McGinnis, J. Gan

10:25 ENVR 901. Environmental fate of double-stranded RNA (dsRNA) biopesticides from RNA interference (RNAi)-based crop protection. K.M. Parker, M. Sander

10:45 ENVR 902. Mechanistic insight into remediation and isomerization of methyl-parathion by mixed metal oxide nanocomposites in aqueous solutions. S. Merlos, K. Nick, C.C. Perry, M.M. Allard

11:05 ENVR 903. Chirality in metolachlor can be used to date groundwater in agricultural settings. C.P. Rice, C.J. Hapeman, G. McCarty

11:25 ENVR 904. Implications of sorption nonlinearity on the environmental fate of penconazole. D.T. Kuo

11:45 Concluding Remarks.

## Section B

Mosccone Center  
3008

### Advances in Resource Recovery & Conservation in Water Systems

Cosponsored by AGFD, CEI and GEOC

S. Ahuja, L. M. Blaney, T. Boyer, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 905. Nanowire-modified 3D electrode enabling low-voltage electroporation for water disinfection. Z. Huo, H. Hu, X. Xie

8:25 ENVR 906. Synthesis and microstructural characterization of novel manganese oxide coated titanium dioxide ceramic nanofiltration membranes for dye in wastewater filtration. J.K. Macharia, J. He, L. Achola, S.L. Suib

8:45 ENVR 907. Beneficial reuse of produced water from oil & gas fields. W. Stringfellow, M. Camarillo, N. Spycher, P.S. Nico

9:05 ENVR 908. Anaerobic digestion of renewable materials for biogas production: Experimental stage to the field. O.O. Adetule

9:25 ENVR 909. Microbial fuel cells integrate energy production with nutrient management in municipal wastewater plant sidestreams. K. Orner, C. Cools, J. Mihelcic, J.A. Cunningham

9:45 Intermission.

10:05 ENVR 910. Comparative transcriptomic analysis of lipid producing yeast *Cryptococcus albidus*. S. Vajpeyi, K. Chandran

10:25 ENVR 911. Silver recovery from laundry wastewater: Role of regeneration and detergent chemistry. T. Nawaz, S. Sengupta

10:45 ENVR 912. Selective removals of heavy metals (Pb<sup>2+</sup>, Cu<sup>2+</sup>, and Cd<sup>2+</sup>) from wastewater by gelation with alginate for effective metal recovery. F. Wang, X. Li

11:05 ENVR 913. Withdrawn.

11:25 ENVR 914. Effect of ion composition and electrode properties on electrochemical lithium ion recovery process for application in various source waters. S. Kim, J. Yoon

11:45 Concluding Remarks.

## Section C

Mosccone Center  
3002

### Contaminants in Urban & Coastal Estuarine Ecosystems

#### Environmental Processes Affecting Chemical Availability & Toxicity

Cosponsored by AGRO

K. L. Armbrust, P. Saranjampour, R. A. Sutton, *Organizers, Presiding*

8:00 ENVR 915. Multiple stressors in coastal ecosystems: Measuring responses across biological scales and generations in model estuarine organisms. S. Brander

8:25 ENVR 916. Metal oxide nanomaterials in marine and estuarine organisms. C. Torres, G.N. Cherr

8:50 ENVR 917. Photolysis and phototoxicity of dibenzothiophene and 4,6-diethylidibenzothiophene in marine ecosystems. P. Saranjampour, E.N. Vebrosky, K.L. Armbrust

9:15 ENVR 918. Photolytic toxicological impacts of 2,6-dichloro-4-nitroaniline (Dicloran) in varying salinities on *Menidia beryllina* (Inland Silversides). E.N. Vebrosky, K.L. Armbrust

9:40 Intermission.

10:00 ENVR 919. Binding of antibacterial agents at Fe(III) oxyhydroxide surfaces: Experimental study and modeling. K. Hanna, R. Marsac, S. Martin, J. Boily

10:25 ENVR 920. Withdrawn.

10:50 ENVR 921. Synthesis, occurrence and risk assessment of chlorinated by-products of benzophenone-type UV filters in various aquatic matrices. M.M. Tsui, K. Ng, S. Chiu, T. Ma, Y. Ho, T. He, M.H. Lam, R. Kong, P.K. Lam, M.B. Murphy

11:15 ENVR 922. Physiological and behavioural impacts of Pacific ciguatera toxin-1 (P-CTX-1) on marine medaka (*Oryzias melastigma*). Y. Mak, J. Li, C. Liu, S. Cheng, P.K. Lam, J. Cheng, L. Chan

## Section D

Mosccone Center  
3004

### Novel Membrane Materials & Processes for Water Purification

D. Jassby, B. Mi, *Organizers, Presiding*

8:30 ENVR 923. Structurally and synthetically designed next generation novel polyamides for reverse osmosis application. A. Roy

9:00 ENVR 924. High-performance thin-film composite forward osmosis membranes based on self-assembled amphiphilic block copolymer supporting substrate. Y. Hu, X. An

9:20 ENVR 925. Membrane surface modification by graphene oxide: *In situ* regeneration for ultra-micro fouling control. C. Finnerty, E. Garcia, C. Evans, R. Kaliff, B. Mi

9:40 ENVR 926. Carbon nanotubes-embedded, high-permeable polyamide thin-film composite membranes for desalination. H. Lee, T. Lee, H. Park

10:00 Intermission.

10:20 ENVR 927. Bacteria inactivation via x-ray-induced UVC radioluminescence: Toward in situ biofouling prevention in membrane modules. T. Johnson, E.A. Rehak, S. Sahu, D. Ladner, E.L. Cates

10:50 ENVR 928. Surface engineering of thin-film composite polyamide membranes with silver nanoparticles during their fabrication process for providing antifouling properties. Z. Liu, L. Qi, Y. Hu

11:10 ENVR 929. Photothermal and hydrophilic functionalization of reverse osmosis membranes for enhanced resistance of mineral scaling, organic, and bio-fouling. J. Ray, S. Tadeballi, S. Nergiz, K. Liu, L. You, Y. Tang, S. Singamaneni, Y. Jun

11:30 ENVR 930. Construction of a novel composite membrane with 3D structure for process intensification of membrane separation. C. Zhang, R. Xie, W. Wu, X. Li, Z. Liu, X. Ju, W. Wang, L. Chu

## Section E

Mosccone Center  
3016

### Applications of Cheminformatics & Computational Chemistry in Environmental Health

C. Grulke, A. J. Williams, *Organizer, Presiding*

8:00 ENVR 931. Generation of alternative assessment scores using T.E.S.T. and online data sources. T. Martin

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**8:25 ENVR 932.** Use of chemotypes for profiling and exploring the ToxCast chemical-assay landscape. **A. Richard**, C. Grulke, G. Patlewicz, C. Yang, A.J. Williams

**8:50 ENVR 933.** Identification and analysis of substructure fragments for developmental and reproductive toxicity endpoints within the Toxic Substances Control Act universe of chemicals. **D.T. Chang**, K.H. Markey, K. Mayo-Bean, W. Irwin, C. Baier-Anderson, C.J. Brinkerhoff, I. Shah, G. Patlewicz, A. Richard, S. Barone

**9:15 ENVR 934.** Ecological Threshold for Toxicological Concern (eco-TTC): Assessing the potential of a new tool for environmental hazard assessment. **A. Beasley**, D.T. Chang, M.G. Barron, S.E. Belanger, J.L. Brill, D. DeZwart, M. Embry, B.A. Farr, M. Halder, A. Kienzler, T.J. Norberg-King, R.R. Otter, H. Sanderson, P. Wilson

**9:40** Intermission.

**10:00 ENVR 935.** Cheminformatics technologies for chemical risk assessment. **D. Fourches**

**10:25 ENVR 936.** Using semi-automated curation workflows to collect, organize, and curate the data and models necessary to support the EPA CompTox chemical dashboard. **C. Grulke**, I. Thillainadarajah, R. Sayre, K. Mansouri, A.J. Williams, A. Richard

**10:50 ENVR 937.** Supporting read-across predictions of chemical toxicity using high-throughput text-mining. **N. Baker**, T. Knudsen, A.J. Williams, K. Crofton, G. Patlewicz

**11:15 ENVR 938.** New databases and software tools for exposomics and toxicological assessment. **Y. Djoumbou Feunang**, D.S. Wishart

**11:40** Panel Discussion.

## Section F

Moscone Center  
3020

### Aquatic Photochemistry

*Cosponsored by GEOC*

*Financially supported by AEESP*

V. Lin, K. P. McNeill, *Organizers*

W. Arnold, *Organizer, Presiding*

**8:30 ENVR 939.** Biphenyl carboxylic acid probe pair for quantifying photochemically generated hydroxyl radical and excited triplet states in aqueous systems containing dissolved organic matter. **V. Lin**, M. Grandbois, K.P. McNeill

**8:50 ENVR 940.** Investigation of the coupled effects of molecular weight and charge transfer interactions on the optical and photochemical properties of dissolved organic matter. **G. McKay**, K.D. Couch, S.P. Mezyk, F.L. Rosario

**9:10 ENVR 941.** Fluorescence of humic acids in seawater. **L.T. Stirchak**, D. Donaldson

**9:30 ENVR 942.** Photo-production of triplet excited states in effluent organic matter. **M. O'Connor**, K. Zimmerman, D.E. Latch, W. Arnold

**9:50 ENVR 943.** Transient absorption-based approach to estimate the photophysical properties of triplet dissolved organic matter. **M. Schmitt**, P.R. Erickson, K.P. McNeill

**10:10** Intermission.

**10:20 ENVR 944.** Using direct observation of singlet oxygen to determine triplet organic matter rate constants. **K.P. McNeill**, P.R. Erickson

**10:40 ENVR 945.** Inhibitory effect of dissolved organic matter on indirect phototransformations of organic contaminants. **S. Canonica**, U. von Gunten

**11:00 ENVR 946.** Development of the novel chemical probes for examining the triplet-excited state of organic matters. **H. Zhou**, L. Lian, S. Yan, **W. Song**

**11:20 ENVR 947.** Photochemical exposure of natural organic matter induces humification. **P.G. Hatcher**, D.C. Waggoner, N. DiDinato

**11:40 ENVR 948.** Photochemical formation of carbonate radical and its effects on the photo-bleaching of dissolved organic matter. **S. Yan**, W. Song, L. Lian, R. Li, Y. Liu

## Section G

Moscone Center  
3022

### Innovative Materials & Technologies for Sustainable Water Purification

#### Catalytic

*Cosponsored by CEI*

E. L. Cates, B. P. Chaplin, J. Choe, D. Shuai, W. Zhang, *Organizers*

J. Liu, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 ENVR 949.** Bioinspired heterogeneous catalyst for perchlorate reduction: Continuous improvements with rational ligand design for the rhenium complex reaction center. **J. Liu**, T.J. Strathmann, M. Han, C. Ren

**8:55 ENVR 950.** New-TAML activators: Innovative high-performance, low-cost, biosafety-scrutinized solutions for worldwide reduction of micro-pollutants in water. **T.J. Collins**

**9:35 ENVR 951.** Removal of priority hazardous pollutants in municipal sewage effluent to meet environmental quality standards of the European Water Framework Directive using TAML Activators. **R. Kanda**

**10:00** Intermission.

**10:15 ENVR 952.** Design of longer-lived TAML catalysts. **M.A. DeNardo**

**10:35 ENVR 953.** Introducing New-TAML activators for ultra-dilute catalytic oxidation in global water treatment. **G.R. Warner**, A.D. Ryabov, J.A. Taylor, F.S. Vom Saal, T.J. Collins

**10:55 ENVR 954.** TAML activators for green oxidative degradation of propranolol: A comparative evaluation. **Y. Somasundar**, A.D. Ryabov, T.J. Collins

**11:15 ENVR 955.** Smart catalytic films for water purification. **L. Wright**

**11:35 ENVR 956.** Microwave assisted in-situ covalent functionalization of graphene with phenoxo-bridged dinuclear Iron complex: Preparation, characterization and evaluation. **J. Yu**, C.J. Miller, D. Waite

## Section H

Moscone Center  
3006

### Poly- & Per-Fluoroalkyl Substances: Where, What, When, Why, Who & How

K. Chu, L. S. Lee, J. Liu, V. Yingling, *Organizers, Presiding*

**8:30 ENVR 957.** Fast and ultrasensitive screening of novel fluoroalkylated surfactants in aqueous media: On-line solid phase extraction hyphenated to liquid chromatography high resolution mass spectrometry. **G. Munoz**, S. Vo Duy, M. Desrosiers, J. Liu, S. Sauv 

**8:55 ENVR 958.** Extraction and analysis of amphibians for four per/polyfluorinated alkyl acids. **C. de Perre**, L.S. Lee, G. Hoover, M. Chislock, B. Tornabene, S. Guffey, J. Hoverman, M. Sepulveda

**9:20 ENVR 959.** Perfluorinated Alkyl Substance (PFAS) cytotoxicity: The differential effects of linear and branched isomers. **G. Cantu**, Y. Xing, **D. Kempisty**

**9:45 ENVR 960.** Investigation and remediation of multiple PFAS source zones at an airport to safeguard an at risk water supply. **D. Atkinson**, J. Lemon, J. Miles, I. Ross, **E. Houtz**

**10:10** Intermission.

**10:40 ENVR 961.** Why it matters: Frequency, occurrence, transport, and implications of the 40 classes of recently-discovered per- and polyfluoroalkyl substances in aqueous film-forming foam impacted groundwater. **K.A. Barzen-Hanson**, C.P. Higgins, J.A. Field

**11:05 ENVR 962.** When do we need PFASs?: A policy and purchasing strategy for reducing their use. **A. Blum**, T. Bruton, A. Soehl, A. Lindeman

**11:30 ENVR 963.** Changing regulatory landscape of Per- and Polyfluoroalkyl Substances (PFAS). **S. Thomas**

**11:55** Concluding Remarks.

## Section I

Moscone Center  
2000

### Bioprocesses for Engineered Nanomaterials in Soil-Plant Systems

J. C. White, B. Xing, Y. Yang, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 ENVR 964.** Tuning NP properties for optimizing plant uptake and translocation. **G. Lowry**, E. Spielman-Sun, E. Lombi, J.M. Uhrine

**8:30 ENVR 965.** Withdrawn.

**8:55 ENVR 966.** Accumulation and transfer of engineered nanoparticles in terrestrial food chains: Correlating physiological and molecular response. **J.C. White**, B. Xing, O. Parkash, J.L. Gardea-Torresdey

**9:15 ENVR 967.** Interaction of CuO nanoparticles with floating plant: Toxicity, distribution and transformation. **J. Zhao**, Z. Wang, B. Xing

**9:35** Intermission.

**9:55 ENVR 968.** Leguminous crop interactions with engineered nanomaterials in soils. **P. Holden**, Y. Wang, D.C. Bouchard, R.M. Nisbet, J.P. Schimmel, J.A. Hernandez, J.L. Gardea-Torresdey

**10:20 ENVR 969.** Advances in the metrology for characterizing the uptake, translocation and genotoxicity of engineered nanomaterials in terrestrial plants. **B.C. Nelson**

**10:45 ENVR 970.** Examining the impact of copper oxide nanoparticles on carrot and lettuce growth and root hydraulic conductivity. **S.J. Parikh**, A.J. Margenot, M. Dumlaio, D. Rippner, R.A. Davis, P.G. Green, J.L. Sutcliffe, A. McElrone

**11:10 ENVR 971.** Bioformation of silver nanoparticles by plant root systems as affected by growth conditions. **H. Guo**, B. Xing, L. He

**11:30 ENVR 972.** Detection of multi-walled carbon nanotubes uptake by lettuce. **K.K. Das**, Y. You, M. Torres, F. Barrios-Masias, B. Xing, Y. Yang

### Environmental Challenges & Solutions in Unconventional Oil & Gas Development

*Sponsored by GEOC, Cosponsored by ENVR*

#### Contaminants Transport, Uptake & Remediation at Contaminated Sites

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#### Elucidation of Mechanisms & Kinetics on Surfaces

*Sponsored by CATL, Cosponsored by COLL and ENVR*

## THURSDAY AFTERNOON

### Section A

Moscone Center  
2007

#### Pesticides in Surface Water: Monitoring, Modeling, Risk Assessment & Regulation

*Financially supported by Compliance Services International (CSI)*

J. Gan, K. S. Goh, *Organizers*

Y. Luo, D. Young, *Organizers, Presiding*

**1:00** Introductory Remarks.

**1:05 ENVR 973.** Modeling spray drift and runoff related inputs of pesticides to receiving water. **X. Zhang**, K.S. Goh

**1:25 ENVR 974.** Pesticide uptake into runoff evaluated at the field scale. **D. Young**

**1:45 ENVR 975.** Improved modeling approaches for pesticide registration evaluation for surface water protection in California. **Y. Luo**, X. Yina, N. Singhasemanon, X. Deng, K.S. Goh

**2:05 ENVR 976.** Why are real-world surface water exposure distributions much lower than US EPA FIFRA Tier II EECs? An evaluation based on pyrethroid insecticides. **P. Hendley**, A.M. Ritter, D.A. Desmarteau, C.M. Holmes, J. Giddings, J. Wirtz, J. Frew

**2:25** Intermission.

‡ Cooperative Cosponsorship



**2:45 ENVR 977.** Daily models of agricultural chemical concentrations and loads in rivers draining the Central Valley, California to the San Francisco Bay-delta estuary: Before and during an extended drought. J. Domagalski

**3:05 ENVR 978.** Modeling pesticide loadings from the San Joaquin watershed using SWAT. J. Chen, M. Zhang

**3:25 ENVR 979.** Expedition into the realm of environmental monitoring data: How can we make sense and make use of the information contained in the data? D. Wang, J. Teerlink, N. Singhasemanon, K.S. Goh

**3:45 ENVR 980.** PURwebGIS: Simplifying a large agro-environmental spatio-temporal dataset for quick assessment and decision making. C. DeMars, M. Zhang

**4:05** Concluding Remarks.

## Section B

Moscone Center  
3008

### Advances in Resource Recovery & Conservation in Water Systems

*Cosponsored by AGFD, CEI and GEOC*

S. Ahuja, L. M. Blaney, T. H. Boyer, *Organizers, Presiding*

**1:00** Introductory Remarks.

**1:05 ENVR 981.** Linking crystal growth kinetics to quantitative sustainable design of Struvite precipitation systems. S. Agrawal, J. Guest, R. Cusick

**1:25 ENVR 982.** Recovering high-quality phosphorus- and nitrogen-laden fertilizers from poultry litter. U. Shashvatt, J. Benoit, H. Aris, L.M. Blaney

**1:45 ENVR 983.** Sustainable struvite control and recovery in wastewater treatment plants using residual biogas. S. Moore, L. Ma, V. Karanikola, R.G. Arnold, A.E. Saez, D. Moulis, J. Bish, J. Prevall

**2:05 ENVR 984.** Fate and impact of contaminants of emerging concern during nutrient recovery via ion exchange from synthetic anaerobic effluent. Y. Tong, P.J. McNamara, B. Mayer

**2:25** Intermission.

**2:45 ENVR 985.** Two-stage process for phosphorus extraction and recovery from agricultural waste. S. Sengupta, J. Beaudry, U. Shashvatt, L.M. Blaney

**3:05 ENVR 986.** Calcium phosphate seed nuclei for selective phosphorus recovery at neutral pH. D. Kim, M. Cohen, M. Gu, I. Jeon, Y. Jun

**3:25 ENVR 987.** Customizable nutrient products recovered using ion exchange technology. A. Avila, P.J. McNamara, B. Mayer

**3:45 ENVR 988.** Application of the Donnan membrane principle for sustainable nutrient recovery. U. Shashvatt, L.M. Blaney

**4:05 ENVR 989.** Coupling of Pd nanoparticles and denitrifying biofilm promotes H<sub>2</sub>-based nitrate removal with greater selectivity towards N<sub>2</sub>. C. Zhou, B.E. Rittmann

**4:25** Panel Discussion.

**4:55** Concluding Remarks.

## Section C

Moscone Center  
3002

### Contaminants in Urban & Coastal Estuarine Ecosystems

#### Temporal & Spatial Assessment of Persistent-Bioaccumulative Chemicals in Coastal & Urban Waters

*Cosponsored by AGRO*

J. Meador, D. Muir, R. A. Sutton, *Organizers, Presiding*

**1:00 ENVR 990.** Legacy and emerging organic contaminants in urban estuaries: A global perspective. E. Zeng, L. Liu

**1:30 ENVR 991.** Survey of legacy pollutants in margin sediments of central San Francisco Bay. D. Yee, P. Trowbridge, J.A. Davis

**1:55 ENVR 992.** Continuous release of PCBs from New Bedford Harbor results in elevated concentrations in the surrounding air. A. Martinez, B. Hadnott, A. Awad, N. Herkert, K. Tomsho, K. Basra, M. Scammell, W. Heiger-Bernays, K.C. Hornbuckle

**2:20 ENVR 993.** Characterizing the advection of Polychlorinated Biphenyls (PCBs) from the sediments in the Lower Duwamish Waterway Superfund site. J. Apell, D. Shull, C. Grimmert, P.M. Gschwend

**2:45** Intermission.

**3:05 ENVR 994.** Perspectives on environmental monitoring and bioaccumulation of contaminants of emerging concern in urban coastal systems. B.W. Brooks, S. Burket, S. Haddad, C. Scott

**3:35 ENVR 995.** Application of non-targeted analysis approaches to assess input of organic micropollutants to San Francisco Bay. L. Ferguson, K. Overdahl, N. DeStefano, R.A. Sutton, J. Sun

**4:00 ENVR 996.** Tracking contaminant trends, spatial patterns, and pathways over 20 years of fish contaminant monitoring in San Francisco Bay. J. Sun, J.A. Davis, R. Mayfield

**4:25 ENVR 997.** San Francisco Bay area wastewater monitoring reveals previously unidentified pathway for pet spot-on flea treatments to reach estuaries. K.D. Moran, R.A. Sutton, A.M. Sadaria, R.U. Halden

## Section D

Moscone Center  
3004

### Novel Membrane Materials & Processes for Water Purification

D. Jassby, B. Mi, *Organizers, Presiding*

**1:00 ENVR 998.** Facile grafting of zwitterions onto membrane surface to improve antifouling properties for wastewater reuse. H. Lin, N. Shahkaramipour, S. Ramanani

**1:30 ENVR 999.** Withdrawn.

**1:50 ENVR 1000.** Quantifying bacterial adhesion to polymeric membranes by single-cell force spectroscopy. S. BinAhmed, A. Hasane, Z. Wang, S. Romero-Vargas Castrillon

**2:10 ENVR 1001.** Fouling-resistant ultrafiltration membranes by selective swelling of polystyrene-block-poly(ethylene oxide). H. Yang, Y. Wang

**2:30** Intermission.

**2:50 ENVR 1002.** Antifouling properties of molybdenum disulfide and graphene oxide for water filtration. I. Alam, L. Guiney, M. Hersam, I. Chowdhury

**3:20 ENVR 1003.** Evaluation of photocatalytic membrane fouling by humic acid. R. Zhu, A. Diaz, S. Soares, D. Shuai

**3:40 ENVR 1004.** Fabrication of micro-filtration membrane to mitigate organic fouling during water treatment. E. Igbiginun

**4:00 ENVR 1005.** Membrane surface charge and wettability parallel tuning through layer by layer assembly for antifouling. X. Zhu, B. Chen

## Section E

Moscone Center  
3016

### Applications of Cheminformatics & Computational Chemistry in Environmental Health

C. Grulke, A. J. Williams, *Organizer, Presiding*

**1:00 ENVR 1006.** Estimation of hydrolysis rate constants for carbamates. J. Patel, C. Tebes-Stevens, E.J. Weber

**1:25 ENVR 1007.** In silico alkaline hydrolysis reaction kinetics of HMX and RDX. M.K. Shukla, L. Sviatenko, L. Gorb, D. Leszczynska, J.R. Leszczynski

**1:50 ENVR 1008.** Using experimental data and computational chemistry to predict reactive sites of polycyclic aromatic hydrocarbons. I. Titaley, D. Walden, O. Ogba, P. Cheong, S.L. Simonich

**2:15 ENVR 1009.** What works best for predicting human skin sensitization potential of chemicals: *In vitro* data or *in silico* models? V.M. Alves, S. Capuzzi, E. Muratov, R.C. Braga, T. Thornton, D. Fourches, J. Strickland, N. Kleinstreuer, C.H. Andrade, A. Tropsha

**2:40** Intermission.

**3:00 ENVR 1010.** If it looks like, fits like and binds like a CYP450 ligand is it a CYP450 ligand? A molecular profiling case study using MOE. M.R. Goldsmith, C. Williams, D.T. Chang

**3:25 ENVR 1011.** Structure-based understanding of binding affinity and mode of estrogen receptor  $\alpha$  agonists and antagonists. S. Lee, M.G. Barron

**3:50 ENVR 1012.** Application of functional use predictions to aid in structure identification of chemicals in house dust. K. Phillips, A. McEachran, J. Sobus, K. Isaacs

**4:15 ENVR 1013.** OPERA: A QSAR tool for physicochemical properties and environmental fate predictions. K. Mansouri, C. Grulke, R. Judson, A.J. Williams

**4:40** Panel Discussion.

## Section F

Moscone Center  
3020

### Aquatic Photochemistry

*Cosponsored by GEOC*

*Financially supported by AEEESP*

W. Arnold, K. P. McNeill, *Organizers*

V. Lin, *Organizer, Presiding*

**1:00 ENVR 1014.** Photomineralization of dissolved organic matter in acid mine drainage-impacted waters. C. Yuan, L.K. Weavers, P.G. Hatcher, Y. Chin

**1:20 ENVR 1015.** Photodegradation of pharmaceuticals in partially nitrated wastewater. P.I. Hora, P. Novak, W. Arnold

**1:40 ENVR 1016.** Trace metal removal in oxidative treatment systems driven by cathodic H<sub>2</sub>O<sub>2</sub> production and UV photolysis. J.M. Barazesh, C. Prasse, J. Wenk, D. Sedlak

**2:00 ENVR 1017.** Amorphous peroxo-titania as a visible light response photocatalyst for oxidation of organic compounds. J. Seo, H. Lee, H. Lee, M. Kim, C. Lee

**2:20 ENVR 1018.** Modeling the UV/H<sub>2</sub>O<sub>2</sub> oxidation of phenolic compounds in a continuous-flow reactor with reflecting wall. T. Zhang, R.G. Arnold, G. Diefenthal, A.E. Saez

**2:40** Intermission.

**2:50 ENVR 1019.** Aquatic photochemical transformations of thiols with dissolved organic matter. C. Chu, D. Stamatelatos, P.R. Erickson, M. Schmitt, K.P. McNeill

**3:10 ENVR 1020.** Photochemical damage of extracellular enzymes visualized by holistic proteomics techniques and enzymology. E. Janssen, C. Egli

**3:30 ENVR 1021.** Direct and indirect photochemical reactions in viral RNA measured with RT-qPCR and mass spectrometry. Z. Qiao, K. Wigginton

**3:50 ENVR 1022.** Modeling the endogenous sunlight inactivation rates of laboratory strain and wastewater *E. coli* and enterococci using biological weighting functions. A.I. Silverman, K.L. Nelson

**4:10 ENVR 1023.** Photochemical reactive oxygen species generation and redox transformation of iron by the organic exudate secreted by *Microcystis aeruginosa* in natural waters. K. Wang, S. Garg, D. Waite

## Section G

Moscone Center  
3022

### Innovative Materials & Technologies for Sustainable Water Purification

#### Catalytic & Electrochemical

*Cosponsored by CEI*

E. L. Cates, B. P. Chaplin, J. Choe, J. Liu, D. Shuai, W. Zhang, *Organizers*  
W. Zhang, *Presiding*

**1:00** Introductory Remarks.

**1:05 ENVR 1024.** Oxidant and disinfection byproduct production of a point-of-use electrochemical water treatment device. J. Bliss, D.A. Reckhow

**1:25 ENVR 1025.** Classification and quantification of electrochemical oxidants generating electrodes with chlorine generation. J. Kim, J. Yoon

**1:45 ENVR 1026.** Redox-mediated electrochemical methods for water purification and environmental remediation of nitrosamines and contaminants of emerging concern. X. Su, L. Bromberg, K. Tan, T.F. Jamison, L. Padhye, T. Hatton

**2:05 ENVR 1027.** Using electrolytic oxidation as pretreatment to improve As(III) removal by reverse osmosis membranes. Y. Hou, B. Mayer

**2:25 ENVR 1028.** Application of quinoid mediators to develop redox-active flow-electrodes for high-performance capacitive deionization. **J. Ma, D. He, D. Waite, W. Tang, P. Kovalsky, C. Zhang**

**2:45** Intermission.

**3:00 ENVR 1029.** Highly active palladium nanoparticles for catalytic reduction of *N*-nitrosodimethylamine. **H. Ma, T. Wu, C. Na**

**3:20 ENVR 1030.** Natural fiber welding of lignocellulose-supported Pd-based catalysts for water purification. **D.P. Durkin, T. Ye, E.G. Larson, J. Choi, K.J. Livi, H.C. De Long, P.C. Trulove, H. Fairbrother, L. Haverhals, D. Shuai**

**3:40 ENVR 1031.** Reduction of water-borne contaminants on graphitic carbon nitride supported Pd-based catalysts. **T. Ye, D. Shuai**

**4:00 ENVR 1032.** Catalytic destruction of emerging contaminants by structured palladium-based materials. **X. Min, Y. Wang**

## Section I

Moscone Center  
2000

### Bioprocesses for Engineered Nanomaterials in Soil-Plant Systems

**J. C. White, B. Xing, Y. Yang, Organizers, Presiding**

**1:00 ENVR 1033.** pH-Dependent surface chemistry of biologically and environmentally relevant ligands on oxide nanoparticles. **V.H. Grassian**

**1:25 ENVR 1034.** Withdrawn.

**1:50 ENVR 1035.** Effect of humic acid on the remediation of hexabromocyclododecane contaminated soil using an integrated nano-bio system. **Y. Chang, T.T. Le, H. Yoon, J. Kim**

**2:15 ENVR 1036.** Three-dimensional surface enhanced Raman spectroscopy evaluation and visualization of gold nanoparticle transport in a silicon-based micromodel. **M. Chan, W. Leng, S.L. Walker, P.J. Vikesland**

**2:35 ENVR 1037.** Biodegradation of multi-walled carbon nanotubes by *Mycobacterium vanbaalenii* PYR-1. **Y. You, K.K. Das, H. Guo, C. Chang, M. Navas-Moreno, J. Chan, P. Verburg, S.R. Poulson, X. Wang, B. Xing, Y. Yang**

**2:55** Intermission.

**3:10 ENVR 1038.** Assessing the risk of engineered nanomaterials in the environment using the nanoFate model. **A.A. Keller, K. Garner**

**3:35 ENVR 1039.** Benefits and risks of agricultural use of carbon-based nanomaterials. **M. Khodakovskaya**

**4:00 ENVR 1040.** Impacts of copper oxide nanoparticles on soil enzyme activities across diverse ecosystems. **A.J. Margenot, S.J. Parikh**

**4:20 ENVR 1041.** Ecotoxicity of manufactured Al nanophases. **A. Mason, C. Santaella, L. Shintu**

**4:40 ENVR 1042.** Determining phytotoxicity of carbon nanotubes in heat and drought stressed crops. **J.T. Jordan, P. Payton, J.E. Canas-Carrell, D. Tissue**

## Environmental Challenges & Solutions in Unconventional Oil & Gas Development

*Sponsored by GEOC, Cosponsored by ENVR*

### Contaminants Transport, Uptake & Remediation at Contaminated Sites

*Sponsored by GEOC, Cosponsored by ENVR*

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

### Engineering Operando to Larger Scale: Shaped Catalysts & Process Control

*Sponsored by CATL, Cosponsored by ENVR and I&EC*

### Elucidation of Mechanisms & Kinetics on Surfaces

*Sponsored by CATL, Cosponsored by COLL and ENVR*

## FLUO

### Division of Fluorine Chemistry

**N. Vasdev, Program Chair**

## SUNDAY MORNING

### Section A

Grand Hyatt San Francisco  
Conference Theatre

### ACS Award for Creative Work in Fluorine Chemistry: Symposium in honor of Antonio Togni

**J. T. Welch, Organizer, Presiding**

**G. B. Hammond, Presiding**

**8:00** Introductory Remarks.

**8:10 FLUO 1.** Studies on fluoroalkylations and fluorinations. **S.G. Prakash**

**8:40 FLUO 2.** Radical asymmetric functionalization of alkenes with Togni reagent. **X. Liu**

**9:10 FLUO 3.** Recent advances in hydrogen bond-controlled nucleophilic fluorination. **G.B. Hammond**

**9:40** Intermission.

**10:00 FLUO 4.** Underappreciated alkaline earth chemistry: Halides and organometallic systems. **H.F. Schaefer**

**10:30 FLUO 5.** Reactivity of the neutral hypercloso radical, 1-H-(2-6)F<sub>5</sub>-(7-12)-(CF<sub>3</sub>)<sub>6</sub>CB<sub>11</sub><sup>+</sup>. **J. Plutnar, Z. Janoušek, A. Wahab, J. Ludvík, J. Michl**

**11:00 FLUO 6.** Organometallic approaches to low global warming automotive refrigerants: Nickel complex-catalyzed production of C<sub>2</sub>-hydrofluoroalkenes from C<sub>2</sub>-fluoroalkenes and silanes. **A.J. Sicard, R. Baker**

**11:30 FLUO 7.** Enantioselective methods for carbon-fluorine bond construction. **D. Toste**

## SUNDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Conference Theatre

### ACS Award for Creative Work in Fluorine Chemistry: Symposium in honor of Antonio Togni

**J. T. Welch, Organizer**

**T. Braun, J. Ichikawa, Presiding**

**1:30 FLUO 8.** Reactions of transition metal and main group fluorides and oxo fluorides with trimethylsilyl azide and cyanide. **P. Deokar, R.M. Haiges, D.A. Dixon, M. Vasiliu, K.O. Christe**

**2:00 FLUO 9.** Organic and organometallic cations in super acidic solutions. **M. Malischewski, K. Seppelt**

**2:30 FLUO 10.** Syntheses of fluorinated cyclopentanone derivatives via regioselective CF<sub>3</sub> insertion using transition metal difluorocarbene complexes. **J. Ichikawa**

**3:00 FLUO 11.** Activation of SF<sub>6</sub> at transition metal complexes. **T. Braun, L. Zámostná, C. Berg**

**3:30** Intermission.

**3:45 FLUO 12.** Chemical transformations with metal complexes of unusual silicon ligands. **T.D. Tilley**

**4:15 FLUO 13.** Metal-catalyzed and metal-mediated fluoroalkylation of arenes. **J.F. Hartwig**

**4:45 FLUO 14.** Synthesis and coordination properties of asymmetric mixed alkyl/perfluoroalkyl substituted pincer ligands. **S. Debnath, T.A. Remick, N. Arulsamy, D.M. Roddick**

## SUNDAY EVENING

### Section A

Moscone Center  
Hall D

### ACS Award for Creative Work in Fluorine Chemistry: Symposium in honor of Antonio Togni

**J. T. Welch, Organizer**

**8:00 - 10:00**

**FLUO 15.** Direct trifluoromethylation from fluorofrom with dimethyl-K. **S. Qing, A.V. Matsnev, G. Lin, C. Liu, Y. Chen, J.S. Thrasher**

**FLUO 16.** Synthesis and characterization of SF<sub>6</sub>-containing fullerene derivatives. **S. Qing, N.J. DeWeerd, A.V. Matsnev, S.H. Strauss, O.V. Botalina, J.S. Thrasher**

## MONDAY MORNING

### Section A

Grand Hyatt San Francisco  
Conference Theatre

### ACS Award for Creative Work in Fluorine Chemistry: Symposium in honor of Antonio Togni

**J. T. Welch, Organizer**

**N. Santschi, Presiding**

**8:00 FLUO 17.** Difunctionalization-type electrophilic trifluoromethylation reactions of alkenes. **M. Sodeoka**

**8:30 FLUO 18.** Hypervalent iodine mediated fluorinations: Versatile tools for the exploration of novel reactivities. **T. Gulder, A. Andries-Ulmer, C. Brunner**

**9:00 FLUO 19.** Modulating the reactivity of hypervalent iodine reagents and carbonyl tethers with the trifluoromethyl group. **Y. Li, U. Orzol, J. Waser**

**9:30 FLUO 20.** Catalytic trifluoromethylation fluorination by benziodoxol reagents. **K. Szabo**

**9:45** Intermission.

**10:15 FLUO 21.** Exploring the amazing electronic structure and reactivity of hypervalent iodine compounds. **H.P. Luehti**

**10:45 FLUO 22.** CF<sub>3</sub> radical precursors and their reactions with primary radiolysis products – reversible addition of F<sub>2</sub>C<sup>•</sup> to an aromatic model system. **N. Santschi, T. Nausser**

**11:15 FLUO 23.** Award Address (ACS Award for Creative Work in Fluorine Chemistry sponsored by the ACS Division of Fluorine Chemistry). Contributing to organofluorine chemistry as an outsider. **A. Togni**

## MONDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Conference Theatre

### ACS Award for Creative Work in Fluorine Chemistry: Symposium in honor of Antonio Togni

**J. T. Welch, Organizer**

**F. Qing, A. Stuart, Presiding**

**1:30 FLUO 24.** New frontier in fluorine chemistry. **K. Mikami**

**2:00 FLUO 25.** Late-stage fluorination for PET imaging. **T. Ritter**

**2:30 FLUO 26.** Stereoselective carbonyl fluoroolefinations with fluorinated sulfone and sulfoximine reagents. **Y. Zhao, Q. Liu, F. Jiang, J. Hu**

**3:00 FLUO 27.** Silver-mediated oxidative trifluoromethylation and pentafluoroethylation of alcohols: Direct synthesis of alkyl trifluoromethyl (pentafluoroethyl) ethers. **F. Qing**

**3:30** Intermission.

**3:45 FLUO 28.** News about β-peptides with a glimpse at F-derivatives—research, a magical mystery tour. **D. Seebach**

**4:15 FLUO 29.** Intramolecular fluorocyclizations of alkenes with a stable hypervalent fluoroiodane reagent. **A. Stuart, E.G. Hope, G.C. Geary, M. Urbonaitė**

**4:45 FLUO 30.** Strategic incorporation of fluorine into bioactive compounds for medicinal chemistry and drug discovery. **I. Ojima**

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

### Sci-Mix

**J. T. Welch, Organizer**

**8:00 - 10:00**

**15-16.** See previous listings.

‡ Cooperative Cosponsorship

48, 50-53. See subsequent listings.

## TUESDAY MORNING

### Section A

Grand Hyatt San Francisco  
Conference Theatre

#### ACS Award for Creative Work in Fluorine Chemistry: Symposium in honor of Antonio Togni

J. T. Welch, *Organizer*  
N. Shibata, *Presiding*

**8:00 FLUO 31.** Asymmetric desymmetrization via non-metallic C-F bond activation: Synthesis of 3,5-diaryl-5-fluoromethyl-oxazolodin-2-ones with quaternary carbon center. N. Shibata

**8:30 FLUO 32.** Perspective on fluoride reactivity. V. Gouverneur

**9:00 FLUO 33.** Access to heterocycles bearing emergent fluorinated substituents — as FAR as possible! E. Schmitt, F. Arbi, A. Panossian, J. Vors, S. Pazenok, F.R. Leroux

**9:30** Intermission.

**9:45 FLUO 34.** New reagents for difluoromethyl and difluoromethylene transfer. D.A. Vicio, P.T. Kaplan, L. Xu

**10:15 FLUO 35.** 2-Aryl-2-fluorocyclopropylamines: Synthesis, physicochemical properties and monoamine oxidase inhibitor potencies. G. Haufe

**10:45 FLUO 36.** Preparative fluoralkylation via visible light induced electron transfer. C. Stephenson

**11:15 FLUO 37.** Synthesis of  $\beta$ -SCF<sub>3</sub>  $\alpha$ -amino acids and  $\beta$ -SCF<sub>3</sub> amines by nucleophilic trifluoromethylsulfenylation of cyclic sulfamidates. D. Cahard

## TUESDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Conference Theatre

#### ACS Award for Creative Work in Fluorine Chemistry: Symposium in honor of Antonio Togni

J. T. Welch, *Organizer*  
G. Haufe, *Presiding*

**1:30 FLUO 38.** From sulfur to selenium: New reagents for direct trifluoromethylchalcogenation. T. Billard

**2:00 FLUO 39.** Advance in (trifluoromethyl)dibenzoheterocyclic onium salt chemistry for electrophilic trifluoromethylating agents. T. Umemoto

**2:30 FLUO 40.** Recent progress in the chemistry of SF<sub>2</sub>CX<sub>2</sub>- and SF<sub>2</sub>N-containing compounds. A.V. Matsnev, S.P. Belina, S. Qing, C.A. Parrish, P. Dudzinski, G. Haufe, J.S. Thrasher

**3:00 FLUO 41.** Preparation and reactions of aryl tetrafluoro- $\lambda^6$ -sulfonyl compounds. Applications in materials science. K. Bonetti, A. Rehm, L. Zhong, J.T. Welch

### Section A

Grand Hyatt San Francisco  
Conference Theatre

#### General Papers

J. T. Welch, *Organizer*  
J. Welch, *Presiding*

**3:30 FLUO 42.** Accessing perfluoroalkyl nickel(II), (III), and (IV) complexes bearing a readily attached [C4F8] ligand. S. Yu, D.A. Vicio

**3:50 FLUO 43.** Synthesis and design of highly fluorinated biopolymers as <sup>19</sup>F MRI contrast agents. W.C. Pomerantz, S. Kirberger, M. Garwood, B. Weegman

**4:10 FLUO 44.** Corannulenes with strong electron-withdrawing groups. A. Haupt, M. Kutter, D. Lentz

**4:30 FLUO 45.** Mild, low-temperature radiofluorination of  $\alpha$ -diazocarbonyl compounds via copper-catalyzed H-F insertion. M.K. Nielsen, A.G. Doyle

**4:50 FLUO 46.** 1,1 and 1,3-difluorination reactions using fluoro-benziodoxol reagent. N. Ilchenko, M. Hedberg, B.O. Tasch, K.J. Szabo

**5:10 FLUO 47.** Ab initio study on enthalpies of formation for organofluorine compounds. K.R. Jorgensen

## TUESDAY EVENING

### Section A

Moscone Center  
Hall D

#### General Posters

J. T. Welch, *Organizer*

**8:00 - 10:00**

**FLUO 48.** Synthesis of high specific activity 4-[<sup>18</sup>F]fluorophenylalanine using a new diaryliodonium salt precursor. B. Hu, A.L. Våvere, S.E. Snyder, S.G. DiMaggio

**FLUO 49.** Control of electrical properties by mixed self-assembled monolayers in a water motion active transducer. Y. Yang, J. Park, Y. Kim

**FLUO 50.** Synthesis of low-molecular fluorine-containing imidazoles. A.S. Bunev, E.V. Sukhonosova, S. Naumov

**FLUO 51.** Functionalization of fluoro-substituted imidazoles. A.S. Bunev, S. Naumov, G. Ostapenko, E.V. Sukhonosova

**FLUO 52.** Fluorination of aryl stananes using nucleophilic fluoride. R. Gamache, C. Waldmann, J. Murphy

**FLUO 53.** Analysis on the formation potential of disinfection byproducts in the chlorination of aquatic ciprofloxacin. H. Guo, Y. Liu, X. Cheng, T. Ke

## GEOC

### Division of Geochemistry

A. Ilgen, *Program Chair*

## SUNDAY MORNING

### Section A

San Francisco Marriott Union Square  
Union Square North

#### Mineral-Water Interface Chemistry

##### A Tribute to Glenn Waychunas

*Cosponsored by COLL and ENVR*

C. S. Kim, P. A. O'Day, *Organizers*  
B. Gilbert, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 GEOC 1.** X-ray absorption spectroscopy studies of sorption reactions at mineral-aqueous solution interfaces. G.E. Brown

**8:55 GEOC 2.** Withdrawn.

**9:15 GEOC 3.** Element speciation in atmospheric nanoparticles and implications for human health and biogeochemical cycling. P.A. O'Day, E. Reinoso-Maset, K. Nguyen, V. Leppert, H.J. Forman

**9:35 GEOC 4.** Cation effects on the reaction between birnessite and Mn(II). P. Yang, Q. Wang, M. Zhu

**9:55 GEOC 5.** Cation effects on the adsorption and oxidation of fulvic acid by manganese oxides. Q. Wang, P. Yang, M. Zhu

**10:15** Intermission.

**10:35 GEOC 6.** How does light control the mobility of Ni sorbed on birnessite? F. Marafatto, B. Gilbert, J. Pena

**10:55 GEOC 7.** Nanoscale iron hydroxides: Unique properties and contaminant scavenging mechanisms (a brief history). C.S. Kim

**11:15 GEOC 8.** Aggregation, surface structure and characterization of iron oxide nanoparticles: The effect of long term aging in aqueous media. L. Badakhshian, A. Quicksall

**11:35 GEOC 9.** Ligand effects on amorphous iron and aluminum hydr(oxide) precipitate characteristics. S. Yeo, T. Stewart, M. Bartolo, J. Herrboldt, L.E. Katz, D. Lawler

**11:55 GEOC 10.** Metal(loid) uptake by mineral surface coatings. D. Singer

### Section B

San Francisco Marriott Union Square  
Union Square South

#### Pore-Scale Geochemical Processes & the Implications to CO<sub>2</sub> Geologic Storage

H. Deng, S. Molins, C. Steefel, *Organizers, Presiding*

**9:00** Introductory Remarks.

**9:05 GEOC 11.** Does enhanced characterization of reactive surface area improve prediction of mineral reaction rates in porous media? L.E. Beckingham, C. Steefel, E. Mitnick, A. Swift, M. Voltolini, L. Yang, L. Anovitz, J. Sheets, T. Kneafsey, D. Cole, S. Zhang, G. Landrot, J. Ajo-Franklin, D.J. DePaolo, S. Mito, Z. Xue

**9:45 GEOC 12.** DFT calculations of structure and dynamics of CO<sub>2</sub> adsorption on kaolinite and montmorillonite surfaces. L. Tribe

**10:05 GEOC 13.** Brine-biotite interactions under Geologic CO<sub>2</sub> Sequestration (GCS) conditions: Effects of phosphate. L. Zhang, D. Kim, Y. Kim, J. Wan, Y. Jun

**10:25** Intermission.

**10:45 GEOC 14.** Characterising pore scale mineral heterogeneity and solute transport to model reactive transport for CO<sub>2</sub> storage. S. Krevor, M. Boon, P. Lai, S. Franchini, B. Niu, A. Al-Menhali, C. Reynolds

**11:25 GEOC 15.** Interfacial interactions between cations and biotite under conditions relevant to subsurface CO<sub>2</sub> injection. Y. Min, Y. Jun

**11:45 GEOC 16.** Molecular dynamics simulation prediction of the solubility of gases (CO<sub>2</sub>, CH<sub>4</sub>, H<sub>2</sub>, noble gases) in nano-confined water. G. Gadikota, B. Dazas, I.C. Bourg

**12:05 GEOC 17.** Elucidating the mineralogical and transport controls on the evolution of porous media using pore scale simulation. S. Molins, D. Trebotich, G.H. Miller, C. Steefel

### Section C

San Francisco Marriott Union Square  
Savoy

#### Redox-Driven Environmental Geochemical Reactions for Metals, Major Elements & Organic Pollutants

E. E. Roden, Y. Yang, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 GEOC 18.** Constraints on the coupled redox cycling of carbon and iron. S.E. Fendorf, M. Keiluweit

**8:45 GEOC 19.** Reactive oxygen species are ubiquitous along subsurface redox gradients. P.S. Nico, X. Yuan, J.A. Davis, D. Dwiwedi, K. Williams, A. Bhattacharya, P. Fox

**9:05 GEOC 20.** Biogeochemical controls on the stability of iron-bound soil organic carbon. S. Dunham-Cheatham, Q. Zhao, D. Obrist, Y. Yang

**9:25 GEOC 21.** Fate of ferrihydrite-bound organic carbon during microbial reduction. D. Adhikari, Q. Zhao, K.K. Das, J. Mejia, R. Huang, X. Wang, S.R. Poulson, Y. Tang, E.E. Roden, Y. Yang

**9:45** Intermission.

**10:00 GEOC 22.** Iron reduction enhances decomposition of occluded organic matter: Evidence from carbon stable isotopes. S.J. Hall, W. Huang

**10:40 GEOC 23.** Developing a mechanistic understanding of environmentally persistent free radical redox formation in soils at ambient conditions. U.G. Nwosu, R.L. Cook

**11:00 GEOC 24.** Biosnorkel mechanism—direct extracellular electron transfer by pyrogenic carbon. T. Sun, J.J. Guzman, A. Enders, L. Angenent, J. Lehmann

**11:20 GEOC 25.** Biogeochemical fate and stability of ferrihydrite-organic compound complexes. D. Wordofa, S. Dunham-Cheatham, S.R. Poulson, Y. Yang

**11:40 GEOC 26.** Soil organic carbon protection in the presence of iron oxides under aerobic conditions. S.S. Cronk, C. Gorski



## Section D

San Francisco Marriott Union Square  
Sutter 1-3

**Structure, Properties & Applications of Minerals with Layered Structure**

A. Fernandez-Martinez, N. Garg, B. Ma, C. White, *Organizers*

N. Birkner, R. Shivaramaiah, *Presiding*

**9:00 GEOC 27.** Layered double hydroxides and their significant role in geochemical processes. D.L. Sparks

**9:40 GEOC 28.** Withdrawn.

**10:10 GEOC 29.** Structural insights on Ni-Al LDHs using wavelet analysis. M. Siebecker, D.L. Sparks

**10:30** Intermission.

**10:45 GEOC 30.** Withdrawn.

**11:25 GEOC 31.** Withdrawn.

**11:45 GEOC 32.** Thermochemistry of Layered double hydroxides of Li with Al. R. Shivaramaiah, A. Navrotsky, M. Paranthaman, R. Riman, A.M. Anderko, L. Li

**Subsurface Technologies for Recovery of Fossil & Geothermal Energy**

*Sponsored by ENFL, Cosponsored by CATL and GEOC*

**Computations for CO<sub>2</sub> Capture, Conversion & Sequestration**

*Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG<sup>†</sup>*

## SUNDAY AFTERNOON

## Section A

San Francisco Marriott Union Square  
Union Square North

**Mineral-Water Interface Chemistry**
**A Tribute to Glenn Waychunas**

*Cosponsored by COLL and ENVR*

B. Gilbert, C. S. Kim, *Organizers*

P. A. O'Day, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 GEOC 33.** Environmental surface and interface science at GeoSoilEnviroCARS. P.J. Eng, J. Stubbs

**1:55 GEOC 34.** Atomic structure of the chalcophanite (001) surface: A window into birnessite mineral growth. J. Stubbs, P.J. Eng

**2:15 GEOC 35.** Impacts of pH and surface coverage on the response of interfacial water structure to the adsorption of arsenate. T. Xu, J.G. Catalano

**2:35 GEOC 36.** Mechanisms of Fe(II)-catalyzed goethite recrystallization from stochastic simulation. K. Rosso, P. Zarzycki

**2:55 GEOC 37.** Isotope-resolved 57-Fe(II) interaction with single Fe(III)-(oxyhydr) oxide crystallites: Unraveling dissolution/recrystallization mechanisms. S. Taylor, X. Zhang, J. Liu, B. Arey, D.E. Perea, D.K. Schreiber, J.B. Clif, T. Wietsma, O. Qafoku, K.M. Rosso

**3:15** Intermission.

**3:35 GEOC 38.** Surface charge dynamics at the iron oxides/electrolyte interface. P. Zarzycki, K.M. Rosso

**3:55 GEOC 39.** Arsenopyrite-water interface chemistry: Roles of iron (hydr)oxides in arsenic mobility. Y. Jun, C.W. Neil, X. Wu

**4:15 GEOC 40.** Effect of solution and solid-phase conditions on the Fe(II)-accelerated transformation of ferrihydrite to crystalline iron oxides. D. Waite, R. Collins, A. Jones, D. Boland, W. Xiao, C. Glover

**4:35 GEOC 41.** Dominating role of weakly complexing ions at the mineral-water interfaces. S.C. Myneni

**4:55 GEOC 42.** Cesium adsorption on illite: Characterizing the slow adsorption sites. V. Amaral, B. Dazas, I.C. Bourg

## Section B

San Francisco Marriott Union Square  
Union Square South

**Pore-Scale Geochemical Processes & the Implications to CO<sub>2</sub> Geologic Storage**

H. Deng, S. Molins, C. Steefel, *Organizers, Presiding*

**1:30 GEOC 43.** Carbonation reactions and their effect on pore distributions in a cement exposed to CO<sub>2</sub> for 30+ years. A.G. Stack, M. Cheshire, L. Anovitz, W. Carey

**2:10 GEOC 44.** Phase and isotopic partitioning behavior of boron in supercritical CO<sub>2</sub> – water systems. B. Thomas, T. Phan, J. Gardiner, A. Hakala, C. Lopano

**2:30 GEOC 45.** Evidence for difference between precipitation in pores and in bulk solution. Q. Li, C. Steefel, Y. Jun

**2:50 GEOC 46.** Chemical controls on the fracture propagation rate in calcite. A. Ilgen, W. Mook, A. Tigges, C. Chisholm, K. Jungjohann

**3:10** Intermission.

**3:30 GEOC 47.** Leakage potential of cemented wells from carbon storage reservoirs. S.A. Carroll, J. Iyer, P. Roy, H. Mason, W.L. Du Frane, S. Walsh, J. Morris

**4:10 GEOC 48.** Coal cleat closure during supercritical CO<sub>2</sub> injection and associated permeability drop: From microscale observation to DEM predictions. Y. Zhang, M. Lebedev, Z. Zhang, M. Sarmadivaleh, A. Barifcani, S. Iglauer

**4:30 GEOC 49.** Reservoir scale numerical simulation of CO<sub>2</sub> injection into Lower Tuscaloosa formation in Mississippi, USA with experimentally validated modeling parameters. L. Zhang, Y. Soong, R. Dilmore

## Section C

San Francisco Marriott Union Square  
Savoy

**Redox-Driven Environmental Geochemical Reactions for Metals, Major Elements & Organic Pollutants**

E. E. Roden, Y. Yang, *Organizers*

S. Dunham-Cheatham, W. Xu, *Presiding*

**1:30 GEOC 50.** Linking carbon stability to iron redox reactions. D. Adhikari, Q. Zhao, K.K. Das, S. Xu, J. Mejia, R. Huang, X. Wang, S.R. Poulson, Y. Tang, D. Obrist, E.E. Roden, Y. Yang

**2:10 GEOC 51.** Geochemical and genomic analysis of coupled redox transformations of humic substances and iron oxides. J. Mejia, N. Stern, S. He, Y. Yang, E.E. Roden, M.A. Ginder-Vogel

**2:30 GEOC 52.** Effects of ammonia and variable redox conditions on mineral dissolution. S. Di Pietro, H. Emerson, Y. Katsenovich, J.E. Szecsody

**2:50 GEOC 53.** Organic matter transformations in wet tropical soils: The effects of redox fluctuation. A. Bhattacharyya, A. Campbell, Y. Lin, P.S. Nico, W. Silver, J. Pett-Ridge

**3:10 GEOC 54.** Coupled dynamics of iron and iron-bound organic carbon in forest soils during anaerobic reduction. Q. Zhao, D. Adhikari, R. Huang, A. Patel, X. Wang, Y. Tang, D. Obrist, E.E. Roden, Y. Yang

**3:40** Intermission.

**3:50 GEOC 55.** Contaminant dynamics in waters and sediments of acidic pit lakes. W.D. Burgos, J. Sánchez-España, I. Yusta

**4:30 GEOC 56.** Reducing sugar content in microbial Extracellular Polymeric Substances (EPS) plays a previously unrecognized role in abiotic reduction of environmentally concerned chemicals. F. Kang, X. Zhou, D. Zhu

**4:50 GEOC 57.** Redox properties of black carbon in promoting the abiotic transformation of organic pollutants. W. Xu, K. Ding

**5:10 GEOC 58.** Revisiting reduction of PCE and TCE by magnetite. J.D. Culpepper, D. Latta, D.M. Cwiertny, M. Scherer

## Section D

San Francisco Marriott Union Square  
Sutter 1-3

**Structure, Properties & Applications of Minerals with Layered Structure**

A. Fernandez-Martinez, N. Garg, B. Ma, C. White, *Organizers*

N. Birkner, R. Shivaramaiah, *Presiding*

**1:30 GEOC 59.** Crystal structures of defective lamellar compounds and their X-ray identification: Insights into mineral reactions and material reactivity. B. Lanson

**2:10 GEOC 60.** Manipulating the layered phases in low-CO<sub>2</sub> cements and related minerals. C. White, O. Ozcelik, N. Garg

**2:40 GEOC 61.** Connecting the microstructure and structure in clay minerals on heating to 1150 °C using in-operando multi-scale X-ray scattering techniques. G. Gadikota, A. Allen, F. Zhang

**3:00** Intermission.

**3:15 GEOC 62.** Rare earth recovery from phosphate fertilizer production waste. Z. Hu, A. Eslamianesh, R. Shivaramaiah, P. Antonick, R. Riman, A.M. Anderko, A. Navrotsky, D. DePaoli, J. Zhang

**3:45 GEOC 63.** Withdrawn.

**4:15 GEOC 64.** How soluble Mn(III)-pyrophosphate affects the formation of layered birnessite nanosheets by photochemically-assisted Mn oxidation? H. Jung, Y. Jun

**4:35 GEOC 65.** Effects of Zn presence on the structure and reductive transformation of birnessite. S. Zhao, Y. Tang

**Computations for CO<sub>2</sub> Capture, Conversion & Sequestration**

*Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG<sup>†</sup>*

## MONDAY MORNING

## Section A

San Francisco Marriott Union Square  
Union Square North

**Mineral-Water Interface Chemistry**
**A Tribute to Glenn Waychunas**

*Cosponsored by COLL and ENVR*

B. Gilbert, P. A. O'Day, *Organizers*

C. S. Kim, *Organizer, Presiding*

**8:00 GEOC 66.** Modeling mineral-water interface structure. J.D. Kubicki

**8:20 GEOC 67.** Development of rare events simulation tools to probe mineral surface reactivity. A. Wallace

**8:40 GEOC 68.** Water structure and dynamics at the hematite (1-102) surface. M.E. McBriarty, G.F. von Rudorff, J. Stubbs, P.J. Eng, J. Blumberger, K.M. Rosso

**9:00 GEOC 69.** Water structure and dynamics at the aqueous interface of ferrihydrite nanoparticles. C. Johnston

**9:20 GEOC 70.** Capturing the ultrafast vibrational decoherence of water at mineral interfaces. A. Boulesbaa, E. Borguet

**9:40** Intermission.

**10:00 GEOC 71.** Tracking site-specific reactions at mineral surfaces. J. Boily

**10:20 GEOC 72.** NMR at mineral interfaces: Chemical structure, speciation, dynamics, and reactivity. K.T. Mueller, N. Washton, J. Fagan

**10:40 GEOC 73.** Molecular-scale imaging of gibbsite nucleation at the mica-water interface using *in situ* atomic force microscopy. B. Legg, J.J. De Yoreo

**11:00 GEOC 74.** Mineral precipitation at mineral-water interfaces. A. Fernandez-Martinez, A. Koishi, Y. Hu, Y. Jun, G.A. Waychunas

**11:20 GEOC 75.** Understanding phosphate and silicate adsorption, precipitation and polymerization on mineral surfaces using differential pair distribution function analysis. M. Zhu, X. Wang

**11:40 GEOC 76.** Mineral-water interface studies: Quo vadis? G.A. Waychunas

## Section B

San Francisco Marriott Union Square  
Union Square South

**Advances in Treatment Processes for Metals & Metalloids**

*Cosponsored by ENVR*

K. Campbell-Hay, C. F. Wildman, *Organizers*

K. M. Campbell, C. Wildman, *Presiding*

**8:00** Introductory Remarks.

**8:05 GEOC 77.** Biogeochemical investigations of mine water attenuation in lignocellulose-based sulfate reducing bioreactors. J. Sharp, D. Drennan, R. Almstrand, L. Lee, L. Figueroa, I. Lee, J. Ladderud, S. Webb

**8:35 GEOC 78.** Novel approaches for the selective capture of transition metals from mine waters using low pH sulfur- and sulfate-reducing bioreactors. R. Holanda, A.L. Santos, B. Johnson

**8:55 GEOC 79.** Bioreactors for the treatment of hexavalent chromium at remote locations in South Africa. M.F. Deffaux, M. Erasmus, E. van Heerden

<sup>†</sup>Cooperative Cosponsorship

**9:25 GEOC 80.** Role of reduced chromium-organic complexes in performance of an *ex situ* bioreactor to remove hexavalent chromium. C.F. Wildman, M. Davidson, B. Marvin

**9:45 GEOC 81.** Treatment of uranium in groundwater with soluble phosphate: Successes and challenges at the field-scale. M. Hay, J. Gillow, P. Moran

**10:05** Intermission.

**10:25 GEOC 82.** Iron electrocoagulation for removal of dissolved selenium: Impact of oxygen level and pH. Y. Bae, N.M. Crompton, J.G. Catalano, D. Giammar

**10:45 GEOC 83.** Stabilization of metalliferous mine tailings during mesocosm-scale phytostabilization. R.A. Root, R. Maier, J.D. Chorover

**11:05 GEOC 84.** Withdrawn.

**11:25 GEOC 85.** Design and optimization of constructed wetlands for metal and metalloid treatment at the Minto Mine, in the Yukon, Canada. M. Haakensen, V. Friesen, R. Herbert

**11:55** Concluding Remarks.

## Section C

San Francisco Marriott Union Square  
Savoy

### Redox-Driven Environmental Geochemical Reactions for Metals, Major Elements & Organic Pollutants

E. E. Roden, Y. Yang, *Organizers*

A. Kappler, K. Weber, *Presiding*

**8:00 GEOC 86.** New light shed on important Earth-relevant redox reactions observed at the nanoscale. M.F. Hochella

**8:40 GEOC 87.** Effect of Fe-metabolizing microbes and humic substances on Cr-immobilization by biogenic and abiogenic magnetite. A. Kappler, K. Adaktylos-Surber, A. Sundman, J. Byrne

**9:00 GEOC 88.** Structural transformations of manganese oxides by small organic acids and the fate of trace metals. E. Flynn, J.G. Catalano

**9:20 GEOC 89.** Mineralogical transformation of MnO<sub>2</sub> during redox reactions with organic contaminants. S.J. Balgooyen, C.K. Remucal, M.A. Ginder-Vogel

**9:40 GEOC 90.** Nitrate photolysis drives fast abiotic oxidation of Mn<sup>2+</sup>(aq) to Mn(IV) and promotes the formation of δ-MnO<sub>2</sub> nanosheets. H. Jung, Y. Jun

**10:00** Intermission.

**10:20 GEOC 91.** Nitrogen mediated metal redox cycling. K.A. Weber, O. Healy, W. Yang, W. Silver

**11:00 GEOC 92.** Using time-resolved X-ray absorption spectroscopy to probe the mechanism of contaminant oxidation by δ-MnO<sub>2</sub>. Y. Wang, S. Benkaddour, F. Marafatto, J. Pena

**11:20 GEOC 93.** Rates and products of MnO<sub>2</sub> oxidation of Cr(III)-containing iron oxides. C. Pan, A. Qian, H. Liu, J. Catalano, D. Giammar

**11:40 GEOC 94.** Investigating the role of sediment manganese oxides as a potential predictor for future arsenic contamination of groundwater. E. Gillispie, M. Polizzotto, M.C. Jones

## Section D

San Francisco Marriott Union Square  
Sutter 1-3

### Formation, Structure & Reactivity of Biogenic Minerals

O. Duckworth, J. Pena, M. Polizzotto, C. Santelli, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 GEOC 95.** Endolithic microbial communities from Mona Island (PR), touring of a geochemical paradox on various carbonate mineral substrates. E. Couradeau, D.W. Roush, B.S. Guida, F. Garcia-Pichel

**8:35 GEOC 96.** Elucidating the structural diversity of bacteriogenic iron oxides formed in circumneutral environments. A.H. Whitaker, O. Duckworth, F.M. Michel, D. Peak

**8:55 GEOC 97.** Biologically-driven schwertmannite precipitation in acid mine drainage pipelines: Trace metal implications. K.M. Campbell, C. Alpers, D. Nordstrom

**9:25 GEOC 98.** Sorption of arsenic to biogenic iron (oxyhydr)oxides produced in circumneutral environments. T. Sowers, J.M. Harrington, A.H. Whitaker, M. Polizzotto, O. Duckworth

**9:45 GEOC 99.** Iron biomineral formation by Fe(II)-oxidizing bacteria. A. Kappler, J. Byrne

**10:15** Intermission.

**10:35 GEOC 100.** Quantifying mycogenic manganese oxide reactivity through chemical and electrochemical measurements. B. Uster, E. Mitchell, M.Y. Andrews, R.L. Diaz, L.A. Sombers, O.W. Duckworth

**10:55 GEOC 101.** Atomistic perspectives on cation complexes, octahedral vacancies, and the interlayer water of phyllosilicates through molecular dynamics simulations. A.G. Newton, K. Kwon

**11:15 GEOC 102.** Organo-mineral interactions in *Pseudomonas putida*-bimessite composites: Implications for biogenic mineral reactivity. J. Pena, A. Simanova, A. Kroll

**11:35 GEOC 103.** Crystal structure and growth of ZnS nanoparticles formed via comparative biological and abiotic pathways. J. Xu, M. Murayama, C. Roco, H. Veeramani, M.F. Hochella

**11:55 GEOC 104.** Elemental sulfur biomineralization by phototrophs and chemolithotrophs: Model isolate and field studies. C. Chan, P.A. Henri, C.L. Marnocha, A. Levy, T.E. Hanson, A. Steele, J.L. Macalady

### Science for a Sustainable Energy Future

#### Energy Storage

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF*

#### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

*Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG<sup>2</sup>*

## MONDAY AFTERNOON

### Section A

San Francisco Marriott Union Square  
Union Square North/South

### 2017 Geochemistry Division Medal Symposium

S. N. Kerisit, *Organizer, Presiding*

A. Ilgen, *Presiding*

**1:00** Introductory Remarks.

**1:15 GEOC 105.** Phase transitions in layered Mn oxides: Implications for electron storage and transport in soils. P.J. Heaney, F.T. Ling, K. Kong, J. Post

**1:55 GEOC 106.** Biogeochemical transformation of metal(loid)s in a disturbed critical zone. J.D. Chorover, R. Root, C. Hammond, R. Maier

**2:35 GEOC 107.** Probing chemical and porosity changes at the bedrock saprolite interface. A. Stichter, S.L. Brantley

**3:15** Intermission.

**3:35 GEOC 108.** Lessons learned about using data to understand water issues related to shale gas development in Pennsylvania: From science to sociology. R.D. Vidic, S. Brantley, D. Yoxheimer, J. Pollak, K. Brasier

**4:15 GEOC 109.** Exploring the subsurface chemical landscapes where water and biota turn rock into soil. S.L. Brantley

### Science for a Sustainable Energy Future

#### Chemical & Biological Conversions Approaches to Energy Conversion

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF*

#### Computations for CO<sub>2</sub> Capture, Conversion & Sequestration

*Sponsored by ENFL, Cosponsored by CATL, COMP, GEOC and MPPG<sup>2</sup>*

#### Undergraduate Research Posters

#### Geochemistry

*Sponsored by CHED, Cosponsored by GEOC and SOCED*

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

A. Ilgen, *Organizer*

**8:00 - 10:00**

**21, 31, 43, 73, 103.** See previous listings.

**129, 135, 157, 188-189, 197, 202, 211, 218, 285-286, 294, 322, 334, 340, 346, 360, 362.** See subsequent listings.

## TUESDAY MORNING

### Section A

San Francisco Marriott Union Square  
Union Square North

### Mineral-Water Interface Chemistry

*Cosponsored by COLL and ENVR*

J. Bracco, S. R. Higgins, S. Lee, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 GEOC 110.** Quartz/aqueous solution interface-a microscopic to macroscopic perspective. M.L. Machesky, M.K. Ridley, N. Kabengi, N. Allen

**8:35 GEOC 111.** Silica/water interfaces investigated by DFT-MD simulations: Structure and SFG spectroscopy revealed in detail. M.P. Gaigeot

**8:55 GEOC 112.** Molecular origins of the zeta potential. M. Predota, M.L. Machesky, D. Wesolowski

**9:25 GEOC 113.** Effect of electrolyte concentration on the stern layer thickness at a charged interface. M.A. Brown

**9:45** Intermission.

**10:00 GEOC 114.** van der Waals wetting forces relevant to geologic carbon sequestration from inelastic x-ray scattering. B. Gilbert, P. Perera, P. Schuck, D. Sokaras, I.C. Bourg, T. Tokunaga

**10:30 GEOC 115.** Investigating water adsorption on surfaces using ambient-pressure XPS: Effects of humidity on copper and molybdenum oxides. L. Trotochaud, A.R. Head, S. Pletincox, O. Karslioglu, A. Waldner, H. Bluhm

**10:50 GEOC 116.** Heterogeneous nucleation rate of Mn(OH)<sub>2</sub> (s) controls structural match between Mn(OH)<sub>2</sub> (s) and quartz substrate. H. Jung, Y. Jun

**11:20 GEOC 117.** Interaction of bacterial cytochromes and iron oxide minerals. H. Wang, A. Johs, L. Liang

**11:40 GEOC 118.** MINFIT: A spreadsheet-based tool for parameter estimation in an equilibrium speciation software program. X. Xie, D. Giammar, Z. Wang

### Section B

San Francisco Marriott Union Square  
Union Square South

### Microbially-Driven Geochemical Reactions: Kinetics & Communities

D. Jones, J. Sánchez-España, B. M. Tebo, *Organizers*

W. D. Burgos, C. M. Hansel, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 GEOC 119.** Kinetics and pathways of sulfur reactions linked to O, Fe, and C cycling affecting bioavailability. G.K. Druschel, F. Kafantaris, D. Fike, P. Schmitt-Kopplin, S. Dvorski

**8:35 GEOC 120.** Effect of climate change on coupled biogeochemistry of sulfur and mercury in organic soils. B.M. Toner, O.S. Furman, S. Psarska, A. Krupp, J.L. Gutknecht, S.D. Sebestyen, R.K. Kolka, E.A. Nater

**9:05 GEOC 121.** Isotopic and proteomic profiles of sulfate reducers cultivated at steady-state. W.D. Leavitt, S. Vencoeslau, J. Waldbauer, F. Boidi, D. Smith, A.S. Bradley

**9:35** Intermission.

**9:55 GEOC 122.** Photosynthetic iron oxidation in the phylum chlorobi. **S. Crowe**, K. Thompson, R. Simister, A. Hahn, C. Morgan-Lang, S. Hallam

**10:25 GEOC 123.** Geochemical and microbiological controls of oxygen production in cyanobacterial mats. **J.M. Klatt**, M. Medina, S. Grim, D. de Beer, G.J. Dick

**10:55 GEOC 124.** Living on the edge: Model photoautotrophs from a Proterozoic ocean analog. **T. Hamilton**, C. Schuler, J. Havig, J. Macalady

**11:25 GEOC 125.** Chemo-autotrophic and photo-autotrophic arsenotrophy in western USA soda lakes. **R.S. Oremland**

## Section C

San Francisco Marriott Union Square  
Savoy

### Redox-Driven Environmental Geochemical Reactions for Metals, Major Elements & Organic Pollutants

E. E. Roden, Y. Yang, *Organizers*

M. Ginder-Vogel, A. Thompson, *Presiding*

**8:00 GEOC 126.** Iron mineral transformations in organic-rich freshwater flocs induced by Fe(II) and sulfide. **L.K. Thomas-Arigo**, C. Mikutta, **R. Kretzschmar**

**8:40 GEOC 127.** Key features of redox-fluctuating systems that influence iron cycling. **A. Thompson**, C. Meile, J. Wilmoth, D. Barcellos, C. Chen, B. Ginn, Y. Tang, C. Hodges

**9:20 GEOC 128.** Quantifying the rate and extent of Fe<sup>2+</sup> catalyzed recrystallization of goethite: A combined experimental and modeling study. **P. Joshi**, M. Fantle, C. Gorski

**9:40 GEOC 129.** Production of .OH from oxygenation of Fe<sup>2+</sup> under near-neutral conditions. **A. Qian**, S. Yuan, D. Giammar

**10:00** Intermission.

**10:20 GEOC 130.** Bioavailable Fe in nontronite decreases during consecutive Fe redox cycles. **B. Shi**, L. Wu, C.M. Smeaton, P. Van Cappellen

**11:00 GEOC 131.** Availability of stored electrons in goethite under oxic conditions. **E. Tomaszewski**, S. Lee, H. Xu, **M.A. Ginder-Vogel**

**11:20 GEOC 132.** Fe(II)-Fe(III) electron transfer in a low Fe clay mineral and its implications for U(VI) reduction. **D. Latta**, A. Neumann, W. Premaratne, M. Boyanov, E.J. O'Loughlin, K.M. Kemner, M. Scherer

**11:40 GEOC 133.** Manganese and iron oxide-coated redox bars – tools to delineate soil reducing conditions and study the element sorption behavior in wetland soils. **K. Dorau**, T. Mansfeldt

## Section D

San Francisco Marriott Union Square  
Sutter 1-3

### 2017 Geochemistry Division Medal: Symposium in Honor of Dr. Susan Brantley

S. N. Kerisit, A. Sitchler, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:35 GEOC 134.** Molecular modeling of multicomponent glass and glass surfaces for nuclear waste glass dissolution and glass-to-metal seals applications. **L.J. Criscenti**

**8:55 GEOC 135.** Mineral surface topography related to weathering rate for a 3-D model crystal. **J.Z. Bandstra**

**9:15 GEOC 136.** Silicate dissolution: Molecular modeling in the context of experimental and field dissolution and weathering. **J.D. Kubicki**

**9:45 GEOC 137.** Atoms to pores concepts for mineral growth and precipitation. **A.G. Stack**

**10:15** Intermission.

**10:35 GEOC 138.** Lab-Field rate discrepancy revisited. **C. Steefel**

**11:05 GEOC 139.** Effects of Na<sup>+</sup> and Ca<sup>2+</sup> on plagioclase dissolution under high salinity conditions: Implications for subsurface CO<sub>2</sub> injection. **Y. Min**, Y. Jun

**11:25 GEOC 140.** Using u-series isotopes to quantify chemical weathering rates on Basse-Terre Island, French Guadeloupe. **L. Ma**

## TUESDAY AFTERNOON

### Section A

San Francisco Marriott Union Square  
Union Square North

### Mineral-Water Interface Chemistry

*Cosponsored by COLL and ENVR*

J. Bracco, S. R. Higgins, S. Lee, *Organizers, Presiding*

**1:30 GEOC 141.** Insights into mineral-water interface dynamics through coupled stable isotope and spectroscopic investigations. **K. Maher**, J. Nelson

**2:00 GEOC 142.** Effects of nano-confinement and crystallinity on Zn isotope fractionation during adsorption onto silica surfaces. **J. Nelson**, L. Wasylenki, J.R. Bargar, G.E. Brown, K. Maher

**2:30 GEOC 143.** Effect of interlayer cation size and charge on the intercalation of CO<sub>2</sub> and H<sub>2</sub>O into hectorite using computer molecular simulations. **N. Loganathan**, O. Yazaydin, G.M. Bowers, A.G. Kalinichev, J. Kirkpatrick

**2:50 GEOC 144.** Reductive immobilization of hexavalent chromium by polysulfide-reduced nontronite. **M. Shi**, J. Li, J.S. Zheng

**3:10 GEOC 145.** Real-time observations of Rb<sup>+</sup>/Na<sup>+</sup> exchange processes at the muscovite (001) – water interface. **S. Lee**, P. Fenter, K.L. Nagy, N.C. Sturchio

**3:30** Intermission.

**3:50 GEOC 146.** High resolution AFM imaging of ion adsorption and charge distribution at heterogeneous clay mineral-liquid interfaces. **I. Siretanu**, D. Ebeling, M. Andersson, D. van den Ende, F. Mugele

**4:20 GEOC 147.** Impact of surface defects on the surface charge of gibbsite nanoparticles. **A. Klaassen**, F. Liu, D. van den Ende, F. Mugele, I. Siretanu

**4:40 GEOC 148.** Aluminum oxyhydroxide-water interfaces: Structure, energetics, and effects of gamma-irradiation. **S.N. Kerisit**, M.P. Prange, Z. Shen, E.S. Ilton, X. Zhang, L. Kovarik, K.M. Rosso

**5:10 GEOC 149.** Withdrawn.

### Section B

San Francisco Marriott Union Square  
Union Square South

### Microbially-Driven Geochemical Reactions: Kinetics & Communities

D. Jones, J. Sánchez-España, B. M. Tebo, *Organizers*

W. D. Burgos, C. M. Hansel, *Organizers, Presiding*

**1:30 GEOC 150.** Deconstructing and reconstructing microbial communities that promote the natural attenuation of acidic mine waters. **B. Johnson**

**2:00 GEOC 151.** Combined biogeochemical cycling of iron, sulphur, carbon and metal(oid)s (As, Pb, Cu, Zn, Cd, Ni, U, Th) in the water column of acidic pit lakes. **J. Sánchez-España**

**2:30 GEOC 152.** Biological sulfide mineral transformations in acidic environments. **I. Sanchez Andrea**

**3:00** Intermission.

**3:20 GEOC 153.** Metal fluxes across the water-sediment interface in a reservoir affected by acid mine drainage: Reactive transport modeling. **E. Torres**, C. Ayora, A. Nardi, R.M. Couture, B. Shafei, P. Van Cappellen

**3:50 GEOC 154.** Metagenomic and genomic characterization of novel organisms associated with sulfide mineral leaching in ore and waste rock from the Duluth Complex, Minnesota. **D. Jones**, E. Roepke, M. Sadowsky, P. Novak, J.V. Bailey

**4:20 GEOC 155.** Microbial contributions to pyrrhotite oxidation. **K. Hobart**, D. Jones, J. Feinberg, J.V. Bailey

### Section C

San Francisco Marriott Union Square  
Savoy

### Redox-Driven Environmental Geochemical Reactions for Metals, Major Elements & Organic Pollutants

E. E. Roden, Y. Yang, *Organizers*

J. Mejia, L. Wu, *Presiding*

**1:30 GEOC 156.** Electrochemical characterization of minerals and their redox reactions with solutes. **P.G. Tratnyek**, M. Bradley, J.Z. Bandstra, Y. Lan

**2:10 GEOC 157.** Geochemical cycling and long-term stability of uranium, nickel and arsenic at the Cluff Lake, Saskatchewan uranium mine. **K. von Gunten**, T. Warchola, M. Donner, W. Hao, M. Cossio, C. Boothman, J. Lloyd, P. Blanchard, T. Siddique, K. Konhauser, D. Alessi

**2:30 GEOC 158.** Effect of concentration and time on Pu desorption from goethite. **J. Begg**, M. Zavarin, A. Kersting

**2:50 GEOC 159.** Electron transfer pathways facilitating U(VI) reduction by Fe(II) on the hematite (001) surface from first principles. **S. Taylor**, M.C. Marcano, U. Becker, K.M. Rosso

**3:10 GEOC 160.** Pu(VI) hydroxamate complex formation at circumneutral pH. **K. Morrison**, M. Zavarin, Y. Jiao, A. Kersting

**3:30** Intermission.

**3:40 GEOC 161.** Role of secondary mineralization in the competitive inhibition of microbial uranium reduction by iron oxides. **K. Belli**, **M. Taillefert**

**4:20 GEOC 162.** Time-Resolved synchrotron x-ray scattering and chemical analysis of redox reactions between aqueous Cr(III) and triclinic Na-birnessite. **K. Kong**, P. Heaney, F.T. Ling, J. Post, J. Stubbs, P.J. Eng

**4:50 GEOC 163.** Arsenic release from contaminated sediments is limited by manganese redox buffering in Union Lake, New Jersey. **A. Keimowitz**, B. Mailloux, K.M. Wovkulich, J.S. Harkness, J.M. Ross, S.N. Chillrud

**5:10 GEOC 164.** Assessment of the influence of climate change on mercury methylation on a molecular scale with a mechanistic reaction-transport model. **S. Helmrich**, D. Vlassopoulos, P.A. O'Day

### Section D

San Francisco Marriott Union Square  
Sutter 1-3

### 2017 Geochemistry Division Medal: Symposium in Honor of Dr. Susan Brantley

S. N. Kerisit, A. Sitchler, *Organizers, Presiding*

**1:30 GEOC 165.** From a single crater lake to a nation's water resources: Lessons from Susan Brantley about science and life. **G. Rowe Jr**

**2:00 GEOC 166.** Calcite and sulfur precipitation due to weathering of granites in temperate climates. **V. Marcon**, X. Gu, H. Kim, S. Brantley

**2:20 GEOC 167.** Atomistic-scale evaluation of the fracture toughness of silicates in aqueous environments. **J.M. Rimsza**, R. Jones, L.J. Criscenti

**2:40 GEOC 168.** Nanometer to centimeter scale analysis and modeling of pore structures in Earth materials. **D. Cole**, L. Anovitz, G. Rother, A. Swift, X. Gu, S.L. Brantley

**3:10** Intermission.

**3:30 GEOC 169.** Role of organic matter and pyrite oxidation on deep shale weathering: A comparison of gray shale and black shale. **X. Gu**, S.L. Brantley

**3:50 GEOC 170.** Snowmelt controls on concentration-discharge relationships and the balance of oxidative and acid-base weathering fluxes in an alpine catchment, East River, Colorado. **M. Winnick**, R. Carroll, K. Williams, R. Maxwell, W. Dong, K. Maher

**4:10 GEOC 171.** Soil weathering as an engine for manganese contamination of well water in the North Carolina Piedmont. **M. Polizzotto**, E. Gillispie, N. Rivera, R. Austin, R. Bolich, O. Duckworth, P. Bradley, A. Amoozegar, D. Hesterberg

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

‡ Cooperative Cosponsorship



**4:30 GEOC 172.** Distribution and speciation of phosphorus in a granite weathering profile in a temperate climate. **Z. Zhang, C. Liu, Z. Zhao, M. Zhu**

## WEDNESDAY MORNING

### Section A

San Francisco Marriott Union Square  
Union Square North

#### Evolving Nanoparticle Reactivity throughout Nucleation, Growth & Dissolution

Cosponsored by COLL, ENVR and NUCL

R. Penn, J. A. Soltis, *Organizers*

M. Conroy, F. N. Smith, *Organizers, Presiding*

**8:30 GEOC 173.** Mineral growth by nanoparticle aggregation: Calcium phosphate minerals. **F. Michel, A. Hoehner, O. Borkiewicz, J. Rakovan**

**9:00 GEOC 174.** Direction-Specific interaction force between nanocrystals. **X. Zhang, Y. He, M. Sushko, J. Liu, L. Luo, J.J. De Yoreo, S. Mao, C. Wang, K. Rosso**

**9:20 GEOC 175.** Sulfidization of ferric hydroxides – insights into a dynamic electron transfer process. **S. Peiffer**

**9:50** Intermission.

**10:10 GEOC 176.** Thermodynamics of nanophase manganese oxides: Sodium, potassium, and calcium birnessite and cryptomelane. **A. Navrotsky, N. Birkner**

**10:50 GEOC 177.** Interfacial reactions during Mn biogeochemical cycling: Impact on Mn oxide structures and reactivities towards trace metals. **M.A. Hinkle, E. Flynn, K.G. Dye, J. Post, C. Santelli, J.G. Catalano**

**11:20 GEOC 178.** Control of solution metal content on the nanostructure and reactivity of mixed Cu-Zn sulfides formed in low-temperature aqueous systems. **J. Xu, E. Klemm, M.F. Hochella**

**11:40 GEOC 179.** Formation, aggregation, and *in situ* dissolution behavior of abiogenically and biogenically produced ZnS nanoparticles. **J.R. Eskelsen, J. Moon, A.M. Jubb, B.O. Wilkins, M. Chiu, B. Gu, E.M. Pierce**

### Section B

San Francisco Marriott Union Square  
Union Square South

#### Microbially-Driven Geochemical Reactions: Kinetics & Communities

W. D. Burgos, C. M. Hansel, B. M. Tebo, *Organizers*

D. Jones, J. Sánchez-España, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 GEOC 180.** Oxidative extracellular electron transfer - rethinking the role of microbes in biogeochemical cycles. **A. Bose**

**8:35 GEOC 181.** Microbial metabolite and metabolic byproducts promoted dissolution and transformation of Cr-containing minerals. **E. Saad, S. Chen, M. Zhu, C. Hansel, Y. Tang**

**9:05 GEOC 182.** Effect of soluble electron shuttles on Iron(III) reduction, methane production, and microbial community dynamics in wetland sediment microcosms. **T. Flynn, M.F. Sladek, Z.D. Jensvold, D.A. Antonopolous, J.C. Koval, C.W. Marshall, K.M. Kemner, E.J. O'Loughlin**

**9:25 GEOC 183.** Evidence for low molecular weight thiols as electron shuttles in dissimilatory iron reduction in natural sediments. **E. Eitel, M. Taillefert**

**9:45** Intermission.

**10:05 GEOC 184.** Fe(II) oxidation by zeta-proteobacteria and friends: Mechanisms and influences on biogeochemical cycles. **C. Chan, S.M. McAllister, B.K. Chiu, E.K. Field, S. Kato, S.W. Polson**

**10:35 GEOC 185.** Microbial iron redox metabolism in circumneutral pH environments. **E.E. Roden**

**11:05 GEOC 186.** Biodegradation of organic additives in the hydraulic fracturing system: These shale wells aint sterile! **P. Mouser**

**11:35 GEOC 187.** Uranium biomineralization by the acid tolerant *Caulobacter crescentus* OR37. **K. Morrison, M. Zavarin, A. Kersting, Y. Jiao**

### Section C

San Francisco Marriott Union Square  
Savoy

#### Mineral-Water Interface Chemistry

Cosponsored by COLL and ENVR

J. Bracco, S. R. Higgins, S. Lee, *Organizers, Presiding*

**8:00 GEOC 188.** Modeling the calcite-water interface: Ion adsorption, ion incorporation and mineral growth. **M. Andersson, S. Dobberschütz, H. Sakuma, K. Sand, K. Diderksen, D. Tobler, M. Nielsen, J.J. De Yoreo, J. Rodriguez-Blanco, K. Bechgaard, S. Stipp**

**8:30 GEOC 189.** Solution-Chemistry control of Mg<sup>2+</sup>-calcite interaction mechanisms: Implication for biomineralization. **J. Xu, J. Wang, H. Teng**

**8:50 GEOC 190.** Solution chemistry of hydroxamic acid adsorption onto barite and calcite. **A. Wanhala, A.G. Stack**

**9:10 GEOC 191.** Role of actinide sorption kinetics in a dolomite/brine system and potential transport from nuclear waste repositories in salt. **T.M. Dittrich, M.P. Dugas, D.T. Reed**

**9:30 GEOC 192.** Experimental quantification of kinetic factors in the nucleation rate equation. **Q. Li, Y. Jun**

**9:50** Intermission.

**10:10 GEOC 193.** Lateral and vertical hydration structure of the barite (001)-water interface: An x-ray reflectivity and molecular dynamics study. **J. Bracco, S. Lee, P. Fenter, J. Stubbs, P.J. Eng, F. Heberling, A.G. Stack**

**10:30 GEOC 194.** Fast solvent exchange on a mineral-water interface coupled to process-based mineral precipitation models. **A.G. Stack, J.M. Borreguero, J. Bracco, S.R. Higgins**

**11:00 GEOC 195.** Investigation of the effect of varying ionic strength of background electrolytes on barite growth: A hydrothermal atomic force microscopy study. **S. Jindra, S.R. Higgins, J. Book**

**11:20 GEOC 196.** In situ nanoscale observations of gypsum dissolution by digital holographic microscopy. **P. Feng, A. Brand, L. Chen, J. Bullard**

### Section D

San Francisco Marriott Union Square  
Sutter 1-3

#### 2017 Geochemistry Division Medal: Symposium in Honor of Dr. Susan Brantley

S. N. Kerisit, A. Stöckhert, *Organizers, Presiding*

**8:30 GEOC 197.** Interaction of lignin with Fe(II) in the environment leads to the production of humic substances in natural waters, sediments, and soils via Fenton chemistry. **P.G. Hatcher, S.C. Myrnes**

**9:00 GEOC 198.** Retention of CO<sub>2</sub> and CH<sub>4</sub> in kerogen and its importance in enhanced gas recovery. **L.J. Criscenti, T.A. Ho, Y. Wang**

**9:20 GEOC 199.** Effect of sea level rise on the production of organohalogenes in coastal wetlands. **D. Schlesinger, C. Joe-Wong, A.T. Chow, S.C. Myrnes**

**9:40 GEOC 200.** Interactions of snow algae, microorganisms, and minerals in snowpack: Implications for Earth's albedo and potential biosignature formation. **E. Hausrath, Z. Harrold, A. Murray, O. Tschauner, A. Garcia, C. Barlett, J. Raymond**

**10:10** Intermission.

**10:30 GEOC 201.** Top-down and bottom-up controls on molybdenum isotope dynamics in the critical zone. **J. Pett-Ridge, E.K. King**

**10:50 GEOC 202.** Earthcasting solute fluxes and soil development in the critical zone. **P. Sullivan, Y. Goddard, J. Schott, Y. Shi, X. Gu, L. Jin, S. Billings, S. Brantley**

**11:10 GEOC 203.** Understanding inorganic carbon dynamics in natural and human-impacted critical zones. **L. Jin, A. Ortiz, N. Ogrinc, J. Kaye, L. Ma, E. Hasenmueller, P. Sullivan, S. Brantley**

#### Aquatic Photochemistry

Sponsored by ENVR, Cosponsored by GEOC

## WEDNESDAY AFTERNOON

### Section A

San Francisco Marriott Union Square  
Union Square North

#### Evolving Nanoparticle Reactivity throughout Nucleation, Growth & Dissolution

Cosponsored by COLL, ENVR and NUCL

M. Conroy, F. N. Smith, *Organizers*

R. Penn, J. A. Soltis, *Organizers, Presiding*

**1:30 GEOC 204.** Synthetic nanoparticle analogues for studying biological response to airborne particulate matter. **A. Pattammattel, H. Zhang, H.J. Forman, V. Leppert, P.A. O'Day**

**1:50 GEOC 205.** Size-dependent mineral nanoparticle surface reactivity in aquifer systems. **K.A. Lewis, E.M. Defferari, A.L. Swindle, A. Elwood Madden**

**2:10 GEOC 206.** Characterizing reactivity of iron oxide nanoparticles. **R. Penn, A.M. Stemig, J.L. Voelz, J.H. Strehlau, C. Johnston, W. Arnold**

**2:30 GEOC 207.** Caesium-rich micro-particles: A window into the meltdown events at the Fukushima Daiichi Nuclear Power Plant. **S. Utsunomiya**

**3:00** Intermission.

**3:20 GEOC 208.** Behavior of nanoscale Al (oxy)hydroxide minerals under highly alkaline conditions as a function of metal substitution, surface coordination and solution chemistry. **C. Pearce, J. Hu, A.R. Felmy, A.E. Clark, X. Zhang, K. Page, H. Wang, A.G. Stack, D. Wesolowski, K. Rosso, S. Clark**

**3:50 GEOC 209.** Theoretical studies of prenucleation clusters. **S.E. Mason**

**4:20 GEOC 210.** Life cycle of Boehmite nano-particles in high level nuclear waste tanks: An electron microscopy study of their growth, aggregation and dissolution. **M. Conroy, J.A. Soltis, S. Chatterjee, F.N. Smith, E. Ilton, E. Buck**

**4:40 GEOC 211.** Theoretical study of gibbsite dissolution at high pH. **Z. Shen, K.M. Rosso, S.N. Kerisit**

### Section B

San Francisco Marriott Union Square  
Union Square South

#### Microbially-Driven Geochemical Reactions: Kinetics & Communities

W. D. Burgos, C. M. Hansel, B. M. Tebo, *Organizers*

D. Jones, J. Sánchez-España, *Organizers, Presiding*

**1:30 GEOC 212.** Intricate coupling of carbon, nitrogen and iron redox cycling underlying the biogeochemical dynamics of N<sub>2</sub>O. **S.D. Wankel, C. Buchwald, J. Karolewski, K.C. Grabb, C. Charoenpong, C. Hansel, W. Ziebis**

**2:00 GEOC 213.** Dually biominerals? Characterizing simultaneously produced fungal biogenic Mn oxides and Se(O). **C. Rosenfeld, M.A. Hinkle, B.R. James, C. Santelli**

**2:30 GEOC 214.** Microbial community profiling of bioreactors for process control and optimization. **M. Haakensen, V. Friesen**

**2:50 GEOC 215.** Long-term low dissolved oxygen concentration enriches and shifts nitrifier communities. **G. Liu, J. Wang**

**3:10** Intermission.

**3:30 GEOC 216.** Activity and phylogenetic diversity of microorganisms in subsurface fluids in the upper ocean crust. **J. Amend, A. Robador, S. Jungbluth, D. LaRowe**

**4:00 GEOC 217.** How heterotrophic microorganisms access sedimentary organic matter: A few known knowns, and plenty of known unknowns. **A.D. Steen**

**4:30 GEOC 218.** Microbial-driven organic carbon degradation in a tundra soil. **Z. Yang, B. Gu**

### Section C

San Francisco Marriott Union Square  
Savoy

#### Structure & Reactivity of Cementitious Materials from Advanced Characterization Techniques

N. Birkner, G. Nagabhushana, R. Shivaramaiah, *Organizers*

A. Fernandez-Martinez, B. Ma, *Presiding*

**1:30** Introductory Remarks.

- 1:35 GEOC 219.** Calcium silicate hydrates. **B. Lothenbach**
- 2:15 GEOC 220.** Hydration dynamics and morphology of cement pastes with engineered nano additives studied via advanced beamline techniques. **K. Kupwade-Patil, S. Chin, A.Y. Bumajdad, A. Jamsheer, O. Buyukozturk**
- 2:35 GEOC 221.** Effect of magnesium on the stability of C-S-H. **E. Bernard, A. Dauzères, I. Pochard, B. Lothenbach**
- 2:55 GEOC 222.** Experimentally Driven Building Block Model for Cementitious Materials. **D.B. Brommer, F. Martin-Martinez, K. Kupwade-Patil, M.J. Buehler, O. Buyukozturk**
- 3:15 GEOC 223.** Impact of alkalis on the atomic structure of calcium aluminosilicate gels: An x-ray pair distribution function investigation. **N. Garg, C. White**
- 3:35 Intermission.**
- 3:55 GEOC 224.** Tricalcium silicate hydration in absence and presence of aluminate ions: A step towards a molecular understanding of how the hydration rate of cement depends on its formulation. **E. Pustovgar, R.K. Mishra, M. Palacios, T. Matschei, R. Verel, H. Heinz, R.J. Flatt, J. d'Espinose de Lacaillerie**
- 4:15 GEOC 225.** Controlling cement hydration through the molecular structure of comb copolymer superplasticizers. **D. Marchon, P. Juilland, E. Gallucci, L. Frunz, R.J. Flatt**
- 4:35 GEOC 226.** Structure and reactivity of Portland cement components and cement blends from solid-state NMR spectroscopy. **J. Skibsted**
- 4:55 GEOC 227.** Characterization of Portland cement clinker by Electron Backscatter Diffraction (EBSD) analysis in the Scanning Electron Microscope (SEM). **C. Roessler, B. Moeser, H. Ludwig**
- 5:15 GEOC 228.** Simulations reveal the role of composition into the atomic-level flexibility of bioactive glass cements. **K. Tian, G. Chass, D. Di Tommaso**

## Section D

San Francisco Marriott Union Square  
Sutter 1-3

### General Geochemistry

A. Ilgen, *Organizer, Presiding*

### 1:30 Introductory Remarks.

- 1:35 GEOC 229.** Investigation of uranium uptake mechanisms by plants from abandoned mine lands in the Southwestern United States. **L. Rodriguez Freire, E. El Hayek, J.M. Blake, C. DeVore, S. Avasarala, A.M. Ali, M. Spilde, K. Artyushkova, A. Brearley, J.M. Cerrato**

## Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at:  
[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

- 1:55 GEOC 230.** Plutonium incorporation into goethite and hematite during crystallization from ferrihydrite Plutonium incorporation into goethite and hematite during crystallization from ferrihydrite. **E. Balboni, M. Zavarin, A. Kersting**
- 2:15 GEOC 231.** Lead, chromium, and arsenic accumulation associated with naturally accumulating iron-manganese oxide coatings on in-situ stream substrates comparing geothermal and non-geothermal waters. **M. Turpin, J.M. Blake, A.M. Ali, L. Crossey**
- 2:35 GEOC 232.** Some fish species in offshore Fukushima, Japan have the ability to accumulate a specific nuclide (radioisotope). **H. Katsura**
- 2:55 GEOC 233.** Metal(loid) release from coal mine spoil during simulated weathering. **S. Morrison, D. Singer, E. Herndon**
- 3:15 Intermission.**
- 3:35 GEOC 234.** Thermodynamic study of transition metal ion-exchanged zeolites A and Y. **L. Wu, A. Navrotsky**
- 3:55 GEOC 235.** Transformation of ZnO Nanoparticles (NPs) into Layered Double Hydroxide (LDH) precipitates on nano- $\gamma$ - $Al_2O_3$ : Implications for the fate of ZnO NPs under Al-enriched environment. **B. Wan, Y. Tang, R. Huang, X. Feng**
- 4:15 GEOC 236.** Oxygen isotope ratios of phosphate as proxy for polyphosphate cycling in bacteria. **G. Unal Tosun, Y. Bai, L.M. Stout, D. Jaisi**
- 4:35 GEOC 237.** NMR Correlation spectroscopy of liquids at geochemical pressures. **M.P. Augustine, G. Ochoa, W.H. Casey**

### Advances in Resource Recovery & Conservation in Water Systems

*Sponsored by ENVR, Cosponsored by AGFD, CEI and GEOC*

### Aquatic Photochemistry

*Sponsored by ENVR, Cosponsored by GEOC*

## WEDNESDAY EVENING

### Section A

Moscone Center  
Hall D

### 2017 Geochemistry Division Medal: Symposium in Honor of Dr. Susan Brantley

S. N. Kerisit, A. Sitchler, *Organizers*

### 6:00 - 8:00

- GEOC 238.** Phosphorus speciation in dust and source soils in the interior American west. **Z. Zhang, H. Goldstein, R. Reynolds, M. Zhu**

### Section A

Moscone Center  
Hall D

### Advances in Treatment Processes for Metals & Metalloids

*Cosponsored by ENVR*

K. Campbell-Hay, C. F. Wildman, *Organizers*

### 6:00 - 8:00

- GEOC 239.** Biogeochemistry of anti-mony(V) in microcosms under sulfidogenic conditions. **C.R. Johnson, D.A. Antonopolous, M. Boyanov, T. Flynn, J.C. Koval, K.M. Kemner, E.J. O'Loughlin**

- GEOC 240.** Passivation of uranium ore material surfaces with uranyl phosphate precipitation. **T. Kane, K.M. Campbell, M. Hay**

- GEOC 241.** Analysis of U(VI) adsorption to biochar using x-ray absorption spectroscopy and isothermal titration calorimetry. **M. Alam, D. Gorman-Lewis, N. Chen, K. Konhauser, D. Alessi**

- GEOC 242.** Release of metal(loid)s from coal fly ash and their transformation in aquatic boreal systems. **K.P. Milke, S.M. Hayes, J.J. Guerard**

- GEOC 243.** Geopolymer-based solutions for heavy metal waste solidification and stabilization. **M. Lacks, L.E. Katz, M. Juenger**

- GEOC 244.** Remediation of heavy metal contaminated soil with coupled soil washing and electro-kinetic field. **X. Mao, F.X. Han, X. Shao, Z. Arslan, K. Guo**

- GEOC 245.** Application of biodegradable chelators and vegetable oils in the removal of heavy metals from soils. **M. Sung, G. Liu, Y. Chen**

### Section A

Moscone Center  
Hall D

### Contaminants Transport, Uptake & Remediation at Contaminated Sites

*Cosponsored by ENVR*

B. H. Jeon, M. B. Kurade, Y. Sik Ok, D. Tsang, *Organizers*

### 6:00 - 8:00

- GEOC 246.** Uncovering the sources of elevated arsenic levels in classic Maya human remains. **C.C. Ivanovich, E.L. Smith, J. Monge, C. Halperin, B.R. Just, S.C. Myrneni**

- GEOC 247.** World oceans under serious threat: Debris polystyrene in ocean water and sand areas surrounding Japan. **K. Koizumi, M. Okada, K. Amamiya, K. Takatama, D.M. Karl, H. Katsura, S. Chung, K. Saido, T. Hiaki**

- GEOC 248.** Slow pyrolyzed biochar for Pb and As immobilization, and microbial community abundance of contaminated soils. **A. Igalavithana, Y. Xiao, A. El-Naggar, Y. Sik Ok**

- GEOC 249.** Efficacy of acetate-amended biostimulation for uranium sequestration: Combined analysis of sediment/groundwater geochemistry and bacterial community structure. **J. Xu, H. Veeramani, N. Qafoku, G. Singh, A. Pruden, M.F. Hochella**

- GEOC 250.** Optimizing magnetite formation for magnetite-based remediation of arsenic groundwater contamination. **A. Yusov, J. Jamieson, J. Sun, H. Prommer, B.C. Bostick**

- GEOC 251.** Hydrous zirconium oxide impregnated alginate beads for simultaneous sorption of hexavalent chromium and copper from aqueous solutions. **R. Kumar, K. Kim, J. Jang, B. Jeon**

- GEOC 252.** Simulated physical weathering effects on bioaccessibility and speciation of arsenic in mine tailings. **S. Hok, B. Lamb, N. Burtis, J. Cooper, C. Kim**

- GEOC 253.** Correlating arsenic bioaccessibility & bioavailability through *in vivo rat exposures*. **T. Oliaro, B. Lamb, D. Hok, F. Silva, M. Gothong, C. Kim**

- GEOC 254.** Biodegradation of fluoroquinolone antibiotic from aqueous media by an acclimated green microalgae *Chlorella vulgaris*. **J. Xiong, S. Saha, H. Kim, B. Jeon**

### Section A

Moscone Center  
Hall D

### Environmental Challenges & Solutions in Unconventional Oil & Gas Development

*Cosponsored by ENVR*

D. Alessi, J. Blotvogel, T. Borch, S. Flynn, *Organizers*

### 6:00 - 8:00

- GEOC 255.** Evaluating changes in groundwater and stream-water chemistry during natural-gas development of Pennsylvania's Marcellus shale. **J. Sohng, E. Barth-Naftilan, J. Sifers**

### Section A

Moscone Center  
Hall D

### Formation, Structure & Reactivity of Biogenic Minerals

O. Duckworth, J. Pena, M. Polizzotto, C. Santelli, *Organizers*

### 6:00 - 8:00

- GEOC 256.** Probing the sorption of metalloids onto synthetic and myco-genic manganese oxides. **C.E. Heath, B. Uster, O.W. Duckworth**

### Section A

Moscone Center  
Hall D

### General Geochemistry

A. Ilgen, *Organizer*

### 6:00 - 8:00

- GEOC 257.** Impact of calcium on the retention and stability of OM in Fe-(Ca)-OM adsorption complexes. **T. Sowers, J. Stuckey, D. Adhikari, Y. Yang, D.L. Sparks**

### GEOC 258. Withdrawn.

- GEOC 259.** Using NaCl as a model system to study stable mineral recrystallization. **P. Joshi, C. Gorski**

- GEOC 260.** Physiological extractions of metal(loid)s from coal fly ash in interior Alaska. **J. Sterle, S.M. Hayes, J.J. Guerard**

- GEOC 261.** Geochemical and hydro-logic controls on mercury methylation within an upper-Midwestern terrace fen. **S. Lopez, A. Graham**

- GEOC 262.** Molecular investigation of soil organic carbon composition, spatial variability, and depth distribution across a subalpine catchment. **H. Hsu, C. Lawrence, M. Winnick, J. Druhan, K. Williams, K. Maher**

- GEOC 263.** Study of heavy metals mobility in acid drainage and its geological interaction in Taxco, Mexico. **T. Rico, A. Ceniceros, M.E. Gutierrez Ruiz, L. Martínez-Jardines, F. Romero**

### GEOC 264. Withdrawn.

- GEOC 265.** Spatiotemporal variability in MeHg production in a Restored Oak Savanna Floodplain. **S. Van Helten, A. Graham**

- GEOC 266.** Kinetic studies on the spontaneous realumination of hydrothermally treated zeolite Y. **V.A. Mendiola, S. Crawford**

**GEOC 267.** Lessons learned from the natural analogue studies relevant to the Korean geological environments of granites and KAERI's disposal research. T. Park, M. Baik

**GEOC 268.**  $^{17}\text{O}$  NMR of the flat aluminum and gallium polyoxocations: Models for minerals. C. Colla, C. Fields, A. Oliveri, B. Phillips, W.H. Casey

**GEOC 269.** Biogeochemical trace element profiles of urban fruit trees: A resource to increase food security. H. Oettgen, C. Gallagher, D. Brabander

**GEOC 270.** Kinetic studies of long range metal cation migration through porous zeolitic materials using DRIFT spectroscopy. E.A. Gorrie, S. Nunes, S. Crawford

**GEOC 271.** SFG spectroscopy of Silica/water interfaces by DFT-MD simulations. S. Pezzotti

## Section A

Moscone Center  
Hall D

### Microbially-Driven Geochemical Reactions: Kinetics & Communities

W. D. Burgos, C. M. Hansel, D. Jones, J. Sánchez-España, B. M. Tebo, *Organizers*

6:00 - 8:00

**272.** Microbial communities associated with methylmercury production in two sulfate-impacted northern Minnesota lakes. D. Jones, G. Walker, N.W. Johnson, C. Mitchell, J. Coleman Wasik, J.V. Bailey

## Section A

Moscone Center  
Hall D

### Mineral Nucleation: Transient Intermediates & Phase Transitions

B. Legg, S. L. Riechers, *Organizers*

6:00 - 8:00

**GEOC 273.** Real-Time and in situ imaging of Akaganéite nanoparticle growth in aqueous solution using liquid cell transmission electron microscopy. F. Wang, M. Zhu

## Section A

Moscone Center  
Hall D

### Mineral-Water Interface Chemistry A Tribute to Glenn Waychunas

*Cosponsored by COLL and ENVR*

B. Gilbert, C. S. Kim, P. A. O'Day, *Organizers*

6:00 - 8:00

**GEOC 274.** Adsorption and oxidation of fulvic acid by birnessite under various pH conditions. Q. Wang, P. Yang, M. Zhu

**GEOC 275.** Investigations of organic ligands with iron oxide mineral/water interfaces using second harmonic and sum frequency generation spectroscopic techniques. A.L. Mifflin, K. Michaud, A. O'Neal, D. Antonio

**GEOC 276.** Mobility and toxicity of polyoxometalates of W and As, P, and Si. L. Davidson, E. Haque, A. Nghiem, B.C. Bostick

**GEOC 277.** Reactions of birnessite with Mn(II) under anoxic conditions. P. Yang, Q. Wang, M. Zhu

## Section A

Moscone Center  
Hall D

### Mineral-Water Interface Chemistry

*Cosponsored by COLL and ENVR*

J. Bracco, S. R. Higgins, S. Lee, *Organizers*

6:00 - 8:00

**GEOC 278.** Description of the corundum ( $\alpha\text{-Al}_2\text{O}_3$ ) - water interface from DFT-MD simulations. M.K. Ridley, D. Tunega

**GEOC 279.** Adsorption of oxalic acid on rutile surfaces. D. Biriukov, M. Predota, O. Krutil, M.K. Ridley, M.L. Machesky

**GEOC 280.** Impact of organic molecules on the colloidal stability of silica nanoparticles - simulations and experiments. D. Biriukov, M. Predota, O. Krutil, J.K. Rosenqvist, C.M. Jonsson

**GEOC 281.** Fate of trace metals during aluminum oxyhydroxide phase transitions: Implications for reactivity. F.N. Smith, D.G. Burt, S. Chatterjee, M. Conroy, J.A. Soltis, E. Ilton, E. Buck

**GEOC 282.** Mapping shale surface charge heterogeneity and surfactant adsorption via atomic force microscopy. S. Das, B. Ellis

**GEOC 283.** Calcite dissolution rate spectra measured by digital holographic microscopy. A. Brand, P. Feng, J.W. Bullard

**GEOC 284.** Development of a down-hole tool for measuring enthalpy in geothermal reservoirs. W.C. Corbin, G. Cieslewski, R.F. Hess, B. Klamn, L. Goldfarb, T.J. Boyle, W.G. Yelton

## Section A

Moscone Center  
Hall D

### Redox-Driven Environmental Geochemical Reactions for Metals, Major Elements & Organic Pollutants

E. E. Roden, Y. Yang, *Organizers*

6:00 - 8:00

**GEOC 285.** Ferrihydrite - Carbon dynamics in the presence of Fe(II). Z. Zhou, D. Latta, T. Borch, N. Noor, A. Thompson, R. Young, M. Scherer

**GEOC 286.** Reductive pathway to Mo deposition in anoxic sediments: Aqueous  $\text{Mo}^{\text{VI}}$  to insoluble  $\text{Mo}^{\text{IV}}$  via variable-composition Fe-Mo<sup>VI</sup>-S precipitates. P. Vue, A. Vezina, A. Chappaz, T.P. Vorlicek

**GEOC 287.** Redox properties of layer-type manganese oxide minerals. S. Benkaddour, F. Marafatto, Y. Wang, M. Sander, J. Pena

**GEOC 288.** Formation and reactivity of ferrihydrite-soil organic carbon-calcium ternary complexes. D. Adhikari, T. Sowers, J. Stuckey, D.L. Sparks, Y. Yang

**GEOC 289.** Electron doping goethite with Fe(II): Influence on goethite properties and reactivity. L.N. Andrade, D. Latta, A. Neumann, K. Rosso, M. Scherer

**GEOC 290.** Arsenic oxidation by the mighty manganese soils of graskop. M. Fischel, C. Dowling, D.L. Sparks

**GEOC 291.** Interactions of vanadium(V) with Fe(II)-bearing minerals. E.J. O'Loughlin, M. Boyanov, K.M. Kemner

## Section A

Moscone Center  
Hall D

### Structure & Reactivity of Cementitious Materials from Advanced Characterization Techniques

N. Birkner, G. Nagabhushana, R. Shivaramaiah, *Organizers*

6:00 - 8:00

**292.** Quantifying readily soluble calcium in class C fly ash by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). L.N. Perry, P. Feng, P.E. Stutzman, J. Bullard

### Aquatic Photochemistry

*Sponsored by ENVR, Cosponsored by GEOC*

## THURSDAY MORNING

### Section A

San Francisco Marriott Union Square  
Union Square North

### Environmental Challenges & Solutions in Unconventional Oil & Gas Development

*Cosponsored by ENVR*

D. Alessi, J. Blotvogel, T. Borch, S. Flynn, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 **GEOC 293.** Withdrawn.

**8:35 GEOC 294.** Factors controlling the temporal change in chemical composition of Marcellus Shale produced water: Insights from laboratory experiments to field sites. T. Phan, A. Hakala

**8:50 GEOC 295.** Arsenic mobilization in carbonate-rich shales during hydraulic fracturing. W. Fan, K.F. Hayes, B. Ellis

**9:10 GEOC 296.** Geochemical modeling of arsenic incorporation during barite precipitation. F.T. Ling, H.A. Hunter, J.P. Fitts, A. Lanzirotti, A.S. Acerbo, C.A. Peters

**9:25 GEOC 297.** Effects of a phosphate-based scale inhibitor on brine-biotite interactions: Implications for  $\text{CO}_2$ -enhanced hydrocarbon recovery. L. Zhang, Y. Jun

9:40 Intermission.

**10:00 GEOC 298.** Chemical transformations in high volume hydraulic fracturing fluids. D.L. Plata, P. Mouser, M. Elsner, B. Drollette, A.J. Sumner

**10:20 GEOC 299.** Characterization of a hydraulically fractured well over a one year period: From fracturing fluid to produced water quality. K. Linden, J. Rosenblum, E. Thurman, I. Ferrer, G. Aiken

**10:40 GEOC 300.** Isolation, analysis, and fingerprinting of organic compounds from hydraulic fracturing fluids using solid phase extraction and liquid chromatography mass spectrometry. K. Sitterley, K. Linden, I. Ferrer, E. Thurman

**10:55 GEOC 301.** Ion mobility mass spectrometry of hydraulic-fracturing fluids. E.M. Thurman, I. Ferrer, J. Zweigenbaum, A. Boice, J. Fjeldsted

**11:10 GEOC 302.** Characterization of secondary precipitates in flowback water from hydraulic fracturing and their contribution to zebrafish embryo toxicity. S. Flynn, K. von Gunten, Y. He, E. Folkerts, T. Blewett, Y. Zhang, D. Ruan, J.W. Martin, G. Goss, D. Alessi

**11:25 GEOC 303.** Assessment of water quality and toxicity downstream of NPDES oil and gas produced water discharges. M. McLaughlin, J. Blotvogel, J. Argueso, T. Borch

**11:40 GEOC 304.** Biological toxicity associated with lake sediments impacted by oil & gas wastewater disposal. W.D. Burgos, L. Castillo-Meza, J. Vandenberg, N. Warner, M. McLaughlin, T. Borch

### Section B

San Francisco Marriott Union Square  
Union Square South

### Contaminants Transport, Uptake & Remediation at Contaminated Sites

*Cosponsored by ENVR*

M. B. Kurade, D. Tsang, *Organizers*

B. H. Jeon, Y. Sik Ok, *Organizers, Presiding*

8:00 Introductory Remarks.

**8:05 GEOC 305.** Removal mechanism for technetium ( $^{99}\text{Tc}$ ) using  $\text{Fe}(\text{OH})_2(\text{s})$  at the Hanford Site, WA, USA. W. Um

**8:35 GEOC 306.** Recovery of useful resources in shale gas produced water during water treatment. E. Chung

**9:05 GEOC 307.** Subsurface oil body delineation at a spill site using near-surface temperature gradients. E. Warren, B.A. Bekins

9:25 **GEOC 308.** Withdrawn.

9:45 Intermission.

**10:00 GEOC 309.** Contaminated site remediation by biochars derived from various types of sewage sludge. D. Tsang, J. Yoo

**10:25 GEOC 310.** Impacts of burning intensity on metal reactivity in wood ash. A. Rahman, E. El Hayek, R.J. Bixby, J.M. Blake, A.M. Ali, A.L. Clark, K. Artyushkova, E. Peterson, J.M. Cerrato

**10:45 GEOC 311.** Mechanisms of the reductive immobilization of hexavalent chromium by wheat straw biochar. M. Cossio, M. Alam, K. von Gunten, J. Kenney, A. Gorzsás, N. Chen, K. Konhauser, D. Alessi

**11:05 GEOC 312.** Uranium uptake and redistribution in the transformation of ferrihydrite to goethite. J.A. Soltis, E.S. Ilton, O. Qafoku, S. Spurgeon, E. Buck, J.J. De Yoreo

**11:25 GEOC 313.** Pentachlorophenol (PCP) removal and dechlorination patterns during oxygen-rich thermal treatment. J. Davis, L.E. Katz, H. Liljestrand

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**11:45 GEOC 314.** Simulation of heavy metal migration in MSWI bottom ash landfill site. H. Zhang

### Section C

San Francisco Marriott Union Square Savoy

#### Structure & Reactivity of Cementitious Materials from Advanced Characterization Techniques

N. Birkner, G. Nagabhushana, R. Shivaramaiah, *Organizers*

N. Garg, C. White, *Presiding*

**8:00** Introductory Remarks.

**8:05 GEOC 315.** CaSO<sub>4</sub> crystallization: From nano-bassanite to mega-gypsum. A.E. Van Driessche

**8:25 GEOC 316.** Quantifying the dissolution rates of cementitious minerals with *in situ* digital holographic microscopy: Tricalcium aluminate and tetracalcium aluminoferrite. A. Brand, P. Feng, J.W. Bullard

**8:45 GEOC 317.** Evidence of multiple sorption modes in AFm phases using Mo as structural probe. B. Ma, A. Fernandez-Martinez, S. Grangeon, L.L. Charlet

**9:05 GEOC 318.** Performance of alkali-activated Turkish Fly Ashes at high temperatures. C. Meral

**9:25 GEOC 319.** Swelling of Alkali-Silica Reaction (ASR) gels and the resulting damage in concrete. F. Rajabipour, A. Gholizadeh

**9:45** Intermission.

**10:05 GEOC 320.** Accurate determination of hydroxide concentration in activating solutions: New insights into metakaolin reactivity towards geopolymerization. J. Aupoil, J. Champenois, J. D'Espinose de Lacaillerie, A. Poulesquen

**10:25 GEOC 321.** Effect of temperature and calcium to silicon ratio on structure of calcium (aluminosilicate) hydrate at atomic scale and nano scale. J. Li, G. Geng, R. Myers, S. Ortoboy, C. Carraro, R. Maboudian, P. Monteiro

**10:45 GEOC 322.** Relating the viscoelastic properties of calcium-(aluminosilicate)-hydrate with molecular structure. P. Mondal

**11:05 GEOC 323.** Intermolecular interactions between nanolayers of calcium-silicate-hydrates using free energy perturbation method. S. Masoumi, A. Morshedifar, M. Abdolhosseini Qomi

**11:25 GEOC 324.** Viscoelastic properties of gamma-irradiated calcium silicate hydrates. E. Tajuelo Rodriguez, W. Hunnicutt, P. Mondal, Y. Le Pape

**11:45 GEOC 325.** Fundamental mechanisms of heat transport in calcium silicate hydrates. M. Abdolhosseini Qomi

### Section D

San Francisco Marriott Union Square Sutter 1-3

#### Mineral Nucleation: Transient Intermediates & Phase Transitions

S. L. Riechers, *Organizer*

B. Legg, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 GEOC 326.** Is classical nucleation theory valid for ice nucleation? L. Lupi, V. Molinero

**8:35 GEOC 327.** Withdrawn.

**9:05 GEOC 328.** Nucleation in the condensed phase: The role of local solvation in informing an accurate solution model for CaCO<sub>3</sub> solutions. C.J. Mundy, E. Fetisov, M.D. Baer, G.K. Schenter, J. Siepmann, S. Kathmann

**9:25 GEOC 329.** Dynamical nucleation in the condensed phase. G.K. Schenter, E. Fetisov, M.D. Baer, S. Kathmann, J. Siepmann, C.J. Mundy

**9:45** Intermission.

**10:05 GEOC 330.** Heterogeneous nucleation of CaCO<sub>3</sub>: Thermodynamics and kinetics. Y. Jun, Q. Li

**10:35 GEOC 331.** Nucleation and epitaxy-mediated phase transformation of a precursor cadmium carbonate phase at the calcite/water interface. S.L. Riechers, K. Rosso, S.N. Kerisit

**10:55 GEOC 332.** Pseudomorphic growth of cerussite during replacement of calcite micro-crystals. K. Yuan, S. Lee, V. De Andrade, N.C. Sturchio, P. Fenter

**11:15 GEOC 333.** Relaxation dynamics toward crystallization in amorphous carbonate precursors and the role of water. A. Koishi, A. Fernandez-Martinez, B. Ruta, F. Zontone, M. Jimenez-Ruiz

**11:35 GEOC 334.** Insight into CaCO<sub>3</sub> nucleation from the liquid-liquid phase diagram predicted by COSMO-RS. M. Andersson, S. Stipp, K. Dideriksen

#### Advances in Resource Recovery & Conservation in Water Systems

*Sponsored by ENVR, Cosponsored by AGFD, CEI and GEOC*

#### Aquatic Photochemistry

*Sponsored by ENVR, Cosponsored by GEOC*

## THURSDAY AFTERNOON

### Section A

San Francisco Marriott Union Square Union Square North

#### Environmental Challenges & Solutions in Unconventional Oil & Gas Development

*Cosponsored by ENVR*

D. Alessi, J. Blotvogel, T. Borch, S. Flynn, *Organizers, Presiding*

**1:30 GEOC 335.** Hydraulic fracturing, underground injection control, and drinking water interactions. R.B. Jackson, M. Kang, D. DiGiulio

**2:00 GEOC 336.** Effect of methane leakage on metal mobilization near a shale gas well. J. Woda, A. Wendt, S. Hynek, S. Brantley

**2:30 GEOC 337.** Sorption behavior of select aryl phosphates onto surficial soils from the Fox Creek area, AB, Canada. S.P. Funk, X. Wang, D. Alessi

**2:45 GEOC 338.** High resolution LC-MS analysis of microbial lipid biomarkers as evidence of deep shale microbial life. A. Hanson, J. Lipp, K. Hinrichs, P. Mouser

**3:00 GEOC 339.** Microbiological evaluation of hydraulic fracturing produced water from 17 Bakken Wells across a 6 month time frame. D. Lipus, D. Gulliver, K. Bibby, D. Ross, E. Khan, D. Roy, A. Vikram, R. Hammack

**3:15 GEOC 340.** Microbial community dynamics in the hydraulic fracturing water cycle of a newly fractured shale gas well in western Canada. C. Zhong, J. Li, S. Flynn, C. Nesbo, B. Lanoll, G. Goss, D. Alessi

**3:30** Intermission.

**3:50 GEOC 341.** Biodegradation of organic additives and hydrocarbons from flowback water of the Denver-Julesburg Basin: A laboratory study of shallow groundwater conditions. J.D. Rogers, J. Rosenblum, E.M. Thurman, I. Ferrer, A.R. Bielefeldt, J.N. Ryan

**4:10 GEOC 342.** Biodegradation challenges of dissolved organic carbon in hydraulic fracturing flowback and the identification of its recalcitrant fractions. J. Rosenblum, K. Linden, K. Sitterley, B. Ruyle, N. Hull

**4:25 GEOC 343.** *In situ* biodegradation of ethoxylated surfactants by halotolerant bacteria in a hydraulically fractured shale well. M. Volker, G.J. Getzinger, T. Metz, D.L. Plata, M. Borton, M. Wilkins, S. Welch, D. Cole, K. Wrighton, P. Mouser

**4:40 GEOC 344.** Emissions of air toxics, ozone precursors, and methane from production sites and new well drilling and completion activities in the Piceance and Denver-Julesburg basins of Colorado. J.L. Collett, A. Hecobian, A. Clements, Y. Zhou, K. Shonkwiler, L. MacDonald, N. Hilliard, Y. Desyaterik, B. Wells, D. Weber, J. Pierce, J. Ham

**5:00 GEOC 345.** Characteristics, sources, and formation of atmospheric aerosol in the Bakken oil and gas extraction region. A. Evansoski-Cole, K.A. Gebhart, B.C. Sive, Y. Zhou, S. Capps, D. Day, A. Prenni, M. Schurman, A. Sullivan, Y. Li, J. Hand, B. Schichtel, J.L. Collett

**5:15 GEOC 346.** Capturing methane from the atmosphere. H. Gokturk

### Section B

San Francisco Marriott Union Square Union Square South

#### Contaminants Transport, Uptake & Remediation at Contaminated Sites

*Cosponsored by ENVR*

B. H. Jeon, Y. Sik Ok, *Organizers*

M. B. Kurade, D. Tsang, *Organizers, Presiding*

**1:30 GEOC 347.** Mobility and phytoavailability of As and Pb in a contaminated soil using pine sawdust biochar under dynamic redox conditions. J. Rinklebe, J. Beiyuan, Y. Awad, F. Felix Beckers, D. Tsang, Y. Sik Ok

**2:00 GEOC 348.** Impact of biochar amendment on trace metals speciation in agricultural soils. D. Alessi, M. Alam, M. Cossio, B. Bishop, W. Hao, L. Swaren, K. Snihur, T. Warchola, K. von Gunten, S. Flynn, Y. Sik Ok, K. Konhauser

**2:30 GEOC 349.** Characterization of colloids in abandoned mine drainage. M.M. McGuire, S.L. Bradley, R.A. Bergin, R.M. Wendell, E.K. Herman

**2:50 GEOC 350.** Urinary metabolites of polycyclic aromatic hydrocarbons in pregnant women and its association with a biomarker of oxidative stress. Y. Guo, P. Wu, L. Shi, E. Zeng

**3:10** Intermission.

**3:25 GEOC 351.** Utilization of microalgae for the removal of Emerging Contaminants (ECs) from aqueous phase: A bioremediation approach. M.B. Kurade, M.M. El-Dalatony, S. Chang, B. Jeon

**3:50 GEOC 352.** Distribution of antimony in roadside soils. C. Foeldi

**4:10 GEOC 353.** Can nitrocellulose possibly control the release of energetic materials from fired munition residues? D.T. Kuo, M. Simini, H.E. Allen

**4:30 GEOC 354.** Reactive transport of U from co-occurring U(IV) and U(VI) phases in abandoned U mine waste sites. S. Avasarala, C. Hirani, A.M. Ali, P. Lichtner, A. Brearley, M. Spilde, E. Peterson, K. Artyushkova, J.M. Cerrato

**4:50 GEOC 355.** Engemetic behaviour of hexavalent chromium in a superfund site. J. Fischel

### Section C

San Francisco Marriott Union Square Savoy

#### Mineral Nucleation: Transient Intermediates & Phase Transitions

B. Legg, *Organizer*

S. L. Riechers, *Organizer, Presiding*

**1:30 GEOC 356.** Accelerated nucleation and polymorph selection with trace additives: Theory and simulation. G. Poon, T. Lemke, C. Peter, V. Molinero, B. Peters

**2:00 GEOC 357.** Impact of anionic and cationic impurities on the nucleation and growth of nano-Goethite. S.C. Myneni, N.M. Crompton, M. Frith, J. Majzlan, S.L. Bernasek

**2:30 GEOC 358.** Quantitative analyses of the mechanisms of iron (oxyhydr) oxide nucleation. J. Scheck, D. Gebauer

**3:00 GEOC 359.** Kinetic study of apoferritin-catalyzed biomineralization of  $\alpha$ -MnOOH nanoparticles. Y. Hui, H. Jung, Y. Jun

**3:30** Intermission.

**3:50 GEOC 360.** Withdrawn.

**4:10 GEOC 361.** First principles simulation of solid-state transformation of ferrihydrite to goethite. M. Sassi, A.M. Chaka, K.M. Rosso

**4:30 GEOC 362.** Chemical physics of condensed phase clusters. S. Kathmann

**4:50 GEOC 363.** Nucleation, growth, and transformation of calcium phosphate minerals in multi-scale nucleation sites of collagen fibrils. D. Kim, B. Lee, S. Thomopoulos, Y. Jun

**5:10 GEOC 364.** Withdrawn.

#### Advances in Resource Recovery & Conservation in Water Systems

*Sponsored by ENVR, Cosponsored by AGFD, CEI and GEOC*

#### Aquatic Photochemistry

*Sponsored by ENVR, Cosponsored by GEOC*

## HIST

## Division of the History of Chemistry

S. Rasmussen, Program Chair

## BUSINESS MEETINGS:

HIST Executive Committee Meeting, 5:00 PM: Sun

## SUNDAY MORNING

## Section A

Grand Hyatt San Francisco  
Warfield

## General Papers

S. C. Rasmussen, Organizer

J. S. Jeffers, Presiding

8:30 HIST 1. Concentration of power: Alchemy, mercantilism and the *Vitrum Causticum* of Ehrenfried Walter von Tschirnhaus. N. Zumbulyadis, A.F. Zumbulyadis

9:00 HIST 2. Pioneer of pyridine chemistry: Aleksei Yevgen'evich Chichibabin (1871-1945). D.E. Lewis

9:30 Intermission.

9:45 HIST 3. Overview of the discovery of ruthenium. P. Villarreal, C. Hahn

10:15 HIST 4. Richard Willstätter in Munich. M.O. Senge

10:45 HIST 5. History of cuprene: Polymerization of acetylene via electric discharge. S.C. Rasmussen

## SUNDAY AFTERNOON

## Section A

Grand Hyatt San Francisco  
Warfield

## Golden Age of Industrial Chemistry

Cosponsored by SCC and YCC

J. E. Simpson, Organizer

M. Grandbois, Organizer, Presiding

1:30 Introductory Remarks.

1:45 HIST 6. Vladimir Nikolaevich Ipatieff: A sesquicentennial of contributions to the chemistry of high-pressure catalysis. C.P. Nicholas

2:15 HIST 7. J.B.F. Herreshoff and the expansion of the chemicals industry in early 20<sup>th</sup> century New York. P. Spellane

2:45 HIST 8. Golden age of chemistry: The miracle of instant! Polaroid and the amazing chemistry and innovations of instant photography. J.C. Giordan

3:15 Intermission.

3:30 HIST 9. Evolution of innovation. S.B. Butts

4:00 HIST 10. R&D at Union Carbide Tarrytown Technical Center 1959 - 1990. K.M. Lewis

4:30 Concluding Remarks &amp; Networking.

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF

## Textbooks &amp; the Practice of Science: Before, During &amp; After Gutenberg

Sponsored by CINP, Cosponsored by CHED and HIST<sup>2</sup>

## MONDAY MORNING

## Section A

Grand Hyatt San Francisco  
Warfield

## Chemistry through the Eyes of Non-Chemists: Evolution of the Public Perception of Chemistry

D. Rabinovich, N. V. Tsarevsky, Organizers, Presiding

8:25 Introductory Remarks.

8:30 HIST 11. Public embracement of chemistry: An historical perspective. H.A. Lawlor

9:00 HIST 12. Chemistry's public image: A historical look through the pages of C&EN. M. Torrice

9:30 HIST 13. Eighteenth century textbook of chemistry for women: Compagnoni's *La Chimica per le Donne*. G.S. Girolami, V.V. Mainz

10:00 Intermission.

10:20 HIST 14. Once upon a Christmas cheery in the lab of Shakhshiri: Public engagement for 47 years and counting. B.Z. Shakhshiri

10:50 HIST 15. Image of chemistry in newspaper and magazine ads. N.V. Tsarevsky

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Textbooks &amp; the Practice of Science: Before, During &amp; After Gutenberg

Sponsored by CINP, Cosponsored by CHED and HIST<sup>2</sup>

## MONDAY AFTERNOON

## Section A

Grand Hyatt San Francisco  
Warfield

## Chemistry through the Eyes of Non-Chemists: Evolution of the Public Perception of Chemistry

D. Rabinovich, N. V. Tsarevsky, Organizers, Presiding

1:30 HIST 16. Rashomon effect: Chemistry through the eyes of other chemists. J. Seeman

2:00 HIST 17. Viewing chemistry through artists' eyes. P. Goin, A. De Bettencourt Dias

2:30 HIST 18. Guilt by association: Dietary recommendations and missed opportunities. E. Schoffers

3:00 Intermission.

3:20 HIST 19. Changing images of chemistry in the public. B. Bensaude Vincent

3:50 HIST 20. Then and now: Art and the visual image of chemistry. T.I. Spector

4:20 HIST 21. Unlikely popularizer of resonance theory in France. P. Laszlo

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Textbooks &amp; the Practice of Science: Before, During &amp; After Gutenberg

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## MONDAY EVENING

## Section A

Moscone Center  
Hall D

## Sci-Mix

S. C. Rasmussen, Organizer

8:00 - 10:00

26, 28, 32-34. See subsequent listings.

## TUESDAY MORNING

## Section A

Grand Hyatt San Francisco  
Warfield

## Chemistry through the Eyes of Non-Chemists: Evolution of the Public Perception of Chemistry

D. Rabinovich, N. V. Tsarevsky, Organizers, Presiding

8:30 HIST 22. My experience as science advisor for Breaking Bad. D.J. Nelson

9:00 HIST 23. Stealing the limelight: Interactions between theatre and chemistry. K. Shepherd-Barr

9:30 HIST 24. From the elements to the atomic fire: An operatic perception of chemistry. J. Andre

10:00 Intermission.

10:20 HIST 25. Science communication: The evolving role of postage stamps. D. Rabinovich

10:50 HIST 26. Periodic table of comic books. J.P. Selegue, F.J. Holler

11:20 HIST 27. Public perceptions of chemistry and the Chemical Heritage Foundation. R.S. Brashear

11:50 Concluding Remarks.

## TUESDAY AFTERNOON

## Section A

Grand Hyatt San Francisco  
Warfield

## Chemistry &amp; the Design of Physical Objects: Innovation from 1950 to the Present

S. Vasko, Organizer, Presiding

1:00 HIST 28. 100 Years of aluminum pioneers: From chemists to architects (1808-1908). M. Stacey

1:30 HIST 29. Chemical architecture: Experiments in urethane foam environments of the 1960s. G. Converse

2:00 HIST 30. Withdrawn.

2:30 Intermission.

2:45 HIST 31. Second skin: The science and cultural impact of stretch. C. Schneider

3:15 HIST 32. Ease: Using seam bonding technology to create durable shirts for a girl with autism. C. Glover, E. Riley, U. Desai, G. Jun

3:45 HIST 33. Trading innovation across chemistry and design: A content analysis of synthetic fiber advertisements. S. Vasko

4:15 Panel Discussion.

## WEDNESDAY MORNING

## Section A

Grand Hyatt San Francisco  
Warfield

## General Papers

S. C. Rasmussen, Organizer

N. Balasubramanian, Presiding

8:30 HIST 34. Was Markovnikov's Rule an inspired guess? ...No! D.E. Lewis

9:00 HIST 35. Paul Dirac: A man at the intersection of science and philosophy. T.J. Fuhrer

9:30 HIST 36. Periodic footprints in history, literature and cinema. L.R. Ohrstrom

10:00 Intermission.

10:15 HIST 37. Drug repurposing: A bibliometric analysis by text-mining PubMed. N. Baker, S. Ekins, A.J. Williams, A. Tropsha

10:45 HIST 38. History of water chemistry monitoring and education on the Yukon River Watershed. L. DeWilde

## I&amp;EC

## Division of Industrial and Engineering Chemistry

E. Rosenberg, Program Chair

## SUNDAY MORNING

## Section A

Grand Hyatt San Francisco  
Fillmore A

## I&amp;EC International Fellow Symposium: Honoring Professor Kew-Ho Lee

J. Dong, Organizer

J. Y. Lin, Presiding

8:00 I&EC 1. 30 Years of membrane research in KRICT. K. Lee

8:25 I&EC 2. Bicontinuous biphasic liquid media for catalysis and separations. D. Lee

8:45 Intermission.

9:00 I&EC 3. High pressure high temperature water gas shift reaction in a zeolite membrane reactor. A. Arvanitis, X. Sun, P. Smirniotis, J. Dong

9:20 I&EC 4. Graphene-based membranes for gas and liquid separation. H. Park

**9:40 I&EC 5.** Thin film nanocomposite membranes for forward osmosis and pressure retarded osmosis. H. Choi

**10:00 I&EC 6.** Gas separation properties of metal-organic framework membranes: A comparison with zeolite membranes. J.Y. Lin

### Nanocellulose Processing & Analysis

#### Novel Processes

Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC

## SUNDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Fillmore B

#### Ionic Liquids in Separations & Analysis

C. Hawkins, *Organizer*

M. L. Dietz, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 I&EC 7.** Thiol-yne click chemistry-mediated synthesis of cationic lipids for gene transfection purposes. J. Gaitor, L. Paull, S. Michael, S. Isern, A. Mirjafari

**1:25 I&EC 8.** Ionic liquids for separations of trivalent lanthanides and minor actinides: Combining performance and radiation stability. I.A. Shkrob

**1:45 I&EC 9.** Task-Specific Ionic Liquids (TSILs) for metal ion separations: A status report. M.L. Dietz, C. Hawkins

**2:05 I&EC 10.** Efficient enrichment of 1,3-propanediol from fermentation broths using imidazolium dibutylphosphate ionic liquid based methacrylate polymer membranes. H. Hawkins, L. Boyd, A. Masoumi, C. Slater, M.J. Savelski, B. Kanjilal, I. Noshadi

**2:25 I&EC 11.** Ionic liquids as washing media for biogas upgrading by near isothermal chemical absorption. M. Ahrens, T.J. Schubert, P. von Czarnecki, F. Orloff, M. Roschitz, F. Graf

**2:45 I&EC 12.** Cation effects on the post-separation mesoscale structure of an HDEHP-derived ionic liquid for removal of lanthanides from spent nuclear fuel. C.W. Abney, C. Do, H. Luo, S. Dai

**3:05** Intermission.

**3:15 I&EC 13.** Methimazole-based amphiphilic ionic liquid crystals. S.T. Nestor, B. Heinrich, L. Douce, A. Mirjafari

**3:35 I&EC 14.** Phosphonium ionic liquids in biorefinery applications. B. Schuur, X. Li, E. Reyhanitash

**3:55 I&EC 15.** Extraction chromatographic separation of metal ions using solid-supported ionic liquids: Progress and prospects. C.A. Hawkins, M.L. Dietz

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

**4:15 I&EC 16.** Ionic liquid solvents for recovery and analysis of commodity chemicals. R.E. Del Sesto, A.T. Koppisch, D. Warner, J. Melessa, D. Thomas, D. Stapleton, C. Migliori, G. Ijeh, C. Nwokolo, R. Wolsleger, A. Everett

**4:35 I&EC 17.** Tailoring ionic liquids for f-element separation. J. Dehaut, N.J. Williams, H. Luo, S. Dai

**4:55 I&EC 18.** Correlation between ionic liquid ionicity and Pt liquid-liquid extraction performances. I. Billard, N. Papaiconomou, P. Husson, J. Andasson, M. Traikia

**5:15** Concluding Remarks.

### Section B

Grand Hyatt San Francisco  
Fillmore A

#### I&EC Division Fellow Award Symposium: Honoring Professor Klavs Jensen

S. Shankar, *Organizer*

A. K. Chakraborty, *Presiding*

**1:00 I&EC 19.** Flow hydrogenations with enhanced stereoselectivity, chemoselectivity, and reactivity. J. Hawkins

**1:30 I&EC 20.** Mechanistic studies of catalytic organic reactions using reaction progress kinetic analysis. D.G. Blackmond

**2:00 I&EC 21.** Online sensing of palladium in flowing streams. C.J. Welch

**2:30 I&EC 22.** How to hit HIV where it hurts. A.K. Chakraborty

**3:00 I&EC 23.** Designing catalysts for activity and selectivity. A.T. Bell

**3:30 I&EC 24.** Catalysis for sustainable energy. J.K. Norskov

**4:00 I&EC 25.** Materials design – The last mile in translation from theory to practice. S. Shankar

**4:30 I&EC 26.** Automated screening, optimization, and production with multistep flow chemistry. K.F. Jensen

#### Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG‡, ORGN and PROF

#### Nanocellulose Processing & Analysis

##### Process Parameters

Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC

## MONDAY MORNING

### Section A

Grand Hyatt San Francisco  
Fillmore A

#### 2017 ACS Sustainable Chemistry & Engineering Lectureship Awards: Symposium in honor of Gregg Beckham

S. C. Chmely, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 I&EC 27.** Lignin valorization via biological funneling. G. Beckham

**8:50 I&EC 28.** Aromatic monomers via stabilization of reactive intermediates in the acid catalyzed depolymerization of lignin. K. Barta

**9:20 I&EC 29.** Catalytic processing for the hybrid conversion of lignin into biodiesel. M. Foston

**9:50** Intermission.

**10:10 I&EC 30.** Stabilization with formaldehyde facilitates the high-yield production of monomers from lignin during integrated biomass depolymerization. J.S. Luterbacher

**10:40 I&EC 31.** Toward a fundamental understanding of carbonyl hydrogenation in condensed media. J. Bond, O.A. Abdelrahman

**11:10 I&EC 32.** Role of lignin in the performance of regenerating lignocellulosic materials. N. Labbé, J. Wang, R. Boy, J.K. Keum, D.A. Cullen, J. Chen, D. Harper, L. Tetard, T.G. Riels, A.K. Naskar

**11:40** Concluding Remarks.

### Section B

Grand Hyatt San Francisco  
Fillmore B

#### Symposium in honor of Michelle Cummings, ACT Fellow

Financially supported by Dow Corning Corporation

J. McDonald, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:10 I&EC 33.** Fluorosilicone polymers and fluorosilicone diblock copolymers. S. Clarson

**8:40 I&EC 34.** Fracture and thermal aging of resin-filled silicone elastomers. K.R. Shull

**9:10 I&EC 35.** Tailored silicone structures lead to tailored silicone properties. M.A. Brook, J. Morgan, A. Schneider, S. Laengert

**9:40** Intermission.

**9:55 I&EC 36.** Silsesquioxane copolymers for lighting. S. Swier

**10:25 I&EC 37.** Effects of time and temperature on mechanical properties of silicone hot-melt adhesives. G.V. Gordon, L. Yan, D.A. Dillard

**10:55 I&EC 38.** Role of thermal stability in siloxane applications. M.R. Cummings

**11:25** Concluding Remarks.

#### Science for a Sustainable Energy Future

##### Energy Storage

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG‡, ORGN and PROF

#### Teaching, Researching & Community Building in the Global Chemical Enterprise

Sponsored by IAC, Cosponsored by BMGT‡, ENVR‡, I&EC, PRES‡ and PROF

#### Nanocellulose Processing & Analysis Properties

Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

## MONDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Fillmore A

#### 2017 ACS Sustainable Chemistry & Engineering Lectureship Awards: Symposium in honor of Jinlong Gong

D. Flaherty, *Organizer, Presiding*

R. M. Rioux, *Presiding*

**1:30 I&EC 39.** Synthesis and processing of copper-based nanowires for use as transparent conductors. B.J. Wiley

**2:00 I&EC 40.** Collapsed polymer-directed synthesis of inorganic nanostructures with complex geometries. Z. Huang, Y. Liu, J. Gong, Z. Nie

**2:30 I&EC 41.** Preferential binding of Polyvinylpyrrolidone (PVP) is not responsible for shape control in Ag nanoparticle synthesis. Z. Chen, J. Chang, C. Bala, R.M. Rioux

**3:00 I&EC 42.** Dumpsites as 21st century mines: Affordable recovery of rare-earth and critical materials from e-waste. C. Frankiewicz, B. Chang, M. Thuo

**3:30 I&EC 43.** Production of chemicals from ethanol: Unexpected selectivity within aldol addition reaction networks. T. Moteki, A. Rowley, H. Zhang, D. Flaherty

**4:00 I&EC 44.** C-H bond activation in glucose oxidation over CuO. Y. Yang

**4:30 I&EC 45.** Effective charge carrier utilization in photocatalytic conversions. J. Gong

**5:15** Award Presentation and Remarks.

### Section B

Grand Hyatt San Francisco  
Fillmore B

#### ACS Award in Industrial Chemistry: Symposium in honor of Jane Frommer

Cosponsored by ANYL, BIOL, COLL, INOR, ORGN, PMSE and POLY

J. Frommer, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 I&EC 46.** Award Address (ACS Award in Industrial Chemistry sponsored by the ACS Division of Industrial & Engineering Chemistry). Evolution of AFM in chemical analysis. J. Frommer

**1:50 I&EC 47.** Atomic force microscopy: Past, present, and future. M. Tortone

**2:20 I&EC 48.** Spectroscopy on the nanoscale with photo-induced force microscopy. T.R. Albrecht

**2:50 I&EC 49.** Advances in APM-mediated 3D nanoprinting. G. Liu

**3:20 I&EC 50.** Heatable scanning probes, from data storage to nanolithography. A. Knoll

**3:50 I&EC 51.** Manipulative force microscopy: Pulling molecular chains and nanoribbons. E. Meyer

‡ Cooperative Cosponsorship



4:20 **I&EC 52.** Quantitative and qualitative nanomechanical measurements with AFM: Recent advances and thoughts for future directions. D. Yablon

4:50 **I&EC 53.** Advances in AFM-based IR spectroscopy and mass spectrometry for high-resolution chemical characterization. E. Dillon

5:20 **I&EC 54.** Advances in ambient and liquid AFM: Nanoscale structure and dynamics. R. Proksch

5:50 Concluding Remarks.

#### Science for a Sustainable Energy Future

#### Chemical & Biological Conversions Approaches to Energy Conversion

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG‡, ORGN and PROF

#### Teaching, Researching & Community Building in the Global Chemical Enterprise

Sponsored by IAC, Cosponsored by BMGT‡, ENVR‡, I&EC, PRES‡ and PROF

#### Nanocellulose Processing & Analysis Fundamentals

Sponsored by CELL, Cosponsored by AGFD, ANYL, CHAS and I&EC

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Mechanistic Studies of Catalysis in Photocatalytic & Photoelectrodes

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

E. Rosenberg, *Organizer*

8:00 - 10:00

10, 28, 37. See previous listings.

96, 98, 103, 107, 116, 118, 121, 123, 125-126, 134, 136. See subsequent listings.

## TUESDAY MORNING

### Section A

Grand Hyatt San Francisco  
Filmore A

#### 2016 E.V. Murphree Award in Industrial & Engineering Chemistry: Symposium in honor of Michael M. Thackeray

Y. Shao-Horn, *Organizer, Presiding*

E. S. Takeuchi, *Presiding*

8:00 Introductory Remarks.

8:05 **I&EC 55.** Evolution of lithium-ion batteries: Personal reflections. M. Thackeray

8:35 **I&EC 56.** Development of manganese-rich, high-capacity lithium-ion cells. J. Croy

8:55 **I&EC 57.** Synthesis and analysis of NCM cathode materials for high performance Li-Ion batteries. M.A. Fetecenko

9:25 **I&EC 58.** Renaissance of  $\text{LiMn}_2\text{O}_4$  spinel. C.S. Johnson

9:45 **I&EC 59.** Gassing reactions of NCM cathodes operated at high voltage. H. Gasteiger

10:15 **I&EC 60.** Safe, high-voltage rechargeable batteries. J.B. Goodenough

10:45 **I&EC 61.** High energy density rechargeable batteries: A little history and a look into the future. M. Whittingham

11:15 **I&EC 62.** Investigating the complex chemistry of functional energy storage systems: The need for a multiscale (molecular- to meso-scale) perspective. E.S. Takeuchi, K.J. Takeuchi, A.C. Marschilok

11:35 **I&EC 63.** Simplify your experiments: Simple three electrode and full cell measurements for better understanding of lithium ion battery materials. M. Winter

12:05 **I&EC 64.** In operando neutron diffraction studies of battery materials. K. Edstrom

### Section B

Grand Hyatt San Francisco  
Fillmore B

#### 2017 ACS Sustainable Chemistry & Engineering Lectureship Awards: Symposium in honor of Helen Sneddon

S. G. Koenig, *Organizer, Presiding*

J. C. Colberg, *Presiding*

8:00 Introductory Remarks.

8:05 **I&EC 65.** Nickel-catalyzed asymmetric transfer hydrogenation of unsaturated bonds. J. Zhou

8:30 **I&EC 66.** Passing on the medicinal chemistry baton: University of Nottingham and GlaxoSmithKline collaborative research projects. T. McInally

8:55 **I&EC 67.** Supporting the transition to increased sustainability in common reactions. A.J. Watson

9:20 Intermission.

9:25 **I&EC 68.** Sustainable chemistry in pharmaceutical R&D: Successes, works in progress, and future challenges. H. Sneddon

10:00 **I&EC 69.** Synthesis of cyclic compounds by organocatalytic/multicomponent reactions sequence and photochemical approaches. M. Paixao

10:25 **I&EC 70.** Development of sustainable processes for pharmaceutical R&D. K. Wheelhouse

10:50 Intermission.

10:55 **I&EC 71.** Making medicines more sustainably: Efforts of the ACS Green Chemistry Institute Pharma Roundtable (GCIPR). S.G. Koenig

11:15 **I&EC 72.** Green chemistry at Pfizer – Applications to the oncology portfolio. P. Richardson

11:35 **I&EC 73.** Award Address (ACS Award for Affordable Green Chemistry sponsored by Dow Chemical Company & endowed by Rohm & Haas Company). Green synthesis of Viagra as a springboard for promoting green chemistry in the pharmaceutical industry. P. Dunn

11:55 Concluding Remarks.

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Molecular & Bio-Inspired Photocatalysts

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

#### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

Sponsored by CATL, Cosponsored by ENVR and I&EC

## TUESDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Filmore A

#### 2016 E.V. Murphree Award in Industrial & Engineering Chemistry: Symposium in honor of Michael M. Thackeray

Y. Shao-Horn, *Organizer*

Y. Lu, D. R. Rolison, *Presiding*

1:30 **I&EC 74.** Insights into lithium battery cathodes from powder diffraction data. B. David

2:00 **I&EC 75.** Tale of spinels: From Li-Ion to Mg battery electrodes. J. Cabana

2:30 **I&EC 76.** Simulated synthesis, characterization and performance of binary and ternary metal oxide electrodes. P. Ngoepe

3:00 **I&EC 77.** Revealing the conversion mechanism of  $\text{Co}_3\text{O}_4$  during lithiation from first principles calculations. C. Wolverton

3:30 **I&EC 78.** Spinel and layered manganates: New NMR approaches to characterize order and disorder. C.P. Grey

4:00 **I&EC 79.** Key challenges in the development of solid state lithium batteries. J. Janek

4:30 **I&EC 80.** Something from nothing: Enhancing cathode electrochemical charge storage with cation vacancies. D.R. Rolison, J.W. Long

4:50 **I&EC 81.** Activating Oxygen Redox for Energy Storage. Y. Shao-Horn

5:10 Concluding Remarks.

#### Recent Developments in TSCA Regulation: New Requirements for Chemicals in Commerce

Sponsored by CHAL, Cosponsored by CHAS, ENVR and I&EC

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

Novel Photocatalytic & Photoelectrode Materials

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

#### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

Sponsored by CATL, Cosponsored by ENVR and I&EC

## WEDNESDAY MORNING

### Section A

Grand Hyatt San Francisco  
Filmore A

#### I&EC Division Early Career Fellow Symposium: Honoring Dr. Leigh Martin

G. A. Fugate, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 **I&EC 82.** Probing the solution chemistry of f-element interactions with hydroxycarboxylic acids. K.L. Nash

8:25 **I&EC 83.** Recent advances in development of the sodium bismuthate process for the oxidation and separation of Am from used nuclear fuel. J. Law, B. Mincher, R. Tillotson, N. Schmitt

8:45 **I&EC 84.** Determining DTPA complexation kinetics. K. Larsson, S.P. Mezyk

9:05 **I&EC 85.** Gamma radiolysis of americium-nitric acid solutions. G.P. Horne, S.P. Mezyk, B. Mincher, T.S. Grimes

9:25 Intermission.

9:45 **I&EC 86.** Role of organic radical cation chemistry in separation ligand degradation. S.P. Mezyk, B. Mincher, P.R. Zalupski

10:05 **I&EC 87.** Savannah River site's quest to recover plutonium-244 from the mark-18A targets. N. Bridges

10:25 **I&EC 88.** Separation of minor actinides from lanthanides in acidic media using symmetric and asymmetric dithiophosphinic acid extractants. D.R. Peterman

10:45 Concluding Remarks.

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Spectroscopy & Microscopy of Photocatalytic & PEC Materials

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

#### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

#### Fundamental Structure-Activity Relationships: The Interface of Operando with Physical Sciences

Sponsored by CATL, Cosponsored by ENVR and I&EC

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### 2017 E.V. Murphree Award in Industrial & Engineering Chemistry: Symposium in honor of Eleftherios T. Papoutsakis

Sponsored by BIOT, Cosponsored by I&EC

## WEDNESDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Filmore A

### I&EC Division Early Career Fellow Symposium: Honoring Dr. Leigh Martin

G. A. Fugate, *Organizer, Presiding*

2:00 Introductory Remarks.

2:05 I&EC **89**. Exploiting properties of alkali titanates for separations and biomedical applications. D.T. Hobbs, K.M. Taylor-Pashow, J.L. Drury, J.C. Wataha

2:25 I&EC **90**. Modified DTPA ligand systems for simplified trivalent actinide-lanthanide separations based on the TALSPEAK process. J. Jones, M.H. Langford, A. Geist, P. Panak, P. Kaden, C. Adam, N. Adam, C.A. Sharrad, L. Martin, L.S. Natrajan

2:45 I&EC **91**. Separations in advanced nuclear fuel cycles. C.A. Sharrad, A.C. Edwards, H. Lambert, Z. Bikbajeva, R. Foster, T. Kerry, R.C. Whitehead, L.M. Harwood

3:05 I&EC **92**. Real-time direct measurement of extraction kinetics and speciation in solvent extraction systems. M.P. Jensen, R.G. McDowell, L. Martin

3:25 Intermission.

3:45 I&EC **93**. Pertechnetate extraction from aqueous environments. P.D. Benny, S.C. Bottorff, L. Martin

4:05 I&EC **94**. Study of 4f series metal binding kinetic phenomena by a TALSPEAK extractant via UV-Vis spectrophotometry in a mixed liquid-liquid separation system. R.G. McDowell, S.P. Mezyk, L.R. Martin

4:25 I&EC **95**. Wear and tear: Degradation effects in f-element separation science. L. Martin

4:45 Concluding Remarks.

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

### Devices, Assemblies & Hybrid Processes

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

### Fundamental Structure-Activity Relationships: The Interface of Operando with Physical Sciences

Sponsored by CATL, Cosponsored by ENVR and I&EC

## WEDNESDAY EVENING

### Section A

Moscone Center  
Hall D

### General Posters

E. Rosenberg, *Organizer*

6:00 - 8:00

I&EC **96**. Anatase pigment production by hydrolysis of unenriched TiOSO<sub>3</sub> solution via short sulfate process. C. Tian

I&EC **97**. Metal-organic framework materials in microfluidics: Synthesis and functional integration. K. He, Z. Li, K. Yeung

I&EC **98**. High throughput water disinfection using pulsed electric field. H. Leung, Q. Chang, K. Yeung

I&EC **99**. Porous carbons prepared by soft-template method as electrodes for supercapacitor. S. Park, J. Lee

I&EC **100**. Carbon capture using ammonia activated carbons from polysaccharides. S. Park, J. Lee

I&EC **101**. Catalytic preparation of ammonium carbonate using urea as a raw material. S. Park, J. Lee

I&EC **102**. Alkylation of benzene with ethylene in the presence of zeolite catalyst: Mathematical modelling of reactor. E. Khebnikova, E. Ivashkina, I. Dolganova, I. Dolganov, S. Koshkin, E. Yurev

I&EC **103**. Sensing and removal of Hg<sup>2+</sup> from contaminated water, and beneficiation of the gettered material in organic reduction reaction and hydrogen production. A. Malek, T. Thomas, P. Edamana

I&EC **104**. Carbon-modified nanofiltration membrane-based advanced oxidation reactor for endocrine disrupting compound removal. Y. Li, W. Han, K. Yeung

I&EC **105**. Novel approaches to the chemical application of electrochemicals for conducting materials. E.J. Parish, G. Ren, H. Honda, M. Hsiao, T. Wei

I&EC **106**. Novel approaches to the chemical synthesis and characterization of D-sigma-A molecules for molecular rectification. E.J. Parish, G. Ren, Y. Lo, H. Honda, H. Shyu, T. Wei

I&EC **107**. Bactericidal activity and biosafety studies of high-intensity narrow-wavelength (Hi-NW) light. Q. Chang, N. Zhan, N. Wong, J. Kwan, K. Yeung

I&EC **108**. Self-assembled ionic liquid crystals and their ion transport behavior. S. Park, J. Lee

I&EC **109**. Investigating the stability of tris(acetylacetonato)vanadium(III) complex. J. Lee, J. Lee

I&EC **110**. Properties of metal complexes as the active materials for the redox flow batteries. J. Lee, J. Lee

I&EC **111**. Fate of triazole fungicides in softwood after environmental exposure. K. Kukowski, C.A. Sedgeman, V. Martinská, E.I. Kozliak, S. Fisher, A. Kubatova

I&EC **112**. Supported bicyclic amidine ionic liquids as a potential CO<sub>2</sub>/N<sub>2</sub> separation medium. J.A. Schott, C. Do-Thanh, S.M. Mahurin, D. Jiang, S. Dai

I&EC **113**. Withdrawn.

I&EC **114**. Novel approaches to the chemical synthesis and characterization of alkyl phenols derivatives with various side chains. G. Ren, E.J. Parish, H. Honda, M. Hsiao, T. Wei

I&EC **115**. Gels as precursors in the preparation of catalysts and their films. D.L. Perry, C. Perrino

I&EC **116**. Metal ions in inks studied by synchrotron x-ray fluorescence microprobe techniques. D.L. Perry, T. Wilkinson

## THURSDAY MORNING

### Section A

Grand Hyatt San Francisco  
Conference Theatre

### General Papers

E. Rosenberg, *Organizer*

F. K. Wood-Black, *Presiding*

8:00 Introductory Remarks.

8:05 I&EC **117**. Synthesis and evaluation of a series of ionic liquids functionalized with dipicolinate complexants. A.J. Ferry, C. Hawkins

8:25 I&EC **118**. Withdrawn.

8:45 I&EC **119**. Indirect Ocean Capture: Applications and analysis of membrane for CO<sub>2</sub> capture. C.P. de Lannoy, J. Rivest, M. Eismann, S. Karnitz, A. Jose, R. DeVaul, K. Cooper

9:05 I&EC **120**. Study on combined cooling and antisolvent crystallization of L-asparagine monohydrate. M. Lenka, D. Sarkar

9:25 I&EC **121**. Design and operation experience of hexagon structured cyclone separator using mathematical models and computational fluid dynamic methodology. T. Zhang, C. Liu, K. Guo

9:45 I&EC **122**. Porous carbons derived from biomass and their application for the carbon capture. S. Park, J. Lee

10:05 Intermission.

10:15 I&EC **123**. Non-uniform gas solids distribution and its effects on performance of fluidized bed reactors. C. Zhang, W. Qian, F. Wei

10:35 I&EC **124**. Prediction of the vapor-liquid equilibrium of chemical reactive systems containing formaldehyde using the COSMO-RS method. Z. Bai, H. Liu, Y. Liu, L. Wu

10:55 I&EC **125**. Understanding the activity of Na<sub>2</sub>WO<sub>4</sub>/Mn/SiO<sub>2</sub> catalyst for the oxidative coupling of methane based on the optimization of reaction parameters. S. Yoon, J. Choi, D. Suh, J. Ha, M. Park, K. Song

11:15 I&EC **126**. Selective ethylene oxidation to EDC in Chemetry's Shuttle™ process. M.K. Leclerc, T.A. Albrecht, E.A. Cole

11:35 I&EC **127**. Dry pressure drop within Winpak-mechanism and optimization. W. Qi, K. Guo, C. Liu

11:55 I&EC **128**. Transformation behavior of MoO<sub>3</sub> as oxygen carrier for chemical looping gasification of coal and its reaction mechanism. G. Wu, W. Li, T. Wiltowski

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

### Engineering Operando to Larger Scale: Shaped Catalysts & Process Control

Sponsored by CATL, Cosponsored by ENVR and I&EC

## THURSDAY AFTERNOON

### Section A

Grand Hyatt San Francisco  
Conference Theatre

### General Papers

E. Rosenberg, *Organizer*

F. K. Wood-Black, *Presiding*

1:30 Introductory Remarks.

1:35 I&EC **129**. Synthesis of 9-fluorenylmethanol and the coproduction of phenanthrene from crude anthracene. H. Mu, W. Li, C. Ye

1:55 I&EC **130**. Chaotropic agents for amidoxime adsorbent pretreatments. R.T. Mayes

2:15 I&EC **131**. Modeling and optimization of ultrasound assisted crystallization of L asparagine monohydrate. S. Bhoi, D. Sarkar

2:35 I&EC **132**. Chromatographic purification of 5,6 cis-dihydrocyclohexane 1,3-diene, the precursor to poly(para-phenylene). B. Ikizer, A. Polanco, N. Orbey, C. Lawton

2:55 I&EC **133**. Reaction kinetics of formaldehyde-water-1,3,5-trioxane-sulfuric acid system at 371.15 K. X. Zhang, Y. Hu

3:15 Intermission.

3:25 I&EC **134**. Composite nano-particle synthesis for enhanced photo-catalytic activity of textiles. G. Basim, A. Cerhan

3:45 I&EC **135**. Experimental investigation of the effects of the geometry on liquid radial and axial distribution in modular catalytic structured packing. C. Liu, W. Xiang

4:05 I&EC **136**. Electroplating of active metals from aqueous systems for accessing materials of the future. H.B. Nulwala, X. Zhou, J. Watkins

4:25 I&EC **137**. Withdrawn.

### Operando Methodology at the Junction between Fundamental Chemistry & Chemical Engineering

### Engineering Operando to Larger Scale: Shaped Catalysts & Process Control

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## Division of Inorganic Chemistry

S. Koch and N. Radu, *Program Chairs*

### OTHER SYMPOSIA OF INTEREST:

**Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark** (see *NUCL*, Sun, Mon, Tue)

**Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten** (see *NUCL*, Tue)

**Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory** (see *PHYS*, Sun, Mon, Tue, Wed)

**Metalloprotein-Initiated Signaling Transduction Response to Redox Stress** (see *BIOL*, Tue)

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium** (see *PROF*, Sun, Mon)

**Support & Activator Effects on Metal Mediated Polymerization** (see *PMSE*, Mon, Tue)

## SUNDAY MORNING

### Section A

Moscone Center  
2009

**Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator: Symposium in honor of Nilay Hazari**

W. H. Bernskoetter, A. Valentine, *Organizers*  
J. E. Bercau, *Presiding*

**9:00 INOR 1.** Towards a thermochemical hydrogen-affinity scale for oxide materials, and its implications in reactivity and catalysis. J.M. Mayer, J. Peper, J. Lora, S. Laga, D. Damatov, C. Valdez, J. Peng, B. Broudy

**9:25 INOR 2.** Bonding in pentalene complexes and their recent applications. J.C. Green

**9:50 INOR 3.** Small molecule activation with molybdenum complexes supported by diphosphine-arene ligands. T. Agapie

**10:15** Intermission.

**10:25 INOR 4.** Reversible C-H bond cleavage in the formation of cationic iridium alkoxycarbenes from ethers. N.D. Schley

**10:50 INOR 5.** Siderophore-Promoted release of titanium(IV) from metal oxide materials. A. Valentine

**11:15 INOR 6.** Electronic structures of diplatinum complexes. H.B. Gray

**11:40 INOR 7.** Near-miss synthesis of a noble gas compound in 1933: Could it have been Harry Gray award-worthy? J.A. Labinger

### Section B

Moscone Center  
2011

**Celebrating 60 Years of the Division of Inorganic Chemistry**

**The Early Days of the Division of Inorganic Chemistry (DIC)**

M. J. Clarke, *Organizer*

D. C. Crans, *Organizer, Presiding*

T. J. Marks, A. P. Sattelberger, *Presiding*

**8:30** Introductory Remarks.

**8:40 INOR 8.** Sixty years of inorganic chemistry. H.B. Gray

**9:10 INOR 9.** Synthesis and properties of selected transition metal complexes over half a century - a retrospective. S.J. Lippard

**9:40 INOR 10.** My experiences inside the Division of Inorganic Chemistry. D.J. Nelson

**10:10** Intermission.

**10:25 INOR 11.** Inorganic and supramolecular pincer chemistry. K. Bowman-James

**10:55 INOR 12.** Whither goes inorganic chemistry: What goes around, comes around. R. Eisenberg

**11:25 INOR 13.** How the Division of Inorganic Chemistry brought the ACS into the 21st Century: E-Lectons and the DIC's first ChemLuminary Award. M.J. Clarke

### Section C

Moscone Center  
2016

**Undergraduate Research at the Frontiers of Inorganic Chemistry**

**Coordination Chemistry**

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*

B. B. Sears, *Presiding*

**9:00** Introductory Remarks.

**9:05 INOR 14.** Selective f-element extraction utilizing tripodal CMPO ligands. E.J. Werner, S.M. Biros, M. Patterson, A.K. Mulville, E.K. Connor

**9:25 INOR 15.** N-heterocyclic thione and selones: New tricks for old dogs. D. Rabinovich

**9:45 INOR 16.** Exploring the reactivity of hexaphenylcarbodiiphosphorane with electron-deficient metallic species. G. Risica, C.D. Abernethy, M. Findlater

**10:05 INOR 17.** Structure and properties of coordination polymers containing conformationally flexible dipyrrolylamide ligands: An introductory undergraduate research program at Lyman Briggs College at Michigan State University. R.L. Laduca, T.A. Beard, J.Z. Travis

**10:25** Intermission.

**10:40 INOR 18.** Ligand replacement on 1D and 2D coordination polymers. B.J. Johnson, M. Johnson, N. Beattie

**11:00 INOR 19.** Synthesis, electronic structure, and reactivity of iron complexes bearing donor-modified BIAN ligands. H.M. Hoyt, G.N. Tran, C.C. Coady, M. Takemura, L. Darko, A. Volkov, E.Y. Martinez, W.R. Fuller, J.M. Darmon, C.E. Schulz, K.A. Wheeler

**11:20 INOR 20.** Synthesis and characterization of cobalt(II) SNS pincer model complexes for liver alcohol dehydrogenase. J.R. Miecznikowski, S. Bonitatibus, J. Jasinski, L. Li

**11:40 INOR 21.** Peptoid ligands: Bioinspired chelators for lanthanide and actinide complexation. A. Ricano, I. Captain, G. Deblonde, R.J. Abergel

### Section D

Moscone Center  
2018

**ACS Award in Inorganic Chemistry: Symposium in honor of Lawrence Que, Jr.**

M. J. Maroney, E. L. Que, *Organizers*

T. A. Jackson, J. Kovacs, *Presiding*

**8:30** Introductory Remarks.

**8:35 INOR 22.** Diiron enzymes in antibiotic biosynthesis: Similar metal centers - different chemistry. A.J. Komor, C.J. Knoot, A. Jasniowski, B.S. Rivard, L. Que, J.D. Lipscomb

**9:00 INOR 23.** Mössbauer, EPR and DFT studies of Fe(V)=O, Fe(IV) Fe(IV) and Fe(III) Fe(IV) complexes of biological relevance. E. Munck

**9:25 INOR 24.** Metal selectivity in nickel trafficking proteins. M.J. Maroney, C.E. Carr, H.Q. Hu, H. Huang, R.C. Johnson, S.L. Ciurli, D.S. Merrell

**9:50 INOR 25.** DNA repair glycosylase MUTYH: From Fe-S clusters to MAP. S.S. David

**10:15** Intermission.

**10:30 INOR 26.** Mechanistic enzymology of tryptophan oxidizing enzymes. A. Liu

**10:55 INOR 27.** Gallium complexes targeting FepA: An inorganic approach to fighting antimicrobial resistance. V.C. Pierre

**11:20 INOR 28.** Metal scaffolds for biological sensing using <sup>19</sup>F magnetic resonance imaging. E.L. Que

**11:40 INOR 29.** Spectroscopic and kinetic studies of a bifunctional  $\alpha$ -ketoglutarate dependent non-heme iron enzyme, AsqJ. Y. Guo, J. Li, J. Lee, J. Dicks, R. Fan, W. Chang

**12:00 INOR 30.** Developing x-ray spectroscopic toolkits for mechanistic studies of cobalt and nickel catalysts. F. Li

### Section E

Moscone Center  
2020

**Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions**

*Financially supported by Chemistry of Materials*

E. J. McLaurin, *Organizer*

K. R. Kittilstved, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 INOR 31.** Mechanistic investigations of colloidal metal chalcogenide nucleation and growth. J.S. Owen, M.P. Campos, I. Reza

**9:05 INOR 32.** Germanium alloy nanocrystals and hollow spheres prepared via colloidal synthesis. S. Kauzlarich, K. Tabatabaei, K.A. Newton, X. Qi

**9:35 INOR 33.** Inorganic-Capped Luminescent InP nanocrystals. E.J. McLaurin

**10:05** Intermission.

**10:20 INOR 34.** High throughput nanomaterial synthesis and its application to technology. G.F. Strouse

**10:50 INOR 35.** Design of multi-functional nanocrystal membranes and the fabrication of thin film nanocrystal devices. C.B. Murray, Y. Wu, N. Gogotsi, T. Zhao, N.J. Greybush, D. Straus, D. Jishkariani, K.C. Elbert, C.R. Kagan

**11:20 INOR 36.** Dislocation-Driven growth of 1D, 2D and 3D nanomaterials and the applications in lead halide perovskite nanostructures. S. Jin, Y. Fu

**11:50 INOR 37.** Synthesis of magnetic semiconductor nanostructures. S.L. Stoll

### Section F

Moscone Center  
2022

**Sustainability in Electrocatalytic Fuel & Chemical Production**

*Cosponsored by CATL*

L. A. Berben, J. L. Dempsey, *Organizers*  
V. Thoi, *Presiding*

**8:30** Introductory Remarks.

**8:35 INOR 38.** Why is Ni(cyclam)<sup>2+</sup> a better CO<sub>2</sub> reduction catalyst when supported on a mercury surface? B. Rudsteyn, Y. Wu, J. Froehlich, A. Zhanaidarova, W. Ding, V.S. Batista, C.P. Kubiak

**9:00 INOR 39.** Engineered biomolecular electrocatalysts for hydrogen evolution from water. K. Bren, Y. Guo, B. Kandemir, V. Fourmond

**9:25 INOR 40.** Paired electrochemical reactions: A lesson learned from microelectrode arrays and the on-site generation of chemical reagents. K.D. Moeller

**9:50 INOR 41.** Promoting selective electrocatalytic carbon dioxide reduction through modification of a metal's secondary and outer coordination spheres. C.C. McCrory

**10:15 INOR 42.** Towards electrocatalytic reduction of carbon dioxide to methanol: Adventures in hydricity. E.S. Wiedner, S.A. Burgess, M.J. Wilding, D.L. Miller, M. Helm, J.C. Linehan, A.M. Appel

**10:40** Intermission.

**10:55 INOR 43.** Mechanistic details of CO<sub>2</sub> reduction processes revealed by pulse radiolysis with time-resolved infrared detection. D.C. Grills, K.T. Ngo, J.J. Rochford

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**11:20 INOR 44.** Rational design of catalysts for fuel generation: Controlling the secondary coordination sphere. D.J. Harrison, E. Jarvis, Z.R. Relethford, **C.A. Caputo**

**11:40 INOR 45.** Mechanistic insight into the cleavage and coupling of CO with molybdenum complexes: Toward upgrading oxygenated C<sub>1</sub> precursors. **T. Agapie**

**12:05 INOR 46.** H<sub>2</sub> Evolution by metal chalcogenide coordination polymers, highly active molecular models of [NiFe] hydrogenases. **S.C. Marinescu**

## Section G

Mosccone Center  
2024

### F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in honor of Pingyun Feng

X. Bu, Q. Zhang, D. Zhao, *Organizers*

P. Yang, N. Zheng, *Organizers, Presiding*

**8:30 INOR 47.** Pingyun Feng - the quintessence of synthetic materials chemistry. **G.D. Stucky**

**9:00 INOR 48.** Nanostructured and single phase thermoelectrics. **M.G. Kanatzidis**

**9:20 INOR 49.** Interfacial assembly and engineering of ordered functional mesoporous materials. **D. Zhao**

**9:40 INOR 50.** Sol-gel assembly of metal chalcogenide nanoparticles into multicomponent architectures. **J. Davis, S. Brock**

**10:00** Intermission.

**10:30 INOR 51.** Nanostructured and nanoporous materials for energy application. **S.H. Tolbert**

**10:50 INOR 52.** Synthesis and applications of conducting polymer nanofibers. **R.B. Kaner, W.H. Mak, C. Lin, R. Li, D. Maung, X.W. Huang, K. Wang, Y. Wang, T. Farrell**

**11:10 INOR 53.** Design and synthesis of novel porous materials for energy and environmental applications. **T.M. Nenoff**

**11:30 INOR 54.** Synthesis and substitution chemistry of complex bismuth sulfide iodides in sulfur/iodine melts. **R.A. Groom, S.E. Latturer**

**11:50 INOR 55.** Spark plasma sintering of Zintl phases. **S. Kauzlarich, E.L. Kunz Wille, J. Cooley, D. Barrett, N. Grewal**

## Section H

Mosccone Center  
3000

### Bioinorganic Chemistry

#### Proteins & Enzymes & Model Systems

S. A. Koch, *Organizer*

M. Knapp, F. Li, *Presiding*

**8:00 INOR 56.** Theoretical studies of the mechanism of the second half-reaction step of nitric oxide synthase: Nondynamical electron correlation drives the reaction to the intended products. **I. Shamovsky, G. Belfield, R. Lewis, F. Narjes, L. Ripa, C. Tyrchan, L. Öberg, P. Sjö**

**8:20 INOR 57.** Proton-facilitated transformations of molybdenum-oxo compounds as synthetic models for molybdoenzymes. **F. Li**

**8:40 INOR 58.** Metal capture and sensing in porous polymers for disease and environmental diagnostics. **S. Lee, G. Barin, J.R. Long, C.J. Chang**

**9:00 INOR 59.** Mechanistic investigations of guest binding in a self-assembled Ga<sub>4</sub>L<sub>4</sub> host reveals the first example of a conformational selection mechanism in a synthetic host. **C.M. Hong, D.M. Kaphan, D. Toste, K.N. Raymond, R.G. Bergman**

**9:20 INOR 60.** Engineering the alpha-ke-toglutarate oxygenase FIH for alternate rebound chemistry. **M. Knapp**

**9:40 INOR 61.** Urease inhibitors: In search for a key to control a nickel-enzyme. **S.L. Ciuri**

**10:00** Intermission.

**10:10 INOR 62.** Iron-assisted CO<sub>2</sub> activation at a nickel center. **C. Yoo, Y. Lee**

**10:30 INOR 63.** Mechanistic, structural and computational studies of the catalytic multifunctional hemoglobin dehaloperoxidase from *Amphitrite ornata*. **R.A. Ghiladi, L.M. Carey, N.L. McCombs**

**10:50 INOR 64.** Mechanistic nuances of hydrogen atom abstraction by the copper(III)-hydroxide unit. **D. Dhar, G.M. Yee, J.M. Mayer, C.J. Cramer, W.B. Tolman**

**11:10 INOR 65.** Structure-function studies of tetranuclear iron clusters with a variable interstitial μ<sub>4</sub>-atom as models of biological active sites. **C. Reed, T. Agapie**

**11:30 INOR 66.** Bio-inspired nonheme iron catalyst: Electrophilic versus nucleophilic iron-based active oxidant – effect on alkane hydroxylation. **S. Kal, L. Que**

**11:50 INOR 67.** Withdrawn.

## Section I

Mosccone Center  
3010

### Chemistry of Materials: Materials for Energy & Catalytic Applications

C. G. Lugmair, *Organizer*

X. Chen, M. V. Sheridan, *Presiding*

**8:30 INOR 68.** Polydiacetylene-(phen) Ru(bpy)<sub>3</sub> for cofactor regeneration and CO<sub>2</sub> reduction as an artificial photocatalytic system. **J. Kim, S. Kim, T. Anjong, H. Lee**

**8:50 INOR 69.** Bismuth-based double perovskites for non-toxic photovoltaics. **A. Slavney, T. Hu, A. Lindenberg, H. Karunadasa**

**9:10 INOR 70.** Three-dimensional graphene nanoribbon-based materials and its applications. **T. Yi**

**9:30 INOR 71.** Pulsed-laser synthesis of advanced nanomaterials for water-oxidation catalysis and sunlight capture. **A.M. Mueller, J.R. Winkler, H.B. Gray**

**9:50 INOR 72.** Metal chalcogenide coordination polymers as catalysts for the hydrogen evolution reaction. **C.A. Downes, S. Marinescu**

**10:10** Intermission.

**10:25 INOR 73.** All-in-one, derivatized tandem p<sup>+</sup>n-Si/SnO<sub>2</sub>@TiO<sub>2</sub> water splitting device. **M.V. Sheridan, T.J. Meyer**

**10:45 INOR 74.** General strategy for electrocatalytic hydrogen production integrated with oxidative organic upgrading. **Y. Sun**

**11:05 INOR 75.** Chemically tailoring two-dimensional transition metal dichalcogenides. **X. Chen, A.R. McDonald**

**11:25 INOR 76.** Polydopamine coatings for stabilizing the interface between cobalt-based water oxidation catalysts and electrode. **I. Kim, Y. Nam**

## Section J

Mosccone Center  
3012

### Coordination Chemistry: Synthesis & Characterization

S. A. Koch, *Organizer*

P. Yin, *Presiding*

**8:30 INOR 77.** Electron hopping through double-exchange coupling in a mixed-valence diiminobenzoquinone-bridged Fe<sub>2</sub> complex. **A. Gaudette, I. Jeon, J.S. Anderson, G.J. Long, F. Grandjean, D. Harris**

**8:50 INOR 78.** Enhancement of magnetic anisotropy in a heterobimetallic Mn-Bi complex. **T. Pearson, M. Fataftah, D.E. Freedman**

**9:10 INOR 79.** Redox series of gallium complexes: Characterization of four oxidation states and electrocatalytic hydrogen production by a Ga(III) complex in water. **A. Arnold, L.A. Berben**

**9:30 INOR 80.** Self-assembly processes: Connected spherical nano-sized supramolecules. **B. Krämer, M. Scheer**

**9:50 INOR 81.** Host-guest systems: Encapsulation of various templates by self-assembled supramolecules. **H. Brake, M. Scheer**

**10:10** Intermission.

**10:20 INOR 82.** X-ray and neutron scattering study of the formation of giant molecular metal oxide clusters. **P. Yin**

**10:40 INOR 83.** Cobalt supramolecular triple-stranded helicate-based discrete molecular cage. **H. Yoo**

**11:00 INOR 84.** Synthesis, structure, and substitution reactivity of trinuclear molybdenum cluster compounds. **J.R. Houston**

**11:20 INOR 85.** Accessing a copper(III)-alkylperoxo complex. **B.D. Neisen, D. Dhar, N.L. Gagnon, W.B. Tolman**

**11:40 INOR 86.** Enhanced magnetic anisotropy and single-molecule magnet behavior in tetranuclear clusters featuring low-coordinate cobalt centers. **K. Chakarawat, P. Bunting, J.R. Long**

## Section K

Mosccone Center  
3001

### Lanthanide & Actinide Chemistry

*Cosponsored by WCC*

A. De Bettencourt Dias, *Organizer*

B. E. Cohen, L. Doerrer, J. Monteiro, *Presiding*

**8:30 INOR 87.** Comparing molecular and band-based approaches to the antenna effect in lanthanide coordination polymers. **J. Einkauf, D.T. de Lill**

**8:50 INOR 88.** Thiophene-based lanthanide complexes as photosensitizers for singlet oxygen generation. **M.A. Gracia-Nava, A. De Bettencourt Dias**

**9:10 INOR 89.** Broadband porphyrin dyes for near-infrared emission of lanthanide ions. **R.W. Arachchi, A. Kukoyi, H. He**

**9:30 INOR 90.** Lanthanide complexes of fluorinated alkoxide ligands. **J. Weber, C. Kotky, A.T. Royappa, A.L. Rheingold, L. Doerrer**

**9:50** Intermission.

**10:00 INOR 91.** Lanthanide-doped nanocrystals engineered for low fluence multiphoton imaging. **B.E. Cohen, B. Tan, A. Fernandez-Bravo, E. Chan, P. Schuck**

**10:20 INOR 92.** Template-directed synthesis of actinide nanoparticles. **A. Herve, A. Braun, S. Alayoglu, C. Booth, D. Olive, M. Straub, S.G. Minasian**

**10:40 INOR 93.** Challenges in the design of luminescent markers and cation sensors based on lanthanide complexes. **J. Monteiro, D. Tapia, A. De Bettencourt Dias**

**11:00 INOR 94.** Comparison of Li with K and Na in rare-earth metal reduction chemistry: Isolation of [Li(2.2.2-cryptand)]<sup>+</sup> in unique coordination environments. **D.N. Huh, J.W. Ziller, W.J. Evans**

**11:20** Intermission.

**11:30 INOR 95.** New vistas in organometallic actinide chemistry. **J.K. Pagano, K. Erickson, J. Xie, D.E. Morris, B. Scott, R. Wu, L. Gagliardi, R. Waterman, J.L. Kiplinger**

**11:50 INOR 96.** Investigations of the electronic structure of actinide-aluminum bimetallics: Synthesis, reactivity and XAS characterization of actinide-alanate molecules and other actinide-aluminum materials. **A.B. Altman, A. Brown, J. Arnold, S.G. Minasian, S. Pemmaraju, D. Prendergast, D.K. Shuh, T. Tylliszczak, D. Vine**

**12:10 INOR 97.** Synthesis and reactivity of a homoleptic uranium(III) tris(aryl) complex. **M. Boren, B. Parker, T.D. Lohrey, J. Arnold**

## Section L

Mosccone Center  
3003

### Organometallic Chemistry: Catalysis

N. S. Radu, *Organizer*

A. Poater, *Presiding*

**8:30 INOR 98.** Evolution of reactivity of olefin metathesis of Ru, and a step forward to other metals. **A. Poater**

**8:50 INOR 99.** Ruthenium-based olefin metathesis: Insight into catalyst decomposition. **G.G. Lavoie, T.G. Larocque, A.C. Badaj**

**9:10 INOR 100.** Synthesis, structure and characterization of new ruthenium(II) complexes and their catalytic activities towards selective C-O bond formation via activation of terminal alkynes. **R.K. Jena, M. Bhattacharjee**

**9:30 INOR 101.** Catalytic upgrading of ethanol to butanol: Mechanistic insights. **H. Aitchison, D. Wass, R. Wingad**

**9:50 INOR 102.** CO<sub>2</sub> and formic acid, a winning couple in reduction chemistry. **T. Cantat**

**10:10 INOR 103.** Mechanistic studies of oxidative arene vinylation catalyzed by late transition metals. **B.A. Vaughan, S.K. Khani, J.B. Gary, J.D. Kammer, J. Chen, M.S. Webster-Gardiner, B.A. McKeown, R.J. Davis, T.R. Cundari, T.B. Gunnoe**

**10:30 INOR 104.** Mechanistic study of thermal oxidative addition of si-h bond to mixed n-heterocyclic carbene oxazolonylborato rhodium bis(carbonyl) complex. A. Biswas

**10:50 INOR 105.** Cationic rhenium(III) complexes: Synthesis, characterization, and reactivity for catalytic hydrosilylation of aldehydes. D.E. Perez, E.A. Ison

**11:10 INOR 106.** Rh-catalyzed C-H cyanation of imidazopyridine using N-cyano-N-phenyl-p-methylbenzenesulfonamide as the cyano source. X. Shen, J. Qu, C. Liu, Y. Guo, X. Zhu, X. Hao, M. Song

**11:30 INOR 107.** Mechanistic studies of Rh(diphosphine)-catalyzed methanol reductive carbonylation. S. Chotchachawankul, C.R. Landis

## Section M

Moscone Center  
2000

### Organometallic Chemistry: New Ligand Platforms

N. S. Radu, *Organizer*

R. Blanski, D. Mendoza-Espinosa, *Presiding*

**8:30 INOR 108.** Bicyclic (alkyl)(amino)carbenes (BicAACs): Introducing the first of a new family of stable carbenes. E. Tomas Gonzalez de Mendivil, M.M. Hansmann, R. Jazzar, M. Melaimi, G. Bertrand

**8:50 INOR 109.** Imidazolin-2-ylidenaminophosphines: A highly electron-rich phosphorus(III) superbase that splits CO<sub>2</sub>. P. Mehlmann, F. Dielmann

**9:10 INOR 110.** Withdrawn.

**9:30 INOR 111.** New class of N-heterocyclic carbenes featuring closo-carborane anions. S. Lee, V. Lavallo

**9:50 INOR 112.** Highly functionalized N-heterocyclic carbenes bearing icosahedral carborane anions. S.G. McArthur

**10:10 INOR 113.** Chiral acyclic diamino-carbene gold complexes as catalysts for enantioselective intramolecular hydroamination of alkenes: Systematic study of ligand substituent effects on enantioselectivities. A. Ruch, V. Nesterov, L.M. Slaughter

**10:30** Intermission.

**10:40 INOR 114.** Synthesis of back-functionalized imidazolium salts and NHC carbene complexes. R. Blanski, H. Phan, R.H. Grubbs

**11:00 INOR 115.** Novel phosphine ligand with NH linker for ligand cooperative catalysis. K. Ding, L. Alhthloul, D. Tyeer, S. Xu

**11:20 INOR 116.** Mono/di/tri-phosphine complexes of transition metals based on tris(3-methyl-1H-indol-2-yl) methane as a model system for the study of apical metal-H-C<sub>sp3</sub> interactions. E. Smirnova, J. Lloret-Fillol

**11:40 INOR 117.** Synthesis of Co and Mo hydroxycyclopentadienyl complexes and their catalytic activities in transfer hydrogenation. W. Wu, R.M. Waymouth, T. Seki, D. Solis, K. Nozaki, H. Ando, S. Kusumoto

**12:00 INOR 118.** P-P bond formation via unique metal-ligand cooperation. Y. Kim, Y. Lee

## Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

### Experimental Characterization

*Sponsored by PHYS, Cosponsored by INOR*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis, & Spectroscopy

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVIR, INOR<sup>1</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>1</sup>, POLY, PRES<sup>2</sup> and WCC*

### Synthesis of Catalysts by Non-Traditional Methods

#### Nanoparticle Catalysts

*Sponsored by CATL, Cosponsored by COLL and INOR*

#### Deposition & Etching of Nanostructures

*Sponsored by COLL, Cosponsored by INOR*

## SUNDAY AFTERNOON

### Section A

Moscone Center  
2009

### Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator: Symposium in honor of Nilay Hazari

W. H. Bernskoetter, A. Valentine, *Organizers*

A. Hazari, *Presiding*

**1:30 INOR 119.** Operando NMR studies of hydroformylation. C.R. Landis, A. Brezny

**1:55 INOR 120.** Lewis acid additives in organotransition metal chemistry. G. Dobreiner

**2:20 INOR 121.** Gold(III) catalyst design for alkene and alkyne functionalization reactions. A. Nova

**2:45** Intermission.

**2:55 INOR 122.** Lewis acid-transition metal protomoe carbon dioxide functionalization. W.H. Bernskoetter, D. Jin

**3:20 INOR 123.** Proton-Assisted Reduction of CO<sub>2</sub> by Cobalt Aminopyridine Complexes. S.C. Marinescu, A. Chapovetsky

**3:45 INOR 124.** Catalytic hydrogenolysis of carbon oxygen bonds. D.M. Heinekey, K.I. Goldberg, J.M. Goldberg, L.M. Guard, T. Lekich

**4:10 INOR 125.** Molecular catalysts for water oxidation. G.W. Brudvig, R.H. Crabtree, S.B. Sinha, D.Y. Shopov, L.S. Sharninghausen, T. Michaelos, H. Lant, K. Fisher

### Section B

Moscone Center  
2011

### Celebrating 60 Years of the Division of Inorganic Chemistry

#### The Next Decades: 1990's & 2000's

M. J. Clarke, D. C. Crans, *Organizers*

B. E. Bursten, S. Ronco, M. Scott, *Presiding*

**1:30** Introductory Remarks.

**1:35 INOR 126.** From siderophores to supermolecules, fifty years of coordination chemistry. K.N. Raymond

**2:05 INOR 127.** Electrochemically-promoted catalytic asymmetric hydrogenation using chiral organorhodium complexes. B.T. Donovan-Merkert

**2:35 INOR 128.** Solid state chemistry, Zintl phases, and the Division of Inorganic Chemistry. S. Kauzlarich

**3:05 INOR 129.** Surface chemistry of II-VI nanoplatelets and nanoribbons. Y. Zhou, Y. Yao, C. Morrison, W.E. Buhro

**3:35** Intermission.

**3:50 INOR 130.** Antimony(V) Lewis acids: Applications in anion sensing and small molecule activation. F.P. Gabbaï

**4:20 INOR 131.** Metalloprotein design: Examination of mononuclear redox centers. V.L. Pecoraro, A. Tebo, K. Koebke

**4:50 INOR 132.** Synthesis of new bismuth based materials. J. Walsh, S.M. Clarke, D.E. Freedman

**5:20 INOR 133.** Celebrating 60 Years - Inorganic chemistry at the National Science Foundation. C.A. Bessel

### Section C

Moscone Center  
2016

### Undergraduate Research at the Frontiers of Inorganic Chemistry

#### Organometallic Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*  
A. Johnson, *Presiding*

**1:30 INOR 134.** Synthesis and reactivity of compounds containing a κ<sup>2</sup>-1,1'-bis(diphenylphosphino) ferrocene ligand. K. Cabrera, C. Nataro

**1:50 INOR 135.** Synthesis and characterization of antimony(V) Lewis Acids. N. Capra, A.M. Christianson, F.P. Gabbaï

**2:10 INOR 136.** Heterogeneous and homogeneous phosphonothioate alcoholysis by supported molybdenum-peroxo complexes. L.Y. Kuo, A. Bennett

**2:30 INOR 137.** Evaluating the role of linker flexibility in base-free transfer hydrogenation of aldehydes and ketones catalyzed by Cp\*Ir(pyridinesulfonamide)Cl complexes. T.M. Townsend, A.R. O'Connor

**2:50 INOR 138.** Alkane functionalization with (supp)Ir(OAc)<sub>2</sub>(OH)<sub>2</sub>. Z.H. Syed, A.M. Wright, S.B. Rubashkin, K.I. Goldberg

**3:10** Intermission.

**3:25 INOR 139.** Group VI metal complexes of tris(diisopropylphosphinomethyl)phenylborate. P.J. Fischer, S. Senthil, J.T. Stephan, M.D. Storlie, M.L. Swift, V.G. Young, Jr.

**3:45 INOR 140.** Reactivity of titanium-aluminum heterobimetallics. A. Brown, A.B. Altman, S. Hohloch, T.D. Lohrey, S.G. Minasian, J. Arnold

**4:05 INOR 141.** Palladium complexes of amine bis(phenolate) ligands: Complex isolation and catalytic evaluation. E. Collins, B.J. Graziano, A.K. Bowser, B. Wile

**4:25 INOR 142.** Synthesis, reactivity, and catalytic applications of isolable NHC-CuCF<sub>2</sub>H complexes. S. Kariofillis, J.R. Bour, M.S. Sanford

### Section D

Moscone Center  
2018

### ACS Award in Inorganic Chemistry: Symposium in honor of Lawrence Que, Jr.

M. J. Maroney, *Organizer*

E. L. Que, *Organizer, Presiding*

F. Li, *Presiding*

**1:30** Introductory Remarks.

**1:35 INOR 143.** Rational design of biologically inspired catalysts for selective oxidation reactions. M. Costas, J. Serrano Plana, O. Cussó, A. Company, M. Milán

**2:00 INOR 144.** Biomimetic metal-oxygen intermediates in dioxygen activation chemistry. W. Nam

**2:25 INOR 145.** Spectroscopic, and/or crystallographic characterization of metastable intermediates involved in cysteinylated non-heme iron-promoted reaction mechanisms. M.N. Blakely, M.A. Dedushko, A.S. Ganas, G. Villar-Acevedo, P. Lugo-Mas, J. Kovacs

**2:50 INOR 146.** High valent metal oxo and nitrene cores in chemistry and biology. K. Ray

**3:15** Intermission.

**3:30 INOR 147.** Catching transient intermediates in non-heme iron oxidation chemistry with high speed Raman spectroscopy. D. Unjaroen, S. Padamati, J. Chen, A. Draksharapu, M. Swart, W.R. Browne

**3:55 INOR 148.** Insights into metalloenzyme function from bio-inspired manganese complexes. T.A. Jackson, D. Rice, A.A. Massie, M. Denler

**4:20 INOR 149.** Tuning the reactivity of high-valent nickel-oxygen adducts for hydrocarbon oxidation. A.R. McDonald

**4:40 INOR 150.** Relationship between electronic structure and reactivity in nonheme dioxygenase models. A.T. Fiedler, A.A. Fischer, S.V. Lindeman

**5:00 INOR 151.** Spectroscopic studies and oxidizing reactivity of two high-valent nickel-oxygen species. T. Corona, A. Draksharapu, S. Padamati, F.F. Pfaff, F. Acuña-Parés, V. Martin-Diaconescu, J. Lloret-Fillol, K. Ray, A. Company

### Section E

Moscone Center  
2020

### Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions

*Financially supported by Chemistry of Materials*

K. R. Kittilstved, E. J. McLaurin, *Organizers*

R. Beaulac, *Presiding*

**1:30 INOR 152.** Correlating structure and function in symmetric and asymmetric core/shell optical nanomaterials. J.A. Hollingsworth

**2:00 INOR 153.** Understanding localized surface plasmon resonance in doped metal oxide nanocrystals. D.J. Milliron

**2:30 INOR 154.** Controlling dopant-defect interactions in doped SrTiO<sub>3</sub> colloidal nanocrystals. K.R. Kittilstved

**3:00** Intermission.

**3:15 INOR 155.** Enhanced Multiple Exciton Generation in PbS/CdS Janus-like Heterostructure Nanocrystals. D. Kroupa, G. Pach, B. Chernomordik, **M.C. Beard**

**3:45 INOR 156.** Sample-Transmitted Excitation Photoluminescence (STEP) technique for quantifying the energy flow in nanocrystals and their solids. **M. Zamkov**

**4:15 INOR 157.** Optical Stark metrology of CdSe nanocrystal quantum dots: On the size-dependence of the oscillator strength. Y. Tang, M. Saniepay, C. Mi, R. Beaulac, **J. McGuire**

## Section F

Moscone Center  
2022

### Sustainability in Electrocatalytic Fuel & Chemical Production

*Cosponsored by CATL*

L. A. Berben, J. L. Dempsey, *Organizers*

E. S. Wiedner, *Presiding*

**1:30 INOR 158.** Use of polyoxometalates as redox-active reservoirs: Towards small molecule activation. **E.M. Matson**

**1:55 INOR 159.** Studies of electrocatalytic dioxygen reduction. **J.M. Mayer**, M.L. Pegis, C. Wise, D.J. Martin, S. Raugel, N. Kumar

**2:20 INOR 160.** Observing molecular vibrations of catalytic intermediates at electrode surfaces. **T. Cuk**, S. Pemmaraju, D. Prendergast, X. Chen, M. Waagele, D. Herlihy

**2:45** Intermission.

**3:00 INOR 161.** Hydricity as an activity descriptor for molecular hydrogen evolution electrocatalysts. C. Tsay, B. Ceballos, D. Cunningham, S. Ruelas, **J.Y. Yang**

**3:25 INOR 162.** Solar fuel devices with molecular catalysts – mechanistic insights. **L. Hammarstrom**

**3:50 INOR 163.** Designing small molecule electrocatalysts for selective C-H bond formation with CO<sub>2</sub>: [Fe<sub>2</sub>N(CO)<sub>12</sub>]<sup>-</sup>, [Fe<sub>2</sub>N(CO)<sub>12</sub>]<sup>2-</sup>, and the role of the hydride intermediate, [H-Fe<sub>2</sub>N(CO)<sub>12</sub>]<sup>-</sup> in catalysis. N.D. Loewen, A. Taheri, **L.A. Berben**

**4:15 INOR 164.** CO<sub>2</sub> splitting into CO and O<sub>2</sub>: From mechanistic studies to efficient electrolyzer. **C. Cyrille**

## Section G

Moscone Center  
2024

### F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in honor of Pingyun Feng

X. Bu, P. Yang, D. Zhao, N. Zheng, *Organizers*

Q. Zhang, *Organizer, Presiding*

**1:30 INOR 165.** Hybrid nanomaterials for treating resistant cancers. **W. Lin**

**Technical program information known at press time.**

**The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)**

**1:50 INOR 166.** Dynamic metal-organic frameworks: Design and properties. **X. Bu**

**2:10 INOR 167.** Oxygen evolution reaction electrocatalysis: Redefining intrinsic activity trends and illustrating design principles. **S.W. Boettcher**

**2:30 INOR 168.** Towards robust hierarchical porous metal-organic frameworks. **S. Yuan, H. Zhou**

**2:50 INOR 169.** Porous ionic liquids: Challenges and opportunities. **S. Dai**

**3:10** Intermission.

**3:40 INOR 170.** Organometallic chemistry of macrocycles, cages. **G. Jin**

**4:00 INOR 171.** Metal-Organic Frameworks (MOFs): Platforms for multifunctional materials. **B. Chen**

**4:20 INOR 172.** Luminescent coordination networks: Structure, functionality and applications. **W. Liu**, W.P. Lustig, Y. Fang, K. Zhu, **J. Li**

**4:40 INOR 173.** Development of metal-organic frameworks as a versatile platform for heterogeneous catalysis. **S. Ma**

## Section H

Moscone Center  
3000

### Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges

*Cosponsored by BIOL*

*Financially supported by Northwestern U, U of California-Davis*

V. DeRose, *Organizer*

J. A. Telsler, *Organizer, Presiding*

**1:30 INOR 174.** High resolution x-ray spectroscopic studies of soluble methane monooxygenase. **S. DeBeer**

**2:00 INOR 175.** Mechanism and control in radical SAM enzymes. **J.B. Broderick**, M. Horitani, A.S. Byer, K.A. Shisler, T. Chandra, R.U. Hutchison, K.S. Duschene, A.R. Marts, W.E. Broderick, B.M. Hoffman

**2:30 INOR 176.** Structure of a heme peroxidase compound II. **H. Kwon**, J. Basran, A.J. Fielding, T.E. Schrader, A. Ostermann, M.P. Blakeley, P.C. Moody, **E. Raven**

**3:00 INOR 177.** Vibrational studies of the single turnover reaction cycle and substrate inhibition reaction in denitrifying NO reductases. **P. Moënne-Loccoz**

**3:20** Intermission.

**3:30 INOR 178.** Effects of heme conformation on spin state, spin distribution, and electron transfer in cytochromes. **K. Bren**, J. Kleingardner, B. Kandemir

**4:00 INOR 179.** Using biosynthetic models of heteronuclear metalloenzymes for spectroscopic elucidation of their mechanisms in multi-electron processes. **Y. Lu**, A. Bhagi-Damodaran, C. Cui, Y. Yu, **J. Reed**

**4:20 INOR 180.** Developing protein-based model systems to mimic hydrogenase, carbon monoxide dehydrogenase, and acetyl coenzyme A synthase. **H.S. Shafaat**, J.W. Slater, C.R. Schneider, A. Manesis, S.C. Marguet, M.J. Stevenson

**4:40 INOR 181.** Biosynthesis of the [FeFe]-hydrogenase active site. **D. Suess**

**5:00 INOR 182.** Nitrogen fixation by nitrogenase: The heart of the mechanism. **B.M. Hoffman**

## Section I

Moscone Center  
3010

### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

#### Homogeneous Catalysis

*Cosponsored by PMSE*

*Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University*

A. Facchetti, *Organizer*

T. Lohr, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 INOR 183.** Design and synthesis of phosphine-olefin ligands with planar-chiral metal complex scaffold and application in asymmetric catalysis. **M. Ogasawara**

**2:05 INOR 184.** Late stage functionalization of bioactive natural products under catalyst control. **M.R. Gagne**

**2:35 INOR 185.** Development of cooperative asymmetric catalysts. **S. Hong**

**3:05** Intermission.

**3:15 INOR 186.** Catalytic challenges in organoactinide chemistry. **M.S. Eisen**

**3:45 INOR 187.** Chemical transformation of dinitrogen mediated by pincer complexes. **S. Schneider**

**4:15 INOR 188.** Transition-metal-catalyzed functionalization using carbon dioxide. **Y. Tsuji**

## Section J

Moscone Center  
3012

### ACS Award in Organometallic Chemistry: Symposium in honor of Marcetta Y. Darensbourg

C. G. Riordan, *Organizer*

D. Mason, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 INOR 189.** Insights into the catalytic mechanisms of [FeFe] hydrogenase: Inspiration for the design of molecular catalysts. **W. Lubitz**, A. Adamska-Venkatesh, J.A. Birrell, C. Sommer, S. Rumpel, O. Rudiger, E. Reijerse

**2:00 INOR 190.** Control of the activity of [FeFe]-subsite analogues by interactions of their ligated cyanides. **C. Pickett**, J. Woods

**2:25 INOR 191.** Effect of the dithiolate cofactor on the reactivity, spectroscopy, and electrochemistry of models for the [FeFe]-hydrogenases. **T.B. Rauchfuss**, N. Lalaoui, C.P. Richers, M.R. Carlson, W. Wang

**2:50 INOR 192.** Computational modeling of hydrogenases and biometallic complexes. **M.B. Hall**

**3:15 INOR 193.** Effect of the outer coordination sphere on molecular catalysts: A tribute to Marcetta, the hydrogenase whisperer. **W.J. Shaw**, N. Boralogodage, A. Dutta, B. Ginovska, S. Raugel

**3:40** Intermission.

**3:55 INOR 194.** Solar fuels science. **H.B. Gray**

**4:20 INOR 195.** Hydrogen evolution without metal-hydrides: Ligand-centered HER catalysts with transition metals and non-transition metals. **C.A. Grapperhaus**, A.Z. Haddad, B. Garabato, R.M. Buchanan, P.M. Kozlowski

**4:45 INOR 196.** Pyridine and pyrazine pincer coordination chemistry. **K. Bowman-James**

**5:10 INOR 197.** Redox-active ligand complexes in artificial photosynthesis and the reductive side of water splitting. **R. Eisenberg**, G. Li

## Section K

Moscone Center  
3011

### Chemistry of Materials: Metal Organic Frameworks

C. G. Lugmair, *Organizer*

I. Kim, T. Runcevski, *Presiding*

**1:30 INOR 198.** Effect of different synthesis methods and strategies on the properties of copper based and iron based metal organic frameworks. **A. Yuruden**, Y. Yurum

**1:50 INOR 199.** Redox active metal-organic frameworks with multi-components in order. **B. Tu**, Q. Li

**2:10 INOR 200.** Withdrawn.

**2:30 INOR 201.** *In Situ* diffraction and spectroscopic studies of metal-organic frameworks under variable temperature and gas pressure. **T. Runcevski**, J.R. Long

**2:50 INOR 202.** Coordination polymers featuring coordinatively unsaturated, low-valent metal centers. **D.W. Agnew**, J.S. Figueroa

**3:10 INOR 203.** General interfacial synthesis route to free-standing metal-organic framework membrane. **Z. Li**, W. Han, K. Yeung

**3:30** Intermission.

**3:45 INOR 204.** Self-assembled coordination polymer as intermediate in synthesis of porous oxide from bulk metal. **B. Chang**, J. Chen, I. Tevis, S. Cinar, S. Oyola-Reynoso, G. Rodriguez, A.J. Rossini, M. Thuo

**4:05 INOR 205.** Phosphine and arsine coordination materials with well-defined open metal sites: New examples with Pd(II) and Au(I). **S.M. Humphrey**, S.G. Dunning, E. Sikma, J. He

**4:25 INOR 206.** POMOFs and POMzites: A family of zeolitic polyoxometalate frameworks from a minimal building block library. **L. Cronin**

**4:45 INOR 207.** Coordinative alignment of molecules in chiral metal organic frameworks structure determination of molecules coordinated and aligned in MOFs by single crystal x-ray diffraction. **S. Lee**, E.A. Kapustin, O.M. Yaghi

**5:05 INOR 208.** Nanocasting in metal-organic framework materials. **A. Stein**, C. Malonzo, Z. Wang, W. Zhao, T.E. Webber, R. Penn

**5:25 INOR 209.** Nomenclature, terminology guidelines, and database issues for topology representations in metal-organic frameworks. **L.R. Ohrstrom**

‡ Cooperative Cosponsorship



## Section L

Mosccone Center  
3003

## Inorganic Catalysts

S. A. Koch, *Organizer*

J. Bluemel, E. V. Rybak-Akimova, *Presiding*

**1:30 INOR 210.** Mechanistic investigations of oxygen evolution at a manganese-doped cobalt cubane catalyst. E. Darby, A. Nguyen, S. Gul, J. Yano, T.D. Tilley

**1:50 INOR 211.** Pt NPs ligated by zwitterionic imidazolium-aminidates: A notable ligand effect in hydrogenation of carbonyl groups. L.M. Martínez-Prieto, B. Chaudret, J. Campora, P.W. van Leeuwen

**2:10 INOR 212.** Synthesis and characterization of tin (II) complexes supported by N<sub>2</sub>O<sub>2</sub> bis(phenoxy)-amine ligands for the ring-opening polymerization of lactide. S. Praban, K. Phomphrai

**2:30 INOR 213.** Computational study of the vanadium-catalyzed decomposition of alkyl hydroperoxides to ketones. M. Hermsen, A. Schmidt, A. Schäfer, T. Schaub

**2:50 INOR 214.** Dizinc lactide polymerization catalysts: Hyperactivity by control of ligand conformation and metallic cooperativity. A.A. Thevenon, C. Romain, M. Bennington, H. Davidson, A. White, S. Brooker, C.K. Williams

**3:10** Intermission.

**3:20 INOR 215.** One-pot synthesis of double-capped oligoesters using simple metal amides. P. Piromjitpong, K. Phomphrai

**3:40 INOR 216.** Mechanism for the oxidation of alcohols by a  $\mu$ -oxido-diiron(III)bis-phenolato polypyridyl complex. D. Unjaroen, A. Draksharapu, M. Swart, W.R. Browne

**4:00 INOR 217.** Towards inert C-H bond functionalization using main group multiple bonds. J. Chu, G. Menard

**4:20 INOR 218.** Immobilized Sonogashira catalyst systems. J. Bluemel, J.C. Pope

**4:40 INOR 219.** Kinetics and mechanisms of hydrocarbon oxidations with H<sub>2</sub>O<sub>2</sub>/HOAc catalyzed by iron and manganese complexes with rigid aminopyridine ligands. E.V. Rybak-Akimova, G. Yang, M. Piquette

### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

#### Theory & Modeling

*Sponsored by PHYS, Cosponsored by INOR*

### Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark

*Sponsored by NUCL, Cosponsored by INOR*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Novel Reactions, Methodologies & Syntheses in Organic Chemistry

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC*

### Synthesis of Catalysts by Non-Traditional Methods

### Model Catalysts, Microporous Materials & Oxides

*Sponsored by CATL, Cosponsored by COLL and INOR*

### Deposition & Etching of Nanostructures

*Sponsored by COLL, Cosponsored by INOR*

## SUNDAY EVENING

### Section A

Mosccone Center  
Hall D

### Undergraduate Research at the Frontiers of Inorganic Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*

**5:30 - 7:30**

**INOR 220.** IONIC VIPEr workshops: Bringing current literature into the classroom. S. Poland, B.B. Sears, S.A. Toledo, A.R. Johnson

**INOR 221.** IONIC bonding: Building a lattice using attractive forces. A.R. Johnson, J.L. Stewart, A.K. Bentley, H.J. Eppley, E.R. Jamieson, C. Nataro, B.A. Reisner, S.R. Smith, L.A. Watson, N. Williams

### Section B

Mosccone Center  
Hall D

### Celebrating 60 Years of the Division of Inorganic Chemistry

D. C. Crans, *Organizer*

**5:30 - 7:30**

**INOR 222.** Highlights in inorganic chemistry from the 250 years that preceded the creation of the Division of Inorganic Chemistry. S.A. Koch

**INOR 223.** Cobalt and copper  $\sigma$ -complexes with a diphosphine-hydroxylane ligand. J. Kim, Y. Kim, Y. Lee

**INOR 224.** Trends in NMR chemical shifts of d<sup>9</sup> transition metal compounds. Z. Xue, T.M. Cook, A.C. Lamb

**INOR 225.** Effect of confinement on the acidity of organic and bio ligands. J. Salas, A. Cherem, M.D. Johnson

**INOR 226.** Selenium speciation in the Fountain Creek water and effects on fish species diversity. J. Carsella, S.J. Bonetti, D.C. Crans, S.J. Herrmann, D.R. Nimmo

**INOR 227.** Ruthenium complexes as potential anticancer prodrugs that are activated by low pH and light. J. Gray, F. Qu, J.A. Lundeen, N.S. Chambers, J. Park, Y. Kim, J.J. Paul, E.J. Merino, R.H. Schmeil, E.T. Papish

**INOR 228.** Group transfer and methylation reactions of a terminally bound zirconium methylidene complex. T. Kurogi, P. Carroll, D.J. Mindiola

**INOR 229.** Energy transfer from PbS nanocrystals to pentacene. X. Li, M. Tang

**INOR 230.** Diaquo ruthenium water oxidation catalysts with a novel bimimidazolyl backbone. J.M. Kamdar, C.E. Moore, A.L. Rheingold, D.K. Smith, D.B. Grotjahn

**INOR 231.** Withdrawn.

**INOR 232.** Withdrawn.

**INOR 233.** Correlating redox potential with <sup>51</sup>V NMR chemical shifts for vanadium (V) catecholates. J.T. Koehn, P. Chatterjee, C.N. Beuning, A. Waterhouse, T. Lucia, T.E. Polenova, D.C. Crans

**INOR 234.** Diverse array of nucleophilic reactivity featuring molecular titanium nitride complexes. L. Grant, P. Carroll, B. Manor, D.J. Mindiola

### Section C

Mosccone Center  
Hall D

### Undergraduate Research at the Frontiers of Inorganic Chemistry

#### Bioinorganic Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*

**5:30 - 7:30**

**INOR 235.** Iron and cadmium binding in metalloprotein II and myohemerythrin from *Hediste diversicolor*. A. Krieger, B. Russell

**INOR 236.** Synthesis and evaluation of alkylnyl  $\beta$ -sheet mimetics coordinated to tungsten. E.C. Pedro, A.N. Boynton, S.M. Berk, T.P. Curran

**INOR 237.** Manganese corrole substituted myoglobin. J.M. Mason, K.L. Stone

**INOR 238.** Investigating dechlorination using bio-inspired nickel compounds. E. Gund, R. Griffin, C. Ye, K.M. Van Heuvelen

**INOR 239.** Copper (I) substitution at zinc (II) binding domains: Characterization of speciation and functional studies. M.L. Stevens, M.D. Storie, K.E. Splan

**INOR 240.** Preparation of synthetic conjugated myoglobin to promote new reactivity. K.L. Stone, J. Hua, H. Choudhry, J. Mason

**INOR 241.** Tandem C-H functionalizations by combining light-driven biocatalysis and photocatalysis. V. Alfaro, J. Faris, M. Melkie, C. Sulca, T. Banh, M. Kato, L.E. Cheruzel

**INOR 242.** Synthesis, characterization and photosensitization in a series of Ru(phen)<sub>2</sub>(quo)]<sup>+</sup> complexes. F. Delano IV, A. Koerner, A. Cardillo, R.N. Garner, B.B. Sears

**INOR 243.** Synthesis and investigation of novel hydroquinone ring-cleaving dioxygenase model complexes. N. Porter, T.E. Machonkin, A. Speelman, P.L. Holland

**INOR 244.** Copper binding and reactivity of de novo designed Due Ferri single chain (DFsc) proteins. B. Van Dyke, A.J. Reig

**INOR 245.** Biophysical characterization and catalytic reactivity of rubrerythrin and symerythrin model proteins. J. Pellegrino, K.A. Bell, R. Polinski, S. Cimerol, A. Jacobs, E.I. Solomon, A.J. Reig

**INOR 246.** Using model proteins to understand the structure-function relationships in 4-histidine/2-carboxylate diiron proteins. C. Philip, S. Hawkins, A.J. Reig

**INOR 247.** Structure-function relationships in G4DFsc variants containing a 4-His/3-carboxylate active site. K. OShea, J. Dorsheimer, K. Biernat, A. Jacobs, E.I. Solomon, Y. Wu, W.F. Degrad, A.J. Reig

**INOR 248.** Characterization of MnPC, a novel hydroquinone ring-cleaving dioxygenase. J. Duncan, E. Altman, T.E. Machonkin

**INOR 249.** Molybdenum pyranopterin dithiolene complexes: Synthetic model and investigation in the role of pterin reduction in the molybdenum cofactor. N. Nguyen, B. Williams, D. Gisewhite, S.J. Nieter Burgmayer

**INOR 250.** Mechanistic investigation of photochemical products from iron-iron hydrogenase model compounds. P. De La Torre, A. Nelson, C.F. Works

**INOR 251.** Synthesis and characterization of cobalt (II) salen and its possible interactions with persulfide species. A. Holm, V. Suarez, L. Alvarez, C.F. Works, J. Fukuto

**INOR 252.** Dechlorination abilities of biomimetic compounds. C. Ye, R. Griffin, K.M. Van Heuvelen

**INOR 253.** Investigating the reactivity of the ligating histidines at the Cu<sub>2</sub> site of cytochrome c oxidase. T. Devlin, L.M. Hunsicker Wang

**INOR 254.** Changes in reduction potential of the [2Fe-2S] cluster of the *Thermus thermophilus* Rieske protein using multiple non-covalent interactions. R. Shepherd, L.M. Hunsicker Wang

**INOR 255.** Exploring the effect of distal charges on the reduction potential of the Rieske protein from *Thermus thermophilus*. M. Hogsett, J. Munoz, L.M. Hunsicker Wang

**INOR 256.** Metal-organic supercontainers for neurobiological applications. J.W. Fanta, Z. Wang, B. Burrell

**INOR 257.** Mechanistic investigation of the solvent dependent photochemistry of iron-iron hydrogenase model compounds. B. Jolly, L. Ortiz, C.F. Works

**INOR 258.** Studying the active site of nickel-acireductone dioxygenase through nickel and zinc analogues: A structural and spectroscopic comparison study. A.J. Gremillion, S. Sanchez, S.A. Toledo, V. Lynch, C.L. Dorsey

**INOR 259.** Capturing an intermediate of the radical S-adenosyl-L-methionine enzyme lysine 2,3-aminomutase. C. Denler, A.S. Byer, J.B. Broderick

### Section D

Mosccone Center  
Hall D

### ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in honor of William B. Tolman

L. M. Berreau, P. L. Holland, *Organizers*

**5:30 - 7:30**

**INOR 260.** Characterization of a copper(III)-phenoxide complex. N.L. Gagnon, D. Dhar, W.B. Tolman

**INOR 261.** Probing the effect of ligand electronics on the C-H reactivity of copper-oxygen cores. C. Elwell, W.B. Tolman

**INOR 262.** Analysis of novel tetradentate zinc catalysts used for the polymerization of sac-lactide. A.M. Luke, D.E. Stasiw, T. Rosen, M. Kol, W.B. Tolman

**INOR 263.** New strategy for the hydroxylation of strong C-H bonds. H. Sajjad, W.B. Tolman

**INOR 264.** Mechanistic analysis of the alternating copolymerization of epoxides with cyclic anhydrides utilizing a cocatalyst system. L.A. Mitchell, M. Fieser, D. Urness, M.J. Sanford, C.R. Dunbar, M. Mandal, C.J. Cramer, G.W. Coates, W.B. Tolman

**INOR 265.** Resonance Raman spectroscopy of copper(III)-hydroxide core and structural implications based on a unified Badger's rule. **A.D. Spaeth**, N.L. Gagnon, W.B. Tolman

**INOR 266.** Mechanistic studies of  $\epsilon$ -caprolactone polymerization by (salen)Al(OR) complexes and a predictive model for cyclic ester polymerizations. **J.A. Macaranas**, A.M. Luke, E.E. Marlier, M. Mandal, D. Marell, C.R. Dunbar, M. Johnson, Y.C. DePorre, M.O. Miranda, B.D. Neisen, C.J. Cramer, M.A. Hillmyer, W.B. Tolman

## Section E

Moscone Center  
Hall D

### ACS Award in Inorganic Chemistry: Symposium in honor of Lawrence Que, Jr.

M. J. Maroney, E. L. Que, *Organizers*

5:30 - 7:30

**INOR 267.** Green synthesis of Nd-La doped  $\text{Sr}_2\text{Cu}_2\text{Fe}_{28}\text{O}_{46}$  and Nd-La doped  $\text{Sr}_2\text{Mg}_2\text{Fe}_{28}\text{O}_{46}$  nanoparticles and comparison their magnetic and microwave absorbing properties with Nd-La doped  $\text{Sr}_2\text{CuMgFe}_{28}\text{O}_{46}$  nanoparticles. **P. Alimard**

**INOR 268.** Characterization of ( $\mu$ -oxo) heterobimetallic complexes derived from  $[\text{Fe}^{\text{V}}(\text{O})\text{TMC}]$  with Fe coordination numbers that depend on ligand topology. **A. Zhou**, J. Prakash, G. Rohde, J. Klein, S.T. Kleespies, A. Draksharapu, R. Fan, Y. Guo, C.J. Cramer, L. Que

**INOR 269.** Tuning the C-H bond cleavage ability of an oxoiron(IV) complex structural properties of an oxoiron(IV) complex supported by a pentadentate ligand. **W. Rasheed**, M. Puri, A. Draksharapu, L. Que

**INOR 270.** Inner side of high-valent metal-oxo reactivity. **M. Swart**, K. Ray

**INOR 271.** Exploring the  $\text{H}_2\text{O}_2$  interaction and catalytic activity of mononuclear Cu(II) coordination complexes containing N-rich ligand architecture. **N. Singh**, J. Niklas, O. Poluektov, K.M. Van Heuvelen, A. Mukherjee

**INOR 272.** Two isomers of oxoiron(IV) complex supported by tetramethylcyclam ligand: Interconversion and reactivity. **J. Prakash**, J. Klein, A. Draksharapu, C.J. Cramer, L. Que

**INOR 273.** Reversible formation an  $\text{Fe}^{\text{III}}\text{-O}-\text{Ce}^{\text{V}}$  intermediate from the reaction of  $\text{Fe}^{\text{V}}=\text{O}$  and  $\text{Ce}^{\text{III}}$ . **A. Draksharapu**, J. Klein, W. Rasheed, C.J. Cramer, L. Que

**INOR 274.** Factors influencing the electronic nature of the active oxidant in a bio-inspired non-heme mononuclear iron catalyst. **S. Kal**, S. Iyer, L. Que

**INOR 275.** Modulation of a weakly coupled peroxo-dicopper(II) complex by interaction with alkali metal ions. **L. D'Amore**, M. Swart, A. Brinkmeier, F. Meyer

**INOR 276.** Characterization of a novel  $\text{Fe}(\text{V})=\text{O}$  species using Mossbauer spectroscopy and Electron Paramagnetic Resonance (EPR) spectroscopy. **R. Fan**, J. Serrano Plana, A. Company, W.N. Oloo, L.A. Rueda, K.K. Meier, B. Verdejo, E.V. Garcia-España, M.G. Basallote, E.L. Bominaar, Y. Guo, L. Que, M. Costas, E. Munck

**INOR 277.** Roles of  $(\text{L})\text{Fe}^{\text{V}}(\text{O})$  and  $(\text{L})\text{Fe}^{\text{III}}\text{-OOAc}$  intermediates in bio-inspired C-H and C=C oxidations. Kinetics and spectroscopy. **W.N. Oloo**, R. Banerjee, S. Lee, C. Kim, J.D. Lipscomb, L. Que

**INOR 278.** Elucidation of the mechanism of activation of oxygen by iron(II)polypyridylamine complexes in water. **D. Angelone**, J. Chen, A. Draksharapu, W.R. Browne, M. Swart

**INOR 279.** Elucidation of high-valent species involved in carboxylic acid-assisted nonheme iron catalysis. **S. Xu**, A. Draksharapu, W. Ching, L. Que

**INOR 280.** HDX-MS reveals metal-specific structural changes important to DNA binding by the cobalt and nickel responsive transcriptional regulator, RcnR. **H. Huang**, M.J. Maroney

**INOR 281.** Role of citrate and transferrin in determining Ti(IV) solubility, bioavailability, and its regulation. **S. Sharma**

**INOR 282.** Comparative reactivity studies of peroxomangaese(III) intermediates supported by two diazacycloalkane-based tetradentate ligands. **M. Denler**, T.A. Jackson, G. Wijeratne

**INOR 283.** O-O bond activation by a series of Mn complexes supported by amide-containing ligands. **J. Parham**, G. Wijeratne, T.A. Jackson

**INOR 284.** Metal-Assisted oxygen addition to an  $\text{Fe}(\text{III})$ -thiolate. **M.N. Blakely**, G. Villar-Acevedo, M. Dedushko, W. Kaminsky, J. Kovacs

**INOR 285.** InP based heterostructures: Synthesis, electronic structure, and quantitative comparison of absorption properties. **R. Toufanian**, M. Chern, A.M. Dennis

**INOR 286.** Non-Covalent interactions in C-H oxidation reactions by metal-oxos: The curious case of CHD and DHA. **J. Klein**, B. Dereli, L. Que, C.J. Cramer

**INOR 287.** Exploring the structure-reactivity relationship of a series of N5-ligated oxomanganese (IV) complexes. **A.A. Massie**, M. Denler, T.A. Jackson

**INOR 288.** Tuning the proton-coupled electron-transfer reactivity of  $\text{Mn}(\text{III})$ -hydroxo complexes via ligand perturbations. **D. Rice**, A. Burr, T.A. Jackson

**INOR 289.** Thermodynamics of reactivity of a series of hydroxo-manganese complexes in H atom abstraction. **A. Munasinghe**, D. Rice, J. Parham, T.A. Jackson

**INOR 290.** Withdrawn.

## Section F

Moscone Center  
Hall D

### Undergraduate Research at the Frontiers of Inorganic Chemistry

#### Coordination Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*

5:30 - 7:30

**INOR 291.** Green chemistry in the advanced inorganic laboratory: Mechanochemical synthesis and characterization of homoleptic bis-chelate copper(I) complexes. **D.J. Rabaey**, D.E. Janzen

**INOR 292.** Synthesis and kinetic studies of a trinuclear tungsten metal cluster. **J. Nunez**, R.C. Brookins, J.R. Houston

**INOR 293.** Modifying the bridging anion of  $\text{LnX}_3\text{M}$  12-metallacrown-4 complexes. **J.J. Reed**, J.C. Lutter, C.I. Daly, C. Chow, A.H. Davis, A. Nimthong-Roldan, M. Zeller, J.W. Kampf, C.M. Zaleski, V.L. Pecoraro, T.T. Boron

**INOR 294.** Synthesis of a family of chiral aminoalcohols as ligands for titanium and tantalum catalyzed asymmetric hydroamination. **A.R. Johnson**, **C.S. Abelson**

**INOR 295.** Withdrawn.

**INOR 296.** Unique crystalline composite displaying four primary zoning events in the solid state and based upon self-assembled coordination polymers. **S. Cornell**, **S.R. Seidel**

**INOR 297.** Axial ligand interactions of cyclo-metallated Pd(II) complexes: Hemilabile oxathiacrowns vs inert but fluxional thiocrowns. **D.E. Janzen**, M.A. Bruening, A.A. Mamiya, D.A. da Silva Filho

**INOR 298.** Synthesis and characterization of SNS pincer ligand precursors and corresponding zinc(II) and copper(II) complexes. **J.R. Miecznikowski**, **T. Ostrowski**, M. Siu, K.A. Bayne, N.A. Bernier

**INOR 299.** Synthesis, characterization, and reactivity studies of iron dibromide complexes bearing para-substituted alpha-dimine ligands. **D. Soemardi**, S.M. Click, A. Beltran, K.A. Wheeler, H.M. Hoyt

**INOR 300.** Boron Schiff-Base complexes as detectors for toxic levels of selenate in water. **J. Bennett**, L. Jefferies

**INOR 301.** Synthesis of a lanthanide complex using  $\text{Eu}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$  with tripodal ligand 2-OHNaphththren ( $\text{tris}[N-(2\text{-hydroxynaphthalidene})-2\text{-aminoethyl}]\text{amine}$ ). **J.M. Armen**, P.M. Smith

**INOR 302.** Activating carbon dioxide using a cobalt complex supported by a macrocyclic tetraza ligand. **A. Amado**, F. Li, C. Dong

**INOR 303.** Syntheses, characterization, and oxygen reactivity of three coordinate SNS pincer copper(I) pincer complexes. **J.R. Miecznikowski**, **M.R. Smith**, M. Siu, N.A. Bernier, J. Jasinski, E. Reinheimer

**INOR 304.** Synthesis of a new cationic cobalt(III) coordination complex and its potential applications as an indole ring forming catalyst. **R.M. Miller**, H.P. Nash, **A. Morris**

**INOR 305.** Synthesis of new Fe and Co PONOP/PNP complexes: Towards the development of a first-row Guerbet catalyst. **T.M. Townsend**, C.E. Hayes, R. Baker, W.D. Jones

**INOR 306.** Excimer and exciplex formation involving  $[\text{Pt}(\text{bphen})\text{CN}_2]$  and  $\text{Ag}^+$  in solution. **E.J. Rourk**, J.K. Nagle

**INOR 307.** Synthesis of europium(III) silicates using microwave-assisted hydrothermal methods. **Z.J. Woessner**, P.M. Smith

**INOR 308.** Natural oxidation state analysis: Principles and applications. **M.K. Helli**, M. Nathan, **J.S. D'Acchioli**

**INOR 309.** Synthesis and reactivity of actinide guanidinate complexes. **A. Shiao**, N. Settineri, J. Arnold

**INOR 310.** Ionothermal synthesis and characterization of two new iron thiophosphates:  $[\text{EMIM}][\text{Fe}(\text{P}_2\text{S}_6)_2]$  and  $[\text{PMIM}][\text{FeP}_2\text{S}_6]$ . **S.R. Kang**, M.L. Major, **J.A. Cody**

**INOR 311.** Synthesis and characterization of thermotropic copper(II) heteroleptic metallomesogens with 2-ethylhexanoate ligands. **A. Beltran**, T.W. Clayton

**INOR 312.** Withdrawn.

**INOR 313.** Withdrawn.

**INOR 314.** Synthesis and characterization of hyper-coordinate silicon complexes. **K.J. Goosherst**, J.M. Fritsch

**INOR 315.** Progress toward the synthesis of potential AIE-active silafluorene derivatives. **H. Tracy**, J.L. Mullin, C.M. Prudente, **W. Lin**

**INOR 316.** Computational results of ADF modelling of AIE-active luminophores. **H. Tracy**, J.L. Mullin, C.M. Prudente, **T.W. Nelson**

**INOR 317.** Spectral characterization of potential AIE-active diphenylsilafluorene derivatives. **J.L. Mullin**, **H. Tracy**, C.M. Prudente, **N. Mathewson**

**INOR 318.** Withdrawn.

## Section G

Moscone Center  
Hall D

### Coordination Chemistry: Synthesis & Characterization

S. A. Koch, *Organizer*

5:30 - 7:30

**INOR 319.** Comparison of 2,2'-bipyridine and 1,10-phenanthroline ancillary ligands in ruthenium metal complexes containing the 4,4'-dihydroxy-2,2'-bipyridine ligand. **A.E. Kuhn**, D.J. Charboneau, M.J. Kasher, N.A. Piro, W.S. Kassel, T. Dudley, J.J. Paul

**INOR 320.** Synthesis, structure and catalytic applications towards *Cis*- $\beta$ -ruthenium-salen complexes. **C. Lee**, C. Che

**INOR 321.** Synthesis of heterometallic 12-MC-4 complexes with ligand and counteranion substitutions. **G. Van Trieste**, M. Zeller, C.M. Zaleski

**INOR 322.** Synthesis and luminescent study of lanthanide aluminum metallacrowns and metallacryptands. **J. Travis**, M. Zeller, C.M. Zaleski

**INOR 323.** Synthesis of novel mixed O, N, S donor ligands. **E. Jugovic**, C. Hamaker

**INOR 324.** NMR characterization of Ln-Mn-Na 12-metallacrown-4 complexes. **C. Atzeri**, V. Marzaroli, M. Quaretti, J. Travis, L. Di Bari, **C.M. Zaleski**, M. Tegoni

**INOR 325.** Reactivity trends dictated by structure that influence terminal ligand substitution of alkylidyne-capped trinuclear molybdenum (IV) clusters. **R.C. Brookins**, J.R. Houston

**INOR 326.** Theoretical and experimental investigation of  $\text{Zn}_4\text{Sb}_3$  doped with metal elements. **K. Tsang**, R. Vellaisamy, R. Li

**INOR 327.** Synthesis and characterization of 1,3-diphenyl-6-aryl fulvene coordination complexes. **B.J. O'Connell**, S.K. Adas, G.J. Balaich, S.T. Iacono

**INOR 328.** Iron (II) pyridinediimine complexes with Lewis acids in the secondary coordination sphere. **K.T. Burns**, M. Delgado, J.M. Ziegler, J.D. Gilbertson

**INOR 329.** Binding modes of Ni-CO<sub>2</sub> adducts and their CO<sub>2</sub> activation. **C. Yoo**, Y. Kim, Y. Lee

**INOR 330.** Copper(II) reconfiguration of ligand conformations: Amplification and control of helicity by a single atom and solvent. **X. Duan**, T.M. Albelda, J.W. Canary

- INOR **331**. Effects of carrier ligands on cispaltin analog binding to cysteine and methionine. A.C. Smith, K. Williams
- INOR **332**. Analysis of S-Au-P bonding in phosphine gold(I) polyfluorothiolates: Backbonding and weak interactions. G. Moreno-Alcantar, J.M. Guevara-Vela, H. Torrens
- INOR **333**. Synthesis and structural characterization of chelating dinitrosyl iron complexes. O. Becerra, L. Li
- INOR **334**. Electron donor-acceptor properties of substituted pyridine ligands on *fac*-tricarbonylrhenium(II) systems. J.R. Farrell, G. Kerins, K.L. Niederhoffer, L.A. Crandall, C.J. Ziegler
- INOR **335**. Withdrawn.
- INOR **336**. Synthesis and characterization of multinuclear manganese carboxylate coordination compounds by incorporating the anion of 3-(dimethylamino)-1,2-propanediol. M. Reagan, A. Saha
- INOR **337**. Synthesis and characterization of novel sulfonamide ligands. A. Penn, C. Hamaker
- INOR **338**. Syntheses, structures, and electrochemical studies of N,N'-bis(alkylthiocarbamate) butane-2,3-dimine Cu(II) complexes as pendant alkoxy derivatives of Cu(ATSM). N.S. Vishnosky, M.S. Mashuta, R.M. Buchanan, C.A. Grapperhaus
- INOR **339**. Interactions between metal ions and ferrocenyl-histidine peptide conjugates. A. Ferranco, H. Kraatz
- INOR **340**. Synthetic control of coincidental formation of N-heterocyclic carbene-copper(II) complex within 2D and 3D metal-organic frameworks. H. Lee, K. Kim, E. Lee
- INOR **341**. Withdrawn.
- INOR **342**. Withdrawn.
- INOR **343**. Synthesis and characterization of transition metal complexes with cyclic boraganidates. C.M. Donahue, S.R. Daly
- INOR **344**. Low-symmetry subphthalocyanines as fluorescent probes and precursors for low symmetry phthalocyanines. K. McAuliffe, E.R. Trivedi
- INOR **345**. Synthesis, characterization, and growth kinetics of LiOH and KOH synthesized surface modified zinc oxide quantum dots. A.D. Mena, D. Francis, D. McCall-Butler, C. Walter, J. Davis-Gun, S. Cabrera, A.T. Royappa, P.P. Vaughan, A. Schrock, K.S. Molek
- INOR **346**. Withdrawn.
- INOR **347**. Withdrawn.
- INOR **348**. Synthesis, characterization, and growth kinetics of NaOH and CsOH-synthesized surface-modified Zinc oxide quantum dots. A.D. Mena, D. Francis, D. McCall-Butler, C. Walter, J. Davis-Gunn, S. Cabrera, A.T. Royappa, P.P. Vaughan, A. Schrock, K.S. Molek
- INOR **349**. Synthesis and x-ray single crystal structure characterization of new platinum(II) complexes with O,N,N,O donor salen-type ligands. G. Gonzalez Garcia, Y. Saldaña González, J. López J., A. González García
- INOR **350**. Isomerization in gold(II) compounds with 1,2-bis(diphenylphosphine) ethylene and fluorinated thiolates. G. Romo, G. Moreno-Alcantar, H. Torrens
- INOR **351**. Withdrawn.
- INOR **352**. Molybdenum(IV)oxophthalocyanines for Szilárd-Chalmers production of  $^{99}\text{Mo}$ . V. Rosecker, P. Weinberger, J.M. Welch
- INOR **353**. Study of multielectron redox chemistry through multiple bonded bimetallic asymmetric systems. N. Rodriguez, D. Portillo, D. Villagran
- INOR **354**. Synthesis and characterization of molybdenum bimetallic complexes with non-symmetric formamidate ligands. I. Cervantes, D. Villagran
- INOR **355**. Diverse electronic structure of ruthenium coordinated in situ generated redox active 1,2-dinitrosobenzene and 2-nitrosoanilido. P. Ghosh, G.K. Lahiri
- INOR **356**. Novel polycyclic thiones: Synthesis and complexation. D. Tapu, R. Hooper, O. Kuykendall
- INOR **357**. Synthesis and titration studies of arylazothioformamide ligands with various metals towards quantifying material purification. N.A. Johnson, S.R. Wolfe, K.V. Waynant, J.G. Moberly, M.F. Roll
- INOR **358**. Alterations of synthetic routes result in several new novel copper phenanthroline coordination complexes. M. Wilk, S. Scott, K. Reyes, V. Nesterov, M. Omari
- INOR **359**. Magnetic exchange between ions of the first transition series in dimeric compounds using naphthazarin as bridging ligand. E.N. Jimenez-Alvarado, G. Valle-Bourrouet
- INOR **360**. Synthesis and complexation of a new thione ligand. P. Jean, B. Hunt, D. Tapu
- INOR **361**. Functionalized pyridylphosphine ligands: Synthesis and coordination chemistry with late transition metals. M. Bezpalko, W.S. Kassel
- INOR **362**. Synthesis and characterization of heterobimetallic complexes supported by substituted trispyridylphosphines. J. Leonard, A.K. Frampton, W.S. Kassel
- INOR **363**. Synthesis and characterization of saccharinate complexes of dirhodium. S.C. Haefner
- INOR **364**. Synthesis and characterization of bimetallic ruthenium-platinum molecular cluster complexes with N-heterocyclic carbene complexes. S. Etezadi, B. Captain
- INOR **365**. Formation of radical anions on the dipyrin-1,9-dione scaffold of heme metabolites. R. Gautam, E. Tomat
- INOR **366**. Singlet fission-based frameworks. R. Hernandez Sanchez, M. Trinh, D. Erdosy, X. Zhu, C.P. Nuckolls
- INOR **367**. Synthesis and characterization of some dinitrosyl iron diphosphine compounds. M.W. Jones, V. Acquah, N. Jourabchian, N. Khojandi
- INOR **368**. Addition reactions of some dinitrosyl iron diphosphine complexes. R. Manandhar, B. Alajmi, M.W. Jones
- INOR **369**. Thiopyridazine based copper boratrane chemistry. S. Holler, M. Tüchler, F. Belaj, K. Kirchner, N. Mösch-Zanetti
- Section H**  
Moscone Center  
Hall D
- Undergraduate Research at the Frontiers of Inorganic Chemistry Organometallic Chemistry**  
A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*  
5:30 - 7:30
- INOR **370**. Examination of the relative impact of tris(diisopropylphosphinomethyl)phenylborate and tris(diphenylphosphinomethyl)phenylborate in salts of  $[\text{M}(\text{CO})_3(\text{PhBP})_3]$  (M = Cr, Mo, W). S. Senthil, J.T. Stephan, M.D. Storlie, M.L. Swift, V.G. Young, Jr., P.J. Fischer
- INOR **371**. Bimetallic complexes of tris(diisopropylphosphinomethyl)phenylborate and tris(diphenylphosphinomethyl)phenylborate. J.T. Stephan, S. Senthil, M.D. Storlie, M.L. Swift, V.G. Young, Jr., P.J. Fischer
- INOR **372**. Macrocyclic osmium carbonyl complexes with dicarboxylate ligands. D.M. Marolf, J.E. Johnstone, D.F. Zometa Paniagua, G.L. Powell
- INOR **373**. Ligand development for iron catalyzed atom transfer radical polymerization. M.R. Donley, S.E. Jenny, T. Dudley, D.L. Zubris
- INOR **374**. New Insights into the reactivity of tris(triphenylphosphine)ruthenium(II) dichloride. M. Aristov, K.B. Ghiassi, X.B. Powers, M.M. Olmstead, A.L. Balch
- INOR **375**. Synthesis and reactivity of bis(NHC)borate titanium(IV) imido complexes. M.G. Bernbeck, J.A. Ziegler, R.G. Bergman, J. Arnold
- INOR **376**. Synthesis and crystal structure of (dppe)PtH(SnPh<sub>3</sub>). A. Schmiechen, T.A. Mobley, I.A. Guzei
- INOR **377**. Hydrogenation of carbon dioxide with ruthenium bis(pyridyl) isoindolene complexes. J.L. Ciatti, J.B. Geri, N.K. Szymczak
- INOR **378**. Synthesis and reactivity of Fe(TSPE)<sub>2</sub>HCl for natural gas purification. B. Han, L.N. Zakharov, J.W. Gohdes
- INOR **379**. Diiron carbonyl photochemical carbon monoxide releasing compound or PhotoCORM. C. Stephenson, E. Duran, C.F. Works
- INOR **380**. Late transition metal compounds with 1,1'-bis(phosphino)ferrocene ligands. N. Lauricella, S. Hartlaub, C. Ryczek, A. Furneaux, J.D. Melton, N.A. Piro, W.S. Kassel, C. Nataro
- INOR **381**. Substitution reactions of compounds containing 1,1'-bis(phosphino)ferrocene ligands. N. Wamser, K. Cabrera, C. Nataro
- INOR **382**. Assessing CMPO-based ligands for selective lanthanide extraction from acidic solution. M. Patterson, O. Sode, S.M. Biros, E.J. Werner
- INOR **383**. Synthesis and catalytic assessment of palladium complexes bearing bridging and pendant amine bis(phenolato) ligands. E. Collins, B.J. Graziano, B. Wile
- INOR **384**. B<sub>2</sub>(OR)<sub>2</sub> Reagents as tunable one-electron oxidants. P. Chong, M. Messina, J.C. Axtell, Y. Wang, B. Upton, B.M. Hunter, S. Khan, J.R. Winkler, H.B. Gray, A. Alexandrova, H.D. Maynard, A.M. Spokoyny
- INOR **385**. Synthetic and analytical studies of a series of organic quinone ligands for catalytic purposes. J.N. Herring, W. Cross Lopez, S. Kruse, S.K. Hurst
- INOR **386**. Dibenzo[a,j]xanthylum derivatives: Analytical studies and characterization. W. Cross Lopez, J.N. Herring, S. Kruse, S.K. Hurst
- INOR **387**. Novel phosphorous-based ligands for precious metal catalysts. S. Kruse, J.N. Herring, W. Cross Lopez, S.K. Hurst
- INOR **388**. Organophosphate alcoholysis by polymer-supported molybdenum peroxy complexes. L. Miao, L.Y. Kuo
- INOR **389**. Computational investigation of phosphonothioate-neurotoxin hydrolysis by monomeric MoO<sub>4</sub><sup>2-</sup>. E. Bright, L.Y. Kuo
- INOR **390**. Catalytic and electrochemical properties of pyridine substituted imidazolium salts and the corresponding NHC-M complexes. R.J. Swails, S. Kariofillis, R. Cerbone, A. Conner, M. Sebald
- INOR **391**. Synthesis of gold(III) complexes containing phenanthroline- or quinoline-based ligands. K.M. Gilmore, R.L. Marley, J.E. Thompson, G.R. Donalson, A.R. McCormick, C.P. Owens, S.R. Weller, I. Nizalowski, A.L. Rheingold, D.R. Weinberg
- INOR **392**. Comparison of C-H bond cleavage in a series of palladium carboxylate complexes. I.L. Hunter, J. Jacobson, G.L. Bourne, A.N. Rainsberry, T. Kowalczyk, M.L. Scheuermann
- INOR **393**. Synthesis and reactivity of molybdenum carbon dioxide complexes. M.E. Graziani, X. Duan, L.J. Briggs, G.R. Lorzing, J.R. Vasta, M.A. Pogash, P.M. Graham
- Section I**  
Moscone Center  
Hall D
- Switchable Catalysts**  
J. A. Byers, P. Diaconescu, *Organizers*  
5:30 - 7:30
- INOR **394**. Redox switchable catalysts for the synthesis of block copolymers and crosslinked polymers. K.R. Delle Chiaie, A.B. Biernesser, J.A. Byers
- INOR **395**. Application of bulk electrolysis methods to redox-switchable catalysis. S. Quan, J. Brosmer, P. Diaconescu
- INOR **396**. Switchable di-zinc macrocycle catalysts: From highly active lactide polymerization to block copolymers. A.A. Thevenon, C. Romain, M. Bennington, H. Davidson, A. White, S. Brooker, C.K. Williams
- INOR **397**. Redox switchable copolymerization of cyclic esters and epoxides by a zirconium complex. S. Quan, R. Zhang, P. Diaconescu
- INOR **398**. Investigations into fast switching for the redox-switchable ring-opening polymerization of epoxides and lactides. J.A. Kehl, J. Curley, M. Qi, J.A. Byers
- INOR **399**. DFT studies of redox switchable copolymerization of cyclic esters and epoxides. J. Wei, P. Diaconescu
- INOR **400**. Ligand effect of a redox-controlled Al-based ROP catalyst. A. Lai, P. Diaconescu
- INOR **401**. Yttrium and indium alkoxide complexes as redox switchable catalysts. S. Ro, A. Laughlin, P. Diaconescu



INOR **402.** Polymerization through redox switchable catalysis. **M. Riffel, J. Wei, P. Diaconescu**

INOR **403.** Redox switchable polymerization reactions. **R. Dai, P. Diaconescu**

INOR **404.** Progress towards parameterizing flow reactor design for the efficient scale-up of photoredox catalysis methods. **T.M. Williams, A. Sun, C. Stephenson**

INOR **405.** Ferrocene-Chelating heteroscorpionate complexes in catalysis. **M. Abubekerov, P. Diaconescu**

INOR **406.** Hydroamination through redox-switchable catalysis. **Y. Shen, S.M. Shepard, P. Diaconescu**

### Section J

Moscione Center  
Hall D

**Gabor A. Somorjai Award for Creative Research in Catalysis: Symposium in honor of John E. Bercaw**

A. Hazari, N. Hazari, *Organizers*

5:30 - 7:30

INOR **407.** Understanding the mechanism of catalytically upgrading (bio)ethanol to butanol. **H. Aitchison, D. Wass, R. Wingard**

### Section K

Moscione Center  
Hall D

**Organometallic Chemistry: Applications to Materials & Polymer Science**

N. S. Radu, *Organizer*

5:30 - 7:30

INOR **408.** Single chain polyethylene nanocrystals. **M. Schutte, A. Godin, P. Kenyon, M. Krumova, I. Goettker Genannt, S. Mecking**

INOR **409.** Copolymerization of cyclohexene oxide with carbon dioxide catalyzed by dinuclear iron complex bearing a phenylene-bridged bis(tripodal  $N_2O_2$ ) ligand. **S. Zhan, Q. Jiang, Z. Song**

INOR **410.** Ethylene insertion polymerization in the presence of organic radicals - Exploiting mechanistic insights to influence microstructures. **S. Stadler, F. Ölscher, I. Göttker-Schnetmann, V. Monteil, S. Mecking**

INOR **411.** Model studies of catalytic olefin chain growth in the presence of biological impurities. **F.P. Wimmer, I. Göttker-Schnetmann, S. Mecking**

INOR **412.** Remote substituent effects in Ni(II)-catalyzed chain growth catalysis. **E. Schiebel, T. Wiedemann, I. Goettker Genannt, S. Mecking**

INOR **413.** Catalytic upgrading of fatty acids from renewable single cell oils. **J. Zimmerer, L. Williams, D. Pingen, S. Mecking**

INOR **414.** Development of coordinatively unsaturated, low-valent metal isocyanide MOFs. **A. Arroyave, D. Agnew, J.S. Figueroa**

INOR **415.** Withdrawn.

### Section L

Moscione Center  
Hall D

**Organometallic Chemistry: Applications to Organic Transformations**

N. S. Radu, *Organizer*

5:30 - 7:30

INOR **416.** Synthesis and characterization of organometallic compounds of coinage metals relevant to catalysis. **S. Martínez de Salinas Uzquiza, Á. Mudarra, M. Pérez-Temprano**

INOR **417.** Mechanistic studies on the oxidative addition of aryl halides to COBAL(Tl) complexes. **M. Perez-Temprano, J. San Jose, D. Gallejo**

INOR **418.** Precision measurement of the C(sp<sup>3</sup>)-H activation kinetic isotope effect in a ruthenium-centered olefin metathesis catalyst via differential <sup>13</sup>C labeling. **C. Galvin, A. Johns, R.L. Pederson, J. Cannon, R.H. Grubbs, D.J. O'Leary**

INOR **419.** N-Heterocyclic Olefins (NHO) as ancillary ligands in catalysis and their application in transfer hydrogenation reactions. **J. E. A. M. Iglesias, N. Garcia Villalta, L.A. Oro**

INOR **420.** Iridium(III) bis-N-heterocyclic carbenes catalyzed transfer hydrogenation reactions. **N. Garcia Villalta, L.A. Oro, M. Iglesias, J. E. A.**

INOR **421.** Synthesis and reactivity of the aminovinyl carbenes toward alkynes in the Dötz reaction. **R.M. Padilla, J. Tamariz, F. Delgado, A. Feliciano**

INOR **422.** Reactivity of biaryl mono-phosphine complexes. **B.E. Silva, K. Sukert, H. Henriksen, D.B. Grotjahn**

### Section M

Moscione Center  
Hall D

**Undergraduate Research at the Frontiers of Inorganic Chemistry**

**Solid State & Materials Chemistry**

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*

5:30 - 7:30

INOR **423.** Synthesis and characterization of metal-organic framework materials for aqueous heavy metal detection. **N.S. Morey, T.E. Bustamante**

INOR **424.** Singlet fission in a hybrid system with CdSe nanocrystals and functionalized chromophores. **D.S. Hamilton, X. Li, M.L. Tang**

INOR **425.** Design of Polyethylene Glycol (PEG)-grafted gold nanoparticles for biomedical applications. **J. Grundler, T. Lafferty, E. Park**

INOR **426.** Effects of seasonal variation of groundwater composition on gold nanoparticle surface chemistry. **E.R. Carlson, A.K. Bentley**

INOR **427.** Catalytic activity of ultrasmall copper nanoparticles. **A. Kale, G. Ferko, S.K. St Angelo**

INOR **428.** Dye encapsulation in metal-organic frameworks. **B.J. Johnson, K. Anderson, E. Goyke, K. O'Connor, N. Anderson, N. Beaulieu**

INOR **429.** Single step synthesis of Sb/Cu-doped ZnO and ZnS nanostructures on mica and n-GaN/Al<sub>2</sub>O<sub>3</sub> substrates by a simple vapor phase transport method. **H. Rivera-Marrero, T.M. Trad, M.J. Uddin**

INOR **430.** Withdrawn.

INOR **431.** Electrochemical characterization of manganese dioxide supercapacitors. **B.T. Hohman, R.S. Zickel, A.K. Bentley**

INOR **432.** Fabrication of hierarchical nanostructures for surface-enhanced Raman scattering biosensors. **K. Curtin, N. Wu**

INOR **433.** Understanding secondary structures of metal organic frameworks via tuning of ligand-ligand interactions. **M. Johnson, M.J. Voegtli, K. Tran, J. Jones, C. Bauer**

INOR **434.** Growth of microporous imidazolate frameworks in mild conditions via polymer-templating. **C. Bauer, K. Kwong, B. Doyle, H. Kim**

INOR **435.** Negative fingerprints development on reducing metal substrates. **N. Zuparova, L. Mullen, L. Bliss, A. Lafi, H. Abdou, A. Mohamed**

INOR **436.** Gold nanoparticle catalysts: Chemical properties and catalytic behavior. **M.N. Pollock, C. Peterson, C. Pursell, B.D. Chandler**

INOR **437.** Varying zinc sulfide nanocrystal shape, size, and surface chemistry to control copper doping via cation exchange. **H.M. Sizemore, K.N. Heupel, J.L. Jenkins**

INOR **438.** Ligand effects on the reactivity and synthesis of bimetallic molecular precursors for semiconductor materials. **J.L. Tennant, L.J. Maxton, A.W. Holland**

INOR **439.** Hydrogenation over metal oxide supported gold nanocatalysts. **A. Huther, H. Krause, C. Pursell, B.D. Chandler**

INOR **440.** Understanding growth behavior of alumina (Al<sub>2</sub>O<sub>3</sub>) and boehmite (AlO(OH)) nanoparticles. **M. Casillas, F.A. Fasulo, N.S. Bell, T.J. Boyle, L.J. Treadwell, B.A. Hernandez-Sanchez**

### Section N

Moscione Center  
Hall D

**ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler**

**Materials Chemistry of Solutions & Solids for a Sustainable Future**

J. C. Giordan, S. E. Hayes, B. L. Maddux, *Organizers*

5:30 - 7:30

INOR **441.** Film formation from peroxo hexatantalate precursors. **R.H. Mansergh, L.B. Fullmer, D. Park, J.M. Amador, M.D. Nyman, D.A. Keszler**

INOR **442.** Enhanced dehydroxylation and interface passivation of solution-processed dielectric metal oxide thin films using forming gas annealing. **J.C. Ramos, F. Luo, B.A. Hammann, D. Park, Y. Huang, S.E. Hayes, E.L. Garfunkel, D.A. Keszler**

INOR **443.** Amorphous niobium phosphate thin films from clusters in water. **D. Park, S. Goberna-Ferron, D. Fast, M. Dolgos, M.D. Nyman, D.A. Keszler**

INOR **444.** Aqueous solution-derived lanthanum zirconium oxide thin films on Self-Assembled Monolayers (SAMs). **M.C. Thomas, K.N. Woods, C. Page, Y.J. Chabal**

INOR **445.** Solution-processed low-refractive index alumina-based thin films for anti-reflective coatings. **C.K. Perkins, M.T. Gutierrez-Higgins, V. Gouliouk, R. Mansergh, D. Park, J.C. Ramos, C. Nanayakkara, Y.J. Chabal, D.A. Keszler**

INOR **446.** Improved synthesis of the elusive aluminum hydroxide octamer [Al<sub>8</sub>(OH)<sub>14</sub>(H<sub>2</sub>O)<sub>18</sub>]<sup>10+</sup> cluster. **E. Eitheim, C.K. Perkins, L.B. Fullmer, B. Fulton, C. Colla, A.F. Oliveri, D. Park, W.H. Casey, M.D. Nyman, T. Forbes, D.W. Johnson, D.A. Keszler**

INOR **447.** Understanding the effect of counterions on the hydrolysis of aqueous aluminum hydroxide clusters using QM computations. **L. Wills, J. Buchanan, C.K. Perkins, B. Fulton, D.A. Keszler, D.W. Johnson, P. Cheong**

INOR **448.** Reactions of hexatantalate and hexaniobate with hydrogen peroxide. **C.E. Malmberg, L. Wills, L.B. Fullmer, M.D. Nyman, P. Cheong**

INOR **449.** Proton-exchange rates on hydroxide bridges of mineral-like metal hydroxide clusters. **C.R. Fields, A. Oliveri, C. Colla, W.H. Casey, D.W. Johnson**

INOR **450.** Solution speciation of amphoteric early transition metal clusters. **D. Hutchison, M. Olsen, M.D. Nyman**

INOR **451.** Tin and alkyltin speciation on aqueous and nonaqueous solutions. **M. Olsen, D. Hutchison, S. Saha, M.D. Nyman, D.A. Keszler**

INOR **452.** Characterization of *n*-butyl-SnOOH for nanopatterning: Radiation behavior. **N. Kenane, D.A. Keszler**

INOR **453.** Characterization of *n*-butyl-SnOOH for nanopatterning: Solution precursor and film. **J.M. Amador, J.T. Diulus, M. Li, R.T. Frederick, S. Saha, E.L. Garfunkel, D.A. Keszler, G.S. Herman**

INOR **454.** Characterization of *n*-Bu-SnOOH: Solution precursor identity and film quality. **M. Li, J.M. Amador, R.T. Frederick, S. Saha, J.T. Diulus, D.A. Keszler, G.S. Herman, E.L. Garfunkel**

INOR **455.** Characterization of butyl tin photoresists with electron stimulated desorption and temperature programmed desorption. **R.T. Frederick, J.T. Diulus, S. Saha, J.M. Amador, M. Li, D.A. Keszler, E.L. Garfunkel, G.S. Herman**

INOR **456.** Withdrawn.

INOR **457.** Glass formation in basic halogenides of zirconium and hafnium. **J.A. Sommers, J.M. Amador, E.C. Fong, D.A. Keszler**

INOR **458.** Light emission from an electrical conductor. **V. Gouliouk, K.A. Stewart, R.G. Manley, D.G. Enicks, J.F. Wager, D.A. Keszler**

INOR **459.** Design meets nature: New tetrahedrite superabsorbents. **J. Heo, D.A. Keszler**

INOR **460.** Photochemical reaction coordinates of metal-organic complexes in solution revealed by femtosecond electronic and Raman spectroscopy. **L. Zhu, S. Saha, Y. Wang, N.D. Rozanov, D.A. Keszler, C. Fang**

INOR **461.** Effects of Organic Components on Novel Hybrid Organic-Inorganic Structures. **B. Barraza, R. Seshadri**

## Section O

Mosccone Center  
Hall D

## Sustainability in Electrocatalytic Fuel &amp; Chemical Production

Cosponsored by CATL

L. A. Berben, J. L. Dempsey, *Organizers*

5:30 - 7:30

INOR **462.** Silicon-based photoelectrochemical cell for enzymatic CO<sub>2</sub> conversion. J. Ko, E. Son, S. Kuk, C. Park

INOR **463.** Towards formic acid oxidation by surface attached Ni(P<sub>2</sub>N<sub>2</sub>)<sub>2</sub> complexes. F. Brunner, C.P. Kubiak

## Section P

Mosccone Center  
Hall D

## F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in honor of Pingyun Feng

Cosponsored by WCC

X. Bu, P. Yang, Q. Zhang, D. Zhao, N. Zheng, *Organizers*

5:30 - 7:30

INOR **464.** Constrained Volume self-assembly of organic-inorganic nanocomposites. R. Liu

INOR **465.** Facile synthesis of nanosheet AuPd/g-C<sub>3</sub>N<sub>4</sub> composites for photocatalytic H<sub>2</sub> evolution under visible-light irradiation. L. Ge, C. Han

INOR **466.** Photochemical method in preparing atomically dispersed catalysts. P. Liu, Y. Zhao, G. Fu, N. Zheng

INOR **467.** Design of (metallo)porphyrin-based coordination frameworks for electrochemical studies. Q. Lin

INOR **468.** Dichalcogenide ligand exchange on germanium nanoparticles. K.A. Newton, A.L. Holmes, S. Kauzlarich, W. Blacklock

INOR **469.** Aromatic guest molecules mediated synthesis of porous homochiral camphorate frameworks. J. Jin, X. Zhao, X. Bu

INOR **470.** Nanoporous carbon derived from a functionalized metal-organic framework as highly efficient oxygen reduction electrocatalyst. Y. Wang, P. Feng

INOR **471.** Applications of heterometallic MOFs in gas adsorption, separation and biodiesel preparation. Y. Wang, Q. Zhai, P. Feng

INOR **472.** Chirality in atomically precise noble nanoclusters. J. Yan, B.K. Teo, N. Zheng

INOR **473.** Multivariable modular design of pore space partition. X. Zhao, E.T. Nguyen, X. Bu, P. Feng

INOR **474.** Rational tuning of structure type in open framework chalcogenide. X. Chen, X. Bu, P. Feng

INOR **475.** Crystallography in MOF: Ordering guest molecules by coordination assisted orientation control. L. Wang, S. Cohen

INOR **476.** Electrochemiluminescence behaviors featuring the point defects of supertetrahedral chalcogenide nanocluster. Y. Liu

INOR **477.** Metal-free peralkylation of the closo-hexaborate dianion, B<sub>6</sub>H<sub>6</sub><sup>2-</sup>. J. Axtell

INOR **478.** Synthetic design of homochiral metal-organic frameworks. E.T. Nguyen, X. Zhao, X. Bu

INOR **479.** Novel metal organic frameworks through tetrameric magnesium clusters. A. Hong, X. Zhao, A. Hong, X. Bu

## Section Q

Mosccone Center  
Hall D

## Nanoscience

B. G. Trewyn, *Organizer*

5:30 - 7:30

INOR **480.** Synthesis, characterization, and application of dendrimer coated silica nanoparticles as fluorescent chemosensors. H. Deuermeyer, A. Luhrs, L.D. Margerum

INOR **481.** Ag-TiO<sub>2</sub> hybrid nanoparticles as active photocatalyst for hydrogen evolution. S. Varapragasam, S. Mia, C. Balasanthiran, R.M. Rioux, J.D. Hoefelmeyer

INOR **482.** Gold nanorods with a photoresponsive azobenzene shell via *in-situ* reduction of 4-nitrobenzenediazonium tetrafluoroborate. D.H. Wang, K. Park, R.A. Vaia, L. Tan

INOR **483.** Lead chalcogenide quantum dots: Measurements on a standardized sample. A. Marshall, J.C. Johnson, J. Luther, A.F. Fidler, V.I. Klimov, M.C. Beard

INOR **484.** Advantages of naked Ru<sup>0</sup> surfaces in catalysis and electrocatalysis. S. Anantharaj, S. Kundu

INOR **485.** Toward large-area Surface Enhanced Raman Spectroscopy (SERS) sensors: Fabrication of patterned, nanostructured surfaces. W. Mihalyi-Koch, A. Shadrav, A. Oh, F. Dawood

INOR **486.** Fabrication of highly nanostructured electrodes. P. Kharel, A. Talsania, D. Cahill, F. Dawood

INOR **487.** Carbon-based nanomaterials applications in the photo-triggered release of small molecule bioregulators. P. Huang, X. Zhao, X. Dang, N. Zheng, P.C. Ford

INOR **488.** Fundamental differences in the cation exchange behaviors of cadmium- and lead chalcogenide quantum dots. X.A. Aguilar, C. Lin, A.L. Morris, S.E. Benjamin, P.G. Van Patten

INOR **489.** Nanotethering to cadmium selenide for solar applications. D. Jackson, M.E. Hagerman, J.D. Kehlbeck

INOR **490.** Studying the surface effects of PEDOT:PSS on nanoporous LiMn<sub>2</sub>O<sub>4</sub>. V. Basile, B. Lesel, S.H. Tolbert

## Deposition &amp; Etching of Nanostructures

## Posters

Sponsored by COLL, Cosponsored by INOR

## MONDAY MORNING

## Section A

Mosccone Center  
Gateway Ballroom 103/104

## ACS Awards in Inorganic Chemistry: Plenary Session

S. A. Koch, N. S. Radu, *Organizers*

J. D. Protasiewicz, *Organizer, Presiding*

8:15 INOR **491. Award Address**

(ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry sponsored by Strem Chemicals, Inc.). Copper-Oxygen complexes relevant to enzyme intermediates. W.B. Tolman

8:50 INOR **492. Award Address** (Harry Gray Award for Creative Work in Inorganic Chemistry by a Young Investigator sponsored by the Gray Award Endowment). Rational development of pincer supported iron complexes for the reversible hydrogenation of carbon dioxide to formic acid and methanol. N. Hazari, W.H. Bernskoetter

9:20 INOR **493. Award Address** (ACS Award in Inorganic Chemistry sponsored by Aldrich Chemical Company, LLC). Amazing nonheme high-valent iron-oxo landscape. L. Que

9:55 Intermission.

10:10 INOR **494. Award Address**

(ACS Award in Organometallic Chemistry sponsored by The Dow Chemical Company Foundation). Hydrogenase- and ACS-inspired bioorganometallic chemistry. M.Y. Darensbourg

10:40 INOR **495. Award Address**

(F. Albert Cotton Award in Synthetic Inorganic Chemistry sponsored by the F. Albert Cotton Endowment Fund). Crystalline semiconducting and porous materials: Synthesis, properties, and applications. P. Feng

11:10 INOR **496. Award Address** (Gabor A. Somorjai Award for Creative Research in Catalysis sponsored by the Gabor A. & Judith K. Somorjai Endowment Fund). Mechanistic studies of 1-alkene trimerization and polymerization with organo-transition metal catalysts. J.E. Bercaw

11:40 INOR **497. Award Address**

(ACS Award in the Chemistry of Materials sponsored by E. I. du Pont de Nemours & Co.). Inorganic materials chemistry and innovation. D.A. Keszler

## Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark

Sponsored by NUCL, Cosponsored by INOR

## Multicenter Molecules &amp; Coupled Molecular Assemblies: Synthesis, Characterization &amp; Theory

## Synthesis

Sponsored by PHYS, Cosponsored by INOR

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Frontiers in Analytical &amp; Physical Chemistry: From Atmospheric to Atomic Discoveries

Sponsored by PROF, Cosponsored by ANYL<sup>1</sup>, BIOL<sup>1</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>1</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>1</sup>, POLY, PRES<sup>1</sup> and WCC

## Support &amp; Activator Effects on Metal Mediated Polymerization

Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG<sup>1</sup>

## Light-Driven Chemistry: Photoelectrochemistry &amp; Photocatalysis

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

## MONDAY AFTERNOON

## Section A

Mosccone Center  
2011

## Gabor A. Somorjai Award for Creative Research in Catalysis: Symposium in honor of John E. Bercaw

A. Hazari, *Organizer*

N. Hazari, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 INOR **498.** Stoichiometric and catalytic reactions mediated by water-soluble host-guest supramolecular systems. R.G. Bergman

2:00 INOR **499.** Organometallic chemist's nightmare: Chemistry in air, water, and heterogeneous environments. L. Do, A. Ngo, S. Bose, L. Yang

2:25 INOR **500.** Polymerization catalysts that benefit from dynamic ligand behavior. J.A. Byers, N.K. Szymczak, J.A. Kehl, A. Kaur, C.M. Manna, K.T. Tseng, L.V. Hale, A.B. Biernesser

2:50 INOR **501.** Biologically inspired clusters: Synthetic control of structure and effects on reactivity. T. Agapie

3:15 Intermission.

3:25 INOR **502.** Metal oxo cubanes as catalytic centers for oxygen evolution. T.D. Tilley, A. Nguyen

3:50 INOR **503.** Versatile redox chemistry of nanoscale cerium oxide. J.M. Mayer, D. Damatov, S. Laga, J. Peng

4:15 INOR **504.** One and two dimensional cobalt dithiolene frameworks for artificial photosynthesis. S.C. Marinescu, A.J. Clough, C.A. Downes

4:40 INOR **505.** From single atom based-catalysts to nanoparticles. E. Bunel

5:05 INOR **506.** Recent advances in olefin metathesis. R.H. Grubbs

## Section B

Mosccone Center  
2011

## Celebrating 60 Years of the Division of Inorganic Chemistry

## Former Young Investigators

M. J. Clarke, D. C. Crans, *Organizers*

J. R. Long, J. D. Protasiewicz, N. Radu, *Presiding*

1:30 Introductory Remarks.

1:35 INOR **507.** Multi-electron redox chemistry: Redox load distributions in cluster cores. T. Betley

2:05 INOR **508.** Metals and immunity: Explorations of a biological hexahistidine site. E.M. Nolan

2:35 INOR **509.** Plasmon enhanced solar steam generation and desalination. J. Zhu

**3:05 INOR 510.** Single-molecule magnets based on oligo- and polynuclear lanthanide complexes. E. Mazarakioti, J. Tang, G. Christou, T. Stamatos

**3:35** Intermission.

**3:50 INOR 511.** Filled tetrahedral semiconductors: Solution phase synthesis of low dimensional intermetallics. J. Vela-Becerra

**4:20 INOR 512.** Graphite-Conjugated catalysis. Y. Surendranath

**4:50 INOR 513.** Synthesis, characterization, and reactivity of redox active 2,5-diminopyrrole ligands and complexes. J.S. Anderson, A.J. McNeece

**5:20 INOR 514.** Responsive chemical tools for COS and H<sub>2</sub>S delivery. M.D. Pluth

## Section C

Moscone Center  
2016

### Undergraduate Research at the Frontiers of Inorganic Chemistry

#### Solid State & Materials Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*  
S. Poland, *Presiding*

**1:30 INOR 515.** Synthesis and properties of transition metal carbide bucky-paper. K.E. Madsen, B.M. Leonard

**1:50 INOR 516.** Super robust and water-soluble gold nanoparticles for biomedicine. L. Mullen, L. Bliss, N. Zuparova, B. Atallah, H. Abdou, A. Mohamed

**2:10 INOR 517.** Using carboxylate ligand sterics to control copper availability during cation exchange to yield Cu-doped ZnS nanocrystals. K.N. Heupel, H.M. Sizemore, J.L. Jenkins

**2:30 INOR 518.** Characterization of silver (I) and engineered Silver Nanoparticle (AgNP) binding to apo and metal reconstituted zinc finger peptides. Z. Amaris, G.A. Park, M. Eiken, K.E. Splan, K. Wheeler

**2:50** Intermission.

**3:05 INOR 519.** Coordination compounds and hybrid materials containing the hydrtris(3,5-dimethyl-1,2,4-triazolyl)borate ligand. E.T. Roberts, K.L. Salvatore, B.C. Chan, B.A. Reisner

**3:25 INOR 520.** Synthesis of UO<sub>2</sub>-Zirconolite thin films to address pellet-cladding debonding. B. Klamm, R.F. Hess, T.J. Boyle, K. Hattar, R. Dingreville, D. Perales

**3:45 INOR 521.** Advances in manganese- and cobalt-based nanostructures for oxygen/hydrogen electrocatalysis. J.A. Vigil, T.N. Lambert

**4:05 INOR 522.** Understanding titanium and sulfur speciation in titanium trisulfide electrodes using x-ray spectroscopy. C. Wilson, V. Doan-Nguyen, J.D. Bocarsly, A. Lanzirrotti, R. Seshadri

**4:25 INOR 523.** Synthesis of quantum dot bioimaging agents to study bacteriophage. S. Mendoza, M. McKeown, M. Casillas, C. Stevens, J. Pelowitz, A. McBride, C. Ashley, B.A. Hernandez-Sanchez

## Section D

Moscone Center  
2018

### ACS Awards: Symposium in honor of Lawrence Que, Jr. & William B. Tolman

P. L. Holland, M. J. Maroney, *Organizers*,  
*Presiding*

**1:30** Introductory Remarks.

**1:35 INOR 524.** Bioinorganic aspects of nitrogen oxide chemistry with heme and/or copper complexes. K.D. Karlin

**2:00 INOR 525.** Synthetic chemistry as a window into biology: Architectural complexity at the molecular level. A. Borovik

**2:25 INOR 526.** Cleaving and forming C-H bonds by moving protons and electrons. J.M. Mayer, J. Darcy, T. Markle, S. Kolmar

**2:50 INOR 527.** Oxygen activation and C-H bond cleavage by metalloenzymes and metalloporphyrins. J.T. Groves

**3:15** Intermission.

**3:30 INOR 528.** Bioinorganic spectroscopy: Activating metal sites for biological electron transfer. E.I. Solomon

**3:55 INOR 529.** Insights into the electronic structure of iron sulfur clusters using two-dimensional x-ray spectroscopy. S. DeBeer

**4:20 INOR 530.** Bio-inspired bimetallic complexes for activating H<sub>2</sub> and CO<sub>2</sub>. C. Lu, R. Cammarota, S. Desai, J. Xie, K. Vogiatzis, D. Pahlis, L. Gagliardi

**4:45 INOR 531.** Tracking mobile zinc in the brain - new probes, new biology. S.J. Lippard

## Section E

Moscone Center  
2020

### Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions

*Financially supported by Chemistry of Materials*

K. R. Kittilstved, *Organizer*

E. J. McLaurin, *Organizer, Presiding*

A. Greytak, *Presiding*

**1:30 INOR 532.** Chemically tunable 2D layered materials. K.J. Koski

**2:00 INOR 533.** Solution-Phase approaches to indium nitride nanomaterials: Chemical insights on a new mechanism. Y. Chen, Z. Liu, N.S. Karan, R. Beaulac

**2:30 INOR 534.** Linking the forward and reverse vapor-liquid-solid mechanisms in metal oxide nanostructures. L. Yu, B.M. Hudak, A.J. Riddle, S. Wang, Y. Chang, B. Guiton

**3:00** Intermission.

**3:15 INOR 535.** Patterns and plasmonics: Nanopatterning of silicon surfaces via directed self-assembly. F. Liu, E. Lubber, B. Olsen, J.M. Buriak

**3:45 INOR 536.** Responsive and reconfigurable materials from dimensionally confined colloidal nanocrystal assemblies. B. Helms, Z. Zhang, E. Goldfine, C. Huang, T. Russell

**4:15 INOR 537.** Nanomaterial surfaces in 0, 1, and 2 dimensions: Results from chromatography and functional imaging. A.B. Greytak

## Section F

Moscone Center  
2022

### Sustainability in Electrocatalytic Fuel & Chemical Production

*Cosponsored by CATL*

L. A. Berben, J. L. Dempsey, *Organizers*

C. A. Caputo, *Presiding*

**1:30 INOR 538.** Sustainable solar-to-fuels and solar-to-fertilizer production. D.G. Nocera

**1:55 INOR 539.** Reducing overpotential and maintaining high rates in nickel electrocatalysts for H<sub>2</sub> production. M.J. O'Hagan, A.P. Cardenas, A.M. Appel, R. Bullock, E.S. Wiedner

**2:20 INOR 540.** Unravelling PCET pathways of the hydride formation step in cobalt complexes relevant to solar fuel production. N. Elgrishi

**2:40 INOR 541.** Electrocatalytic reduction of CO<sub>2</sub> using cyclopentadienone iron complexes. R. Francke, A. Rosas-Hernández, H. Junge, M. Beller, M. Roemelt

**3:05 INOR 542.** Earth-abundant metal complexes with flexible ligand coordination for catalytic proton and carbon dioxide reduction. S. Saund, K. Ng, S. Goldschmid, V. Thoi

**3:30** Intermission.

**3:45 INOR 543.** Variable temperature spectral and electrochemical studies of carbon dioxide reduction by [Fe4N(CO)12]-: Mechanistic investigations. A. Taheri, L.A. Berben

**4:05 INOR 544.** Bioinorganic approaches to solar-to-chemical conversion: Merging molecular catalysis with materials and biology. C.J. Chang

**4:30 INOR 545.** Catalytic production of hydrogen and reduction of carbon dioxide by dirhodium(II,II) complexes. C. Turro, K.R. Dunbar

**4:55 INOR 546.** Homogeneous water oxidation and CO<sub>2</sub> reduction: Catalysts and mechanisms. Y. Xie, D.W. Shaffer, D. Szalda, J.J. Concepcion

## Section G

Moscone Center  
2024

### F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in honor of Pingyun Feng

P. Yang, Q. Zhang, D. Zhao, N. Zheng, *Organizers*

X. Bu, *Organizer, Presiding*

**1:30 INOR 547.** Mo-S Complexes based on [MoO(S)2] motif as MoS<sub>x</sub>-inspired electrocatalysts for hydrogen production. Y. Wu, B. Garrett

**1:50 INOR 548.** Compositional, structural, and geometrical design of crystalline porous materials. X. Bu

**2:10 INOR 549.** Controlled encapsulation of catalysts into metal-organic frameworks. C. Tsung

**2:30 INOR 550.** Controlling the structures and properties of gold/silver nanoclusters with unconventional protecting ligands. Q. Wang

**2:50 INOR 551.** Surfactant-thermal method to prepare crystalline inorganic materials. Q. Zhang

**3:10** Intermission.

**3:40 INOR 552.** Crystal engineering of titanium-oxo clusters. J. Zhang

**4:00 INOR 553.** Stabilization of isolated metal chalcogenide nanoclusters and their electrocatalytic applications for hydrogen evolution reaction and oxygen reduction reaction. T. Wu

**4:20 INOR 554.** Beyond multimetallic nanoparticles for catalysis: A general approach to stable high-index faceted multimetallic nanowires. X. Huang

**4:40 INOR 555.** Metal nanoclusters as a model system for investigating the surface structure and catalysis of metal nanoparticles. J. Yan, L. Ren, P. Yuan, L. Huang, N. Zheng

## Section H

Moscone Center  
3000

### Organometallic Chemistry: Applications to Materials & Polymer Science

N. S. Radu, *Organizer*

A. Dudnik, *Presiding*

**1:30 INOR 556.** Chiral Phospha[n]ferrocenophanes: New metallopolymers through ring-opening polymerizations. M. Cao, S. Sadeh, J. Quail, J. Müller

**1:50 INOR 557.** Asymmetric hybrid salen/phosphasalen initiators for the iso-selective ring-opening polymerisation of rac-lactide. C. Coleman, C.K. Williams, N.J. Long

**2:10 INOR 558.** Redox control of aluminum ring-opening polymerization: A combined experimental and DFT investigation. J. Wei, P. Diaconescu

**2:30 INOR 559.** Synthesis of (salen)In(OPh)(OtBu)<sub>2</sub> catalyst, and redox-switchable ring-opening polymerization of ε-caprolactone and other cyclic esters. S. Quan, R. Zhang, P. Diaconescu

**2:50 INOR 560.** Highly robust Pd(II) α-dimine catalysts for olefin (co) polymerization. S. Dai, C. Chen

**3:10 INOR 561.** Redox-controlled olefin (Co)polymerization catalyzed by ferrocene-bridged phosphine-sulfonate palladium complexes. M. Chen, C. Chen

**3:30 INOR 562.** Supported lanthanide catalysts: Role of the grafting on the stereochemical outcome of different polymerization reactions. I. Del Rosal, L. Maron

**3:50 INOR 563.** Investigation of a unique mechanism for the production of high molecular weight polyethylene using bis(pyridylimino)isoindolate iron(II) catalysts. J.A. Kehl, K.T. Tseng, L.V. Hale, A.B. Biernesser, N.K. Szymczak, J.A. Byers

**4:10 INOR 564.** Mechanistic studies of Pd(II)-catalyzed copolymerization of ethylene and vinylalkoxysilanes: Evidence for a β-silyl elimination chain transfer mechanism. Z. Chen, W. Liu, O. Daugulis, M. Brookhart

**4:30 INOR 565.** Non-chiral lithium aluminate reagents for the determination of enantiomeric excess of chiral alcohols. R. Garcia, D. Wright

**4:50 INOR 566.** Withdrawn.

**5:10 INOR 567.** Aqueous polyethylene nanocrystal dispersions from catalytic polymerization. P. Kenyon, A. Godin, S. Mecking



## Section I

Mosccone Center  
3010

**2017 Priestley Medalist: Symposium in honor of Tobin J. Marks**

**Supported Organometallics & Heterogeneous Catalysis**

*Cosponsored by PMSE*

*Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University*

A. Facchetti, T. Lohr, *Organizers*

M. Neurock, *Presiding*

**1:30** Introductory Remarks.

**1:35 INOR 568.** Tuning nanoparticle alloys to enhance C-H bond activation for the catalytic dehydrogenation of ethane. V. Cybulskis, J.R. Gallagher, H. Tsent, B. Bukowski, Z. Wu, E.C. Wegener, A.J. Kropf, B. Ravel, J.P. Greeley, F. Ribeiro, J. Miller

**2:05 INOR 569.** Hydrogen and formaldehyde generation from bio-derived alcohols using supported molybdenum-oxo catalysts. T. Lohr, A. Mouat, M. DeLferro, P.C. Stair, T.J. Marks

**2:35 INOR 570.** Integration of the three fields of catalysis: Heterogeneous, homogeneous, and enzyme. G.A. Somorjai

**3:05 INOR 571.** Catalysts synthesized by organometallic surface chemistry. P.C. Stair

**3:35** Intermission.

**3:45 INOR 572.** Surface structural-chemical characterization of supported single-site organometallic catalysts. M. DeLferro

**4:15 INOR 573.** Metallacyclobutane structure influence on the production of propylene via olefin metathesis over surface organometallic chemistry derived catalysts. C.P. Nicholas, M. Taoufik

**4:45 INOR 574.** Metal-organic Frameworks for Sustainable Catalysis. W. Lin

## Section J

Mosccone Center  
3012

**ACS Award in Organometallic Chemistry: Symposium in honor of Marcetta Y. Darensbourg**

D. Mason, C. G. Riordan, *Organizers*

M. R. Mackiewicz, X. Zhao, *Presiding*

**1:30 INOR 575.** Carbene-stabilization of elusive main group oxides. G.H. Robinson

**1:55 INOR 576.** On the contents of metal-seamed metal organic nanocapsules. J.L. Atwood, C. Zheng, A. Rathnayake, R. Patil, K. Sildigar, K. Feaster, C. Barnes, P. Atwood, D.A. Atwood

**2:20 INOR 577.** Exploiting the non-innocence of antimony ligands in organometallic catalysis. F.P. Gabbai

**2:45 INOR 578.** Dinitrosyl Iron Complexes (DNICs): Synthesis and spectroscopic characterization toward unveiling the catalytic roles of DNICs. W. Liaw

**3:10 INOR 579.** Platinum reagents modified for click chemistry: Towards high-throughput analysis of platinum drug targets. A.D. Moghaddam, K. Plakos, J.D. White, R. Cunningham, E. Reister, E. Sutton, M.M. Haley, V. DeRose

**3:35** Intermission.

**3:50 INOR 580.** C-H activation by a discrete superoxonickel complex. C.G. Riordan

**4:15 INOR 581.** Pyridol derived N-heterocyclic amines and applications in coordination chemistry, catalysis, and medicine. K.N. Green, S.M. Brewer, H.M. Johnston, M.E. Burnett

**4:40 INOR 582.** Fun with devil's copper and the odd oxidations of sulfur. P.J. Farmer, M. Kumar

**5:05 INOR 583.** Hydrogenase/epoxide-CO<sub>2</sub> catalysis: Killing two birds with one cat. D.J. Darensbourg

## Section K

Mosccone Center  
3001

**Switchable Catalysts**

P. Diaconescu, *Organizer*

J. A. Byers, *Organizer, Presiding*

B. P. Fors, *Presiding*

**1:30** Introductory Remarks.

**1:35 INOR 584.** Regulating polymer stereomicrostructures and polymerization activity and chemoselectivity by ion pairs and Lewis pairs. E.Y. Chen

**2:05 INOR 585.** Externally controlled chemistry: New methods for modulating polymerization and other transformations. C. Bielawski

**2:35 INOR 586.** Potential applications of switchable catalysts for sustainable energy and water production. M.A. Reynolds

**3:05** Intermission.

**3:20 INOR 587.** Photocontrolled Cationic Polymerizations. B.P. Fors

**3:50 INOR 588.** Switchable polymerization catalysts: Selective block copolymers from monomer mixtures. C.K. Williams

**4:20 INOR 589.** Redox switchable catalysis applied to ring opening polymerization. P. Diaconescu

**4:50 INOR 590.** Mechanistic trends from computational chemistry for the design of redox switchable catalysts. T. Cantat

## Section L

Mosccone Center  
3003

**Organometallic Chemistry: Synthesis & Characterization-Early Transition Metals**

N. S. Radu, *Organizer*

T. K. Hollis, *Presiding*

**1:30 INOR 591.** Extreme  $\pi$ -loading as a design element for accessing imido reactivity: CCC-NHC Ta bis(imido) pincer complex synthesis and reactivity in oxidative amination. T.R. Helgert, J.A. Denny, G.M. Lang, G. Liang, C.E. Webster, T.K. Hollis

**1:50 INOR 592.** Diphenylacetylene reduction mediated by rare-earth naphthalene complexes supported by a ferrocene diamide ligand. J.L. Brosmer, W. Huang, P. Diaconescu

**2:10 INOR 593.** Ring-opening reactions of quinoline and isoquinoline with a low-valent titanium alkyl complex. T. Kurogi, M. Baik, D.J. Mindiola

**2:30 INOR 594.** Probing the stability & reactivity of early first-row transition metal centers in low-coordinate environments supported by silylaryl-amido ligands. I.C. Cai, T.D. Tilley

**2:50 INOR 595.** Oxidative group transfer reactions on macrocyclic N-heterocyclic tetracarbene chromium complexes. G. Elpitiya, D.M. Jenkins

**3:10 INOR 596.** Synthesis of benzoylphosphine via insertion of sodium phosphoethynolate (Na[OCp]) into a zirconium benzyne complex. J. Kieser, R.J. Gilliard, H. Grützmacher, J.D. Protasiewicz

**3:30 INOR 597.** Hydroboration reactivity of niobium bis(NHC)borate complexes. J.A. Ziegler, R.G. Bergman, J. Arnold

**3:50 INOR 598.** Planar Ti<sub>2</sub>P<sub>2</sub> core assembled by reductive decarbonylation of  $\text{O-C}\equiv\text{P}$ . L. Grant, B. Pinter, B. Manor, H. Grützmacher, D.J. Mindiola

**4:10 INOR 599.** Computational study of extreme  $\pi$ -loading and imido reactivity in CCC-NHC Ta bis(imido) pincer complexes. C.E. Webster, G. Liang, T.R. Helgert, J.A. Denny, G.M. Lang, T.K. Hollis

**4:30 INOR 600.** Probing Group 4 mixed ligand (Cp, halide, alkoxide) complexes for multiple bonding character and catalytic activity. N.C. Boyde, T.P. Hanusa

**Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory**

**Experimental Characterization**

*Sponsored by PHYS, Cosponsored by INOR*

**Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark**

*Sponsored by NUCL, Cosponsored by INOR*

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**

**Advances in Medicinal & Biological Chemistry: From Therapeutics to Education**

*Sponsored by PROF, Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>†</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>†</sup>, POLY, PRES<sup>†</sup> and WCC*

**ACS Award in Industrial Chemistry: Symposium in honor of Jane Frommer**

*Sponsored by I&EC, Cosponsored by ANYL, BIOL, COLL, INOR, ORGN, PMSE and POLY*

**Support & Activator Effects on Metal Mediated Polymerization**

*Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG<sup>†</sup>*

**Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis**

**Mechanistic Studies of Catalysis in Photocatalytic & Photoelectrodes**

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

**Undergraduate Research Posters Inorganic Chemistry**

*Sponsored by CHED, Cosponsored by INOR and SOCED*

## MONDAY EVENING

## Section A

Mosccone Center  
Hall D

**Sci-Mix**

S. A. Koch, *Organizer*

**8:00 - 10:00**

**220-222, 224-226, 229-233, 236, 244, 273, 275-276, 280, 288, 293, 308-309, 319, 323, 328-329, 332-334, 336, 358-359, 362, 365, 379, 382, 384, 388, 390, 394, 396-397, 408-414, 416-418, 422, 424, 429, 440-442, 445, 455, 463, 466, 472, 475, 477, 480, 485-486.** See previous listings.

**818, 820, 838-843, 846-847, 850-851, 858, 860-864, 880-881, 884, 896, 898, 902-906, 908, 918, 922, 924, 927, 931, 934, 937-938, 941, 947, 949, 952, 954, 961, 967, 968-969, 972, 976, 979-980, 982, 984, 987, 990, 1001-1002, 1004, 1006-1008, 1016-1019, 1021, 1024-1026, 1032, 1034, 1037-1041, 1043-1047, 1051, 1056-1057, 1061-1063, 1066, 1071-1072, 1232.** See subsequent listings.

## TUESDAY MORNING

## Section A

Mosccone Center  
2009

**Gabor A. Somorjai Award for Creative Research in Catalysis: Symposium in honor of John E. Bercaw**

N. Hazari, *Organizer*

A. Hazari, *Organizer, Presiding*

**8:30 INOR 601.** Thermodynamic efficiency, chemoselectivity and turnover frequency in chemical and electrochemical catalysis: Synergistic principles for catalyst development and optimization. S.S. Stahl

**8:55 INOR 602.** Recent advances in Ti-catalyzed nitrene transfer reactions. I. Tonks, E. Beaumier, H. Chiu, Z.W. Davis-Gilbert, X. See, A.C. Wotal

**9:20 INOR 603.** Selective indium and zinc catalysts for controlled polymerization of cyclic esters. P. Mehrkhodavandi, T. Ebrahimi, L. Chile, A. Kremer, S. Hatzikiriakos

**9:45 INOR 604.** Selective catalytic trimerization of alkenes. J.A. Labinger

**10:10** Intermission.

**10:25 INOR 605.** Cobalt-catalyzed methods for the polyborylation of hydrocarbons. P.J. Chirik, N. Palmer, S. Krautwald

**10:50 INOR 606.** Group 4 metal complexes for the formation of block copolymers. P. Diaconescu

**11:15 INOR 607.** Mechanism of formic acid dehydrogenation by a diiridiumtrihydride catalyst. J. Celaj, Z. Lu, E.A. Kedzie, T.J. Williams

**11:40 INOR 608.** Metal-oxos in chemistry and biology. H.B. Gray

**12:05** Concluding Remarks.

## Section B

Moscone Center  
2011

**Celebrating 60 Years of the Division of Inorganic Chemistry**

## Award Winners

M. J. Clarke, *Organizer*

D. C. Crans, *Organizer, Presiding*

K. Bowman-James, K. N. Raymond, *Presiding*

## 8:00 Introductory Remarks.

**8:05 INOR 609.** Synthesis of multinary transition metal chalcogenide nanoparticles for applications in photovoltaics. M. Braun, L. Korala, A.L. Prieto

**8:35 INOR 610.** Probing anisotropy in molecular magnetism. K.R. Dunbar

**9:05 INOR 611.** Learning from computational studies of NMR chemical shifts: The case of a main group atom in transition metal complex. C. Raynaud, S. Halbert, C. Cooperet, O.G. Eisenstein

**9:35 INOR 612.** Chemical surprises at the frontier of the periodic table. J.L. Kiplinger

## 10:05 Intermission.

**10:20 INOR 613.** X-ray spectroscopic studies of biological dinitrogen reduction in molybdenum and vanadium nitrogenases. S. DeBeer

**10:50 INOR 614.** Pyridinol based ligands for transition metal catalyzed reduction of CO<sub>2</sub> and related substrates: Elucidating the role of Lewis Acids. E.T. Papish, S. Siek, D.B. Burks, C. Boudreaux, D.L. Gerlach, G. Liang, D.B. Grotjahn, C.E. Webster

**11:20 INOR 615.** Technetium, the first radioelement in the periodic table. A.P. Sattelberger, E. Johnstone, M.A. Yates, F. Poineau, K. Czerwinski

**11:50 INOR 616.** Design of azurin that spans the entire 2V range of physiological redox potentials and its application in engineering a copper protein that performs fast and reversible S-nitrosylation. Y. Lu, P. Hosseinzadeh, S. Tian, J. Liu

## Section C

Moscone Center  
2016

**Undergraduate Research at the Frontiers of Inorganic Chemistry**

## Bioinorganic Chemistry

A. K. Bentley, C. Nataro, S. R. Smith, *Organizers*

S. A. Toledo, *Presiding*

**9:00 INOR 617.** Structural, spectroscopic and reactivity studies of the first structural model of the resting state of Nickel Acireductone Dioxygenase (Ni-ARD). D. Ivan, S.A. Toledo, V. Lynch

**Technical program information known at press time.**

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

**9:20 INOR 618.** Protein charge effects on Rieske protein reduction potentials. K.R. Hoke, A.L. Watkins, R.J. Quarles

**9:40 INOR 619.** Modelling the O-O bond formation step in the oxygen-evolving complex. E. Hanada, J. Kovacs

**10:00 INOR 620.** Trinuclear ruthenium complexes with diimine ligands: Experimental and computational investigations of biological activity. F.A. Beckford

## 10:20 Intermission.

**10:35 INOR 621.** Improved photocatalytic activity of hybrid P450 biocatalysts by tuning the Ru(II)-polypyridyl photochemical properties. H. Shalan, A. Colbert, T. Nguyen, M. Kato, L.E. Cheruzel

**10:55 INOR 622.** Copper transport into the avian oocyte: A second cargo for the vitamin transporter riboflavin binding protein. S.R. Smith, M. Benore

**11:15 INOR 623.** Photosensitizer-Embedded polyacrylonitrile nanofibers as an antimicrobial non-woven textile. S. Stanley, R. Ghiladi

**11:35 INOR 624.** Synthesis and conformational analysis of peptides appended to a novel, rigid, cyclic, bimetallic ring system. T.P. Curran, A.P. Lawrence, T.S. Murtaugh, W. Ji, N. Pokharel, L.M. Davidson, J.P. Sanderson-Brown, P.R. Handali, V. Nguyen, C. Gober, J. Suito

**11:55 INOR 625.** Rare and unusual square planar copper (I) complexes. P.A. Cheung, R. Berger, J.D. Gilbertson

## 12:15 Concluding Remarks.

## Section D

Moscone Center  
2018

**ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in honor of William B. Tolman**

L. M. Berreau, *Organizer*

P. L. Holland, *Organizer, Presiding*

## 8:30 Introductory Remarks.

**8:35 INOR 626.** Mechanistic studies of Cu(II)/O<sub>2</sub>-promoted oxidative aliphatic carbon-carbon bond cleavage reactions. L.M. Berreau

**9:00 INOR 627.** Reactivity of mononuclear nonheme cobalt(III)-superoxo complexes. W. Lee, C. Wang, K. Yeh

**9:25 INOR 628.** Bio-inspired heterodinuclear NiFe catalysts for H<sub>2</sub> production. D. Brazzolotto, L. Wang, M. Gennari, F. Meyer, M. Orto, V. Artero, C. Duboc

**9:50 INOR 629.** Why are O<sub>2</sub> and N<sub>2</sub> so different? K.H. Theopold, F. Dai, E.S. Akturk, Y. Hung, D.C. Cummins, G.P. Yap

## 10:15 Intermission.

**10:30 INOR 630.** Cu(III) as a biological oxidant? L. Chiang, W. Keown, C. Citek, J.B. Gary, E.C. Wasinger, T.P. Stack

**10:55 INOR 631.** Modeling nitric oxide signaling chemistry at copper and zinc sites. T.H. Warren

**11:20 INOR 632.** Studies on the mechanism of Ti-catalyzed nitrene transfer reactions. I. Tonks, E. Beaumier, Z.W. Davis-Gilbert, A. Koley, A.J. Pearce, T.A. Wheeler, A.C. Wotal

**11:45 INOR 633.** Bioinspired small molecule activation for energy-related catalysis. F. Meyer

## Section E

Moscone Center  
2020

**Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions**

*Financially supported by Chemistry of Materials*

K. R. Kittilstved, E. J. McLaurin, *Organizers*

B. Guiton, K. J. Koski, *Presiding*

**8:30 INOR 634.** Chemistry of nanoconfined water molecules in 1-D metal organic nanotubes. T. Forbes

**9:00 INOR 635.** Fabrication, characterization and application of carbon nanoparticles for the detection of heavy metal ions in aqueous media. A. Wanekaya, A.M. Simpson, K. Ghosh

**9:30 INOR 636.** Micelle encapsulation: A versatile platform for generating multifunctional nanoparticles. J.O. Winter

## 10:00 Intermission.

**10:15 INOR 637.** Novel properties and applications of plasmonic metal nanostructures: A case study and recent progress on Hollow Gold Nanospheres (HGNS). J.Z. Zhang

**10:45 INOR 638.** Synthesis of Core@Shell nanocatalysts with intermetallic interiors. S.E. Skrabalak

**11:15 INOR 639.** Controlling nanoscopic and atomic segregation of Pt within Pt-Ni rhombic dodecahedra and nanoframes for fuel cell catalysis. P. Yang, N. Becknell, Z. Niu

**11:45 INOR 640.** Using nanowire arrays as a sensitive tool for understanding copper-antimony anode materials. E.D. Jackson, A.L. Prieto

## 12:15 Concluding Remarks.

## Section F

Moscone Center  
2022

**Emergent Phenomena in the Solid State**

B. C. Melot, *Organizer*

E. E. Rodriguez, *Organizer, Presiding*

## 8:30 Introductory Remarks.

**8:35 INOR 641.** Understanding the impact of crystal chemistry on the physical properties of garnets. B.C. Melot

**9:10 INOR 642.** Mixed-Valence and chemical-pressure effects on magnetic properties of ThCr<sub>2</sub>Si<sub>2</sub>-type pnictides. X. Tan, A. Yaroslavtsev, K. Kovnir, M. Shatruk

**9:50 INOR 643.** Density functional investigation on the magnetic anisotropy in rare-earth-free metal borides with the Ti<sub>3</sub>Co<sub>2</sub>B<sub>2</sub>-type structure. Y. Zhang, B. Fokwa

**10:10 INOR 644.** Ground state magnetism in S = 1/2 Li<sub>4</sub>MgReO<sub>6</sub> system with orthorhombic crystal structure. J. Milam-Guerrero, C.J. Blood, P. Nguyen, J.P. Carlo, G. Luke, B.C. Melot, S. Derakhshan

## 10:30 Intermission.

**10:50 INOR 645.** Structural and electronic instabilities in electron-doped Sr<sub>2</sub>Ir<sub>2</sub>O<sub>7</sub>: Emergent phenomena at the edge of the spin-orbit Mott state. S. Wilson

**11:30 INOR 646.** Electron doping a kagome spin liquid. Z. Kelly, M.J. Gallagher, T. McQueen

**11:50 INOR 647.** Magnetic properties of osmium mixed-metal double perovskites. C. Thompson, X. Fu

## Section G

Moscone Center  
2024

**ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler**
**Materials Chemistry of Solutions & Solids for a Sustainable Future**

*Cosponsored by BMGT<sup>1</sup>, MPPG, PRES and PROF<sup>2</sup>*

J. L. Bryant, J. C. Giordan, *Organizers*

S. E. Hayes, B. L. Maddux, *Organizers, Presiding*

## 8:30 Introductory Remarks.

**8:40 INOR 648.** Nonlinear optical borates based oxides for solid state laser frequency conversion in the UV range. G. Aka, J. Ren, P. Loiseau

**9:00 INOR 649.** Atomic solid state energy scale. J.F. Wager, D.A. Keszler

**9:20 INOR 650.** Chalcogenide semiconductors as p-type transparent conductors, absorbers and alloys. J. Tate

**9:40 INOR 651.** Characterization of CSMC resists and other nano-material structures: Results and methods. E.L. Garfunkel

## 10:00 Intermission.

**10:30 INOR 652.** Solution-Deposition of disordered RuO<sub>x</sub> nanoskins: An example from the fourth quadrant of electronic materials. D.R. Rolison

**10:50 INOR 653.** New functional materials as a design problem. A. Zunger

**11:10 INOR 654.** Creating a one-stop platform for computed XAS and NMR materials data and comparison algorithms on the Materials Project. K. Persson

**11:30 INOR 655.** Solid-state NMR of thin metal oxide films from prompt inorganic condensation. B.A. Hammann, Y. Afriyie, M. Kast, C.K. Perkins, P. Plassmeyer, D.W. Johnson, D.A. Keszler, C. Page, S.W. Boettcher, S.E. Hayes

**11:50 INOR 656.** Metal-oxo clusters from across the periodic table. M.D. Nyman

**12:10 INOR 657.** Aqueous inorganic coordination clusters: Synthesis, solution speciation, structure, and their use as inks for materials. D.W. Johnson

## Section H

Moscone Center  
3000

**Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges**

*Cosponsored by BIOL*

*Financially supported by Northwestern U, U of California-Davis*

J. A. Telsler, *Organizer*

V. DeRose, *Organizer, Presiding*

**8:30 INOR 658.** Cytochrome P450 oxidations: A controlled burn of inert organic compounds. M. Green

<sup>‡</sup> Cooperative Cosponsorship

**9:00 INOR 659.** Bifunctional peroxidases (KatGs): A challenging family of enzymes for understanding putative evolutionary strategies in fine-tuning the oxidation reactions catalyzed by heme-Trp<sup>+</sup> intermediates and related e<sup>-</sup> transfer mediated by Trp<sup>+</sup>/Tyr<sup>+</sup>. P.C. Loewen, A. Ivancich

**9:30 INOR 660.** Mechanistic studies on the radical SAM enzyme CDG synthase. V. Bandarian

**10:00 INOR 661.** Decoding a secret handshake: Tracking protein-to-protein Cu(I) transfer by rapid x-ray absorption and intrinsic fluorescence techniques. K.N. Chacon

**10:20** Intermission.

**10:30 INOR 662.** How metal ions in the brain tip the toxic balance of the killer prion protein. G.L. Millhauser

**10:50 INOR 663.** On the use of Co(II) to elucidate Zn(II) enzyme mechanism. D.L. Tierney

**11:10 INOR 664.** Aromatic amino acid hydroxylases: Exploring the details of a catalytic cycle with EPR spectroscopy. J.L. McCracken

**11:30 INOR 665.** Taking snapshots of the water oxidation reaction in photosystem II with X-ray crystallography and X-ray spectroscopy. J. Yano, V.K. Yachandra

**12:00 INOR 666.** Ammonia binding to the OEC of Photosystem II, what does this tell us about water binding and O-O bond formation? R. Britt

## Section I

Moscone Center  
3010

### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

#### Conjugated Polymeric Materials

Cosponsored by PMSE

Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University

A. Facchetti, T. Lohr, *Organizers*

B. M. Savoie, *Presiding*

**9:00** Introductory Remarks.

**9:05 INOR 667.** Designing responsive piezo-materials from the bottom up: Learning from nonlinear optical materials. G. Hutchison, W.S. Horne, C.W. Marvin, H.M. Grimm

**9:35 INOR 668.** Polymers and polymer composites for flexible optoelectronic devices. A. Facchetti

**10:05 INOR 669.** Conjugated polymers and doping strategies for conductive layers and thermoelectric compositions. H.E. Katz

**10:35** Intermission.

**10:45 INOR 670.** Interfacial engineering of two-dimensional nanoelectronic heterostructures. M. Hersam

**11:15 INOR 671.** Electronic processes, morphologies and structural-functional correlations in low bandgap oligomers and polymers for OPV. L.X. Chen

**11:45 INOR 672.** Organic polymers for photovoltaics: Small structural differences yield large performance changes. J.R. Reynolds

## Section J

Moscone Center  
3012

### Chemistry is Central to Applied Materials

Cosponsored by MPPG<sup>2</sup>

C. J. Chang, *Organizer*

C. R. Bertozzi, M. A. Paley, *Organizers*,  
*Presiding*

**8:30 INOR 673.** Dynamic MOF SBUs as active sites for small molecule reactivity and catalysis. M. Dinca, E. Metzger, R. Comito, C. Brozek, H. Park, C. Hendon

**9:05 INOR 674.** Physical chemistry of nanocrystals with the graphene liquid cell. P. Alivisatos

**9:40 INOR 675.** Mucin-inspired thermoresponsive synthetic hydrogels induce stasis in human pluripotent stem cell colonies. S.P. Armes

**10:15** Intermission.

**10:30 INOR 676.** Interactions at the nano-bio interface. C.J. Murphy

**11:05 INOR 677.** Computationally guided discovery of metal-decorated metal-organic frameworks active for catalysis. L. Gagliardi, V. Bernales, M.A. Ortuno, A. Mavrandonakis, Z. Li, D. Yang, O.K. Farha, C.J. Cramer, B.C. Gates, J.T. Hupp

**11:40 INOR 678.** Grain boundary effects in electroreduction catalysis. M. Kanan

## Section K

Moscone Center  
3001

### Switchable Catalysts

J. A. Byers, P. Diaconescu, *Organizers*

A. J. Boydston, A. M. Spokoyko, *Presiding*

**8:30 INOR 679.** Switchable catalysis in precision polymerizations in aqueous and organic media. M. Sawamoto

**9:00 INOR 680.** Organomimetic boron cluster photosensitizers. A.M. Spokoyko

**9:30 INOR 681.** Stereocontrol in photochemical reactions. T.P. Yoon

**10:00 INOR 682.** Switchable catalysis in ATRP. K. Matyjaszewski

**10:30 INOR 683.** Redox-Switchable iron-based polymerization catalysts. J.A. Byers, A.B. Biernesser, K.R. Delle Chiaie, J.A. Kehl, M. Qi, A.W. Sudy

**11:00 INOR 684.** Factors controlling the activity of Fe-based catalysts for the polymerization of lactide and epoxides. C.J. Cramer, B. Dereli, M. Ortuño

**11:30 INOR 685.** Redox-mediated metal-free ring-opening metathesis polymerization. A.J. Boydston, L. Pascual, T. Kensy, D. Lee, J. Vandenbrande, N. Alrashdi

**12:00 INOR 686.** New avenues in synthesis via organic photoredox catalysis. D.A. Nicewicz

## Section L

Moscone Center  
3003

### Chemistry of Materials: Nanomaterials

C. G. Lugmair, *Organizer*

R. Beaulac, W. Feng, *Presiding*

**8:00 INOR 687.** Quantifying cation exchange of Cd<sup>2+</sup> in ZnTe: A challenge for accessing type II heterostructures. M. Enright, H. Sarsito, B. Cossairt

**8:20 INOR 688.** Room-temperature synthesis of metal chalcogenide nanocrystals from N-heterocyclic carbene synthons. H. Lu, R.L. Brutsche

**8:40 INOR 689.** Design of colloidal semiconductor nanocrystals for enhanced absorption and band edge tuning exceeding 2.0 eV. D. Kroupa, M.V. Vörös, N.P. Brawand, B. McNichols, E. Miller, J. Gu, A.J. Nozik, A. Sellinger, G.A. Galli, M.C. Beard

**9:00 INOR 690.** Colloidal synthesis of transition metal dichalcogenide nanostructures. Y. Sun, Y. Wang, D. Sun, B.R. Carvalho, C. Read, C. Lee, Z. Lin, K. Fujisawa, J.A. Robinson, V.H. Crespi, M. Terrones, R.E. Schaak

**9:20 INOR 691.** Design, fabrication and modification of advanced fluorescent polymer based on ordered quantum-dots from nanoscale to large production. S. Chen

**9:40 INOR 692.** Native phosphine surface ligand exchange on plasma-synthesized indium phosphide nanocrystals. N.R. Neale, N.D. Bronstein, L. Wheeler, N.C. Anderson

**10:00 INOR 693.** Single-enzyme direct biomineralization of metal chalcogenides nanocrystals with tunable optical properties. L. Spangler, Z. Yang, R. Dunleavy, A. Sadeghnejad, R. Chu, L. Lu, C.J. Kiely, B. Berger, S. McIntosh

**10:20** Intermission.

**10:35 INOR 694.** Synthesis and characterization of colloidal CsPbX<sub>3</sub> nanowires. D. Zhang, Y. Yang, Y. Bekenstein, Y. Yu, N. Gibson, A.B. Wong, S.W. Eaton, L. Dou, S.R. Leone, P. Alivisatos, P. Yang

**10:55 INOR 695.** 2D redox-active superatom frameworks. A. Champsaur, C.P. Nuckolls

**11:15 INOR 696.** Modulation of electrical and optical properties of tungsten disulfide. S. Chee, M. Son, G. Son, H. Jang, M. Ham

**11:35 INOR 697.** Chiral semiconductor helices at the meso-scale. W. Feng, J. Kim, X. Wang, H.A. Calcaterra, Z. Qu, L. Meshi, N. Kotov

**11:55 INOR 698.** Photoredox processes involving colloidal quantum dots: Surface states, structural inhomogeneities, and ultrafast hole extraction. C. Mi, M. Saniepay, P. Dutta, Y. Tang, J.A. McGuire, R. Beaulac

**12:15 INOR 699.** Synthesis of heterostructured nanocrystals with pre-programmable compositions and spatial arrangements. X. Li, R.E. Schaak

### Metalloprotein-Initiated Signaling Transduction Response to Redox Stress

Sponsored by BIOL, Cosponsored by INOR

### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

## Applications & Devices

Sponsored by PHYS, Cosponsored by INOR

### Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark

Sponsored by NUCL, Cosponsored by INOR

### Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten

Sponsored by NUCL, Cosponsored by INOR and PRES

### Support & Activator Effects on Metal Mediated Polymerization

Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG<sup>2</sup>

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

### Molecular & Bio-Inspired Photocatalysts

Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR

### Deposition & Etching of Nanostructures

Sponsored by COLL, Cosponsored by INOR

## TUESDAY AFTERNOON

### Section A

Moscone Center  
2009

### Chemistry of Materials: Synthesis & Properties

C. G. Lugmair, *Organizer*

B. Boardman, J. M. Szarko, *Presiding*

**1:30 INOR 700.** Highly efficient emitters for Organic Light Emitting Diodes (OLEDs) based on intramolecular rotation and spin-state inversion. M. Bochmann, A.S. Romanov, D. Di, L. Yang, D. Credgington, M. Linnolahti

**1:50 INOR 701.** Boron containing perovskite single crystal for thermal neutron detection. M.L. Higgins, F. Ely, M. Quevedo-Lopez

**2:10 INOR 702.** Molecular doping approach for metal oxide photosensitization. D. Jung, L.M. Saleh, Z. Berkson, J. Hwang, M.F. El-Kady, E. Titarenko, Y. Shao, K. McCarthy, A.I. Wikstrom, J. Guo, I.B. Martini, S. Kraemer, E.C. Wegener, J. Ciston, J.L. Brosmer, J.I. Zink, J.T. Miller, X. Duan, R.B. Kaner, B.F. Chmelka, A.M. Spokoyko

**2:30 INOR 703.** Sensitized Eu<sup>III</sup> and Tb<sup>III</sup> emission by functionalized polycarbonate-based materials. R.A. Tigaa, X. Aerken, A. Fuchs, A. De Bettencourt Dias

**2:50 INOR 704.** Crystal structure effects on the Davydov splitting of electronically active conjugated systems. J.M. Szarko, A. Austin, X. Zhu, F.C. Spano, N. Hestand, M. Zdilla

**3:10 INOR 705.** Broadband white-light emission in two-dimensional layered lead-bromide perovskites. T. Hu, M.D. Smith, E. Dohner, M. Sher, X. Wu, M. Trinh, A. Fisher, J. Corbett, X. Zhu, H. Karunadasa, A. Lindenberg

**3:30** Intermission.

**3:45 INOR 706.** Microparticle-assisted synthesis of GQD-AgNP nanohybrids with enhancing light-matter coupling for SERS-based detection. W. Chiang, K. Lin



- 4:05 INOR 707.** Direct polymerization of cobalt chalcogenide clusters for hybrid photovoltaic materials. **B. Boardman**, D.A. Corbin
- 4:25 INOR 708.** Aiming for the heteroatom control in the synthesis of polyoxometalates. **L. Vilà Nadal**, J. Mathieson, L. Cronin
- 4:45 INOR 709.** Luminescent gold(I)-thiophenolate coordination polymers as phase change materials and precursors for the formation of multifunctional nanocomposites. **A. Demessence**, O. Veselska, N. Guillou, M. Monge, G. Ledoux, A. Fateeva, P. Bordet
- 5:05 INOR 710.** Insulator-to-semiconductor transition in a porous vanadyl Prussian Blue analog upon air exposure. **M. Manumphil**, C. Leal Cervantes, M.R. Hudson, C.M. Brown, H.I. Karunadasa
- 5:25 INOR 711.** Preparation and properties of tetrathiafulvalene radical cation heavy metal (Pb, Bi) iodide hybrid materials. **H. Evans**, J. Labram, A. Lehner, S. Smock, M.L. Chabinye, R. Seshadri, F. Wudl

### Section B

Moscone Center  
2011

#### Celebrating 60 Years of the Division of Inorganic Chemistry

##### Recent Officers

M. J. Clarke, D. C. Crans, *Organizers*  
B. T. Donovan-Merkert, S. Koch, D. J. Mindiola, *Presiding*

##### 1:30 Introductory Remarks.

- 1:35 INOR 712.** Bioinorganic systems for artificial photosynthesis. **K. Bren**, S. Chakraborty, P. Lamberg, B. Kandemir, T. Krauss
- 2:05 INOR 713.** Generation and characterization of primary copper(I)-dioxygen adducts. **K.D. Karlin**
- 2:35 INOR 714.** Spectroscopic studies of molecular magnetism. **Z. Xue**, S.E. Stavretis, D.H. Moseley, A.A. Podlesnyak, C.M. Brown, L.L. Daemen, Y. Cheng, A.J. Ramirez-Cuesta, X. Wang, C.M. Hoffmann, S.O. Diallo, K. Thirunavukkuarasu, Q. Chen, H. Zhou, J. Ludwig, D. Smirnov, Z. Zhu, M. Guo, J. Tang, H. Cui, F. Fei, X. Chen

**3:05 INOR 715.** Coordination chemistry of Fe(II) and Fe(III) MRI contrast agents. **J.R. Morrow**, P.B. Tsitovich, E. Snyder

##### 3:35 Intermission.

**3:50 INOR 716.** Synergism of two alkali metals in self-assembly of novel supersized heterobimetallic sandwich compounds. **M.A. Petrukhina**

**4:20 INOR 717.** Photomechanical Effects from Ruthenium Sulfoxide Polymers. **M. Livshits**, J. Shin, J. Rack

**4:50 INOR 718.** Visible light-induced solid-state CO-releasing compounds. **L.M. Berreau**, S. Anderson, M. Larson

**5:20 INOR 719.** Excited state reactivity of transition metal complexes. **C. Turro**

### Section C

Moscone Center  
2016

#### Organometallic Chemistry: New Ligand Platforms

##### Pincer Ligands

N. S. Radu, *Organizer*

O. Ozerov, A. Rahman, *Presiding*

**1:30 INOR 720.** Pyrazine-based gold(III) pincer complexes: Synthesis and Luminescence. **J. Fernandez-Cestau**, L. Currie, L. Rocchigiani, B. Bertrand, M. Bochmann, T. Penfold

**1:50 INOR 721.** Pincer multifunctionality, together with reduced Fe, cleaves N<sub>2</sub>. **B.J. Cook**, C. Chen, A. Hickey, **K.G. Caulton**

**2:10 INOR 722.** New chemistry of pincer-supported rhenium. **A.J. Kosanovich**, W. Shih, O. Ozerov

**2:30 INOR 723.** C-H activation and functionalization with PNP rhodium pincers: Stoichiometric reactivity and catalysis. **J. Gair**

**2:50 INOR 724.** New insight into C-H borylation with iridium pincer complexes. **O. Ozerov**, L.P. Press, A.J. Kosanovich, C. Lee

**3:10 INOR 725.** Bis-N-heterocyclic carbene pincers as versatile ligand platform for uniquely active ester hydrogenation homogeneous catalysts. **R. van Putten**, G. Filonenko, L. Lefort, E. Hensen, E. Pidko

**3:30 INOR 726.** Development of new cobalt pincer complexes for catalytic applications. **Y. Li**, J.A. Krause, **H. Guan**

**3:50 INOR 727.** Iron pincer complexes with isonitrile ancillary ligands for formic acid and methanol dehydrogenation. **N. Smith**, N. Hazari

**4:10 INOR 728.** Computational investigation of ester and amide hydrogenation by aliphatic Fe and Ru PNP complexes. **Z. Culaikova**, E. Clot, K.I. Goldberg, O.G. Eisenstein

**4:30 INOR 729.** Hydrogenation of carboxylic carbonyl derivatives (C=O, C≡N) catalyzed by iron and cobalt pincer complexes or particles. **H. Dai**, J.A. Krause, **H. Guan**

**4:50 INOR 730.** Synthesis and studies of naphthoquinone and anthraquinone derived iridium Pincer catalysts for the conversion of ethanol to butanol. **A. Rahman**, W.D. Jones, M. Wiklow-Marnell

**5:10 INOR 731.** Synthesis and characterization of new C. C. N Pincer-type palladium complexes containing N-heterocyclic carbene ligands. **J. Yan**, Z. Zhu, Y. Wang, J. Niu, X. Zhu, X. Hao, M. Song

### Section D

Moscone Center  
2018

#### ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in honor of William B. Tolman

P. L. Holland, *Organizer*

L. M. Berreau, *Organizer, Presiding*

##### 1:30 Introductory Remarks.

**1:35 INOR 732.** Nacnac doesn't fall far from the tree: Activation of N<sub>2</sub> with diketiminate complexes. **P.L. Holland**

**2:00 INOR 733.** Inorganic chemistry: A salute and a challenge. **R. Eisenberg**

**2:25 INOR 734.** Nickel-sulfido and nickel-selenido complexes: Preparation, spectroscopy and C-H activation. **C.G. Riordan**

**2:50 INOR 735.** Greater than the sum of their parts: Heterodinuclear polymerization catalysts. **C.K. Williams**

##### 3:15 Intermission.

**3:30 INOR 736.** Innovation and potential career paths in industry. **N. Aboeella**

**3:55 INOR 737.** Copper transport in methanotrophic bacteria. **G.E. Kenney**, L.M. Dassama, S.Y. Ro, **A.C. Rosenzweig**

**4:20 INOR 738.** Factors controlling the activity of Al-based catalysts for the ring-opening transesterification polymerization of caprolactone. **C.J. Cramer**, B. Dereli, C. Dunbar, J. Freeze, M. Johnson, M. Mandal, D. Marell, H. Vazquez Lima

**4:45 INOR 739.** How is metal covalency reflected in ligand field parameters? **F. Neese**, E. Sutura, M. Atanasov

### Section E

Moscone Center  
2020

#### Bioinorganic Chemistry: DNA, RNA & Inorganic Drugs

S. A. Koch, *Organizer*

J. P. Selegue, A. D. Tinoco, *Presiding*

**1:30 INOR 740.** Synthesis, characterization and DNA interaction studies of potential anticancer titanium complexes with biologically relevant ligands. **M. Mahroof-Tahir**, L. Sreerama, **Z.E. Mahmoud**, A. Al Dawood, **E.M. Looli**

**1:50 INOR 741.** Inter-duplex distance distributions in metal-modified peptide nucleic acids measured by double electron-electron resonance. **A. Sargun**, A. Jarvi, S.K. Saxena, C. Achim

**2:10 INOR 742.** Identifying cancer-relevant DNA damage via a charge transfer mechanism involving [4Fe4S] cluster proteins. **E. Tse**, J.K. Barton

**2:30 INOR 743.** Divalent copper complexes as Influenza A inhibitors. **J.D. Lynch**, N.A. Gordon, K.L. McGuire, S.K. Wallentine, G.A. Mohl, R.G. Harrison, D.D. Busath

**2:50 INOR 744.** N-Heterocyclic carbene gold(I) complexes conjugated to DNA-aptamers for targeted drug delivery. **W. Niu**, X. Chen, W. Tan, A.S. Veige

**3:10 INOR 745.** Regulating photochemistry and nucleic acid targeting of Ru(II) complexes. **P.C. Glazer**

##### 3:30 Intermission.

**3:40 INOR 746.** Build-In fluorescent M24L8 octahedral metal organic molecular cages for nuclear-penetrating PH-responsive drug delivery. **Y. Fang**

**4:00 INOR 747.** Ruthenium complexes as new pH-dependent switchable metal-iodrugs. **F. Martinez-Peña**, A.M. Pizarro

**4:20 INOR 748.** Expanding the therapeutic potential of the iron chelator deferasirox in the development of aqueous stable Ti(IV) anticancer complexes. **A.D. Tinoco**, S. Loza, A.M. Vázquez, S.C. Perez, Y. Delgado, K. Gaur, K.I. Rivero, L.J. Negron, T.B. Parks, C. Munet-Colon

**4:40 INOR 749.** Low-symmetry boron subphthalocyanines as fluorescent imaging probes and precursors for designer metallophthalocyanines. **L. Sejdarami**, K. McAuliffe, R. Szlag, M.A. Kaster, **E.R. Trivedi**

**5:00 INOR 750.** Mixed polypyridyl/N-heterocyclic carbene complexes as potential cytotoxic pro-drugs. **J.P. Selegue**, R.T. Ryan, J. Mahmoud, P.C. Glazer

**5:20 INOR 751.** Targeting ErbB tyrosine kinases with platinum-functionalized small molecule inhibitors. **M. Yang**, H. Wu, T.K. West, C.M. Furdul, G.L. Kucera, U. Bierbach

### Section F

Moscone Center  
2022

#### Emergent Phenomena in the Solid State

E. E. Rodriguez, *Organizer*

B. C. Melot, *Organizer, Presiding*

**1:30 INOR 752.** Structure and magnetic properties of the 3d transition metal formate-chlorides. **K. Kovnir**

**1:50 INOR 753.** Site identity and importance in fluorite-related transparent conductors. **K. Rickert**, A. Dolgonos, **K.R. Poeppelmeier**

##### 2:10 INOR 754. Withdrawn.

**2:50 INOR 755.** Soft chemical control of iron-based superconductors and related compounds. **S. Clarke**

##### 3:30 Intermission.

**3:50 INOR 756.** Competing orders in the 12 Fe based superconducting family under chemical doping and external pressure. **N. Ni**

**4:30 INOR 757.** Hydride route for the synthesis of 122 iron arsenide superconductors. **Y. Zaikina**, M. Kwong, B. Baccam, S. Kauzlarich

**4:50 INOR 758.** Layered transition metal chalcogenides based on square lattices as functional materials. **X. Zhou**, B. Wilfong, H.K. Vivanco, **E.E. Rodriguez**

##### 5:25 Concluding Remarks.

### Section G

Moscone Center  
2024

#### ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler

#### Chemists Leading the Charge: Chemists Using Business Acumen & Transformative Research to Address Societal Needs

*Cosponsored by BMGT, MPPG, PRES and PROF*

S. E. Hayes, B. L. Maddux, *Organizers*

J. L. Bryant, J. C. Giordan, *Organizers, Presiding*

**1:30 INOR 759.** Opening overview: Chemists using business acumen and transformative research to address societal needs. **J.C. Giordan**

**1:40 INOR 760.** Importance and value of fundamentally inspired use, use-inspired, and market-informed research. D.A. Keszler

**2:00 INOR 761.** Science behind oxide transistors for displays. J.F. Wager

**2:10 INOR 762.** Science behind materials for ink jet printing. J.E. Abbott

**2:20 INOR 763.** Transformative science behind metal-based EUV photoresists. S.T. Meyers

**2:30 INOR 764.** Science behind tunneling electronics. B. Cowell

**2:40 INOR 765.** Interactive panel: Chemists using business acumen and transformative research to address societal needs. J.C. Giordan, D.A. Keszler, J.F. Wager, J.E. Abbott, S.T. Meyers, B. Cowell, J.L. Bryant

**3:10** Intermission.

**3:30 INOR 766.** Opening overview for panel 2: Next generation innovators. J.C. Giordan

**3:40 INOR 767.** Panel 2: Research to innovation CSMC legacy: Training the next generation. M. Dolgos, J.M. Amador, J.C. Ramos, J.C. Giordan

**4:10 INOR 768.** Office hours with the speakers. J.C. Giordan, D.A. Keszler, J.F. Wager, S.T. Meyers, J.E. Abbott, B. Cowell, M. Dolgos, J.M. Amador, J.C. Ramos, J.L. Bryant

## Section H

Moscone Center  
3000

### Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges

*Cosponsored by BIOL*

*Financially supported by Northwestern U, U of California-Davis*

V. DeRose, J. A. Telsler, *Organizers*

J. Stubbe, *Presiding*

**1:30 INOR 769.** Multifrequency pulse EPR studies of the water oxidizing complex in photosynthesis. W. Lubitz, N. Cox, D. Pantazis, F. Neese

**2:00 INOR 770.** Progress in high-field EPR and ENDOR spectroscopy to study the radical transfer in class I ribonucleotide reductases. M. Bennati

**2:30 INOR 771.** Nuclear resonance vibrational spectroscopy as a tool for the characterization of low frequency modes in iron proteins. V. Schünemann

**3:00 INOR 772.** Nuclear magnetic spectroscopic elucidation of MhUD mechanism. M.D. Liptak

**3:20** Intermission.

**3:30 INOR 773.** Spectroscopic approaches to understanding sulfur insertion into aliphatic carbon centers in the biosynthesis of lipoic acid. S.J. Booker

**4:00 INOR 774.** Novel outcomes and mechanisms emerging from dioxygen activation by non-heme-di-iron enzymes. J.M. Bollinger, C. Krebs

**4:30 INOR 775.** Unprecedented [FeS] cluster in the core of the hepatitis B infection. M. Pandelia, C. Ueda

**4:50 INOR 776.** Elucidating the mechanism and magnetic properties of di-iron-oxo proteins via computational quantum chemistry. J.H. Rodriguez

**5:10 INOR 777.** Nuclear Resonance Vibrational Spectroscopy (NRVS) of FeFe hydrogenase: New evidence of enzyme intermediates. S.P. Cramer

## Section I

Moscone Center  
3010

### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

#### Materials for Energy Conversion

*Cosponsored by PMSE*

*Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University*

A. Facchetti, T. Lohr, *Organizers*

J. R. Reynolds, *Presiding*

**1:30** Introductory Remarks.

**1:35 INOR 778.** Nitrogen fixation at room temperature, pressure in water using light. M.G. Kanatzidis

**2:05 INOR 779.** Creation of structurally defined two-dimensional assemblies. V.P. Conticello

**2:35 INOR 780.** Photosensitization of a CO<sub>2</sub> reduction catalyst with red and near-infrared light using rylene diimide radical anions and dianions. N. LaPorte, J. Martinez, C.M. Mauck, B.T. Phelan, R. Young, M.R. Wasielewski

**3:05** Intermission.

**3:15 INOR 781.** New Polymer Chemistries for Solid Battery Electrolytes. B.M. Savoie

**3:45 INOR 782.** Solution-processed metal oxide materials for large-area flexible electronics and hydrogen energy devices. M. Yoon

**4:15 INOR 783.** Novel synthetic approaches for efficient semiconducting materials. A. Dudnik

## Section J

Moscone Center  
3012

### Chemistry of Materials: Materials for Energy & Catalytic Applications

C. G. Lugmair, *Organizer*

B. Baruah, Y. Zhou, *Presiding*

**1:30 INOR 784.** Porous benzoxazoles as oxygenation catalysts: Case of amine self-coupling. S. Subramanian, H.A. Patel, Y. Song, C.T. Yavuz

**1:50 INOR 785.** High power factor and enhanced thermoelectric performance of SnTe: Synergistic effect of resonance level and valence band convergence. K. Biswas

**2:10 INOR 786.** Diffusion of cations in 2D/3D perovskite films made by melt infiltration. E. Keenan, J. Hu, J. Zhi, D.B. Mitzi, W. You

**2:30 INOR 787.** New 2D hybrid perovskite systems for optoelectronic applications. C. Lerner, S.T. Birkhold, S.P. Harm, I.L. Moudrakovski, L.M. Schoop, P. Mayer, L. Schmidt-Mende, B.V. Lotsch

**2:50 INOR 788.** Stabilization of the metastable perovskite phase of Formamidinium Lead Triiodide (FAPbI<sub>3</sub>) via surface functionalization. Y. Fu, J. Zhai, M. Shearer, S. Jin

**3:10 INOR 789.** Interfaces and their influence on oxide ion diffusion in ceria. A.K. Lucid, G.W. Watson

**3:30** Intermission.

**3:45 INOR 790.** Engineering carbon sheets supported iron nanoparticles for direct synthesis of light olefins. Y. Zhou, C. Wang, S. Natesakhawat, J. Leske, D. Kauffman, C. Matranga

**4:05 INOR 791.** Cotton fabric immobilized ZnO@AuNP for heterogeneous catalysis. B. Baruah, D. Agyeman, S. Baruah

**4:25 INOR 792.** Structural informatics: Its role in understanding metal-organic complexes. S. Vyas, A. Sarjeant

**4:45 INOR 793.** Charge density mismatch synthesis and application to UZM-35, a material containing both 10MR and 12MR pores. C.P. Nicholas

**5:05 INOR 794.** Advancing marine hydrokinetic energy technology through materials chemistry. B.A. Hernandez-Sanchez, M.R. Hibbs, P.B. Savage

**5:25 INOR 795.** Hierarchical structured MnO<sub>2</sub> nanoparticle-embedded SiO<sub>2</sub> nanofibrous membranes with flexibility and enhanced catalytic performance. D. Lyue, X. Wang, R. Zhang, B. Ding

## Section K

Moscone Center  
3001

### Switchable Catalysts

J. A. Byers, P. Diaconescu, *Organizers*

C. Chen, B. K. Long, *Presiding*

**1:30 INOR 796.** ROP of  $\beta$ -lactones: From syndiotactic homopolymers to blocky and chemically tunable alternating copolymers. C. Jaffredo, R. Ligny, S.M. Guillaume, J. Carpentier

**2:00 INOR 797.** Cationic indium catalysts for formation and polymerization of functionalized monomers. P. Mehrkhodavandi, I. Yu, C. Chang, C. Diaz Lopez

**2:30 INOR 798.** Exploring the chemical space of redox-switchable catalysts. N. Fey, P. Diaconescu

**3:00 INOR 799.** Rare-earth metal-based catalysts for ring-opening polymerization of lactide monomers. J. Okuda

**3:30 INOR 800.** Lewis acid and redox control in olefin polymerization. C. Chen

**4:00 INOR 801.** Modulating polyolefin microstructure and composition via redox-active catalysts. W.C. Anderson, J. Kern, S. Roy, B.K. Long

**4:30 INOR 802.** Design and development of metal-free light controlled polymer systems. J. Read De Alaniz

**5:00 INOR 803.** Stereo- and temporal switch coordination polymerization of conjugated dienes and styrene. D. Cui, B. Liu, C. Yao

## Section L

Moscone Center  
3003

### Organometallic Chemistry: Catalysis

N. S. Radu, *Organizer*

N. J. Deyonker, A. R. O'Connor, *Presiding*

**1:30 INOR 804.** Catalytic and mechanistic evaluation of norbornene polymerization initiated by cationic ( $\pi$ -Allyl) group 10 complexes containing dialkylbiaryl phosphine ligands. A.R. O'Connor, C. Lee, M. Kunitomo, N.B. Jones, G.L. Heard

**1:50 INOR 805.** Palladium-catalyzed hydrophosphorylation of alkynes: Scope, limitation and mechanism. L. Han

**2:10 INOR 806.** Can alkylation of the N-H functionality within M/NH bifunctional Noyori-type catalysts lead to improved activity? P.A. Dub, J.C. Gordon

**2:30 INOR 807.** Hydroarylation of olefins with (pyridyl-indole) Pt<sup>II</sup> complexes. B.A. Suslick, A.L. Liberman-Martin, T.D. Tilley

**2:50 INOR 808.** Mechanistic elucidation of Pd-catalyzed reactions using high resolution electrospray ionization mass spectrometry. K.L. Walker, L.M. Dornan, M.J. Muldoon, R.N. Zare, R.M. Waymouth

**3:10 INOR 809.** Polymer-supported palladium (II) carbene complexes: Catalytic activity, recyclability and selectivity in C-H acetoxylation of arenes. M.H. Majeed, P. Shayesteh, R.L. Wallenberg, A.R. Persson, N. Johansson, L. Ye, J. Schnadt, O.F. Wendt

**3:30 INOR 810.** Mechanism of Pd-catalyzed decarbonylation of esters to linear  $\alpha$ -olefins. M.A. Ortuno, B. Dereli, A. John, H.E. Johnson, M.A. Hillmyer, W.B. Tolman, C.J. Cramer

**3:50 INOR 811.** Modeling the selectivity of the Pd-based hydroxycarbonylation of pentenoic acids to adipic acid. B. Pudasaini, A. Genest, N. Roesch

**4:10 INOR 812.** Is an exhaustive conformational search necessary for proposing catalytic mechanisms? An investigation of intramolecular Heck catalysis in the formation of colleteic acid derivatives. N.J. Deyonker, T. Ling, R.N. Waltman, F. Rivas

**4:30 INOR 813.** Solvent influence into the C<sub>60</sub>-X (X = Cl or Br) bond activation of x-pyridine species by neophylpalladacycle: An experimental study. O. Serrano

**4:50 INOR 814.** Mechanistic study of the bis(trineopentylphosphine)palladium catalyzed Buchwald-Hartwig amination reaction. H. Hu, K.H. Shaughnessy

### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

#### Theory & Modeling

*Sponsored by PHYS, Cosponsored by INOR*

### Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark

*Sponsored by NUCL, Cosponsored by INOR*

### Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten

*Sponsored by NUCL, Cosponsored by INOR and PRES*

### Deposition & Etching of Nanostructures

*Sponsored by COLL, Cosponsored by INOR*

### Support & Activator Effects on Metal Mediated Polymerization

*Sponsored by PMSE, Cosponsored by CATL, INOR and MPPG<sup>2</sup>*

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Novel Photocatalytic & Photoelectrode Materials

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

## TUESDAY EVENING

## Section A

Moscone Center  
Hall D

## Inorganic Spectroscopy

V. C. Popescu, *Organizer*

5:30 - 7:30

**INOR 815.** Influence of charge transfer in the photoluminescence of lead-free  $Ba_{1-x}Ca_xTi_{1-y}Zr_yO_{3-\delta}$  electro-ceramics. **G. Herrera Pérez**, J.G. Murillo, G. Zaragoza-Galán, G. Tapia-Padilla, A. Reyes-Rojas, L.E. Fuentes-Cobas

**INOR 816.** Characterizing the inner filter effect in quantum dot-polymer composites for use as a displacement sensor. **M.A. Koc**, P. Alivisatos

**INOR 817.** Single-molecule investigation of initiation dynamics of an organometallic catalyst. **J. Ng**, S. Upadhyay, A. Marquard, K. Lupo, D. Hinton, N. Padilla, D. Bates, R.H. Goldsmith

**INOR 818.** Mössbauer spectroscopy: Predictive property models from experimental design and statistical learning. **J. Proppe**, M. Reiher

**INOR 819.** Measuring of the energy transfer efficiency between plasmon nanoparticles and quantum dots using Sample-Transmitted Excitation Photoluminescence (STEP). **P. Moroz**, M. Zamkov

**INOR 820.** Withdrawn.

**INOR 821.** Photophysical effects of varying imine based ligands with cuprous halides to form vividly-colored/brightly-phosphorescent coordination polymers. **L.E. Scoggins**, M. Wilk, Z. Henry, V. Nesterov, M. Omary

**INOR 822.** TDDFT studies of earth abundant photocatalysts. **C. Nite**, A.K. Rappe

**INOR 823.** Theoretical study of tris(1,3-propanedionato)chromium(III) for insight into Cr(III)-based photocatalysts. **J. Nite**, A.K. Rappe

**INOR 824.** Thermal polarized vibrational microspectroscopy of weddellite and whewellite single crystals. **G. Kumi**, N. Aljuhani, A. Obaid

**INOR 825.** Mössbauer spectroscopy of iron-selone and iron-thione complexes capable of preventing oxidative DNA damage. **V.C. Popescu**, M. Cohara, J.L. Brumaghim, B. Stadelman

**INOR 826.** Reexamination of the red band of CuO: Analysis of the  $[16.5] \text{ } ^2\Sigma^- - X \text{ } ^2\Pi$  transition of  $^{63}\text{CuO}$  and  $^{65}\text{CuO}$ . **J.C. Harms**, E.M. Grames, S. Yun, B. Ahmed, J.J. O'Brien, L.C. O'Brien

**INOR 827.** Analysis of some new electronic transitions observed using intracavity laser spectroscopy (ILS): Possible Identification of HCuN. **J.C. Harms**, E.M. Grames, J.J. O'Brien, L.C. O'Brien

**INOR 828.** XESCA: X-ray emission spectroscopy for chemical analysis. **S. Lee**

## Section B

Moscone Center  
Hall D

## Organometallic Chemistry: New Ligand Platforms

N. S. Radu, *Organizer*

5:30 - 7:30

**INOR 829.** Highly selective and sensitive colorimetric chemosensor for detection of  $\text{Co}^{2+}$  in a near-perfect aqueous solution. **M. Kim**, H. Cho, C. Kim

**INOR 830.** Colorimetric chemosensor for the sequential recognition of mercury (II) and iodide in aqueous media. **H. Ahn**, S. Hwang, M. Yang, C. Kim

**INOR 831.** Simultaneous bioimaging recognition of cation  $\text{Al}^{3+}$  and anion  $\text{F}^-$  by a fluorogenic method. **J. Kang**, H. Jeong, D. Yun, C. Kim

**INOR 832.** Highly sensitive benzimidazole-based chemosensor for the colorimetric detection of Fe(II) and Fe(III) and the fluorometric detection of Zn(II) in aqueous media. **H. Jang**, J. Chae, A. Kim, C. Kim

**INOR 833.** Highly selective fluorescence sensor for  $\text{Al}^{3+}$  and  $\text{CN}^-$  in aqueous solution: Biological applications and DFT calculations. **J. Jung**, J. Yun, P. Kim, C. Kim

**INOR 834.** Pillarplexes: A metal-organic class of supramolecular hosts. **P.J. Altmann**, A. Pöthig

**INOR 835.** Unprecedented metal-ligand cooperation of a (PPP)Ni scaffold: Formation of P-E bonds (E = N or P). **Y. Kim**, Y. Lee

**INOR 836.** First-row metal complexes of poly(guanidiny)aryl ligands. **J.E. Allen**, L. Wilkinson, W.S. Kassel, **N.A. Piro**

**INOR 837.** Solvent free hydrosilylation of tertiary, secondary and primary amides using BIAN [Bis(Arylimino)-Acenaphthene] based iron complexes. **A. Saini**, M. Findlater

**INOR 838.** Synthesis of a novel multitopic nonchelating N-heterocyclic carbene. **D. Tapu**, **A. Carter**, **R. Justice**, **R. Hooper**, O. Kuykendall, M. Baker, G. Bettler, A. Changas, A. Mason

**INOR 839.** New annulated N-heterocyclic carbenes and their transition metal complexes. **G. Bettler**, **A. Changas**, O.J. Buckner, C. Boudreaux, B. Norvell, D. Tapu

**INOR 840.** Toward the synthesis of a new anionic N-heterocyclic carbene and its corresponding metal complexes. **A. Carter**, **A. Mason**, **D. Tapu**, M. Baker, G. Bettler, A. Changas

**INOR 841.** Synthesis and Characterization of Cr(0) terminated  $\pi$ -linkers based on linear oligoazulenic frameworks. **N.R. Erickson**, M.V. Barybin

**INOR 842.** Heterobimetallic complexation of a mercapto and isocyno functionalized linear 6,6'-biazulenic  $\pi$ -linker: Synthesis, redox behavior, and spectroscopic characterization. **J.C. Applegate**, N.R. Erickson, M.V. Barybin

**INOR 843.** Novel mesoionic/remote N-heterocyclic carbene ligands and their ruthenium(II) aqua complexes. **T.C. Cao**, D.B. Grotjahn

## Section C

Moscone Center  
Hall D

## Main Group Chemistry

T. W. Hudnall, *Organizer*

5:30 - 7:30

**INOR 844.** Aluminium carboxylates as precursors for the synthesis of aluminium-oxo-cages. **T.L. Precht**, A.J. Peel, D. Wright, A. Wheatley

**INOR 845.** Reactivity of an acyclic silylsilylene toward ethylene: Migratory insertion into the Si-Si bond. **D. Wendel**, S. Inoue, B. Rieger

**INOR 846.** Borylated N-Heterocyclic Carbenes(NHCs) - Synthesis and migration studies. **W. Liu**, C. Chiu

**INOR 847.** Synthesis and characterization of energetic nitroformate salts. **A. Baxter**, I. Martin, K.O. Christe, R.M. Haiges

**INOR 848.** Triazenyl radicals stabilized by N-heterocyclic carbenes. **J. Back**, E. Lee

**INOR 849.** Silylene stabilized boron cations: Synthesis and reactivity studies. **H. Tsai**, C. Chiu

**INOR 850.** Acid-catalyzed hydroxylation of iodododecaborate. **Z.S. Lincoln**, J.A. Dopke, R.J. Staples

**INOR 851.** Ruthenium-catalyzed substitutions of icosahedral dodecaborates. **D.C. Adams**, J.A. Dopke, R.J. Staples

**INOR 852.** Synthesis and characterization of salts derived from 5[chloroalkyl]tetrazoles. **Y.O. Ahmed**, C. Gibson, S. Schneider, S. Deplazes

**INOR 853.** Synthesis and characterization of new derivatized 1,1dimethylhydrazinium salts. **Y.O. Ahmed**, C. Gibson, S. Schneider, S.F. Deplazes

**INOR 854.** Withdrawn.

**INOR 855.** Polyphosphazenes as antibacterial films. **P. Nance**, P. Wisian-Neilson

**INOR 856.** Stabilization of heavier main group analogues by London dispersion force interactions. **R.E. Tureski**, P.P. Power

## Section D

Moscone Center  
Hall D

## Organometallic Chemistry: Synthesis &amp; Characterization-Late Transition Metals

N. S. Radu, *Organizer*

5:30 - 7:30

**INOR 857.** 1,3,6-Trisubstituted fulvene derived *ansa*-metallocene ligands: A new route for the synthesis of *ansa*-ytterbocenes and -samarocenes. **S.K. Adas**, G.J. Balaich

**INOR 858.** Cyclopentadienyl pyridazines and oxazines and their applications in energy and advanced electronics. **N.C. Tice**, E.M. Collins, C.A. Snyder, D.L. Smith

**INOR 859.** Influence of the dicopper core on the reactivity of copper(II) hydrides. **A.J. Jordan**, P.K. Thompson, C.M. Wyss, J.P. Sadighi

**INOR 860.** Unusual reactivity of PCP-supported rhenium carboxylates. **A.J. Kusanovich**, W. Shih, O. Ozerov

**INOR 861.** Activation of small molecules by 2-[[dicyclohexylphosphino]ethyl]trimethyl ammonium chloride iridium complexes. **J. Knapp**, S.H. Schreiner

**INOR 862.** Comparative reactivity studies of iridium(I) and rhodium(I) complexes stabilized by chelating diphosphine ligands. **K. Olsen**, S.H. Schreiner

**INOR 863.** Synthesis, characterization and reactivity of group ten phosphinoferrrocene - carbonyl complexes. **E. Kober**, S.H. Schreiner

**INOR 864.** Synthetic and structural comparisons between first row transition metal dithiolato complexes and group 14 metallocenes. **J. Pratt**, P.P. Power

## Section E

Moscone Center  
Hall D

## Organometallic Chemistry: Catalysis

N. S. Radu, *Organizer*

5:30 - 7:30

**INOR 865.** Single step access to long-chain  $\alpha,\omega$ -dicarboxylic acids by catalytic isomerizing hydroxycarbonylation. **V. Goldbach**, L. Falivene, L. Caporaso, L. Cavallo, S. Mecking

**INOR 866.** Carbon dioxide hydrosilylation catalyzed by iron. **T. Jurado**, J.J. Garcia

**INOR 867.** Robust catalyst for the dehydrogenation of neat formic acid. **J. Celaje**, Z. Lu, **E. Kedzie**, J. Lo, N. Terrile, T.J. Williams

**INOR 868.** Olefin oligomerization catalysis: Ligand design, organometallic chemistry, and catalysis. **T.C. Wambach**, T.D. Tilley

**INOR 869.** Ammonia formation from a bulky triphenolate amine transition-metal nitrido complex. **D. Bae**, E. Lee

**INOR 870.** 1,5-Regioisomer of the click reaction: Valuable ligand precursors for new Ru-MIC complexes. **L. Suntrup**, S. Hohloch, B. Sarkar

**INOR 871.** Computational studies of rhodium-catalyzed hydrogenation and carbon dioxide activation. **M. Trenerry**, M.T. Whited, B.L. Taylor

**INOR 872.** Hydrogenation of unsaturated triglycerides via catalytic hydrogen transfer from glycerol. **V. Cherepakhin**, T.J. Williams

**INOR 873.** Highly efficient synthesis of N-alkylation of aromatic amines with primary alcohols catalyzed by an ionic ruthenium pincer complex. **F. Yang**, Y. Wang, Y. Ni, X. Cao, S. Lu, X. Hao, M. Song

**INOR 874.** Synthesis and electrochemistry of ruthenium 2,2'-bipyridine-6,6'-dicarboxylate catalysts using different phosphorus ligands. **S. Yazdani**, J.M. Kamdar, E.R. Paulson, A.L. Rheingold, D.B. Grotjahn

**INOR 875.** Kinetic investigation of the dehydrogenative borylation of terminal alkynes. **B.J. Foley**, N. Bhuvanesh, O. Ozerov

**INOR 876.** Tunable catalysis with dimethyl tetraguanidinate paddlewheel complexes. **M. Humphries**, E. Wusterbarth, B.R. Smith, J.T. Narderson, D.L. Lichtenberger

**INOR 877.** Catalytic aerobic oxidation by self-sensitized tellurium containing chromophores. **L. Lutkus**, T. McCormick

**INOR 878.** Reactivity and catalytic studies of transition metal complexes with a triazene ligand functionalized with pyrazole. **L.J. Medrano-Castillo**, M.Á. Collazo-Flores, D. Chávez, D.B. Grotjahn, A.L. Rheingold, V. Miranda-Soto, M. Parra Hake

**INOR 879.** Butterfly [2Fe-2S] cluster-based electrocatalysts with fast rates for hydrogen production. **K.E. Clary**, O. In-noi, J.M. Marx, K.J. Haller, D.H. Evans, R.S. Glass, D.L. Lichtenberger

‡ Cooperative Cosponsorship



**INOR 880.** Rhodium complexes with N-heterocyclic carbene and triazenide ligands as catalysts for alkyne hydrothiolation. **J.P. Camarena-Diaz**, D.B. Grotjahn, A.L. Rheingold, J. Perez-Torrente, R. Castarlenas, L.A. Oro, V. Passarelli, M. Parra Hake, V. Miranda-Soto

**INOR 881.** Oxidation of an iridium hydride pincer complex by O<sub>2</sub>: A DFT study. **J. Williams**, A.M. Wright, K.I. Goldberg, T.R. Cundari

**INOR 882.** Development of novel Pd and Pt catalysts for efficient conversion of methane to methanol. **J. Chen**, **J. Park**, **M. Klosinski**, R. Giron, Y. Lee, B. Rawal, J. Lee, K.W. Jung

## Section F

Moscone Center

Hall D

### Inorganic Catalysts

S. A. Koch, *Organizer*

5:30 - 7:30

**INOR 883.** Olefins from biodiesel: Decarbonylation using a ruthenium catalyst. **B. Benson**, A. John, W.B. Tolman

**INOR 884.** Reduced copper metal-organic frameworks: A heterogeneous catalyst for click chemistry. **K. Xie**, Q. Fu, P. Webley, G.G. Qiao

**INOR 885.** Study on synthesis and catalytic cracking performance of Y zeolite with sheet-like morphology. **S. Cui**, G. Wang, B. Liu

**INOR 886.** Copper nanocrystals embedded in metal-organic frameworks for highly selective CO<sub>2</sub> hydrogenation to methanol. **B. Rungtaweeveranit**, J. Baek, G.A. Somorjai, O.M. Yaghi

**INOR 887.** Mesoporous cobalt oxide with controlled porosity: Efficient catalyst for peroxide free alkene epoxidation under aerobic conditions. **C. Weerakkody**, S.L. Suib

**INOR 888.** Copolymerization of cyclohexene oxide and succinic anhydride using Schiff base Zn complex. **A. Virachotikul**, P. Wongmahasirikun, K. Phomphrai

**INOR 889.** Synthesis of cyclic poly( $\epsilon$ -caprolactone) using tin(II) complex containing soft sidearm initiator. **T. Ungpittagul**, K. Phomphrai

**INOR 890.** Investigation of ring-opening mechanism using x-ray crystallography. **K. Udomsasporn**, K. Phomphrai

**INOR 891.** Cobalt, nickel, and iron Schiff Base complexes for hydrogen production in aqueous solution. **A. Graves**, O. Taghavi, W.T. Eckenhoff

**INOR 892.** Synthesis of aluminum complexes supported by salicylaldehyde ligands for the polymerization of cyclic esters. **P. Pitsitsozon**, P. Wongmahasirikun, K. Phomphrai

**INOR 893.** Electrocatalytic generation of hydrogen gas by cobalt porphyrin-based Metal-Organic Framework (MOF) and amorphous polymer. **Y. Wu**

**INOR 894.** Studies of a low-valent Molybdenum(VI)-dioxo complex as a deoxydehydration catalyst. **R. Tran**, S.M. Kilyanek

**INOR 895.** Novel bi-functional catalyst based on Co<sub>3</sub>O<sub>4</sub> core - MnO<sub>2</sub> shell for rechargeable Li-air battery. **Y. Lee**, D. Kim, S. Ha, S. Kim, Y. Lee

**INOR 896.** Impact of rare-earth dopants on the catalytic activity of CeO<sub>2</sub> nanoparticles for both CO oxidation and preferential CO oxidation reactions. **J. Yoo**, K. Kim, J. Han, W. Jung

**INOR 897.** Aqueous solution palladium catalyzed Suzuki cross coupling reactions: Reaction optimization of base and the effects of base concentration. **T. Olson**, J.G. Parsons

**INOR 898.** Effects of acid strength and position of an intramolecular acidic functional group on the catalytic reduction of CO<sub>2</sub> to CO. **S. Lense**, I.A. Guzei, K. Thao, J. Andersen, M. Schultz

**INOR 899.** Inverse Frustrated Lewis Pair (FLP) approach for catalytic metal-free hydrogenation of imines. **S. Mummadi**, D. Kenefake, R. Diaz, C. Krempner

**INOR 900.** Role of water in the selective oxidation of benzyl alcohol over gold nanoparticle supported catalysts. **A. Tombo**, M.Y. Santos, B. Chandler, C. Pursell

**INOR 901.** Withdrawn.

**INOR 902.** Withdrawn.

**INOR 903.** Characterizing the kinetic capabilities of supported gold nanoparticle catalysts using benzyl alcohol oxidation. **M.Y. Santos**, B.D. Chandler, C. Pursell, A. Tombo

## Section G

Moscone Center

Hall D

### Environmental & Energy-Related Inorganic Chemistry

S. A. Koch, *Organizer*

5:30 - 7:30

**INOR 904.** Impedance studies of silyl/carbonate electrolyte blends. **M. Treichel**, C.A. Ortiz, L.J. Lyons

**INOR 905.** Nitrous oxide removal with titanium oxide. **H. Gokturk**

**INOR 906.** Synthesis and characterization of magnetic nanocomposites for energy storage applications. **B. Shen**, S. Sun

**INOR 907.** Development of a chemosensor device to aid in combatting the trade of fish caught by cyanide fishing. **C. Flynn**, C.A. Sweet, A.R. McCabe, C. Murphy

**INOR 908.** Design of biotemplated titanium dioxide nanoparticles for potential application as anodes in dye-sensitized solar cells. **A. Reyes-Oliveras**, G. De Jesus-Morales, V. López-Mejias

**INOR 909.** Photophysical studies on homoleptic phenylimidazolinato Ir(III) complexes: Electronic effect of terphenyl groups at the phenylimidazolinato ligand. **S. Kim**, Y. Cho, C. Kim, H. Son, S.O. Kang

**INOR 910.** New types of deep blue phosphorescent Ir complexes with sulfonfyl group in phenyl unit of phenyl pyridine ligand: Photodynamic studies of sulfonfyl group effect and their application to solid-state display. **J. Kim**, Y. Cho, S. Yi, C. Kim, H. Son, S.O. Kang

**INOR 911.** Iridium photosensitizers for artificial photosynthesis: Design monomeric and bimetallic Ir-complexes and Ir-dendrimers. **Y. Cho**, C. Kim, H. Son, C. Pac, S.O. Kang

**INOR 912.** Widely controllable syngas (H<sub>2</sub> + CO) production by a dye-sensitized TiO<sub>2</sub> hybrid system with Re(I) and Co(III) dual molecular catalysts under visible-light irradiation. **J. Lee**, D. Won, W. Jung, H. Son, C. Pac, S.O. Kang

**INOR 913.** Role of porphyrin antenna for photocatalytic CO<sub>2</sub> reduction in a hybrid catalyst system: Protection from photo-bleaching. **D. Won**, J. Lee, H. Son, C. Pac, S.O. Kang

**INOR 914.** Photosensitization effects of Ir(III) complexes in selective reduction of CO<sub>2</sub> by Re(I)-complex-anchored TiO<sub>2</sub> hybrid catalyst. **H. Cheong**, S. Kim, Y. Cho, D. Cho, C. Kim, H. Son, C. Pac, S.O. Kang

**INOR 915.** Photophysical studies on homoleptic phenylimidazole iridium(III) complexes: Electronic effect of planar bulky phenylimidazole ligand. **M. Son**, S. Kim, Y. Cho, J. Kim, S. Yi, C. Kim, H. Son, S.O. Kang

**INOR 916.** Molecular engineering of squaraine dyes for efficient far-red and near-IR sensitization in photocatalytic CO<sub>2</sub> reduction. **M. Cho**, H. Son, C. Pac, S.O. Kang

**INOR 917.** Measuring lithium and fluoride diffusion in electrolytes for use in lithium-ion batteries with PFG-STE NMR. **S.A. Beecher**, L.J. Lyons

**INOR 918.** Coupling of chromophoric dyes with applied bias or microwave heating to increase DSSC photo-conversion efficiency. **C.A. Sweet**, C. Flynn, C.J. Timpson, C. Murphy

**INOR 919.** Effect of aliphatic ligand length on triplet energy transfer from PbSe nanoparticles to rubrene. **N. Megerdich**, M. Mahboub, M. Tang

**INOR 920.** Structure, dynamics, and electrochemistry of psychrophilic cytochromes. **S.J. Barth**, J. Chou, S.K. Lone, K.S. Montero, G.J. Salerno, M.C. Buzzeo, J.S. Magyar

**INOR 921.** Bioinspired preparation of melanin-like nanoparticles used for highly nitrogen-doped porous carbon spheres: Enhanced CO<sub>2</sub> capacities and efficient oxygen reduction catalyst. **H. Kim**, M. Kim, M. Kang, Y. Sung, W. Yoo

## Section H

Moscone Center

Hall D

### Electrochemistry

B. L. Lucht, *Organizer*

5:30 - 7:30

**INOR 922.** Vanadium oxide and vanadium oxynitride composite as electrode materials for lithium ion batteries. **W. Huang**, S. Yen, C. Lee, H. Chiu

**INOR 923.** Synthesis, characterization and electrocatalytic performance of binary transition metal borides. **H. Park**, B. Fokwa

**INOR 924.** Exploring electrocatalytic N<sub>2</sub> activation under mild synthetic conditions. **A. Nielander**, J. McEaney, T.F. Jaramillo

**INOR 925.** Rutile TiO<sub>2</sub> Nanorod arrays grown on graphite foil as binder-free flexible electrode for sodium-ion batteries. **Y. Ching Tai**, M. Yang, H. Chiu, C. Lee

**INOR 926.** Molecular rectification: Chemical synthesis and characterization of donor-sigma-acceptor molecules. **G. Ren**, E.J. Parish, H. Honda, H. Shyu, T. Wei

**INOR 927.** Characterization of a dicopper dihydroxide water oxidation electrocatalyst. **S.J. Koepke**, P.E. VanNatta, A. Shrestha, M.T. Kieber-Emmons

**INOR 928.** Electrochemical characterization of selenocystine reactivity at modified gold surfaces. **K. Frommer**, K. Lynch, E. Wiita, M.C. Buzzeo

**INOR 929.** Withdrawn.

## Section I

Moscone Center

Hall D

### Bioinorganic Chemistry: DNA, RNA & Inorganic Drugs

S. A. Koch, *Organizer*

5:30 - 7:30

**INOR 930.** Elucidation of the cell death pathways induced by aqueous-stable titanium(IV) compounds as potential anticancer agents. **Y. Delgado**, A.D. Tinoco

**INOR 931.** Glycoconjugates of organometallic ruthenium-arene complexes. **L. Miller**, L. Kennington, L. Wisniewski, M. Burnatowska-Hledin, A.L. Eckermann

**INOR 932.** Synthesis, characterization, and in-vitro antitumor activity of copper(II) complexes possessing alky-substituted polypyridyl ligands. **J.F. Eichler**, N. Angel, M. Baird, R.M. Khatib

**INOR 933.** Functionalised peptidomimetic metalohelices. **H. Song**, S. Allison, S. Shepherd, R. Phillips, P. Scott

**INOR 934.** Photodynamic therapy of cancer using sterically strained ruthenium complexes. **R.S. Khnazyer**, N. Mansour, S. Mehanna, R.I. Taleb, M. Mroueh, M. ElSibai, C.F. Daher

**INOR 935.** Design, synthesis and characterization of multifunctional platinum-[benz]acridine agents. **X. Yao**, M.W. Wright, M. Yang, J. Lee, C.M. Furdul, U. Bierbach

**INOR 936.** Synthesis, characterization, and binding properties of metal-based G4 intercalators containing a phosphonium tether. **G.M. Marqus**, M. Dixon, M. Powers, C.H. Leung

**INOR 937.** Fluorinated pyrrolic macrocycles for biological imaging: Optical properties and aggregation in solution. **M.A. Kaster**, R. Szlag, K. McAuliffe, E.R. Trivedi

**INOR 938.** Rhenium-oxo and gold corroles: Synthesis, spectroscopy, and application to photodynamic therapy. **R.F. Einrem**, A. Alemayehu, O.A. Gederaas, A. Ghosh

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INOR **939**. Synthesis and application of silver nanoclusters from DNA templates containing Ag(I)-mediated base pairs. **J. León**, D. Gonzalez-Abradelo, G. Wilde, M. Peterlechner, C. Strassert, J. Müller

INOR **940**. From cations to clusters: Ag<sup>+</sup>-mediated DNA base pairings and fluorescent silver clusters. **S. Swasey**, X. Chen, A. Karpenko, S.M. Copp, O. Lopez-Acevedo, E. Gwinn

INOR **941**. Acid-labile linker design for targeted delivery and release of platinum-acridine anticancer agents. **H. Wang**, M. Yang, U. Bierbach

INOR **942**. Anticancer properties of organorhenium picolinato, nicotinato and tryptophanato complexes. **M. Stevenson**, S. Pramanik, S.K. Mandal

INOR **943**. Cytotoxic properties of organorhenium flufenamato and ibuprofenato complexes on breast cancer cells. **S. Parnell**, S. Pramanik, S.K. Mandal

INOR **944**. Anticancer properties of organorhenium mefenamato and tolfenamato complexes. **T. Hinton**, S. Pramanik, S.K. Mandal

INOR **945**. Chemical biology of Cu(II) complexes with imidazole or thiazole containing ligands: Synthesis, crystal structures and comparative biological activity. **L.A. Tyler**, A. Lewis, M. McDonald, S. Scharbach, S. Hamaway, K.M. Fox, J. Tanski, L. Cassimeris

## Section J

Moscone Center  
Hall D

### Bioinorganic Chemistry: Proteins & Enzymes & Model Systems

S. A. Koch, *Organizer*

5:30 - 7:30

INOR **946**. Square planar copper (I) complexes with geometric constraints pertinent to copper proteins. **P. Cheung**, R. Berger, J.D. Gilbertson

INOR **947**. Synthetic models of Ni-thiolate coordination units in biology. **R.A. Steiner**, T.C. Harrop

INOR **948**. Electronic ground state determination of a novel paramagnetic iron(III)-superoxo complex by Mössbauer spectroscopy, EPR, and DFT. **H. Stout**, S.T. Kleespies, C. Chiang, W. Lee, L. Que, E. Munck, E.L. Bominaar

INOR **949**. Electronically versatile benzenedithiolates on electronic and coordination structures of metal complexes: Mimicking the electronic interplay in [FeFe]hydrogenase active site. **Y. Liu**, K. Chu, M.H. Chiang

INOR **950**. Withdrawn.

INOR **951**. Nitrite reduction by a PDI complex with a proton-responsive secondary coordination sphere. **M. Delgado**, Y.M. Kwon, J.D. Gilbertson

INOR **952**. Probing Pterin reduction dynamics in synthetic molybdenum cofactor models. **A.L. Nagelski**, D.R. Gisewhite, B.R. Williams, S.J. Nietzer Burgmayer

INOR **953**. Increasing the coordination kinetics of the Acetylene Hydratase (AH) model complex via pseudo-hydroxylation. **T. Marshall**, M.A. Cranswick

INOR **954**. Mechanistic insight into nitrite to nitric oxide conversion at copper(I) and copper(II) sites. **Z. Sakhaei**, S. Kundu, J. Donnelly, T.H. Warren

INOR **955**. Extended broken symmetry approach to modeling structures and spectroscopic properties of oxidized and reduced 2Fe-2S clusters from ferredoxin. **R.A. Wheeler**, B.R. Jagger, A.M. Koval

INOR **956**. New metal complexes of tridentate N,N,O scorpionate ligands. **S.E. Sherman**

INOR **957**. Chemosensors for Ni(II) employing N/S-based donors. **E. Broering**, T.C. Harrop

INOR **958**. Synthesis and reactivity studies of nickel-selenium complexes. **L. Cordeiro**, G.P. Yap, C.G. Riordan

## Section K

Moscone Center  
Hall D

### Coordination Chemistry: Characterization & Applications

S. A. Koch, *Organizer*

5:30 - 7:30

INOR **959**. Transition metal complexes with triamidoborane-bridged diphosphines: Coordination chemistry, reactivity, and XAS studies. **K. Lee**, C.M. Donahue, A.V. Blake, S.R. Daly

INOR **960**. Scavenging for triiodide via *in situ* crystallization of tripladium(II) cyclophane molecules in photo-cyclopropanation reactions. **H. Lee**, O. Jung

INOR **961**. Combined effects of peripheral fluorine and central metal on phthalocyanine properties. **R. Szlag**, M.A. Kaster, E.R. Trivedi

INOR **962**. Withdrawn.

INOR **963**. Synthesis, characterization and anticancer studies of tris-dithiocarbamate ruthenium(III) complexes. **P.A. Ajibade**

INOR **964**. Coordination complexes with guanidine-type ligands towards cleavage of aryl-heteroatom bonds found in naturally occurring feedstocks. **K.D. Feller**, B. Barry

INOR **965**. Complexes with bis-guanidine-type ligands towards insertions into sp<sup>2</sup>-heteroatom bonds. **J. Bruggen**, B. Barry

INOR **966**. Nanojar reactivity with acidic compounds and their conjugate base ligands. **C.K. Hartman**, G. Mezei

INOR **967**. Probing slow magnetic relaxation in a series of mononuclear uranium (V) compounds. **D. Lussier**, J.R. Long, D.K. Shuh

INOR **968**. Vanadium-Dependent Haloperoxidase Enzymes: A Review of Mechanism, Structure-Functional Relationships, and Coordination Environments. **K. Doucette**, C. Wallace, C.C. McLauchlan, D.C. Crans

INOR **969**. Coordination chemistry of the rhodizonate anion with Pb(II) and lanthanides: From understanding complexation to analytical applications. **J.A. Silverman**, E.V. Govor, K. Kavallieratos

INOR **970**. Theoretical computations of tunable bimetallic systems. **C. Feng**, M.B. Pastor, **Q. Zhao**

## Section L

Moscone Center  
Hall D

### Lanthanide & Actinide Chemistry

A. De Bettencourt Dias, *Organizer*

5:30 - 7:30

INOR **971**. Actinide mediated C-X activation chemistry. **J.M. Dorhout**, M.J. Monreal, D.E. Morris, B. Scott, K.D. Abney, J.L. Kiplinger

INOR **972**. Very low-temperature lanthanide and actinide borates from boric acid flux. **A.T. Chemya**, S.S. Galley, T.E. Albrecht-Schmitt

INOR **973**. Gas phase chemistry of the Ln(III)-TMGA/TMTGA complexes. **X. Chen**, Q. Li, Y. Gong

INOR **974**. Design and synthesis of tri-substituted benzene compounds used as extractants in nuclear waste remediation. **B.G. Wackerle**, S.M. Biros

INOR **975**. Development of bidentate ligands containing soft donor atoms for actinide chelation. **C.C. Miller**, S.M. Biros, J.E. Bender

INOR **976**. Hyp/Sb for separation of heavy metals. **E.G. Leach**, S.M. Biros, J.E. Bender

INOR **977**. Synthesis and characterization of (2-methoxyphenyl)diphenylphosphine derivatives for nuclear waste remediation. **E. Christoffersen**, S.M. Biros, J.E. Bender

INOR **978**. Phosphine ligands for the extraction of f-block elements: Use in nuclear waste remediation. **A.R. Spyker**, S.M. Biros, J.E. Bender

INOR **979**. Novel synthesis, structure, and enhanced photoluminescence of lanthanide dicyanoaurates containing aurophilic interactions. **T. Hamby**, R. Sykora, J. Hendrich, E. Kost

INOR **980**. Optimizing hydrothermal reaction conditions for lanthanide coordination polymer formation: A study of the 1,4-benzenedicarboxylate system. **J. Einkauf**, D.T. de Lill

INOR **981**. Recovery and recycling of Pu-238 in spent nuclear fuel to increase the sustainability of nuclear reactors using extraction and luminescence techniques. **M. Hudson**, G. Deblonde, R.J. Abergel, S.M. Biros

INOR **982**. Design of lanthanide half-sandwich complexes exhibiting single-molecule magnetism. **R. Khoo**, J.R. Long

## Section M

Moscone Center  
Hall D

### Emergent Phenomena in the Solid State

B. C. Melot, E. E. Rodriguez, *Organizers*

5:30 - 7:30

INOR **983**. Structural, magnetic, and electrical properties of Pr<sub>2</sub>Fe<sub>1-x</sub>Mn<sub>x</sub>Sb<sub>2</sub> (x = 0.5, 1.0). **I.W. Oswald**, S. Li, B. Lv, J. Chan

INOR **984**. Metastable layered metal chalcogenides: From superconductivity to ferromagnetism. **B. Wilfong**, X. Zhou, H.K. Vivanco, E.E. Rodriguez

INOR **985**. Antimony nets and transition metal sublattices: The structure and properties of Ln<sub>2</sub>Fe<sub>4-x</sub>CoxSb<sub>5</sub> (Ln = La-Pr; x < 1.5). **K. Benavides**, S. Li, J.V. Burnett, B. Lv, J. Chan

INOR **986**. Evolution of the magnetic properties in the series M<sub>2</sub>FeB<sub>2</sub> (M = V, Nb, Mo, Ta and W). **J. Scheifers**, V. Shukla, B. Fokwa

INOR **987**. Topochemical intercalation and ion-exchange of layered iron sulfides via low-temperature hydrothermal routes. **X. Zhou**, B. Wilfong, H.K. Vivanco, E.E. Rodriguez

INOR **988**. Effect of ionicity on magnetism of K<sub>2</sub>MnS<sub>2</sub>. **A. Bhutani**, P. Behera, K. Kihlstrom, M. Smylie, U. Welp, W. Kwok, E.E. Rodriguez, A. Huq, D. Shoemaker

INOR **989**. Intercalation chemistry of CoSe and Co<sub>1-x</sub>Fe<sub>x</sub>Se mixed phase. **H.K. Vivanco**, B. Wilfong, X. Zhou, E.E. Rodriguez

INOR **990**. Structural design of magnetoelectric multiferroics in garnets. **A.J. Neer**, B.C. Melot

INOR **991**. Synthesis and characterization of Hf<sub>2</sub>Ru<sub>5-x</sub>M<sub>2</sub>B<sub>2</sub> (M = Fe, Co, Ni) -towards rare-earth-free magnets. **P. Shankhari**, B. Fokwa

INOR **992**. Red, white, and blue: Controlling the luminescence of doped rare-earth oxychloride nanocrystals by ligand selection and compositional modulation. **G.V. Villalpando**, G.R. Waetzig, G.A. Horrocks, S. Banerjee

INOR **993**. Properties and design of multifunctional phyllosilicates. **E. Howard**, B.C. Melot

## Section N

Moscone Center  
Hall D

### Chemistry is Central to Applied Materials

C. R. Bertozzi, C. J. Chang, M. A. Paley, *Organizers*

5:30 - 7:30

INOR **994**. Self-healing metallogels as the recyclable materials for selective dye adsorption and separation. **C.K. Karan**, M. Bhattacharjee

INOR **995**. Withdrawn.

INOR **996**. TAAILs - Tunable aryl-alkyl ionic liquids: A new generation of ionic liquids. **T. Strasser**

INOR **997**. Effects of calcination intensity on rutile TiO<sub>2</sub> white pigment production via short sulfate process. **C. Tian**

INOR **998**. Highly selective Ru/TiO<sub>2</sub> catalysts for HDO of phenolic compound: Effects of support structure and partial substitution of nickel for ruthenium. **S. Husremovic**, R.C. Nelson, B.G. Frederick, R.N. Austin, A. Mahdavi, S. Ki

INOR **999**. Novel approaches to the chemical syntheses of azamacrocyclic compounds and derivatives. **G. Ren**, E.J. Parish, Y. Lo, **H. Honda**, T. Wei

INOR **1000**. Calcium cobalt hexacyanoferrate cathodes for rechargeable divalent ion batteries. **J. Thiebaut**, P. Padigi, N. Kuperman, G.M. Goncher, D. Evans, R. Solanki

INOR **1001**. Graphene-On-Silica, CMOS-integrable, thermal-guiding structures: Applications in Boolean-Logic and neuromorphic computation. **D. Loke**, J. Skelton, T. Chong, S. Elliott

INOR **1002**. Difluoroboron  $\beta$ -diketone poly lactides as luminescent oxygen sensing materials for wound imaging. **C.A. DeRosa**, S.A. Seaman, A.S. Mathew, C.M. Gorick, Z. Fan, J.N. Demas, S.M. Peirce, C. Fraser

## Section O

Moscone Center  
Hall D

### Chemistry of Materials

C. G. Lugmair, *Organizer*

#### 5:30 - 7:30

INOR **1003**. White light emission of lead(II) metal-organic frameworks. **A. P. Peedikakkal**, J.J. Vittal

INOR **1004**. Interface-facilitated hydrothermal synthesis of large-area graphene-like carbon nanosheets from toluene. **H. Gao**, G. Wang, S. Fan, C. Dong, A. Li, X. Zhu, X. Li

INOR **1005**. Effect of electrodeposition variables on the topography and photoelectron kinetics of zinc oxide nanorods grown on graphene. **C. Villarreal**, **D. Pirzada**, **A. Wong**, A.K. Mulchandani

INOR **1006**. Crystal structure features and luminescent properties of the copper-doped Ca-Eu apatite. **M. Pogosova**, F. Azarmi

INOR **1007**. Structure and reducibility of CeO<sub>2</sub> doped with trivalent cations. **A.K. Lucid**, G.W. Watson

INOR **1008**. Facile fabrication of recyclable magnetic oxide@MOF nanocomposites for aerobic oxidation of benzylic C-H bonds. **G. Wang**, S. Fan, H. Gao, J. Wang, D. Jia

INOR **1009**. Polydopamine-induced CaCO<sub>3</sub> mineralization and its application for the synthesis of nanostructured electrocatalysts. **J. Ko**, C. Park

INOR **1010**. Molecular origins of superacidity in sulfated MOF-808. **C. Trickett**, C. Yan, T. Popp, J. Jiang, A. Hu, J.A. Reimer, M.D. Fayer, O.M. Yaghi

INOR **1011**. Polyttypism in the Nowotny-Juza Compounds: Synthetic and Computational Investigation of Solution Phase I-II-V Semiconductors. **A. White**, G.J. Miller, J. Vela Becerra

INOR **1012**. Alkali bismuth dichalcogenides: Emerging energy materials for photovoltaics and thermoelectrics. **B. Rosales**, J. Vela-Becerra

INOR **1013**. Ge<sub>1-x</sub>Sn<sub>x</sub>/II-VI Core-shell nanostructures: Towards near IR active direct band gap semiconductors. **H. Andaraarachchi**, L. Men, J. Vela-Becerra

INOR **1014**. Withdrawn.

INOR **1015**. Cesium germanium iodide perovskite nanocrystals: Photovoltaics beyond organolead perovskites. **L. Men**, B. Rosales, N. Gentry, J. Vela-Becerra

INOR **1016**. 3D Macroporous TiO<sub>2</sub>@CeO<sub>2</sub> and TiO<sub>2</sub>@AuNP composite fabrication and application. **B. Baruah**, D. Corella, M. Geiger

INOR **1017**. Synthesis and characterization of cationic silver(I) coordination polymers for photoluminescent properties. **E. Soe**, J. Kim, S. Oliver

INOR **1018**. Organo-oxo tin cluster reactivity: Insight into cluster formation, degradation, and interconversion. **M.C. Sharps**, J.E. Hutchison, D.W. Johnson

INOR **1019**. Modelling defects in LaMnO<sub>3</sub> for solid oxide fuel cell cathodes. **A.L. Gavin**, G.W. Watson

INOR **1020**. Single molecular Wells-Dawson-like heterometallic cluster for the preparation of multifunctional carbon materials: A T1- and T2-weighted dual mode magnetic resonance imaging agent and drug delivery system. **Q. Zhang**, **Y. Ling**, **Y. Zhou**

INOR **1021**. Two principles of reticular chemistry uncovered in a metal-organic framework of heterotritopic linkers and infinite secondary building units. **N.R. Catarineu**, A. Schoedel, P. Urban, M.B. Morla, C. Trickett, O.M. Yaghi

INOR **1022**. Novel approaches to the chemical synthesis of polycyclic electron-donor for nanoelectronic materials study. **E.J. Parish**, G. Ren, Y. Lo, **H. Honda**, **M. Hsiao**, T. Wei

INOR **1023**. Size tunable submicro/micro TiO<sub>2</sub>-related spheres synthesized by sol-gel process and the applications. **Y. Chen**, K. Chan, H. Chiu, C. Lee

INOR **1024**. Integration of oriented anatase TiO<sub>2</sub> electron transport layer into perovskite solar cells to improve carrier separation. **H. Dehnashi**, **M.L. Mayer**, A. Yore, Y. Tran, M. Howard, A. Newaz, A.S. Ichimura

INOR **1025**. Environmentally friendly and versatile method for the synthesis of transition metal alloys and their hybrid nanoparticles. **A. Penn**, J. Sharpsteen, H.P. Rathnayake

INOR **1026**. Photoelectrochemical mechanism for instability of blue-phosphorescent Ir(III) complexes in electroluminescence devices. **S. Kim**, H. Bae, S. Park, J. Kim, J. Kim, Y. Jung, S. Sul, S. Ihn, C. Noh, S. Kim, Y. You

INOR **1027**. Fabrication and application of graphene oxide composite films. **J. Shen**, Y. Feng, C. Ma, D. Zhang, Z. Xiao, Z. Hui, **Y. Liu**, **Y. Min**

INOR **1028**. In situ one-pot synthetic approach towards multivariate Zr-MOFs. **Y. Sun**, H. Zhou

INOR **1029**. Hyperpolarized silicon nanoparticles as biocompatible contrast agents for <sup>29</sup>Si magnetic resonance imaging. **H. Seo**, I. Choi, D. Kim, Y. Lee

INOR **1030**. Mesoporous aluminosilicate nanoparticles hosting glow discharge plasma reduced silver nanoparticles for desulfurization of liquid hydrocarbon fuels. **J. Hauser**, D. Tran, E. Conley, J. Saunders, K. Bastillo, S. Oliver

INOR **1031**. Bottom-up synthesis approach to convert layered metal-organic framework materials into hierarchical porous structures. **Z. Li**, K. He, W. Han, K. Yeung

INOR **1032**. Discovery of earth abundant catalysts towards the implementation of a hydrogen economy. **T. Soucy**, J. Mondscheijn, J. McEnaney, C. Badding, R. Schaeck

INOR **1033**. Preparation and structural studies of hexyldecylamine/oleic acid capped ruthenium sulfide nanocrystals. **P.A. Ajibade**

INOR **1034**. Synthesis and characterization of three cationic, isorecticular layered materials based on neodymium and  $\alpha,\omega$ -alkanedisulfonates. **A. Kareh**, S. Oliver

INOR **1035**. Selective aerobic oxidation of primary alcohols to aldehydes in functionalized mesoporous silica nanoparticles. **D. Singappuli-Arachchige**, J. Manzano, L.M. Sherman, I.I. Slowing

INOR **1036**. Crystallizing one-dimensional metal-organic sulfide as cathode material of lithium-ion battery. **Z. Ji**, C. Trickett, H. Jeong, A. Schoedel, O.M. Yaghi

INOR **1037**. Synthesis and catalytic reactions with macroporous botanically templated metal oxides and metal on carbon structures. **N. Black**, E.G. Gillan

INOR **1038**. Metal-organic frameworks as templates for transition metal clusters. **A. Turkiewicz**, M.I. Gonzalez, L.E. Darago, J.R. Long

INOR **1039**. Cytocompatible polysaccharide incorporated biometric tubules. **K. Punia**, M. Bucaro, A. Punia, A. Bykov, K.S. Raja

INOR **1040**. Efficient ammonia adsorption property of Prussian blue analogues. **A. Takahashi**, H. Tanaka, D. Parajuli, T. Nakamura, K. Minami, Y. Sugiyama, Y. Hakuta, S. Ohkoshi, T. Kawamoto

INOR **1041**. Three versatile Pt(II) oxime complexes that display anion sensing, thermochromism, and solvatochromism. **S.O. Elsidieq**, F.R. Fronczek, A.W. Maverick

INOR **1042**. Molybdenum sulfide molecular clusters for 2D-materials. **C. Bejger**, J.L. Shott, M. Howington, J. Johnson

INOR **1043**. Crystal engineering of metal-inorganic frameworks from phosphorescent building blocks. **J. Iyvi**, M.A. Omari

INOR **1044**. Nickel telluride as a bifunctional electrocatalyst for efficient water splitting in alkaline medium. **U. De Silva**, W.P. Liyanage, J. Masud, M. Nath

## Section P

Moscone Center  
Hall D

### Inorganic Nanomaterials: Structure & Function in 0, 1 & 2 Dimensions

K. R. Kittilstved, E. J. McLaurin, *Organizers*

#### 5:30 - 7:30

INOR **1045**. Soft-templating strategies for anisotropic Au nanomaterials and hollow multi-Au@SiO<sub>2</sub> nanosystems. **H. Yoo**

INOR **1046**. High performance CsPbX<sub>3</sub> perovskite quantum dot light emitting devices achieved via solid-state ligand exchange. **Y. Suh**, T. Kim, H. Park, C. Lee, J. Park

INOR **1047**. GeP<sub>3</sub> thin layers: Novel 2D materials revealed by first-principles calculations. **Y. Jing**

INOR **1048**. Imaging interactions between dipole emitters and single nanowires. **E. Johlin**, J. Solari, S.A. Mann, J. Wang, T. Shimizu, E. Garnett

INOR **1049**. Size control and Sb doping of solution grown two-dimensional Bi<sub>2</sub>Se<sub>3</sub> nanoplates. **A.J. Bernard**, Y. Hou, D. Yu, S. Kauzlarich

INOR **1050**. Characterization of solution-based exfoliated two-dimensional nanosheets. **K. Pachuta**, A. Sehirlioglu, E. Pentzer

INOR **1051**. Vapor-Phase epitaxial growth of aligned nanowire networks of cesium lead halide perovskites (CsPbX<sub>3</sub>, X = Cl, Br, I). **J. Chen**, Y. Fu, L. Samad, L. Dang, Y. Zhao, S. Shen, L. Guo, S. Jin

INOR **1052**. Pt Nanoparticle anchored molecular self-assemblies of DNA: A stable and efficient electrocatalyst for hydrogen generation. **S. Anantharaj**, **S. Kundu**

INOR **1053**. Titanium metal nanowires via electrospon polymer nanocomposite. **H.E. Lacy**, A.S. Ichimura, K. Teh

INOR **1054**. Solution growth of lead halide perovskite nanowires for high-performance wavelength-tunable nanowire lasers. **Y. Fu**, H. Zhu, X. Zhu, S. Jin

INOR **1055**. Polyttypic phase transitions in metal intercalated 2D Bi<sub>2</sub>Se<sub>3</sub> nanoribbons. **M. Wang**, K.J. Koski

INOR **1056**. Exploring biphasic routes to functionalized CdSe nanoparticles for use in solar nanocomposites. **K. Bolduc**, **M.E. Hagerman**, J.D. Kehlbeck

INOR **1057**. New route for the formation of SnSe thermoelectric materials with low thermal conductivity. **S. Kundu**, S. Yi, C. Yu

INOR **1058**. Mechanism of galvanic replacement reactions for hollow germanium nanoparticles. **X. Qi**, S. Kauzlarich

INOR **1059**. Impact of surface reconstruction on the electronic structure of PbS QD nanocrystals: Experiment and theory. **C.F. Gervasi**, H.J. Seeley, D.A. Kisiltsyn, T.L. Allen, G. Nazin

INOR **1060**. Assembly of CdSe quantum dots and gold nanorods into discrete arrangements with unique optical properties. **B. Szychowski**, M. Daniel

INOR **1061**. Towards broadband-emitting 2D-perovskites LEDs. **P. Carmona Monroy**, D. Solis, E. Perez Gutierrez

INOR **1062**. Elucidating the effect of fluoride-containing ionic liquids on indium phosphide nanocrystals. **S. Lee**, E.J. McLaurin

## Section Q

Moscone Center  
Hall D

### Solid-State Inorganic Chemistry

C. G. Lugmair, V. Poltavets, *Organizers*

#### 5:30 - 7:30

INOR **1063**. Large-scale synthesis of Sb<sub>2</sub>Q<sub>3</sub> (Q = S, Se) nanofibers topotactically converted from ternary metal chalcogenides and their optical and transport properties. **H. Lee**, M. Kim, B. Yoo, K. Ahn, I. Chung

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**INOR 1064.** Hydrothermal synthesis and characterization of three-dimensional titanium(III) phosphites. L. Hung, S. Wang

**INOR 1065.** Mechanoconglomeration and mechanoracemization of gold(I) complex crystals with optical properties alternation. M. Jin, T. Seki, H. Ito

**INOR 1066.** Synthesis, crystal structure, and thermoelectric properties of new phosphides  $\text{BaCu}_3\text{P}_3$  and  $\text{Ba}_2\text{Cu}_{11.2}\text{Mg}_{2.8}\text{P}_{10}$ . J. Mazzetti, J. Wang, K. Kovnir

**INOR 1067.** Synthesis and structural evaluation of manganese doped cobalt oxides. A.R. Thuli, A.M. Morey

**INOR 1068.** Sol-gel synthesis and characterization of lithium nickel cobalt oxides. J.J. McCune, A.M. Morey

**INOR 1069.** Heat treatment intensity on rutile pigment production from unenriched industrial TiOSO<sub>4</sub> solution via short sulfate process. C. Tian

**INOR 1070.** Two zinc titanophosphates containing organic linkers from in situ metal/ligand reactions. L. Huang, P. Chen, L. Hung, S. Wang

**INOR 1071.** Superhard alloys of transition metal dodecaborides:  $\text{Zr}_{1-x}\text{Y}_x\text{B}_{12}$ ,  $\text{Zr}_{1-x}\text{Sc}_x\text{B}_{12}$  and  $\text{Y}_{1-x}\text{Sc}_x\text{B}_{12}$ . G. Akopov, M.T. Yeung, Z.C. Sobell, C.L. Turner, R.B. Kaner

**INOR 1072.** Metal flux and supercritical fluid syntheses of actinide materials. W. Potter, T.E. Albrecht-Schmitt, S.E. Latturmer

**INOR 1073.** Optimization of the CsCl reduction-oxidation flux synthesis of Cs-Zn-Sb clathrates. S. Heinrich, B. Owens-Baird, J. Dolyaniuk, K. Kovnir

**INOR 1074.** Thermoelectric properties of n-type SnSe-based materials. J. Cha, K. Ahn, I. Chung

**INOR 1075.** Tunable optical properties of Sn-based perovskite compounds. M. Lee, I. Chung

**INOR 1076.** Novel light emitting phosphors based on olivine structure type oxide,  $\text{CaYGaO}_4$ . S.M. Araiza, K. Slowinska, S. Derakhshan

**INOR 1077.** Chemical conjugation of rare-earth oxychloride nanocrystals to hybrid organic-inorganic perovskite nanoplatelets for solid-state lighting applications. F.A. Rodriguez Ortiz

**INOR 1078.** Stabilization of  $\text{GdB}_{12}$  in  $\text{Zr}_{1-x}\text{Gd}_x\text{B}_{12}$  under ambient pressure. G. Akopov, Z. Sobell, M. Yeung, R.B. Kaner

**INOR 1079.** Using a dataset of magnetic material properties to screen for magnetocalorics. J.D. Bocarsly, E. Levin, S. Wilson, R. Seshadri

**INOR 1080.** Effects of microstructurally induced strain on magnetic properties of biphasic Heusler systems. E. Levin, M. Buffon, P. Callahan, J. Stinville, S. Mooraj, D. Gianola, T. Pollock, R. Seshadri

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

## WEDNESDAY MORNING

### Section A

Moscone Center  
2009

#### Deposition & Etching of Nanostructures

Cosponsored by COLLE<sup>†</sup>

Financially supported by ACS Publications, Strem Chemical

H. Fairbrother, A. V. Walker, *Organizers*

L. McElwee-White, *Organizer, Presiding*

#### 8:30 Introductory Remarks.

**8:35 INOR 1081.** Using inherent substrate-dependent nucleation to promote selective-area atomic layer deposition. G. Parsons, P. Lemaire, M. Ritz, C.J. Oldham

**9:10 INOR 1082.** Deposition of ZnO nanostructures on graphene: Application as tin oxide-free photoanodes. C. Villareal, D. Pirzada, A. Wong, A.K. Mulchandani

**9:35 INOR 1083.** Sustainable manufacturing of functional materials. C.J. Carmalt

#### 10:10 Intermission.

**10:30 INOR 1084.** Cobalt metal thin films: Precursor syntheses, atomic layer deposition, and selective growth. C.H. Winter

**11:05 INOR 1085.** Chemical self-assembly strategies for metal-organic surface structures. J. Kestell, R. Abulflaha, D. Olson, W.T. Tysoe

**11:30 INOR 1086.** New precursor chemistries for ALD of transition metal oxides. A. Devi

### Section B

Moscone Center  
2011

#### Celebrating 60 Years of the Division of Inorganic Chemistry

##### Young Investigators & Officers

D. C. Crans, *Organizer*

M. J. Clarke, *Organizer, Presiding*

L. M. Berreau, C. Turro, *Presiding*

#### 8:00 Introductory Remarks.

**8:05 INOR 1087.** Chemical tools for investigating cellular zinc metalloenzymes. E.L. Que

**8:35 INOR 1088.** Engineering molecular materials for applications in energy storage. A. Baumann, D. Burns, V. Thoi

**9:05 INOR 1089.** Nonaromatic tetrapyrrole metal complexes supporting a multielectron redox chemistry for efficient dioxygen activation. J. Rosenthal, J. Eddy, T. Qiu

**9:35 INOR 1090.** De novo design of metalloproteins. I.V. Korendovych

#### 10:05 Intermission.

**10:20 INOR 1091.** Highly stable Metal-organic frameworks with ultrahigh capacitance. D. Feng, Z. Bao

**10:50 INOR 1092.** Coordination chemistry with fullerene-based ligands. A.L. Balch, M.M. Olmstead, A. Aghabali, S. Jun

**11:20 INOR 1093.** Employing novel porphyrinoid ligands to access biomimetic manganese and iron complexes of relevance to O<sub>2</sub>-activating heme enzymes. D.P. Goldberg, J. Zaragoza, R.A. Baglia, J. Sacramento

**11:50 INOR 1094.** Lanthanide complexes and materials with sensitized metal-centered luminescence. A. De Bettencourt Dias

### Section C

Moscone Center  
2016

#### Frontiers in Heavy Element Electronic Structure

Cosponsored by NUCL

D. L. Clark, D. K. Shuh, *Organizers*

L. Soderholm, *Organizer, Presiding*

**8:30 INOR 1095.** Up all night with Bruce: From computations to experiments to real computations & experiments. G.G. Stanley

**8:50 INOR 1096.** Designing activated carbons for Hg removal from coal combustion flue gas. R. Cayton

**9:10 INOR 1097.** Counting electrons: What they don't teach you in general chemistry. J.S. D'Acchioli, M.K. Helli, P. Sit, E.D. Speetzen, A. Webster, C. Mueller, D. Cunningham

**9:30 INOR 1098.** Electronic structure and metal-metal bonding in heterobimetallic and heterotrimetallic complexes of a redox-active metalloligand. A.F. Heyduk, M. Wojnar, K.E. Rosenkoetter

**9:50 INOR 1099.** Bonding with Bruce. D.L. Clark

#### 10:10 Intermission.

**10:30 INOR 1100.** Intriguing aspects of non-innocent ligands in transition metal complexes. M.B. Hall

**10:50 INOR 1101.** Give It some thought: Inorganic chemistry and nanotechnology. C.J. Murphy

**11:10 INOR 1102.** Magnetic circular dichroism and electronic absorption spectra of multiply metal-metal bonded rhenium dimers. A.P. Sattelberger, M.L. Kirk, F. Poineau, E. Johnstone, K. Czerwinski, D. Habel-Rodriguez

**11:30 INOR 1103.** Heavy element chemistry in a heterogeneous context. W.F. Schneider

**11:50 INOR 1104.** Excited states of mononuclear and dinuclear complexes and their applications. C. Turro

### Section D

Moscone Center  
2018

#### Solid-State Inorganic Chemistry

C. G. Lugmair, V. Poltavets, *Organizers*

S. E. Latturmer, F. Rabuffetti, *Presiding*

**8:30 INOR 1105.** Lead- and tin-based two-dimensional hybrid organic-inorganic iodide perovskites: Structure, properties and application in planar solar cells. L. Mao, H. Tsai, W. Nie, L. Ma, J. Im, C. Stoumpos, C. Malliakas, M.R. Wasielewski, A.D. Mohite, M.G. Kanatzidis

**8:45 INOR 1106.** Pressure-induced structural, electronic, and optical evolution of hybrid perovskites. A. Jaffe, Y. Lin, C. Beavers, J. Voss, W. Mao, H. Karunadasa

**9:00 INOR 1107.** Tuning indirect to direct bandgaps in double perovskites. T. Tran, J. Panella, J. Chamorro, J.R. Morey, T. McQueen

**9:15 INOR 1108.** Structure and dynamics of perovskite formamidinium lead iodide: Phase transitions, reentrant properties, persistent molecular motion, and large positive thermal expansion. D.H. Fabini, G. Laurita-Plankis, C. Stoumpos, T. Siaw, S. Han, M.G. Kanatzidis, R. Seshadri

**9:30 INOR 1109.** Trends in the lone pair-induced local off-centering of tin and lead atoms in halide perovskites. G. Laurita-Plankis, D.H. Fabini, C. Stoumpos, M.G. Kanatzidis, R. Seshadri

**9:45 INOR 1110.** Negative thermal expansion and other anomalous properties in mixed metal fluorides with structures related to that of ReO<sub>3</sub>: A perovskite with helium on the A-site? A.P. Wilkinson, B. Hester

**10:00 INOR 1111.** Tuning photochemical and photophysical properties of metallosupramolecular materials. A. Razzgoniev, A. Ostrowski

#### 10:15 Intermission.

**10:30 INOR 1112.** Synthesis of new complex metal hydrides and carbides from ytterbium/lithium flux. M. Dickman, S.E. Latturmer

**10:45 INOR 1113.** *In situ* identification of kinetic factors that expedite inorganic crystal formation and discovery. Z. Jiang, A. Ramanathan, D. Shoemaker

**11:00 INOR 1114.** Dynamic origins of noncentrosymmetry in KNbOF<sub>5</sub>. M. Holland, K.R. Poeppelmeier, J. Rondinelli, N. Charles

**11:15 INOR 1115.** In-situ reduction study of the effect of anion concentration in the Fe-Ga-S system. R. McAuliffe, D. Shoemaker

**11:30 INOR 1116.** Design of piezoelectric heterostructural alloys. S. Miller, K. Talley, A.W. Weimer, A. Zakutayev, S. Lany, C. Musgrave, G. Brennecke, A. Holder

**11:45 INOR 1117.** Piezoelectrics: Putting the squeeze on new materials. M. Dolgos

**12:00 INOR 1118.** Low-Barrier "H-M-H" molecular rotor. E. Prack, C.A. O'Keefe, J.K. Moore, A. Lai, A.J. Lough, P.M. Macdonald, M.S. Conradi, R.W. Schurko, U.W. Fekl

**12:15 INOR 1119.** Synthesis of bimetallic trifluoroacetates through a crystallochemical investigation of their monometallic counterparts: The case of (A, A')(CF<sub>3</sub>COO)<sub>2</sub>nH<sub>2</sub>O (A, A' = Mg, Ca, Sr, Ba, Mn). B. Dhanapala, N. Mannino, K. Dissanayake, L. Suescun, F. Rabuffetti

### Section E

Moscone Center  
2020

#### Chemistry of Materials: Nanomaterials

C. G. Lugmair, *Organizer*

B. E. Cohen, F. Rabuffetti, *Presiding*

**8:00 INOR 1120.** Pnictide precursors for pnictide-based thermoelectric nanomaterials. A. Das

**8:20 INOR 1121.** Syntheses of Zn<sub>1-x</sub>Cd<sub>x</sub>S nanocrystals with tunable band structure for efficient reduction of nitroaromatics in water. M. Kaur

**8:40 INOR 1122.** Improved covalent protein labeling and single-molecule optical properties of compact CdSe/CdS quantum dots. B.E. Cohen, A. Powers, S. Wichner, A. Yildiz

<sup>†</sup>Cooperative Cosponsorship

- 9:00 INOR 1123.** Investigations of using environmentally responsive polymers as capping materials for aluminum nanoparticles. **W. Zeng, S.W. Buckner, P.A. Jelliss**
- 9:20 INOR 1124.** Ultrathin copper based core shell nanowires for high-performance transparent conductors - from synthesis to application. **F. Cui, P. Yang, L. Dou, Z. Niu, Y. Yu**
- 9:40 INOR 1125.** Chemically and structurally flexible hosts for Yb-Er sensitizer-activator pairs. **K. Dissanayake, B. Dhanapala, F. Rabuffetti**
- 10:00 Intermission.**
- 10:15 INOR 1126.** Flexible transparent film heaters based on random networks of silver nanowires: Synthesis, characterization and integration into devices. **C. Celle, T. Sannicolo, D. Toybou, A. Cabos, J. Simonato**
- 10:35 INOR 1127.** Fabrication of high quality compressible 3D graphene aerogel based on graphene oxide nanobelts and for supercapacitor. **T. Fan, Z. Xiao, T. He, Y. Liu, Y. Min**
- 10:55 INOR 1128.** Expansion of the family of gigantic palladium macrocycles based on {Pd84}. **L. Cronin**
- 11:15 INOR 1129.** Spatially orthogonal chemical functionalization of a hierarchical pore network for catalytic cascade reactions. **C.M. Parlett, S.K. Beaumont, L.J. Durrnell, M. Isaacs, N.S. Hondow, K. Wilson, A.F. Lee**
- 11:35 INOR 1130.** Synthesis and characterization aluminum nanoparticles capped by polymerization of acrylic monomers. **C.O. Nyapete, P.A. Jelliss, S.W. Buckner**
- 11:55 INOR 1131.** Synthesis and characterization of *o*-carborane passivated aluminum nanoparticles. **A. Benziger, S.W. Buckner, P.A. Jelliss**
- Section F**  
Moscone Center  
2022
- Lanthanide & Actinide Chemistry**  
*Cosponsored by WCC*
- A. De Bettencourt Dias, Organizer**
- R. J. Abergel, K. Kavallieratos, D. A. Penchoff, Presiding**
- 8:30 INOR 1132.** Terminal Uranium(IV) sulfido and hydrosulfido complexes: Theoretical study of the uranium-sulfur bond. **C. Alvarez Lamsfus, L. Maron**
- 8:50 INOR 1133.** Selective separation of americium from europium using 2,9-bis(triazine)-1,10-phenanthrolines in ionic liquids: A new twist on an old story. **N.J. Williams, J. Dehaut, C.W. Abney, H. Luo, S. Dai**
- 9:10 INOR 1134.** Computational prediction of paramagnetic NMR spectra of f-element complexes. **H. Moylan, J. McDouall**
- 9:30 INOR 1135.** Thermochemical and structural predictions of lanthanide- and actinide-containing compounds: A computational perspective. **D.A. Penchoff, C. Peterson, A.K. Wilson**
- 9:50 Intermission.**
- 10:00 INOR 1136.** Actinide coordination with bio-inspired ligands: A bridge between fundamental f-element chemistry and new therapeutic drug development. **R.J. Abergel, G. Deblonde, I. Captain, P. Agbo, A. Ricano, D. An**

- 10:20 INOR 1137.** Controlled synthesis of lanthanide nanomaterials with covalent organic frameworks. **A. Braun, S. Aloyoglu, C. Booth, D. Olive, M. Straub, S.G. Minasian**
- 10:40 INOR 1138.** Trivalent f-metal coordination and extraction by tripodal sulfonamide ligands and analogs. **E.V. Govor, V.A. Anagnostopoulos, A.N. Morozov, A.M. Mebel, R.G. Raptis, K. Kavallieratos**
- 11:00 Intermission.**
- 11:10 INOR 1139.** Synthesis and redox non-innocent reactivity of bis(NHC)borate-supported thorium complexes. **M. Garner, S. Hohloch, L. Maron, J. Arnold**
- 11:30 INOR 1140.** Exploring water selective properties and uptake rates of a uranium metal-organic nanotube. **A.S. Jayasinghe, M. Payne, D. Unruh, T. Forbes**
- 11:50 INOR 1141.** Chalcogenide insertion reactivity of a thorium-alkyl complex supported by amidinate ligands. **N. Settineri, J. Arnold**

### Section G

Moscone Center  
2024

#### Nanoscience

- B. G. Trewyn, Organizer**
- B. A. Hernandez-Sanchez, Presiding**
- 8:00 INOR 1142.** Hyaluronic acid conjugated carbon quantum dots for bioimaging and targeted drug delivery in ophthalmology. **B.B. Karakocak, J. Liang, P. Biswas, N. Ravi**
- 8:20 INOR 1143.** Bacteriophage-conjugated quantum dots as *in vivo* luminescent bioimaging agents. **W.C. Corbin, M. Casillas, J. Pelowitz, C. Ashley, B.A. Hernandez-Sanchez**
- 8:40 INOR 1144.** Bioconjugation chemistry in luminescent gold nanoparticles. **R. Vinluan, J. Zheng**
- 9:00 INOR 1145.** Nanoelectronic signaling approaches for chemical sensing and fundamental investigation of chemical/biological systems. **M. Ding, Y. Huang, X. Duan**
- 9:20 INOR 1146.** Magnetically stimulated release from Medusa particles. **B.J. McCormick, M.E. Whitaker, E. Roedern, K. O'Connor, R.R. Shah, S. Pan, J.A. Nikles, C.S. Brazel, D.E. Nikles**
- 9:40 INOR 1147.** Liquid biopsy for detecting ductal pancreatic adenocarcinoma. **S.H. Bossmann, H. Wang, M. Kalubowilage, O. Covarrubias Zambrano, A.P. Malalasekera, A.S. Yapa, R. Ortega, Y. Toledo, A. Kasi, S. Williamson, C.T. Culbertson, D.L. Troyer**

**10:00 Intermission.**

- 10:10 INOR 1148.** Synthesis of multifunctional dendronized-gold nanoparticles for bimodal *in vivo* imaging. **A. Saha Ray, M.W. Brechbiel, M. Daniel**
- 10:30 INOR 1149.** Developing lanthanide doped alkaline earth chalcogenide nanoparticles for scintillators and bioimaging agents. **B.A. Hernandez-Sanchez, T.J. Boyle, T.N. Lambert, P. Lu**
- 10:50 INOR 1150.** Light scattering study on the interaction of poly(N-isopropylacrylamide) and transition metal dications. **L. Fulton, J. Tsavalas, W.R. Seitz, R.P. Planalp**

- 11:10 INOR 1151.** Atomically precise Organomimetic Cluster Nanomolecules (OCNs). **E.A. Qian, A.I. Wixtrom, J.C. Axtell, A. Saebi, D. Jung, P. Rehak, Y. Han, E. Hakim Mouly, D. Mosallaei, S. Chow, M. Messina, J. Wang, A.T. Royappa, A.L. Rheingold, H.D. Maynard, P. Kral, A.M. Spokoyny**
- 11:30 INOR 1152.** Bottom-up synthesis and self-assembly of atomically precise pristine and nitrogen-doped graphene nanoribbons. **A. Sinitskii**
- 11:50 INOR 1153.** Integrating sphere microscopy to quantify losses and limits in nanoscale solar cells. **S.A. Mann, S. Oener, A. Cavali, J. Haverkort, E. Bakkers, E. Garnett**
- 12:10 INOR 1154.** Approaching the hole mobility limit of GaSb nanowires. **Z. Yang, J.C. Ho**

### Section H

Moscone Center  
3000

#### Organometallic Chemistry: Applications to Organic Transformations

- N. S. Radu, Organizer**
- B. Fraga, Presiding**
- 8:30 INOR 1155.** Mechanistic understanding of catalyst-controlled and tunable, chemoselective silver-catalyzed intermolecular nitrene transfers. **T. Yang, J.F. Bery**
- 8:50 INOR 1156.** Preparation and characterization of copper(I) diazabutadiene complexes and catalytic applications. **B. Zelenay, F. Maseras, S. Diez-Gonzalez**
- 9:10 INOR 1157.** Synthesis and reactivity of weakly interacting dicopper systems. **M.B. Pastor, T. Betley, Q. Zhao**
- 9:30 INOR 1158.** Synthesis and reactivity of mixed-ligand dirhodium(II) complexes with pendant axial ligands. **A. Darko, D. Cressy, B. Anderson, W.A. Sheffield**
- 9:50 INOR 1159.** Selective *ortho* C-H activation of pyridines directed by Lewis acidic boron of PBP pincer iridium complexes. **W. Shih, O. Ozerov**
- 10:10 INOR 1160.** Mechanistic insight into carbon-sulfur bond formation at cobalt (III). **B.J. Foley, C. Palit, O. Ozerov**
- 10:30 INOR 1161.** Oxidative reactivity of organometallic Ni<sup>II</sup>, Ni<sup>III</sup> & Ni<sup>IV</sup> complexes in the formation of C-C bonds. **M.B. Watson, L.M. Mirica**
- 10:50 INOR 1162.** Mechanistic study of an improved nickel precatalyst for the Suzuki-Miyaura reaction of aryl sulfamates: Understanding the role of nickel(I) species. **M. Mohadjer Beromi, N. Hazari**
- 11:10 INOR 1163.** Rational design of improved Pd(II) precatalysts and their application towards new cross-coupling reactions. **P. Melvin, N. Hazari**
- 11:30 INOR 1164.** Mechanistic investigations of palladium(II) precatalysts: Effects of reaction conditions on precatalyst activity in the Suzuki cross-coupling of aryl bromides. **K.L. Barnett, K.H. Shaughnessy**
- 11:50 INOR 1165.** Half-sandwich ruthenium catalysts with enantiopure primary amine-tethered N-heterocyclic carbenes for asymmetric ketone hydrogenation. **K. Wan, M.M. Sung, A.J. Lough, R.H. Morris**

- 12:10 INOR 1166.** Asymmetric transfer hydrogenation of ketones by rhodium and iridium complexes of chiral oxazolidine fused N-heterocyclic carbene ligands. **B. Ramasamy, P. Ghosh**

### Section I

Moscone Center  
3010

#### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

#### Polymerization, Coordination Chemistry & Interfacial Catalysis

*Cosponsored by PMSE*

*Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University*

**A. Facchetti, T. Lohr, Organizers**

**M. Delferro, Presiding**

**8:30 Introductory Remarks.**

- 8:35 INOR 1167.** Controlling ethylene/ $\alpha$ -olefin selectivity with molecular olefin polymerization catalysts. **J. Klosin**

- 9:05 INOR 1168.** Performance polymers in the petroleum additives industry. **N.A. Cain, J.D. Moore**

- 9:35 INOR 1169.** Deactivation and reactivation of methylaluminoxane (MAO) and the derived metallocene catalysts. New insight into MAO active site structure and activation mechanism. **L. Luo, A. Jain, J. Harlan**

- 10:05 INOR 1170.** Recent developments concerning post-metallocene olefin poly/oligomerization catalysts at Mitsui Chemicals. **M. Kondo, S. Ishii, N. Uehara, Y. Tanaka, K. Michiue, K. Tanaka**
- 10:35 Intermission.**

- 10:45 INOR 1171.** Can microdroplets catalyze chemical reactions? **R.N. Zare**

- 11:15 INOR 1172.** Reactions of C-Al and C-H bonds with polynuclear metal carbonyl cluster complexes. **R.D. Adams, P. Dhull, V. Rassolov, J. Tedder, Y. Wong**

- 11:45 INOR 1173.** Sustainable polymers with complete recyclability for a circular economy. **E.Y. Chen**

### Section J

Moscone Center  
3012

#### Chemistry is Central to Applied Materials

*Cosponsored by MPPG<sup>†</sup>*

**C. J. Chang, Organizer**

**C. R. Bertozzi, M. A. Paley, Organizers, Presiding**

- 8:30 INOR 1174.** Hybrid perovskites under pressure: Accessing new properties through lattice compression. **A. Jaffe, Y. Lin, D. Uneyama, C. Beavers, J. Voss, W. Mao, H. Karunadasa**

- 9:05 INOR 1175.** Densely-functionalized porous polymers for ammonia capture, metal ion separations, and battery applications. **G. Barin, S. Demir, J.C. Axelson, M. Aubrey, J.A. Mason, N. Brune, M.K. Taylor, S. Lee, J. Van Humbeck, D.K. Shuh, C.J. Chang, J.R. Long**

- 9:40 INOR 1176.** Withdrawn.

**10:15 Intermission.**

**10:30 INOR 1177.** Electrolyte-Mediated assembly of charged nanoparticles. M. Olvera De La Cruz

**11:05 INOR 1178.** Seaweed-Based synthesis of nanostructures for multiple energy storage. D. Yang, X. Yao

**11:40 INOR 1179.** Framework chemistry and its global reach. O.M. Yaghi

## Section K

Moscone Center  
3001

### Switchable Catalysts

J. A. Byers, *Organizer*

P. Diaconescu, *Organizer, Presiding*

F. Breher, *Presiding*

**8:30 INOR 1180.** Altering the selectivity of iron-catalyzed hydrocarbon upgrading. P.J. Chirik, J. Steves, V. Schmidt

**9:00 INOR 1181.** Reversible interconversion of CO<sub>2</sub>/H<sub>2</sub> and formic acid using Cp<sup>1</sup>Ir(III) complexes with proton responsive ligands. E. Fujita, J.T. Muckerman, Y. Himeda

**9:30 INOR 1182.** Switchable polynuclear complexes consisting of ambidentate ligands. F. Breher

**10:00 INOR 1183.** Redox catalysis for biomass degradation. C. Stephenson

**10:30** Intermission.

**10:45 INOR 1184.** Cerium clusters supported by trimetallic crown ethers as catalysts for alternative copolymerization of cyclohexene oxide and CO<sub>2</sub>. K. Mashima, H. Nagae, R. Aoki, T.P. Spaniof, J. Okuda

**11:15 INOR 1185.** One-pot switchable catalytic processes involving the copolymerization of epoxides and carbon dioxide. D.J. Darensbourg

**11:45 INOR 1186.** Supramolecular approach to enzyme mimics. C.A. Mirkin

**12:15** Concluding Remarks.

## Section L

Moscone Center  
3003

### Bioinorganic Chemistry

S. A. Koch, *Organizer*

D. Wang, Y. Zhang, *Presiding*

**8:30 INOR 1187.** Study the interactions of biomaterials with microtubule binding domain of tau protein, contribution to Alzheimer's diseases. S. Ahmadi, S. Zhu, R. Sharma, R. Dutta Majumdar, R. Soong, D. Wilson, A. Simpson, H. Kraatz

**8:50 INOR 1188.** Small biomolecules reactions with carbon disulfide: Pursuing a primary biological target. M.L. Souza, A. DeMartino, P.C. Ford

**9:10 INOR 1189.** Biomimetic, catalytic water oxidation by molecular nickel complexes with redox active ligands. D. Wang, C. Bruner

**9:30 INOR 1190.** Withdrawn.

**9:50 INOR 1191.** Can Fe<sup>IV</sup>(O)'s swim? The aqueous chemistry of the [Fe<sup>IV</sup>(O)(TMC)]<sup>2+</sup> complex. J. Klein, A. Shokri, A. Draksharapu, J. Prakash, C.J. Cramer, L. Que

**10:10** Intermission.

**10:20 INOR 1192.** Proton management within a [FeFe] hydrogenase model complex. K. Chu, M. Chiang, Y. Liu

**10:40 INOR 1193.** HNO Binding in heme proteins: Effects of iron oxidation state, axial ligand, and protein environment. R. Khade, Y. Yang, Y. Shi, Y. Zhang

**11:00 INOR 1194.** FerricCEST: A low-spin Fe(III) complex as paraCEST MRI contrast agent. P.B. Tsitovich, J.R. Morrow

**11:20 INOR 1195.** Photoreleasing caged molecules containing nitrile functionality from Ru(II) complexes of the bulky 6-phenyl-2,2'-bipyridine ligand. S. Saha, R. Coll, K.L. Fillman, J. Pellois, C. Turro, K.R. Dunbar

**11:40 INOR 1196.** Typel/Typell dual photoreactivity of new promising Ru-polypyridyl thiophene complexes: A theoretical exploration. M. Alberto, J. Pirillo, N. Russo, C. Adamo

**12:00 INOR 1197.** Dual targeting redox-active gold(I) N-Heterocyclic carbene complexes: A new approach to cancer treatment. K. Arumugam, M. Miles, R. McCall, J. Arambula

### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

#### Synthesis

*Sponsored by PHYS, Cosponsored by INOR*

#### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

#### Spectroscopy & Microscopy of Photocatalytic & PEC Materials

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

## WEDNESDAY AFTERNOON

### Section A

Moscone Center  
2009

#### Deposition & Etching of Nanostructures

*Cosponsored by COLL<sup>†</sup>*

*Financially supported by ACS Publications, Strem Chemical*

H. Fairbrother, A. V. Walker, *Organizers*

L. McElwee-White, *Organizer, Presiding*

**1:30 INOR 1198.** Experimental and computational development of single source precursors to tin-doped germanium nanocrystals. J. Vela-Becerra

**2:05 INOR 1199.** Surface chemistry guided nanoparticle deposition in plasmonic hotspots. J. Millstone

**2:40 INOR 1200.** Mechanism based design of precursors for FEBID. L. McElwee-White

**3:15** Intermission.

**3:35 INOR 1201.** Nanosoldering carbon nanotube junctions with metal via local chemical vapor deposition for improved device performance. J. Do, D. Estrada, X. Xie, N. Chang, J.A. Rogers, E. Pop, J. Lyding, G.S. Girolami

**4:10 INOR 1202.** Designing high-performance nanoscale catalysts for small molecule reactions: Probing size and composition-dependent electrocatalytic behavior in noble metal-based nanowires. S.S. Wong

**4:45 INOR 1203.** Lanthanide oxides and lanthanide nitrides via vapor phase approaches. H. Parala

### Section B

Moscone Center  
2011

#### Celebrating 60 Years of the Division of Inorganic Chemistry

#### Members

D. C. Crans, *Organizer*

M. J. Clarke, *Organizer, Presiding*

A. De Bettencourt Dias, P. K. Dorhout, *Presiding*

**1:30** Introductory Remarks.

**1:35 INOR 1204.** Meanderings in atom transfer reaction chemistry, structure, electronic structure and thermochemistry. J.M. Mayer

**2:05 INOR 1205.** Tuning transition metal redox potentials through the incorporation of redox-inactive cations: A route to breaking potential dependent scaling relationships? A.H. Reath, T. Chantarojsiri, J.Y. Yang

**2:35 INOR 1206.** Understanding the formation of Pd(I) and Ni(I) complexes in cross-coupling reactions. N. Hazari

**3:05** Intermission.

**3:20 INOR 1207.** Interplay of inorganic and organic chemistry in catalyst design and performance. D.B. Grotjahn

**3:50 INOR 1208.** Evaluating the cluster-surface analogy with electronically and geometrically flexible macrocyclic ligands. P. Cui, Q. Wang, B. Manor, P. Carroll, N.C. Tomson

**4:20 INOR 1209.** Carbon dioxide reduction with transition metal catalysts composed of pyridines and N-heterocyclic carbenes based chelates. D.B. Burks, S. Siek, C. Boudreaux, J.H. Delcamp, E.T. Papish

**4:40 INOR 1210.** Controlling reactivity of small molecules through confinement. M.D. Johnson, D.C. Crans

**5:10** Concluding Remarks.

### Section C

Moscone Center  
2016

#### Frontiers in Heavy Element Electronic Structure

*Cosponsored by NUCL*

D. K. Shuh, L. Soderholm, *Organizers*

D. L. Clark, *Organizer, Presiding*

**1:30 INOR 1211.** From a high-valent iron nitride to a low-valent pentad of iron nitrosyl complexes [FeNO]<sup>6-10</sup> stabilized by a chelating, N-anchored tris-N-heterocyclic carbene ligand. K. Meyer

**1:50 INOR 1212.** Design and properties of photoredox chromophores that are stronger reductants than alkali metals. M.D. Hopkins, H.B. Vibbert

**2:10 INOR 1213.** Evaluating the electronic structure of Ln[(C5H4SiMe3)3] complexes. S.A. Kozimor, E.R. Batista, J.W. Engle, W.J. Evans, M.G. Ferrier, M. Fieser, J. Pacheco, A. Olson, J. Su, T. Vitova, P. Yang

**2:30 INOR 1214.** Chemistry of iron complexes toward the synthesis of FeX multiple bonds. P.T. Wolczanski, B. Jacobs, S.N. MacMillan, T.R. Cundari

**2:50 INOR 1215.** Actinides, f-orbitals, and multiple bonds: These are just a few of Bruce's favorite things. J.L. Kiplinger

**3:10** Intermission.

**3:30 INOR 1216.** Addition of H-X to Mn and Ru amide bonds: Catalysts for formic acid decomposition and the aldehyde water shift reaction. J.M. Boncella, A.M. Tondreau, N.H. Anderson, B. Scott

**3:50 INOR 1217.** New thoughts on the speciation of polychalcogenides in solutions: From lapis lazuli, to the paper industry, to synthetic inorganic chemistry and why my clothes smell so bad. P.K. Dorhout

**4:10 INOR 1218.** Recent advances in the chemistry of tris(cyclopentadienyl) rare-earth and actinide metal complexes. W.J. Evans

**4:30 INOR 1219.** Betwixt or between? Inter- and intraligand redox processes in Fe and Co-SNS coordination complexes. R. Baker

**4:50 INOR 1220.** Formation of C(sp<sup>3</sup>)-N bonds from Rh<sup>III</sup>-Me and Ir<sup>III</sup>-Et complexes. T. Stevens, T.R. Cundari, K.I. Goldberg

### Section D

Moscone Center  
2018

#### Chemistry of Materials: Metal Organic Frameworks

C. G. Lugmair, *Organizer*

A. F. Cozzolino, *Presiding*

**1:30 INOR 1221.** Water dynamics in three-dimensional extended lead(II) structures: Multiple single-crystal-to-single-crystal transformations. R.A. Burrow, B. Brummelhaus de Menezes

**1:50 INOR 1222.** Withdrawn.

**2:10 INOR 1223.** Structural characterization of framework-guest interactions in metal-organic frameworks. M.I. Gonzalez, R.L. Siegelman, E.D. Bloch, J.A. Mason, M. Kapelewski, W. Queen, S.J. Teat, K.J. Gagnon, J.R. Long

**2:30 INOR 1224.** Confinement of inorganic clusters in metal-organic frameworks with coordinating sites. M.I. Gonzalez, A. Turkiewicz, L.E. Darago, J.R. Long

**2:50 INOR 1225.** Tuning the adsorption-induced phase change in the flexible metal-organic framework Co(bdp). M.K. Taylor, J.R. Long

**3:10** Intermission.

**3:25 INOR 1226.** Porphyrin-based porphyrinic MOFs with extraordinary stability and catalytic activity for C-H bond halogenation. K. Wang, H. Zhou

**3:45 INOR 1227.** Porphyrin-based metal organic frameworks for electrocatalysis. A. Fateeva, F. Maillard, B. Abeykoon, J. Tommasino

**4:05 INOR 1228.** Metal-organic layers for earth-abundant metal catalysis. Z. Lin, W. Lin, T. Sawano, N.C. Thacker, C. Wang

**4:25 INOR 1229.** Metal-organic frameworks nodes for earth-abundant metal catalysis. P. Ji, K. Manna, Z. Lin, W. Lin

**4:45 INOR 1230.** Incorporating p-block catalysts into robust metal organic frameworks. P. Larson, B. Tahmouresilerd, J. Cheney, A.F. Cozzolino

<sup>†</sup>Cooperative Cosponsorship



5:05 INOR **1231**. Metal-Organic frameworks with tunable bandgap. J. Park, D. Feng, Z. Bao

## Section E

Moscone Center  
2020

### Inorganic Spectroscopy

V. C. Popescu, *Organizer, Presiding*

- 1:30 INOR **1232**. Achieving surface sensitivity in soft x-ray spectroscopy: Transient reflectivity of charge transfer dynamics in iron oxide. A. Cirri, J. Husek, S. Biswas, L. Baker
- 1:50 INOR **1233**. Probing molecular magnetism with neutron scattering. S. Stavretis, D.H. Moseley, A.A. Podlesnyak, C.M. Brown, Y. Cheng, L.L. Daemen, A.J. Ramirez-Cuesta, X. Wang, C.M. Hoffmann, S.O. Diallo, Z. Zhu, M. Guo, J. Tang, H. Cui, F. Fei, X. Chen, Z. Xue
- 2:10 INOR **1234**. Design principles for porous materials containing quantum sensors. J. Zadrozny, A. Gallagher, D. Harris, D.E. Freedman
- 2:30 INOR **1235**. Probing ion-pairing trends in aqueous polyoxometalate solutions. D. Sures, K. Kozma, P.I. Molina, S. Serapian, C. Bo, M.D. Nyman
- 2:50 INOR **1236**. High-valent states in cobalt cubanes and clusters: Relevance to O–O bond formation. R.G. Hadt, C. Brodsky, D. Hayes, L.X. Chen, D.G. Nocera
- 3:10 INOR **1237**. Studies of single-molecule magnets by far-IR and Raman in magnetic fields. D.H. Moseley, S. Stavretis, K. Thirunavukkuarasu, Q. Chen, H. Zhou, J. Ludwig, D. Smirnov, Z. Zhu, M. Guo, J. Tang, F. Fei, H. Cui, X. Chen, Z. Xue
- 3:30 INOR **1238**. Capturing intermediates of molecular solar fuels catalysts by time-resolved mid-IR spectroscopy. L. Hammarstrom, R. Lomoth, S. Ott
- 3:50 INOR **1239**. Light driven activation of O<sub>2</sub> with iron(II) polypyridyl complexes. J. Chen, A. Draksharapu, W.R. Browne
- 4:10 INOR **1240**. Relativistic effects on the spectra and redox properties of 5d metallocorrols. A. Ghosh, R.F. Einrem, A. Alemayehu
- 4:30 INOR **1241**. Systematic study of luminescence rigidochromism on ambipolar polyimine rhenium(II) complexes. G.A. Salazar-Garza, B. Hua, C.M. Williams, V. Nesterov, M.A. Omari
- 4:50 INOR **1242**. Role of specific and non-specific interactions in understanding the excited-state processes of transition-metal complex based photodrugs. B. Dietzek
- 5:10 INOR **1243**. Advanced <sup>17</sup>O MAS NMR methods to characterise the local environment in complex inorganic systems. D. Grekov, Y. Bouhoute, K.C. Szeto, N. Merle, I. Del Rosal, L. Maron, R. Gauvin, M. Taoufik, L. Delevoye

## Section F

Moscone Center  
2022

### Coordination Chemistry: Characterization & Applications

S. A. Koch, *Organizer*

B. Barry, A. Mukherjee, *Presiding*

- 1:30 INOR **1244**. Dual-modal MR/NIR fluorescent probes for zinc sensing applications. E. Coakley, N.J. Long
- 1:50 INOR **1245**. Coordination chemistry approach for lithium ion batteries. W. Shi, P. Cheng
- 2:10 INOR **1246**. Molecular engineering of ruthenium complexes for highly efficient dye-sensitized solar cells. S. Aghazada, M. Graetzel, M. Nazeeruddin
- 2:30 INOR **1247**. 1,2,3-Triazole-based chelating ligands under investigation: Tuning the donor strength. L. Suntrup, F. Stein, B. Sarkar
- 2:50 INOR **1248**. Development of molecular underground chemical tracers: Coordination chemistry of alkaline earth and transition metal salen-derivative precursors. T.J. Boyle, J.M. Sears, O. Staples, D. Perales, K. Wyss, J.A. Greathouse, R.A. Kemp
- 3:10 Intermission.
- 3:20 INOR **1249**. Understanding reactivities of transition metal compounds with ROS. A. Mukherjee
- 3:40 INOR **1250**. Mn(III) in an all O-donor ligand environment with fluorinated alkoxides. C. Kotyk, J. Henebry, C. Sun, J.L. Steele, Y. Chen, V.F. Oswald, J.W. Bacon, A.L. Rheingold, L. Doerner
- 4:00 INOR **1251**. Synthesis and reactivity of redox-active molecular group 13 complexes. T. Sherbow, L.A. Berben
- 4:20 INOR **1252**. Dinuclear photo-CORMS: Visible/near-infrared light activating CO release. Z. Li, A.E. Pierri, P. Huang, W. Gang, A. Iretskii, P.C. Ford
- 4:40 INOR **1253**. Design, synthesis and characterization of rhenium(II) tricarbonyl complexes derived from a-diimine coligand for bio-imaging applications. J. Jimenez, I. Chakraborty, P. Mascharak
- 5:00 INOR **1254**. Complexes with bisguanidine-type ligands towards oxidative additions across sp<sup>2</sup>-heteroatom bonds. B. Barry, K. Feller, H. Schickel, J. Bruggen, J. Sanborn, R. Velcheck, J. Norman

## Section G

Moscone Center  
2024

### Coordination Chemistry: Synthesis & Characterization

S. A. Koch, *Organizer*

T. T. Boron, P. Desrochers, *Presiding*

- 1:30 INOR **1255**. Coinage metal nanoclusters: Characterization and catalytic applications. A.W. Cook, T.W. Hayton
- 1:50 INOR **1256**. Temperature-Driven geometric conversion of solid-state polymorphs of a four-coordinate nickel(II) complex. X.B. Powers, K.B. Ghiassi, J.T. Greenfield, M.M. Olmstead, A.L. Balch

- 2:10 INOR **1257**. Side-on dioxygen complex of cobalt: Structure, reactivity, and conversion to bimetallic products. D.E. DeRocha, B.Q. Mercado, P.L. Holland, K.R. Rodgers
- 2:30 INOR **1258**. Synthesis and reactivity of imido and nitrido complexes of first row transition metals supported by tris(pyrazolyl)borate ligands. D.C. Cummins, K.H. Theopold, G.P. Yap
- 2:50 INOR **1259**. Synthesis and reactivity of new divalent bis(alkoxide) complexes. T. Hollingsworth, S. Groysman
- 3:10 Intermission.
- 3:20 INOR **1260**. Sweeter scorpionates incorporate carbohydrates into functional metal chelates. P. Desrochers, T. Clements
- 3:40 INOR **1261**. Cu(II) mixed-ligand polypyridyl complexes with 6-mercaptopyridine: Synthesis, characterization and their cytotoxicity evaluations. J.A. Obaleye
- 4:00 INOR **1262**. Cytotoxicity studies of ruthenium(II) polypyridine compounds with a β-diketone ligand. J.A. Obaleye, A.O. Rajee, K.R. Dunbar
- 4:20 INOR **1263**. Withdrawn.
- 4:40 INOR **1264**. Anion effect on aluminum hydroxide cluster synthesis. E. Eitheim, C.K. Perkins, B. Fulton, T. Forbes, D.A. Keszler
- 5:00 INOR **1265**. Controlling single-molecule magnetic behavior of two families of metallocrowns by modifying lanthanide choice or structural components. T.T. Boron, J.C. Lutter, C.I. Daly, C. Chow, A.H. Davis, A. Nimthong-Roldan, M. Zeller, J.W. Kampf, T. Mallah, C.M. Zaleski, V.L. Pecoraro

## Section H

Moscone Center  
3000

### Environmental & Energy-Related Inorganic Chemistry

S. A. Koch, *Organizer*

M. Fieser, A. I. Nguyen, *Presiding*

- 1:30 INOR **1266**. Modeling the dissolution of transition metal oxide nanomaterials. S.E. Mason, J. Bennett
- 1:50 INOR **1267**. Understanding the mechanisms of CO<sub>2</sub> adsorption enhancement/degradation in all silica zeolites under wet conditions. W. Jeong, J. Kim
- 2:10 INOR **1268**. Photochemistry of a direct contact core-shell tandem photocatalyst for overall water splitting. M.A. Melo, F.E. Osterloh
- 2:30 INOR **1269**. Bioinspired electrocatalytic CO<sub>2</sub> reduction using first-row transition metal catalysts. E. Nichols, C.J. Chang
- 2:50 INOR **1270**. Tunable, site-isolated Co<sub>2</sub>O<sub>4</sub> oxygen-evolution catalysts in porous frameworks. A.I. Nguyen, K.M. Van Allsburg, M. Terban, M. Bajdich, J. Oktawiec, M.S. Ziegler, J.P. Dombrowski, K.V. Lakshmi, W. Drisdell, J. Yano, S. Billinge, T.D. Tilley
- 3:10 INOR **1271**. Aluminum doped SrTiO<sub>3</sub> nanocrystals as photocatalyst for overall water splitting under sunlight. Z. Zhao, F.E. Osterloh
- 3:30 Intermission.
- 3:40 INOR **1272**. Cationic dirhodium(II,II) complexes as dual action electrocatalysts for H<sup>+</sup> and CO<sub>2</sub> reduction. S. Witt, C. Turro
- 4:00 INOR **1273**. Progress towards catalytic ammonia splitting. M.R. Smith

- 4:20 INOR **1274**. Rational design of ruthenium(II) chromophores: Towards efficient photocatalytic proton reduction. R.S. Khnazyer, K. El Roz, F.N. Castellano
- 4:40 INOR **1275**. Catalytic decarboxylation of fatty acid esters. M.E. Fieser, A. John, L.A. Mitchell, B. Benson, L.T. Hogan, A.M. LaPointe, W.B. Tolman
- 5:00 INOR **1276**. Synthesis of Ni<sub>2</sub>P nanoparticles supported r-GO composites for hydrodesulphurization applications. V. Tzitzios, M. Kartsiotis, V. Pillai, T. Anjana, G. Papavassiliou, T. Karagiannis, S. Al Hassan
- 5:20 INOR **1277**. Withdrawn.

## Section I

Moscone Center  
3010

### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

#### Catalysis: Characterization, Computations, & Reactivity

*Cosponsored by PMSE*

*Financially supported by Dow-Dow Corning, ExxonMobil, STREM, Argonne National Lab, Northwestern University*

A. Facchetti, T. Lohr, *Organizers*

M. Stalzer, *Presiding*

#### 1:30 Introductory Remarks.

- 1:35 INOR **1278**. Oxidative water splitting with molecular, heterogenized and heterogeneous iridium catalysts. A. Bucci, I. Corbucci, L. Fagioliari, G. Menendez Rodriguez, G. Bellachioma, C. Zuccaccia, A. Macchioni
- 2:05 INOR **1279**. Cascade synthesis of nanoparticle-polymer composites. M.A. Firestone, B.S. Ringstrand, D.J. Williams, H.D. Magurudeniya, A. Joshi
- 2:35 INOR **1280**. DMF-stabilized single-nano-sized metal nanoclusters as catalyst for cross-coupling reactions. Y. Obora
- 3:05 Intermission.
- 3:15 INOR **1281**. Preparation of deuterated drugs through novel catalysis: Synthesis, purification, and preclinical data. G.Y. Li
- 3:45 INOR **1282**. Mechanistic insights into catalytic conversion methane and light alkanes over supported catalysts. M. Neurock
- 4:15 INOR **1283**. DFT approach for the investigation of single-site supported catalysts. A. Motta, M. Delferro, T. Lohr, T.J. Marks

## Section J

Moscone Center  
3012

### Organometallic Chemistry: Catalysis

N. S. Radu, *Organizer*

T. J. Williams, *Presiding*

- 1:30 INOR **1284**. Highly electrophilic iridium species supported on a sulfated metal oxide for catalytic H/D incorporation. R. Klet, M. Delferro
- 1:50 INOR **1285**. Reactivity of *para*-benzoquinones with <sup>19</sup>PCPIrH<sub>2</sub>: In search of new hydrogen acceptors. M. Wilklow-Marnell, W.W. Brennessel, W.D. Jones

**2:10 INOR 1286.** Selective conversion of neat glycerol to lactic acid using a prolific catalyzt. I. Demianets, Z. Lu, T.J. Williams

**2:30 INOR 1287.** Platinum-catalyzed ligand-directed C-H functionalization reactions. S. Huo, D.C. McAteer, E. Javed

**2:50 INOR 1288.** Synthesis of 2-alkynoates and 2-ynamides via palladium(II) catalyzed oxidative carbonylation. N.L. Hughes, Q. Cao, C. Brown, M.J. Muldoon

**3:10 INOR 1289.** Withdrawn.

**3:30 INOR 1290.** Theoretical study of (hetero)aromatic fluorination catalyzed by palladium. P. Fleurat-Lessard, M. Ponce Vargas, J. Roger, C. Testa, J. Guilbaud, N. Pirio, J. Hierso

**3:50 INOR 1291.** Room temperature conversion of CO<sub>2</sub> to methanol with nickel catalysis. Z. Lu, T.J. Williams

**4:10 INOR 1292.** Relative thermodynamics of nickel hydride and formate complexes. N.A. Eberhardt, J.A. Krause, H. Guan

**4:30 INOR 1293.** Computational study of dinuclear nickel catalyzed alkyne cyclotrimerization. D. Kwon, D. Ess

**4:50 INOR 1294.** Synthesis of xantheno-bridged bis(iminopyridine) di-nickel complexes toward alkyne cyclotrimerization. R. Hollingsworth, R.L. Lord, S. Groysman

## Section K

Moscone Center  
3001

### Organometallic Chemistry: Synthesis & Characterization-Late Transition Metals

N. S. Radu, *Organizer*

L. Geary, V. M. Iluc, *Presiding*

**1:30 INOR 1295.**  $\sigma$ -Complexes of cobalt and copper. Y. Lee

**1:50 INOR 1296.** Organometallic cationic dicopper complexes: Synthesis, mixed-valence, reactivity, and their role in catalysis. M.S. Ziegler, K.V. Lakshmi, T.D. Tilley

**2:10 INOR 1297.** Using dispersion forces to isolate low-valent high-oxidation state copper complexes. C. Wagner, L. Tao, E.J. Thompson, T.A. Stich, J. Guo, J.C. Fettingler, L.A. Berben, R. Britt, S. Nagase, P.P. Power

**2:30 INOR 1298.** C<sup>+</sup>-cyclometalated mesoionic NHC ligands in phosphorescent platinum(II) complexes. J. Soellner, T. Strassner

**2:50 INOR 1299.** Adaptable chelating diphosphine ligand for the stabilization of elusive palladium and platinum alkylidenes. B. Barrett, V.M. Iluc

**3:10 INOR 1300.** C<sup>+</sup> cyclometalated ruthenium NHC complexes. D. Schleicher, T. Strassner

**3:30 INOR 1301.** Reactivity of nickel complexes bearing a HN(CH<sub>2</sub>CH<sub>2</sub>PPr<sub>2</sub>)<sub>2</sub> ligand. N.P. Nambukara Wellala, J. Luebking, J.A. Krause, H. Guan

**3:50 INOR 1302.** Enhanced photoluminescence quantum yields through excimer formation. P. Piermaria, T. Strassner

**4:10 INOR 1303.** Synthesis of luminescent gold(III) cyclometalated complexes. A.N. Sulicz, A. Maity, T. Gray

**4:30 INOR 1304.** Structural and electronic characterization of early stage Magnus-type organocobalt intermediates in the Pauson-Khand reaction via x-ray absorption spectroscopy. L. Geary

**4:50 INOR 1305.** Delocalised chains and rings of ferrocenes. L.E. Wilson, T. Albrecht, N.J. Long

**5:10 INOR 1306.** Selective C8-metalation of various purine nucleosides. F. Kampert, E.F. Hahn

**5:30 INOR 1307.** Oxidation chemistry of palladium complexes with the smallest steric N-heterocyclic carbene, I Me (I Me = 1,3-Dimethylimidazole-2-ylidene). E. Lee

## Section L

Moscone Center  
3003

### Main Group Chemistry

T. W. Hudnall, *Organizer*

T. Perera, *Presiding*

**1:30 INOR 1308.** Antimony(III) secondary bonding interactions for anion binding. J. Qiu, A.F. Cozzolino

**1:50 INOR 1309.** Novel reactivity of N-heterocyclic carbenes toward one-electron oxidants. E. Lee

**2:10 INOR 1310.** Synthesis and photochemistry of N,N'-diamido-carbene - Supported Sb(V) and Bi(III) chloro complexes for solar fuel production. T.A. Perera, T.W. Hudnall

**2:30 INOR 1311.** Stable N-heterocyclic carbene adducts of diphosphorus and carbon monoxide. R.J. Gilliard, R. Suter, Z. Benko, H. Grützmacher, J.D. Protasiewicz

**2:50 INOR 1312.** Withdrawn.

**3:10 INOR 1313.** Synthesis and characterization of stable emissive radicals and biradicals derived from singlet carbenes. R.N. Arias, C. Barragan, T.W. Hudnall

**3:30 INOR 1314.** Withdrawn.

**3:50 Intermision.**

**4:00 INOR 1315.** Hydrostannylation reactions of low valent tin(II) hydrides, [ArSn( $\mu$ -H)]<sub>2</sub> (Ar = Ar<sup>Ph4</sup> or Ar<sup>Ph6</sup>, Ar<sup>Ph4</sup> = C<sub>6</sub>H<sub>5</sub>-2,6-(C<sub>6</sub>H<sub>5</sub>-2,6-Pr<sub>2</sub>)<sub>2</sub>, Ar<sup>Ph6</sup> = C<sub>6</sub>H<sub>5</sub>-2,6-(C<sub>6</sub>H<sub>5</sub>-2,4,6-Pr<sub>2</sub>)<sub>2</sub>) with acyclic and bicyclic olefins. S. Wang, M. McCrea-Hendrick, C.A. Caputo, C. Weinstein, J.C. Fettingler, P.P. Power

**4:20 INOR 1316.** Sterically encumbering N-heterocyclic tetrylenes and their reactivity. C. Weinstein, Y. Zhu, G. Bertrand

**4:40 INOR 1317.** Amido and alkyl complexes of magnesium, calcium and strontium containing highly fluorinated Tp' ligands. N. Romero, Q. Dufrois, C. Dinioi, M. Etienne

**5:00 INOR 1318.** Synthesis of Lewis acid-stabilized calcium imides. B.M. Wolf, C. Maichle-Mössner, R. Anwander

## Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

### Experimental Characterization

*Sponsored by PHYS, Cosponsored by INOR*

### Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis

### Devices, Assemblies & Hybrid Processes

*Sponsored by CATL, Cosponsored by COLL, ENFL, I&EC and INOR*

## THURSDAY MORNING

### Section A

Moscone Center  
2009

### Bioinorganic Chemistry

### Proteins & Enzymes & Model Systems

S. A. Koch, *Organizer*

L. E. Cheruzel, S. A. Toledo, *Presiding*

**8:00 INOR 1319.** Determination of differential orbital covalency of heme active sites by L-edge spectroscopy. M.L. Baker, B.K. Alpert, H. Cho, E. Denison, W.B. Doriese, J.W. Fowler, K.J. Gaffney, J. Gard, B. Gao, G.C. Hilton, K.D. Irwin, Y.I. Joe, C. Kenney, J. Knight, T. Kroll, S. Lee, D. Li, R. Marks, M. Minitti, K.M. Morgan, R.A. Mori, H. Ogasawara, G. O'Neil, D. Schmidt, D. Sokaras, D.S. Swetz, Y. Song, C.J. Titus, J. Ullom, T. Weng, C. Williams, J.J. Yan, B.A. Young, D. Nordlund, E.I. Solomon

**8:20 INOR 1320.** Selective substrates C-H functionalization with light-driven P450 enzymes. L.E. Cheruzel

**8:40 INOR 1321.** Unleashing a pendant base by reduction-induced hemilability in [Ni<sub>2</sub>S<sub>2</sub>Fe(NO)<sub>2</sub>]<sup>0</sup> complexes. P. Ghosh, S. Ding, C. Hsieh, R.B. Chupik, N.S. Bhuvanesh, M.B. Hall, M.Y. Darensbourg

**9:00 INOR 1322.** Model complexes of NiSOD and the factors that influence Ni redox cycling. P.T. Truong, T.C. Harrop

**9:20 INOR 1323.** Cu(II) coordination differences in the amyloid-beta protein binding models GHK and DAHK result in varied conditional inter-peptidic metal exchange rate constants. C.N. Beuning, B. Mestre, C. Hureau, D.C. Crans

**9:40 INOR 1324.** Hemilabile bridging thiolates as proton shuttles in bioinspired H<sub>2</sub> production electrocatalysts. S. Ding, P. Ghosh, A.M. Lunsford, N. Wang, N. Bhuvanesh, M.B. Hall, M.Y. Darensbourg

**10:00 Intermision.**

**10:10 INOR 1325.** Interplay of copper and iron in NO release from Dinitrosyl Iron Complexes (DNICs). R.B. Chupik, D. Bruggeman, M. Maurice, J.A. Denny, M.Y. Darensbourg

**10:30 INOR 1326.** Origins of the catalytic proficiency of cytochrome-based artificial metalloenzymes. M. Garcia-Borras, G. Jimenez-Oses, K.N. Houk

**10:50 INOR 1327.** Expanding our understanding of Nickel-Acireductone Dioxxygenase (Ni-ARD) through a family of structural analogues of the resting state of the enzyme. S.A. Toledo, D. Ivan, A. Sanchez, A.J. Gremillion, S. Sanchez, J.D. Green, V. Lynch

**11:10 INOR 1328.** Withdrawn.

**11:30 INOR 1329.** Structure-function relationships of Mn-containing superoxide dismutases (SOD) studied via quantum mechanical computational methods. J.H. Rodriguez

**11:50 INOR 1330.** Merged heme and non-heme manganese co-factors for a dual anti-oxidant surveillance in photosynthetic organisms. M. Bonchio

## Section B

Moscone Center  
2011

### Coordination Chemistry: Synthesis & Characterization

S. A. Koch, *Organizer*

L. Pan, L. Yang, *Presiding*

**8:30 INOR 1331.** Structural flexibility, luminescence, and aurophilic interactions in crystals of the binuclear complexes Au<sub>2</sub>(Ph<sub>2</sub>P(CH<sub>2</sub>)<sub>n</sub>PPh<sub>2</sub>)<sub>2</sub>X<sub>2</sub> (n = 2-6, X = chloride and thiocyanate). K.R. England, K.B. Ghiassi, M.M. Olmstead, A.L. Balch

**8:50 INOR 1332.** Water soluble cationic zinc lysine hydrochloride compound for spontaneous coating of ZnO on biomaterial surfaces. L. Pan

**9:10 INOR 1333.** Luminescence and rearrangement of small poly-gold phosphine complexes. D.T. Walters, R. Babadi, X.B. Powers, K. Ghiassi, M.M. Olmstead, A.L. Balch

**9:30 INOR 1334.** Designing and crystallographic characterization of trinuclear Cu(II) and dinuclear Zn(II) clusters. M. Shahid, F. Sama

**9:50 INOR 1335.** First report of anagostic interaction in heteronuclear polyoxovanadate-Cu complex with highly selective sensing towards nitro explosives: X-ray, theoretical and TRF investigations. M. Raizada, Z.A. Siddiqi

**10:10 Intermision.**

**10:20 INOR 1336.** Synthesis and characterization of copper complexes with Cu<sup>I</sup>/Cu<sup>I</sup>, Cu<sup>I</sup><sup>5</sup>/Cu<sup>I</sup><sup>5</sup> and Cu<sup>I</sup>/Cu<sup>II</sup> core structures supported by a flexible dipyr-idylamide ligand. L. Yang, E.P. McMoran

**10:40 INOR 1337.** Binding modes and thermodynamics of iron and vanadium with amidoxime ligands. B. Parker, Z. Zhang, J. Arnold, L. Rao

**11:00 INOR 1338.** Using the terminal metal-oxo bond as a reporter of electron donation from bicyclic guanidinate ligands to mid transition metals. J. Olson, D. Swenson, L. Messerle

**11:20 INOR 1339.** Dual cavity tetracarboxamide host for anion and metal ion binding. J. Lohrman, H. Telikepalli, V.W. Day, K. Bowman-James

**11:40 INOR 1340.** Light harvesting through photoswitchable molecules. A. Rajput, A.F. Cozzolino

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

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## Section C

Moscone Center  
2016

## Electrochemistry

B. L. Lucht, *Organizer, Presiding*

N. R. Neale, *Presiding*

**8:00 INOR 1341.** Boron cluster-based ionic liquids for reversible electrodeposition. R. Dziedzic, S. Lee, J. Kleinsasser, B.D. Bosley, R.A. Kemp, T.L. Peng, V. Lavallo, A.M. Spokoyny

**8:20 INOR 1342.** Effect of surface ligands on CoP for the hydrogen evolution reaction. D. Ung, B. Cossairt

**8:40 INOR 1343.** Molecular surface modification of semiconductor photoelectrodes – A viable water splitting strategy? N.R. Neale, L.E. Garner, J. Gu, K.X. Steirer, J. Young, N.C. Anderson, E.M. Miller, J.A. Turner, A. Sellinger, T.G. Deutsch

**9:00 INOR 1344.** High frequency resistivity: Determining fundamental photoelectrode properties in a complex world. N.C. Anderson, N.R. Neale

**9:20 INOR 1345.** Redox-active deep eutectic solvents. J.C. Goeltz, L.N. Matsushima, D.G. Jones

**9:40 INOR 1346.** Withdrawn.

**10:00 INOR 1347.** Semiconductor-to-metal transition in rutile TiO<sub>2</sub> induced by tensile strain. E. Benson, E.M. Miller, S. Nanayakkara, B.A. Gregg

**10:20 INOR 1348.** Deoptimizing the oxygen reduction reaction on doped amorphous TiO<sub>2</sub> coatings for corrosion inhibition. M. Groenenboom, R. Anderson, D. Horton, S. Policastro, J.A. Keith

**10:40 INOR 1349.** Electrochemical detection of doxorubicin and salinomycin. J.A. Nikles, B.J. McCormick, S. Pan, D.E. Nikles

**11:00 INOR 1350.** Fluorescence spectro-electrochemistry of integrated anthraquinone-polyether macrocycles. A.G. Sykes

**11:20 INOR 1351.** Electroreduction pattern of quinone units in pillar[5-]arene[n]quinones. M. Rashvand Avei, A.E. Kaifer

**11:40 INOR 1352.** Electro-thermochemical cycling process for high-yield ammonia synthesis from N<sub>2</sub> and H<sub>2</sub>O at atmospheric pressure. J.M. McEnaney, A.R. Singh, J.A. Schwalbe, J. Kibsgaard, J.C. Lin, M. Cargnello, T.F. Jaramillo, J.K. Nørskov

## Section D

Moscone Center  
2018

## Solid-State Inorganic Chemistry

C. G. Lugmair, V. Poltavets, *Organizers*

J. Birgoch, K. Kovnir, *Presiding*

**8:30 INOR 1353.** Decoupled electronic and phonon transport in complex chalcogenides: A sub-structure approach. K. Biswas

**8:45 INOR 1354.** Thermoelectric performance of Zintl phase Yb<sub>2-x</sub>Eu<sub>x</sub>CdSb<sub>2</sub> exhibiting low thermal conductivity. J. Cooley, P. Promkhan, S. Gangopadhyay, D. Donadio, S. Kauzlarich

**9:00 INOR 1355.** Stabilization of extraordinary off-stoichiometric Bi<sub>2</sub>Te<sub>3</sub> for enhancing n-type thermoelectric performance. I. Chung

**9:15 INOR 1356.** Synthesis, structure, and properties of new Si-As framework compounds. K. Woo, J. Dolyniuk, K. Kovnir

**9:30 INOR 1357.** High-throughput experimental approach to find new transition metal ternary chalcogenides. A. Bhutani, A. Narayan, J.N. Eckstein, L.K. Wagner, D. Shoemaker

**9:45 INOR 1358.** Crystal chemistry and magnetism of complex compounds with Zn-P frameworks. K. Kovnir

**10:00 INOR 1359.** Mg<sub>9.5</sub>B<sub>5</sub>C carboride as Mg-ion intercalation cathode with redox active anions by first-principles calculations. V. Poltavets, J.D. Davis, M. Johannes

**10:15 INOR 1360.** Elucidating the mechanism of high-rate and high-capacity lithium-ion intercalation in bulk complex transition metal oxides. K.J. Griffith, A. Forse, J.M. Griffin, C.P. Grey

**10:30 Intermission.**

**10:45 INOR 1361.** Withdrawn.

**11:00 INOR 1362.** Design and synthesis of novel rare earth kagome materials: Applications in geometric magnetic frustration. M.B. Sanders, R.J. Cava

**11:15 INOR 1363.** Development of a low-temperature solvothermal route to a variety of novel iron chalcogenides. J.T. Greenfield, K. Kovnir

**11:30 INOR 1364.** Synthesis and low-temperature properties characterization of superconducting Ni<sub>1-x</sub>Bi. K.M. Powderly, S.M. Clarke, A.J. Rettie, C. Malliakas, D.E. Freedman

**11:45 INOR 1365.** Rapid microwave preparation of new earth abundant magnetocaloric materials. J. Grebenkemper, J.D. Bocarsly, E. Levin, R. Seshadri

**12:00 INOR 1366.** *In situ* and real-time monitoring of mechanochemical ZIF8 synthesis via gas pressure measurements. I. Brekalo, C. Mottillo, K.T. Holman, T. Friscic

**12:15 INOR 1367.** Mechanistic insights into the chemical and electronic properties of dielectric materials exposed to chemical warfare agents and their structural analogs. J.R. Soliz, A.L. Tang, W.O. Gordon, A. Balboa, A.J. Hauser, S.R. Padovani

## Section E

Moscone Center  
2020

## Inorganic Catalysts

S. A. Koch, *Organizer*

M. T. Kieber-Emmons, X. Zhao, *Presiding*

**8:30 INOR 1368.** Reactivity of the Mo<sub>2</sub>O<sub>7</sub>S<sub>4</sub>(DMF)<sub>2</sub> complex with cyanide and catalytic conversion of cyanide to thiocyanate. S.G. Suman, J. Gretarsdottir, R. Bjornsson

**8:50 INOR 1369.** Electro- and photolytic hydrogen production catalyzed by molecular Co complexes with pentadentate ligands in aqueous solution. X. Zhao, P. Wang, Y. Sun, L. Duan, M. Long, D. Reese, A. Bah, C. James, G. Liang, C.E. Webster

**9:10 INOR 1370.** Alcoxysilanes production from silica and dimethylcarbonate promoted by alkali bases: A DFT investigation of the reaction mechanism. V. Butera, Y. Choe, N. Fukaya, J. Choi, K. Sato

**9:30 INOR 1371.** Dehydrogenation of ammonia borane through the third equivalent. X. Zhang, L. Kam, T.J. Williams

**9:50 INOR 1372.** Synthetic approaches for cyclic biodegradable polyesters using ligated tin(II) complexes. K. Phomphrai, P. Piriomjitpong, P. Wongmahasirikun

**10:10 Intermission.**

**10:20 INOR 1373.** Synthesis and characterization of cyclic polyester: Effect of alkoxy side chains on Schiff's base ligand of tin(II) complexes. P. Wongmahasirikun, K. Phomphrai

**10:40 INOR 1374.** Rh and Pt nanoparticles stabilized by phosphine functionalized silica for selective hydrogenation reactions. C. Claver, J. Llop, C. Godard, M. Taoufik

**11:00 INOR 1375.** Efficient and selective oxidation of sulfur mustard using singlet oxygen generated by a pyrene-based metal-organic framework. Y. Liu, C.T. Buru, A. Howarth, J. Mahle, J. Buchanan, J.B. DeCoste, J.T. Hupp, O.K. Farha

**11:20 INOR 1376.** Electrocatalytic water oxidation by a dicopper dihydroxide precatalyst reveals dinuclear intermediates. M.T. Kieber-Emmons, S.J. Koepke, P.E. VanNatta, A. Shrestha

**11:40 INOR 1377.** Highly controllable syngas (H<sub>2</sub> + CO) production through immobilized dual molecular Re(I)/Co(III) catalyst on a ternary TiO<sub>2</sub> hybrid system. J. Lee, D. Won, W. Jung, H. Son, C. Pac, S.O. Kang

## Section F

Moscone Center  
2022

## Lanthanide &amp; Actinide Chemistry

*Cosponsored by WCC*

A. De Bettencourt Dias, *Organizer*

J. F. Corbey, S. Demir, L. S. Natrajan, *Presiding*

**8:30 INOR 1378.** Solution synthesis and CO<sub>2</sub> reactivity of a rare Sc<sup>2+</sup> complex, [Sc(NR<sub>2</sub>)<sub>2</sub>]<sup>+</sup> (R = SiMe<sub>3</sub>). D. Woen, G. Chen, J.W. Ziller, T.J. Boyle, F.U. Furche, W.J. Evans

**8:50 INOR 1379.** Synthesis, structure, and reactivity of complexes containing +2 ions of late lanthanide metals in tris(silylamide) coordination environments, {Ln[N(SiMe<sub>3</sub>)<sub>2</sub>]<sub>3</sub>}<sup>+</sup>. A. Ryan, J.W. Ziller, W.J. Evans

**9:10 INOR 1380.** Metallation of C–H bonds by Cp<sub>2</sub>Y(μ-Me)<sub>2</sub>MMe<sub>2</sub> (M = Al, Ga). M. Bonath, C. Maichle-Mössner, R. Anwander

**9:30 INOR 1381.** Radical-Bridged lanthanide single-molecule magnets with high blocking temperatures. S. Demir, J.R. Long

**9:50 Intermission.**

**10:00 INOR 1382.** Synthesis and reactivity of organometallic divalent lanthanide compounds using a tris(aryloxide) mesitylene ligand. C. Palumbo, D.P. Halter, M.E. Fieser, H.S. La Pierre, J.W. Ziller, M. Gemblicky, K. Meyer, W.J. Evans

**10:20 INOR 1383.** Binding preferences of uranyl with cyclic imide dioximes: A theoretical investigation. D.A. Penchoff, C. Peterson, G.K. Schweitzer, D.M. Jenkins, R.J. Harrison

**10:40 INOR 1384.** Structural exploration of trivalent f element-containing species of interest for liquid-liquid extraction processes. J.F. Corbey, B.K. McNamara, B.M. Rapko, J.M. Schwantes

**11:00 Intermission.**

**11:10 INOR 1385.** Optical spectroscopic foray into the redox chemistry of the early actinides. M. Andrews, S. Woodall, A. Swinburne, J. Lloyd, A. Ward, S. Botchway, L.S. Natrajan

**11:30 INOR 1386.** Synthesis and magnetic characterization of trinuclear, radical-bridged lanthanide single-molecule magnets. C.A. Gould

**11:50 INOR 1387.** Hydropyridinonate ligands: From iron(III) to berkelium(IV) chemistry. G. Deblonde, D. An, P.B. Rupert, R.K. Strong, R.J. Abergel

## Section G

Moscone Center  
2024

## Organometallic Chemistry: Catalysis

N. S. Radu, *Organizer*

H. Guan, S. M. Kilyanek, *Presiding*

**8:30 INOR 1388.** Palladium POCOP-pincer complexes: Catalysis in reduction of CO<sub>2</sub> with boranes. A. Adhikary, J.A. Krause, H. Guan

**8:50 INOR 1389.** Using stopped-flow kinetics as a mechanistic probe for the insertion of carbon dioxide into metal-hydride bonds. J. Heimann, N. Hazari

**9:10 INOR 1390.** Role of LiCl in generating soluble organozinc reagents. C. Feng, D. Cunningham, Q. Easter, S. Blum

**9:30 INOR 1391.** Filling the gap: Exploration of organoactinide catalysts with amine boranes reveal highly active catalysts and unique structural motifs. K. Erickson, B. Scott, P. Dub, J.L. Kiplinger

**9:50 INOR 1392.** Catalysis, carbon-hydrogen, and carbon-carbon bond activation with PNP Pincer-supported group 3 and lanthanide alkyl complexes. D.S. Levine, T.D. Tilley, R.A. Andersen

**10:10 INOR 1393.** Unexpected proton transfer mechanism in the racemization of lactic acid catalyzed by lactate racemase: A DFT study. B. Qiu, X. Yang

**10:30 INOR 1394.** Mechanism based oligomerization catalysis for upgrading α-olefins to produce specialty fuels and chemicals. T.N. Gunasekara, M.M. Abu-Omar

**10:50 INOR 1395.** Mechanistic studies of the deoxydehydration of polyols by group VI transition metal catalysts. S.M. Kilyanek, R. Tran, K.A. DeNike

**11:10 INOR 1396.** Isolation of key intermediates in Mo-catalyzed hydrosilylation. K. Mandla, J.S. Figueroa

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**11:30 INOR 1397.** Proton and electron transfer by redox-active aluminum complexes for small molecule reduction. E.J. Thompson, T. Sherbow, L.A. Berben

**11:50 INOR 1398.** Norbornenyl-Acyl-Rhodium(III) complex as a likely intermediate in the catalytic hydroacylation of norbornadiene. M.A. Huertos

### Section H

Moscone Center  
3000

#### Chemistry of Materials: Metal Organic Frameworks

C. G. Lugmair, *Organizer*

P. Deria, M. C. So, *Presiding*

**8:30 INOR 1399.** Novel magnetic composite materials: Metal-organic frameworks as hosts for molecular nanomagnets. D. Aulakh, J. Pyser, X. Zhang, A. Yakovenko, K.R. Dunbar, M. Wriedt

**8:50 INOR 1400.** Molecular mechanisms of spin crossover in the  $[Fe(pz)[Pt(CN)_4]]$  MOF upon guest adsorption. H. Pham, F. Paesani

**9:10 INOR 1401.** Multifunctional MOFs materials platform for biomedical applications. D.F. Sava Gallis, L.E. Rohwer, M.A. Rodriguez

**9:30 INOR 1402.** Control over electronic delocalization and conductivity in mixed-valence semiquinoid frameworks. M.E. Ziebel, L.E. Darago, J.R. Long

**9:50 INOR 1403.** Topology-Dependent photophysical properties of zirconium-based metal-organic frameworks. P. Deria

**10:10 INOR 1404.** Withdrawn.

**10:30** Intermission.

**10:45 INOR 1405.** Interrogation of charge transport by gas sorption in metal-organic frameworks. M. Aubrey, M. Kapelewski, J. Melville, J.R. Long

**11:05 INOR 1406.** Isolation of metalloporphyrin dioxygen adducts in metal-organic frameworks. A. Gallagher, D. Harris, J. Anderson, M. Kelty

**11:25 INOR 1407.** Ultra-sensitive detection of mycotoxins by a luminescent metal-organic framework. Z. Hu, W.P. Lustig, J. Zhang, C. Zheng, H. Wang, S.J. Teat, Q. Gong, N. Rudd, J. Li

**11:45 INOR 1408.** Uptake mechanism, diffusion, and binding energetics of chemical warfare agent simulants within MOFs. C.H. Sharp, J. Abelard, A. Plonka, Q. Wang, A. Frenkel, W. Guo, C.L. Hill, D. Troya, J.R. Morris

**12:05 INOR 1409.** Preliminary electrochemical studies on effects of linker length and metal nodes on redox hopping in layer-by-layer assembled metalloporphyrin metal-organic framework-like thin films. M.C. So, K. Hara, J.T. Hupp, O.K. Farha

### Section I

Moscone Center  
3010

#### Chemistry of Materials: Nanomaterials

C. G. Lugmair, *Organizer*

S. Fischer, J. A. Mason, *Presiding*

**8:00 INOR 1410.** Design and synthesis of  $WO(OR)_L$  complexes as precursors for chemical vapor deposition of  $WO_x$  thin films. X. Su, D.C. Bock, T.J. Anderson, L. McElwee-White

**8:20 INOR 1411.** Quantitative control of metal doping in  $TiO_2$  nanocrystals. S. Mia, S. Varapragasam, C. Balasanthiran, J.D. Hoefelmeyer

**8:40 INOR 1412.** Exploring metal oxide nanostructure synthesis mechanisms using *In situ* TEM. L. Yu, R. Han, H. Djieutedjeu, A. Patel, B.S. Gupton

**9:00 INOR 1413.** Insights into solution-processed metal oxide thin film formation mechanisms through investigations of non-thermal energy sources for annealing. E. Cochran, D. Park, M. Kast, P. Plassmeyer, C. Page, D.W. Johnson, D.A. Keszler, S.W. Boettcher

**9:20 INOR 1414.** Structure of sub-nm oxides synthesized by atomic layer deposition: From isolated cations to bulk-like structure. A. Yanguas-Gil, T. Wu, J. Elam

**9:40** Intermission.

**9:55 INOR 1415.** Precise control over the morphology and dopant distribution in colloidal metal oxide nanocrystals. A. Singh, D.J. Milliron

**10:15 INOR 1416.** Nanoparticle treated filters for sequestration of radioactive analytes. S. Hunyadi Murph

**10:35 INOR 1417.** DNA-mediated assembly of stimuli-responsive colloidal crystals. J.A. Mason, C. Laramy, C. Lai, M. Obrien, Q. Lin, V.P. Dravid, G.C. Schatz, C.A. Mirkin

**10:55 INOR 1418.** Exploring the morphology transition from  $Li/Na(U_{24}Pp_{12})$  to  $Na/K(U_{24}Pp_{12})$  uranyl peroxide nanocluster. Y. Gao, M. Dembowski, J. Szymanski, W. Yin, S. Chuang, P.C. Burns, T. Liu

**11:15 INOR 1419.** Shape control of multi-layer lanthanide-doped  $NaYF_4$  nanocrystals by exploiting the shell growth dynamics. S. Fischer, A. Alivisatos

**11:35 INOR 1420.** Control and quantification of local polarity in nano-confined systems. D. Singappuli-Arachchige, J. Manzano, L.M. Sherman, I.I. Slowing

**11:55 INOR 1421.** Morphology, electropinability, and crystalline phase study of  $SiO_2/TiO_2$  composite ceramic nanofibers using sol-gel chemistry. F. Huang, B. Motealleh, C.J. Cornelius

### Section J

Moscone Center  
3012

#### Chemistry of Materials: Materials for Energy & Catalytic Applications

C. G. Lugmair, *Organizer*

E. G. Gillan, M. B. Ross, *Presiding*

**8:30 INOR 1422.** Translation of ligand-centered hydrogen evolution reaction activity and mechanism from homogeneous to solid surfaces. W. Zhang, R.M. Buchanan, C.A. Grapperhaus

**8:50 INOR 1423.** Monitoring surface species during carbon dioxide reduction using *in situ* Raman spectroscopy. M.B. Ross, Y. Li, C. Dinh, E. Sargent, P. Yang

**9:10 INOR 1424.** Withdrawn.

**9:30 INOR 1425.** Synthesis and catalytic reactions with 3d and 4d phosphorus-rich metal phosphides. E.G. Gillan

**9:50 INOR 1426.** Comparison and structural modulation of cobalt amino porphyrin complexes for electrochemical reduction of  $CO_2$ . M. Abdinejad, H. Kraatz, X. Zhang

**10:10** Intermission.

**10:25 INOR 1427.** Comparative electrocatalytic activities of bimetallic oxides and carbides of iron, nickel and cobalt with tungsten and molybdenum as the second transition metal. Y.N. Regmi, B.M. Leonard

**10:45 INOR 1428.** Molecular Ni-complex containing tetrahedral nickel selenide core as highly efficient electrocatalyst for oxygen evolution reaction in alkaline medium. M. Nath, J. Masud, P. Kyritsis

**11:05 INOR 1429.** Chemistry of chromium carbide mono and bimetallic systems: Synthesis and electrocatalytic activity. B.M. Leonard, C. Wan, S. Schmucke

**11:25 INOR 1430.** Novel catalytic materials for energy and environment investigating transition metal chalcogenides for efficient oxygen evolution electrocatalysis: The effect of covalency and lattice directionality. M. Nath

### Section K

Moscone Center  
3001

#### Coordination Chemistry: Characterization & Applications

S. A. Koch, *Organizer*

K. V. Waynant, *Presiding*

**8:30 INOR 1431.** Water-soluble thiophene-based fluorescent mercury-sensors. A.K. Shigemoto, C. Virca, A. Thompson, J. Dayton, T. McCormick

**8:50 INOR 1432.** Coordination chemistry approaches for rational vanadium(IV) qubit design. C. Yu, M. Graham, J. Zadrozny, D.E. Freedman

**9:10 INOR 1433.**  $^1H$  Relaxometric approach to determining the thermodynamic and kinetic stabilities of Mn(II) complexes. D.W. Laorenza, T.D. Westmoreland

**9:30 INOR 1434.**  $[MoO(S_2)L]^+$  (L = picolinate or pyrimidine-2-carboxylate) Complexes as  $MoS_3$  inspired electrocatalysts for hydrogen production in aqueous solution. B. Garrett, C.M. Hadad, Y. Wu

**9:50** Intermission.

**10:00 INOR 1435.** Synthesis, properties, and reactivity of  $d^3$  terminal-oxo molybdenum and tungsten complexes. H.B. Vibbert, M.D. Hopkins

**10:20 INOR 1436.** Anion-Incarcerating nanojars: Solution and solid-state characterization and selective extraction of anions from water. G. Mezei, B. Ahmed

**10:40 INOR 1437.** Pentadentate and hexadentate pyridinophane ligands support reversible  $Cu(I)/Cu(II)$  redox couples. A. Wessel, L.M. Mirica

**11:00 INOR 1438.** Mono vs dual metal catalysis. A. Poater

**11:20 INOR 1439.** Rational catalyst design of first-row  $d^8$  complexes for the electrocatalytic reduction of  $CO_2$ . A. Ostericher, M. Reineke, C.P. Kubiak

**11:40 INOR 1440.** Tripodal pyrazole ligands and analogs for selective ammonium and actinide extraction and sensing. T.M. Jonah, L. Mathivathanan, S. Kandel, R.G. Raptis, K. Kavallieratos

**12:00 INOR 1441.** Coordination studies of arylazothioformamide ligands with transition metals in varying oxidation states for removal of trace metal impurities. K.V. Waynant, N.A. Johnson, S.R. Wolfe, J.G. Moberly, M.F. Roll

### Section L

Moscone Center  
3003

#### Organometallic Chemistry: Applications to Materials & Polymer Science

N. S. Radu, *Organizer*

C. E. Knapp, *Presiding*

**8:30 INOR 1442.** Preparation of multiblock copolymers via step-wise addition polymerization of L-lactide and trimethylene carbonate. M. Abubekerev, J. Wei, P. Diaconescu

**8:50 INOR 1443.** Copper ligand and anion effects on the kinetics of photo-induced copper(I) catalyzed azide-alkyne cycloaddition polymerizations. B. El-Zaatari, S. Cole, C.J. Kloxin

**9:10 INOR 1444.** Application of amino and imino pyridine iron(II) catalysts in atom transfer radical polymerization. S.E. Jenny, L.M. Thierier, M.R. Donley, L.M. Round, N.A. Piro, W.S. Kassel, D.L. Zubrick

**9:30 INOR 1445.** Optimization of iron-loaded nanoparticles for  $T_1$ -weighted MRI contrast enhancement. T.B. Ditri, Y. Li, Z. Wang, Y. Huang, Y. Xie, M. Botta, J.D. Rinehart, N.C. Gianneschi

**9:50 INOR 1446.** Porous flexible  $Cu_2(pzdc)_2(L)$  [ $pzdc = 2,3$ -pyrazinedi-carboxylate;  $L = 1,3$ -bis(imidazol-1-yl)benzene or 1,3-bis(4-pyridyl)propane] pillared-layer structures. R.R. Arrieta-Perez, J.N. Primera-Pedrozo, M.E. Marciano-Gonzalez, J. Exley, J.A. Hogan, D.L. Jan, A.J. Hernandez

**10:10 INOR 1447.** Nitrogen-doped Polycyclic Aromatic Hydrocarbons (PAHs) via titanocene-mediated dinitrile coupling. G.R. Kiel, T.D. Tilley

**10:30** Intermission.

**10:35 INOR 1448.** Block copolymers synthesized by redox-switchable catalysis. S. Quan, P. Diaconescu

**10:55 INOR 1449.** Co-supported tandem catalysts for production of linear low density polyethylene. D. Aluthge, A. Sattler, J.E. Bercaw, J.A. Labinger

**11:15 INOR 1450.** Designer copper precursors and their use in functional materials. C.E. Knapp, S.P. Douglas, E.A. Metcalf

**11:35 INOR 1451.** Cationic iridium(III) complexes bearing 2-aryl substituted oxazolo[4,5-f][1,10]phenanthroline (N. N) ligands: Synthesis, crystal structure, photophysics and application for reverse saturable absorption. X. Zhu, W. Sun

**11:55 INOR 1452.** Reversible electropolymerization of nickel azobispyridine complexes based on redox mediated ligand exchange. N. Clayman, A. Rudenko, R.M. Waymouth

## THURSDAY AFTERNOON

## Section A

Moscone Center  
2009

## Coordination Chemistry: Synthesis &amp; Characterization

S. A. Koch, *Organizer*

L. Cronin, J. M. Sears, *Presiding*

- 1:30 INOR 1453.** Solving topological puzzles in tetramethylcyclam-supported oxoiron(IV) chemistry. J. Prakash, G. Rohde, L. Que
- 1:50 INOR 1454.** Synthesis, electronic structure and reactivity of square-planar open shell iridium imido complexes. M. Kinauer, S. Schneider
- 2:10 INOR 1455.** Assembling complex inorganic clusters using a programmable networked one-pot reaction array. L. Cronin
- 2:30 INOR 1456.** Synthesis and reactivity of six-membered N-heterocyclic thiones and selones. J.J. Flanagan, D. Rabinovich
- 2:50 INOR 1457.** Exploration of  $M[SNS]_2$  ( $M = Mo, W$ ) as redox-active metal-ligands in heterometallic systems. M. Wojnar, A.F. Heyduk
- 3:10** Intermission.
- 3:20 INOR 1458.** Ligand-based redox chemistry in transition metal complexes of linear oligopyrroles. R. Gautam, E. Tomat
- 3:40 INOR 1459.** Scandium salt dehydration for recycling efforts. J.M. Sears, T.J. Boyle, F.A. Fasulo
- 4:00 INOR 1460.** Single-molecule magnetism in a series of two-coordinate  $ML_2$  transition metal complexes. P. Bunting, J.R. Long
- 4:20 INOR 1461.** Electronic conductivity and magnetic ordering in mixed-valence  $M(1,2,3\text{-triazolate})_2$  ( $M = Cr^{III}, Fe^{II/III}$ ) metal-organic frameworks. J.G. Park
- 4:40 INOR 1462.** Deconvoluting the relative oxidation states in hexanuclear cobalt clusters. R. Hernandez Sanchez, A. Champsaur, D. Paley, B. Choi, M.L. Steigerwald, C.P. Nuckolls
- Section B**
- Moscone Center  
2011
- Inorganic Catalysts**
- S. A. Koch, *Organizer*
- C. J. Stromberg, *Presiding*
- 1:30 INOR 1463.** Hierarchical structured  $TiO_2$  nanofibrous membranes with enhanced flexibility and photocatalytic activity. M. Zhang, J. Song, B. Ding
- 1:50 INOR 1464.** Computational investigations of ruthenium with promoters for Fischer-Tropsch processes. E.N. Brothers, S. Moncho, B.G. Janesko
- 2:10 INOR 1465.** Steric, electronic, and geometric effects on the ring opening transesterification polymerization mechanism for sustainable poly(lactones) with aluminum and zinc alkoxide catalysts. D.E. Stasiw, A.M. Luke, T. Rosen, M. Mandal, C.J. Cramer, M. Kol, W.B. Tolman
- 2:30 INOR 1466.** First principles study of sulfonamido-olefin ligands in the rhodium-catalyzed addition of arylboronic acids to ketones. P. Miro, R. Recio, I. Fernandez

- 2:50 INOR 1467.** Electrochemical reduction of  $CO_2$  catalyzed by Re(pyridine-oxazoline)(CO)<sub>3</sub>Cl complexes. J. Nganga
- 3:10** Intermission.
- 3:20 INOR 1468.** One-pot synthesis of Pt nanoparticles supported by graphene nanoribbons with enhanced catalytic performance towards 4-nitrophenol reduction. D.A. Martinez, S. Wang, W. Chiang
- 3:40 INOR 1469.** Important role of the electrode surface in the electrochemical reduction of  $CO_2$  by Ni-cyclam. A. Zhanaidarova
- 4:00 INOR 1470.** Copper tungstate microcrystals as photocatalyst for water oxidation under visible light. Z. Wu, F.E. Osterloh
- 4:20 INOR 1471.** Ultrafast dynamics of cyano functionalized [FeFe]-hydrogenase model compounds. C.J. Stromberg, E.J. Heilwell
- 4:40 INOR 1472.** Selective  $H_2$  or formate production from  $CO_2$  and water: Mechanistic insights achieved from ligand design. N.D. Loewen, L.A. Berben

## Section C

Moscone Center  
2016

## Lanthanide &amp; Actinide Chemistry

*Sponsored by WCC*

A. De Bettencourt Dias, *Organizer*

E. Borbas, J. H. Farnaby, A. F. Martins, *Presiding*

- 1:30 INOR 1473.** Highly axial magnetic anisotropy in a  $N_3O_2$  dysprosium(III) coordination environment generated by a merocyanine ligand. P. Selvanathan, B. Le Guennic, S. Rigaut, K. Bernot, L. Norel
- 1:50 INOR 1474.** Series of  $Dy^{3+}$  single-molecule magnets with terminal alkoxide ligands that promote large barriers to magnetic relaxation. L.E. Darago, J.R. Long
- 2:10 INOR 1475.** F-element complexes with phosphinimide ligands: Probing metal-ligand covalency using  $^{31}P$  NMR Spectroscopy. S. Younger-Mertz
- 2:30 INOR 1476.** Excitation- and emission-based multiplexing with near infrared-emitting luminescent lanthanide complexes using red-light excitation. R. Xiong, E. Borbas
- 2:50** Intermission.
- 3:00 INOR 1477.** Investigating the subtle variations in uranyl and neptunyl oxo reactivity through the characterization of crown ether complexes. M.C. Basile, E.R. Cole, T. Forbes
- 3:20 INOR 1478.** Using bandgap tuneable capped nanoparticles to sensitize emissive  $Ln^{III}$  ions. R.A. Tigaa, G.J. Lucas, S. Silva-Hernandez, J.H. Monteiro, A. De Bettencourt Dias
- 3:40 INOR 1479.** Imaging L-lactate by CEST using paramagnetic shift reagents. A.F. Martins, L. Zhang, A. Sherry
- 4:00** Intermission.
- 4:10 INOR 1480.** Synthesis of multi-metallic lanthanide and actinide complexes from organometallic building-blocks. J.H. Farnaby

- 4:30 INOR 1481.** Spectroscopic and computational characterization of Eu(III)-oxalate precipitation processes. W.C. Isley, S. Kathmann, Z. Wang, G.B. Hall, S. Chatterjee, E.J. Bylaska, T. Meadows, G.J. Lumetta
- 4:50 INOR 1482.** Synthesis and redox behavior of uranium amidinate complexes. M. Straub, S. Hohloch, S.G. Minasian, J. Arnold

## Section D

Moscone Center  
2018

## Main Group Chemistry

T. W. Hudnall, *Organizer*

J. D. Hoefelmeyer, T. Hudnall, *Presiding*

- 1:30 INOR 1483.** Lewis acidic anti-mony: Application as a non-innocent ligand for the activation of platinum catalyst. D. You, H. Yang, F. Gabbai
- 1:50 INOR 1484.** Fluorescent frustrated Lewis pairs for the coordination and functionalization of small molecules. Z.M. Heiden, I.A. Kieffer, R.J. Allen
- 2:10 INOR 1485.** Amphiphilic molecules with (quinolin-8-yl) groups on electrophiles. J. Son, S.R. Tamang, J.I. Fostvedt, J.D. Hoefelmeyer
- 2:30 INOR 1486.** Reactivity of Verkade's superbase with various strong Lewis acids. S. Mummadi, D. Unruh, C. Krempner
- 2:50 INOR 1487.** Synthesis and application of novel polyhalides. B. Schmidt, K. Sonnenberg, F. Redeker, R. Brückner, S. Riedel
- 3:10 INOR 1488.** Solvent-free mechanochemical s-block chemistry: When synthesis and reactivity don't follow the rules. N.R. Rightmire, N.C. Boyde, T.P. Hanusa
- 3:30** Intermission.
- 3:40 INOR 1489.** Withdrawn.
- 4:00 INOR 1490.** Ultrashort beryllium-beryllium distances in molecular clusters. X. Wang
- 4:20 INOR 1491.** Boron-based donor-spiro-acceptor compounds as TADF emitters. A. Lorbach
- 4:40 INOR 1492.** Synthesis and characterization of polyborafluorenes, a novel boron doped variant of polyparaphenylene. I.A. Brettell-Adams, P. Rupar
- 5:00 INOR 1493.** Novel antimony-containing heterocycles synthesized via a Zr-transfer strategy. A.M. Christianson, F.P. Gabbai, E. Rivard
- 5:20 INOR 1494.** Cationic N-phosphoranimine ionic liquids. J.R. Klaehn, J.S. McNally, N. Arulsamy, H.W. Rollins, E.J. Dufek
- 5:40 INOR 1495.** Solid, stable, soluble, and stoichiometric oxidizing agents: Hydrogen peroxide and di(hydroperoxy)alkane adducts of phosphine oxides. J. Blumel

## Section E

Moscone Center  
2020

## Organometallic Chemistry: Catalysis

N. S. Radu, *Organizer*

J. M. Camara, *Presiding*

- 1:30 INOR 1496.** Cationic palladium(II) complexes for the catalytic Wacker-type oxidation of styrenes to ketones using  $O_2$  as the terminal oxidant. H. Chai, Q. Cao, L.M. Dornan, M.J. Muldoon
- 1:50 INOR 1497.** Imparting nobility to first-row metal-hydrides: Unusual anionic Ni-H stabilized by Lewis acidic metal supports and their role in catalytic carbon dioxide hydrogenation. R. Cammarota, C. Lu
- 2:10 INOR 1498.** Withdrawn.
- 2:30 INOR 1499.** Metalloenes adsorbed on silica and activated carbon: Solid-State NMR and catalysis. J. Blumel, K.J. Cluff
- 2:50 INOR 1500.** Synthesis of aziridines at low alkene loadings catalyzed by a chromium(III) tetracarbenic complex. C. Keller, A. Cramer, G. Elptiya, J. Kern, S. Roy, D.M. Jenkins
- 3:10 INOR 1501.** Withdrawn.
- 3:30 INOR 1502.** Mechanistic study of cyclotrimerization of alkynes via a two-coordinate iron complex. R. Witzke, T.D. Tilley
- 3:50 INOR 1503.** Mechanism of Wacker-type oxidation of terminal olefins with cationic Pd(II) complexes using hydrogen peroxide. L.M. Dornan, K.L. Walker, R.M. Waymouth, M.J. Muldoon
- Section F**
- Moscone Center  
2022
- Chemistry of Materials: Metal Organic Frameworks**
- C. G. Lugmair, *Organizer*
- C. McGuirk, *Presiding*
- 1:30 INOR 1504.** Polymer/Metal-organic-framework composite nanoparticle for gas separation: Rational design and theoretical analysis of core-shell structure. K. Xie, Q. Fu, P. Webley, G.G. Qiao
- 1:50 INOR 1505.** Methane adsorption in a flexible iron metal-organic framework with intrinsic heat management. J. Oktawiec, J.A. Mason, M.K. Taylor, M.R. Hudson, J. Rodriguez, J. Bachman, M.I. Gonzalez, A. Cervellino, A. Guagliardi, C.M. Brown, P. Llewellyn, N. Masciocchi, J.R. Long
- 2:10 INOR 1506.** Cooperative and reversible chemisorptive capture of carbon disulfide in diamine-appended metal-organic frameworks. C. McGuirk, R.L. Siegelman, P.J. Milner, J.R. Long
- 2:30 INOR 1507.** Computing adsorption properties of structurally deformed metal organic frameworks using a feature space map. W. Jeong, D. Lim, S. Kim, A. Haraie, M. Yoon, M.P. Suh, J. Kim
- 2:50 INOR 1508.** Enhancing the uptake of oxygen in metal-organic frameworks. J.B. DeCoste, T.M. Tovar, I.O. Iordanov, A.M. Ploskonka, G.W. Peterson
- 3:10 INOR 1509.** Thermodynamically directed method to tether alkylamine into metal-organic frameworks for  $CO_2$  capture. H. Li, H. Zhou
- 3:30** Intermission.

**3:45 INOR 1510.** Record selectivity for olefin/paraffin separations in a metal-organic framework. **M. Kapelewski**, J. Bachman, J.R. Long

**4:05 INOR 1511.** CO<sub>2</sub> capture enhancement in InOF-1 via the bottleneck effect of confined ethanol. **I. Ibarra**

**4:25 INOR 1512.** Water stable Metal-Organic Frameworks (MOFs) for CO<sub>2</sub> capture. **D. Zhao**

**4:45 INOR 1513.** Cooperative, adsorbate-induced spin transitions for efficient carbon monoxide separations in an Fe(II) metal-organic framework. **D. Reed**, B. Keitz, J.R. Long

**5:05 INOR 1514.** Trapping gases in metal organic frameworks with a selective surface molecular barrier layer. **K. Tan**, S. Zuluaga, E. Fuentes, E. Mattson, H. Wang, J. Li, T. Thonhauser, Y.J. Chabal

**5:25 INOR 1515.** Increased CO<sub>2</sub> adsorption in heterobimetallic MOFs obtained by post-synthetic transmetalations of HKUST-1. **J.M. Veleta**, R. Arrieta, M. Baeza, E. Barajas, K. Castañeda, C. Castañón, Z. Garcia, D. Villagrán

## Section G

Moscone Center

2024

### Chemistry of Materials: Nanomaterials

C. G. Lugmair, *Organizer*

S. M. Noimark, L. J. Treadwell, *Presiding*

**1:30 INOR 1516.** Dimerization of organic dyes on luminescent gold nanoparticles for ratiometric pH sensing. **S. Sun**, X. Ning, J. Zheng

**1:50 INOR 1517.** Molecular layer deposition of ultrathin manganese oxide hybrid materials for catalysis applications. **D.S. Bergsman**, J.G. Baker, N. Yang, C. MacIsaac, A. Strickler, M. Lillethorup, S.F. Bent

**2:10 INOR 1518.** Application of chiral tetrahedral Au nanoparticles in enantiomeric separations of chiral drugs. **N. Shukla**, D. Yang, Y. Zhao, A.J. Gellman

**2:30 INOR 1519.** Synthesis and characterization of hollow Mn<sub>2</sub>O<sub>4</sub> nanoparticles as anode materials for lithium ion batteries. **S. Varapragasam**, C. Balasanthiran, A. Gurung, Q. Qiao, R.M. Rioux, J.D. Hoefelmeyer

**2:50 INOR 1520.** Multi-walled carbon nanotube-polymer composite coatings for optical ultrasound generation. **S.M. Noimark**, R. Colchester, S. Ourselin, I. Papakonstantinou, I.P. Parkin, A. Desjardins

**3:10** Intermission.

**3:25 INOR 1521.** Synthesis of N, P co-doped amorphous carbon dots and their toxicological impact on *Shewanella oneidensis* MR-1 bacteria. **B. Zhi**, M.J. Gallagher, B.P. Frank, T. Curry, T.A. Qiu, A.C. Mensch, Z. Rosenzweig, H. Fairbrother, R.J. Hamers, C.L. Haynes

**3:45 INOR 1522.** Synthesis of nanoinks using novel precursors for advanced Direct Write applications. **L.J. Treadwell**, T.J. Boyle, N.S. Bell, A. Cook, D. Woodard, M.V. Parkes

**4:05 INOR 1523.** Biocompatible and water-soluble gold-carbon nanoparticles. **B. Atallah**, I. Shehadi, M. Naggari, **A. Mohamed**

**4:25 INOR 1524.** Surface functionalized metal-oxo polymer nanobeads as potential T<sub>1</sub> MRI contrast agents with dual reporting capability and specific targeting. **V. Dahanayake**, W.J. Hickling, O. Rodriguez, C. Albanese, S.L. Stoll

**4:45 INOR 1525.** Investigation of nanosized metal oxides for thermal water splitting at reduced temperatures. **G. Larsen**, K. Coopersmith Lawrence, S. Hunyadi Murph

**5:05 INOR 1526.** Cell-based targeted delivery of mesoporous silica nanoparticles loaded with a T1-contrast agent to 4T1 tumors. **H. Wang**, T.B. Shrestha, J. Covarrubias, A.P. Malalasekera, S.O. Wendel, J. Yu, P. Thapa, M. Pyle, D.L. Troyer, S.H. Bossmann

## Section H

Moscone Center

3000

### Chemistry of Materials: Materials for Energy & Catalytic Applications

C. G. Lugmair, *Organizer*

V. Doan-Nguyen, J. L. White, *Presiding*

**1:30 INOR 1527.** Utilization of magnesium silicide as a reactive precursor for the facile synthesis of Si@Ge and Si@C composite electrodes for lithium-ion batteries. **J. Ahn**, M. Kang, D. Lee, H. Kim, Y. Sung, **W. Yoo**

**1:50 INOR 1528.** Investigation of the reversible lithium insertion into anti-NASICON Fe<sub>3</sub>(WO<sub>4</sub>)<sub>3</sub>. **G. Barim**, B.C. Melot, R.L. Brutchey

**2:10 INOR 1529.** Transition metal polysulfide chalcogenides as electrode materials for Li-ion batteries. **V. Doan-Nguyen**, K. Subrahmanyam, M. Butala, J.A. Gerbec, S. Islam, K. Kanipe, C. Wilson, M. Balasubramanian, K. Wiaderek, O. Borkiewicz, K.W. Chapman, P. Chupas, M. Moskovits, B. Dunn, M.G. Kanatzidis, R. Seshadri

**2:30 INOR 1530.** Effect of nanostructuring on hydrogen storage properties of complex metal hydrides confined inside nanoporous carbons. **J.L. White**, V. Stavila, B. Wood, T. Heo, L.E. Klebanoff, E. Majzoub, M. Allendorf

**2:50 INOR 1531.** Manganese oxide nanomaterials for electrocatalysis and energy storage. **T.N. Lambert**, J.A. Vigil, J. Duay, M. Kelly

**3:10** Intermission.

**3:25 INOR 1532.** Nb<sub>2</sub>N<sub>5</sub>/Nb<sub>2</sub>O<sub>5</sub>-rGO composites as pseudocapacitive anode materials for high power lithium ion batteries. **Y. Yan**, C. Lai, S. Robbenolt, B. Dunn, S.H. Tolbert

**3:45 INOR 1533.** Modelling La<sub>2</sub>NiO<sub>4</sub> for solid oxide fuel cell cathode applications. **A.L. Gavin**, G.W. Watson

**4:05 INOR 1534.** Mechanisms and motivations for superionic conductivity in polyborane solid electrolytes from *ab initio* molecular dynamics. **B. Wood**, J. Varley, K. Kweon, P. Shea, V. Stavila, T.J. Udovic

**4:25 INOR 1535.** Thermodynamics and kinetics at interfaces of metal hydrides for hydrogen storage. **S. Kang**, T. Heo, P. Shea, K.G. Ray, T. Ogitsu, S. Bonev, B. Wood

## Section I

Moscone Center

3010

### Organometallic Chemistry: New Ligand Platforms

N. S. Radu, *Organizer*

D. R. Manke, M. P. Marshak, *Presiding*

**1:30 INOR 1536.** Structure-activity relationship of ruthenium metathesis catalysts in ethenolysis of cyclic olefins. **P. Engl**, C. Santiago, A. Fedorov, C. Cooperet, M.S. Sigman, A. Togni

**1:50 INOR 1537.** Blue phosphorescent zwitterionic Ir(III) complexes featuring weakly coordinating ligands. **K. Kirlikovali**, J.C. Axtell, P.I. Djurovich, D. Jung, V. Nguyen, B. Munekiyu, A.T. Royappa, A.L. Rheingold, A.M. Spokoyny

**2:10 INOR 1538.** Cavityplexes: Metal-Organic platforms for supramolecular recognition. **A. Pöthig**, P.J. Altmann

**2:30 INOR 1539.** Influence of the phenylazopyridine ligand on the reactivity and electronic structure of (cyclopentadienyl)cobalt complexes. **E. McLoughlin**, K.M. Waldie, R. Sarangi, R.M. Waymouth

**2:50 INOR 1540.** Synthesis, structure and reactivity of homo- and heterobimetallic complexes. **A. Nicolay**, T.D. Tilley

**3:10 INOR 1541.** Homoleptic organolanthanide compounds supported by a bis(dimethylsilyl)benzyl ligand. **K. Boteju**, A. Ellern, A.D. Sadow

**3:30 INOR 1542.** *m*-Terphenyl substituted  $\beta$ -diketonate ligands support coordinatively unsaturated metals. **M.P. Marshak**, E.S. Akturk, R.N. Seals

**3:50 INOR 1543.** Modular synthesis of tris(aryl)tren ligands and their reactivity. **V. Mdluli**, D.R. Manke

**4:10 INOR 1544.** Probing the  $\pi$ -acceptor/ $\sigma$ -donor ratio of 2-isocyanazulene ligands as possible rivals of polyfluorinated organic isocyanides. **M.D. Hart**, J.J. Meyers, T. Nakakita, Z. Wood, N. Gerasimchuk, M.V. Barybin

**4:30 INOR 1545.** Studies of protonation preferences in bifunctional late-metal organometallics: Applications to heterolytic C-H activation. **E.B. Hullely**, W. Christman, T. Morrow, N. Arulsamy

**4:50 INOR 1546.** Influence of fluorescent dye containing ligand scaffolds on metal complex reactivity. **Z.M. Heiden**, N.R. Treich

## Section J

Moscone Center

3012

### Organometallic Chemistry: Synthesis & Characterization-Late Transition Metals

N. S. Radu, *Organizer*

Z. Assefa, D. C. Lacy, *Presiding*

**1:30 INOR 1547.** Chemistry of gold(III) pincer complexes: Structure and reactivity Au-H and Au-CO complexes. **M. Bochmann**, J. Fernandez-Cestau, A. Pintus, L. Rocchigiani, P. Budzelaar

**1:50 INOR 1548.** Synthesis, x-ray crystallography, spectroscopic and cytotoxicity studies of Au(I) complexes of tris(4-methoxy-3,5-dimethylphenyl)phosphine (MDMPP), bis (2-methoxyphenyl) phosphine (MPP) and further structural studies on higher coordinate Au(I) phosphine complexes. **Z. Assefa**, K. Brown, G. Agebawori, M. Kanipes-Spinks, C. Rorie

**2:10 INOR 1549.** Homo- and heterobimetallic dicarbene complexes featuring unsymmetrical bis-NHC ligand. **M. Böhrer**, E.F. Hahn

**2:30 INOR 1550.** Synthesis and reactivity of Ir<sup>III</sup> complexes bearing NHC/imidazolyl chelate ligands. **T. Tan**, E.F. Hahn

**2:50 INOR 1551.** Reactivity and dynamics of unsaturated cobalt *m*-terphenyl isocyanide complexes. **C. Chan**, J.S. Figueroa

**3:10 INOR 1552.** Synthesis and reactivity of pincer-supported cobalt complexes. **L.M. Guard**, D.E. Linn, D.M. Heinekey

**3:30 INOR 1553.** Metal-metal bonds from halide-bridged group 11 metal cations. **J.P. Sadighi**, C.M. Sato, J. Bacsa

**3:50 INOR 1554.** Splitting water with an organomanganese tetramer. **D.C. Lacy**

**4:10 INOR 1555.** Active site installation on a low valent iron cluster. **M.J. Drance**, J.S. Figueroa

**4:30 INOR 1556.** Bonding in group 8 silylene complexes. **P. Smith**, T.D. Tilley

**4:50 INOR 1557.** Rhenium  $\beta$ -diketiminate: Chemistry at the oxo moiety and in low-valent terminal oxo complexes. **T.D. Lohrey**, R.G. Bergman, J. Arnold

**5:10 INOR 1558.** Frustrated Lewis pairs as ligands for late-transition metal complexes: Probing interactions in the coordination sphere. **B.R. Nichols**, J.L. Petersen, B.V. Popp

## Section K

Moscone Center

3001

### Chemistry of Materials: Synthesis & Properties

C. G. Lugmair, *Organizer*

B. A. Kilos, L. Vilà Nadal, *Presiding*

**1:30 INOR 1559.** Composition manipulation of germanium nanocrystals via microwave-assisted colloidal synthesis. **K. Tabatabaei**, S. Kauzlarich, B. Nolan, H. Lu, X. Zhang, R.L. Brutchey, K. van Benthem

**1:50 INOR 1560.** Study of Pt(II) precursors for focused electron beam induced deposition of Pt nanostructures. **H. Lu**, J.A. Spencer, Y. Wu, H. Fairbrother, L. McElwee-White

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

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**2:10 INOR 1561.** Long route from hexagonal- $\text{AMn}^{3+}\text{O}_3$  to  $\text{AMn}^{2+}\text{O}_{2.5}$ . **M. Olivier**, T. Pussacq, M. Huvé, F. Tessier, H. Kabbour

**2:30 INOR 1562.** Withdrawn.

**2:50 INOR 1563.** Thermolytic molecular precursor methods to germanium-doped single-sites on silica. **J.P. Dombrowski**, T.D. Tilley, A.T. Bell

**3:10 INOR 1564.** Beyond thioureas: Highly monodisperse CdS nanocrystal syntheses via thiocarbonates, thiocarbamates, and thioureas. **L. Hamachi**, I. Jen-La Plante, G. Cleveland, J.S. Owen

**3:30 INOR 1565.** Withdrawn.

**3:50** Intermission.

**4:05 INOR 1566.** Simple method to predict the electronic spin configuration of Fe(II) tris-dimine complexes. **H. Phan**, J. Hrudka, **M. Shatruk**

**4:25 INOR 1567.** Non-covalent interactions in superatomic crystals. **J.L. Shott**, M. Freeman, N. Saleh, D.S. Jones, C. Beijer

**4:45 INOR 1568.** Water confinement properties of a metal-organic nanotube. **M. Payne**, A.S. Jayasinghe, D. Unruh, T. Forbes

**5:05 INOR 1569.** Synthesis and characterization of magnesium oxychloride as a fire resistant construction material. **R.F. Gochez**, C.L. Kitchens

**5:25 INOR 1570.** Industrial outlook on the development of cost effective  $\text{SiO}_2$  mesoporous cellular foams technology. **B.A. Kilos**, A.M. Kelly-Rowley, S. Matteucci, C.L. Tway, K. Mabe, H. Clements

**5:45 INOR 1571.** Centimeter-sized epitaxial h-BN as a flexible & transferrable template for heteroepitaxial growth of semiconductor thin films. **H. Oh**, K. Chung, J. Jo, Y. Tchoe, H. Yoon, H. Lee, S. Kim, M. Kim, B. Sohn, G. Yi

## Section L

Moscone Center  
3003

## Nanoscience

B. G. Trewyn, *Organizer*

E. Jöhl, *Presiding*

**1:30 INOR 1572.** Monocrystalline nanopatterned films made by nanocube assembly and chemical welding. **B. Sciacca**, A. Berkhout, M. van Huis, B. Brenny, A. Polman, **E. Garnett**

**1:50 INOR 1573.** Graphene oxide membranes with strong stability in aqueous solutions and controllable lamellar spacing. **J. Hu**, Y. Xi, Z. Liu, R. Xie, X. Ju, W. Wang, L. Chu

**2:10 INOR 1574.** Photovoltage, effective bandgap and photochemical charge transfer in nanoscale transition metal (Cu, Fe, Mn, Ni) doped  $\text{SrTiO}_3$  photocatalysts. **X. Ma**, F.E. Osterloh

**2:30 INOR 1575.** Semiconductor nanocrystals with compact fluorinated shells. **P. Xia**, M.L. Tang

**2:50 INOR 1576.** 3D Nanostructure imaging via multi-energy deconvolution SEM. **E. Jöhl**, M. de Goede, B. Sciacca, F. Boughorbel, E. Garnett

**3:10 INOR 1577.** Opportunities and limitations for nanoscale photovoltaics to surpass the Shockley-Queisser limit. **S.A. Mann**, R. Grote, R.M. Osgood, A. Alu, E. Garnett

**3:30** Intermission.

**3:40 INOR 1578.** Metal halide perovskite nanowire arrays for photodetection with significantly improved stability. **Z. Fan**, L. Gu, M. Tavakoli, A. Waleed

**4:00 INOR 1579.** Exploring of the scope of polyarylboranenes. **M.W. Lee**, T. Wang

**4:20 INOR 1580.** Efficiency of magnetic induction heating for single crystal iron oxide nanoparticles. **R.R. Shah**, T.P. Davis, A.L. Paulson, C.S. Brazel, **D.E. Nikles**

**4:40 INOR 1581.** Elucidation of synthesis and characterization of non-precious nanoscale mixed metal oxides for green chemistry catalysis. **A.M. York**, C.A. Cadigan, R.M. Richards

**5:00 INOR 1582.** Carrier selective contacts for nanowire solar cells. **S. Oener**, A. Cavalli, J. Haverkort, E. Bakkers, E. Garnett

**5:20 INOR 1583.** TERS: Nanoscale Raman characterization of 0-1-and 2D materials. **A. Krayev**, M. Chaigneau

## MEDI

## Division of Medicinal Chemistry

A. Stamford, *Program Chair*

### OTHER SYMPOSIA OF INTEREST:

**ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in honor of Yvonne C. Martin** (see *COMP*, Tue)

**ACS Chemical Biology Award Symposium** (see *BIOL*, Tue)

**Chemical Biology: Enabling Drug Discovery** (see *ORGN*, Wed)

### SOCIAL EVENTS:

**Poster Sessions & Socials**, 7:00 PM: Sun, Wed

### BUSINESS MEETINGS:

**Business Meeting (Open)**, 5:30 PM: Sun

**Executive Committee Meeting (Closed)**, 8:30 AM: Sun

**Long-Range Planning Committee Meeting (Closed)**, 5:30 PM: Mon

## SUNDAY MORNING

### Section A

Moscone Center  
3002/3004

### Macrocycles & Cyclopeptides in Medicinal Chemistry

M. J. Blanco-Pillado, *Organizer*

M. Blanco, *Presiding*

**9:00** Introductory Remarks.

**9:05 MEDI 1.** Simple ADME rules for complex molecules and life beyond the rule of 5. **S. Lokey**

**9:40 MEDI 2.** Discovery of oral and BBB permeable eribulin analogs by taking advantage of its macrocyclic properties. **W. Zheng**

**10:15 MEDI 3.** Peptides as shuttles for drug delivery to the brain. **E. Giralt**

**10:50 MEDI 4.** Macrocyclic peptides as potential treatments for pain and drug abuse. **J.V. Aldrich**, S. Senadheera, T.F. Murray, J.P. McLaughlin

**11:25 MEDI 5.** Milla molecule inhibitors of IAP proteins. **Y. Zhang**

**12:00** Concluding Remarks.

### Section B

Moscone Center  
3006/3008

### General Orals

A. W. Stamford, *Organizer*

I. M. Bell, *Presiding*

**8:30 MEDI 6.** Development of a potent and selective bromodomain chemical probe. **M. Moustakim**, P. Brennan, D. Dixon

**8:50 MEDI 7.** Structure-based computer-aided IL-6/GP130 Protein-Protein Interaction (PPI) inhibitor design. **G. Shi**, L. Mao, V. Kumari, C. Li

**9:10 MEDI 8.** Disclosure of a development candidate to treat severe acute pancreatitis through a drug discovery partnership between GlaxoSmithKline and the University of Edinburgh. **J. Liddle**

**9:30 MEDI 9.** Expanding screening decks by innovative MCR scaffolds. **A. Doemling**, P. Patil, R. Madhavachary

**9:50 MEDI 10.** Metamorphosis of paroxetine into a highly potent and selective GRK2 inhibitor via structure-based drug design. **H. Waldschmidt**, K. Homan, O. Cruz - Rodriguez, M. Cato, R. Bouley, M. Wilson, A. Cannavo, J. Song, J. Cheung, P. Kirchhoff, W. Koch, J. Tesmer, S.D. Larsen

**10:10 MEDI 11.** Discovery of novel potent and selective agonists of the serotonin (5-HT) 5-HT<sub>2C</sub> receptor as neurotherapeutics. **H. Mack**, G. Backfisch, G. Blaich, W.M. Braje, T. Erhard, A. Haupt, A. Kling, V. Lakics, J.J. Lynch, M. Mugnaini, F. Pohki, A.L. Relo, K. Schaefer

**10:30 MEDI 12.** Assessment of MCHR1 target engagement in the brain using PET imaging. **A. Johansson**, M. Antonsson, A. Hogner, M. Fredenwall, M. Hayes, P. Johnstrom, M. Schou

**10:50 MEDI 13.** Redox-responsive hyaluronic acid-taxoid nanoconjugate for CD44-targeted cancer chemotherapy. **Y. Zhang**, I. Ojima

**11:10 MEDI 14.** Targeting ubiquitin pathway enzymes for cancer immunotherapy. **J. Wu**, H. Wang, S. Kumar, F. Wang, I. Sokirniy, C. Riling, M. Mattern, J. Weinstock

**11:30 MEDI 15.** Synthesis and biological profiling of 2-azabicyclo[2.1.1]hexane-based proline isosteres as antagonists of TRPA1 ion channel. **D. Shore**, M. Volgraf, B. Safina, V.A. Verma, E. Villemure, H. Chen, L. Wang, A.A. Estrada, J.P. Lyssikatos, A. Kolesnikov, S. Do, S. Shields

**11:50 MEDI 16.** Cyclophilin D inhibitors rational and fragment based design: From 7 mM to 7 nM potency. **C. Jorand-Lebrun**, X. Jian, T. Johnson, U. Graedler, D. Schwarz, B. Leuthner, A. Marx, D. Roche, M. Gilardone, H. Lemoine, S. Kulkarni, F. Bernard

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy

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## SUNDAY AFTERNOON

### Section A

Moscone Center  
3002/3004

### General Orals

A. W. Stamford, *Organizer, Presiding*

**1:30 MEDI 17.** Discovery of AZD9977: A non-steroidal mineralocorticoid modulator for treatment of diabetic kidney disease. **K.L. Granberg**, Z. Yuan, B. Lindmark, K. Edman, K. Bamberg, A. Hogner, J. Kajanus, M. Malmgren, C. Löfberg, A. Nordqvist, J.Å. Lindberg, J. Brånalt, G. O'Mahony, M. Kossenjans, D. Liu, A. Aagaard, M. Billger, S. Bäckström, P. Cornwall, H. Ericsson, F. Erlandsson, E.L. Hansson, A. Hayen, M. Hermansson, I. Ivarsson, R. Jansson Löfmark, U. Johansson, U. Karlsson, X. Li, G. Nikitidis, P. Nordberg, A. Nordin, B. Polentarutti, N. Selmi, A. Turner, L. William-Olsson, C.E. Wingolf, J. Hartleib

**1:55 MEDI 18.** Discovery of BMS-962212 a highly potent, selective inhibitor of coagulation FXIa. **D. Pinto**, M.J. Orwat, L. Smith II, S. Shrivastava, M.L. Quan, P.Y. Lam, K. Rossi, A. Apedo, J. Bozarth, Y. Wu, J. Zheng, B. Xin, N. Toussaint, P. Stetsko, O. Gudmundsson, E. Crain, P. Wong, Z. Lou, T. Harper, S. Chacko, J. Myers, S. Sheriff, H. Zhang, X. Hou, A. Mathur, D. Seiffert, J. Luettgen, R.R. Wexler

**2:20 MEDI 19.** Development of new therapies for asthma based on compounds that specifically target GABA<sub>A</sub> receptors in the lung. **L. Arnold**, G.S. Forkuo, N.Y. Yuan, R. Kodali, O.B. Yu, N.M. Zahn, R. Jahan, G. Li, M.R. Stephen, M. Guthrie, A.N. Nieman, M.M. Poe, G.T. Yocum, C.W. Emala, D.C. Stafford, D.A. Steeber, J.M. Cook

**2:45 MEDI 20.** Discovery of AGN-241689: A potent, orally-acting CGRP receptor antagonist for migraine prophylaxis. **I.M. Bell**

**3:10 MEDI 21.** Discovery of BMS-986142: A reversible inhibitor of Bruton's Tyrosine Kinase (BTK) conformationally constrained by two locked atropisomers. **S.H. Watterson**, G.V. De Lucca, Q. Shi, C.M. Langevine, D.G. Batt, Q. Liu, M. Beaudoin Bertrand, H. Gong, J. Dai, H. Yip, P. Li, D.Z. Sun, D. Wu, C. Wang, Y. Zhang, S.C. Traeger, M.A. Pattoli, S. Skala, L. Cheng, M.T. Obermeier, R. Vickery, L.N. Discenza, C.J. D'Arienzo, Y. Zhang, E. Heimrich, K. Gillooly, T.L. Taylor, C. Pulicchio, K. McIntyre, M.A. Galella, A.J. Tebben, J.K. Muckelbauer, C. Chang, L. Salter-Cid, J.C. Barrish, P.H. Carter, A. Fura, J. Burke, J.A. Tino

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**3:35 MEDI 22.** Hydrogen bond interaction geometries in protein-ligand complexes: From large-scale statistics to single cases. **E. Nittinger**, T. Inhester, G. Lange, R. Klein, M. Rarey

**4:00 MEDI 23.** Discovery of selective SETD8 inhibitors via structure-based approach. **A. Ma**, W. Yu, K. Butler, F. Li, W. Tempel, N. Babault, P. Fabio, J. Shao, J. Wang, M. Luo, M. Vedadi, P. Brown, C.H. Arrowsmith, J. Jin

**4:25 MEDI 24.** Discovery of a noncovalent, mutant-selective epidermal growth factor receptor inhibitor. **B.K. Chan**, E.J. Hanan, K. Bowman, M.C. Bryan, D. Burdick, E. Chan, Y. Chen, S. Clausen, T. Dela Vega, J. Dotson, C. Eigenbrot, R. Elliott, R. Heald, P. Jackson, J. Knight, H. La, M. Lainchbury, S. Malek, H.E. Purkey, G. Schaefer, S. Schmidt, E. Seward, S. Sideris, L. Shao, S. Wang, S. Yeap, I. Yen, C. Yu, T.P. Heffron

**4:50 MEDI 25.** Discovery of 4-(((2R,3R)-1,3-dihydroxybutan-2-yl)amino)-6-phenylpyrrolo[1,2-b]pyridazine-3-carboxamide (BMT-1438), a potent JAK1/3 inhibitor and the use of a phosphate prodrug in demonstrating efficacy in a rheumatoid arthritis model. **S.H. Spergel**, M. Mertzman, J. Kempson, J. Guo, S.M. Stachura, L. Haque, J. Lippy, R. Zhang, M.A. Galella, S. Pitt, G. Shen, A. Fura, K. Gilooly, K. Mcintyre, V. Tang, J.S. Tokarski, J. Sack, J. Khan, P.H. Carter, J.C. Barrish, S. Nadler, L. Salter-Cid, G.L. Schieven, S. Wroblecki, W.J. Pitts

### Section B

Moscone Center  
3006/3008

### Medicinal Chemists' Toolbox: Factors Influencing Oral Bioavailability & Case Studies

N. A. Meanwell, P. M. Scola, K. Yeung, *Organizers, Presiding*

#### 2:00 Introductory Remarks.

**2:05 MEDI 26.** Drug absorption and disposition influencing oral bioavailability: An industrial perspective and literature review. **C. Huang**

**2:40 MEDI 27.** First-pass intestinal glucuronidation as a potential obstacle for oral absorption of small molecule drug candidates: When should we worry? **A.S. Kalgutkar**

**3:15 MEDI 28.** Role of drug metabolizing enzymes in oral bioavailability. **C. Khojasteh**

**3:50 MEDI 29.** Role of early solubility measurements in predicting bioavailability challenges and subsequent formulation strategies to enable compounds. **W.P. Wuelfing**

**4:25 MEDI 30.** Mesenteric lymph: A conduit to enhanced oral bioavailability and immune cell targeting. **C. Porter**

### Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

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### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Novel Reactions, Methodologies & Syntheses in Organic Chemistry

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### SUNDAY EVENING

#### Section A

Moscone Center  
West Hall

#### General Posters

A. W. Stamford, *Organizer*

#### 7:00 - 9:00

**MEDI 31.** Aminobenzimidazoles and structural isomers: Design, synthesis, pharmacological evaluation and computational studies of novel dual-acting butyrylcholinesterase inhibitors and hCB<sub>2</sub> receptor ligands for the treatment of Alzheimer's disease. **D. Dolles**, E. Sawatzky, J. Möller, M. Nabissi, A. Drakopoulos, A. Strasser, H. Wittmann, M. Lohse, M. Decker

**MEDI 32.** Development of small molecules to modulate ApoE and Abca1/Ldlr levels for Alzheimer's therapy. **N. John**, I. Boginski, A. Voigt, R. Remotigue, J. Kim, J. Kim, S. Maitra

**MEDI 33.** Design, synthesis and biological evaluation of 3-hydroxy-4H-pyrone derivatives as potent MTDLs for Alzheimer's disease. **R. Sheng**, J. Liu, L. Jiang, L. Tang

**MEDI 34.** Acetyl cholinesterase inhibitory and toxicity profiles of tacrine-curcumin hybrids. **R. Alavala**, G. Tipparapu, **S. Boyapati**, U. Kulanthaivelu, R. Ajmeera, B. Mantriprghada

**MEDI 35.** Design, synthesis, and *in vitro* evaluation of novel sigma-2 receptor modulators: An opportunity in Alzheimer's disease therapy. **K. Blattner**, D.J. Canney, R. Gao, R. Bhandare, J.C. Gordon, M. Abou-Gharbia, N.J. Izzo, N. Knezovich, C. Silky, K. Mozzoni, S. Catalano, G. Rishon, B.E. Blass

**MEDI 36.** Discovery of multi-target-directed ligands for the treatment of Alzheimer's disease. **W. Huang**, Z. Shen, C. Li, Q. Li, X. Zhen, Z. Ma, M. Liang

**MEDI 37.** Biased agonism at CB2 cannabinoid receptors: Implications for drug development. **R. Hutchison**, P. Prather

**MEDI 38.** Synthesis and biological evaluation of dual-target peripheral CB<sub>1</sub>R antagonists. **M.R. Iyer**, R. Cinar, A.R. Katz, G. Kunos

**MEDI 39.** Profiling signaling bias of synthetic cannabinoid New Psychoactive Substances (NPS) at the Cannabinoid Type 1 Receptor (CB1R). **S. Banister**, K.K. Kumar, B.K. Kobilka, S.V. Malhotra

**MEDI 40.** Synthesis and SAR studies of somatostatin subtype-4 agonists for the treatment of Alzheimer's disease. **M. Minaieian**, A.M. Crider, I. Daryaei, M. Kontoyianni, W.M. Kolling, W.L. Neumann

**MEDI 41.** Discovery of tetrahydroquinoline-containing CXCR4 antagonists with improved ADMET properties. **E.J. Miller**, E. Jecs, V. Truax, B. Katzman, K. Kuo, M.B. Kim, R.J. Wilson, H.H. Nguyen, Y.A. Tahirovic, M. Saindane, T. Wang, C. Sum, J. Chen, M.E. Cvijic, D.R. Shen, N. Burford, C. Chen, H. Zhang, A.J. Tebben, L.J. Wilson, G.M. Schroeder, D. Liotta

**MEDI 42.** Synthesis of novel TIQ-15 analogs with improved drug properties. **E. Jecs**, E.J. Miller, R.J. Wilson, H.H. Nguyen, Y.A. Tahirovic, M.B. Kim, B.M. Katzman, V.T. Truax, K. Kuo, J. Chen, M. Cvijic, D.R. Shen, C. Chen, H. Zhang, A.J. Tebben, C. Sum, T. Wang, N. Burford, G.M. Schroeder, L.J. Wilson, D. Liotta

**MEDI 43.** Synthesis and SAR of TIQ-15 based CXCR4 antagonists: Identification of tetrahydroquinoline replacements. **R.J. Wilson**, E.J. Miller, E. Jecs, V.T. Truax, L.J. Wilson, H.H. Nguyen, Y.A. Tahirovic, D. Liotta, G.M. Schroeder, T. Wang, H. Zhang, M. Kim

**MEDI 44.** Synthesis of 2,4,6-trisubstituted pyridines using palladium-catalyzed cross-coupling reactions and *in vitro* anticancer evaluation. **A. Hernandez Campos**, P.J. Trejo, I. González, L. Yépez-Mulia, J. Pérez-Villanueva, M.A. Cerbón-Cervantes, R. Castillo-Bocanegra

**MEDI 45.** First steps in hit-to-lead optimization towards AKT inhibition. **E.E. Sanabria-Chanaga**, R. Castillo-Bocanegra, A. Hernandez Campos

**MEDI 46.** Design, synthesis and biological evaluation of quinazoline derivatives as cytotoxic molecules of breast cancer triple-negative. **A.S. Matus-Meza**, F. Hernández-Luis, M.A. Velasco-Velázquez

**MEDI 47.** Targeting specific interactions to improve EGFR-ligand binding. **C. Williams**, A. Ajamian, N. Thorsteinson, **N. Li**, B. Jean-Claude

**MEDI 48.** Molecular design and synthesis of inhibitors of EGFR kinase: New quinazoline derivatives. **A.S. Bunev**, E.V. Sukhonosova, **S. Sokov**

**MEDI 49.** Derivatives of 5-(imidazo[2,1-b]thiazol-6-yl)-4-methylthiazol-2-amine new effective EGFR-kinase inhibitors. **A.S. Bunev**, E.V. Sukhonosova, **K. Talina**

**MEDI 50.** Discovery of atropisomeric quinolone sulfonamide (AM-0466), a potent and selective Na<sub>v</sub>1.7 inhibitor with robust *in vivo* analgesic activity. **R. Graceffa**

**MEDI 51.** Discovery of non-zwitterionic aryl sulfonamides as Na<sub>v</sub>1.7 inhibitors with efficacy on preclinical behavioral and translational measures of pain. **Y. Wu**, J. Guernon, A. McClure, G. Luo, R. Rajamani, A. Ng, A. Easton, A. Newton, C. Bourin, D. Parker, K. Masure, O. Barnaby, M. Soars, R.J. Knox, M. Matchett, R. Pieschl, J. Herrington, P. Chen, D. Sivarao, L.J. Bristow, N.A. Meanwell, J.J. Bronson, R.E. Olson, L.A. Thompson, C.D. Dzierba

**MEDI 52.** Synthesis and structure-activity relationships of morpholine-based aryl sulfonamide Na<sub>v</sub>1.7 inhibitors. **J.M. Guernon**, A. McClure, R. Rajamani, R.J. Knox, M. Matchett, R. Pieschl, J. Herrington, L.J. Bristow, N.A. Meanwell, R.E. Olson, L.A. Thompson, C.D. Dzierba, Y. Wu

**MEDI 53.** Structure-based design of ATP citrate lyase inhibitors and their anticancer activities. **F.E. Jernigan**, S.K. Koerner, J. Hanai, V.P. Sukhatme, **L. Sun**

**MEDI 54.** Withdrawn.

**MEDI 55.** Bioassay protocols: Semantic annotation to enable informatics. **A. Clark**

**MEDI 56.** Design, synthesis, and evaluation of a new privileged scaffold for use in drug discovery. **M.J. Stocks**, C. Schwelm, B. Kellam, A. Garces, N. Kindon, T. Bradshaw, J. Li, S.J. MacDonald, J. Rowedder

**MEDI 57.** From chemical similarity to rational polypharmacology. **M.J. O'Meara**, X. Huang, B.L. Roth, B. Shoichet

**MEDI 58.** Quantum chemistry calculation-aided optimization of novel microtubule-targeting agents binding to colchicine site. **C. Zheng**, J. Jiang, J. Liu, J. Zhu, Y. Zhou

**MEDI 59.** Enhanced delivery of HIV integrase inhibitors with prodrugs designed for polymeric nanocarriers. **W.E. Afunugo**, M.E. Ebner, A.M. Bever, S. Cao, Y. Jiang, K.A. Woodrow, I.T. Suydam

**MEDI 60.** Synthesis and biological evaluation of sulfonyl piperazine derivatives for LpxH inhibition. **M. Lee**, J. Zhao, J. Cho, D. Kwon, P. Zhou, J. Hong

**MEDI 61.** Creating new from clinical agents: Discovery of Combretastatin A-4 inspired heterocycles as antitubulin anticancer agents. **N. Hura**, S.K. Guchhait

**MEDI 62.** Matching medium characterization by microwave brain stroke imaging. **T. Yilmaz**, G.A. Eken, E. Yildirim, **M.H. Acar**, I. Akduman

**MEDI 63.** Synthesis of functionalized benzofulvenes and their possible application towards thioredoxin reductase inhibition and cancer treatment. **A. Glass**, **K. Caspar**

**MEDI 64.** Hologram QSAR and structure-based design of novel small-molecule inhibitors of choline acetyltransferase. **R. Kumar**, T. Darreh-Shori

**MEDI 65.** Virtual hit-to-lead drug development program FRESH and success across carbonic anhydrase II and phosphatidylinositol 3-kinase  $\alpha$ . **T. Kaiser**, Q. Shi, Z. Dentmon, P. Burger, J. Snyder, D. Liotta

**MEDI 66.** Dopamine transporter ligands with short and long residence time. **S. Kukuk**, J. Jarv

**MEDI 67.** Structure function studies of silent agonists of the alpha 7 nicotinic acetylcholine receptor. **M. Quadri**, C. Stokes, R. Papke, C. Sanon, N. Horenstein

**MEDI 68.** Dual soluble Epoxide Hydrolase (sEH) and Fatty Acid Amide Hydrolase (FAAH) inhibitors for treating. **L.D. Kodani**, K. Wagner, S. Hwang, K.S. Lee, C. Morisseau, B.D. Hammock

**MEDI 69.** Low-cost high-impact route to kill MRSA with beta-lactam antibiotics. **C.V. Rice**, M. Foxley, M. Xiao, S. Wright, S. Strange

**MEDI 70.** Clickable 4-N-alkanoil and 4-N-alkylgemcitabine analogues with silicon-fluoride acceptors. **C. Gonzalez**, A. Sanchez, S.F. Wnuk

**MEDI 71.** Novel 5-nitroimidazole and 5-nitrothiazole piperazine derivatives and their antiparasitic activity. **H.A. Saadeh**, M. Khasawneh, Y. Abou-Zeid, I. El-Haty, K. Nsangou, K. Goyal, R. Sehgal, A. Samadi

**MEDI 72.** Matched molecular pair analysis and collaboration: Finding routes to the age-old problem. **A. Dossetter**, E.J. Griffen, A.G. Leach, S. Montague

**MEDI 73.** Diketone acids and their hybrid biososter derivatives as bacterial biofilm and Methionine Aminopeptidase (MetAP) inhibitors. **A. Mohammad**, P. Hasan, V. Pillalamarri, M. Irfan, A. Perwez, B. Ahmad, U. Yadava, M. Rizvi, C. Daniliuc, R. Maguire, K. Kavanagh, A. Adlagatta

**MEDI 74.** Studies aimed at the synthesis of Hsp90 inhibitors as antileishmaniasis agents. **L. Barreto**, J. Leahy, D. Kyle

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- MEDI 75.** Synthesis and biological activity studies of C1-substituted carbapenem antibiotics. **T. Nguyen, J. Kim, P. Nguyen, M. Cox, M. Bennett, B. Meshram, L. Phung, C. Watanabe, A. Shi, M. Alqurafi, J.D. Buynak**
- MEDI 76.** 2-Nitrobenzenesulfonyl fluoride is a novel small molecule pharmacophore for the development of new antibiotics. **B. Park**
- MEDI 77.** Gold-phosphines and gold-phosphine-modified human serum albumin as potent inhibitors of T-cell proliferation. **T.C. Dean, M. Yang, M. Liu, P.K. Langston, J. Lee, C.M. Furdulj, J. Grayson, U. Bierbach**
- MEDI 78.** Insulin: Its structure, function, and interaction in model cell membranes. **K. Saulcy, D.C. Crans, A. Sostarec**
- MEDI 79.** Synthetic and mechanistic studies of cyclotriazadisulfonamide (CADA) down-modulators of human CD4. **T.W. Bell**
- MEDI 80.** Facile synthesis of Benzalkonium Chloride (BAC)-derived mesoporous silica nanoparticles as antibacterial material. **H. Wang, T.B. Shrestha, J. Covarrubias, A.P. Malalasekera, S.O. Wendel, J. Yu, P. Thapa, L. Chlebanowski, O. Covarrubias Zambrano, D.L. Troyer, S.H. Bossmann**
- MEDI 81.** Withdrawn.
- MEDI 82.** Advanced carbapenem antibiotics: The synthesis and activity studies of C6 substituted carbapenems. **M. Alqurafi, J. Kim, D. Le, M. Mohry, C. Watanabe, A. Shi, T. Nguyen, J.D. Buynak**
- MEDI 83.** Impact of pH on solubility, hydrolysis kinetics, and pharmacokinetics of tenofovir disoproxil fumarate delivered from intravaginal rings. **J.A. Moss, M.M. Baum, M. Gunawardana, C.S. Miller, I. Butkyavichene, S. Calvez, F. Yang, K.L. Vincent, R.B. Pyles**
- MEDI 84.** Withdrawn.
- MEDI 85.** Use of substrate analogues and Tetrahydroisoquinolines (THIQ) as potential inhibitors for *Mycobacterium tuberculosis* enzyme MshC and synthesis of mycothiol. **K. Patel, A. Reddy Maddirala, P.R. Andreana**
- MEDI 86.** MRI probe loaded HDL mimicking nanoparticles for diagnosis and therapy of atherosclerosis. **B. Banik, S. Dhar**
- MEDI 87.** Copper responsive gadolinium-based MRI contrast agents. **N.N. Paranewithana, A.F. Martins, G. Meloni, S. Chirayil, P. Zhao, A. Sherry**
- MEDI 88.** Novel, real-time analysis of nano-material inhibition of *E. coli*. **P.A. Sermon**
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- MEDI 90.** Fast generation of novel leads using virtual screening and fast MCR chemistry. **A. Doemling, C.J. Camacho**
- MEDI 91.** Tumor suppressor P27<sup>Kip1</sup> regulation by tissue transglutaminase and its potential application in cancer therapeutics. **L. Zhang, R.J. Sheaff**
- MEDI 92.** Withdrawn.
- MEDI 93.** Dual targeting of the cancer antioxidant network with redox active gold(II) N-heterocyclic carbene complexes. **R. McCall, J. Kocerha, J.L. Sessler, V. Sittaramane, K. Arumugam, J.F. Arambula**
- MEDI 94.** Fluorescent chemosensing for chloride and nucleotides based on artificial receptors in water. **A. Dorazco Gonzalez**
- MEDI 95.** D-peptides as inhibitors of Proteinase 3-membrane interactions. **K. Maximova, T. Venken, N. Reuter, J. Trylska**
- MEDI 96.** Molecular investigation of cyclic  $\beta$ - and  $\gamma$ -peptoids. **R. Grams, D. Marron, M. Kassu, J.S. Josan**
- MEDI 97.** Mapping of cell surface receptors using silver nanodiscs. **J.S. Josan, M. Kassu, G. Liu, A. Khan, R. Grams**
- MEDI 98.** Late-stage functionalization of complex molecules. **R. Karimov, A. Sharma, J.F. Hartwig**
- MEDI 99.** Synthesis of novel imidazobenzodiazepine oxazole bioisosteres as potential  $\alpha$  2, 3 subtype selective GABA(A) receptors agonists with excellent metabolic stability, pharmacokinetics, and anxiolytic efficacy. **G. Li, K.R. Methuku, M.M. Poe, J.M. Witkin, J.M. Schkeryantz, M. Ernst, J.M. Cook**
- MEDI 100.** Study and isolation of chemical compounds of *Guaiacum sanctum* for cytotoxicity and anti-tumor activities. **A.A. Laureano**
- MEDI 101.** Synthesis and evaluation of increased binding affinity analogues of fosmidomycin as inhibitors of the non-mevalonate isoprenoid biosynthesis pathway. **B.C. Figula, J.W. Tomsho, J.M. Gamrat**
- MEDI 102.** Design and synthesis of alpha-helix mimetics for treatment of high-risk human papillomavirus infection. **S. Rendon**
- MEDI 103.** Design of ER beta selective agonists for hippocampal memory enhancements. **K. Perera, W. Donaldson, A. Schultiz, D. Sem, J. Kim, K. Frick**
- MEDI 104.** Rational design, synthesis, and *in vitro* evaluation of mPGEs-1 inhibitors as next-generation of anti-inflammatory drugs. **K. Ding, Z. Zhou, Y. Yuan, F. Zheng, C. Zhan**
- MEDI 105.** Delivery of flavonol-based photoCORMs to mitochondria. **T. Soboleva, H. Esquer, S. Anderson, A. Benninghoff, L.M. Berreau**
- MEDI 106.** Exploring the mechanism of action of a newly-discovered therapeutic peptide for blinding retinal diseases by identifying its receptors. **D. Zhou, Z. Shao, J.A. Kornfield**
- MEDI 107.** Design of new irreversible arginase inhibitors. **X. Guo, C. Seto**
- MEDI 108.** Development of biodegradable microneedles using dexamethasone and Poly Lactic-co-Glycolic Acid (PLGA) for cochlear drug delivery. **C. Bravo**
- MEDI 109.** Alpha-helix mimetics as potential drugs for Human Papillomavirus (HPV). **V. Do**
- MEDI 110.** Discovery of a novel irreversible and potent FLT3 inhibitor FF-10101 under clinical investigation. **M. Takasaki, A. Hirai, D. Terada, M. Okubo, T. Tsujino, K. Sato, S. Tanabe, S. Inuki, S. Mizumoto, N. Fujikawa, D. Hirano, T. Yamaura**
- MEDI 111.** Discovery of CCT251236 from an HSF1 phenotypic screen: A pirin ligand with efficacy in an ovarian adenocarcinoma model. **E. Pasqua, M. Cheeseman, N.E. Chessum, C. Rye, M.J. Tucker, B. Wilding, L.E. Evans, S. Lepri, M. Richards, S.Y. Sharp, S. Ali, M. Rowlands, L. O'Fee, A. Miah, A. Hayes, A.T. Henley, M. Powers, R. Te Poole, E. De Billy, L. Pellegrino, F. Raynaud, R. Burke, R.L. van Montfort, S.A. Eccles, P. Workman, K. Jones**
- MEDI 112.** Bruton's Tyrosine Kinase (BTK) program: Quick systematic SAR development utilizing parallel synthesis. **Y. Yu, R. Anand, D. Sha, H.A. Vaccaro, M. Maletic, R. Mazzola, Z. Shi, M. Alhassan, S.B. Boga, J.L. Duffy, X. Gao, D. Guideen, J. Kelly, A. Krikorian, J. Liu, K. Maloney, O. Selytin, J. Wang, J. Xu, W. Yu, M. Altman, B.M. Andresen, Y. Liu, M. Martinez, T. Siu, S. Liu, C. Yang, H. Wu, J. Cai, Y. Gao, T. Fischmann, J. Presland, M. Mansueto, Z. Xu, E. Leccese, J. Zhang-Hoover, I. Knemeyer, C. Garlisi, N. Bays, P. Stivers, P. Brandish, A. Hicks, R. Kim, J.A. Kozlowski**
- MEDI 113.** Withdrawn.
- MEDI 114.** Leucine's role of dry powder inhaler performance of salbutamol sulphate containing spray dried mannitol. **C. Molina**
- MEDI 115.** Effects of varying H<sub>2</sub>S concentrations on sulfhemoglobin complex formation. **N.E. Crespo Rosado**
- MEDI 116.** Discovery of novel inhibitors of NF- $\kappa$ B Inducing Kinase (NIK) from an FBDD approach. **L. Kwok**
- MEDI 117.** Utilizing the message-address concept to develop selective mu opioid receptor antagonists as potential treatment of opioid addiction. **S. Obeng, A. Jali, D. Stevens, W.L. Dewey, D.E. Selley, Y. Zhang**
- MEDI 118.** Structure-activity relationships of phosphatidylinositol-3-kinase  $\delta$  inhibitors for the treatment of inflammatory respiratory diseases. **A. Garces, C. Schwehm, M.J. Stocks, N. Kindon, S.J. MacDonald, J. Rowedder, T. Bradshaw**
- MEDI 119.** Analysis of the binding parameters of the reversible inhibitor Argyrin B at the active sites of the constitutive and immunoproteasomes. **D. Allardyce, C. Bell, E. Loizidou**
- MEDI 120.** Flavonol-based CO-releasing molecules: Tunability and albumin binding properties. **M. Popova, T. Soboleva, L.M. Berreau**
- MEDI 121.** Identification of ligand-efficient inhibitors of *Trichomonas vaginalis* adenosine/guanosine preferring nucleoside ribohydrolase using NMR-based fragment screening. **S.N. Muellers, A.L. Benzie, D.G. Brown, S. Cowen, D.W. Parkin, B.J. Stockman**
- MEDI 122.** Design, synthesis and employment of Flupirtine-derivative chemical probes for neuroprotective target identification. **N. Kinarivala, F. Saadeh, J. Makoukji, R. Boustany, P.C. Trippier**
- MEDI 123.** Development of imidazopyridines and anti-proliferative effect against castration resistant prostate cancer cells. **I. Wazeeruddin, A. Millena, S. Khan, J. Bu**
- MEDI 124.** Novel chemotype of histone demethylase family KDM4 inhibitors. **M. Siklos, M. Korczynska, T.A. Bates, B. Shoichet, D.G. Fujimori**
- MEDI 125.** Progress towards a novel class of immune modulators: Covalent toll-like receptor-7 agonists. **A.C. Chon, A. Esser-Kahn**
- MEDI 126.** Novel prodrugs of transition state inhibitors of norovirus 3CL protease. **A. Galasiti Kankanamalage, Y. Kim, K. Alliston, A.D. Rathnayake, M. Butler, S. Cardinale, T.L. Bowlin, K. Chang, W. Groutas**
- MEDI 127.** Cyclopropylthiazines as potent BACE1 inhibitors for Alzheimer's disease: Challenging chemistry and *in-vivo* data of this new pre-clinical series. **A. Siegmund, K. Kong, M. Frohn, N. Nishimura, A. Pickrell, M.D. Barberger, D. Hickman, J.R. Allen, S. Wood, M.P. Bourbeau**
- MEDI 128.** Threading the needle: Exploiting a P1-P3 ether linkage in the development of novel BACE inhibitors. **S.P. Walsh, A. Shahripour, E. Kim, W. Li, J.D. Scott, D. Rindgen, L. Hyde, P. Orth, H. Wang, M. Kennedy, J. Cumming**
- MEDI 129.** Novel ROS activated prodrugs as kinase inhibitors: A strategy to improve selectivity. **P.N. Gurjar, S. Abdul Salam, E.J. Merino**
- MEDI 130.** Design and synthesis of selective HDAC6 inhibitors as potential agents against glioblastoma. **S. Fung, A.A. Sadani, K. Wu, J. Chern**
- MEDI 131.** Solid-state structure and absolute configuration of enantiomers of 3-ethyl-3-phenylpyrrolidin-2-one. **A.V. Krivoshein, S.V. Lindeman, V.N. Khrustalev, T.V. Timofeeva**
- MEDI 132.** Chemical correction of cellular dysfunction caused by progranulin deficiency in frontotemporal dementia. **M. Teloukhouvskaia, K. Liu, C. Ludwig, J. Etcheagaray, F. Sayed, Y. Zhou, M.S. Bogoy, S. Ding, L. Gan**
- MEDI 133.** Discovery and structure-activity relationship of thienopyridine derivatives as bone anabolic agent. **T. Shinozuka, K. Saito, A. Nakao, K. Shimada, S. Matsui, N. Daisuke, N. Yoko, N. Satoru**
- MEDI 134.** Molecular modeling studies for a series of benzimidazole derivatives as cruzain inhibitors with anti-*Trypanosoma cruzi* activity. **I. Pauli, L. Ferreira, M.L. de Souza, R. Ferreira, M. Dessoy, B. Slafer, G. Oliva, L.C. Dias, A.D. Andricopulo**
- MEDI 135.** Improving new molecule design using electrostatics. **T. Cheeseright, M.D. Mackey**
- MEDI 136.** Structure-kinetics relationships for LpxC inhibition. **B. Lichtenthal, C. Gu, F. Daryae, R. Basu, M. Babar, P.J. Tonge**
- MEDI 137.** Problem based learning with MOE. **A. Bonin**
- MEDI 138.** Exploiting solvent effects in drug design and optimization. **R. Alvarez, A. Ajamian, C. Williams**

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- MEDI 139.** Synthesis of novel efflux pump inhibitors which target the AcrAB-TolC multidrug efflux system in *Escherichia coli*. **K.M. Haynes**, N. Abdali, J. Parks, J.L. Chaney, A.T. Green, D. Wolloscheck, J.K. Walker, N. Wood, V.V. Rybenkov, J.Y. Baudry, J. Smith, H.I. Zgurskaya
- MEDI 140.** Design of mGlu2 negative allosteric modulators for the treatment of neuropsychiatric disorders. **S. Conde**
- MEDI 141.** Phosphoramidate inactivators of *Mycobacterium tuberculosis* (*Mtb*) *BlaC*. **D.S. White**, C. Choy, C.E. Berkman
- MEDI 142.** Development of covalent caspase-6 inhibitors derived from disulfide trapping (tethering). **K.S. Van Horn**, D. Wang, C. Bryant, D. Medina-Cleghorn, P. Jaishankar, P. Lee, M. Arkin, A.R. Renslo
- MEDI 143.** What do recently approved oral drugs look like? A year-by-year analysis of FDA approved drugs in 2007-2016. **A. Ritzén**, L. David
- MEDI 144.**  $\mu$ Cyclic peptides containing tryptophan and arginine residues: Antibacterial activities and structure-activity relationship. **N. Riahi**, T. Aldakhil, S. Nasser, F. Nunez, K. Zoghebi, S. Mozaffari, J. Yamaki, K. Parang, R.K. Tiwari
- MEDI 145.** Synthesis and evaluation of antimicrobial activity of levofloxacin-[R<sub>1</sub>W<sub>1</sub>] and Q-levofloxacin-[R<sub>1</sub>W<sub>1</sub>] conjugates and comparison with the corresponding physical mixtures. **N. Riahi**, K. Tavakoli, J. Yamaki, R.K. Tiwari, K. Parang
- MEDI 146.** Anti-malarials targeting the heat shock 90 protein of *Plasmodium falciparum*. **N. Everson**, J. Bach, T. Sisley, M. Walls, S.C. Eagon
- MEDI 147.** Synthesis of anti-malarial compounds targeting the ATP4 protein in *Plasmodium falciparum*. **G. Koch**, J. Tryhorn, K. Ahn, B. Belanger, K. Yniguez, **H. Lazaro**, A. Kashtanova, S.C. Eagon
- MEDI 148.** Novel high-affinity dopamine D4 receptor-selective ligands. **C.A. Boateng**, T.M. Keck, B. Free, C. Wu, A. Bonifazi, A.H. Newman, D.R. Sibley
- MEDI 149.** Optimized chemical tools to probe the function of thioredoxin-interacting protein as therapeutic target. **O. Mirquet**, S. Nicolas, M. Aumis, K. Daeron-Courte, F. Perron-Sierra, S. Guizzetti, C. Vinson, A. Callez, C. Chesneau, B. Cremers, M. Sadlo, I. Wehrle, G. Zanirato, P. Delerive, C. Bernard
- MEDI 150.** Structure activity relationship of novel piperazino-enaminones (JOAB series) as pro-inflammatory cytokines suppressants. **A. Bill**, D. Szollosi, J. Dhuguru, I. Edefogho, **O.M. Ghoneim**
- MEDI 151.** Phytochemical evaluation of antimicrobial properties of *Combretum igneiflorum* extracts. **I. Maldonado**, A.K. Addo-Mensah
- MEDI 152.** Next generation small molecule inhibitors of 5'-Methylthioadenosine nucleosidase (MTN) as novel antimicrobial agents. **J.H. Thurston**, K. Cornell, **L. Wayment**
- MEDI 153.** Synthesis and evaluation of choline-derived Deep Eutectic Solvents (DES) as biofilm eradicating antibiotics. **A.W. Jemas**, D. Jacobs
- MEDI 154.** Structure Activity Relationship (SAR) studies of EP2 receptor antagonists. **T. Ganesh**, R. Dingleline
- MEDI 155.** Identification of vacuolar (H<sup>+</sup>)-ATPase modulators by virtual screening process. **R. Patil**, A. Kulshrestha, A. Tikoo, S. Fleetwood, G. Katara, W. Seibel, A. Gilman-Sachs, **S. Patil**, K. Beaman
- MEDI 156.** Identification of a novel chemotype of ASK1 inhibitors for heart failure utilizing structure-based drug design. **A.L. Chambers**
- MEDI 157.** Determination of partition and distribution coefficients using <sup>1</sup>H NMR spectroscopy time domain Complete Reduction to Amplitude-Frequency Table (CRAFT) analysis. **D.P. Soulsby**, J. Chica
- MEDI 158.** Synthesis, cytotoxic evaluation and docking studies of novel 9-anilinothiazolo[5,4-b]quinoline derivatives bearing polar groups at the anilino ring. **A. Lira-Rocha**, V. Tinajero-Delgado, **J. Solano-Becerra**
- MEDI 159.** Identification of R419, an indirect AMPK activator. **S.J. Shaw**, D. Goff, D.C. Carroll, R. Singh, D. Sweeny, G. Park, D. Lau, Y. Jenkins, V. Markovtsov, T. Sun, Y. Li, A. Pan, Y. Hitoshi, K. Baltgalvis, H. Nguyen, T. Kinsella, D. Payan
- MEDI 160.** Effects of propolis on cancer cell membranes and bacterial cell membranes studied with Langmuir monolayers. **B. Book**, A. Sostarecz
- MEDI 161.** Langmuir monolayer investigation in to the antibacterial properties of essential oils. **A. Axup**, A. Sostarecz
- MEDI 162.** Synthesis and antiproliferative activities of doxorubicin thiol conjugates and doxorubicin-S-S-cyclic peptide. **S. Darwish**, N. Sadeghiani, **R. Tiwari**, K. Parang
- MEDI 163.** Radiosynthesis of P2X<sub>2</sub> receptor radioligands [<sup>11</sup>C]GSK1482160 and [<sup>11</sup>C]GSK1482160 isomer under different base conditions. **M. Gao**, M. Wang, Q. Zheng
- MEDI 164.** Fully automated synthesis of [<sup>11</sup>C]Me-GDC-0068 as a PET tracer for imaging of Akt in cancers. **M. Gao**, M. Wang, H. Shannon, B. Bailey, K. Pollok, H. Zarrinmayeh, Q. Zheng
- MEDI 165.** Natural product-inspired agents and their anticancer activity against glioblastoma multiforme cells. **V. Kumar**, S. Banister, H. Hunter Kaufman, J. Vittimberga, S.A. Jacobo, S.S. Gambhir, S.V. Malhotra
- MEDI 166.** CDD vault: A modern approach for drug research project team informatics. **W.W. Smith**, B.A. Bunin, K. Gregory
- MEDI 167.** Novel tetrahydro isoquinoline derivatives as LXR modulators. **A. Chatterjee**, T.P. Burris, K. Griffett, S. Banerjee, Z. Doerer, A. Avdagic, T. Boehm, **J.K. Walker**
- MEDI 168.** From photochemically responsive crystals to anticancer compounds: Discovery of novel anthracene analogs as antineoplastic agents. **I. Islam**, A. Nehdi, R.O. Al-Kaysi, A. Alaskar, M. Boudjelal
- MEDI 169.** Design, synthesis, and biological properties of a fluorescent duocarmycin analog: HxTfA. **K. Kiakos**, P.C. Patil, S. Yanow, J.A. Hartley, **M. Lee**
- MEDI 170.** Evaluated as potential hypocholesterolemic agent, the preparation and characterization of steroidal  $\alpha,\beta$ -unsaturated ketones. **E.J. Parish**, **D. Ren**, Y. Lo, G. Ren, **H. Honda**
- MEDI 171.** Novel approaches to the chemical preparation and characterization of kinsenoside. **D. Ren**, Y. Lo, E.J. Parish, **H. Honda**
- MEDI 172.** New compounds for the treatment of *Mycobacterium abscessus* infections. **K.D. Combrink**, F. Maurer, K. Elizondo, A. Ramirez-Ramos, S. Spring
- MEDI 173.** Anticancer activity of exo-cyclic carbohydrate enones containing thio-phene and pyrrole moieties. **J. Sarnik**, A. Czubatka-Bienkowska, A. Macieja, **Z.J. Witzczak**, R. Bielski, T. Poplawski
- MEDI 174.** Novel carbohydrate functionalized thiosemicarbazides evoked DNA damage in cancer cell lines. **A. Czubatka-Bienkowska**, J. Sarnik, **Z.J. Witzczak**, T. Poplawski
- MEDI 175.** Enhanced chemical diversity through library *in situ* pre-metabolism: Using biological chemistry for novel lead discovery. **N.J. Ayon**, **W.G. Guthell**
- MEDI 176.** Actinomycete antibiotic compounds from soil bacteria at an ancient Roman site. **A. Hoffman**
- MEDI 177.** Inhibitors of the protein-protein interaction of Class IIa HDACs with MEF2 as potential anticancer agents. **C.M. DeAngelo**, K.J. Gaffney, M.A. Sainz, J.A. Jarusiewicz, N. Jayathilaka, L. Chen, S.G. Louie, N.A. Petasis
- MEDI 178.** Development and screening of new cathepsin B and K inhibitors utilizing substituted thiosemicarbazones. **R. McConnell**, H. Sarepalla, P.G. Akula, B. Guada, D. Yermala, N. Kadasala, K. Sayyar, W. Godwin, L. Wen
- MEDI 179.** Novel mPGES-1 inhibitors identified from structure-based virtual screening based on new acting mechanism. **S. Zhou**, Z. Zhou, Y. Yuan, C. Zhan
- MEDI 180.** Nanomolar-potency aminophenyl-1,3,5-triazine CFTR chloride channel activators for pro-secretory therapy of dry eye diseases. **S. Lee**, P. Phuan, C. Felix, M.H. Levin, A. Verkman
- MEDI 181.** Development of novel anti-biofilm compounds for the prevention and treatment of Candidiasis. **M. Valdez**
- MEDI 182.** Anti-bacterial activity of isoxazole rifamycin derivatives against *Mycobacterium abscessus*. **A. Ramirez Ramos**, K.D. Combrink, F. Maurer, S. Schmidt, S. Spring, K.N. Elizondo
- MEDI 183.** Identical HIV populations and levels of proviral expression in lymph nodes and PBMCs in individuals on antiretroviral therapy. **V. Musick**
- MEDI 184.** Synthesis and evaluation of 1, 3, 5 (10) estratriene aminoalkoxy,16-formyl derivatives of Estrone as potential anti-breast cancer agents. **C. Sullen**, J.S. Cooperwood
- MEDI 185.** Modulation of Glioblastoma tumor area is time dependent on the application of G4-OH PAMAM dendrimer. **M. Jeakle**
- MEDI 186.** Polymorphs and solvates of erlotinib and dasatinib. **T. Maddox**, R. Quinones
- MEDI 187.** Computer-aided design of negative allosteric modulators of metabotropic glutamate receptor 5 (mGluR5):CoMFA studies on aryl ether derivatives. **S. Chelliah**, **B. Jordan**, R. Thilagavathi
- MEDI 188.** Chemo-enzymatic approach towards the synthesis of vancomycin and its analogs. **S. Ozturk**
- MEDI 189.** EGCG and Syllibins as treatment for inherited cardiomyopathies: Binding simulations to cardiac troponin. **J. Eiros Zamora**, G. Hoben, A. Sheehan, A. Messer, A. Chaudhry, D. Biedermann, V. Kren, S.B. Marston, I.R. Gould
- MEDI 190.** Derivatives of L-tryptophanhydroxamic acid as potential inhibitors of *Burkholderia pseudomallei* IspF. **C. Muller**
- MEDI 191.** Synthesis and evaluation for biological activity of cyclic guanidine containing natural product analogues. **V. Sammeta**, **S. Rasapalli**
- MEDI 192.** Exploring the chemical biology of secondary metabolites: Scalable synthesis of majusculamide D. **E.J. Caro-Diaz**, W.H. Gerwick
- MEDI 193.** Prostate cancer targeted nanoparticle cocktail for combination therapy. **U. Basu**
- MEDI 194.** Direct thrombin inhibitors with a novel, reversible, covalent mechanism of action. **M. Sivaraja**, S. Sizikov, D. Williams, C. Xu, D. Clemens, S. Dash, K. Lin, M. Reddy, G. Neckermann, S. Yau, E. To, L. Igoudin, S. Chang, S. Keutzer, P. Zalicki, N. Sandoval, J. Zhang, T. Shiau, **K. Short**, M. Estiarte, A. Datta, D. Kita
- MEDI 195.** Cheminformatics analysis of WNK-inhibitor interactions. **M.A. Kuenemann**, D. Fourches
- MEDI 196.** Computational structural-based design and structure and activity study of fluorinated combretastatin analogues. **Y. Zong**
- MEDI 197.** Benzoate derived pH sensitive phosphoramidate-based linkers for controlled release. **B. Backer**, A. Davis, C. Choy, C.E. Berkman
- MEDI 198.** New vacuolar-ATPase inhibitors as antiviral therapies. **A. Lindstrom**, D.P. Petrov, D. LaCount, R. Davey, V.J. Davissou
- MEDI 199.** Design and synthesis of curcumin analogues for cytotoxicity against head & neck cancer. **S. Chelliah**, B. Jordan, B. Kumar, R. Thilagavathi, P. Kumar
- MEDI 200.** Withdrawn.
- MEDI 201.** Interactions of isoniazid with model membranes. **A. Groninger**, B.J. Peters, J.B. Hough, F. Fontes, G. Cardiff, D.C. Crick, D.C. Crans
- MEDI 202.** Synthesis and biological evaluation of novel casein kinase 1d inhibitors for treatment of Alzheimer's disease. **V. Jha**, C. Gettridge, R. Schroeder, M. Bratton, P. Tram, J. Sidhar
- MEDI 203.** Exploring the interactions between the anti-tuberculosis agent, pyrazinamide/pyrazinoic acid, and lipid model membrane systems. **J.B. Hough**, A.S. Groninger, B.J. Peters, F. Fontes, D.C. Crick, D.C. Crans
- MEDI 204.** Aza-peptide aldehydes and ketones: A new class of proteasome inhibitors. **T. Corrigan**, K. Kasper, R. McCauslin, R.J. Yoder, C.M. Hadad, Ö. Doğan Ekici
- MEDI 205.** Synthesis of oligothiophene tris(2,2'-bipyridyl)-type ruthenium (II) conjugate as electrochromic luescence-luminophore. **L. Lantz**, N. Nilsson
- MEDI 206.** Molecular dynamic simulation and pharmacophore model of parasitic cysteine proteases. **D. Gomes Vital Fujii**, G.M. Monteiro Ferreira, J. da Fonseca Rezende e Mello, G.H. Trossini

- MEDI 207.** Comparison of the efficacy of ester substituents in their specificity and effectiveness for reducing cell growth in certain cancer cell lines. **R. Nguyen**, A. Jelowicki, M. Young, C. Bunye, K. Soriano, E. Guglielmo, E. Lavassani, A. Nguyen, N. Patel, P. De Lijser
- MEDI 208.** Synthesis of KS15 derivatives as CRY-mediated circadian clock modulators. **Y. Choi**, Y. Son, S. Chung, G. Son, K. Kim, Y. Suh, J. Jung
- MEDI 209.** Synthesis and evaluation of xanthurenic acid analogs for impeding transmission of *Plasmodium falciparum* from host to vector. **A. Kanwar**, J. Leahy, D. Kyle, T. MCGaha
- MEDI 210.** Withdrawn.
- MEDI 211.** Magnetite nanoparticles effect on *Escherichia coli* growth. **M.A. Gratacos**, E. Acevedo
- MEDI 212.** Withdrawn.
- MEDI 213.** Developing dual colorimetric and fluorogenic probes for visualizing tyrosine phosphatase activity and high throughput screening. **S. Biswas**, B. S. McCullough, E. S. Ma, D. LaJoie, C. W. Russell, G. Brown, J. L. Round, K. S. Ullman, M. A. Mulvey, A.M. Barrios
- MEDI 214.** Photoswitchable dualsteric M1 ligand. **L. Agnetta**, M. Kauk, M. Canizal, R. Messerer, U. Holzgrabe, C. Hoffmann, M. Decker
- MEDI 215.** Synthesis of chemical probes for serine/threonine protein phosphatase 5C based on a natural product template. **M. Tuttle**, L. Yet, R. Honkanen, M. Swingle
- MEDI 216.** Development and synthesis of  $\beta$ -lactam prodrugs for tuberculosis. **M. Cole**, J. Buonomo, C.C. Aldrich
- MEDI 217.** Synthesis and biological evaluation of a novel series of GPER antagonists for the treatment of gallstone formation. **C. DeLeon**, C.K. Arnatt, D. Wang, M. Wilhelm, P. Sweeney
- MEDI 218.** Design, synthesis and SAR study of truxillic acid-based fatty acid binding protein inhibitors as anti-nociceptive and anti-inflammatory drugs. **S. Yan**, K. Hu, S. Tong, M. Awwa, Q. Gan, M. Elmes, J. Sweeney, H. Hsu, M. Kaczoga, H. Li, R.C. Rizzo, D. Deutsch, I. Ojima
- MEDI 219.** SB-T-1214 and biotin functionalized gold nanoparticles. **X. Wang**, I. Ojima
- MEDI 220.** Discovery of a novel series of potent and selective Phosphatidylinositol-3-Kinase delta (PI3K $\delta$ ) inhibitors for the treatment of inflammatory and autoimmune diseases. **N. Aguilar**, J. Fernandez, B. Hernandez, M. Carrascal, P. Niño, A. Lopez, L. Vazquez, E. Lozoya, M. Maldonado
- MEDI 221.** Development of cancer stem cell depleting ALDH1A selective inhibitors as potential therapeutics for ovarian cancer. **B. Huddle**, C. Buchman, K. Yang, M. Chtcherbinine, I. Chefetz-Menaker, C. Morgan, R. Buckanovich, T. Hurley, S. Larsen
- MEDI 222.** Photoaffinity probes for protein N-terminal methyltransferases. **B. Mackie**, R. Huang
- MEDI 223.** Novel selenorhodamine dyes as photosensitizers in varying applications. **J. Hill**, M.W. Kryman, G.A. Schamerhorn, M.R. Detty, Z.A. McIver
- MEDI 224.** Design, synthesis and preclinical study of novel taxoid-based Small Molecule Drug Conjugates (SMDCs) using folate/Dimethyltetrahydrofolate (DMTHF) as tumor targeting module. **C. Wang**, Y. Wang, M. Tortorella, I. Ojima
- MEDI 225.** Structure-based discovery of novel small molecule Wnt/ $\beta$ -catenin signaling inhibitors. **S. Guzman**, A. Nguyen, P. De Lijser, N. Patel
- MEDI 226.** Identification and lead optimization of pyrazole carboxamides with antiviral activity. **K. Paulvannan**
- MEDI 227.** Inhibition of arginase from *Leishmania mexicana* by benzimidazole derivatives. **I. Betancourt**, A. Chaidez-Avila, A.G. Vazquez-Raygoza, C.I. Avitia-Dominguez, A. Romo-Mancillas, A. Hernandez Campos, A. Téllez-Valencia
- MEDI 228.** Design and development of a novel class of structurally-enhanced allosteric modulators of hemoglobin for sickle cell disease treatment. **P. Pagare**, O. Abdulmalik, M.K. Safo, Y. Zhang
- MEDI 229.** Generation of novel leads for  $\gamma$ -secretase modulation. **M. Mandal**
- MEDI 230.** Synthesis of benzimidazole derivatives for uridine nucleoside ribohydrolase targeting. **A.S. Leonardo**, M.A. Vanalstine-Parris
- MEDI 231.** Synthesis and biological evaluation of the first triple inhibitors of human topoisomerase 1, tyrosyl-DNA phosphodiesterase 1 (Tdp1), and tyrosyl-DNA phosphodiesterase 2 (Tdp2). **P. Wang**, **M.S. Elsayed**, C. Plescia, E. Kiselev, C. Marchand, O. Zelezniak, K. Agama, Y. Pommier, M. Cushman
- MEDI 232.** Transcarbamoylation of sulfonyl carbamates to generate new Angiotensin II Type 2 Receptor (AT2R) ligands. **J. Wannberg**, **R. Isaksson**, M. Hallberg, M. Larhed
- MEDI 233.** Development of new novel therapeutics for refractive breast cancer. **K. Crosby**, **K. Johnson**
- MEDI 234.** Design, synthesis and pharmacological evaluation of 1,3,6-tri-substituted-4-oxo-1,4-dihydroquinoline-2-carboxylic acid derivatives as selective ET<sub>A</sub> antagonists. **N.S. Khadtare**, R. Stephani, V.L. Korlpara
- MEDI 235.** Withdrawn.
- MEDI 236.** Structure-based design of small-molecular inhibitors targeting the Menin-MLL protein-protein interaction. **S. Xu**, T. Xu, K. Zheng, A. Aguilar, L. Huang, D. Bernard, D. McEachern, S. Przybranowski, J. Stuckey, S. Wang
- MEDI 237.** Novel piperidone derivatives: Potent antifibrotic agents. **Z. Ma**, C. Yu, Q. Chen, W. Huang, Z. Wang, C. Zhang, Z. Shen
- MEDI 238.** Synthesis and biological activity of novel TU-100 derivatives. **O.J. Alao**, R.J. Sheaff, J.C. Dicesare
- MEDI 239.** New  $\alpha$ -helix mimetics targeting the E6 protein in the human papillomavirus. **E. Armenta**, A. Orchard
- MEDI 240.** Finding hits for designing new antidiabetic drugs. Inhibition of protein tyrosine phosphatase 1B. **M.J. Sarabia-Sánchez**, P.J. Trejo, E. Sierra, M. Valdez-Solana, A. Hernandez Campos, C.I. Avitia-Dominguez, **A. Téllez-Valencia**
- MEDI 241.** Identification of small molecular activators on the unfolded protein response in leukemia cells. **N. Mahmoud**, D. Garshott, Y. Xi, A. Brownell, M. Callaghan, A. Fribley
- MEDI 242.** Constrained peptides that inhibit HIV-1 fusion. **O. Bolarinwa**, J. Cai
- MEDI 243.** Design and optimization of small molecule inhibitors blocking the menin-MLL interaction. **T. Xu**, S. Xu, K. Zheng, A. Aguilar, L. Huang, K. Chinnaswamy, D. Bernard, D. McEachern, S. Przybranowski, J. Stuckey, S. Wang
- MEDI 244.** Discovery of LLM4 as potent and specific IL-6/gp130 protein-protein interaction inhibitor for potential cancer therapy. **L. Mao**, G. Shi, C. Li
- MEDI 245.** ML418: The first selective, sub-micromolar pore blocker of K<sub>v</sub>7.1 potassium channels. **H. Kurata**, D.R. Swale, S.V. Kharade, J. Sheehan, R. Raphemot, K.R. Voigtritter, E.E. Figueroa, J. Meiler, A.L. Blobaum, C.W. Lindsley, J.S. Denton, C.R. Hopkins
- MEDI 246.** Effect of magnetite chitosan/alginate beads infused with the antibiotic oxytetracycline hydrochloride on *E. coli* growth rates. **R.M. Zamora**, A. Chardon, F. Alvarez, A. Zapata, V. Fernandez-Alos, F. Roman, O. Perales
- MEDI 247.** Design and solid-phase synthesis of Muramyl dipeptide (MDP) surrogates as NOD2 signaling activating agents. **I. Kekessie**, T. Goncharov, J. Tom, D. Vuic, A. Song
- MEDI 248.** Discovery of preclinical candidate SCH 900577: A prodrug of hydantoin based TACE inhibitor. **L. Tong**, S. Kim, L. Chen, A. Kosinski, B. Shankar, V. Girijavallabhan, D. Yang, W. Yu, G. Zhou, N. Shih, K. Rosner, D. Li, C. Dai, J. Popovici-Muller, L. Yang, A. Siddiqui, Z. Guo, P. Orth, S. Chen, M. Hu, D. Lundell, X. Niu, S. Umland, J.A. Kozlowski
- MEDI 249.** Probing conformational preference: (S)- and (N)-methanocarba 7-deazaadenosine analogues as inhibitors of human adenosine kinase. **K.S. Toti**, D. Osborne, A. Ciancetta, D. Boison, K.A. Jacobson
- MEDI 250.** Synthesis and NMDA receptor activity of various ketamine metabolites. **P.J. Morris**, P. Zanos, R. Moaddell, C.A. Zarate, T. Gould, C.J. Thomas
- MEDI 251.** Discovery of potent glucagon receptor antagonists for the treatment of type 2 diabetes. **G. Xu**, M.D. Gaul, F. Song, B. Zhao, Y. Liang, F. Du, K. Diloreto, N. Huebert, B.C. Shook, D. Rentzperis, R. Santulli, A. Eckardt, C. Smith, K. Demarest
- MEDI 252.** Synthesis and two- and three-dimensional *in vitro* studies of hyaluronic acid porphyrin conjugates. **N. Bhupathiraju**, C. Farley, N. Berisha, B. Begum, C.M. Drain
- MEDI 253.** Preformulation analysis and stability of hydrophobic small molecular echinomycin for injection formulation. **J.H. Lee**, M. Tran, P. Yuan, G.K. Potti
- MEDI 254.** Withdrawn.
- MEDI 255.** Design, synthesis and biological evaluation of specific ARK5 inhibitor. **M. Reddy**, S. Athuluri-Divakar, B. Akula, M.R. Mallireddigari, S.C. Cosenza, V. Dandu, V. Bharathi, V. Pallela, P. Reddy
- MEDI 256.** Discovery of novel class Ila-selective histone deacetylase inhibitors using an *in silico* virtual screening approach. **H. Tseng**, C. Liu, C. Chen, K. Hsu, W. Huang
- MEDI 257.** Hybridization approach to selective RIPK2 inhibitors by targeting inactive kinase conformations. **C. Suebsuwong**, A. Degterev, G. Cuny
- MEDI 258.** Design and synthesis of tricyclic and tetracyclic fused coumarin sulfonate derivatives, and their inhibitory effects on LPS-induced nitric oxide and PGE<sub>2</sub> productions in RAW 264.7 macrophages. **M.I. El-Gamal**, C. Oh, K. Lee, D. Baek
- MEDI 259.** Novel benzamides as capsid assembly modulators for the hepatitis B virus. **N. Hwang**, M. Campagna, K. McGuire, S. Wu, J. Guo, Y. Du
- MEDI 260.** Computational design, synthesis and characterization of novel mPGES-1 inhibitors. **Z. Zhou**, K. Ding, S. Zhou, Y. Yuan, F. Zheng, C. Zhan
- MEDI 261.** Evaluation of 2-amino-pyrimidine derivatives as antimicrobial agents and IspF inhibitors. **S. Watkins**, D. Ghose, C.A. Muller, Z. Zhang, J.M. Blain, Z. Lazowski, S.T. McDonald, T. Riggins-Walker, J.R. Horn, R. Meganathan, H. Hofstetter, T.J. Hagen
- MEDI 262.** Design and synthesis of 1-(2-(2,4-difluorophenyl)-2-hydroxy-3-(1H-1,2,4-triazol-1-yl)propyl)-2-(1-((methyl(3-((methylcarbamoyloxy)methyl)pyridin-2-yl)carbamoyloxy)ethyl)-1H-1,2,4-triazol-2-ium. **L. Peyton**, M. Hashemzadeh, S. Gallagher
- MEDI 263.** Fragment-based lead discovery of a novel Map4k4 inhibitor. **L. Wang**
- MEDI 264.** SDAP substrate analog enantioselective synthesis and ninhydrin-based enzyme assay for the dapE-encoded bacterial enzyme diaminopimelate desuccinylase (DapE). **T. Heath**, M. Lutz, C. Reidl, B. Nöcek, M. Ballicora, R.C. Holz, K. Olsen, D.P. Becker
- MEDI 265.** Discovery of a new class of highly potent small-molecule degraders of BET bromodomain proteins. **F. Xu**, J. Hu, B. Zhou, Z. Chen, M. Lin, L. Bai, C.Y. Yang, D. McEachern, S. Przybranowski, E. Fernandez-Salas, B. Wen, D. Sun, S. Wang
- MEDI 266.** Glyoxylate shunt as an antibacterial drug target. **S. Bartlett**, A. McVey, A. Crousilles, M. Welch, D.R. Spring
- MEDI 267.** Synthesis of monomers with enzymes and chemical reagents for preparing polyester. **K. Kim**, C. Song, K. Jeong, C.S. Cheong
- MEDI 268.** Exploit ionic liquids to significantly improve asymmetric reduction of 3,5-bis(trifluoromethyl)acetophenone catalyzed by *T. asperillum* ZJPH0810 cells. **J. Li**, W. Du
- MEDI 269.** Microwave-promoted/assisted method for rapid preparation of biaryl seven-membered lactones. **W. Du**
- MEDI 270.** Potent but potentially non-cardiotoxic anthracycline anti-cancer analogs. **J.A. Holdaway**, A.L. Pettay, P.L. Barnes, P. Moon, K. Cornell, D.L. Warner
- MEDI 271.** Targeting the colchicine binding site in tubulin for cancer treatment: Structural optimization of ABI-231 leads to improved potency and microsomal stability. **Q. Wang**, K. Arnst, D.D. Miller, W. Li

**MEDI 272.** Novel, highly selective direct thrombin inhibitors: *In vivo* studies demonstrate efficacy with lower bleeding risk. C. Xu, D. Clemens, S. Dash, K. Lin, M. Reddy, G. Neckermann, S. Yau, E. To, L. Igoudin, S. Chang, S. Keutzer, P. Zalicki, N. Sandoval, S. Sizikov, D. Williams, M. Sivaraja, J. Zhang, T. Shiau, K. Short, M. Estiarte, A. Datta, D. Kita

**MEDI 273.** Synthesis of a known binder of the GRB2 SH2 domain from naphthaldehyde. A. Bowlsby, C. Arpin

**MEDI 274.** Novel synthetic strategies to disarm the myeloid cell leukemia-1 oncoprotein. S.J. Hughes, B. Drennen, M.E. Lanning, S. Fletcher

**MEDI 275.** Improving the *in vitro* and *in vivo* performance of a <sup>177</sup>Lu-labeled phosphoramidate-based PSMA inhibitor with an albumin-binding motif. C.J. Choy, X. Ling, J.J. Geruntho, S. Beyers, J. Latoche, B. Langton-Webster, C.J. Anderson, C.E. Berkman

**MEDI 276.** Synthesis and evaluation of phenyl tetrazole derivatives with amide or urea linkers as BCRP/ABC2 inhibitors. N. Gujrati, L. Zeng, Z. Chen, V.L. Korlipara

**MEDI 277.** Two-faced synthetic  $\alpha$ -helix mimetics based on heterocyclic cores as dual BCL-2/MDM2 inhibitors. I.L. Conlon, B. Drennen, M.E. Lanning, L. Chen, S.J. Hughes, P.T. Wilder, S. Fletcher

**MEDI 278.** Kröhnke pyridine synthesis permits facile access to novel Mcl-1 inhibitors. I.L. Conlon, D. Van Eker, J. Chauhan, P.T. Wilder, S. Fletcher

**MEDI 279.** Dual stimuli-activatable oxidative stress amplifying hybrid anticancer drugs. J. Noh, D. Yoo, E. Jung, D. Lee, J. Lee

**MEDI 280.** Covalent-docking based protocol for the rational design of covalent inhibitors. X. Wan

**MEDI 281.** Study of the chemical composition, cytotoxic and antitumor activities of *Croton discolor*. A.D. Ramos Vicente

**MEDI 282.** *Trypanosoma cruzi* sirtuin-2 construction by modeling threading and molecular dynamics. G.M. Monteiro Ferreira, G.H. Trossini, F.D. Emery, V.G. Maltarollo

**MEDI 283.** DFGmodel: Modeling protein kinases in inactive conformations and its applications in drug discovery. P. Ung, A. Schlessinger

**MEDI 284.** Virtual screening for potential inhibitors of neuraminidase for influenza treatment. E.C. Gomez-Suarez

**MEDI 285.** Anthranilic acid derivatives as potential multi-target drugs for metabolic syndrome treatment. A. Bravo, H. González Álvarez, M. Loza-Mejía

**MEDI 286.** Design and synthesis of N-substituted acridone derivatives as potential antibacterial and antiviral agents. L.J. Jimenez Sanchez, D. Juan-Guadarrama, M. Loza-Mejía

**MEDI 287.** Developing a chimeric heterobivalent platform as a selective imaging probe for MMP-14. M. Pun, R. Rios, C.E. Berkman

**MEDI 288.** Structural characterization, homology modelling and virtual screening studies in shikimate kinase from methicillin resistant *Staphylococcus aureus*. A. Favela, A. Téllez-Valencia, H. Nájera, J. Cisneros, M. Gómez-Palacio, A. Hernandez Campos, C.I. Avitia-Domínguez

**MEDI 289.** Selective inactivation of triosephosphate isomerase from *Trypanosoma brucei*. A.G. Vazquez-Raygoza, I. Betancourt, R. Castillo-Bocanegra, C.I. Avitia-Domínguez, E. Sierra, M. Valdez-Solana, A. Téllez-Valencia

**MEDI 290.** Design, synthesis, and biological evaluation of novel C3-sustituted  $\beta$ -carboline-based HDAC inhibitors with potent antitumor activities. Y. Ling, J. Feng, J. Miao, J. Guo, Y. Peng, Y. Zhang

**MEDI 291.** Design and development of reversible inhibitors of lysine specific demethylase 1. D.P. Mould, A. McGonagle, M. Geitmann, U. Bremberg, A.M. Jordan, D. Ogilvie

**MEDI 292.** Withdrawn.

**MEDI 293.** Development of allosteric hydrazide-containing class I histone deacetylase inhibitors for use in acute myeloid leukemia. J.J. McClure, C. Zhang, E.B. Inks, Y.K. Peterson, J. Li, C. Chou

**MEDI 294.** Withdrawn.

**MEDI 295.** Translational feasibility of novel methionyl-tRNA synthetase inhibitors. M. Bassiri

**MEDI 296.** Identification and development of small molecule inhibitors of the aggregation of amyloid  $\beta$ . S. Collins, F. Gielen, L. van Vliet, G. Kaminski, F. Hoffelder, D.R. Spring

**MEDI 297.** Drug-target residence time affects *in vivo* drug efficacy through multiple pathways. K.S. Lee, J. Yang, K. Wagner, C.J. Ng, J. Niu, A. Dickson, B.D. Hammock

**MEDI 298.** Cytotoxicity study of  $\alpha$ -hydroxy- $\beta$ -dicarbonyl bearing synthetic metabolites of poecilosclerid sponge. S.V. Malhotra, M.P. Doyle, P. Truong, D. Sharma, A. Nagalingam, W.C. Reinhold, J.R. Alley, Y. Yu

**MEDI 299.** Second-generation fluorescent ligands for nicotinic acetylcholine receptors. R.W. Fitch

## MONDAY MORNING

### Section A

Moscone Center  
3002/3004

#### Actually it does Work: Success with Allosteric Kinase Ligands & Phosphatase Modulators

L. Lombardo, D. S. Weinstein, *Organizers*

R. Moslin, J. B. Schwarz, *Organizers, Presiding*

**9:00 MEDI 300.** Discovery of ARQ 092: A potent, selective allosteric inhibitor of AKT1, 2, 3 and AKT1-E17K in clinical development for cancer and rare diseases. J. Lapierre, S. Eathiraj, Y. Yu, R.E. Savage, G. Abbadessa, B. Schwartz

**9:30 MEDI 301.** Allosteric inhibitors of Interleukin-2-inducible T cell kinase that selectively target its inactive conformation. A.E. Aulabaugh

**10:00 MEDI 302.** BCR-ABL allosteric inhibitors targeting the myristoyl pocket: Optimization and pharmacological evaluation of substituted N-(4-(trihalomethoxy)phenyl)nicotinamide derivatives towards ABL001. J. Schoepfer

**10:30** Intermission.

**10:40 MEDI 303.** Identifying allostery in signaling enzymes. W. Peti

**11:10 MEDI 304.** Selective inhibition of a phosphatase to treat neurodegenerative diseases. A. Bertolotti

**11:40 MEDI 305.** Allosteric inhibition of SHP2 phosphatase. J. Garcia Fortanet, C. Chen, Y. Chen, Z. Chen, Z. Deng, B. Firestone, P. Fekkes, M. Fodor, P. Fortin, C. Fridrich, D. Grunenfelder, S. Ho, Z. Kang, R. Karki, M. Kato, N. Keen, L. Labonte, J. Larrow, F. Lenoir, G. Liu, S. Liu, F. Lombardo, D. Majumdar, M. Meyer, M.G. Palermo, L. Perez, M. Pu, T. Ramsey, W. Sellers, M.D. Shultz, T. Stams, C. Towler, P. Wang, S. Williams, J. Zhang, M.J. LaMarche

### Section B

Moscone Center  
3006/3008

#### Residence Time: Not Just Affinity for Drug Design

B. Blagg, *Organizer*

P. J. Tonge, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 MEDI 306.** Drug-target residence time model: A 10-year retrospective. R. Copeland

**9:10 MEDI 307.** Protein dynamics and allostery in kinase activation. N. Ahn

**9:45 MEDI 308.** Drug target residence time in the early drug discovery phase: HSP90, a model to gain insight into the molecular mechanism of kinetics. M. Frech

**10:20 MEDI 309.** Determination of *in vivo* enzyme occupancy utilizing inhibitor dissociation kinetics. M. Lai, D. Murphy, Y. Ou, D. Euler, K. Wessner, S. Adamski, B. Luo, G. Wesolowski, R. Vogel, H. Glantschnig, L. Lubbers, S. Carroll

**10:55 MEDI 310.** Linking target engagement and *in vivo* drug activity: Insights into target vulnerability. P.J. Tonge, F. Daryaei, Z. Zhang, K. Gogarty, S.L. Fisher

**11:30** Concluding Remarks.

#### Advances in High-Throughput Screening

Sponsored by CINF, Cosponsored by COMP and MEDI

#### Science for a Sustainable Energy Future Energy Storage

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG, ORGN and PROF

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

Sponsored by PROF, Cosponsored by ANYL, BIOL, CHED, CMA, COLL, COMP, CWD, ENVR, INOR, MEDI, MPPG, ORGN, PHYS, PMSE, POLY, PRES and WCC

## MONDAY AFTERNOON

### Section A

Moscone Center  
3002/3004

#### Kinase Inhibitors for Immuno-Inflammatory Diseases

J. Ramanjulu, *Organizer, Presiding*

L. Krim Gavrin, *Presiding*

**2:00 MEDI 311.** Discovery of GDC-0853: A potent & selective BTK inhibitor for the treatment of lupus & rheumatoid arthritis. W.B. Young

**2:30 MEDI 312.** Development of the selective, allosteric RIPK1 kinase inhibitors. M. Najjar, C. Suebsuwong, S. Ray, G. Cuny, A. Degterev

**3:00 MEDI 313.** Identification of a first-in-class RIP1 kinase inhibitor in phase 2a clinical trials for immuno-inflammatory diseases. P.A. Harris

**3:30 MEDI 314.** Targeting NF- $\kappa$ B pathways in toll-like receptor and antigen receptor signaling. H. Wu

**4:00 MEDI 315.** Approaches to TYK2 pseudokinase: A unique mode of allosteric kinase inhibition. R. Moslin, S. Wroblewski, Y. Zhang, S. Lin, D. Gardner, J.B. Santella, J.V. Duncia, C. Liu, J. Lin, S. Spergel, M. Mertzman, J.S. Tokarski, H. Sun, M. Chiney, P.A. Elzinga, N. Aranibar, A. Chimalakonda, J. Strnad, A. Zupa-Fernandez, L. Cheng, K. Gillooly, K. McIntyre, P.H. Carter, L. Lombardo, J. Burke, J.E. Macor, D.S. Weinstein

**4:30 MEDI 316.** Design of JAK3 covalent inhibitors for the interrogation of JAK3 signaling in humans. A. Casimiro-Garcia, A. Thorarensen, J. Tellez, P. Balbo, M.E. Banker, M.F. Brown, Y. Che, J. Chrencik, J.W. Coe, R. Czerwinski, M.E. Dowty, A.M. Gilbert, M.M. Hayward, M. Hegen, B. Juba, J. Jussif, J. Langille, L. Leung, S. Liang, T. Lin, J.I. Montgomery, S. Soucy, J. Trujillo, R. Unwalla, F.F. Vajdos, F. Vincent, X. Yang

### Section B

Moscone Center  
3006/3008

#### Misfolded Proteins in Neurodegenerative Diseases

A. M. Walji, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 MEDI 317.** Targeting intrinsically disordered proteins: Taming alpha-synuclein with small molecules. J. Tao, A. Berthet, D. Agard, L. McConlogue

**2:10 MEDI 318.** Current status of the development of PET radiotracers for imaging alpha synuclein aggregates in Lewy bodies and Lewy neurites. R.H. Mach

**2:45 MEDI 319.** HDAC6 inhibitors, autophagy, mitochondrial movement, and disease modification. A.P. Kozikowski

**3:20** Intermission.

**3:35 MEDI 320.** Imaging mutant huntingtin aggregates: Development of potential PET ligand. C. Dominguez

**4:10 MEDI 321.** Small molecule modulators of ER stress for the treatment of neurodegenerative diseases. N.D. Cosford, H. Zou, A. Limpert, J. Zou, A. Dembo, D. Grant, R. Ardecky, A. Pinkerton, G. Magnuson, M. Goldman, J. Rong, D. Sheffler, J. Reed



4:45 **MEDI 322.** Discovery of the P7C3 class of neuroprotective compounds. J. Ready  
5:20 Concluding Remarks.

### Science for a Sustainable Energy Future

#### Chemical & Biological Conversions Approaches to Energy Conversion

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF

#### Advances in High-Throughput Screening

Sponsored by CINF, Cosponsored by COMP and MEDI

#### Eminent Scientist Lecture with Dr. Carolyn Bertozzi

Sponsored by SOCED, Cosponsored by MEDI

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC

#### Undergraduate Research Posters

##### Medicinal Chemistry

Sponsored by CHED, Cosponsored by MEDI and SOCED

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

A. W. Stamford, *Organizer*

8:00 - 10:00

111-112, 117, 136, 148, 154, 177, 182, 216, 234, 242, 245, 258, 266, 277, 290.  
See previous listings.

452, 457, 462, 473. See subsequent listings.

## TUESDAY MORNING

### Section A

Moscone Center  
3002/3004

#### MEDI Awards Symposium

A. W. Stamford, *Organizer*

W. B. Young, *Presiding*

9:00 **MEDI 323.** Withdrawn.

9:45 **MEDI 324. Award Address**  
(E. B. Hershberg Award for Important Discoveries in Medicinally Active Substances sponsored by Merck Research Laboratories). Present and future of antisense technology. S. Crooke

10:30 **MEDI 325. Award Address**  
(ACS Award for Creative Invention sponsored by ACS Corporation Associates). CPP-115: A novel GABA aminotransferase inactivator and potential new treatment for epilepsy, addiction, and hepatocellular carcinoma. R.B. Silverman

11:15 **MEDI 326.** Bristol-Myers Squibb Smismman award lecture: Receptor structures enable drug discovery. K.A. Jacobson

### Section B

Moscone Center  
3006/3008

#### Antibiotic Drug Discovery: The Next Frontier

E. D. Brown, C. L. Freel Meyers, *Organizers*,  
*Presiding*

8:30 **MEDI 327.** Targeting bacterial bioenergetics and central metabolism: Challenges and opportunities. K. Pethe

9:10 **MEDI 328.** Targeting bacterial nutrient biosynthesis with natural products. E.D. Brown

9:50 **MEDI 329.** Antibacterial agents that target adenylating enzymes in *Mycobacterium tuberculosis*. C.C. Aldrich

10:30 **MEDI 330.** Targeting a branch point in bacterial metabolism through inhibition of DXP synthase. C.L. Freel Meyers

11:10 **MEDI 331.** Co-therapy strategy to enhance target vulnerability in *Mycobacterium tuberculosis*. N.S. Sampson

11:50 **MEDI 332.** Discovery of ETX2514, a novel, rationally designed inhibitor of class A, C and D  $\beta$ -lactamases, for the treatment of Gram-negative infections. T.F. Durand-Reville

#### ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in honor of Yvonne C. Martin

Sponsored by COMP, Cosponsored by BIOL, MEDI and WCC

#### Green Chemistry Adoption: Progressive Changes by Different Industry Sectors

Sponsored by ENVR, Cosponsored by CEI, MEDI, ORGN and SCHB<sup>2</sup>

## TUESDAY AFTERNOON

### Section A

Moscone Center  
3002/3004

#### Drug Discovery for ALS: Putting the Ice Bucket to Work

L. Bruijn, G. M. Dubowchik, *Organizers*,  
*Presiding*

2:00 **MEDI 333.** Challenges and opportunities for drug discovery in ALS. L.I. Bruijn

2:40 **MEDI 334.** Identification and preclinical pharmacology of antisense oligonucleotides targeted to human SOD1 for the treatment of ALS. E.E. Swayze

3:20 **MEDI 335.** Design and study of small molecules targeting r(G4C2) repeats in ALS and FTD. M.D. Disney

4:00 Intermission.

4:15 **MEDI 336.** Dual leucine zipper kinase inhibitors for the treatment of neurodegenerative diseases. M. Siu

4:55 **MEDI 337.** Development of small-molecule autophagy inducers that mitigate neurodegeneration in models of ALS and other disorders. S. Finkbeiner

### Section B

Moscone Center  
3006/3008

#### General Orals

A. W. Stamford, *Organizer*

A. Ali, *Presiding*

1:30 **MEDI 338.**  $\gamma$ -Functionalized hydrocarbon stapled peptides for inhibiting mutant estrogen receptor/coactivator interaction. T. Speltz, C.G. Mayne, S. Fanning, E. Tajkhorshid, G. Greene, T.W. Moore

1:55 **MEDI 339.** Discovery of BMS-986104: Moving from direct-acting, full agonists to pro-drug, partial agonists in the identification of a differentiated S1P1 modulator with an improved safety profile. A.J. Dyckman, M. Dhar, D. Marcoux, H. Xiao, Z. Xiao, J.L. Gilmore, L. Li, A. Mathur, J. Xie, X. Yang, T.L. Taylor, R. Thomas, K. McIntyre, L. Lehman-McKeehan, H. Shi, P. Levesque, P. Balimane, H. Sun, A.M. Marino, Z. Yang, D. Shen, M. Cvijic, B.M. Warrack, G. Cornelius, C.J. D'Arienzo, L. Salter-Cid, J.C. Barrish, P.H. Carter

2:20 **MEDI 340.** Phenotypic screening identifies a small molecule anti-secretagogue of PCSK9 that acts via a novel mechanism of action. D. Petersen, J. Hawkins, W. Ruangsiriluk, K. Stevens, B. Maguire, T.N. O'Connell, B.N. Rocke, M. Boehm, R.B. Ruggeri, T. Rolph, D. Hepworth, P. Loria, P.A. Carpio

2:45 **MEDI 341.** Discovery of chemical biology probes inhibiting activation of SGK3 kinase in cancer cells. M. Lindvall, G.A. Nishiguchi, C. Bellamacina, W. Shu, L. Tian, E.J. Martin, S. Ma, E. Fang, T. Zavorotinskaya, E. Park, D. Duhl, A.C. Rico, V. Tamez, L. Doyle, M. Doyle

3:10 **MEDI 342.** Unveiling the truth about PAK1 with medicinal chemistry. J. Rudolph, L.J. Murray, C.O. Ndubaku, T. O'Brien, E. Blackwood, W. Wang, I. Aliagas, L.J. Gazzard, J.J. Crawford, J. Drobnick, W. Lee, X. Zhao, D. Favor, P. Dong, H. Zhang, C.E. Heise, A. Oh, C. Ong, H. La, P. Chakravarty, C. Chan, D. Jakubiak, J. Epler, S. Ramaswamy, R. Vega, G. Cain, D. Diaz, Y. Zhong

3:35 **MEDI 343.** Discovery of the potent and selective, broad spectrum fungal CYP51 inhibitor VT-1598. C.M. Yates, E.P. Garvey, R.J. Schotzinger, S.R. Shaver, W.J. Hoekstra

4:00 **MEDI 344.** Discovery of the brain penetrant Phosphodiesterase 1 (PDE1) inhibitor Lu AF64386. J. Kehler, A.I. Parachikova, H. Lindgren, L.K. Rasmussen, M. Langgard, C.T. Christoffersen, C. Bundgaard, K. Juhl, L. Skibsbye, J. Agner, J. Nielsen

4:25 **MEDI 345.** Impact of P-gp susceptibility on brain penetration for a series of potent, selective, and orally bioavailable TrkA inhibitors. M.E. Fraley

4:50 **MEDI 346.** Discovery of ruz-asvir (MK-8408), a 2<sup>nd</sup> generation HCV NS5A inhibitor. W. Yu, L. Tong, L. Chen, O. Selytin, M.P. Dwyer, A.G. Nair, R. Mazzola, J. Kim, D. Sha, J. Yin, R. Ruck, I.W. Davies, B. Hu, B. Zhong, J. Hao, T. Ji, S. Zan, R. Liu, S. Agrawal, E. Xia, S. Curry, P. Mcomonagle, K. Bystol, F. Lahser, D. Carr, L. Rokosz, P. Ingravallo, S. Chen, K. Feng, M. Cartwright, E. Asante-Appiah, J.A. Koziowski

#### Entrepreneurship in Biotechnology, Advanced Materials, Drug Discovery & Information Systems

Sponsored by SCHB, Cosponsored by MEDI and PROF

#### ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in honor of Yvonne C. Martin

Sponsored by COMP, Cosponsored by BIOL, MEDI and WCC

#### Green Chemistry Adoption: Progressive Changes by Different Industry Sectors

Sponsored by ENVR, Cosponsored by CEI, MEDI, ORGN and SCHB<sup>2</sup>

## WEDNESDAY MORNING

### Section A

Moscone Center  
Gateway Ballroom 103/104

#### First Time Disclosures

J. B. Schwarz, *Organizer, Presiding*

8:00 **MEDI 347.** Discovery of highly efficacious potentiators for the treatment of cystic fibrosis. S. Van der Plas, H. Kelgtermans, T. De Munck, S. Martina, L. Tomaskovic, T. Christophe, M. Jans, E. Van der Aar, M. Borgonovi, L. Nelles, M. Gees, P. Stouten, J. Van Der Schueren, O. Mammoliti, M. Andrews, K. Konrath

8:30 **MEDI 348.** Discovery of ABBV/ GLPG-2222: A potent, efficacious CFTR corrector for the treatment of cystic fibrosis. X. Wang

9:00 **MEDI 349.** Discovery of clinical candidate BMS-986158, an oral BET inhibitor for the treatment of cancer. A.V. Gavai, D. Norris, G.V. De Lucca, D. Tortolani, D.P. O'Malley, Y. Zhao, C.A. Quesnelle, W. Han, P. Gill, W. Vaccaro, T. Huynh, V. Ahuja, D. Dodd, C. Mussari, L.S. Harikrishnan, M. Kamau, J.S. Tokarski, R. Rampulla, D. Wu, J. Li, H. Zhang, P. Li, D.Z. Sun, H. Yip, C. Wang, Y. Zhang, A. Mathur, H. Zhang, C. Huang, Z. Yang, A. Ranasinghe, C.J. D'Arienzo, C. Tye, C. Su, G. Everlof, L. Zhang, N. Raghavan, K. Menard, M. Wen, J.T. Hunt, M. Poss, G. Vite, R. Westhouse, F. Lee

**9:30 MEDI 350.** Discovery of a novel class of potent, selective, and orally bioavailable histone methyltransferase Enhancer of Zeste Homolog 2 (EZH2) inhibitors and the identification of development candidate PF-06821497. **P. Kung**, S. Bergqvist, P. Bingham, J.F. Braganza, A. Brooun, M.R. Collins, W. Diehl, Y. Deng, D. Dinh, C. Fan, V.R. Fantin, H.J. Gukasyan, W. Hu, B. Huang, R. Kania, W. Liu, S. Kephart, M. Kraus, C. Krivacic, R.A. Kumpf, G. Li, K. Maegley, I.J. McAlpine, L. Nguyen, S. Ninkovic, M.A. Ornelas, D. Richter, E. Rui, M. Ryskin, S.A. Scales, J. Spangler, A. Stewart, S.C. Sutton, J. Tatlock, C. Tsao, D. Verhelle, F. Wang, H. Wang, P. Wells, M. Wythes, S. Yamazaki, B. Yip, X. Yu, L. Zehnder, W. Zhang, P. Zhu, J. Zhu, R.A. Rollins, S. Sharma, M.P. Edwards

**10:00 MEDI 351.** Discovery and development of BLU-554: A potent, highly selective covalent inhibitor of Fibroblast Growth Factor Receptor 4 (FGFR4) in development for the targeted treatment of advanced Hepatocellular Carcinoma (HCC) patients with amplified and overexpressed FGF19. **C.V. Miduturu**, M. Hagel, M. Sheets, N. Rubin, W. Weng, N. Bifulco, L.V. Dipietro, J. Kim, N. Brooijmans, B.L. Hodous, N. Stransky, K. Hoeflich, V.J. Kadambi, N. Kohl, C. Lengauer, T. Guzi

**10:30 MEDI 352.** Discovery of PRN1371: A highly selective, irreversible inhibitor of FGFR1-4 in clinical development for the treatment of solid tumors. **K.A. Brameld**

**11:00 MEDI 353.** FGFR4: A reversible-covalent inhibitor of FGFR4 for the treatment of hepatocellular carcinoma. **R.A. Fairhurst**, T. Knoepfel, P. Furet, N. Buschmann, C. Leblanc, R. Mah, M. Kiffe, D. Graus-Porta, A. Weiss, J. Kinyamu-Akunda, M. Wartmann, J. Trappe, T. Gabriel, F. Hofmann, W. Sellers

**11:30 MEDI 354.** Interdiction at a protein-protein interface: Structure-based design of the Mcl-1 inhibitor AMG 176. **S.P. Brown**

## Section B

Moscone Center  
3006/3008

### Targeting Epigenetic Writers & Erasers

J. Jin, *Organizer, Presiding*

**8:30** Introductory Remarks.

**8:35 MEDI 355.** Probing the epigenome for therapeutic targets. **C.H. Arrowsmith**

**9:05 MEDI 356.** Tazemetostat, a first-in-class inhibitor of EZH2: From bench to bedside to bench. **R. Copeland**

**9:35 MEDI 357.** Sirtuin inhibitors as promising anticancer agents. **H. Lin**

**10:05** Intermission.

**10:20 MEDI 358.** Targeting histone lysine methylation regulatory pathways in cancer. **P. Trojer**

**10:50 MEDI 359.** Exploring novel models of interaction to inhibit protein methyltransferases. **M. Luo**

**11:20 MEDI 360.** Chemical probes targeting the protein arginine deiminases. **P.R. Thompson**

**11:50** Concluding Remarks.

## WEDNESDAY AFTERNOON

### Section A

Moscone Center  
Gateway Ballroom 103/104

#### First Time Disclosures

J. B. Schwarz, *Organizer, Presiding*

**1:30 MEDI 361.** Discovery of clinical candidate PF-06648671: A potent, highly brain penetrant gamma secretase modulator for the treatment of Alzheimer's disease. **M. Pettersson**, C. am Ende, T.W. Butler, P.H. Dorff, I.V. Efremov, E. Evrard, S.A. Eisenbeis, C.J. Helal, M.E. Green, J.M. Humphrey, G.W. Kauffman, P.B. Mullins, C.J. O'Donnell, D.A. Rankic, A.F. Stepan, C.M. Stiff, N. Patel, C. Subramanyam, T.P. Tran, E.X. Yang, L. Xie, K.R. Bales, E. Hajos-Korcsok, B.A. Pettersen, L.R. Pustilnik, S.J. Steyn, K.M. Wood, R. Qiu, P.R. Verhoest

**2:00 MEDI 362.** Discovery of a small molecule  $\alpha\beta$ 6 inhibitor for idiopathic pulmonary fibrosis. **S.J. MacDonald**, J. Pritchard, N. Anderson

**2:30 MEDI 363.** Identification of AZD9567, an anti-inflammatory glucocorticoid receptor modulator with improved side effect profile. **L. Ripa**, M. Dearman, G. Edenro, K. Edman, R. Hendrickx, M. Lepistö, L. Öberg

**3:00 MEDI 364.** Discovery and early clinical profile of a non-catchol dopamine 1 receptor agonist. **D.L. Gray**, R. Kozak, S. Mente, J.E. Davoren, D. Nason, S. O'Neil, I.V. Efremov, A. Harris, R. O'Connor, M. Salafia

**3:30 MEDI 365.** Discovery and development of BLU-285: A potent, highly selective inhibitor of KIT and PDGFR $\alpha$  activation loop mutants. **B.L. Hodous**, E. Evans, A. Gardino, A. Davis, J. Zhu, D.P. Wilson, K. Wilson, L.V. Dipietro, J. Kim, N. Brooijmans, V.J. Kadambi, A. Shutes, Y. Zhang, N. Kohl, C. Lengauer, T. Guzi

**4:00 MEDI 366.** NVP-LXS196, a novel PKC inhibitor for the treatment of uveal melanoma. **M. Visser**, J.P. Papillon, J. Fan, M. Luzzio, W. Michael, R. Wang, A. Zhang, C. Straub, S. Mathieu, M. Kato, M.G. Palermo, C. Chen, M.J. LaMarche, T.M. Ramsey, A. Vattay, R. Guo, V. Cooke, A. Brie, F. Chung, G. Liang, M. Romanowski, A. Wylic

**4:30 MEDI 367.** Discovery of selonsertib (GS-4997): A first in class, selective inhibitor of apoptosis signal-regulating kinase 1. **G.T. Notte**, B. Corkey, E. Lansdon, D. Breckenridge, O.L. Saunders, M. Graupe, B. Murray, C. Venkataramani, J. Guerrero, J. Farand, J.A. Zablocki, K. Babaoglu, J. Liles, G. Budas, S. Wise, K. Koch, L. Castonguay, M.C. Desai

**5:00 MEDI 368.** Discovery of a selective inhibitor of indoleamine-2,3-dioxygenase for use in the therapy of cancer. **A. Balog**

### Section B

Moscone Center  
3006/3008

#### General Orals

A. W. Stamford, *Organizer*

J. Ramanjulu, *Presiding*

**1:30 MEDI 369.** Teaching old drugs new tricks: Reprogramming ethionamide's bioactivation to fight multidrug resistant *Mycobacterium tuberculosis*. **N. Willand**, M. Gitzinger, B. Deprez, A. Baulard

**1:50 MEDI 370.** Preclinical development and characterization of MYC inhibitors. **N. Jacob**, P. Miranda, P. Serrano Navarro, J. Hart, P.K. Vogt, K.D. Janda

**2:10 MEDI 371.** Discovery of PF-06748962: A potent and selective lactam-based EP3 antagonist. **K. Futatsugi**

**2:30 MEDI 372.** Novel pyrrolomycins as potent antibacterial agents against *ESKAPE* pathogens and biofilms. **R. Li**, Z. Yang, J. Ahn, Y. Liu, Y. Chhonker, D. Murry, H.A. Zhong, K. Bayles

**2:50 MEDI 373.** Development and application of an NMR-based activity and inhibition assay for mycobacterial isocitrate lyase. **R.P. Bhusal**, K. Patel, B. Kwai, G. Bashiri, J. Reynisson, J. Sperry, I.K. Leung

**3:10 MEDI 374.** LEGO<sup>®</sup>-inspired drug design: Discovery of novel fungal plasma membrane H<sup>+</sup>-ATPase (Pma1) inhibitors from small molecule libraries: An introduction of HFSA-SBS\_DOS-RD strategy in drug discovery. **T. Tung**, T. Dao, M.B. Palmgren, A.T. Fuglsang, S.B. Christensen, J. Nielsen

**3:30 MEDI 375.** Reducing cycle time in medicinal chemistry drug discovery. **J.S. Wai**, T. Wang

**3:50 MEDI 376.** Enzymatic tandem carboxylation-amidation as a bioactivity-potentiating strategy in the production of natural and unnatural thiolactomycin antibiotics. **J. Li**, X. Tang, S. Mckinnie, T. Awakawa, B.S. Moore

**4:10 MEDI 377.** Structure-based design of highly potent small-molecule inhibitors of DCN1-UBC12 protein-protein interaction. **H. Zhou**, J. Lu, L. Liu, D. Bernard, J. Stuckey, Y. Sun, S. Wang

**4:30 MEDI 378.** CDK8 inhibitors with long residence time emerging from a retro-design approach: New opportunities for cancer treatment. **J.C. Benningshof**, B. Aerts, G. Müller, J. Veerman, E. Damen, M. Kubbutat, J. Ehler, H. Holger, F. Totzke

**4:50 MEDI 379.** Structure-based design, synthesis, biological evaluation, and x-ray crystallographic analysis of novel, highly potent HIV-1 protease inhibitors to address multi-drug resistant HIV. **A.K. Ghosh**, H.L. Osswald, J. Agniswamy, Y. Wang, I. Weber, M. Amano, H. Mitsuya

## WEDNESDAY EVENING

### Section A

Moscone Center  
West Hall

#### General Posters

A. W. Stamford, *Organizer*

**7:00 - 9:00**

**MEDI 380.** Inhibition of A $\beta$ -40 and A $\beta$ -42 aggregation by piceatannol and cis-piceatannol. **J.M. Chapman**, M. Moss, Y. Wang

**MEDI 381.** Photoelectrocatalytic inhibition of Alzheimer's  $\beta$ -amyloid aggregation in vitro by hole-derived radicals. **K. Kim**, B. Lee, Y. Chung, W. Choi

**MEDI 382.** Synthesis of Yakuchinone-derived compounds that inhibit  $\beta$ -amyloid aggregation. **L. Chen**, C. Yen, H. Tseng, Y. Huang, Y. Lu, W. Hou, K. Hsu, I. Pan, K. Huang, W. Huang

**MEDI 383.** Photoexcited ruthenium complex for highly sensitive inhibition of  $\beta$ -amyloidogenesis. **G. Son**, C. Park, B. Lee, Y. Chung

**MEDI 384.** New hydroxyquinoline-based derivatives as potent modulators of amyloid- $\beta$  aggregations. **M. Hu**

**MEDI 385.** Potential multimechanistic therapeutic effects of dihydropyridine calcium channel blockers: Mechanistic study of effects on amyloid- $\beta$  aggregation associated with Alzheimer's disease. **J.M. Chapman**, M. Moss, J. Tseng

**MEDI 386.** Withdrawn.

**MEDI 387.** Development of MBRI-001, a deuterium-substituted pinabulin, as a potent anti-microtubule agent for anticancer. **Z. Ding**, H. Cheng, S. Wang, Y. Hou, J. Zhao, H. Guan, **W. Li**

**MEDI 388.**  $\beta$ -Sheet propensity of competitive peptide inhibitor's residue is crucial in binding to proteases: PACE4 inhibitors as a case study. **V. Dianati**, A. Shamloo, A. Kwiatkowska, R. Desjardins, A. Soldera, R. Day, Y. Dory

**MEDI 389.** Hepsin-targeted ligands for prostate cancer imaging and therapy. **Y. Byun**, S. Son, H. Kwon

**MEDI 390.** X-ray crystallographic structures of teixobactin analogues. **H. Yang**, D.R. Du Bois, J.W. Ziller, J.S. Nowick

**MEDI 391.** Withdrawn.

**MEDI 392.** Long wavelength, orthogonal release of internalized anti-inflammatory compounds from cellular vehicles. **R.M. Hughes**, C. Marvin, Z. Rodgers, S. Ding, N. Oien, W.J. Smith, D.S. Lawrence

**MEDI 393.** Amino acid and peptide conjugates are potential drug candidates. **S.S. Panda**

**MEDI 394.** Withdrawn.

**MEDI 395.** Directed immune responses via covalently linked TLR agonist combinations for a Q-fever vaccine. **T.J. Albin**, J. Tom, S. Manna, A. Gilkes, A. Jain, M. Supnet, H. Davies, A. Nalca, A. Burkhardt, P. Feigler, A.P. Esser-Kahn

**MEDI 396.** Development of anti-dotes against nerve agent inhibited acetylcholinesterase – the transformation of an inhibitor into a reactivator. **C. Lindgren**, N. Forsgren, C. Akfur, L. Berg, D. Andersson, M. Hillgren, W. Qian, F. Worek, F. Ekström, A. Linusson

**MEDI 397.** Generating site-specific antibody-drug conjugates with high drug to antibody ratios using a tandem Kruoenagel condensation-Michael addition. **R. Kudirka**, R. Barfield, J. McFarland, P. Drake, A. Carlson, S. Banas, W. Zmolek, A. Garofalo, D. Rabuka

**MEDI 398.** Synthesis of truncated tirandamycin A-D derivatives as new antihelminthic agents. **T. Jimenez**, M. Grotli, C. Wallentin

**MEDI 399.** Beyond IC50 and simple PK models – considerations for discovery chemists. **R. Fraczekiewicz**, M.B. Bolger, W. Woltsch

**MEDI 400.** Synthesis and evaluation of anti-tubercular agents 2-aminothiophenes and benzo-1,2-selenazol-3(2H)-ones targeting Pks13 and Ag85C respectively. **S. Thanna**, S.E. Knudson, C.M. Goins, F. Salem, S. Kapil, A. Grzegorzewicz, M. Jackson, D.R. Ronning, R.A. Slayden, S.J. Sucheck

- MEDI 401.** Novel pyrimidine compounds as potent JAK inhibitors. **Y. Chen**, H. Li, R. Yen, T. Heckrodt, D. McMurtrie, N. Lin, R. Singh, V. Taylor, M. Chan, E. Masuda, G. Park, D. Lau, D. Payan
- MEDI 402.** Synthesis and evaluation polythiophene containing rhodamine dyes for biological and photochemical applications. **M.K. Linder**, J.N. Nasca, K.S. Gast, G. Sawada, D. Watson, M.R. Detty
- MEDI 403.** Synthesis of  $\beta$ -configured clickable [ $^{18}$ F]FDGs as novel  $^{18}$ F-fluoroglycosylation tools for PET *in vivo* imaging. **M. Elgland**, P. Nordeman, T. Fyrner, P. Konradsson, G. Antoni, P. Nilsson
- MEDI 404.** Small-molecule anti-virulence agents for the prevention of dental biofilms. **B. Nijampatnam**, H. Wu, S.E. Velu
- MEDI 405.** Discovery of novel pyrrolomycins as potential anticancer agents. **Y. Liu**, T. McGuire, Z. Yang, D. Coulter, Y. Chhonker, D. Murry, J. Sharp, H.A. Zhong, R. Li
- MEDI 406.** Design and synthesis of small molecule inhibitors bearing 1,2,3-triazole/sulfonate pharmacophore from natural precursors for the treatment of bacterial infections. **B. Aneja**, S. Alam, M. Azam, A. Perwez, R. Haque, M. Rizvi, R. Maguire, K. Kavanagh, U. Yadava, C. Daniiluc, A. Azam, A. Mohammad
- MEDI 407.** New N-substituted indazole-5-carboxamides as subnanomolar, selective monoamine oxidase B and dually active MAO-A/B inhibitors with BBB and GI permeability. **M. Gastreich**, C. Detering, L. Antonov, S. Hristova, H. Stammler, N.T. Tzvetkov
- MEDI 408.** Withdrawn.
- MEDI 409.** Glycosylated porphyrins for use in PET and PDT: Synthesis and characterization. **K. Arja**, M. Elgland, P. Nilsson
- MEDI 410.** Selective nicotinic acetylcholine receptor activities from the areca nut. **N. Horenstein**, C. Stokes, R. Papke
- MEDI 411.** Withdrawn.
- MEDI 412.** Differentiating antiproliferative and chemopreventive modes of activity for electron-deficient aryl isothiocyanates against human MCF-7 cells. **J.R. Mays**
- MEDI 413.** Application of the boronic acid as an isostere of the phenolic hydroxyl group in optimization of Selective Estrogen Receptor Downregulators (SERDs). **J. Liu**, S. Zheng, S. Guo, Q. Zhong, M. Bratton, T.E. Wiese, G. Wang
- MEDI 414.** Withdrawn.
- MEDI 415.** Substituted acylsulfonamides as surrogates of a terminal carboxylic acid: More effective small-molecule blockade of the Mcl-1 oncoprotein. **M.E. Lanning**, S. Fletcher
- MEDI 416.** Novel class of substituted phenoxyacetamide derivatives as serotonin reuptake inhibitors and serotonin autoreceptor antagonists for repetitive behavior modulation in autism spectrum disorder. **V.M. Gancarczyk**, J. Dhuguru, A. Khalil, **O.M. Ghoneim**
- MEDI 417.** Polymersomes for targeting and eradicating intracellular parasites. **L. Rizzello**, J. Robertson, P. M. Elks, T. McHugh, S. A. Renshaw, G. Battaglia
- MEDI 418.** Two-in-one approach to modulate repetitive behaviors in autism spectrum disorder: N-arylpiperazines as key motifs towards developing bi-functional serotonergic ligands. **O.M. Ghoneim**
- MEDI 419.** Zinc(II)-dipicolylamine coordination complexes are strongly active against cutaneous leishmaniasis. **M. Betancourt**, D. Rice, P. Vacchina, B. Norris-Mullins, M.A. Morales, B.D. Smith
- MEDI 420.** Peptide-based nanosponges. **S.H. Bossmann**, H. Wang, A.S. Yapa, S.O. Wendel, N. Kariyawasam, T.B. Shrestha, M. Pyle, P.E. Smith, D.L. Troyer
- MEDI 421.** Heterocyclic mimetics of crinine alkaloids – Novel scaffolds against drug-resistant cancer cells. **L.V. Frolova**
- MEDI 422.** Characterization of histone lysine methyltransferase and discovery of NSD2 inhibitors. **J. Kwiatkowski**, A. Hung, Y. Tan, N. Ahmad, G. Lin, A. Ngo, Y. Li, H. Ng, J. Wee, X. Koh-Stenta, P.Z. Kwek, E.H. Ong, J.K. Joy, A. Poulsen, C. Kang, J. Hill, T.H. Keller
- MEDI 423.** Computational rationalisation of ligand specific T-cell activation by the lipid presenting proteins CD1b and CD1c: Different means to the same end? **C. Cave-Ayland**, A. Chancellor, I. Tewes, S. Mansour, C. Skylaris, J.W. Essex
- MEDI 424.** Pharmacophore construction of Cyclooxygenase-2 (COX-2) selective inhibitors based on QSAR models. **R.A. Gomes**, G.L. Luiz Genesi, V.G. Maltarollo, **G.H. Trossini**
- MEDI 425.** Perturbing dissimilar biomolecular targets from natural product scaffolds and focused chemical decoration. **J. Nielsen**, T. Tung, T. Holm Jakobsen, T. Dao, A.T. Fuglsang, M. Givskov, S.B. Christensen
- MEDI 426.** Design of novel GPCR family-targeted scaffolds: Synthetic and cheminformatic exploration of novel medicinal chemistry space. **J.C. Benningshof**, G. Müller, T. Berkenbosch, D. Stumpfe, J. Bajorath
- MEDI 427.** Synthesis and biological evaluation of C24 20S(OH)D3 analogs as anti-inflammatory agents. **Z. Lin**, S. Marepally, E. Goh, C.Y. Cheng, A.E. Postlethwaite, Z. Janjetovic, T. Kim, A.J. Slominski, R.C. Tuckey, N. Rochel, D.D. Miller, W. Li
- MEDI 428.** Multi-omic approach to unraveling the microbial ecology of *Euphorbia* plant latex. **M. Gunawardana**, E. Hyde, S. Rivera, S. Webster, A. Castonguay, M. Anderson, S. Lahmeyer, B. Dorsey, T. La Val, D. VanderVelde, P. Webster, R. Knight, **M.M. Baum**
- MEDI 429.** Discovery of novel indolinone derivatives as potent MELK inhibitors. **R. Edupuganti**, J.M. Taliaferro, Q. Wang, X. Xie, E.J. Cho, V. Sharma, P. Ren, C. Bartholomeusz, E.V. Anslin, K.N. Dalby
- MEDI 430.** Sphingosine analogues as inhibitors of Sphingosine Kinase (SK1). **A. Cardona**, M. Escudero-Casao, M. Corro, J. Hernandez, Y. Diaz, I. Matheu, S. Garcia-Valle, M. Mulero, G. Pujadas, **S. Castillon**
- MEDI 431.** Biological screening of *Moringa oleifera* for cytotoxicity and antitumor activities. **E.P. Rodriguez**, C.A. Ospina
- MEDI 432.** Design of a nucleic acid aptamer to achieve localization of a ROS-activated anti-cancer agent. **K.G. Earnest**, E.J. Merino
- MEDI 433.** Exploring the binding site of GPR119 receptor inverse agonists. **E. Kotsikorou**, S. Kowalski
- MEDI 434.** Methicillin-resistant *Staphylococcus aureus* becomes vulnerable to  $\beta$ -lactam antibiotics when in combination with branched polyethylenimine. **M. Foxley**, M. Xiao, S. Wright, S. Strange, A. Lam, K. Grogan, C.V. Rice
- MEDI 435.** Old and new privileged scaffolds for medicinal chemistry. **P. Schneider**, G. Schneider
- MEDI 436.** Vienna LiverTox Workspace: Towards predicting liver toxicity. **F. Montanari**, E. Kotsampasakou, B. Knasmüller, M. Pinto, M. Grandits, L. Richter, G.F. Ecker
- MEDI 437.** Pyrrole-based antitubulin agents at the colchicine site: SAR of C-5 analogues in explicitly solvated models. **A.J. Obaidullah**, C.C. Rohena, J.A. Sikorski, S. Mooberry, J.T. Gupton, G.E. Kellogg
- MEDI 438.** Design, synthesis, and biological evaluation of small molecule G $\alpha$ 2-androgen inhibitors in prostate cancer therapy. **S. Tapadar**, S. Caggia, S. Khan, A.K. Oyeler
- MEDI 439.** Synthesis of GRB2 SH2 domain inhibitors: Analogues of sclerotin. **J.J. Gladfelder**, C. Arpin
- MEDI 440.** Phytoestrogens: New ligands targeting the estrogen receptor domains. **V.J. Thakor**, M. Noolvi
- MEDI 441.** Structure-based design of macrocyclic tetrapeptides intended to modulate the opioid receptors. **M.J. Ferracane**, J.V. Aldrich
- MEDI 442.** MOEsaic: Making SAR analysis easier through the use of matched molecular pairs and R-group profiling. **A. Ajamian**
- MEDI 443.** In search of AKT inhibitors as anticancer agents, an *in silico* approach. **P.J. Trejo**, A. Hernandez Campos, A. Romo-Mancillas, J.L. Medina-Franco, R. Castillo-Bocanegra
- MEDI 444.** Design, synthesis and biological evaluation of Liver X Receptor (LXR) ligands. **R. Komati**, K.M. Lamark, K.A. Payne, M. Ndukwe, D. Spadoni, J. Sridhar, K. Riley
- MEDI 445.** Amido phthalimides as CDKs and VEGF inhibitors. **R. Komati**, V.C. Miles, M. Ismail, F. Joseph, H. McFerrin, J. Sridhar
- MEDI 446.** Withdrawn.
- MEDI 447.** Discovery of Lu AF64196 a highly ligand efficient, brain penetrant and selective PDE1 inhibitor. **L.K. Rasmussen**, M. Langgard, C.T. Christoffersen, J. Nielsen, C. Bundgaard, J. Kehler
- MEDI 448.** Repurposing for G-protein couple receptors by structure-based discovery: Transformation of adenosine derivatives into 5HT $_{2B}$ /5HT $_{2C}$  serotonin receptor antagonists. **D. Tosh**, A. Ciancetta, E.P. Warnick, S. Crane, Z. Gao, K.A. Jacobson
- MEDI 449.** Discovery of highly selective Itk inhibitors with *in vivo* IL-2 inhibition. **S. Takai**, H. Takeda, A. Watanabe, K. Tsuboi, R. Suzuki, A. Hiramatsu, Y. Iyoda, T. Inukai, A. Kinoshita, H. Kohno, B. Liu, R. Shetty, K. Moriarty, M. Kurono, S. Umemura, H. Egashira, J. Zou, Z. Konteatis, R. Omi, H. Nambodini, W. Sawada, M. Murata, T. Koike, R. Komaki-Nishikawa, N. Yada, T. Yoshizawa, J. McCool, M. Bukhtiyarova, M. Kelly, J. Takeuchi
- MEDI 450.** Decoupling proton motive force to overcome antibacterial resistance. **J. Buonomo**, C.C. Aldrich
- MEDI 451.** Adverse drug reactions triggered by the common HLA-B\*57:01 variant: Virtual screening of DrugBank. **G. Van Den Driessche**, D. Fourches
- MEDI 452.** Optimization of 4(1H)-quinolone antimalarials for oral bioavailability and *in vivo* efficacy. **C. Lichorowic**, J.R. Maignan, R. Neelapuru, A. Monastyrski, J.V. Giarrusso, T. Mutka, L. Blake, D. Casandra, A. LaCrue, D. Kyle, R. Manetsch
- MEDI 453.** Design of inhibitors for the human papillomavirus E6 protein. **D.P. Petrov**, V.J. Davissou, E. Androphy, A. Rietz
- MEDI 454.** Scaffold replacement and 3D ligand optimization applied to the discovery of tyrosine kinase inhibitors. **A. Deschenes**
- MEDI 455.** Discovery of the first low-molecular-weight *Mycobacterium tuberculosis* MAbA (FabG1) inhibitors using a fragment-based approach. **C. Pintiala**, M. Moune, K. Bourbiaux, R. Frita, K. Djaut, C. Piveteau, B. Deprez, A. Baulard, N. Willand, **M. Flipo**
- MEDI 456.** Structure-based, in molecular design and synthesis of inhibitors of protein kinase family of receptors of epidermal growth factor. **A.S. Bunev**, E.V. Sukhonosova, G. Lisnik, N. Yabbarov, G. Ostapenko
- MEDI 457.** *In vivo* structure-efficacy studies of regioisomeric arterolane-like endoperoxidases. **B.R. Blank**, J. Gut, P.J. Rosenthal, A.R. Renslo
- MEDI 458.** Optimization of peptide substrates for conjugate modification of macromolecular mediated RNAi delivery. **J.C. Carlson**, J. Benson, A.V. Blokhin, D. Rozema, A. Sokoloff
- MEDI 459.** Impact of activation of GPR68 by metal cations on high throughput screening. **C. Wang**, S. Lin, L.D. Fader, A. Granger
- MEDI 460.** Synthesis of 1,2,4-substituted imidazoles for a fragment-based drug discovery library. **T. Lafferty**, J. Patrone
- MEDI 461.** Identification and optimization of 5-aryl benzimidazolones as AMPA receptor negative modulators selective for TARP- $\gamma$ 8. **S. Ravula**, M. Ameriks, **B.M. Savall**, J.M. Ziff, B.T. Shireman, **M.J. Seierstad**, N. Wu, B. Lord, M. Maher, **N.I. Carruthers**, T.W. Lovenberg
- MEDI 462.** Design and synthesis of L-neplanocin analogues as antiviral agents. **Q. Chen**, C. Liu, S. Schneller, A. Davidson, M. Stout

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- MEDI 463.** Targeted isolation and simplified structure elucidation of new analogues of dolastatin 10 from marine cyanobacteria using MS/MS molecular networking. **B. Naman,** J. Almaliti, L. Keller, A. Remmel, E. Glukhov, P.C. Dorrestein, W.H. Gerwick
- MEDI 464.** MELK as a valid cancer therapeutic target? From virtual screening to highly selective in vivo tool compounds. **S. Mathieu,** B. Toure, J. Giraldes, T. Smith, E. Sprague, Y. Yang, Z. Chen, Y. Mishina, Y. Feng, Y. Yan-Neale, D. Chen, M. Meyer, C. Straub, D. Sage, K. Wright, X. Chen, S. Kim, E.J. Martin, K. Hurov
- MEDI 465.** P(NIPAM) microgel embedding p(AAm) hydrogel interpenetrating polymer networks for controlled drug delivery vehicles. **N. Sahiner,** A. Yasar, F. Onder, M. Ay
- MEDI 466.** Evaluation of antimicrobial properties of *Combretum laxum* extracts. **J.G. Escobar,** I. Maldonado, A.K. Addo-Mensah
- MEDI 467.** Development of a new class of fluorophores and their applications as biological imaging agents and chemical sensors. **J.R. Zimmerman**
- MEDI 468.** Inhibition of pilocarpine-induced fluid secretion by ethylatropine bromide. **T. Ganesh,** A. Rojas, A. Walker, R. Dingleline
- MEDI 469.** Structure-Based Drug Design (SBDD) of allosteric inhibitors for HSC-70 using a combination of pharmacophore searching with ZINCPharmer and AutoDock Vina molecular docking. **C.C. Clement,** J. Gonzalez, M. Philipp
- MEDI 470.** Bioguided fractionation and isolation of chemical constituents of the chloroform extract from the Puerto Rican plant *Simarouba tulae*. **C.A. Ospina,** P. Vivas, E. Hernandez
- MEDI 471.** Synthesis of amino derivatives of dehydroleucodine and dehydroarishin-B as potential anti-proliferative against breast cancer and B16 melanoma cells. **A. Sanchez,** M. Veisaga, S.F. Wnuk, M. Barbieri, L.A. Lopez
- MEDI 472.** Design and evaluation of cyclic peptides containing arginine, lysine and tryptophan residues as a cellular drug delivery system and establishing structure-activity relationship. **S. Mozaffari,** N. Sadeghiani, R. Tiwari, **K. Parang**
- MEDI 473.** Design, synthesis and evaluation of potent inhibitors of PARP-14/ARTD8, a mono-ADP-ribosyltransferase. **M. Meyers,** K. Upton, A. Thorsell, H. Schuler, D. Ferraris
- MEDI 474.** Design, synthesis, and evaluation of potent DNA-alkylating agents for use in Antibody-Drug Conjugates (ADCs). **K.E. Archer,** E.E. Reid, M. Shizuka, A. Wilhelm, N.C. Yoder, C. Bai, N. Fishkin, M. Bogalhas, P. Salomon, L. Harris, E.K. Maloney, O. Ab, R.V. Chari, M.L. Miller
- MEDI 475.** Improved trifluoromethylation via organic electrochemistry. **J. Chen,** J. Starr
- MEDI 476.** R996, an orally-bioavailable and selective activator of nuclear factor (erythroid-derived 2)-like 2 (Nrf2), is active in a Murine model of multiple sclerosis. **M.A. Duncton,** A. Owyang, F. San Pablo, A. Torneros, G. Park, D. Lau, E. Masuda, D. Payan, R. Singh
- MEDI 477.** New small molecule inhibitors of Ghrelin O-acyltransferase. **J.D. Chisholm,** N.S. Mahajani, K.R. McGovern-Gooch, A. Garagozzo, A.J. Schramm, L.G. Hannah, M.A. Sieburg, J. Houglund
- MEDI 478.** Fused imidazole derivatives as TGF- $\beta$  inhibitors. **J. Yu,** I.S. Darwish, M. Gelman, R. Ding, A. Frieria, G. Godinez, W. Lang, W. Li, K. McCaughey, J. McLaughlin, H. Nguyen, I. Smith, K. White, G. Yam, T. Kinsella, V. Taylor, S. Braselmann, C. Lamagna, E. Masuda, H. Ren, L. Chou, G. Park, R. Basile, B. Samant, D. Sweeny, M. Standlee, D. Lau, A. Torneros, F. San Pablo, G. Clemens, D. Payan, R. Singh
- MEDI 479.** Fused pyrazole derivatives as TGF- $\beta$  inhibitors. **I.S. Darwish,** J. Yu, M. Gelman, R. Ding, A. Frieria, G. Godinez, W. Lang, W. Li, K. McCaughey, J. McLaughlin, H. Nguyen, I. Smith, K. White, G. Yam, T. Kinsella, V. Taylor, S. Braselmann, C. Lamagna, E. Masuda, H. Ren, L. Chou, G. Park, R. Basile, B. Samant, D. Sweeny, M. Standlee, D. Lau, A. Torneros, F. San Pablo, G. Clemens, D. Payan, R. Singh
- MEDI 480.** Collaborative web-based architecture for fragment-based drug discovery data. **W.W. Smith,** B.A. Bunin
- MEDI 481.** Planar aryl triazines inhibit cytochrome P450 1A1 and 1B1 as a potential means to prevent cancer. **R. Nakamura,** R. Moran, R.A. Isovitsch, D.S. Iimoto
- MEDI 482.** Discovery of BPR1K871 – a quinazoline based multi-kinase inhibitor for the treatment of AML and solid tumors: Rational design, synthesis, in vitro and in vivo evaluation. **H. Hsieh,** W. Wang, H. Shiao, Y. Ke, W. Lin, J. Hsu, C. Chen, T. Yeh
- MEDI 483.** Novel approaches to the chemical synthesis of halonitrodes for the development of ergot alkaloids compounds. **G. Ren,** E.J. Parish, D. Ren, Y. Lo, **H. Honda**
- MEDI 484.** Novel approaches to the structure activity relationship study of citronellol type compounds useful as enzyme inhibitors. **E.J. Parish,** L. Lv, G. Ren, Y. Lo, **H. Honda**
- MEDI 485.** Novel approaches to the synthetic study of lanost-8-en-3 $\beta$ -ol-7,11-dione, an inhibitor of cholesterol biosynthesis. **G. Ren,** E.J. Parish, Y. Lo, **H. Honda**
- MEDI 486.** Second generation inhibitors of *Porphyromonas gingivalis* biofilm formation. **F.A. Luzzio,** P.C. Patil, D.R. Demuth, J. Tan
- MEDI 487.** Preparative method development from analytical columns. **J.E. Silver,** R.L. Lewis, F. Nancy, L.M. Esther
- MEDI 488.** Synthesis of organic azides via flow chemistry. **J.E. Silver,** L.M. Esther, R.L. Lewis, F. Nancy
- MEDI 489.** Development and screening of new cathepsin D inhibitors. **R. McConnell,** K. Malayala, K. Yarlagaadda, K. Sayyar, C. Trana, W. Godwin, L. Wen
- MEDI 490.** Greener reversed-phase flash chromatography using acetone instead of acetonitrile. **J.R. Bickler**
- MEDI 491.** Acetonitrile as a replacement for methanol in normal-phase flash chromatography. **J.R. Bickler**
- MEDI 492.** NCI/NEC discovery HTS resources: Oncology Interrogation Tools Library. **R.N. Misra,** M. Eckert, C.R. Johnson, C. Laggner
- MEDI 493.** Synthesis and solubility determination of a highly water soluble phosphonooxymethyl prodrug. **R. Castillo-Bocanegra,** J. Victoria-Miguel, A. Hernandez Campos, H. Jung-Cook
- MEDI 494.** Inhibition of *Candida albicans* biofilm formation with biaryl amides. **D.A. Hinojosa**
- MEDI 495.** Center for innovative in drug discovery collaborative programs: Structure based drug design, synthesis and evaluation of new antischistosomal agents. **R. Tarpley**
- MEDI 496.** Fragment based drug discovery of allosteric FAK inhibitors. **O. Cossio,** R. Campos-Olivas, C. Santiveri Martín-Varés
- MEDI 497.** Discovery of novel small molecule inhibitors of oncoprotein EYA2 for breast and ovarian cancers. **B. Campos,** S.F. McHardy, A. Lopez, H. Wang, **D. Wilson,** D. Wristers, R. Li, Y. Bin, S. Smith, S. McCowen
- MEDI 498.** Synthesis of N-functionalized chiral 3-hydroxyphenylpyrrolidines and their evaluation as selective D<sub>3</sub> receptor ligands. **A. Omran,** S. Eslamimehr, A.M. Crider, W.L. Neumann
- MEDI 499.** Anti-cancer drug discovery efforts target two kinases on the non-canonical NF- $\kappa$ B pathway. **G. Chan,** O. Demir, G. Ghosh, R.E. Amaro
- MEDI 500.** Novel mitochondrial complex I inhibitors for anti-cancer therapeutics. **J. Holmes,** K. Damera, J. Yancey, M. Zhu, N. Devi, S. Kaluz, E. Van Meir, B. Wang
- MEDI 501.** Efforts to expand our antibiotic arsenal to eradicate persistent bacterial biofilms. **R. Huigens**
- MEDI 502.** Design, synthesis, and biological evaluation of heteroaryl amine derivatives for anticancer activity. **M. Besan,** R. Srivastava, S. Srivastava
- MEDI 503.** Luminescent Conjugated Oligoethylenes (LCOs) for detection and characterization of disease-associated protein aggregates and cells. **M. Bäck**
- MEDI 504.** Drugging the undruggable with MCR scaffold manifold: The design and synthesis of covalent inhibitors and macrocycles. **T. Zarganes-Tzitzikas,** P. Patil, A. Doemling, K. Neochoritis
- MEDI 505.** Synthesis of novel agents for the treatment of neurodegenerative diseases. **B.J. Eduful,** J. Leahy, D. Kang, M. Chin, A. Rashedi, O. Jallow
- MEDI 506.** Withdrawn.
- MEDI 507.** Artificial macrocycles by multicomponent reactions. **A. Doemling**
- MEDI 508.** Cocrystal of 5-fluorouracil with nicotinamide to improve its biopharmaceutical attributes using crystal engineering approach. **M.K. Gautam,** R. Chadha
- MEDI 509.** Solving challenging structural motifs in natural products using concerted DFT modeling and 2-D INADEQUATE NMR. **J.R. Powell,** T.M. McCullough, R. Luliucci, J.K. Harper

## NUCL

## Division of Nuclear Chemistry and Technology

A. Hixon, Program Chair

## OTHER SYMPOSIA OF INTEREST:

Evolving Nanoparticle Reactivity throughout Nucleation, Growth &amp; Dissolution (see GECC, Wed)

Frontiers in Heavy Element Electronic Structure (see INOR, Wed)

Hollyweird Chemistry (see CPRC, Sun, Mon)

I&amp;EC Division Early Career Fellow Symposium: Honoring Dr. Leigh Martin (see I&amp;EC, Wed)

Lanthanide &amp; Actinide Chemistry (see INOR, Sun, Tue, Wed, Thu)

## SOCIAL EVENTS:

Social Hour, 6:00 PM: Tue

## BUSINESS MEETINGS:

Executive Committee Meeting (Closed), 5:00 PM: Sun

Business Meeting, 5:00 PM: Tue

## SUNDAY MORNING

## Section A

Moscone Center  
Esplanade Ballroom 301

## Nuclear Fission

R. S. Rundberg, Organizer

T. A. Bredeweg, Organizer, Presiding

9:00 Introductory Remarks.

9:05 **NUCL 1.** Total kinetic energy release and fission product mass distributions in the fast neutron induced fission of <sup>235</sup>U, <sup>232</sup>Th, <sup>239</sup>Pu and <sup>238</sup>U. **W. Loveland**9:40 **NUCL 2.** U-235 fission mass yield dependence on resonance and neutron energy. **R.S. Rundberg,** T.A. Bredeweg, M. Koehl, J. Braley10:15 **NUCL 3.** Energy dependence of fission product yields for <sup>235</sup>U, <sup>238</sup>U, and <sup>239</sup>Pu with monoenergetic neutrons between thermal and 14.8 MeV. **M. Gooden,** T.A. Bredeweg, M.M. Fowler, D.J. Vieira, J. Wilhelm, A. Tonchev, M.A. Stoyer, M. Bhike, F. Krishichayan, W. Tornow

10:50 Intermission.

11:10 **NUCL 4.** Theory of fission-fragment angular distributions. **W. Younes**11:45 **NUCL 5.** Survival of excited nuclei produced in warm fusion reactions. **C.M. Folden**

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**SUNDAY AFTERNOON**

**Section A**

Moscone Center

Esplanade Ballroom 302

**Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark**

*Cosponsored by INOR and PRES*

B. E. Bursten, W. J. Evans, A. P. Sattelberger, *Organizers*

J. C. Green, *Presiding*

**1:20 NUCL 6.** Award Address (Glenn T. Seaborg Award for Nuclear Chemistry sponsored by the ACS Division of Nuclear Chemistry & Technology). Bonding trends across the actinide series. D.L. Clark

**2:00 NUCL 7.** Some bits and pieces of Dave Clark 5d and 5f chemistry. B.E. Bursten

**2:20 NUCL 8.** Technetium oxide chemistry. A.P. Sattelberger, B. Childs, K.V. Lawler, F. Poineau, P. Forster, K. Czerwinski

**2:40 NUCL 9.** Recent advances in the chemistry of the rare-earth metals in the formal +2 oxidation state. W.J. Evans

**3:00 NUCL 10.** New divalent manganese complexes supported by imine-amide ligands. J.C. Gordon, D. Kindra, B. Scott, N.C. Smythe

**3:20** Intermission.

**3:40 NUCL 11.** Uranium (IV -VI) imido and amido chemistry: Synthesis, reactivity and bonding. J.M. Boncella, A.M. Tondreau, N.C. Tomson, N.H. Anderson, B. Scott

**4:00 NUCL 12.** Structural chemistry of  $UO_2$ ,  $NpO_2$ , and  $PuO_2$ . S. Conradson

**4:20 NUCL 13.** Reactivity of +3 actinides. S.A. Kozimor, E.R. Batista, J.M. Berg, E.R. Birnbaum, J.N. Cross, J.W. Engle, J. Pacheco, M.G. Ferrier, B.W. Stein

**4:40 NUCL 14.** Actinide coordination chemistry with environmental and biological applications. M. Neu

**5:00 NUCL 15.** Actinide organometallic chemistry: A meeting with David Clark at the bottom of the periodic table. J.L. Kiplinger

**Section B**

Moscone Center

Esplanade Ballroom 301

**Nuclear Fission**

T. A. Bredeweg, *Organizer*

R. S. Rundberg, *Organizer, Presiding*

**2:00** Introductory Remarks.

**2:05 NUCL 16.** Fission yield measurements for Th-232, U-238 and HEU at the National Ignition Facility. N. Gharibyan, K. Moody, J. Despotopoulos, S. Faye, P. Grant, K. Kmak, K. Roberts, C. Yeaman, D.A. Shaughnessy

**2:40 NUCL 17.** Application of the Bohr-independence hypothesis for the measurement of fission yields. N. Gharibyan, K. Moody, S. Turney, T. Brown, D.A. Shaughnessy

**3:15** Intermission.

**3:35 NUCL 18.** Addressing nuclear data needs with FIER. E. Matthews, B.L. Goldblum, W. Younes, L.A. Bernstein

**4:10 NUCL 19.** Delayed neutron spectroscopy for characterization of special nuclear material. J. Ocampo, J. Wallick, G.E. Miller, A. Shaka

**Hollyweird Chemistry**

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

**MONDAY MORNING**

**Section A**

Moscone Center

Esplanade Ballroom 302

**Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark**

*Cosponsored by INOR*

B. E. Bursten, W. J. Evans, A. P. Sattelberger, *Organizers*

D. K. Shuh, *Presiding*

**8:20 NUCL 20.** Tribute to an esteemed colleague: Young Doctor Clark. D.E. Hobart

**8:40 NUCL 21.** Coordination of N-heterocyclic ligands to actinides: A joint theoretical and experimental study. P. Yang, J. Su, E.R. Batista, J.K. Gibson, A. Gaunt, S.A. Kozimor

**9:00 NUCL 22.** Probing actinide-ligand chemical bonds: Hand shake between quantum mechanical calculations and experimental measurements. E.R. Batista, P. Yang, R.L. Martin, S.A. Kozimor, D.L. Clark

**9:20 NUCL 23.** Interpretation of morphologic and chemical signatures from actinide oxide materials. M.P. Wilkerson

**9:40 NUCL 24.** Withdrawn.

**10:00 NUCL 25.** Factors affecting the sorption of uranyl at mineral-aqueous solution interfaces. G.E. Brown, G. Dublet, V. Noel, S.E. Fendorf, J.R. Bargar, K. Maher

**10:20** Intermission.

**10:40 NUCL 26.** Molecular controls over uranium mobility in complex redox-active sediment systems. J.R. Bargar, V. Noël, S. Bone, N. Janot, S. Roycroft, K. Boye

**11:00 NUCL 27.** Swift heavy ion irradiation of actinide materials. R. Ewing

**11:20 NUCL 28.** Synthesis, structure and bonding of tetravalent-metal ( $M^{IV}$ ) oxide clusters. L. Soderholm, S. Skanthakumar, S.L. Estes

**11:40 NUCL 29.** Covalent interactions in actinide oxides. P.S. Bagus, C.J. Nelin

**Section B**

Moscone Center

Esplanade Ballroom 301

**Nuclear & Radiochemistry Summer School: Past, Present & Future**

J. D. Robertson, *Organizer*

D. D. Ensor, *Organizer, Presiding*

**8:20** Introductory Remarks.

**8:30 NUCL 30.** Impact of the nuclear and radiochemistry summer schools on the nuclear chemistry program at Michigan State University. P.F. Mantica

**8:55 NUCL 31.** How the Nuclear and Radiochemistry Summer School shaped my career as a radiochemist in biotech. C.A. Boswell

**9:20 NUCL 32.** My career in nuclear science: From the nuclear and radiochemistry summer school to national security. J. Freiderich

**9:45 NUCL 33.** Nuclear science from the big apple to down under. R. Popelka-Filcoff

**10:10** Intermission.

**10:25 NUCL 34.** Structural and chemical changes in uranyl fluoride: A complementary spectroscopic and computational study. M.C. Kirkegaard, A.J. Miskowicz, J. Langford, B. Anderson

**10:50 NUCL 35.** Path to a PhD: From a summer to a career. A.J. Swift, K. Czerwinski, D.J. Koury

**11:15 NUCL 36.** Finding my place in radiochemistry: A recent grad's letter of gratitude to the NCSS. E.M. May

**11:40 NUCL 37.** Impact of the Nuclear Chemistry Summer School on one student from a small, undergraduate liberal arts college. A. Klose

**Hollyweird Chemistry**

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**MONDAY AFTERNOON**

**Section A**

Moscone Center

Esplanade Ballroom 302

**Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark**

*Cosponsored by INOR*

B. E. Bursten, W. J. Evans, A. P. Sattelberger, *Organizers*

C. Burns, *Presiding*

**1:40 NUCL 38.** Coordination chemistry of uranium with thioethers and selenoethers: Investigation of neutral heavy donor binding to heavy metals. A.V. Blake, Z. Theiler, S.R. Daly

**2:00 NUCL 39.** Harnessing the principles of coordination chemistry to control the growth of actinide materials. S.G. Minasian, A. Herve, A. Braun, S. Alayoglu, A.B. Altman, C. Booth, D. Olive

**2:20 NUCL 40.** C-term magnetic circular dichroism spectroscopy: From transition metals to f-element chemistry. M.L. Neidig

**2:40 NUCL 41.** Synchrotron radiation for the investigation of heavy element science. D.K. Shuh

**3:00 NUCL 42.** Activation of uranyl in gas-phase complexes. J.K. Gibson

**3:20** Intermission.

**3:40 NUCL 43.** Separating technetium from nitric acid by trapping in iron oxides. W.W. Lukens

**4:00 NUCL 44.** Water adsorption on  $AnO_2$  ( $An = U, Pu$ ) surfaces. J. Wellington, B. Tegner, A. Kerridge, N. Kaltsoyannis

**4:20 NUCL 45.** Electronic structures and photoelectron spectra of uranium halides and oxides. J. Su, L. Wang, J. Li

**4:40 NUCL 46.** Broadening student experiences: Research internships with Los Alamos National Laboratory and the interesting Pu chemistry they performed. P.K. Dorhout

**5:00 NUCL 47.** Realizing cerium(IV)-ligand multiple bonds: Cerium is a 5d element after all? E.J. Schelter, L. Solola, A. Zabula, W.L. Dorfner, B. Manor, P. Carroll

**Section B**

Moscone Center

Esplanade Ballroom 301

**Nuclear & Radiochemistry Summer School: Past, Present & Future**

D. D. Ensor, *Organizer*

J. D. Robertson, *Organizer, Presiding*

**1:20 NUCL 48.** Heavy actinide thermodynamics: Research enabled by the Nuclear Chemistry Summer School. J. Braley, M. Luckey, M. Urban, N. Bessen

**1:45 NUCL 49.** Radiochemistry Center of Excellence and the NCSS: To infinity and beyond. J.D. Auxier, M.T. Cook, M. Lang, D.C. Donovan, H.L. Hall

**2:10 NUCL 50.** From Brookhaven to the Bronx: Radiochemistry and education. M.A. Deri

**2:35 NUCL 51.** NCSS to doctoral candidate: Determination of radioisotopes in complex saline matrices. J.K. Daum, R. Sudowe

**3:00** Intermission.

**3:15 NUCL 52.** Education blended with inspiration: Nuclear chemistry summer schools. A.L. Werlein

**3:40 NUCL 53.** Thermodynamic analysis of lanthanide halides and oxyhalides. D. Miller, J.D. Auxier, H.L. Hall

**4:05 NUCL 54.** From the summer school to graduate school: Leveraging opportunities in nuclear chemistry. R. Lewis

**4:30 NUCL 55.** Nuclear and radiochemistry summer school: (Almost) six years later. J.M. Dorhout

**4:55 NUCL 56.** 2016 Class of the DOE Radiochemistry Summer School in Oregon State University. A. Paulenova

**Hollyweird Chemistry**

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

**TUESDAY MORNING**

**Section A**

Moscone Center

Esplanade Ballroom 302

**Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark**

*Cosponsored by INOR*

B. E. Bursten, W. J. Evans, A. P. Sattelberger, *Organizers*

A. Kersting, *Presiding*

**8:20 NUCL 57.** Development of actinide separations in alkaline solutions. G. Jarvinen, W.H. Runde, G. Goff

**8:40 NUCL 58.** Subsurface containment and permanent disposal of nuclear waste: Role and contribution of fundamental actinide science. D.T. Reed

**9:00 NUCL 59.** Recent progress in studies of internuclear interactions in heavy element systems by solid-state NMR and NQR spectroscopy. **H. Cho, C. Capan, R. Dempsey, B.K. McNamara, S. Sinkov, C. Soderquist**

**9:20 NUCL 60.** Amplification in late actinides: How the minor nuances of electronic structure create bulk effects. **T.E. Albrecht-Schmitt**

**9:40 NUCL 61.** Differential solvation effects on reaction energetics. **G. Schreckenbach**

**10:00 NUCL 62.** Actinide-sulfimine chemistry. **J.R. Walensky**

**10:20** Intermission.

**10:40 NUCL 63.** Preparation and reactivity of the  $[\text{Re}_2\text{F}_9]^{2-}$  anion. **F. Poineau, S. Mariappan Balasekaran, A.P. Sattelberger**

**11:00 NUCL 64.** Thorium redox chemistry and a new way to measure actinide covalency by pulsed EPR spectroscopy. **D. Mills, E. McInnes, F. Tuna, A. Kerridge, L. Maron, A. Formanuk, A. Aricci, F. Ortu, J. Liu, R. Beekmeyer, L. Castro**

**11:20 NUCL 65.** Structures and phase transitions of the actinide hexachlorides. **R. Wilson**

**11:40 NUCL 66.** Why does solid  $\text{PuO}_2$  possess no magnetic moment? **R.L. Martin**

## Section B

Moscone Center  
Esplanade Ballroom 301

### Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten

*Cosponsored by INOR and PRES*

D. L. Clark, D. K. Shuh, L. Soderholm, *Organizers*

C. Burns, *Presiding*

**8:20 NUCL 67.** Electronic structures of  $\text{F}_3\text{UAH}$  ( $A = \text{C} - \text{F}$ ) molecules: Lewis Electron-Pair (LEP) model revisited. **H. Hu, W. Li, J. Li**

**8:40 NUCL 68.** Experimental and computational study of protactinium, the transition metals and the actinides. **R. Wilson, V. Vallet**

**9:00 NUCL 69.** Still thoroughly modern at 25: The FEUDAL bonding model. **J.L. Sonnenberg**

**9:20 NUCL 70.** Magic journey in metal-metal multiple bonds. **L. Gagliardi**

**9:40 NUCL 71.** Covalency in 4f-element complexes probed with quantum mechanics and ligand K-edge x-ray absorption spectroscopy. **E.R. Batista, P. Yang, R.L. Martin, S.A. Kozimor, D.L. Clark**

**10:00** Intermission.

**10:20 NUCL 72.** Theory enables soft x-ray synchrotron radiation spectroscopy of heavy element materials. **D.K. Shuh**

**10:40 NUCL 73.** Photoelectron spectroscopy and density functional theory: The interplay of experiment and theory. **J.C. Green**

**11:00 NUCL 74.** Stabilities of actinide oxidation states in gas-phase complexes. **J.K. Gibson**

**11:20 NUCL 75.** Complexation of  $\text{Am}^{3+}$ ,  $\text{Cm}^{3+}$ ,  $\text{Bk}^{3+}$  and  $\text{Cf}^{3+}$  with DPA ligand in water: A theoretical study. **P. Yang, M. Kelley, E.R. Batista, J. Braley**

**11:40 NUCL 76.** Taking advantage of the chemistry of heterocycles in actinide coordination: Crystal packing, reactivity, and pi-pi interactions of nitrogen donor ligands containing naphthalene and phenazine. **A.E. Gordon, E.E. Hardy, K.M. Wyss, M.A. Eddy, R.J. Keller**

## TUESDAY AFTERNOON

### Section A

Moscone Center  
Esplanade Ballroom 302

### Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in honor of David L. Clark

*Cosponsored by INOR*

B. E. Bursten, W. J. Evans, A. P. Sattelberger, *Organizers*

J. C. Gordon, *Presiding*

**1:40 NUCL 77.** Unique advantages of organometallic supporting ligands. **P. Diaconescu**

**2:00 NUCL 78.** Complexes of uranium and thorium with multiple bonds to tetryl and pnicide centers. **S.T. Liddle, J. Seed, M. Gregson, A. Wooles, F. Tuna, E. McInnes**

**2:20 NUCL 79.** Synthesis and x-ray crystallographic characterization of low valent organoplutonium complexes: Identification of plutonium in the +2 oxidation state. **C.J. Windorff, B. Scott, A. Gaunt, S.A. Kozimor, W.J. Evans**

**2:40 NUCL 80.** Pushing the limits with f element-ligand multiple bonding. **T.W. Hayton**

**3:00 NUCL 81.** Mediating redox chemistry at the lanthanides using redox-active ligands. **S.A. Pattenaude, E.J. Coughlin, M. Zeller, S.C. Bart**

**3:20** Intermission.

**3:40 NUCL 82.** Electrocatalytic production  $\text{H}_2$  from  $\text{H}_2\text{O}$  with f-element-based molecular catalysts. **K. Meyer**

**4:00 NUCL 83.** Evaluation of mixed actinide oxides by laser ablation ICP-MS. **K. Campbell, A. Unger, W.M. Kerlin, T. Hartmann, J. Bertoia, E. Judge, M. Dirmyer, K. Czerwinski**

**4:20 NUCL 84.** Computational study of semiconducting layered technetium chalcogenide compounds. **E. Kim, P. Weck, F. Poineau, A.P. Sattelberger, K. Czerwinski**

**4:40 NUCL 85.** Computational studies of hydrolysis reactions of cationic and anionic actinide complexes. **D.A. Dixon, M. Vasiliu, H. Arnold, K.A. Peterson, J.K. Gibson**

## Section B

Moscone Center  
Esplanade Ballroom 301

### Frontiers in Heavy Element Electronic Structure: A Tribute to Bruce Bursten

*Cosponsored by INOR and PRES*

D. L. Clark, L. Soderholm, *Organizers*

D. K. Shuh, *Organizer, Presiding*

**1:20 NUCL 86.** Calculating fellow: A theoretical tribute to Bruce Bursten. **D.E. Hobart**

**1:40 NUCL 87.** Energetic properties of actinide molecular clusters. **D.A. Dixon, M. Vasiliu, Z. Lee**

**2:00 NUCL 88.** Layered metal oxide nanosheets as model surfaces for understanding the strong metal-support interaction. **M. Strayer, A.S. Rosas, R. Uppuluri, J.M. Binz, T. Senthil, A. Azizi, R.M. Rioux, M.J. Janik, N. Alem, T.E. Mallouk**

**2:20 NUCL 89.** Shortest Th-Th distance from a new type of quadruple bond. **H. Hu, N. Kaltsayannis**

**2:40 NUCL 90.** Actinide-pnictogen chemistry. **J.R. Walensky**

**3:00** Intermission.

**3:20 NUCL 91.** Accurate solution phase thermochemistry for actinide solvation, complexation, and transport from aqueous to organic phases. **A.E. Clark**

**3:40 NUCL 92.** From actinides to transactinides: Peculiarities in electronic structure and properties. **V. Pershina**

**4:00 NUCL 93.** Roles of 4f and 5f orbitals in bonding: A magnetochemical, crystal field, density functional theory, and multi-reference wavefunction study. **W.W. Lukens, M. Speldrich, P. Yang, T. Duignan, J. Autschbach, P. Koegler**

**4:20 NUCL 94.** Insights into the redox chemistry of actinides. **W. Dejong**

**4:40 NUCL 95.** New insights into metal-ion correlations in solution. **L. Soderholm, S. Skanthakumar**

## WEDNESDAY MORNING

### Section A

Moscone Center  
Esplanade Ballroom 302

### Advanced Actinide Materials: Nanostructure, Complexity & Extreme Environments

P. C. Burns, G. Sigmon, *Organizers, Presiding*

**8:30 NUCL 96.** Updates on uranyl peroxide nanoclusters. **P.C. Burns**

**9:00 NUCL 97.** Dissolution of uranium minerals in uranyl peroxide nanocluster forming environments. **H.L. Lobeck, C.J. Parker, S. Boukdad, E. Balboni, P.C. Burns**

**9:20 NUCL 98.** Structural stability of uranyl nanoclusters. **M. Sharifonizi, J. Qiu, J. Szymanowski, P.C. Burns**

**9:40 NUCL 99.** Sorption mechanism and kinetics of the uranyl peroxide nanocluster (U60) to Ca- and Na-montmorillonite. **L.R. Sadergaski, W. Stoxen, A.E. Hixon**

**10:00** Intermission.

**10:15 NUCL 100.** Uranyl polyrotaxanes: From hydrothermal synthesis to structural diversity. **W. Shi**

**10:45 NUCL 101.** Actinide based metal organic framework materials. **S. Wang**

**11:05 NUCL 102.** Effect of processing conditions on lanthanide and actinide oxalate crystal growth mechanisms: Insights from in situ characterization and computational modeling. **J.A. Soltis, M. Conroy, W.C. Isley, T. Meadows, T. Meadows, G.B. Hall, S. Chatterjee, Z. Wang, S. Kathmann, J.J. De Yoreo, E. Buck, G.J. Lumetta**

**11:25 NUCL 103.** Formation and growth mechanism of U(IV) nanoparticles and colloidal stability in aqueous solutions. **W. Cha, H. Cho, Y. Youn, E. Jung**

## Section B

Moscone Center  
Esplanade Ballroom 301

### General Topics in Nuclear Chemistry & Technology

L. H. Delmau, *Organizer, Presiding*

**8:30 NUCL 104.** Withdrawn.

**8:50 NUCL 105.** Cyclic voltammetric studies of unique complexation and solvent effects for the actinide elements. **M.L. Marsh, F.D. White, D.E. Hobart, S.S. Galley, T.E. Albrecht-Schmitt**

**9:10 NUCL 106.** Investigation of structure and bonding in transuranium elements utilizing a redox active ligand. **S.S. Galley, S.A. Pattenaude, S.C. Bart, T.E. Albrecht-Schmitt**

**9:30 NUCL 107.** Unraveling the nature of the Am(III)/Eu(III) separation with three structurally similar ligands by changing of bridging groups. **Q. Wu**

**9:50** Intermission.

**10:10 NUCL 108.** Chemistry of technetium in dilute to concentrated saline systems: Redox processes, solubility and complexation. **X. Gaona, E. Yalcintas, A. Baumann, R. Polly, M. Altmaier, H. Geckeis**

**10:30 NUCL 109.** Redox behavior of U(VI)/U(IV) and solubility of U(IV) in repository relevant dilute to concentrated solutions in the absence and presence of complexing ligands. **E. Yalcintas, N. Cevirim, X. Gaona, D.T. Reed, M. Altmaier**

**10:50 NUCL 110.** Complexation of lanthanide and actinide ions with N,N-di-2-ethylhexyl-diglycol-amic acid in solvent extraction separation from nitric acid solutions. **G. Tian, Y. Zhang, S. Yang, X. Yuan**

**11:10 NUCL 111.** Effect of elevated temperatures on actinide solubility and speciation—studies performed by KIT-INE within the German project ThermAc. **X. Gaona, F. Endrizzi, J. Lee, D. Fellhauer, M. Altmaier**

**11:30 NUCL 112.** Complexation and phase transfer kinetics of tributyl phosphate degradation products at the liquid:liquid interface during solvent extraction. **S. Howett, A. Casella, A. Lines, S. Clark, C. Louie, C. Delegard, G.J. Lumetta, W. Pitts, K.M. McCoy**

### Evolving Nanoparticle Reactivity throughout Nucleation, Growth & Dissolution

*Sponsored by GEOC, Cosponsored by COLL, ENVR and NUCL*

### Frontiers in Heavy Element Electronic Structure

*Sponsored by INOR, Cosponsored by NUCL*

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

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WEDNESDAY AFTERNOON

Section A

Moscone Center  
Esplanade Ballroom 302

Advanced Actinide Materials: Nanostructure, Complexity & Extreme Environments

P. C. Burns, G. Sigmon, *Organizers, Presiding*

**1:00 NUCL 113.** Effects of high ionic strength on actinide speciation and oxidation state distribution in subsurface environments. **D.T. Reed, M.K. Richmann, J.S. Swanson, T. Dittrich**

**1:30 NUCL 114.** Corrosion mechanism of iron in liquid uranium hexafluoride environment. **M. Achour, M. Dubois, L. Jouffret, A. Selmi, B. Morel, S. Delpech, S. Chatain, L. Martinelli, P. Bonnet**

**1:50 NUCL 115.** Turning on the terminal: Promoting non-covalent interaction with uranyl oxo atoms. **K. Carter, M. Kalaj, R. Surbella, L. Ducati, J. Autschbach, C.L. Cahill**

**2:10 NUCL 116.** Insight into the uranyl oxyfluoride topologies through the synthesis and crystal structure new oxyfluoride compounds. **L. Jouffret, J. Hiltbrunner, M. Dubois**

**2:30** Intermission.

**2:45 NUCL 117.** Actinide clusters, nanoclusters and cluster-frameworks. **C. Falaise, K. Kozma, O. Renier, H.A. Neal, M.D. Nyman**

**3:15 NUCL 118.** Influence of alkali metals in dissolving UO<sub>2</sub> to form highly soluble aqueous uranyl peroxide clusters. **S. Hickam, P.C. Burns**

**3:35 NUCL 119.** Uranyl-peroxide nanocapsules: From self-assembly to isomerism. **P. Miro**

**3:55 NUCL 120.** Thermochemistry of neptunium oxides and Np incorporated studdite. **L. Zhang, E. Dzik, J. Szymanowski, G. Sigmon, A. Navrotsky, P.C. Burns**

**4:15 NUCL 121.** Plutonium nanocluster formation, structure, and stability. **A.E. Hixon, G. Sigmon**

Section B

Moscone Center  
Esplanade Ballroom 301

General Topics in Nuclear Chemistry & Technology

L. H. Delmau, *Organizer, Presiding*

**1:10 NUCL 122.** Developing regional isotopic baselines to trace resource acquisition patterns in the Mesa Verde area of the American Southwest. **A.L. Werlein, V. Renson, J. Coltrain, K. Schollmeyer, J.D. Robertson, J.R. Ferguson**

**1:40 NUCL 123.** Characterization of indigenous Australian ochre by K<sub>α</sub>-Neutron Activation Analysis (K<sub>α</sub>-NAA) for understanding cultural exchange. **R. Popelka-Filcoff, C. Lenehan, J. Bennett, A. Stopic, K. Walshe**

**2:00 NUCL 124.** <sup>88</sup>Zr(n, <sup>γ</sup>)<sup>89</sup>Zr cross section measurement. **J. Shusterman, J.M. Gates, S.E. Lapi, C.S. Loveless, E.B. Norman, G. Peaslee, J.D. Robertson, G. Severin, L. Sutherland, K.J. Thomas, M.A. Stoyer, D.A. Shaughnessy, N.D. Szielco**

**2:20 NUCL 125.** Another isomer in Rh102? **H.A. Shugart, K.J. Thomas, E.B. Norman**

**2:40** Intermission.

**3:00 NUCL 126.** Unusual coordination of heptadentate tripodal Schiff base lanthanide/actinide complexes. **K. Seidler**

**3:20 NUCL 127.** Utility of MOFs and their derivatives for luminescent sensing and sorption of actinide ions from aqueous solution. **L. Yuan, N. Zhang, Z. Chai, W. Shi**

**3:40 NUCL 128.** Ion selectivity of uranyl peroxide nanocages: An inorganic mimic of K<sup>+</sup> ion channels. **Y. Gao, J. Szymanowski, X. Sun, P.C. Burns, T. Liu**

**4:00 NUCL 129.** Possible atomic fuel production through accumulation of specific radioisotopes by fish in offshore Fukushima, Japan. **H. Katsura**

**4:20 NUCL 130.** Thermodynamic studies on the complexation of uranyl ion in ionic liquids. **C. Xu, J. Chen**

Evolving Nanoparticle Reactivity throughout Nucleation, Growth & Dissolution

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Frontiers in Heavy Element Electronic Structure

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WEDNESDAY EVENING

Section A

Moscone Center  
Hall D

General Topics in Nuclear Chemistry & Technology

A. E. Hixon, *Organizer*

**7:00 - 9:00**

**NUCL 131.** Determination of radioactivity of uranium and thorium in environmental samples by using fusion and sequential separation method, and its evaluation using key validation parameters. **Y. Ko, W. Kim, H. Kim, W. Lee, G. Choi, K. Chung, M. Kang**

**NUCL 132.** Modeling redox coordination chemistry for transuranium elements. **F.D. White, M.L. Marsh, S.S. Galley, D.E. Hobart, T.E. Albrecht-Schmitt**

**NUCL 133.** Preparation of alumina microspheres by internal gelation method. **C. Padilla-Cintrón, J. Katalenich**

**NUCL 134.** Characterization of lanthanide chlorides for nuclear forensics. **S. Shahbazi, J. Auxier**

**NUCL 135.** Synthesis of Bis-Triazinyl Pyridine (BTPs) ligands for <sup>15</sup>N ESEEM experiments in actinide and lanthanide complexes. **D. Dan, T.E. Albrecht-Schmitt**

**NUCL 136.** PDF analysis of uranyl clusters from aqueous solutions. **K. Kozma, C. Falaise, H.A. Neal, M.D. Nyman**

**NUCL 137.** Ordered mesoporous carbons functionalized for actinide and lanthanide separations chemistry. **K. Kluherz, G. Deodhar, E. Bertelsen, J. Braley, B.G. Trewyn**

**NUCL 138.** Soft N-, S-, and mixed donor site ligands for selective separation of actinides from lanthanides. **M. Twomey, I. Lehman-Andino, L. Mathivathanan, R.G. Raptis, K. Kavalieratos**

**NUCL 139.** Electrochemical reduction of aqueous uranium. **B. Stevenson, J. Scaggs, D.D. Russell**

THURSDAY MORNING

Section A

Moscone Center  
Esplanade Ballroom 302

Young Investigators in Nuclear & Radiochemistry

*Cosponsored by YCC*

A. E. Hixon, *Organizer*

E. M. May, *Organizer, Presiding*

**8:30 NUCL 140.** Re (III and V) Schiff base complexes as potential therapeutic agents. **J.E. Baumeister, C. Barnes, S.S. Jurisson**

**8:50 NUCL 141.** Radiolabeling of a trithiol-bombesin ligand with <sup>75</sup>As and <sup>75</sup>As for use as radiopharmaceuticals. **M. Phipps, Y. Feng, F. Gallazzi, A. Ketring, S.S. Jurisson**

**9:10 NUCL 142.** Application of inductively coupled plasma mass spectroscopy and enriched tungsten isotopes to nuclear fusion research. **J. Duran, D.C. Donovan, C. Eley, A. Maan, J.D. Auxier, S. Lee, S. Zamperini, E. Unterberg, D. Rudakov, P. Stangeby, W. Wampler**

**9:30 NUCL 143.** Actinide-carbon bond activation in gas-phase organoactinide complexes. **J. Jian, T. Eaton, J.K. Gibson**

**9:50 NUCL 144.** Characterizing actinide speciation using electrospray ionization mass spectrometry. **T. Eaton, J. Jian, J.K. Gibson**

**10:10** Intermission.

**10:30 NUCL 145.** Utilizing Diffusion Ordered Spectroscopy (DOSY) to probe organic phases in liquid-liquid solvent extraction systems. **A. Kimberlin, K.L. Nash**

**10:50 NUCL 146.** Study of actinide cations in solution through their paramagnetic behavior. **M. Illy, M. Autillo, L. Guerin, D. Guillaume, E. Colinau, P. Moisy, H. Bolvin, C. Berthon**

**11:10 NUCL 147.** Method comparison for the determination of Pitzer parameters for Tc(VII), Re(VII), and V(V) in aqueous systems. **C. Eiroa Lledo, G. Parker, D.E. Wall, N. Wall**

**11:30 NUCL 148.** Elucidating bonding preference in tetrakis(mido)urinate (VI) dianions. **J. Xie, N.H. Anderson, D. Ray, M. Zeller, S.C. Bart, L. Gagliardi**

Section B

Moscone Center  
Esplanade Ballroom 301

General Topics in Nuclear Chemistry & Technology

L. H. Delmau, *Organizer*

A. E. Hixon, *Presiding*

**8:20 NUCL 149.** Radiochemical, elemental, and isotopic analysis of epsilon phase material from irradiated fuel. **K.L. Pellegrini, C. Soderquist, R.A. Clark, J.M. Schwantes**

**8:40 NUCL 150.** Microstructural examination of neutron irradiated base metal and TiG-welded zircaloy-4. **C. Silva, K. Leonard, C. Bryan**

**9:00 NUCL 151.** Using technetium's volatility to decontaminate barrier material. **W.R. Wilmarth, L. Oji, M. Restivo, M. Duignan**

**9:20 NUCL 152.** Semiconductivity in plutonium and americium chromates and molybdates: Evidence for energy-degeneracy-driven covalency. **A. Arico**

**9:40 NUCL 153.** Recent progress on the development of pyroprocessing techniques for TMSR in SINAP. **Y. Gong, Q. Li**

**10:00** Intermission.

**10:20 NUCL 154.** Pyroprocessing of spent nuclear fuels: Theoretical calculations and multiscale molecular simulations of solute behavior in molten salts. **X. Li, L. Yan, J. Song, S. Shi, B. Yue**

**10:40 NUCL 155.** Speciation of uranium in condensing laser ablation plasmas. **D. Weisz, J.C. Crowhurst, H. Radousky, T. Rose, W. Siekhaus, B. Koroglu, M. Armstrong, E. Stavrou, J.M. Zaugg, M. Azer, M. Finko, D. Curreli**

**11:00 NUCL 156.** Design and efficient synthesis of a bifunctional octadentate ligand for PET imaging with <sup>89</sup>Zr. **M.A. Abdalrahman, R.P. Planalp**

**11:20 NUCL 157.** Contamination and decontamination of steel components. **A. Lang, D. Engelberg, P. Coffey, P. Martin, N. Smith, A. Jenkins, G. Law**

**11:40 NUCL 158.** Automated clean chemistry for bulk analysis of environmental swipe samples. **S.C. Bortorff, K.N. Tevepaugh, D.A. Bostick, C.R. Hexel, H. Kim, P. Field, B.W. Ticknor**

THURSDAY AFTERNOON

Section A

Moscone Center  
Esplanade Ballroom 302

Young Investigators in Nuclear & Radiochemistry

*Cosponsored by YCC*

E. M. May, *Organizer*

A. E. Hixon, *Organizer, Presiding*

**1:30 NUCL 159.** Characterizing mixed ligand f-element complexes for better An(III)/Ln(III) separations. **I.M. Hobbs, K.L. Nash**

**1:50 NUCL 160.** Studies of the impact of the diluent on interfacial properties of the advanced TALSPEAK/ALSEP extractant HEH[EHP]. **D.E. Dodd, K.L. Nash**

**2:10 NUCL 161.** Liquid phase chemistry study of indium and thallium for a future investigation of element 113. **M.F. Volia, E. Tereshatov, M. Boltoeva, C.M. Folden**

**2:30 NUCL 162.** Environmental technetium chemistry: Sulfide treatment of iron-containing minerals. **K. Reinig, N. Moore, S.S. Jurisson, T. Phelps**

**2:50 NUCL 163.** Withdrawn.

**3:10** Intermission.

**3:30 NUCL 164.** Europium sorption to aluminum (hydr)oxide minerals. **P. Kay, T. Baumer, A.E. Hixon**

**3:50 NUCL 165.** Alkali ion bridge complexation between uranium nanoclusters and mineral surfaces. **W. Stoxen, L.R. Sadegaski, J. Szymanowski, A.E. Hixon**

**4:10 NUCL 166.** Determination of thermodynamic parameters associated with Tc(IV) sulfate complexation. **G. Parker, D.E. Wall, N. Wall**

**4:30 NUCL 167.** Stability of uranyl peroxide nanoclusters under hydrothermal conditions. J.R. FitzPatrick, H.L. Lobeck, S. Mana, P.C. Burns

## ORGN

### Division of Organic Chemistry

R. Broene and S. Silverman, *Program Chairs*

#### OTHER SYMPOSIA OF INTEREST:

**Advances in Teaching Organic Chemistry** (see CHED, Tue)

**Green Chemistry Adoption: Progressive Changes by Different Industry Sectors** (see ENVR, Tue)

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium** (see PROF, Sun, Mon)

**Organometallic Chemistry: Applications to Organic Transformations** (see INOR, Sun, Wed)

**Space Chemistry** (see YCC, Mon)

#### SOCIAL EVENTS:

**Social Hour, 8:30 PM: Wed**

## SUNDAY MORNING

### Section A

Moscone Center  
3018/3022

**George A. Olah Award in Hydrocarbon or Petroleum Chemistry: Symposium in honor of Robert H. Grubbs**

R. E. Maleczka, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 ORGN 1.** Metal-catalyzed cross-coupling reactions of alkyl electrophiles. G.C. Fu

**8:40 ORGN 2.** Catalytic C–H functionalization: Borylation of molecules great and small along the road out of Flatland. M.R. Smith

**9:15 ORGN 3.** Streamlined synthesis of  $\pi$ -systems containing antiaromatic cyclobutadienoids via C–H activated annulation and aromatization. Y. Xia

**9:50** Intermission.

**10:00 ORGN 4.** Organocatalyzed atom transfer radical polymerization driven by visible light. G. Miyake

**10:35 ORGN 5.** Synthesis of improved protein-polymer conjugates by ROMP and CRP. H.D. Maynard

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

**11:10 ORGN 6. Award Address** (George A. Olah Award in Hydrocarbon or Petroleum Chemistry sponsored by the George A. Olah Award Endowment). Selective olefin metathesis catalysts and their applications. R.H. Grubbs

**11:55** Concluding Remarks.

### Section B

Moscone Center  
3014/3016

**National Fresenius Award: Symposium in honor of Neal K. Devaraj**

*Cosponsored by BIOC*

*Financially supported by Phi Lambda Upsilon, the National Chemistry Honor Society*

E. M. Skoda, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 ORGN 7.** Design and synthesis of new chemical tools for probing, manipulating, and imaging biological systems. D.M. Chenoweth

**8:45 ORGN 8.** Regio- and chemoselective immobilization of proteins on surfaces. J. Seo, G. Ramamoorthy, C.D. Poulter

**9:25 ORGN 9.** Membrane architectures, vesicle and viral fusion using DNA-lipid conjugates. S.G. Boxer

**10:05** Intermission.

**10:20 ORGN 10.** Purposefully moving peptides and proteins into the cytosol. A. Schepartz

**11:00** Introduction of Awardee.

**11:05 ORGN 11. Award Address** (National Fresenius Award sponsored by the Phi Lambda Upsilon, The National Chemistry Honor Society). Novel coupling reactions for manipulating and imaging biomolecules. N.K. Devaraj

**11:55** Concluding Remarks.

### Section C

Moscone Center  
3011

**Biologically-Related Molecules & Processes**

R. D. Broene, *Organizer*

S. T. Handy, *Presiding*

**8:20 ORGN 12.** Aurones: Synthesis and a template for biological investigations. S.T. Handy

**8:40 ORGN 13.** Versatile synthesis of chlorin and application in bio-medicine. N. Bhupathiraju, J. Gonzales, W. Perea, H. Chu, M. Yuen, N.L. Greenbaum, C.M. Drain

**9:00 ORGN 14.** Structural modifications of OXE receptor antagonists towards improved *in vivo* metabolic stability. S. Chourey, Q. Ye, N. Reddy, R. Wang, S. Gravel, C. Cossette, I. Slobodchikova, D. Vuckovic, M. Zeller, W.S. Powell, J. Rokach

**9:20 ORGN 15.** Fluorescent probes for imaging potassium in living cells. Z. Wang

**9:40 ORGN 16.** Fluorogenic dyes for haloalkane-based protein labeling *in vitro* and in bacterial cells. S.A. Clark, V. Singh, D. Vega Mendoza, W. Margolin, E.T. Kool

**10:00 ORGN 17.** Hydrophilized cell-permeant dyes with secondary alcohol functionalities for live cell STED imaging. A.N. Butkevich, V.N. Belov, K. Kolmakov, G. Lukinavicius, D. Kamin, S.C. Sidenstein, J. Matthias, R. Vlijm, H. Shojaei, V.V. Sokolov, S.W. Hell

**10:20 ORGN 18.** Design of a novel fluorescent sensor for chloride. K. VanDenburgh, Y. Liu, B. Qiao, A.H. Flood

**10:40 ORGN 19.** Fluorescent probes for imaging formaldehyde in living cells. K.J. Brummer, R.R. Walvoord, T.F. Brewer, C.J. Chang

**11:00 ORGN 20.** Development of a practical synthesis of ERK inhibitor GDC-0994. N. Wong, X. Linghu, F. Gosselin

**11:20 ORGN 21.** Discovery chemistry towards BTK inhibitor GDC-0853. J.J. Crawford

**11:40 ORGN 22.** Process research and development of the commercial synthesis of BTK inhibitor GDC-0853. H. Zhang, T. Cravillon, Q. Tian, N. Lim, D. Beaudry, J. Defreese, F. Gosselin

### Section D

Moscone Center  
3009

**Asymmetric Reactions & Syntheses**

R. D. Broene, *Organizer*

D. K. Leahy, *Presiding*

**8:00 ORGN 23.** Organocatalytic asymmetric transfer hydrogenation of *N*-alkylated aryliminoesters. J. Mazuela, T.K. Antonsson, M.J. Johansson, L. Kner, S.P. Marsden

**8:20 ORGN 24.** Catalytic asymmetric allylboration of cyclic imines for the stereodivergent synthesis of prenylated indolines and tetrahydroisoquinolines. C. Diner, M. Alam, S. Jonker, L. Eriksson, K. Szabo

**8:40 ORGN 25.** Vic-tricarboxyl compounds in natural product synthesis: Studies in total syntheses of preusochromones. U. Koert, E. Kerste

**9:00 ORGN 26.** Rationalization of enantioselectivity in chiral phosphoric acid-catalyzed reactions of  $sp^3$  electrophiles using DFT calculations. P. Champagne, K.N. Houk

**9:20 ORGN 27.** Efficient and scalable enantioselective synthesis of the axially chiral 11- $\beta$ -HSD inhibitor, BMT-816336. D.K. Leahy, C. Chan, K. Zhu, R.L. Hanson

**9:40 ORGN 28.** Enantioselective palladium-catalyzed insertion of carbene groups into N–H bonds of aromatic heterocycles. D. Van Vranken, S.C. Hiew, U. Ilandari Dewage, V. Arredondo, E. Gutman

**10:00 ORGN 29.** Enantioselective photocatalytic [3+2] cycloadditions of aryl cyclopropyl ketones, and strategies for developing selective photocycloadditions through dual catalysis. E.M. Sherbrook, T.P. Yoon, A. Amador

**10:20 ORGN 30.** Enantioselective Tsuji allylation of enol acetates. J. Liu, S. Mishra, A. Aponick

**10:40 ORGN 31.** Total synthesis of (–)-martinellic acid enabled by enantioselective copper catalyzed quinoline alkylation. M. Pappoppula, F.S. Cardoso, B.O. Garrett, A. Aponick

**11:00 ORGN 32.** New strategy for the first organocatalytic asymmetric  $\gamma$ -selective functionalization of cyclic enones: [4+2] cycloaddition/retro-Mannich reaction. Z. Chungheng, Y. Jinxing

### Section E

Moscone Center  
3007

**Metal-Mediated Reactions & Syntheses**

R. D. Broene, *Organizer*

O. Reiser, *Presiding*

**8:00 ORGN 33.** One-pot palladium-catalyzed synthesis of sulfonyl fluorides from aryl bromides. A.T. Davies, J. Curto, S.W. Bagley, M.C. Willis

**8:20 ORGN 34.** Rhodium(III)-catalyzed C–H functionalization of 1-(2*H*)-phthalazinones at C8. M. Huestis

**8:40 ORGN 35.** Development of new tools for the functionalization of cubane. S.S. Bernhard, S.L. Plunkett, M.O. Senge

**9:00 ORGN 36.** Cooperative palladium and copper catalyzed hydroarylation of alkenes: A new approach to  $sp^2$ - $sp^3$  cross coupling. S.D. Friis, M.T. Pirnot, S.L. Buchwald

**9:20 ORGN 37.** Solving a solved problem: The Chan-Evans-Lam amination. A.J. Watson

**9:40 ORGN 38.** Extending the Chan-Lam coupling reaction scope via cooperative photoredox and copper catalysis. A.J. Wommack, J. Marshall

**10:00 ORGN 39.** Development of functionalized primary alkylboronic derivatives for the Chan-Lam couplings of anilines. T.E. Cole, I. Han, E. Torres, G. Elliott, A. Klein

**10:20 ORGN 40.** Catalytic aerobic oxidation of alcohols catalyzed by cerium complexes supported by a pentadentate Schiff-base ligand. S. Shirase, H. Tsurugi, K. Mashima

**10:40 ORGN 41.** Double active template synthesis for functional rotaxane synthesis. J. Weiss, J.A. Wytko, T. Hayashi, Y. Miyazaki

**11:00 ORGN 42.** Visible-light mediated synthesis of aryl alkyl ketones. S. Roslin, L. Odell

**11:20 ORGN 43.** Shining light on copper: Unique opportunities for visible-light-mediated photoredox catalysis. T. Rawner, S.K. Pagire, C. Lankes, O. Reiser

**11:40 ORGN 44.** Temporary dearomatization as tool for a formal  $S_NAr$  on pyridines with silicon electrophiles. S. Wübbolt, M. Oestreich

### Section F

Moscone Center  
3005

**New Reactions & Methodology**

R. D. Broene, *Organizer*

D. A. Nagib, *Presiding*

**8:00 ORGN 45.** Thermal intermolecular [3+2] cycloaddition reactions of 4-phthalimido-*N*-sulfonyltriazaoles and substituted arenes. S.M. Wilkerson-Hill, H.M. Davies

**8:20 ORGN 46.** C–H xanthylation: A synthetic platform for alkane functionalization. W. Czaplowski, C.G. Na, E.J. Alexanian

‡ Cooperative Cosponsorship

**8:40 ORGN 47.** *p*-Halogenations made easy. E. Jalali, K. Dudley, B. Fouzia, Q. Nguyen, J. Bailey, D. Slocum

**9:00 ORGN 48.** Application of alkylquinone tautomerization to the total synthesis of Calothrixin B. L.M. Mori Quiroz, M. Dekarske, M.D. Cliff

**9:20 ORGN 49.** Metal-free intermolecular aminoarylation of alkynes. P. Rabet, S. Boyd, M. Greaney

**9:40 ORGN 50.** Para-selective halogenation and oxygenation of arenes. S.C. Fosu, C.M. Hambira, D.A. Nagib

**10:00 ORGN 51.** Withdrawn.

**10:20 ORGN 52.** Polarity-reversed carbonyl reactivity via an anomeric activation strategy. D.A. Nagib

**10:40 ORGN 53.** Synthesis and study of 1,3-disiloxanediols with applications for hydrogen-bonding and anion-binding catalysis. K. Diemoz, A. Kelly, A.K. Franz

**11:00 ORGN 54.** New strategies for aromatic substitution; the development of  $S_NAr$  catalysis. J.D. Weaver, S. Senaweera

**11:20 ORGN 55.** Broad spectrum enolate equivalent for catalytic chemo-, diastereo-, and enantioselective addition to *N*-*boc* imines. C. Hung, B.M. Trost

**11:40 ORGN 56.** Glycerol: A C3 bio-based platform chemical for alternative technologies. C. Len

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy

Sponsored by PROF, Cosponsored by ANYL<sup>+</sup>, BIOL<sup>+</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>+</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>+</sup>, POLY, PRES<sup>+</sup> and WCC

## SUNDAY AFTERNOON

### Section A

Moscone Center  
3018/3022

#### Herbert C. Brown Award for Creative Research in Synthetic Methods: Symposium in honor of Bruce H. Lipshutz

Financially supported by Aldrich (Millipore Sigma), ACS Green Chemistry Institute

D. M. Huryn, *Organizer, Presiding*

**1:10** Introductory Remarks.

**1:15 ORGN 57.** Ligand-accelerated C–H activation: From fundamentals to applications. J. Yu

**1:55 ORGN 58.** New enzymes for green chemistry. F.H. Arnold

**2:35 ORGN 59.** Photoredox/nickel dual catalytic cross-coupling and related processes. G.A. Molander

**3:15 ORGN 60.** Understanding the reduction mechanism Pd(II) to L<sub>n</sub>Pd(0) (*n* = 1 and 2) catalysts for organic synthesis. T. Colacot

**3:55** Introduction of Awardee.

**4:00 ORGN 61.** Award Address (Herbert C. Brown Award for Creative Research in Synthetic Methods sponsored by the Purdue Borane Research Fund & the Herbert C. Brown Award Endowment). Betting on nature: Making the switch to environmentally responsible synthetic organic chemistry in water. B.H. Lipshutz

### Section C

Moscone Center  
3011

#### Biologically-Related Molecules & Processes

R. D. Broene, *Organizer*

A. R. Narayan, *Presiding*

**1:30 ORGN 62.** High-throughput evaluation of small-molecule catalyst libraries: Development of an amphiphilic, DNA-encoded reaction discovery platform. K.D. Hook, R. Hill

**1:50 ORGN 63.** Rearrangement chemistry of aryl and heteroaryl sulfonamides. W. Martin, R.D. Bowen, R. Gallagher, A. Saïdykhan

**2:10 ORGN 64.** Molecular approaches to photocontrol of biological singlet dioxygen. Y. You

**2:30 ORGN 65.** Selective functionalisation and diversification of halogenated compounds through mild aqueous cross-coupling methodologies: From organic molecules to natural products. C. Pubill-Ulldemolins, M. J. Corr, S. V. Sharma, E. Marelli, R. Goss

**2:50 ORGN 66.** Exploration of advance synthetic processes for generating heterocyclic scaffolds: Synthetic scope and mechanistic insight. S. Sharma, D.M. Sawant, R.T. Pardasani

**3:10 ORGN 67.** Progress towards an anti-inflammatory based on the aurone scaffold. Z.E. Taylor, J.K. Noe, G. Flowers, H. Park, A.L. Farone, S.T. Handy

**3:30 ORGN 68.** Pd-catalyzed arylation of cyclic and spirocyclic diamines under aerobic conditions. S.W. Reilly, R.H. Mach

**3:50 ORGN 69.** Construction of a new eighteen-membered core structure for simplified and stabilized zampanolide mimics. Q. Chen, R. Wang, G. Chen, X. Zhang

**4:10 ORGN 70.** Privileged diversity oriented organic synthesis: Modular one-step route for the synthesis of novel compound collections for phenotypic screening. T.H. Altel, R. Ralph Mazitschek

**4:30 ORGN 71.** Leveraging biosynthetic enzymes for complex molecule synthesis. A.R. Narayan

### Section D

Moscone Center  
3009

#### Asymmetric Reactions & Syntheses

R. D. Broene, *Organizer*

M. Harmata, *Presiding*

**1:00 ORGN 72.** New catalytic, asymmetric (4+3)-cycloaddition reaction. M. Topinka, K. Zawatzky, C.J. Welch, M. Harmata

**1:20 ORGN 73.** Asymmetric synthesis of Rauhut-Currier type products by a regioselective Mukaiyama reaction under bifunctional catalysis. M. Frías Rodríguez, R. Mas-Balleste, S. Arias, C. Alvarado, J.J. Alemán

**1:40 ORGN 74.** Enantioselective allylic C–H oxidation of terminal olefins to isochromans by palladium(II)/chiral sulfoxide catalysis. W. Liu, S.E. Ammann, M. White

**2:00 ORGN 75.** Ligand-accelerated enantioselective methylene C(sp<sup>3</sup>)–H bond activation. G. Chen

**2:20 ORGN 76.** Global collaborations in asymmetric synthesis to catalyze discovery and development. M. Chorghade

**3:00 ORGN 77.** Process development for β<sub>2</sub> adrenergic receptor agonist moiety via ruthenium-catalyzed asymmetric reduction. M. Komiyama, T. Itoh, Y. Sato, M. Tabe

**3:20 ORGN 78.** Highly efficient and enantioselective synthesis of deoxypropionates and isoprenoids. M. Komiyama, S. Xu, H. Li, E. Negishi

**3:40 ORGN 79.** Chiral dinuclear rhodium(III) complexes as catalyst precursors for asymmetric hydrogenation of simple olefins. K. Higashihara, K. Higashida, H. Nagae, K. Mashima

**4:00 ORGN 80.** Brønsted-acids in template mediated asymmetric synthesis: Mechanistic understanding of azomethine imine cycloaddition reactions. H. Subramanian, M.P. Sibi

### Section E

Moscone Center  
3007

#### Metal-Mediated Reactions & Syntheses

R. D. Broene, *Organizer*

T. W. Funk, *Presiding*

**1:00 ORGN 81.** Ruthenium(II)-catalyzed C–H activation. L. Ackermann

**1:20 ORGN 82.** Ruthenium catalyzed ortho-C–H halogenation: Switching the chemoselectivity of iodine monochloride by catalyst choice. D. Bunting, C.J. Teskey, M. Greaney

**1:40 ORGN 83.** Development of heterogeneous and homogeneous catalysts for directed C–H halogenation reactions: Implications in late stage functionalization. M.J. Johansson, B. Martin-Matute, X. Zou, E. Erbing, V. Pascanu, F. Carson, J. Malmberg, A. Sanz-Marco, A. Vázquez-Romero, J. Su

**2:00 ORGN 84.** Development of a highly diastereoselective α-arylation of cyclobutyl nitriles. M.E. Dalziel, P. Chen, D.E. Carrera, H. Zhang, F. Gosselin

**2:20 ORGN 85.** Synthesis of indolines by enantioselective C–H insertion reactions of donor-donor metal carbenoids. R. Squitieri, C.N. Penrod, J.T. Shaw

**2:40 ORGN 86.** Sustainable approaches to C–H functionalization processes. F. Ferlin, S. Santoro, L. Ackermann, L. Vaccaro

**3:00 ORGN 87.** Rhodium-catalyzed enantioselective silylation of aryl C–H bonds: Synthetic and mechanistic studies. T. Lee, J.F. Hartwig

**3:20 ORGN 88.** Multicomponent coupling reactions on a zirconocene template. J. Stec, R.J. Whitty

**3:40 ORGN 89.** Palladium-catalyzed processes involving olefin insertion, enolate coupling and radical alkylation. J. Zhou

**4:00 ORGN 90.** Gold-catalyzed domino aminative homodimerization of ortho-alkynylbenzaldehydes providing tetracyclic 1,2-dihydronaphthalene derivatives. A. Ruch, L.M. Slaughter, F. Kong, V. Nesterov

**4:20 ORGN 91.** Reaction kinetics of (3,4-diphenylcyclopentadienone)iron carbonyl-catalyzed alcohol oxidations and carbonyl reductions. T.W. Funk

### Section F

Moscone Center  
3005

#### New Reactions & Methodology

R. D. Broene, *Organizer*

H. A. Lindsay, *Presiding*

**1:00 ORGN 92.** Modular *cul*-proline catalyzed one-pot route for the rapid access of privileged small and medium ring systems. T.H. Altel, V. Srinivasulu

**1:20 ORGN 93.** Orthogonal dual-click diyne for CuAAC and/or SPAAC couplings. R.R. Ramsubhag, G.B. Dudley

**1:40 ORGN 94.** Ligand-controlled silylation and reduction of aryl ammonium salts using nickel *N*-heterocyclic carbene catalysis. A.W. Rand, J. Montgomery

**2:00 ORGN 95.** Development of an interrupted carbonyl-olefin metathesis reaction. R. Watson, J. Ludwig, D. Nasrallah, J. Gianino, C. Schindler

**2:20 ORGN 96.** Halotrimethylsilane-nitrate salts: An efficient reagent system for versatile synthetic applications. T. Mathew, S. Roshandel, L. Gurung, G. Prakash, G. Olah

**2:40 ORGN 97.** One step beyond: Diversifying cycloisomerization products through new reactions. A. Pathak, M.W. Pecuh, J. Saha

**3:00 ORGN 98.** Solvent compatibility with acridinium labels: Cyrene evaluation. J. Grote

**3:20 ORGN 99.** Diazepane carboxylates as organocatalysts: The first organocatalytic Cope rearrangement and application to the Diels-Alder and polyene cyclizations. J. Gleason, D. Kaldre, N. Haggman, F. Larnaud, S. Plamondon

**3:40 ORGN 100.** Microwave-promoted iminyl radical fragmentations: A practical and efficient method of functionalization. M. Jackman, S. Im, S.R. Bohman, A.L. Garrity, S.L. Castle

**4:00 ORGN 101.** Piperidines via a microwave-assisted aza-Prins reaction. H.A. Lindsay, A. Green, A. Havens

**4:20 ORGN 102.** Research progress on interrupted pummerer cyclization. X. Li, R.G. Carter

**4:40 ORGN 103.** One-pot tandem Diels-Alder/Nazarov cyclization to generate advanced tricyclic intermediates. R.A. Carmichael, P. Soplanpanichkul, W. Chalifoux

#### Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG<sup>+</sup>, ORGN and PROF

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium



**Novel Reactions, Methodologies & Syntheses in Organic Chemistry**

Sponsored by PROF, Cosponsored by ANYL<sup>1</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>3</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>4</sup>, POLY, PRES<sup>5</sup> and WCC

**SUNDAY EVENING**

**Section A**

Moscone Center  
West Hall

**Asymmetric Reactions & Syntheses**

S. M. Silverman, *Organizer*

5:30 - 7:30

ORGN 104. Phosphothreonine as a catalytic residue in peptide-catalyzed asymmetric transfer hydrogenations. C.R. Shugrue, R.M. Lackner, S.J. Miller

ORGN 105. Synthesis of polypropionate building blocks for complex natural products. D. Galler, M. Calder

ORGN 106. Camphor-derived 1,3-diamine bifunctional organocatalysts. S. Ricko, J. Svete, B. Štefane, U. Grošelj

ORGN 107. Synthesis and DNA binding studies of azinomycin chromophore analogues. S. Pacheco, A. Nazarian

ORGN 108. Asymmetric organocatalytic Michael additions of methyl thioglycolate to various acceptors. D. Tözendemir, C. Tanyeli

ORGN 109. Bioinspired organocatalytic decarboxylative aldol reaction of aldehydes and ketones: Formal synthesis of chiral fluralaner. J. Sim, H. Bae, C. Song

ORGN 110. Benzyloisobornyl derivatives as chiral auxiliaries and chiral organocatalysts. M.K. Kennedy, P.J. Hartfield, A.J. Dahl, D.E. Lewis

ORGN 111. Synthesis of aldehyde substrates for an organocatalyzed enantioselective  $\beta$ -alkylation reaction. M.E. Akana, S. Konda, J.C. Zhao

ORGN 112. Separate ways: Efforts to resolve planar chiral [13]-macrolactones. J. Lawrence, M.W. Peczuł

ORGN 113. Transition state analogues as mechanistic probes for asymmetric desymmetrization by cinchona alkaloid-based catalysts. E. Emmings, G.E. Hofmeister, D.G. Alberg

ORGN 114. Synthesis and characterization of fluorinated curcumin-pyrazoline derivatives. C. Kannigadu, N. Koorbanally

ORGN 115. Enantioselective synthesis of indenyls via chiral Brønsted acid catalyzed Nazarov-type cyclization of  $\beta$ -amino-1,4-enynols. J. Jin, Y. Zhao, P.W. Chan

ORGN 116. Chemo- and stereodivergent synthesis of piperidine derivatives catalyzed by modularly designed organocatalysts. N.K. Rana, J.C. Zhao

ORGN 117. New quinine-based squaramide catalyst and its evaluation in the asymmetric aza-Friedel-Crafts reactions of isatin-derived ketimines. S. Karahan

ORGN 118. Regio-, diastereo-, and enantioselective borylative dearomatization of indoles using copper(I) catalysis. K. Hayama, K. Kubota, H. Iwamoto, H. Ito

ORGN 119. Enantioselective organocatalytic synthesis of cyclohexenone and 4*H*-pyran derivatives: A divergent approach. X. Ding, N. Heberer, B. Borhan

ORGN 120. Synthesis and application of amino-acid condensed  $\delta$ -lactams. I. Jahan, M.E. Taylor, G.A. Kraus, A.E. Russell, M.O. Abdalla

ORGN 121. Asymmetric synthesis of  $\gamma$ -lactones and related chiral building blocks through reaction of enediolates with vinyl onium salts. S. Kaster, N. Peraino, N. Kerrigan

ORGN 122. Synthesis of 1,2,4-dioxazinanes via aza-Michael desymmetrization. T.R. Vavrek, R. Marfatia, M. Abdel, H. Sharma, J. Fedor, D.M. Rubush

ORGN 123. Enantioselective oxo-allyl cation catalysis: A theoretical study. C. He, K.N. Houk

ORGN 124. Organic/metallic catalytic system for the asymmetric reactions of disubstituted ketenes. D. Paull, E. Barth

ORGN 125. Enantioselective organocatalysis: Synthesis and NMR studies of transition state analogues. C. Leahy, D.G. Alberg, G.E. Hofmeister

ORGN 126. Effect of acid concentration on the dynamic kinetic resolution in the cyclocondensation synthesis of  $\beta$ -alkyl-5,5-bicyclic lactams. P.T. Buonora, D. Nguyen

ORGN 127. Working with challenging substrates in catalytic enantioselective reactions: Understanding cooperative modes of activation in template-based catalytic reactions. H. Subramanian, M.P. Sibi

ORGN 128. Synthesis of bivalent organothiophosphates and their inhibition of butyrylcholinesterase: A potential therapeutic for Alzheimer's disease. A. Tahira

ORGN 129. Development and tandem EPR study of an asymmetric Cu(II)-catalyzed spiroannulation. B. Armstrong, R.I. Saylor, B. Shupe, J.P. MacDonald, R. Britt, A.K. Franz

ORGN 130. Withdrawn.

ORGN 131. Enantioselective Friedel-Crafts reaction of indoles and pyrroles using a cation-binding catalyst. M. Kim, L. Xue, Y. Liu, S. Paladhi, S. Park, H. Yan, C. Song

**Section B**

Moscone Center  
West Hall

**New Reactions & Methodology**

S. M. Silverman, *Organizer*

5:30 - 7:30

ORGN 132. Chiral diaziridines for the synthesis of five-membered ring nitrogen-containing heterocycles. J. Lizza, G. Moura-Letts

ORGN 133. Withdrawn.

ORGN 134. Synthesis of (Z)-2-((tert-butyl(dimethylsilyl)oxy)-3-(phenylthio)acrylaldehyde. M. Topinka, M. Harmata

ORGN 135. (4+3)-Cycloaddition reactions of oxidopyridinium species. C. Fu, N. Lora, P.L. Kirchhoefer, D.R. Lee, E. Altenhofer, C. Barnes, M. Harmata

ORGN 136. Investigation of transannular epoxide-opening toward bioactive pyrrolizidine alkaloids. C. Williams, B. Schafer, B. Wesley, A. Kaplan, E.E. Cleary, K.E. Allen, A. Betrus, M.M. Majireck

ORGN 137. Synthesis of *N*-(1-alkoxyvinyl) pyridinium salts and preliminary investigation of their utility in organic synthesis. J. Shapiro, J. Sonberg, H. Ferris, C. Williams, C. Kriley, E.W. Reinheimer, M.M. Majireck

ORGN 138. Preparation, structure and reactivity of pseudocyclic benziodoxole tosylate reagents. M. Shea, M. Liebl, S. Klasen, K. Nguyen, G. Rohde, A. Yoshimura, A. Saito, V. Nemykin, V.V. Zhdankin

ORGN 139. Metal-free imination of sulfides using tosyliminoiodane reagent. C. Makitalo, J. Fuchs, A. Yoshimura, A. Saito, V.V. Zhdankin

ORGN 140. Assigning the absolute configuration of amines using the competing enantioselective conversion method. A. Burtea

ORGN 141. Stereospecific nickel-catalyzed cross-coupling reactions of benzylic ethers: Investigation of ring-opening reactions and active catalyst identity. D. Dawson, E.R. Jarvo, E. Tollefson, C. Osborne

ORGN 142. Withdrawn.

ORGN 143. ipso-Bromination/iodination of arylboronic acids: Application of poly(4-vinylpyridine)-bromine/iodine complex as efficient reagent. F. Fu, L. Gurning, M. Czaun, T. Mathew, S.G. Prakash, G. Olah

ORGN 144. Halogenation and ipso-nitration of cinnamic acids: Halotrimethylsilane-nitrate, an efficient reagent system. S. Roshandel, L. Gurning, T. Mathew, G. Prakash, G. Olah

ORGN 145. Four-fold alkyne benzylation to afford chiral peropyrenes. K.M. Magiera, W. Yang, W. Chalifoux

ORGN 146. Efficient synthesis of bicyclo[4.4.0]decenes by tandem Diels-Alder of activated alkynes. J.A. Horton, A.M. O'Loughlin, W. Chalifoux

ORGN 147. Tandem diels-alder/Nazarov cyclization of  $\beta$ -silyl-substituted aryl ynones. R.A. Carmichael, P. Sophanpanichkul, W. Chalifoux

ORGN 148. Studies towards the iron(II)-promoted stereoselective haloamination of alkenes. N. Chang, B. Selover, L. Mir, G. Moura-Letts

ORGN 149. Intramolecular dipolar cycloadditions of enediaziridines. G. Haun, D. Almond, G. Moura-Letts

ORGN 150. Potassium phosphate-catalyzed one-pot synthesis of 3-aryl-2-oxazolidinones from epoxides, amines, and atmospheric carbon dioxide. Y.K. Chung, U. Seo

ORGN 151. Organocatalytic activation of isocyanides: N-heterocyclic carbene-catalyzed enaminone synthesis. J. Kim, S. Hong

ORGN 152. Development of CLAmP: Rational design of a carbonyl dication synthon that facilitates the one-pot synthesis of unsymmetrical ketones. S. Heller, J.N. Newton, T. Fu, R. Sarpong

ORGN 153. Transition-metal-free regioselective alkylation of heterocyclic *N*-oxides using 1,1-diborylalkanes as alkylating reagents. S. Cho

ORGN 154. Selective  $\alpha$ -oxo C(sp<sup>3</sup>)-H thioesterification of ether. B. Kang, S. Hong

ORGN 155. Photoredox/nickel dual-catalysis-enabled cross-coupling of sulfonamides and aryl halides. T. Kim, E.B. Corcoran, D.W. MacMillan

ORGN 156. Improved synthesis of lamivudine and emtricitabine. D. Mandala

ORGN 157. Withdrawn.

ORGN 158. Formylthioester: Highly chemoselective formylating reagent in palladium-catalyzed cross-coupling reaction of organozincs. R. Haraguchi, S. Tanazawa, S. Fukuzawa

ORGN 159. Novel, sustainable catalyst activation: Electrochemical reduction of titanocene dichloride and applications. T. Olyschlaeger, A. Gansäuer

ORGN 160. Selective monooxidation of symmetric dialdehydes in aqueous solvent. P. Kattanguru, R. Ogawa, S. Niwayama

ORGN 161. Biocatalytic reduction of ketones and imines using *Daucus carota* root. A. Bogetti, R. Kroeher Sachs

ORGN 162. Trichloroisocyanuric Acid (TCCA) as a reagent for chloro-lactonization and chlorocyclization. S. Jana, I. Hackett, V. Dragojlovic

ORGN 163. Regioselective construction of N<sup>2</sup>-acyl-C<sup>2</sup>-aryl-aminoimidazoles. E. Kirkeby, J. Salvant, K. Guillen, R. Looper

ORGN 164. Epoxide approach towards the synthesis of (-)-dolabriferol and (-)-dolabriferol B. K. Morales, J.A. Prieto

ORGN 165. Palladium catalyzed homo coupling reactions with in situ formed organolithium reagents, and its application in the total synthesis of Mastigophorene A. D. Heijnen, J. Buter, V. Hornillos, C. Vila, A. Minnaard, B. Feringa

ORGN 166. Formal [2+2+2] photoredox synthesis of naphthalene derivatives using aniline as traceless directing group. Q. Wang, N. Zheng

ORGN 167. Construction of an azasteroid library. M. Charaschanya, J. Aube

ORGN 168. Reductive ketyl radical cyclizations towards the total synthesis of the plakortone family of natural products. N. Foy, J. Cannon

ORGN 169. Development of an auxiliary-directed enolate alkylation for unnatural amino acid synthesis. N. Dwulet, J. Cannon

ORGN 170. Pd-catalyzed difunctionalization of unactivated olefins by tandem Heck coupling/enolate cyclization. R.K. Dhungana, B. Shrestha, R. Thapa Magar, R. Giri

ORGN 171. Tetraphenylphosphonium tetrafluoroborate/1,1,1,3,3,3-hexafluoroisopropanol (Ph<sub>4</sub>PBF<sub>4</sub>/HFIP) effecting epoxide-initiated cation-olefin polycyclizations. Y. Tian, J. Qu

ORGN 172. Halogen bonding induced Friedel-Craft-type alkylation of thiophenes with  $\alpha,\beta$ -unsaturated carbonyl compounds. Y. Ge, W. He, C. Tan

ORGN 173. Arenophile-mediated dearomative reductions. M. Okumura, S.M. Nakamata Huynh, J. Pospech, D. Sarlah

ORGN 174. Anodic coupling of imine with nitrile: Transition-metal-free synthesis of quinazoline derivatives. H. Hung, Y. Huang

ORGN 175. Experimental methodology of C-amination at the C-4 position of triacetic acid lactone. M.E. Taylor, G.A. Kraus, U.K. Wanninayake, Y. Qu

ORGN 176. Dehydrogenative N-formylation and N-methylation of amines catalyzed by ruthenium pincer complex. G. Choi, S. Kim, S. Hong

ORGN 177. Investigation of the Lewis-base catalyzed TMSO<sub>2</sub> additions to 2-halogenated carbonyles. N. Heth, S. Rouleau, T.A. Davis

<sup>4</sup>Cooperative Cosponsorship

- ORGN 178.** Palladium catalyzed electrophilic fluorination of aryl oxazolines via C-H activation. **D. Gutierrez**
- ORGN 179.** Synthesis of hemilabile *N,P* ligands with one, two or three chiral centers. **J. Kukowski, I.P. Smoliakova**
- ORGN 180.** New approaches to the chemical synthesis of ketones from organoboranes by using chlorochromate reagent. **E.J. Parish, G. Ren, Y. Lo, H. Honda, M. Hsiao, T. Wei**
- ORGN 181.** Exploring the photochemistry of carbonyl-decorated carbenes: *N,N'*-diamidocarbenes (DACs). **T.A. Perera, T.W. Hudnall**
- ORGN 182.** Novel application of new synthetic reagents for the oxidation of activated methylene groups for allylic oxidation. **G. Ren, E.J. Parish, Y. Lo, H. Honda**
- ORGN 183.** Lewis acid catalyzed 1,4-addition of nucleophiles to  $\alpha$ ,  $\beta$ -unsaturated ketones. **T.J. Rauwolf, R.S. Mohan**
- ORGN 184.** Metal-free synthesis of 1,3-dioxanediols and methods toward chiral variants for asymmetric catalysis. **A. Kelly**
- ORGN 185.** One-pot tandem oxidative dearomatization/[4+3] cycloaddition: Masked *o*-benzoquinone with diaza-oxyallyl cation. **K. Lee, H. Hsieh**
- ORGN 186.** Novel counterion for soluble anhydrous fluoride. **B. Wang, E. Linstad, H. Sun, S.G. DiMugno**
- ORGN 187.** Synthesis of annulated  $\alpha$ -carbonyls via metal-catalyzed cyclizations involving cyanamides. **S. Wrenn, S.P. Mulcahy**
- ORGN 188.** Practical stereocontrolled synthesis of vicinal halohydrins and haloamines from vinyl epoxides and vinyl aziridines. **L. Weselinski, M.J. Grillo, M. Tanasova**
- ORGN 189.** Development of new synthetic methodologies utilizing the decomposition products of alkyl triazabutadienes. **D. Knyazeva, J.C. Jewett**
- ORGN 190.** Modifications and mechanistic determination of the Ley-Griffith oxidation of alcohols. **P.W. Moore, Y. Jiao, T. Zerk, C. Read, P. Mirzayans, L. Ng Qi Sheng, J. Hooker, P. Bernhardt, C. Williams**
- ORGN 191.** Mechanistic insight into the synthesis of  $\beta$ -lactones via isothiourea-catalyzed enantioselective formal [2+2] cycloaddition. **D. Barrios Antúnez, A.D. Smith**
- ORGN 192.** Green protocol for the preparation of silyl enol ethers and their application in the synthesis of fine chemicals. **D. Lanari, M. Curini, C. Morozzi**
- ORGN 193.** Five-membered ring closure via intramolecular nucleophilic attack by nitrogen ylides on C=C bond of cyclopropenes. **C. Barrett, M.A. Rubin**
- ORGN 194.** Why LogD matters to the synthetic organic chemist: How lipophilicity and pKa interact to affect success or failure in acid-base separations of amine mixtures. **D.J. O'Mahony, R.J. Johnson, C. Francavilla**
- ORGN 195.** Studies on the alkylation of phenolate in an organofluorine solvent. **M. Kim, M. Ryu, Y. Son, Y. Choi, J. Jung**
- ORGN 196.** Synthesis and reactivity of trifluoromethyl iodonium salts: Mechanistic and synthetic significance. **A.V. Samant, J.N. Brantley, D. Toste**
- ORGN 197.** New microwave-promoted transformation of iminyl radicals. **S. Im, M. Jackman, S.R. Bohman, A.L. Garrity, S.L. Castle**
- ORGN 198.** Tailoring a chalcone synthesis for use with deuterated starting materials. **C.A. Gehman, C. Hamann**
- ORGN 199.** Discovery of a novel synthetic method to form binaphthyltetraone compounds. **V. Jha, C. Stevens, E. Stevens, J. Sridhar**
- ORGN 200.** New strategy for the preparation of 3, 4-hydroxypyridinone (HOPO) siderophores using selective *N*-alkylation of 3-benzyloxy-2-methyl-4-pyridinone. **D. Favela, A.S. Gopalan, H.K. Jacobs**
- ORGN 201.** Exploration of dihydrofuro-isoxazolines based on Intramolecular Silyl Nitronate Cycloadditions (ISNC) as branch points for novel isoxazoline compounds. **J.L. Duffy-Matzner, K.G. Stevens**
- ORGN 202.** Post-synthetic modification of drug candidates via C-H functionalization. **S.C. Fosu, C.M. Hambira, D.A. Nagib, J. Fuchs**
- ORGN 203.** Polarity-reversed radical cascade for the functionalization of heteroarenes. **J. Lear, D.A. Nagib**
- ORGN 204.** Nucleophilic, radical, and electrophilic trifluoromethylation reagents from fluorofrom. **J.B. Geri, N.K. Szymczak**
- ORGN 205.** Simple, stereospecific method for inversion of alcohols. **C. Paquin, D.W. Boerth**
- ORGN 206.** Developing a path to chiral aziridines through asymmetric copper hydride reduction. **R. Turro, J. Unger**
- ORGN 207.** Direct, regioselective *N*-alkylation of 1,3-azoles. **R. Graceffa**
- ORGN 208.** Triiodide-mediated  $\delta$  C-H amination of amines and alcohols. **E. Wappes, K. Nakafuku, S.C. Fosu, D.A. Nagib**
- ORGN 209.** Transition-metal-free decarboxylative amidation and their intramolecular cyclization for the synthesis of *N*-heterocycles and its application to the preparation of marketed drug, sildenafil. **K.V. Patel, K. Tummalapalli, N. Dayal, J. Laha**
- ORGN 210.** Alkylation of heterocycles through a photoredox catalytic reductive decarboxylation. **E.J. McClain, A. Sun, J.W. Beatty, C. Stephenson**
- ORGN 211.** Unusual ring-expansion reaction to prepare 9-Nitro-5H-spiro[benzo[b]tetrazolo[1,5-d]oxazepine-4,2'-oxirane]. **R.S. Kolluri**
- ORGN 212.** Redox-active esters in Ni-catalyzed cross-coupling reactions. **J.T. Edwards, J. Cornella, T. Qin, J. Wang, R. Merchant, K.S. McClymont, K.W. Knouse, C. Li, L. Malins, S. Kawamura, C. Pan, L. Wimmer, T. Chen, A. Novak, J.Z. Zhong, R. Mills, R. Gianatassio, M. Schmidt, C. Yuan, B. Maxwell, B. Vokits, S.A. Shaw, M.D. Eastgate, P.S. Baran**
- ORGN 213.** Alkaloid-like substructures via photoredox catalysis: Synthesis of 1-aminonorbornanes. **T.M. Sodano, D. Staveness, C. Stephenson**
- ORGN 214.** Regioselective benzosultam formation via silver-catalyzed nitrene insertion. **B. Sheffer, R.J. Scamp, J.M. Schomaker**
- ORGN 215.** Lewis and Brønsted acid-catalyzed allylsilane oligomerization. **B. Wigman, A.K. Franz, B. Armstrong**
- ORGN 216.** Synthetic utility of boracarboxylated styrene derivatives. **T. Perrone, T.W. Butcher, S. Knowlden, E.J. McClain, B.V. Popp**
- ORGN 217.** Lanthanum(III)-catalyzed three-component reaction of coumarin-3-carboxylates for the synthesis of indolylmalonamides and analysis of their photophysical properties. **J. Jennings, C.P. Bhatt, B.I. Gomez, A. Nguyen, A.K. Franz**
- ORGN 218.** 3-Methylene-2,4-chromandione *in situ* trapping. **F. Popowycz, M. Boulven, A. Montagut-Romans**
- ORGN 219.** Synthesis of nitro, amino, nitro/OR, and amino/OR substituted distyrylbenzene and polyphenylene vinylene. **A.I. Torres Burgueno**
- ORGN 220.** Development of new methodologies for GSK medicinal chemistry projects. **E. Talbot, R. Griffiths, J. Spencer, R.P. Law, S. Ukuser, C. Jamieson, G.A. Burley**

**Section C**

Moscone Center  
West Hall

**Metal-Mediated Reactions & Syntheses**

S. M. Silverman, Organizer

5:30 - 7:30

- ORGN 221.** Improvement in cross-coupling reactions by heterobimetallic nickel catalysis. **H. Nazari**
- ORGN 222.** Nickel-catalyzed asymmetric reductive cross-couplings with vinyl bromide electrophiles. **J. Hofstra, N. Suzuki, K. Poremba, S.E. Reisman**
- ORGN 223.** Nickel-catalyzed direct arylation of oxazoles: Benchmarking the influence of electronic, steric and leaving group variations in the phenolic electrophiles. **D. Steinberg, M.C. Turk, D. Kalyani**
- ORGN 224.** Nickel-catalyzed cross-coupling of aromatic nitriles and azoles. **M.G. Hanson, N. Olson, G. Wilson, D. Kalyani**
- ORGN 225.** Optimization of a palladium-catalyzed C-N coupling towards the robust synthesis of a RORC ligand. **D. Lao, L.E. Sirois, R. Angelaud, J. Xu, F. Gosselin**
- ORGN 226.** Palladium-catalyzed ortho-arylation of benzamides using a removable directing group. **Y. Shen, W. Lee, D.A. Gutierrez, J.J. Li**
- ORGN 227.** Palladium catalyzed direct arylation of nitroarenes using tosylates and mesylates. **Y. Aschenaki, A. Schnaith, S. Davick, Z. Yi, R. Wander, R. Daley, D. Kalyani**
- ORGN 228.** Palladium-catalyzed reactions of fluoroalkenes. **R. Thornbury, D. Toste**
- ORGN 229.** Pd mediated selective functionalisation and diversification of biologically relevant halogenated molecules through mild cross-coupling methodologies in water. **C. Pubill-Ulldemolins, S. V. Sharma, M. J. Corr, E. Marelli, R. Goss**
- ORGN 230.** Pd<sup>2+</sup> detection in water-based Suzuki-Miyaura coupling reaction using colorimetry with squaraine dyes. **K. Novosad, D. Janzen, R.S. Majerle**
- ORGN 231.** Transmetalation of alkylzirconocenes: Copper-catalyzed alkyl-alkynyl cross-coupling with bromoalkynes. **K. Indukuri, O. Riant**
- ORGN 232.** Late stage copper-mediated fluorination with PET imaging applications. **K.J. Makaravage, A.F. Brooks, A. Mossine, M.S. Sanford, P.J. Scott**
- ORGN 233.** Activation of disilanes with copper(I)-alkoxides. **R. Van Hoveln, B. McCarty, B. Thomas**
- ORGN 234.** Application of copper(I) bisphenanthroline complexes in enantioselective photoredox reactions. **M.R. Jilek, M.R. Hurst, S.A. Souder, K.H. Jensen**
- ORGN 235.** Copper-catalyzed synthesis of iminoquinolizines and aminoindolizines. **A.K. Isaacs, B. Ghiano, T. Correia**
- ORGN 236.** Stereoselective borolytic radical cyclization with copper(I) catalyst. **H. Iwamoto, S. Akiyama, K. Hayama, H. Ito**
- ORGN 237.** Copper-mediated C-H chlorination by trichloroacetamide using a directing group. **W. Lee, Y. Shen, D.A. Gutierrez, J.J. Li**
- ORGN 238.** Highly diastereoselective (*Z*)-5-trimethylgermyl-2-alkenones via organoboranes. **N.G. Bhat**
- ORGN 239.** New diastereoselective synthesis of (*Z*)-trisubstituted alkenes containing allyl and biphenyl moieties via organoboranes. **N.G. Bhat**
- ORGN 240.** Highly diastereoselective (*Z*)-2-ditrimethylgermyl substituted dienes via organoboranes. **N.G. Bhat**
- ORGN 241.** New diastereoselective synthesis of (*Z*)-trisubstituted alkenes containing a cyclohexyl and biphenyl moieties via organoboranes. **N.G. Bhat**
- ORGN 242.** Synthesis of novel, air- and moisture-stable tris(trimethylsilyl)silyborane reagents for boryl substitution and silylation reaction. **R. Shishido, E. Yamamoto, H. Ito**
- ORGN 243.** Rhodium-catalyzed addition-cyclization-rearrangement cascade of alkynylhydrazones. **K. Choi, H. Park, C. Lee**
- ORGN 244.** Development of rhodium catalyzed carbon-carbon bond formation to thiochromones and *N*-analogues. **F. Guo, B. Graves, J. Malcolm, S. Graham**
- ORGN 245.** Development of Fischer-type carbene-based ruthenium olefin metathesis catalysts. **K. Song, K. Kim, S. Hong**
- ORGN 246.** Controlled monoisomerization of 1-alkenes mediated by a 16-electron ruthenium catalyst. **E.R. Paulson, C.E. Moore, A.L. Rheingold, D.B. Grotjahn**
- ORGN 247.** Reductive elimination from Au(III). **M. Levin, D. Toste**
- ORGN 248.** Enantioselective Au(III) catalysis. **P. Bohan, D. Toste**

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- ORGN 249.** Synthesis of novel NHC-Au(I) complexes with extremely bulky groups. R. Ma, T. Seto, B.W. Gung
- ORGN 250.** Gold and Brønsted acid-catalyzed cycloisomerization of 1,8-diynyl vinyl acetates to bicyclo[2.2.1]hept-2-en-7-ones. X. Chen, D.P. Day, W. Teo, P.W. Chan
- ORGN 251.** Synthesis of  $\beta$ -carboline derivatives via a silver-mediated oxidation of tetrahydro- $\beta$ -carbolines. B. Sierra, S. Durham, J. Tran, M. Gomez, S.C. Eagon
- ORGN 252.** Silver catalyzed 1,3-acyloxy migration/diels-alder reaction of 1,4,9-dienyne esters to partially hydrogenated isoquinolines. Y. Zhao, J. Jin, J. Boyle, B. Lee, P.W. Chan
- ORGN 253.** Transformation of amides into highly functionalized triazolines via Mo(CO)<sub>6</sub> catalyzed reduction. T. Slagbrand, A. Volkov, M.P. Trillo, G. Tinnis, H. Adolfsson
- ORGN 254.** Towards novel cobalt catalyzed C-H activation strategies. k. suppan
- ORGN 255.** Enantioselective additions of allyl indium reagents to aldehydes. A. Beckemeyer
- ORGN 256.** Novel route to arylated fluoroalkyl bromide building blocks through  $\alpha$ -bromo- $\omega$ -silyl disubstituted perfluoroalkanes. P.T. Kaplan, D.A. Vicic
- ORGN 257.** Mechanistic aspects of fluorination reactions with fluoro-benziodoxol reagent. N. Ichenko, M. Hedberg, B.O. Tasch, K.J. Szabo
- ORGN 258.** Substrate scope study of tandem acyl C–O/aryl C–H bond activation. P. Gemmel, C. Anderson, N. Serratore, S.J. Underwood, C.J. Douglas
- ORGN 259.** Lewis acid-mediated, microwave-assisted cycloaddition of allylsilanes with donor-acceptor cyclopropanes. M. Smith, E. Finney
- ORGN 260.** Withdrawn.
- ORGN 261.** Ru-catalyzed selective imine formation from nitriles and secondary alcohols through hydrogen-transfer strategy. D. Kim, B. Kang, S. Hong
- ORGN 262.** Novel application to the allylic oxidation of steroids with pyridinium dichromate and pyridinium chlorochromate. Y. Lo, G. Ren, E.J. Parish, H. Honda, T. Wei
- ORGN 263.** Effects of the anion X in Cp<sub>2</sub>TiX-catalyzed reactions. R. Richrath, A. Gansäuer
- ORGN 264.** Nitrosoarenes as building blocks for nitrogen-functionalized arenes. A. van der Werf, M. Hribersek, N. Selander
- ORGN 265.** Highly active titanocene catalysts for epoxide hydrosilylation: Synthesis, theory, kinetics, EPR spectroscopy. S. Klare, D. Schwarz G. Henriques, K. Zimmer, A. Meyer, E. Rojo-Wiechel, M. Bauer, R. Sure, S. Grimme, O. Schiemann, R.A. Flowers, A. Gansäuer

- ORGN 266.** Transannular Pauson-Khand cyclization reactions of macrocyclic dicobalt hexacarbonyl-alkyne complexes. B. Boon, S. Karabiyikoglu, C.A. Merlic
- ORGN 267.** Directing group assisted remote meta C–H bond functionalization. A. Maji, D. Maili
- ORGN 268.** Titanium-mediated synthesis of substituted cyclobutanes. J.R. Alleyn, J. Bradley, R. Walker, F. Perez, M.R. Gesinski
- ORGN 269.** Dehydrogenative cyclization of o-aminobenzyl alcohols with ketones to quinolines in water catalyzed by a water-soluble [Ir] complex. R. Wang
- ORGN 270.** Synthesis and neoglycosylation with stereo-diverse 2-amino free-reducing sugars. A. Scharnow, J. Lam, V. Huang, I. Rocroi, C.M. Rojas
- ORGN 271.** Synthesis of olefin monomers from renewable, biomass-derived polyols by catalytic deoxydehydration. S.D. Jacob, D. Toste
- ORGN 272.** Synthesis of polyfluorinated biphenyls and polyphenyls with Buchwald phosphine ligand assisted Suzuki-Coupling. D. Bulfield, S. Huber
- ORGN 273.** Expanding the scope of hydrogen borrowing catalysis using cyclopropyl ketones as key structural motifs. W. Akhtar, C. Cheong, J. Frost, N. Stevenson, T.J. Donohoe
- ORGN 274.** Withdrawn.
- ORGN 275.** Chemo- and enantioselective silver-catalyzed aziridinations. M. Ju, J.M. Schomaker

MONDAY MORNING

Section A

- Moscone Center  
3018/3022
- Elias J. Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator: Symposium in honor of Neil K. Garg**
- H. M. Davies, *Organizer, Presiding*
- R. Sarpong, *Presiding*
- 8:00 ORGN 276.** Fragment coupling with carbon radicals. L.E. Overman
- 8:35 ORGN 277.** Flow chemistry on multikilogram scale. D.D. Caspi
- 9:10 ORGN 278.** Adventures with Neil Garg in distortion/interaction land. K.N. Houk
- 9:45 ORGN 279.** Engaging reactive carbocations in chemoselective and stereoselective transformations. H. Nelson
- 10:20 ORGN 280.** Complex natural products as a driving force for discovery in organic chemistry. B.M. Stoltz
- 10:55** Introduction of Awardee.
- 11:00 ORGN 281. Award Address** (Elias J. Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator sponsored by Pfizer Endowment Fund). Recent forays in methods development and complex molecule synthesis. N.K. Garg

Section B

- Moscone Center  
3014/3016
- Computer-Guided Organic Synthesis**  
*Financially supported by Molecular Forecaster*
- N. Moitessier, J. Pottel, *Organizers, Presiding*
- 8:00** Introductory Remarks.
- 8:05 ORGN 282.** Computation of organic reaction pathways involving dispersion and unpaired electrons. M. Kozłowski
- 8:35 ORGN 283.** Virtual screening in asymmetric catalysis. P. Norrby
- 9:05 ORGN 284.** Simulating routine synthetic chemistry from a to z. J. Pottel, N. Moitessier
- 9:35** Intermission.
- 9:55 ORGN 285.** Computer guided organic synthesis. D. Walden, R.G. Carter, A.D. Smith, K. Scheidt, P. Cheong
- 10:25 ORGN 286.** From experiment to calculation and back: A round trip ride on the DFT and DFT/MM train. F. Maseras
- 10:55 ORGN 287.** Density functional theory guided catalyst design for solar generated fuels. T. McCormick, C. Virca
- 11:25 ORGN 288.** Modeling asymmetric organocatalysis. K.N. Houk
- 11:55** Concluding Remarks.

Section C

- Moscone Center  
3011
- Biologically-Related Molecules & Processes**
- R. D. Broene, *Organizer*
- D. Bandyopadhyay, *Presiding*
- 8:20 ORGN 289.** Di-substituted maleamic acid as an ultra acid-sensitive, cleavable linker for reversing the cytotoxicity pH-profile of doxorubicin in small molecule prodrugs. M. An, A. Zhang, L. Yao
- 8:40 ORGN 290.** Water-soluble NIR-absorbing rylene chromophores for biomedical applications. K. Peneva
- 9:00 ORGN 291.** Peridinin is a potent probe for the role of bilayer lipid peroxidation in pathogenesis. A. Hill, H. Haley, M.D. Burke
- 9:20 ORGN 292.** Withdrawn.
- 9:40 ORGN 293.** Imaging with novel catecholamine-selective fluorescent sensors. L. Zhang, X. Liu, K. Gillis, T.E. Glass
- 10:00 ORGN 294.** Synthesis and characterization of dyes for use in biological zinc-ion and reactive oxygen species dual imaging. K. Daykin, L. Zhu
- 10:20 ORGN 295.** Rational design and facile synthesis of highly modular turn-on fluorescent probe. J.V. Jun, D.M. Chenoweth, E.J. Petersson
- 10:40 ORGN 296.** Time-resolved mechanism of SpnF-catalyzed Diels-Alder reaction. Z. Yang, P. Yu, S. Yang, Y. Li, C. Doubleday, K.N. Houk
- 11:00 ORGN 297.** Synthesis of gyramide-bound photoaffinity reagents for DNA gyrase. A.J. Kwong, J.T. Shaw
- 11:20 ORGN 298.** Chemical synthesis of the potent anticancer agent prunastatin A. M. Chojnacka, R.A. Batey

- 11:40 ORGN 299.** 5-Azido-modified pyrimidine nucleosides: Chemistry and biology. Z. Wen, J. Peng, P. Tuttle, Y. Liang, S. Rishi, A. Adhikary, M.D. Sevilla, C. Garcia, Y. Ren, Y. Liu, S.F. Wnuk

Section D

- Moscone Center  
3009
- Asymmetric Reactions & Syntheses**
- R. D. Broene, *Organizer*
- Y. Chen, *Presiding*
- 8:00 ORGN 300.** Stereocontrolled synthesis of polypropionates based on building block assembly strategies by lithiation-borylation methodologies. A. Millan, B. Zhou, V.K. Aggarwal
- 8:20 ORGN 301.** Oxidative aerobic NHC catalysis via multistep electron transfer. h. Sundén, L. Ta, A. Axelsson
- 8:40 ORGN 302.** Chemo-enzymatic syntheses of chiral epoxides, rare sugars and flavors from levoglucosone-derived (S)- $\gamma$ -Hydroxymethyl- $\alpha$ , $\beta$ -Butenolide (HBO). M. Moreaux, G. Bonneau, A. Peru, A. Flourat, A. Teixeira, W. Raverty, B. Greatrex, A. Haudrechy, F. Allais
- 9:00 ORGN 303.** Catalytic asymmetric alkylation of chromenones. L. DeRatt, M. Pappoppala, A. Aponick
- 9:20 ORGN 304.** Enantioselective conjugate alkylation enabled by Me-StackPhos. S. Mishra, J. Liu, A. Aponick
- 9:40 ORGN 305.** Developing a highly efficient, environmentally responsible alternate manufacturing process for montelukast sodium (Singulair®). Y. Chen, G.R. Humphrey, S.W. Krska, J. Qi, L. Tan, T. Itoh, J. Albaneze-Walker, S. Funane, T. Yokozawa, T. Kobayashi
- 10:00 ORGN 306.** Stereo- and enantioselective synthesis of chiral compounds bearing an all-carbon quaternary stereocenter by ZACA reaction. S. Xu, C. Wang, M. Komiyama, Y. Tomonari, Q. Qi, E. Negishi
- 10:20 ORGN 307.** Development of hydrogen-bond donor catalysts for asymmetric C–C bond formation. M. Rombola, V.H. Rawal
- 10:40 ORGN 308.** Withdrawn.
- 11:00 ORGN 309.** Synthesis of enantio-enriched  $\alpha$ -quaternary prolines using a C $\rightarrow$ N $\rightarrow$ C chirality transfer. H. Cho, J. Shin, H. Jeon, S. Lee, S. Kim

Section E

- Moscone Center  
3007
- Metal-Mediated Reactions & Syntheses**
- R. D. Broene, *Organizer*
- T. J. Williams, *Presiding*
- 8:00 ORGN 310.** Tuning the regioselectivity of alkene/alkyne functionalization via a directing group strategy. M.L. O'Duill
- 8:20 ORGN 311.** Investigation of the synergistic cooperation between bimetallic systems. S. Martinez de Salinas Uzquiza, Á. Mudarra, M. Pérez-Temprano
- 8:40 ORGN 312.** N-Trifluoromethylation of nitrosoarenes. A. van der Werf, M. Hribersek, N. Selander

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

‡Cooperative Cosponsorship



**9:00 ORGN 313.** Investigation of the organo-metallic chemistry of cobalt complexes: An attractive alternative to noble metals catalysts. **M. Perez-Temprano**

**9:20 ORGN 314.** Palladium-catalyzed, site-selective direct allylation of aryl C-H bonds by silver-mediated C-H activation: A synthetic and mechanistic investigation. **S.Y. Lee, J.F. Hartwig**

**9:40 ORGN 315.** Metal-mediated radical coupling of propargyl triflates: Acquiring a prognostic power in inter- and intramolecular reactions. **G. Melikyan, R. Davis, E. Artashyan**

**10:00 ORGN 316.** Catalytic borylative opening of propargyl cyclopropane, epoxide, aziridine, and oxetane substrates: Ligand controlled synthesis of allenyl boronates and alkenyl diboronates. **J. Zhao, K. Szabo**

**10:20 ORGN 317.** Visible-light radical cyclizations by photoredox/cobalt dual catalysis. **A. Casitas Montero, M. Claros, J. Lloret-Fillol**

**10:40 ORGN 318.** Substrate controlled product divergence in CO<sub>2</sub> conversion to heterocyclic products. **J. Rintjema, R. Epping, G. Fiorani, E. Martin, E. Escudero-Adán, A.W. Kleij**

**11:00 ORGN 319.** Base and solvent-free ruthenium-catalyzed alkylation of amines. **J. Celaje, X. Zhang, F. Zhang, L. Kam, J.R. Herron, T.J. Williams**

**11:20 ORGN 320.** HandaPhos. A ligand enabling ppm levels of palladium in Suzuki-Miyaura couplings – the density functional theory calculations. **M. Andersson, S. Handa, F. Gallou, J. Reilly, B.H. Lipshutz**

**11:40 ORGN 321.** Lewis acid-catalyzed stereoselective synthesis of cyclopenta[c]furans by a multi-component reaction. **S. Pathi Pati, A. van der Werf, L. Eriksson, N. Selander**

## Section F

Moscone Center  
3005

### New Reactions & Methodology

R. D. Broene, *Organizer*

N. Jui, *Presiding*

**8:00 ORGN 322.** Withdrawn.

**8:20 ORGN 323.** Lignin depolymerization strategy using visible-light photoredox catalysis. **G. Magallanes, C. Stephenson**

**8:40 ORGN 324.** Catalytic methods for heteroarene functionalization via solubility-controlled radical reactions. **N. Jui**

**9:00 ORGN 325.** Photochemical aromatization: A novel approach to substituted furans and pyrroles under neutral conditions. **S. Werrel, J. Walker, T.J. Donohoe**

**9:20 ORGN 326.** Site-selective aryl C-H amination via photoredox catalysis. **K. Margrey, N. Romero, D.A. Nicewicz**

**9:40 ORGN 327.** Decarboxylative alkylation of biologically relevant heterocycles using photoredox catalysis. **A. Sun, E.J. McClain, J.W. Beatty, C. Stephenson**

**10:00 ORGN 328.** Nanomole scale photoredox catalysis: High throughput evaluation and evolution of Ni/photoredox direct C-N amination using chemistry informer libraries. **S. Lin, S. Dreher**

**10:20 ORGN 329.** Design and application of strongly reducing organic photoredox catalysts. **R.M. Pearson, G. Miyake**

**10:40 ORGN 330.** Stereodivergent amino-catalytic synthesis of Z- and E- trisubstituted double bonds from alkynals. **J. Luis Barrera, R. Mas-Balleste, J.J. Alemán**

**11:00 ORGN 331.** β C-H amination of alcohols via a radical relay chaperone. **E. Wappes, K. Nakafuku, D.A. Nagib**

**11:20 ORGN 332.** New methodology for the synthesis of an array of bifunctional 3-hydroxy-2-pyridinone ligands for applications to therapeutic and diagnostic metal ion chelation. **C.D. Cook, H.K. Jacobs, A.S. Gopalan**

**11:40 ORGN 333.** Geminal dialkyl assistance enables 5-endo-trig-type intramolecular alkene hydroarylation reactions. **X. Cai, A. Keshavarz, J. Omaque, B.J. Stokes**

## Science for a Sustainable Energy Future

### Energy Storage

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

*Sponsored by PROF, Cosponsored by ANYL<sup>1</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>3</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>4</sup>, POLY, PRES<sup>5</sup> and WCC*

## MONDAY AFTERNOON

### Section A

Moscone Center  
3018/3022

### Ernest Guenther Award in the Chemistry of Natural Products: Symposium in honor of Stephen F. Martin

C. A. Maryanoff, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 ORGN 334.** Design, synthesis and biological evaluation of small-molecule inhibitors of HIV-1 entry: A potential long-term strategy for curbing the AIDS pandemic. **A.B. Smith, III**

**1:55 ORGN 335.** Necessity is the mother of invention: Natural products and the chemistry they inspire. **S.E. Reisman**

**2:45 ORGN 336.** Strategies and methods for chemical synthesis inspired by complex natural products. **R. Sarpong**

**3:35** Introduction of Awardee.

**3:45 ORGN 337. Award Address** (Ernest Guenther Award in the Chemistry of Natural Products sponsored by Givaudan Flavors Corporation). Journey from natural products to unmet medical needs in neuroscience. **S.F. Martin**

**4:35** Concluding Remarks.

### Section B

Moscone Center  
3014/3016

### Application of Physical Organic Chemistry to Challenges in Industry

G. Beutner, *Organizer, Presiding*

**1:30** Introductory Remarks.

**1:35 ORGN 338.** Computational study on the stereoselective reduction of a ketone intermediate with Li(t-BuO)<sub>2</sub>AlH. **G.J. Tanoury, S. Roeper**

**1:55 ORGN 339.** Methods and mechanism. **A.G. Doyle**

**2:35 ORGN 340.** Mechanistic studies toward the development of predictive models. **A. Ramirez**

**2:55** Intermission.

**3:05 ORGN 341.** Development and investigation of a Pd-catalyzed C-N bond formation: Application to the synthesis of an active pharmaceutical ingredient. **J. Milne, A. Allgeier, A. Guram, J.C. Baum, J.A. Murry, J. Colyer, X. Wang, J. Payack, T. Storz, M. Dilmeghani Seran, T. Hwang, B. Shaw**

**3:25 ORGN 342.** Structure-reactivity relationships in the chemistry of lithium enolates. **K.A. Mack, J. Jermaks, M. Houghton, Y. Zhou, D.B. Collum**

**4:05 ORGN 343.** Application of mechanistic modeling to facilitate API process development. **D.D. Caspi**

**4:25** Concluding Remarks.

### Section C

Moscone Center  
3011

### Biologically-Related Molecules & Processes

R. D. Broene, *Organizer*

M. D. Distefano, *Presiding*

**1:00 ORGN 344.** Synthesis and applications of photoactive analogues of isoprenoid diphosphates incorporating diazirines. **J.S. Vervacke, A. Sarkis, A.L. Funk, E.L. Lorimer, C. Hrycyna, C.L. Williams, M.D. Distefano**

**1:20 ORGN 345.** Development of synthetic methods for the preparation of biologically active compounds. **A.R. Angeles**

**1:40 ORGN 346.** Synthesis and biological evaluation of novel heterocyclic scaffolds as infectious disease lead compounds. **G.A. Edwards, J.G. Pierce**

**2:00 ORGN 347.** Strain induced couplings mediated by visible light. **J.D. Weaver, K. Singh**

**2:20 ORGN 348.** Withdrawn.

**2:40 ORGN 349.** Zwitterionic pyrrolidine-phosphonates: Transition state mimics of the glycoside hydrolase-like phosphorylase *Streptomyces coelicolor* GlgEI-V279S. **S. Veleti, C. Petit, D.R. Ronning, S.J. Sucheck**

**3:00 ORGN 350.** Chemosynthetic livers: Predict, prepare and prove the structure, activity and toxicity of drug metabolites. **R. Chorghade, M. Chorghade**

**3:20 ORGN 351.** Chemosynthetic livers: Evaluating plausible drug-drug interactions relating to metabolite suppression or attenuation. **R. Chorghade, M. Chorghade**

**3:40 ORGN 352.** Designing foldamers: Synthesis of hydrophilic peptoids that fold in a predictable manner. **P.W. Peterson, J.G. Schmidt, A.S. Anderson, R.D. Gilbertson, R.F. Williams, C.E. Strauss**

**4:00 ORGN 353.** Origin of RNA: Model studies for the prebiotic synthesis of nucleosides. **G. Purushothaman, R. Breslow**

### Section D

Moscone Center  
3009

### Asymmetric Reactions & Syntheses

R. D. Broene, *Organizer*

G. R. Boyce, *Presiding*

**1:00 ORGN 354.** Ruthenium catalyzed C-C coupling of alcohols with alkynes and 1,3-enynes via hydrogen transfer. **K.D. Nguyen, D. Herkommer, T. Liang, B.Y. Park, M.J. Krische**

**1:20 ORGN 355.** Withdrawn.

**1:40 ORGN 356.** Why is asymmetric hydrogenation of 3-substituted pyridinium salts so problematic? **J.G. De Vries, M. Renom-Carrasco, P. Gajowski, L. Lefort, L. Pignataro, U. Piarulli, C. Gennari**

**2:00 ORGN 357.** Asymmetric synthesis of drug candidates: Discovery and development of novel aza-Michael catalysts for the synthesis of Letemovir. **S. Dalby**

**2:20 ORGN 358.** Brønsted acid-hydrogen bonding model for cinchona alkaloid-catalyzed asymmetric conjugate addition reactions. **M.N. Grayson, K.N. Houk**

**2:40 ORGN 359.** Electrostatic interactions control the selectivity of NHC-catalysed kinetic resolution. **R. Maji, S.E. Wheeler**

**3:00 ORGN 360.** Site selective and stereoselective functionalization at primary, secondary and tertiary C-H bonds. **H.M. Davies, K. Liao**

**3:20 ORGN 361.** Efforts towards the concise stereoselective synthesis of thujone. **G.R. Boyce**

### Section E

Moscone Center  
3007

### Metal-Mediated Reactions & Syntheses

R. D. Broene, *Organizer*

L. M. Stanley, *Presiding*

**1:00 ORGN 362.** Designing Pd-NHC complexes to provide selective monoarylation. **M.G. Organ**

**1:20 ORGN 363.** Designing catalysts for the selective coupling of secondary alkylzinc reagents. **M.G. Organ**

**1:40 ORGN 364.** Ether solvated lithium pinacolone enolates: Solution and solid state characterizations. **O. Tai, P.G. Williard**

**2:00 ORGN 365.** Template assisted remote C-H bond functionalizations. **A. Maji, D. Maiti**

**2:20 ORGN 366.** Think outside the box – air-stable paraffin pellets with highly active and selective Mo- & W-catalysts for industrial and everyday use in olefin metathesis. **L. Ondi, J.B. Czirik, A. Bucsa, J. Varga, C. Hegedus, C. Gego, V. Botka, J. Csernak, G.E. Frater**

**2:40 ORGN 367.** Studies toward copper-mediated [<sup>18</sup>F]radiofluorination of arylstanananes. K.J. Makaravage, A.F. Brooks, A. Mossine, M.S. Sanford, P.J. Scott

**3:00 ORGN 368.** Conformational flexibility as a design element in ligand design for palladium-catalyzed bond-forming reactions. K.H. Shaughnessy

**3:20 ORGN 369.** Rhodium-catalyzed asymmetric 1,4-addition of  $\alpha,\beta$ -unsaturated imino esters using chiral bicyclic bridgehead phosphoramidite ligands. H. Kim, A. Lee

**3:40 ORGN 370.** Nickel-catalyzed carbocyclization of alkenes via activation of amide C-N bonds. J.A. Walker, K.L. Vickerman, J. Humke, L.M. Stanley

**4:00 ORGN 371.** Foldamer synthesis using the Ruthenium-Catalyzed Azide Alkyne Cycloaddition (RuAAC) reaction. J.R. Johansson, A. Said Stålsmeden, T. Beke-Somfai, N. Kann

**4:20 ORGN 372.** Development of an efficient synthesis of an inhaled drug candidate. D. Steinhuebel

**Section F**

Moscone Center  
3005

**New Reactions & Methodology**

R. D. Broene, *Organizer*

M. D. Clift, *Presiding*

**1:00 ORGN 373.** Catalytic asymmetric synthesis of pyrrolidines and piperidines. L. Pilsli, T. Ertl, J. Yedoyan, O. Reiser

**1:20 ORGN 374.** Withdrawn.

**1:40 ORGN 375.** New reactions inspired by cofactor-mediated transformations. M.D. Clift

**2:00 ORGN 376.** N-cyanation of secondary amines using trichloroacetone nitrile. L.C. Morrill, J. Ayres, K. Ling

**2:20 ORGN 377.** Additive-free chemo-selective reductions of phosphine oxides. J. Buonomo, C. Eiden, C.C. Aldrich

**2:40 ORGN 378.** Recent advances in phosphine oxide catalysis. P.H. Toy

**3:00 ORGN 379.** Cheap, recyclable trifluoromethylation reagents from fluorooform. J.B. Geri, N.K. Szymczak

**3:20 ORGN 380.** Novel synthesis of fluorinated indoles and benzofurans via oxidative dearomatization. D. Smith, E. Vitaku, J.T. Njardarson

**3:40 ORGN 381.** Radical chlorodifluoromethylation: Providing a versatile motif for (hetero)arene diversification. R.C. McAtee, C. Stephenson

**4:00 ORGN 382.** Efficient Formal Intramolecular Diels-Alder (FIMDA) cyclization of electron-deficient dienyne. N. Kramer, G.B. Dudley

**4:20 ORGN 383.** Alkyne chemistry for the synthesis of high-value molecular targets. G.B. Dudley

**4:40 ORGN 384.** Synthesis of N-sulfonyl amidines through Mo(CO)<sub>6</sub> catalyzed amide reduction to enamines. P. Trillo, H. Adolffson

**Science for a Sustainable Energy Future**

**Chemical & Biological Conversions Approaches to Energy Conversion**

*Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>‡</sup>, ORGN and PROF*

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**

**Advances in Medicinal & Biological Chemistry: From Therapeutics to Education**

*Sponsored by PROF, Cosponsored by ANYL<sup>‡</sup>, BIOL<sup>‡</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>‡</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>‡</sup>, POLY, PRES<sup>‡</sup> and WCC*

**ACS Award in Industrial Chemistry: Symposium in honor of Jane Frommer**

*Sponsored by I&EC, Cosponsored by ANYL, BIOL, COLL, INOR, ORGN, PMSE and POLY*

**MONDAY EVENING**

**Section A**

Moscone Center  
Hall D

**Sci-Mix**

S. M. Silverman, *Organizer*

8:00 - 10:00

**106, 118, 126-127, 129, 140-141, 143-144, 147, 151-152, 159, 163-164, 166-167, 173, 178, 193-194, 196, 204, 212, 214, 222, 224, 228, 232, 234, 242, 247-248, 252, 254, 261, 270-271.** See previous listings.

**502, 514, 529-530, 532, 537, 548, 554, 556-557, 581, 586, 594, 602, 606, 608, 611, 614, 618, 736, 740, 753, 763, 772, 797, 810, 816, 822, 825-829, 833-834, 836, 839, 841, 843-844.** See subsequent listings.

**TUESDAY MORNING**

**Section A**

Moscone Center  
3018/3022

**ACS Award for Creative Work in Synthetic Organic Chemistry: Symposium in honor of Matthew S. Sigman**

J. Aube, *Organizer, Presiding*

**8:00 ORGN 385.** Searching for selective catalytic reactions in complex molecular environments. S.J. Miller

**8:45 ORGN 386.** Development and applications of new fluorination methods. M.S. Sanford

**9:30 ORGN 387.** Organic reactions inspired by the organometallic chemistry of gold. D. Toste

10:15 Intermission.

**10:25 ORGN 388.** New directions in Ni-catalyzed cross coupling. A.G. Doyle

11:10 Introduction of Awardee.

**11:15 ORGN 389. Award Address** (ACS Award for Creative Work in Synthetic Organic Chemistry sponsored by MilliporeSigma). Enantioselective formation of remote chiral centers through Pd-catalyzed alkene functionalization. M.S. Sigman

**Section B**

Moscone Center  
3014/3016

**Advances in Organic Synthesis: Successes from Academia-Industry Partnerships**

L. C. Campeau, *Organizer*

T. Lyons, *Organizer, Presiding*

8:00 Introductory Remarks.

**8:05 ORGN 390.** Academic-industry collaborations at Merck process research & development: Working with partners to enable scientific excellence. R. Ruck

8:45 Discussion.

**8:50 ORGN 391.** Pharmaceutical applications of visible light photoredox catalysis. C. Stephenson

9:30 Discussion.

**9:35 ORGN 392.** Collaborative academic/industrial research under the umbrella of the NSF Center for selective C-H functionalization. H.M. Davies

10:15 Discussion.

10:20 Intermission.

**10:30 ORGN 393.** From bench to bottle and the relationships in between. S.L. Trice

11:10 Discussion.

**11:15 ORGN 394.** Practical aerobic (and electrochemical) oxidation reactions. S.S. Stahl

11:55 Concluding Remarks.

**Section C**

Moscone Center  
3011

**Heterocycles & Aromatics**

R. D. Broene, *Organizer*

G. R. Geier, *Presiding*

**8:00 ORGN 395.** Practical design and synthesis of Merestininib's N1-methylindazole building block. Y. Lu, K.P. Cole, J. Fennell, J. Burt, T.D. Maloney, D. Mitchell

**8:20 ORGN 396.** Synthesis of medium-sized rings and cyclic tripeptides through ring expansion of amino-imides. R. Mendoza-Sanchez, V. Corless, N.N. Nguyen, D.J. Tantillo, A.K. Yudin

**8:40 ORGN 397.** Toolbox of porphyrins, phthalocyanines, and other porphyrinoids. C.M. Drain, N. Bhupathiraju, W. Rizvi

**9:00 ORGN 398.** Synthesis of bacteriochlorins with an isocyclic ring: The skeleton of bacteriochlorophylls. S. Zhang, J.S. Lindsey

**9:20 ORGN 399.** More studies on cyclic six- and seven-membered 2,3-dia-ryl-1,3-thiaza-4-ones. L.J. Silverberg, H. Yennawar, C.N. Pacheco, A.F. Lagalante, H.F. Sobhi, K. Alemay, J. Bachert, L. Baker, K. Bandholz, J.A. Bayliff, R. Bendinsky, H.G. Bradley, M.J. Buchwalter, A. Call, O.A. Cardenas, L. Chen, B.K. Colburn, A.D. Cooper, D.J. Coyle, J.R. Dahl, M. Felty, R.F. Fox, J.M. Islam, E. Kimmel, S.E. Koperna, M.K. Lawler, Q.J. Moyer, C.R. Mroz, D.J. Noble, K.C. Perhonitch, H.E. Reppert, H. Singh, C.R. Verhagen, R.M. Vidal, A. Weisbeck, Y. Xie, Z. Yang

**9:40 ORGN 400.** Two-step, one-flask synthesis of an N-confused porphyrin bearing pentafluorophenyl substituents. J.M. Fisher, V.K. Kensy, G.R. Geier

**10:00 ORGN 401.** Porphyrins as functional scaffolds for 2D and 3D materials. M.O. Senge

**10:20 ORGN 402.** Genuine diversity in short order: Development and application of facile [2+2] cyclo-trimerisation methodology suitable for medicinal chemistry. S. Peace, C.J. Tame, C. Jamieson, G. Inglis, G. Vitulli, N. Wellaway, N. Anderson, A. Bouisseau, T.D. Sheppard, H. Hailes, R. Foster

**10:40 ORGN 403.** Synthesis, functionalization, and reactivity of novel silicon-containing heterocycles for drug discovery. S. Barraza, S.E. Denmark

**11:00 ORGN 404.** Synthesis of functionalized polyphenylene dendrimers. A. Baun, A. Narita, K. Muellen

**11:20 ORGN 405.** Evaluating regioselectivity outcomes in 5-endo-trig and 6-endo-trig hydroarylation reactions of  $\beta$ -benzylstyrenes and  $\beta$ -homobenzylstyrenes. A. Keshavarz, X. Cai, L.N. Kagiri, B.J. Stokes

**Section D**

Moscone Center  
3009

**Molecular Recognition & Self-Assembly**

R. D. Broene, *Organizer*

E. Fatila, *Presiding*

**8:00 ORGN 406.** Functional integration of abiotic triazine-derivatives with DNA and RNA. D. Bong

**8:20 ORGN 407.** Phenylacetylene oligomers as synthetic information molecules. J. Swain, C. Hunter

**8:40 ORGN 408.** Selective recognition and separation of oxoanions using a guanidinium ligand. C. Seipp, N.J. Williams, V. Bryantsev, A. Ivanov, B.A. Moyer, R. Custelcean

**9:00 ORGN 409.** Multidentate halogen bonding organocatalysts in molecular recognition studies. S. Huber, S.H. Jungbauer, D. Bullfield, S. Schindler, F. Kniep, E. Herdtweck, C. Lehmann, S. Keller, A. Linke, S.R. Waldvogel

**9:20 ORGN 410.** Binding anions using a clamshell based receptor. E. Fatila, E.B. Twum, J.A. Karty, K.P. McDonald, A.H. Flood

**9:40 ORGN 411.** Self-assembly of Star of David: 2D and 3D approaches. B. Song, Z. Zhang, X. Li

**10:00 ORGN 412.** Location of the steric speed bump controls squaraine threading by tetralcation macrocycle. C.F. Gomez, W. Liu, M. Betancourt, B.D. Smith

<sup>‡</sup>Cooperative Cosponsorship

10:20 ORGN 413. Pumping potassium against concentration gradient through unimolecular channel. J. Hou

10:40 ORGN 414. Sensing of chiral compounds via self-assembly with a stereodynamic probe. Z. De los Santos, C. Wolf

11:00 ORGN 415. Dynamic peptides as biomimetic carbohydrate receptors. B. Ravoo

11:20 ORGN 416. Highly selective biomimetic artificial K<sup>+</sup> channels. M.D. Barboiu

11:40 ORGN 417. Driving assembly of cyanostar with hydroxyanions. E. Fatila, E.B. Twum, A. Sengupta, M. Pink, J.A. Karty, K. Raghavachari, A.H. Flood

## Section E

Moscone Center  
3007

### Metal-Mediated Reactions & Syntheses

R. D. Broene, *Organizer*

C. W. Alexander, *Presiding*

8:00 ORGN 418. Phosphine-ligated alkylpalladium(II) amido complexes: Understanding the kinetic barrier to reductive elimination of alkylamines. D.M. Peacock, J.F. Hartwig, Q. Jiang, T.R. Cundari

8:20 ORGN 419. Consecutive multicomponent syntheses of pyrazoles-diversity-oriented approach to blue emitters and emission solvatochromic dyes. T.J. Muller, A.C. Goetzinger, M. Denissen

8:40 ORGN 420. Chemo- and stereoselective rhodium-catalyzed ene-cycloisomerization of thioether-substituted alkenylidenecyclopropanes: Metal-mediated  $\beta$ -sulfide migration. Y. Su, P. Evans

9:00 ORGN 421. Earth abundant catalysts for the hydrofunctionalization of unsaturated compounds. C.C. Eichman, S. Lee, A.J. Villani-Gale

9:20 ORGN 422. Pd-catalyzed fluorination of (hetero)aryl halides and triflates. P.J. Milner, S.L. Buchwald

9:40 ORGN 423. New catalytic methods for N-heterocycle synthesis by late transition metal-mediated C-H bond activation. P. Kilaru, P. Zhao

10:00 ORGN 424. Investigating reactivity, structure and reusability of an insoluble iridium catalyst for C-H borylations. C.R. Jayasundara, R.E. Maleczka, M.R. Smith, J. Oppenheimer

10:20 ORGN 425. Catalytic asymmetric hydroboration of internal alkenes. Y. Xi, J.F. Hartwig

10:40 ORGN 426. New transition metal-catalyzed reductive processes using H atoms from water mediated by tetrahydroxydiboron and related reagents. S. Cummings, T. Le, L. Quiambao, A. Brito, J. Alvarenga, B.J. Stokes

11:00 ORGN 427. Chemoselective CuAAC reactions via shifting the rate-determining step: Orthogonal reactivity of aromatic ynamines. C.P. Seath, G.A. Burley, A.J. Watson

11:20 ORGN 428. Hydrogen borrowing catalysis: Strategic application and transformation of *ortho*-disubstituted and cyclopropyl ketones. J. Frost, C. Cheong, W. Akhtar, T.J. Donohoe

11:40 ORGN 429. Methods for the synthesis of  $\alpha,\beta$ -substituted vinyl phosphonates from novel  $\alpha$ -phosphonovinyl triflates. C.W. Alexander

## Section F

Moscone Center  
3005

### New Reactions & Methodology

R. D. Broene, *Organizer*

W. Santos, *Presiding*

8:00 ORGN 430. Developing the phosphino-boration reaction. S.A. Westcott, S.J. Geler, C.M. Vogels, N.R. Mellonie, S. Doherty

8:20 ORGN 431. Understanding and exploiting selectivity in the Ir-catalyzed C-H borylation of heterocycles. A. Hones, J. Wright, D. Blakemore, P.G. Steel

8:40 ORGN 432. Diastereoselective B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>-catalyzed reductive carbocyclization of unsaturated carbohydrates. J.A. Dabrowski, T.A. Bender, H. Zhong, M.R. Gagne

9:00 ORGN 433. Diastereoselective borocyclopropanation of allylic ethers using a boromethylzinc carbenoid. G. Benoit, A.B. Charette

9:20 ORGN 434. Insights in dehydrogenative borylation reactions. E. Romero, R. Jazzar, G. Bertrand

9:40 ORGN 435. Rapid access to an antimalarial drug core via a three-component minisci reaction. J. Lear, D.A. Nagib

10:00 ORGN 436. Open-to-air hydroboration of alkenes and alkynes with ammonia borane. A.S. Kulkarni, M.P. Drolet, H.A. Jawale, P.V. Ramachandran

10:20 ORGN 437. One-pot regioselective synthesis of highly functionalized chromone derivatives. R. Bam, W. Chailfoux

10:40 ORGN 438. Transition metal-free activation and intramolecular *trans* diboration of propargylamides using unsymmetrical diboron. W.L. Santos, R. Sneed, F. Astha, Y. Dai

11:00 ORGN 439. Regioselective boracarbonylation of vinyl arenes. B.V. Popp

11:20 ORGN 440. Visible light-mediated synthesis of 1-aminonorbornanes, a new saturated building block for drug discovery. D. Staveness, T. Sodano, C. Stephenson

### Green Chemistry Adoption: Progressive Changes by Different Industry Sectors

Sponsored by ENVR, Cosponsored by CEI, MEDI, ORGN and SCHB<sup>2</sup>

## TUESDAY AFTERNOON

### Section A

Moscone Center  
3018/3022

### James Flack Norris Award in Physical Organic Chemistry: Symposium in honor of Robert A. Moss

J. Lee, *Organizer*

M. Platz, *Presiding*

1:00 Introductory Remarks.

1:05 ORGN 441. Origin of homochirality in amino acids and sugars, and enzyme-like catalysis, under prebiotic conditions. R. Breslow

1:30 ORGN 442. All happens at the interface: Monolayer-protected gold nanoparticles and beyond. P. Scrimin

1:55 ORGN 443. Gas phase studies of catalysis. J.K. Lee

2:20 Intermission.

2:30 ORGN 444. Sigma-electron delocalization: Why are loose oligosilane helices strongly conjugated and tight helices not at all? M. Jovanovic, D. Antic, J. Michl

2:55 ORGN 445. What is the effect of the replacement of CH<sub>2</sub> by O on the measured and calculated values of the singlet-triplet energy difference ( $\Delta E_{ST}$ ) in trimethylenemethane (TMM), oxyallyl (OXA), dehydroacetic acid (DHAA), and carbon trioxide (CO<sub>3</sub>)? W.T. Borden, X. Wang, B. Chen, D.A. Hrovat

3:20 ORGN 446. Valley of fear(lessness): Carbene mysteries. D.C. Merrer

3:45 Intermission.

3:55 Introduction of Awardee.

4:00 ORGN 447. Award Address (James Flack Norris Award in Physical Organic Chemistry sponsored by the ACS Northeastern Section). Complexes and activation parameters in carbene-alkene additions. R.A. Moss

4:50 Concluding Remarks.

### Section B

Moscone Center  
3014/3016

### Advances in Organic Synthesis: Successes from Academia-Industry Partnerships

L. C. Campeau, T. Lyons, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 ORGN 448. Iron and cobalt catalysis at the academic-pharma interface. P.J. Chirik

1:45 Discussion.

1:50 ORGN 449. Stereoselective formation of tetrasubstituted olefins via enol tosylate formation. A. McClary, D.B. Collum, T. Cravillon, F. Gosselin, C. Han, D. Le, B. Li, N. Lim, K.A. Mack, S. Savage, H. Zhang

2:30 Discussion.

2:35 ORGN 450. Kinetic and mechanistic studies in support of process research and development. D.G. Blackmond

3:15 Discussion.

3:20 Intermission.

3:30 ORGN 451. Strain-release amination. M.R. Collins, R. Gianatassio, J.M. Lopchuk, J. Wang, C. Pan, L. Malins, L. Prieto, T.A. Brandt, G. Gallego, N. Sach, J. Spangler, P. Zhu, J. Zhu, P.S. Baran

4:10 Discussion.

4:15 ORGN 452. Dow/UM collaboration on halax fluorination. M.S. Sanford

4:55 Concluding Remarks.

### Section C

Moscone Center  
3011

### Heterocycles & Aromatics

R. D. Broene, *Organizer*

J. Day, *Presiding*

1:00 ORGN 453. Functionalized tunable aryl alkyl ionic liquids. M. Kaliner, T. Strassner

1:20 ORGN 454. Thiophene-based double helix shaped molecules. H. Wang

1:40 ORGN 455. Oligodithienothiazines – electronrich heterocyclic oligomers with red-shifted solution and solid-state luminescence. T.J. Muller, J. Nau, C. Dostert

2:00 ORGN 456. DNA binding studies of Schiff base heterocyclic derivatives: *In vitro* antibacterial and antioxidant assessment. R. Uddin, R. Arif

2:20 ORGN 457. Panel of dimethylamino flavylium cyanine dyes spanning the NIR-I and NIR-II regions. E.D. Cosco, J.R. Caram, O. Bruns, T.M. Swager, M.G. Bawendi, E.M. Sletten

2:40 ORGN 458. Challenges and opportunities for synthetic methodology in fragment-based drug discovery. J. Day

3:00 ORGN 459. Novel approaches to nitrogen-containing heterocycles. P.D. Parker, J.G. Pierce

3:20 ORGN 460. Synthesis and biological evaluation of A<sub>2</sub>B phthalocyanines for photodynamic therapy and imaging. E. Okoth, M. Mathis, G. Vicente

3:40 ORGN 461. Solvent controlled regioselective reversal in N-alkylation reactions of fused-ring azole heterocycles including pyrazolo[3,4-*d*]pyrimidines, purines, [1,2,3]triazolo[4,5-*d*]pyrimidines and related deaza-compounds. B.C. Bookser, M.I. Weinhouse, A.C. Burns, A.N. Valiere, B. Dyck, L.J. Valdez, A.L. Rheingold, C.E. Moore

4:00 ORGN 462. Synthesis of catenane-like paddle wheel structures. B. Dumsloff, A. Narita, K. Muellen

4:20 ORGN 463. Modular synthesis and tuning of antiaromaticity of novel  $\pi$ -systems containing cyclobutadienoids. Z. Jin, Y. Xia, L. Chen

4:40 ORGN 464. Copper-catalyzed cyclic ether synthesis via addition of alkyltrifluoroborates to alkenols. C. Um, S.R. Chemler

### Section D

Moscone Center  
3009

### Molecular Recognition & Self-Assembly

R. D. Broene, *Organizer*

R. Khalullin, *Presiding*

1:00 ORGN 465. Self-assembly of metal-terpyridine complexes in the presence of cucurbit[n]uril. M. Raeisi, E. Masson

1:20 ORGN 466. Self-sorted multi-component photoconductive gels. E. Draper, J.R. Lee, A.J. Cowan, D.J. Adams

1:40 ORGN 467. Study of four simultaneously dynamic covalent reactions: Experimental proof of reversibility and orthogonality. H. Seifert, K. Ramirez Trejo, E.V. Anslын

2:00 ORGN 468. Developing a non-invasive monitoring system using near IR dyes. H. Sepasizangabadi, N.P. Cooley, X. Shao, T.E. Glass

2:20 ORGN 469. Binding studies and organocatalytic activity of a preorganized bidentate halogen bonding molecule. A. Riel, J. Sun, C. Massena, O.B. Berryman



**2:40 ORGN 470.** Synthesis and study of new highly soluble tetraalkylated bis(imino) guanidiniums for the selective removal of oxoanions from aqueous solutions containing mixtures of anions. N.J. Williams, C. Seipp, K.A. Garrabrant, R.J. Ellis, R. Custelcean, B.A. Moyer

**3:00 ORGN 471.** Russian nesting doll complexes of molecular baskets and zinc containing TPA ligands. Z. Lei, S. Polen, C.M. Hadad, T. Rajanbabu, J.D. Badjic

**3:20 ORGN 472.** Synthesis and metal binding ofazole-containing peptidomimetics. A.A. Fuller, A. Mohan, C. Bosmajian

**3:40 ORGN 473.** Stopper group steric effects on macrocycle encapsulation of indolenine squaraine dyes. T. Jarvis, W. Liu, B. Smith

**4:00 ORGN 474.** Self-assembly of 3D columnar structures and 2D bilayers through antimony(III) secondary bonding interactions. S. Moaven, J. Yu, J. Yasin, A.F. Cozzolino

**4:20 ORGN 475.** Thermally stable triazine-based organic superstructure. S. Jung, J. Baek

**4:40 ORGN 476.** Two similar steroid hormones – drastically different complexation behavior: How structural nuances control interactions with aromatic electron density. Z. Luo, T. Friscio, R. Khaluillan

**Section E**

Mosccone Center  
3007

**Total Synthesis of Complex Molecules**

R. D. Broene, *Organizer*  
L. E. Sirois, *Presiding*

**1:15 ORGN 477.** Efforts towards the total synthesis of maecrystal V. B.R. Smith, J.T. Njardarson

**1:35 ORGN 478.** Withdrawn.

**1:55 ORGN 479.** Total synthesis of laurellene. T. Okada, F. Yoshimura, K. Tanino

**2:15 ORGN 480.** Total synthesis of (-)-viroaine A. J. Hughes, J. Gleason

**2:35 ORGN 481.** Kilogram-scale synthesis of RORc ligand GDC-0022. L.E. Sirois, D. Lao, J. Xu, R. Angelaud, F. Gosselin

**2:55 ORGN 482.** Toward total syntheses of cryptobellin and isocryptobellin acid D. L. Kim, E. Go, S. Wetzler, K.J. Kron, G.E. Miller, D.A. Vosburg

**3:15 ORGN 483.** Synthetic progress towards the total synthesis of mandelalide B. A. Ghosh, J. Li, N. Veerasamy, R.G. Carter

**3:35 ORGN 484.** Progress toward the total synthesis of anticancer deoxypodophyllotoxin and antiviral F4-4. D.I. Saavedra, B. Rencher, P.J. Hurst, M. Andrus

**3:55 ORGN 485.** Progress towards the first total synthesis of undulifoline. T.M. Williams, C. Stephenson, E. Swift

**4:15 ORGN 486.** 14-Step total synthesis of thapsigargin from (R)-(-)-carvone. D. Chen, P. Evans

**Section F**

Mosccone Center  
3005

**New Reactions & Methodology**

R. D. Broene, *Organizer*  
W. M. Braje, *Presiding*

**1:00 ORGN 487.** Frustrated Lewis pair hydrogenation of a,b-unsaturated carbonyl compounds. I. Khan, L.C. Morrill

**1:20 ORGN 488.** Stereoselective synthesis of tetrasubstituted olefins via mild, one-pot syn-elimination approach. N. Lim, P. Weiss, X. Li, H. Zhang, F. Gosselin

**1:40 ORGN 489.** Tandem chemoselective Suzuki-Miyaura cross-coupling enabled by nucleophile speciation control. C.P. Seath, A.J. Watson

**2:00 ORGN 490.** Palladium-catalyzed alkoxyacylation of unactivated alkyl bromides. B.T. Sargent, E.J. Alexanian

**2:20 ORGN 491.** Recent advances in nickel-catalyzed activation of amides. E.L. Baker, N.K. Garg

**2:40 ORGN 492.** Gold catalysis for the construction of barbaralones and related polycyclic caged frameworks. S. Ferrer Cabrera, A.M. Echavarren

**3:00 ORGN 493.** Iron(III)-catalyzed carbonyl-olefin metathesis. C. Schindler

**3:20 ORGN 494.** Nickel catalyzed reductive cross-electrophile couplings to furnish cyclopropanes. T. Endean

**3:40 ORGN 495.** Investigations in the mechanism of metal-catalyzed hydroarylation. A.J. Villani-Gale, S. Phan, S. Lee, J.J. Devery, C.C. Eichman

**4:00 ORGN 496.** Rhodium-catalyzed oxidative (4+2) annulations of o-alkenylanilides. A. Seoane, C.C. Comanescu, X. Diz, J.L. Mascarenas, M. Gullas Costa

**4:20 ORGN 497.** Recent advances in the transition metal-catalyzed decarboxylative generation and alkylation of 2-azaalyl anions. J.J. Chruma, S. Tang, X. Wang, Q. Lin, M. Li, P.J. Walsh, S. Wang, X. Qian

**4:40 ORGN 498.** Organic chemistry in water: Applications in the pharmaceutical industry. W.M. Braje, J. Kaschel, J. Klee, T. Lindner, K. Britze, A. Jolit, J. Dietrich

**Green Chemistry Adoption: Progressive Changes by Different Industry Sectors**

*Sponsored by ENVR, Cosponsored by CEI, MEDI, ORGN and SCHB†*

**TUESDAY EVENING**

**Section A**

Mosccone Center  
Hall D

**Advanced Materials Technologies, Systems & Processes**

S. M. Silverman, *Organizer*  
5:30 - 7:30

**ORGN 499.** Tough aqua material for a tough application: Self-assembled membrane for water purification sustaining high pressures. E. Cohen, H. Weissman, E. Shimoni, I. Kaplan-Ashiri, K. Werle, W. Wohleben, B. Rytbchinski

**ORGN 500.** Enhanced light extraction efficiency of OLEDs by quasi-periodic diffractive nanogratings. Y. Jeong

**ORGN 501.** Unsymmetrical effect of Hexa-peri-hexabenzocoronenes on columnar mesophase behavior stability. H. Chen

**ORGN 502.** Post functionalization of polycarboxy fantrip. R. Gilley, W.B. Thompson, B.T. King

**Section B**

Mosccone Center  
Hall D

**Biologically-Related Molecules & Processes**

S. M. Silverman, *Organizer*  
5:30 - 7:30

**ORGN 503.** Fast track process research: Identification and development of highly improved routes to GDC-0810. T. Cravillon, A. McClory, S. Savage, N. Lim, H. Zhang, C. Han, F. Gosselin

**ORGN 504.** Development of an expedient synthesis to GDC-0853: A reversible Bruton's tyrosine kinase inhibitor. N. Lim, T. Cravillon, D. Beaudry, J. DeFreese, Q. Tian, H. Zhang, F. Gosselin

**ORGN 505.** Expedient and modular access to [6,5]- and [6,6]-2-azabicyclic morpholones by iron- or palladium-catalyzed intramolecular coupling of vicinally functionalized alcohol-bearing allylic lactams. K. Hovenkotter, T. Beng

**ORGN 506.** Synthesis, chemical reactivity, and medicinal activity of novel chiral piperidines. H. Braunstein, T. Beng

**ORGN 507.** Cleavable fluorescent probes for direct measurement of nutrient uptake. V. Begoyan, M. Tanasova

**ORGN 508.** Synthesis of oligodeoxynucleotides containing electrophilic groups. S. Shahsavari, X. Lin, J. Chen, N. Green, D. Goyal, S. Fang

**ORGN 509.** Epoxyisoindoline formation through tandem Ugi-Smiles Diels-Alder reactions. P.E. Alabi, S. Luesse

**ORGN 510.** Development of a tandem oxy-Michael Ugi-Smiles reaction. R. Ayres, S. Luesse

**ORGN 511.** Investigation and synthesis of isoform-selective histone deacetylase inhibitors. M.J. O'Neill, O. Wiest, P. Helquist

**ORGN 512.** Photocaged NAD<sup>+</sup> for mechanistic investigations of HMG-CoA reductase. F. Salahi, O. Wiest, P. Helquist, C. Stauffacher, V. Purohit, T. Quinn

**ORGN 513.** Synthesis and biological evaluation of inhibitors of KasA identified through virtual screening: A novel inhibitor of *Mycobacterium tuberculosis*. D. Oldham, A. Priest, G. Henry, L. Lewis, D. Toth

**ORGN 514.** Synthesis of oxidative metabolites of the persistent organic pollutant DEHP. K. McDaniel, D. Oldham

**ORGN 515.** Practical and concise syntheses of antifungal amphiphilic kanamycin analogs. M. Alfindee, Q. Zhang, J.P. Shrestha, V.d. Nziko, Y. Kawasaki, X. Peng, J. Takemoto, C.T. Chang

**ORGN 516.** Toward the total syntheses of natural products containing trans-decalin skeleton from masked o-benzoquinone. M. Li, H. Shiao, H. Hsieh

**ORGN 517.** Synthesis of photocyclization/oxidation-based fluorophores for cell and tissue imaging. S. Suh, D.M. Chenoweth

**ORGN 518.** DNA compatible nitro reduction and benzimidazole synthesis. H. Du, H. Huang

**ORGN 519.** PBr<sub>3</sub>-mediated unexpected reductive deoxygenation of α-aryl-pyridinemethanols: Synthesis of arylmethylpyridines toward EP<sub>1</sub> antagonists. S. Seto, Y. Nishigaya, K. Umei, D. Watanabe, Y. Kohno

**ORGN 520.** Efficient cross metathesis of allyl sulfones with isoprenoids for the synthesis of fluorescent lipid probes. R. Sapkota, J. Jarvis, N. Paz, T. Schaub, J.B. Arterburn

**ORGN 521.** Towards understanding of peroxidation of mammalian sterols: Microwave-assisted synthesis of 7-dehydrocholesterol isomers. A.C. Olvera, J. Ramos Flores, H. Muchalski

**ORGN 522.** Synthesis of 6-substituted dopamine derivatives. J.A. Rogowiec, K. Reed, J. Rote, M.L. Cafiero, L.W. Peterson

**ORGN 523.** Schiff bases and hemiaminals: Synthesis, mechanism of formation and biological evaluation. M. Islam, M.R. Karim

**ORGN 524.** Synthesis and atropisomeric binding of novel β-carbolines to brain receptors. C. Foley, S.P. Mulcahy

**ORGN 525.** Design and synthesis of halogen bonding compounds for the inhibition of IGP. J.M. Ellsworth, C.C. Browder

**ORGN 526.** Synthesis and characterization of a verdazyl radical labeled amino acid spin probe. D.J. Brook, A. Clemens, J. DaRos

**ORGN 527.** Shake it off: Ring expanded sugars as ligands for the E. coli lectin FimH. R. Vannam, P. Zihlmann, B. Fiege, C. Sager, S. Rabbani, R.P. Jakob, R. Preston, A. Zalewski, T. Maier, B. Ernst, M.W. Peczu

**ORGN 528.** Targeting infectious diseases with dihydropyrimidinone-derived chemotypes. M. DiCairano, R. Trilles, S. Schaus, L. Brown

**ORGN 529.** Light induced cell migration *in vivo* with photocaged TLR agonist. K. Ryu, B. McGonnigal, A.P. Esser-Kahn

**ORGN 530.** Synthesis and evaluation of a novel class of androgen receptor signaling axis inhibitors targeting castration-resistant prostate cancer. D. N. G Ralalage, J. An, M.B. Rettig, M.E. Jung

**ORGN 531.** Synthesis of oligonucleotides containing C8-2'-deoxyguanosine adduct of the tobacco carcinogen 2-amino-9H-pyrido [2, 3-b] indole (AαC). A. Chatterjee, A.K. Basu

**ORGN 532.** Synthesis of 4-N-alkyl gemcitabine analog bearing β-keto tosylate moiety suitable for <sup>18</sup>F-labeling. M. Cabrera, C. Gonzalez, N. Sulimoff, S.F. Wnuk

**ORGN 533.** Development of amino acid-based inhibitors against Aspartate-N-Acetyltransferase (ANAT) for the treatment of Canavan disease. V. Muthamsetty, B. Thangavelu, Q. Wang, R.E. Viola

**ORGN 534.** Stepwise two-photon activatable BODIPY for multi-channel imaging in developing embryos. D. Herrera, Y. Zhang

**ORGN 535.** Fluorescent probes for targeting fructose transport. J. Fedie, S. Xia, M. Tanasova

† Cooperative Cosponsorship

**ORGN 536.** Increasing the therapeutic index for head-and-neck squamous cell carcinoma targeted therapy through the derivatization of deoxyxyboquinone. **J.E. Jurczyk**

**ORGN 537.** Tandem incorporation of enantiomeric residues engenders discrete peptoid structures. **E.M. Mumford, B.C. Gorske, R.R. Conry**

**ORGN 538.** Co-bisintercalating FRET-based fluorescent bottlebrush polymer nanotags. **M. Evanoff, M. Fouz, B.A. Armitage**

**ORGN 539.** Computational modeling of PiKc activity and selectivity for guided protein and substrate engineering. **J.M. Grandner, S. Yang, K.N. Houk**

**ORGN 540.** Synthesis of functionalized oligonucleotides of RNA using 2-methylbenzothiohenyl groups at the C2'-O- position of uridine and adenosine. **A.J. Francis, M.J. Resendiz**

**ORGN 541.** Synthesis and evaluation of dye derivatives as G-quadruplex-stabilizing molecules. **J. McCallum**

**ORGN 542.** Synthesis of  $\beta$ -APN derivatives for inhibition of the LOX enzyme. **R. Lottie**

**ORGN 543.** Synthesis of menaquinone (MK) analogs and investigation into the solution structure of MK-1 and MK-1 (H<sub>2</sub>). **J.T. Koehn, B.J. Peters, C.N. Beuning, S.K. Dellinger, D.C. Crick, D.C. Crans**

**ORGN 544.** Reversibly photoactivatable Janelia Fluor dyes, and their utility in imaging cellular features beyond the diffraction limit. **F. Jradi**

**ORGN 545.** Azaaurones: An unexplored scaffold for biological activity. **J.K. Noe, S.T. Handy**

**ORGN 546.** Synthesis and analysis of propargylglycine-based derivatives as potential inhibitors of LpxC. **R. Roldan, K. Wilson, M.L. Cafiero, L.W. Peterson**

**ORGN 547.** Fluorescent derivatives of arachidonic acid: Tools for studying the anti-cancer activity of prostaglandins. **J.L. Stanley, R. Van Dross, W.E. Allen**

**ORGN 548.** Design, synthesis and biological effects of novel HDAC6 selective inhibitors. **A. Mahendran, R. Breslow**

**ORGN 549.** Synthetic and metabolic studies of deuterium labeled drugs. **B. Rawal, K. Headrick, R. Giron, J. Kim, M. Klosinski, S. Thomas, J. Lee, K.W. Jung**

**ORGN 550.** Comparative in vitro translation control using anti-sense  $\gamma$ PNA. **C. Emanuelson, T. Canady, B. Armitage**

**ORGN 551.** Novel architectures that exhibit potent and selective inhibition of protein tyrosine phosphatases implicated in cancers and metabolic disease. **K.A. Scott, T. Shi, E. Chapman, J.T. Njardarson**

**ORGN 552.** Exploring vinylboronic acids as reactants in bioorthogonal chemistry. **S. Eising, K.M. Bongor**

**ORGN 553.** Environment activable nanoprodug: Two-step surveillance in the anticancer drug release. **S. Biswas, J. Das, S. Barman, T. K. Maity, N. Singh**

## Section C

Moscone Center  
Hall D

### Chemistry of Fullerenes, Carbon Nanotubes & Graphene

S. M. Silverman, *Organizer*

5:30 - 7:30

**ORGN 554.** Rotation of benzofulvenes' exocyclic double bond and its effects on molecular conjugation. **A. Glass, J. Okubo**

**ORGN 555.** Interaction of olefin metathesis and fullerenes. **A. Poater**

## Section D

Moscone Center  
Hall D

### Materials, Devices & Switches

S. M. Silverman, *Organizer*

5:30 - 7:30

**ORGN 556.** Propeller-shaped molecular switches: Synthesis, solid-state structure, and photochemical properties. **D. Cameron, S. Eisler**

**ORGN 557.** Synthesis and electronic properties of dibenzothieno-isoindole dione building blocks. **E. Albright, S. Eisler**

**ORGN 558.** Building extended metal-organic frameworks from dimetal tetracarboxylate building units. **M. Strowbridge, H. Abourahma**

**ORGN 559.** Crystal engineering of azobenzene cocrystals with non-linear optical properties. **E. Graff, D. Curran, D.J. McGee, H. Abourahma**

**ORGN 560.** Changes in the intermolecular rotation of a crystalline carbazole rotor upon diffusion of volatile compounds. **A. Aguilar, S. Perez Estrada, M. Rodriguez, B.V. Rodriguez-Molina**

**ORGN 561.** Phthalocyanine-chromophore dyads: Synthesis and photophysical studies. **R. Liu, X. Zhang, D. Pockat, R. Moirangthem, J.S. Lindsey**

**ORGN 562.** Synthesis and characterization of asymmetric indenotetracenes: Novel n-type organic semiconductors for use in organic photovoltaics. **L. Purvis, S. Ghosh, Z. Zhang, X. Gu, C.J. Douglas, C.J. Cramer, L. Gagliardi**

**ORGN 563.** Studies toward individual light-driven molecular motors. **H. Heideman, M. Stoehr, B. Feringa**

**ORGN 564.** Withdrawn.

**ORGN 565.** Exploration of *trans*-2-(1,2,3-triazolyl)-cyclohexanols as potential conformational switches. **M.R. Ruyonga, V.V. Samostin**

**ORGN 566.** Synthesis and electrochemical properties of functionalized iptycene-quinones. **Y. Ryu, J. Kwon, K. Choi, B. An, S.Y. Park**

**ORGN 567.** Spin frustrated organic trisradical triangle. **Y. Wu, M.D. Krzyaniak, M.R. Wasielewski**

**ORGN 568.** Red- and blue-shifted fluorescent polycyclic azaborine chromophores: Applications in organic materials. **J.A. Wilson, L.L. Magill, R. Shavnore, C. McClinton, B. Brown, J. Vaughn, C.J. Saint-Louis, A. Schrock, M.T. Huggins**

## Section E

Moscone Center  
Hall D

### Molecular Recognition & Self-Assembly

S. M. Silverman, *Organizer*

5:30 - 7:30

**ORGN 569.** Synthesis of a water-soluble cubic porphyrin-based metallocomplex via click-chemistry. **A.R. Metell, J.D. Thoburn**

**ORGN 570.** Synthetic steps toward a more soluble porphyrin-based M<sub>4</sub>Por<sub>6</sub> metallocube. **M. Mitchler, J.D. Thoburn**

**ORGN 571.** Pasteur's quairacemates: A new look at an old story. **E.N. Pinter, K.A. Wheeler**

**ORGN 572.** Molecular recognition boundaries of diarylamide quairacemates. **I.C. Tinsley, B.L. Wagner, K.A. Wheeler**

**ORGN 573.** Deconstructing crystal assemblies of 5-phenyl-1,3-dioxolan-4-ones using molecular shape. **K.A. Wheeler, M.L. Grant**

**ORGN 574.** Tuning the optical properties of perylenemonoimide and the binding ability with cucurbit[8]uril via 9-position substitution. **L. Huang, G.H. Aryal, K.W. Hunter**

**ORGN 575.** Strong fluorescent host-guest complexes based on cucurbit[8]uril and phenylalkyl quaternized perylenemonoimides. **G.H. Aryal, L. Huang, K.W. Hunter**

**ORGN 576.** Separation of CO<sub>2</sub> from ambient air using a guanidine ligand. **C. Seipp, N.J. Williams, M. Kidder, R. Custelcean**

**ORGN 577.** Self-assembly leads to recognition of divalent metal cation and tetrahedral divalent oxoanion using ditopic receptor. **S. Jansone-Popova, A. Thevenet, R. Custelcean, B.A. Moyer**

**ORGN 578.** Synthesis of tetracyanoazulene as a guest for self-assembled Zn-porphyrin supramolecular cubes. **C.F. Ancajas, J.D. Thoburn**

**ORGN 579.** Improved syntheses of tetraaminophenylporphyrin for use in supramolecular metallocubes. **P. Patel, J.D. Thoburn**

**ORGN 580.** Using <sup>19</sup>F NMR spectroscopy to assess the strength of aromatic pi-pi interactions. **S.M. Strickland, P. Li, K.D. Shimizu**

**ORGN 581.** Sensor of chirality and enantioselectivity for enantio-enriched molecules containing amines, alcohols, and carboxylic acids. **J. Zhang, H. Gholami, M. Chun, B. Borhan**

**ORGN 582.** Self-folding multi-metal scaffold coordinator for hydrocarbon oxidation. **M. Mettry**

**ORGN 583.** Synthesis of functionalized NHC-capped  $\alpha$ -cyclodextrin metal complexes. **S.J. Bernardino, M. Sollogoub**

**ORGN 584.** Graphene oxide-probe conjugate for the selective detection of pyrophosphate. **J.I. Hong, D. Lee**

**ORGN 585.** Self-assembly of asymmetrically functionalized perylene diimide small molecules into well-defined structures. **R. Matthews, J. Swisher, M. Tickerhoof, B. Rodier, E. Young, E. Pentzer**

**ORGN 586.** Ester-based synthetic information molecules. **F.T. Szczypinski, C.A. Hunter**

**ORGN 587.** Synthesis and self-assembly of amphiphilic BINOLs in water. **F. Tosi, J. Chen, B. Feringa**

**ORGN 588.** Synthesis of self-assembled bisosette supramolecules. **c. Igci, Y. Fan, A. Gonzales, K. Temburnikar, H. Fenniri, G.E. Gunbas**

**ORGN 589.** Synthesis and characterization of a new generation of molecular clips and their metal complexes. **M. Alaparthy, A.G. Sykes**

**ORGN 590.** Supramolecular approaches to the protecting group chemistry. **V. Ramalingam**

**ORGN 591.** New class of crown ether- ver-dazyl derivatives for sensing applications. **D.J. Brook, V. Balasubramanian**

**ORGN 592.** Functionalized calixarenes: Synthesis, characterization and anion sensing applications. **N. Edwards, F. Liu, D. Schnable**

**ORGN 593.** Controlling the conformations of molecules inside nano-space towards molecular protection and unique reactions in confined media. **K. Wang, B.C. Gibb**

## Section F

Moscone Center  
Hall D

### Nanomaterials

S. M. Silverman, *Organizer*

5:30 - 7:30

**ORGN 594.** Synthesis of covalent organic frameworks for the upconversion of photons with nanocrystal light absorbers. **T.E. Dorado, X. Li, M.L. Tang**

**ORGN 595.** Synthesis of calamitic mesogenic organic small molecules and their influence on the properties of CdSe/ZnS core-shell quantum dot nanocomposites. **G.I. Warren, A. Keshavarz, S. Riahinasab, A. Elbaradei, L. Hirst, B.J. Stokes**

**ORGN 596.** Environmentally benign semi-fluorinated amphiphiles for drug delivery. **M. Fleetwood, A. McCoy, S. Mecozzi**

**ORGN 597.** Withdrawn.

**ORGN 598.**  $\pi$ -Conjugated polycyclic molecular systems and their supramolecular assemblies. **H. Sims, H.P. Rathnayake**

**ORGN 599.** Withdrawn.

**ORGN 600.** Evidence of splitting 1,2,3-triazole into alkyne and azide by low mechanical force in the presence of other covalent bonds. **A. Khanal**

**ORGN 601.** New access to GNRs: Conversion of diarylpolydiacetylene polymers to graphene nanoribbons via mild heating. **R. Jordan, R. Mccurdy, S. Khan, Y.F. Rubin**

## Section G

Moscone Center  
Hall D

### Peptides, Proteins & Amino Acids

S. M. Silverman, *Organizer*

5:30 - 7:30

**ORGN 602.** Improving peptide purification via flash column chromatography by modulating mobile phase pH. **E. Denton, J.R. Bickler**

**ORGN 603.** Proteolytic stabilization of  $\beta$  hairpins by  $\alpha,\beta$ -dehydroamino acids. **K.G. Webber, A. Jalan, S.L. Castle**

**ORGN 604.** Impact of peptide structure on proximity-driven reactivity with bifunctional helical catalysts. **B. Masino**

**ORGN 605.** Detecting amyloid oligomer assembly in a chemical model system. **S. Yoo, P.J. Salveson, A. Kreutzer, C.H. Hart, J.S. Nowick**

**ORGN 606.** X-ray crystallographic structures of a trimer, dodecamer, and annular pore formed by an A $\beta_{17-36}$   $\beta$ -hairpin. **A. Kreutzer, I.L. Hamza, R.K. Spencer, J.S. Nowick**

**ORGN 607.** Anion binding by N-protected fluorescent citrulline. **M. Muhammad, W.E. Allen**

**ORGN 608.** Where the glow shouldn't go: Fluorescent arginine inside of membranes. **S. Marshall, W.E. Allen**

**ORGN 609.** Excited-state properties of fluorescent arginine: Toward light-promoted cellular penetration. **M. DiVittorio, W.E. Allen**

**ORGN 610.** Stabilizing the collagen triple helix with a ruthenium(II) anchor. **P. Banzon, W.E. Allen**

**ORGN 611.** Silver(I)-promoted asparagine-based peptide ligation employing an N-terminal asparagine thioamide. **K. Shang, C. Hutton**

**ORGN 612.** Structure activity relationship study of amino acid sulfonamide hydroxamic acid inhibitors for the botulinum neurotoxin LC. **S.L. Rodriguez-Beltran, T.K. Lien, N.T. Salzameda**

**ORGN 613.** Design and synthesis of fibronectin-targeted peptide anticancer drug conjugates for targeted chemotherapy of prostate cancer. **S. Eun Park, M. Bisoffi, K. Parang, R.K. Tiwari**

**ORGN 614.** New method for selective imide bond cleavage. **B. Island, C. Hutton**

**ORGN 615.** Withdrawn.

**ORGN 616.** Isolation, purification and partial characterization of *Crotalaria pallida* Ait seed proteins. **D. Bandyopadhyay, S. Ukil, S. Laskar**

**ORGN 617.** Unusual amino acid from the seeds of *Abrus precatorius* Linn.: Isolation, characterization, *in silico* and *in vitro* anticancer evaluation. **D. Bandyopadhyay, O. Espino, S. Laskar**

**ORGN 618.** Synthesis of cyclic peptide conjugate of curcumin and doxorubicin as a bidentate anticancer agent. **S. Darwish, R.K. Tiwari, K. Parang**

**ORGN 619.** Substrate analogs for characterizing the substrate tolerance of *S. pneumoniae* sortase A. **O.G. Banks, J. Antos**

**ORGN 620.** Contribution of bulky  $\alpha$ ,  $\beta$ -dehydroamino acids in the proteolytic stability of beta-hairpins. **A. Jalan**

**ORGN 621.** Modification of human Hsp72 function by electrophilic compounds. **R.E. Connor, A. Lieber**

Technical program information known at press time. The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

WEDNESDAY MORNING

Section A

Moscone Center  
3018/3022

**Nobel Laureate Signature Award for Graduate Education in Chemistry: Symposium in honor of Junqi Li & Martin D. Burke**

*Cosponsored by WCC*

K. B. Hansen, *Organizer*

A. Hill, *Organizer, Presiding*

**9:00 ORGN 622.** Withdrawn.

**9:45 ORGN 623.** Concepts and catalysts for anion-controlled organic synthesis. **D. Toste**

**10:30 ORGN 624. Award Address** (Nobel Laureate Signature Award for Graduate Education in Chemistry sponsored by Avantor™ Performance Materials). Natural productome project: Modularizing and generalizing natural product synthesis. **M.D. Burke**

**11:15 ORGN 625. Award Address** (Nobel Laureate Signature Award for Graduate Education in Chemistry sponsored by Avantor™ Performance Materials). Automated small molecule synthesis via iterative coupling of boronate building blocks. **J. Li, S.G. Ballmer, E. Gillis, S. Fujii, M.J. Schmidt, A. Palazzolo, J.W. Lehmann, G.F. Morehouse, M.D. Burke**

Section B

Moscone Center  
3014/3016

**Chemical Biology: Enabling Drug Discovery**

*Cosponsored by BIOL*

*Financially supported by Celgene Corp.*

R. E. Kyne, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 ORGN 626.** Translational chemical biology. **C.R. Bertozzi**

**8:50 ORGN 627.** PROTACS: Induced protein degradation as a therapeutic strategy. **C.M. Crews**

**9:35 ORGN 628.** Clickable photoaffinity probes to evaluate the selectivity of  $\beta$ -secretase inhibitors in live cells. **D.S. Johnson**

**10:20** Intermission.

**10:25 ORGN 629.** From serendipity to clinical trials: Discovery of reversible covalent kinase inhibitors. **J.W. Taunton**

**11:10 ORGN 630.** Chemical-proteomic strategies to investigate reactive cysteines. **E. Weerapana**

**11:55** Concluding Remarks.

Section C

Moscone Center  
3011

**Heterocycles & Aromatics**

R. D. Broene, *Organizer*

J. R. Vyvyan, *Presiding*

**8:00 ORGN 631.** Accessing chiral pyrrolines via an iron(III)-catalyzed carbonyl-olefin metathesis. **R. Harding, E. Groso, A. Golonka, B. Alexander, C. Schindler**

**8:20 ORGN 632.** Hiyama couplings of oxasilacycloalkenes: Synthesis of trisubstituted Z-styrenes and application to natural product skeletons. **J.R. Vyvyan, C.A. Engles, S.L. Bray, E.D. Wold, C.L. Porter, M.O. Konev**

**8:40 ORGN 633.** Harnessing cascade Suzuki-cyclization reactions of pyrazolo[3,4-b]pyridine for the synthesis of tetracyclic fused heteroaromatics. **F. Popowycz, H. Lavrard**

**9:00 ORGN 634.** Polycyclic aromatic hydrocarbons via iron(III)-catalyzed carbonyl-olefin metathesis. **C. McAtee, P. Riehl, C. Schindler**

**9:20 ORGN 635.** Diastereoselective synthesis of 2,4,6-trisubstituted piperidines via Prins cyclization. **J.A. Hood, M. Donahue**

**9:40 ORGN 636.** Alkylation, arylation, and cyclopropylation of common heterocycles via palladium catalysis. **J. Zhou**

**10:00 ORGN 637.** Stereoselective synthesis of isoxazolidines via copper-catalyzed alkene diamination. **Z. Khoder, C. Wong, S.R. Chemler**

**10:20 ORGN 638.** Redox controlled supramolecular chemistry based on viologen architectures. **J. Weiss, J.A. Wytko, M. Berville**

**10:40 ORGN 639.** Withdrawn.

**11:00 ORGN 640.** Photoluminescent phenalenyl-type radical. **O. Anamimoghadam, Y. Wu, C. Pezzato, M.T. Nguyen, A. Samanta, S. Gozem, L. Mosca, A. Krylov, M.R. Wasielewski, F. Stoddart**

**11:20 ORGN 641.** Synthesis of biologically active marine natural rubrolides. **T.D. Silva, M. Karak, J. Acosta, L.C. Barbosa, J. Boukouvelas**

Section D

Moscone Center  
3009

**Molecular Recognition & Self-Assembly**

R. D. Broene, *Organizer*

D. K. Smith, *Presiding*

**8:00 ORGN 642.** Towards the characterization of the redox properties of shape-persistent macrocycles. **J. Dobscha, C. Benson, Y. Liu, A.H. Flood**

**8:20 ORGN 643.** Logic-gated supramolecular disassembly and non-covalent guest release. **J. Gao, X. Liu, H. Scintzi, Z. Jiang, B. Zhao, Y. Xu, X. Guo, S. Thayumanavan**

**8:40 ORGN 644.** Stimuli-responsive self-assembly of organic cage compounds based on tribenzotriquinacenes. **A. Dhara, F. Beuerle**

**9:00 ORGN 645.** Withdrawn.

**9:20 ORGN 646.** General route to expanded helicenes. **G.R. Kiel, T.D. Tilley**

**9:40 ORGN 647.** Cyclic voltammetry studies of a redox-responsive 4 H-bond ureidopyrimidinone alkyl-pyridinium capable of self-dimerization. **G. Darzi, D.K. Smith**

**10:00 ORGN 648.** Synthesis and functional development of Calix[2]triazole[2]arene. **I. Kim, J. Cho, S. Kim**

**10:20 ORGN 649.** Surface imprinted phosphopeptide capture beads. **C. Wierzbicka, S. Torsetnes, O. Jensen, S. Shinde, B. Sellergren**

**10:40 ORGN 650.** Use of targeting motifs to improve oxidative catalytic breakdown of lignin in whole and fractionated biomass. **W.T. Hartwig, J.J. Bozell**

**11:00 ORGN 651.** Colloidal and antibacterial studies of non-conventional polycationic amphiphiles. **K.L. Caran, K. Seifert, K. Feitosa, J. Marafino, E. Rogers, K. Thompson, B. Walsh, S.D. Kendrick, K. McKenna, B. Ashamole, M.K. Lauer, S. Rauert, A. Rister**

**11:20 ORGN 652.** Redox-responsive dimerization in a ferrocene-containing four hydrogen-bond supramolecular assembly. **D.K. Smith, M. Cedano**

**11:40 ORGN 653.** Design and synthesis of BODIPY based two-photo absorbing fluorescent dyes. **M. Shen, X. Gao, X. He, N. Jian, J. Niu, X. Zhu, M. Song**

Section E

Moscone Center  
3007

**Total Synthesis of Complex Molecules**

R. D. Broene, *Organizer*

A. Angeles, *Presiding*

**9:00 ORGN 654.** General strategy for the total synthesis of C-19 methyl substituted sarpagine/macrolone indole alkaloids including macrocarpines A-G, peraksine, and dihydroperaksine. **M. Rahman, J.R. Deschamps, J.M. Cook**

**9:20 ORGN 655.** Utilizing a C-C activation/cross-coupling strategy toward the total synthesis of taxagifine. **B.S. Wang, B. Wyler, R. Sarpong**

**9:40 ORGN 656.** Studies toward the total synthesis of nagelamides A and C. **A.K. Herath, M. Bhandari, C.J. Lovely**

**10:00 ORGN 657.** Application of phosphate tethers in polyketide synthesis: Efforts toward the synthesis of (Z)-cryptofoline and (+)-cryptocaryol A-D. **C.N. Ndi, P.R. Hanson**

**10:20 ORGN 658.** Development of modular, pot-economical and library amenable strategies for the streamlined synthesis of bioactive natural products and analogs. **S. Javed, M. Bodugam, A. Ganguly, G. Dissanayake, P.R. Hanson**

**10:40 ORGN 659.** Synthesis of the biselyngbyolides through rapid and convergent synthesis of C1-C13 fragment. **R.G. Thorat, A.M. Harned**

**11:00 ORGN 660.** Enantioselective total synthesis of akuammiline alkaloids (+)-strictamine, (-)-2(S)-cathafoline, and (-)-aspidothylline A. **E. Picazo, N.K. Garg**

**11:20 ORGN 661.** Concise synthesis of illudinine from dime-done. **A.E. Morrison, G.B. Dudley**

**11:40 ORGN 662.** Flavin monooxygenase-mediated enantioselective oxidative dearomatization. **S. Dockrey, A.R. Narayan**

Section F

Moscone Center  
3005

**New Reactions & Methodology**

R. D. Broene, *Organizer, Presiding*

**8:00 ORGN 663.** Catalytic olefin dicarbofunctionalization. **R. Giri**

‡ Cooperative Cosponsorship



- 8:20 ORGN 664.** Novel application of Cu-Pd dual catalyst system for the cross-coupling of styryltrifluoroborates and amides. **M. Al-Masum**
- 8:40 ORGN 665.** Isothiourea-catalysed enantioselective formal [2+2] cycloaddition of perfluorinated alkyl-aryl ketones and homoanhydrides. **D. Barrios Antúnez, A.D. Smith**
- 9:00 ORGN 666.** Pd-catalyzed reactions of fluorinated enolates. **R.A. Altman**
- 9:20 ORGN 667.** Site-selective C(sp<sup>2</sup>)-H activation enabled by exo-directing mode. **Y. Xu, G. Dong**
- 9:40 ORGN 668.** General platform for the selective methylene C(sp<sup>3</sup>)-H activation of aliphatic amines. **A. Trowbridge, K.F. Hogg, A. Álvarez Pérez, M. Gaunt**
- 10:00 ORGN 669.** Small and uncommon diazoalkanes - applications in organic synthesis. **R.M. Koenigs**
- 10:20 ORGN 670.** Synthesis of azetidine derivatives via palladium-catalysed C(sp<sup>3</sup>)-H functionalisation of aliphatic secondary amines. **M. Nappi, C. He, M. Gaunt**
- 10:40 ORGN 671.** Ion pair-directed regiocontrol in transition-metal catalysis: A meta-selective C-H borylation of aromatic quaternary ammonium salts. **R. Phipps, H.J. Davis, M.T. Mihai**
- 11:00 ORGN 672.** Simple and efficient halogenation of C(sp<sup>2</sup>)-H bonds directed by poorly coordinating functional groups: Scope and mechanistic investigation. **E. Erbing, A. Sanz-Marco, A. Vázquez-Romero, J. Malmberg, M.J. Johansson, B. Martin-Matute**
- 11:20 ORGN 673.** Discovery of a novel diastereoselective cuprate conjugate addition reaction and its application to the multi-kilogram synthesis of a clinical candidate. **S.W. Wright, C. Choi, S. Chung, J.J. Mousseau, B.P. Boscoe, S.E. Drozda, J.D. Trzupke, K.L. Lee**
- 11:40 ORGN 674.** Copper-catalyzed cyclization reaction for the synthesis of bicyclic  $\alpha$ -carbonyl furan derivatives. **K. Hamal, W. Chalifoux**

## WEDNESDAY AFTERNOON

### Section A

Moscone Center  
3018

#### Materials, Devices & Switches

R. D. Broene, *Organizer*  
D. G. Patel, *Presiding*

- 1:00 ORGN 675.** Simple synthesis of complex molecular acceptors for high-performance air-processed and air-tested fullerene-free organic solar cells. **S.M. McAfee, S. Dayneko, P. Josse, P. Blanchard, C. Cabanetos, G. Welch**
- 1:20 ORGN 676.** Design and synthesis of phenothiazine based D- $\pi$ -A chromophores exhibiting mechanofluorochromism and aggregation-induced emission. **T. Sachdeva, S. Bishnoi, M.D. Milton**
- 1:40 ORGN 677.** Self-healing molecular crystals. **P. Commins, H. Hara, N. Pance**
- 2:00 ORGN 678.** Movement of light-driven molecular motors on surfaces. **H. Heideman, M. Stoehr, B. Feringa**

- 2:20 ORGN 679.** Photomechanical molecular crystals based on anthracene derivatives. **F. Tong, C.J. Bardeen, L. Zhu, R.O. Al-Kaysi, M.P. Hanson**
- 2:40 ORGN 680.** Tuning charge carriers using electron deficient thiophenes. **J. Low, B. Capozzi, J. Cui, S. Wei, L. Venkataraman, L. Campos**
- 3:00 ORGN 681.** Development of selective and affordable small molecule sensors for an array of applications. **Y.J. Diaz, Z.A. Page, A. Knight, N.J. Treat, J.R. Hemmer, C.J. Hawker, J. Read De Alaniz**
- 3:20 ORGN 682.** Withdrawn.
- 3:40 ORGN 683.** Medium-dependent emission color of 2-(2-Hydroxyphenol) Benzoxazole (HBO) and click triazole derivatives. **Q.J. Meisner, J.V. Accardo, L. Zhu**
- 4:00 ORGN 684.** Redox active quinone based diarylethenes for light activated advanced materials. **D.G. Patel**

### Section B

Moscone Center  
3014

#### Peptides, Proteins & Amino Acids

R. D. Broene, *Organizer*  
R. E. Moellering, *Presiding*

- 1:00 ORGN 685.** Facile method for the hydrolysis of a nickel Schiff-base complex. **C. Bontrager, T. Geibel, G. Lengyel**
- 1:20 ORGN 686.** Investigation of weak interactions using a  $\beta$ -hairpin peptide model system. **E.R. Danelius, H. Andersson, P. Jarvoll, U. Brath, M. Erdelyi**
- 1:40 ORGN 687.** Versatile, effective formation of biologically active single- and multi-loop peptide macrocycles via hydrazone condensation. **J.F. Reuther, E.T. Hernandez, I. Kolesnichenko, E.V. Anslin**
- 2:00 ORGN 688.** Applying molecular dynamics simulations to engineer transaminase enzymes. **J.N. Sanders, E.L. Noey, G. Jimenez-Oses, S. Osuna, K.N. Houk**
- 2:20 ORGN 689.** Withdrawn.
- 2:40 ORGN 690.** Stabilization, assembly, and toxicity of trimers derived from A $\beta$ . **A. Kreutzer, S. Yoo, R.K. Spencer, J.S. Nowick**

- 3:00 ORGN 691.** Withdrawn.
- 3:20 ORGN 692.** Introduction of  $\alpha$ -(aminomethyl) phenyl-boronic acids into peptides: Alkylation of secondary amines. **E.T. Hernandez, I. Kolesnichenko, J.F. Reuther, E.V. Anslin**
- 3:40 ORGN 693.** Efforts toward the synthesis of collision-induced dissociation-cleavable protein cross-linkers. **S. Block, C. Yu, L. Huang, S.D. Rychnovsky**
- 4:00 ORGN 694.** Stabilized  $\alpha$ -helix-turn- $3_{10}$ -helix inhibitors of RAB25 target context-specific phenotypes in cancer. **R.E. Moellering**
- 4:20 ORGN 695.** Triphenylmethane dyes that recognize oligomers of A $\beta$  derived peptides. **P.J. Salvesson, A. Thuy-Boun, A. Kreutzer, S. Yoo, J.S. Nowick**

### Section C

Moscone Center  
3011

#### Heterocycles & Aromatics

R. D. Broene, *Organizer*  
J. J. Reczek, *Presiding*

- 1:00 ORGN 696.** In silico virtual and molecular docking screenings of pyrazole derivatives as estrogen antagonist. **L. Al-Tamimi, A. Naqvi**
- 1:20 ORGN 697.** Synthesis of 4,8-bis(2-decyloxy)benzo-[1,2-b:4,5-b'] dithiophene-1,1,5,5-tetraoxide (BDTS) based organic semiconductors via copper-catalyzed C-H activation. **D. Khambhati, T.L. Nelson**
- 1:40 ORGN 698.** Synthesis of halogenated thiophenes, selenophenes, and benzo[b]selenophenes via environmentally benign halocyclization using sodium halides. **K. Giraudy, J. Morgan, T. Kesharwani**

- 2:00 ORGN 699.** Selective functionalization of pyridines and diazines via heterocyclic phosphonium salts. **A. McNally, M. Hilton, R. Dolewski, L. Koniarczyk, X. Zhang, A. Overgard, J. Dowling**
- 2:20 ORGN 700.** Synthesis, electrochemistry and antimicrobial properties of 1,2-benzisoxazole 2-oxides. **M.G. Kociotek, K. Miller**

- 2:40 ORGN 701.** Process development of GDC-0032 (Taselisib): Magnesium ethoxide promoted amidine formation and its application in fused imidazole synthesis. **D.R. Beaudry, D.E. Carrera, S. Malhotra, R. Angelaud**

- 3:00 ORGN 702.** Ferrocenyl chalcone salt derivatives: A study of their possible biological applications. **S.M. Delgado-Rivera, G.E. Pérez-Ortiz, I. Montes-González, A.R. Guadalupe-Quiñones, D.J. Sanabria Ríos, A. Serrano-Brizuela, E. Colón-Lorenzo, A. Baerga-Ortiz, Y. Morales-Lozada**

- 3:20 ORGN 703.** Radical chaperone-mediated directed C-H functionalization. **D.A. Nagib**

- 3:40 ORGN 704.** Efficient synthesis of highly-substituted anthraquinones. **J.J. Reczek**

- 4:00 ORGN 705.** OBO-methyl-ketone: A versatile pyruvate equivalent. **H. Esteves, P. Smith, T.J. Donohoe**

- 4:20 ORGN 706.** Heterocycle synthesis from quinols. **J. Wu, S. Zheng**

- 4:40 ORGN 707.** Catalytic Friedel-Crafts route into novel 3,3-diaryloxetane and dihydrobenzofuran motifs. **R.A. Croft, J.J. Mousseau, C. Choi, J.A. Bull**

### Section D

Moscone Center  
3009

#### Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species

R. D. Broene, *Organizer*  
B. F. Gherman, *Presiding*

- 1:30 ORGN 708.** Dissociative electron-transfer reactions of polybrominated aliphatic electrophiles. **S.V. Rosokha**

- 1:50 ORGN 709.** Steric effects in the computational modeling of cyclization reactions of enyne-enones. **K. Hoang, C.Q. Li, B.F. Gherman, J.D. Spence**

- 2:10 ORGN 710.** Constructing a free-energy map for the initial steps of glycine: Glycolic acid co-oligomerization. **J. Kua**

- 2:30 ORGN 711.** Mechanistic insights on the transition-metal-catalyzed C-H amination reactions based on DFT studies. **X. Bao**

- 2:50 ORGN 712.** Photochemistry of crystalline 2-azidobiphenyls to form crystalline carbazoles: Scope, laser flash photolysis and solid-to-solid studies. **T. Chung, M.A. Garcia-Garibay**

- 3:10 ORGN 713.** Novel mechanism of molecular rotor fluorescence: Suppression of Kasha's rule. **M.E. Cousins, H. Qian, I. Aporahamian, M.D. Liptak**

- 3:30 ORGN 714.** Selective microwave heating of homogeneous organic reaction mixtures. **G.B. Dudley, A.E. Stiegman**

- 3:50 ORGN 715.** Using 19F and 1H NMR to determine the strength of intramolecular hydrogen bonds. **R.E. Rosenberg**

### Section E

Moscone Center  
3007

#### Total Synthesis of Complex Molecules

R. D. Broene, *Organizer*  
T. G. Minehan, *Presiding*

- 1:30 ORGN 716.** Synthetic efforts toward the total synthesis of tubigensin B. **J. Kim, N.K. Garg**

- 1:50 ORGN 717.** Brocacazine F: Studies towards total synthesis and divergence into screening library construction. **A.I. Lansakara, W. Hulangamuwa, R. Rafferty**

- 2:10 ORGN 718.** Late-stage strategies for the synthesis of ambiguous natural products. **R.E. Johnson, M. Hartmann, L. Lang, S. Sawano, R. Sarpong**

- 2:30 ORGN 719.** Synthesis of synoxazolidinone C. **N. Perry, J.G. Pierce**

- 2:50 ORGN 720.** Synthesis of complex molecules: Total synthesis and biological evaluation of Reniochalstatin E and analogs and synthetic work towards Laguanamide C. **A.J. Fatino, C. Weese, G. Baca, A.I. Lansakara, R. Rafferty**

- 3:10 ORGN 721.** Total synthesis of hortonones A-C. **T.G. Minehan, H. Stambulyan**

- 3:30 ORGN 722.** Studies toward a scalable second-generation total synthesis of the aplyronines as novel payloads for antibody-drug conjugates. **N. Anzicsek, S.R. Williams, M. Housden, I. Paterson**

The use of any device to capture images (e.g., cameras and camera phones) or sound (e.g., tape and digital recorders) or to stream, upload or rebroadcast speakers or presentations is strictly prohibited at all official ACS meetings and events without express written consent from ACS.

**3:50 ORGN 723.** Enantioselective, convergent synthesis of the inelanganolide core by a tandem annulation cascade. J.L. Roizen, R.C. Smith, A.C. Jones, S. Virgil, B.M. Stoltz, R. Craig

**4:10 ORGN 724.** Studies towards the total synthesis of Elisabethin A. B. Schröder, T. Gaich

**Section F**

Moscone Center  
3005

**New Reactions & Methodology**

R. D. Broene, *Organizer*

G. Cuny, *Presiding*

**1:00 ORGN 725.** Transition-metal-free synthesis of substituted aminocyclopropanes. P. Cyr, A. Côté-Raiche, S.M. Bronner

**1:20 ORGN 726.** 1,2,3-Triazines: Powerful reagents for heterocycle synthesis. C.M. Glinkerman, D.L. Boger

**1:40 ORGN 727.** Proton activated reactions of cyclopropylamine. J.T. Ippoliti, G.W. Larson

**2:00 ORGN 728.** Asymmetric vinylgous aza-Darzens approach towards the synthesis of vinyl aziridines. P. Das, I. Chogii, J.T. Njardarson

**2:20 ORGN 729.** Lewis acid catalyzed carbonyl-olefin metathesis of aliphatic ketones. H. Albright, P. Riehl, C. McAtee, L. Karp, G. Rosenhauer, C. Schindler

**2:40 ORGN 730.** *o*-Substituted anilines as a building block for the synthesis of aza heterocycles under transition-metal-free conditions. G. Senadi, J. Wang

**3:00 ORGN 731.** Pyrimidine nucleosides with reactive  $\beta$ -keto sulfonyl group at C5 position. S. Suzoi, A. Howlader, S.F. Wnuk

**3:20 ORGN 732.** Development of a green and sustainable commercial manufacturing process for the antibiotic Zerbaxa™. H. Ren

**3:40 ORGN 733.** One pot 1,3-amino alcohol synthesis via a hydrogen borrowing strategy. R. Whittaker

**4:00 ORGN 734.** Acid-catalyzed cyclizations of  $\alpha$ -hydroxymethyl cyclopropanes. M. Sandridge, S.A. France

**4:20 ORGN 735.** Enantioselective heterodimerization of 1,3-dienes and acrylates. S.M. Jing, V. Balasanthiran, T. RajanBabu

**WEDNESDAY EVENING**

**Section A**

Moscone Center  
West Hall

**Heterocycles & Aromatics**

S. M. Silverman, *Organizer*

**7:00 - 9:00**

**ORGN 736.** Indole formation via palladium-catalyzed annihilation under mild pressure of 5% oxygen. K.B. Clagg, S.G. Koenig

**ORGN 737.** Process optimization: Synthesis of a heterocyclic intermediate toward a RORc ligand. J. Xu, L.E. Sirois, R. Angelaud, D. Lao, F. Gosselin

**ORGN 738.** Thermolysis reactions of phenylethylamino acid amides. M. Casale, D.A. Hunt

**ORGN 739.** Base-mediated cyclization reaction of 2-(5-hydroxy-1-pentynyl) benzonitriles to 4-amino-2,3-dihydrodronaphtho[2,3-b]furanones and synthesis of furanonaphthoquinones. M. Wu

**ORGN 740.** Synthesis of spirocyclic pyranones via enal trapping of HDDA-generated benzyne. C. Oswood, T. Wang, T.R. Hoye

**ORGN 741.** Building blocks for high temperature PEM fuel cells – Synthesis and characterization of crosslinking PAHs. M. Zeyat, D. Lentz

**ORGN 742.** Intramolecular click reaction using carbocontiguous precursors. F.A. Luzzio, P.C. Patil

**ORGN 743.** Atom-economical functionalization of pyrrole scaffolds: Synthesis of dihydropyrolizines and tetrahydroindolizines enabled by titanocene(III) catalysis. S. Hildebrandt, A. Gansäuer

**ORGN 744.** Thermal instability of 2,4 and 2,6-*N*-alkylamino disubstituted and 2-*N*-alkylamino substituted nitrobenzenes in weakly alkaline solution: Sec-amino effect. D.K. Mohanty, C. Walczak, A. Badour, C. Wade, M. Yonkey, T. Payne

**ORGN 745.** Expedient access to highly functionalized iodoarylated allylic lactams: Application to the synthesis of macrocyclic enamidynes. B. Mansker, T. Beng

**ORGN 746.** Modular access to potentially versatile 3-azaheterocyclic 1,5-enynes using cyclic  $\alpha$ -chloro eneforamides. S.A. Langevin, T. Beng

**ORGN 747.** Synthesis of 1-azaspiro[4.5]deca-1,3-dienes from *N*-propargylic  $\beta$ -enaminones. E. Karadeniz, M. Zora

**ORGN 748.** Synthesis of propargyl-substituted pyrroles. E.S. Yilmaz, Y. Kelgokmen, M. Zora

**ORGN 749.** Synthesis of heterocarbaporphyrins from carbatripyrrin intermediates. T.J. Smolczyk, T.D. Lash

**ORGN 750.** Synthesis of azulopyrroline dyads. M. Metallo, T.D. Lash

**ORGN 751.** Synthesis and metalation of adj-dicarbaporphyrins. W.T. Darrow, T.D. Lash

**ORGN 752.** Development of new routes for the synthesis of carbaporphyrins and carbachlorins. N. Sahota, T.D. Lash

**ORGN 753.** Solubility switchable materials for printed organic electronics. M. Ackermann, J. Freudenberg, D. Jaensch, U. Bunz, K. Muellen

**ORGN 754.** Finally an access to unsubstituted and structurally well-defined Poly-(Para-Phenylene) (PPP). A. Abdulkarim, F. Hinkel, D. Jaensch, J. Freudenberg, F. Golling, K. Muellen

**ORGN 755.** Synthesis of heterocycles via transition metal catalyzed hydroarylation. S. Acharya, P. Zhao

**ORGN 756.** Terephthalic acid analogs from cellulosic biomass. E.M. Serum

**ORGN 757.** Synthesis of oxygen analogues of a promising anticancer drug. F.M. Watts, K.D. Berlin, D. Benbrook, R.A. Bunce

**ORGN 758.** Bismuth(III) triflate catalyzed tandem esterification-Fries-oxa-Michael route to 4-chromanones. R. Thing, K. Meraz, K. Gnanasekaran, R.A. Bunce

**ORGN 759.** Aromatic bromination in preference to addition to an alkene. A.K. Giebink, D.E. Lewis

**ORGN 760.** Ultra-narrow low-landgap graphene nanoribbons from bromopyrenes: Synthesis and terahertz-spectroscopy. D. Jaensch, I. Ivanov, M. Baumgarten, M. Bonn, K. Muellen

**ORGN 761.** Key improvements towards the preparation of antiretroviral drug tenofovir. S. Korwar, E. Yu, A.R. Ehle, J. Verghese, D. Rivalti, F. Gupton

**ORGN 762.** Forgotten treasures: Synthesis and properties of *N*-substituted porphyrins. S.S. Bernhard, M. Roucan, M.O. Senge

**ORGN 763.** Synthesis of oxetan-3-sulfides and sulfones as novel modules for medicinal chemistry. R.A. Croft, J.J. Mousseau, C. Choi, J.A. Bull

**ORGN 764.** Withdrawn.

**ORGN 765.** Synthesis and characterization of the synthon 1,2-di(4-pyrindinyl)ethan-1,2-dione dihydrochloride. J.C. Martinez, B. Coleman, R.J. Morgan, M.P. Castellani

**ORGN 766.** Synthesis of novel fluoreno-fluorene-based structures. A. Hacker, M. Pavano, S. Genis, D.K. Frantz

**ORGN 767.** NMR spectroscopic study of the identity and interconversion of conformers of 2-oxo-*p*-tert-butyltetramethoxycalix[4]arene. J.L. Fantini

**ORGN 768.** Toward the templated synthesis of cyclophenylene structures comprising para- and meta-linkages. E. Hajj, M.B. Woodie, P.J. Somerville, S.H. Vansadadia, Z.T. Sherman, K.R. Negri, R.R. Ponce, D.K. Frantz

**ORGN 769.** Pyridinium zwitterion as a new dipole for the construction of heterocycles. J. Lee, D. Ko, J. Shim, J. Lee, E. Yoo

**ORGN 770.** Effects of substituents on s-triazine reactivity. S. Özcan, A.E. Acar

**ORGN 771.** HOF/CH<sub>3</sub>CN: Excellent oxygen transfer agent for heterocycles. S. Rozen

**ORGN 772.** Convenient synthesis of dihalo-substituted benzo[*b*]thiophenes via electrophilic cyclization. A. Hayes, R. Romero, C. Kornman, A. Tonnaer, T. Kesharwani

**ORGN 773.** Approaches to synthesizing tetrahydrobenzazepine systems. K. Dickson, L.M. Bradley

**ORGN 774.** Synthesis of novel exocyclic  $\alpha,\beta$ -unsaturated dihydrolevoglucosene derivatives via direct aldol condensation. R. Hohol, Z.J. Witzcak, D.E. Mencer

**ORGN 775.** Synthesis of chiral conformationally constrained diarylether cyclophanes. B. Lindquist-Kleissler, D. Chadeayne

**ORGN 776.** Sterically overcrowded distyrylbenzenes: Tuning emission properties and photoreactivity. J. Freudenberg, F. Rominger, U. Bunz

**ORGN 777.** Design, synthesis and characterization of novel thiazole based molecules. V. Patil, S.A. Patil, S. Patil

**ORGN 778.** One-pot *N*-alkylation, ketonation and C-enolate alkylation of readily affordable  $\gamma$ -amido esters: Application to the synthesis of functionalized lactams. J. Brooks, T. Beng, E. O'Claire

**ORGN 779.** Functionalized tetraazapentacenes as electron-transport materials. H. Reiss, T. Fritzensmeier, T. Marszałek, W. Pisula, P. Scharfer, U. Bunz, F. Hinkel

**ORGN 780.** Reaction of oximes with 4-phenyl-1,2,4-triazoline-3,5-dione. A.W. Jensen, D.K. Mohanty, W.L. Dilling, D. Flotka, T. Xu, D. Saults

**ORGN 781.** Troponone iron carbonyl complex as a platform for the synthesis of bridged nitrogen heterocycles. D. Griffith

**ORGN 782.** Tuning the conformational equilibria in saturated heterocycles through the manipulation of a non-classical CH---O hydrogen bond: The importance of electrostatic interactions within small molecules. K.M. Lambert, W.F. Bailey, Z.D. Stempel, K.B. Wiberg, B.Q. Mercado

**ORGN 783.** Synthesis of biphenyl and terphenyl precursor for  $\pi$ -conjugated Macrocyclic Molecular Belts (cMMBs). T. Olson, J. Lee, L. Fang

**ORGN 784.** Intramolecular de Mayo photocyclization: The total synthesis of hippadine and pratossine. C.I. Ochoa, D.E. Minter, A. Haugen

**ORGN 785.** Study of novel heterocycles for metal ion separation. J. Shih

**ORGN 786.** Progress toward Au-catalyzed [4+1] cycloaddition of vicinally functionalized tertiary propargylic lactamoyl alcohols with diazoacetates. M.S. Khim, T. Beng

**ORGN 787.** Azo dyes as ionochromic anion indicators. S. McKee, N.M. Paul

**ORGN 788.** Improved method for the synthesis of 5,10,15,20-tetrakis(3,5-diacetamido-4-pyridyl)porphyrin. S. Singh

**ORGN 789.** Parallel synthesis of aurones. Z.E. Taylor, S.T. Handy

**ORGN 790.** First report of diastereodifferentiation of 2-azetidionones towards anticancer activity: Design, synthesis and *in vitro* evaluation. F. Olazarán-Santibáñez, D. Bandyopadhyay, P. Carranza-Rosales, G. Rivera, I. Balderas-Rentería

**ORGN 791.** Microwave-assisted green synthesis of 1,3-thiazolidin-4-ones: An Insight. D. Bandyopadhyay, J. Strong

**Section B**

Moscone Center  
West Hall

**Flow Chemistry & Continuous Processes**

S. M. Silverman, *Organizer*

**7:00 - 9:00**

**ORGN 792.** Continuous processing approaches for prebiotic syntheses of 2-amino-oxazole and subsequent ribo/arabino furanosyl amino-oxazolines. J. Kading, A. Evans

**ORGN 793.** Continuous bioprocessing/processing (enz-flow) approaches toward levomilnacipran synthesis. M.G. Nguyen, C. Ayoub, A.C. Evans

**ORGN 794.** Towards a novel synthesis of levomilnacipran under continuous processing/bioprocessing conditions - reduction of the ester intermediate. D. Sarmiento, C. Ayoub, A. Evans

**ORGN 795.** Effects of low gravity on chemical transformations. A. Ku

**ORGN 796.** Multi-step continuous flow synthesis of diphenhydramine. V. Vu, D. Stout, J. Lim, G.W. Faris, J.P. Haushalter, J.P. Malerich, N. Collins

**ORGN 797.** Multi-step continuous flow synthesis of fluconazole. J. Szeto, V. Vu, D. Stout, J. Lim, G.W. Faris, J.P. Haushalter, J.P. Malerich, N. Collins

**ORGN 798.** Trans-hexenal preparation using microflow chemical system. K. Wang, L. Zhang, G. Luo

‡ Cooperative Cosponsorship

ORGN **799.** Synthesis of silylated diazo reagents via continuous flow synthesis. **C. Audubert, O. Gamboa, H. Lebel**

**Section D**

Moscone Center  
West Hall

**Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species**

S. M. Silverman, *Organizer*

7:00 - 9:00

ORGN **800.** Fate of green fluorescent protein chromophore analogues with a positive charge at the phenyl-like group. **J. Xu, Z. Zhang, R. Sung, K. Sung**

ORGN **801.** Reactivity and dynamics of chlorocarbene additions to dibenzocyclooctyne. **A. Nadeem, A. Urquilla, Y. Saperstein, V. Estes, A. Scorese, E. Dalchand, S. Tsuno, D.C. Merrer**

ORGN **802.** Effect of chloro-stabilization on free radical halogenation. **A.J. LaPorte, M. Mielke, J.A. Bjorklund, D.J. Rausch**

ORGN **803.** Synthesis, photophysical and computational studies of a series of linear triazines. **M.J. Voegtle, K. Chikami, R.A. Isovitsch**

ORGN **804.** Synthesis, photophysical, and computational studies of a series of 1,4-diaryl-1,3-butadiynes. **M. San Angelo, R.A. Isovitsch**

ORGN **805.** Intramolecular oxidative cyclization reactions of oximes and oxime ethers using alkenes as a potential nucleophiles or radical traps. **S. Baker, N. Armada, E. Ho, A. Petit, P. De Lijser**

ORGN **806.** Optimization and characterization of oxidative cyclization reactions of benzaldehyde oximes and oxime ethers with built-in heteroaromatic rings. **C. Taylor, A. Alshreimi, P. De Lijser**

ORGN **807.** Mechanistic aspects of the catalytic asymmetric allylboration of indoles and dihydroquinolines. **C. Diner, M. Alam, S. Jonker, K. Szabo**

ORGN **808.** Isolation and reactivity of trifluoromethyl iodonium salts. **J.N. Brantley, A.V. Samant, D. Toste**

ORGN **809.** Mechanistic investigation of Au(I)-phosphine catalyzed cycloisomerizations leads to a highly-selective novel Buchwald-type ligand. **A.H. Christian, Z.L. Niemeyer, M.S. Sigman, D. Toste**

ORGN **810.** Kinetic analysis of substituted tetraphenylacetones via Laser Flash Photolysis (LFP) in nanocrystalline suspensions. **J. Park, M.A. Garcia-Garibay**

ORGN **811.** Multiple oxidation pathways of photo-generated manganese(V)-oxo corroles. **N. Lee, K. Kwong, D. Ranburger, R. Zhang**

ORGN **812.** Computational study of heavy-atom tunneling in the Möbius  $\pi$ -bond shifting in [12]- and [16] annulene. **C.S. Michel, J.K. Arbitman, I. Castano, W.L. Karney, C. Castro**

ORGN **813.** Theoretical study of violapterin in gas phase and aqueous solution. **J.H. Kim**

ORGN **814.** Probing the effects of 1,3-cyclohexadiene substitution on the rates of retro-nitroso-Diels-Alder reactions. **J. Wong, B.E. Lynde, N.A. Yakelis**

ORGN **815.** N-substituted nitro-soguanidine Diels-Alder adducts: Synthesis and substituent effects on the rates of retro-Diels-Alder reactions. **M.N. Radford, N.A. Yakelis**

ORGN **816.** Hyperconjugative, secondary orbital, electrostatic, and steric effects on the reactivities and *endo* and *exo* stereoselectivities of cyclopropene Diels-Alder reactions. **B. Levandowski, K.N. Houk**

ORGN **817.** Computational studies on the mechanism of base-promoted rearrangement-cyclization of allylic esters. **P. Yu, W. Li, K.N. Houk**

ORGN **818.** Withdrawn.

ORGN **819.** Amide bond modulation: Cyclic amines and manipulating energy landscapes for conformational preferences using DEET analogs as a model system. **J.G. Guerra, D. Manning, B. Mason, P. Kumar, B. Bajwa, S. Thompson, K. Maitra, K.V. Krishnan, S. Maitra**

ORGN **820.** Computational elaboration of the mechanism of exocyclic ring formation of  $\alpha,\beta$ -unsaturated carbonyls with guanine. **D.W. Boerth, V.K. Sammeta, C. Paquin**

ORGN **821.** Physical organic chemistry of phenylenevinylene systems for applications as MALDI matrices, photocatalyst and chemosensors. **C.A. Sierra, J. Scaiano, C. Ochoa-Puentes, M.Y. Combariza, C. Blanco-Tirado**

**Section E**

Moscone Center  
West Hall

**Total Synthesis of Complex Molecules**

S. M. Silverman, *Organizer*

7:00 - 9:00

ORGN **822.** Recent progress toward the total synthesis of the arcutine family of natural products. **K. Owens, Y. Hirooka, S. Ueno, R. Sarpong**

ORGN **823.** Synthetic studies on guaipyridine alkaloids: Rupestines B-D and G. **S. Grosslight, H. Spargo, P. Shelton, J.R. Vyvyan**

ORGN **824.** Design and synthesis of archazolid-inspired V-ATPase inhibitors. **A.M. Craig, G.W. O'Neil**

ORGN **825.** Scalable copper mediated C-H hydroxylation: Synthesis of polyhydroxylated steroids. **Y. See, A. Herrmann, R.A. Trammell, N. Xie, Y. Aihara, I. Garcia Bosch, P.S. Baran**

ORGN **826.** Electrochemically promoted divergent synthesis of diterpene. **R. Merchant, K.M. Oberg, A. Novak, P.S. Baran**

ORGN **827.** Progress towards the total synthesis of himeradine **A. J. DeForest, X. Li, S.D. Rychnovsky**

ORGN **828.** Total synthesis of lycoricidine through chemical dearomatization of bromobenzene. **E.H. Southgate, D.R. Holycross, D. Sarlah**

ORGN **829.** Synthesis of antimalarial onocerane triterpene cupacinoxepin. **M. Christmann, F. Bartels**

ORGN **830.** Synthesis of desulfated 2-*epi*-symbioimine and related compounds via a highly stereoselective intramolecular Diels-Alder cycloaddition. **J.J. Chruma, M. Xiang, Y. Wu, Z. Wang**

ORGN **831.** Synthesis of beta-lactam analogs of the proteasome inhibitor belactosin A. **N.K. Dunlap, C. Harmon**

ORGN **832.** Synthesis of optically active crinine-type alkaloid precursors. **S.S. Bernhard, N. Kümmerer, M.O. Senge, U. Nubbemeyer**

ORGN **833.** Towards a total synthesis of cladospins E and G. **H.E. Burdge, J. Mease, K.P. Reber**

ORGN **834.** Synthetic studies towards the D ring of pectenotoxin-4. **M.S. Richardson, C.J. Tame, T.J. Donohoe**

ORGN **835.** Cyclization strategies for the total synthesis of biologically active natural products. **Z. Shultz, J. Leahy**

ORGN **836.** Towards the total synthesis and structural determination of patellazole B. **A. Phillips, T. Balan, M. Anketell, S. Williams, I. Paterson**

ORGN **837.** Withdrawn.

ORGN **838.** Progress towards the total synthesis of zamimaphidin A. **I. Hot**

ORGN **839.** Total synthesis of chaetoglobins A via asymmetric oxidative phenol coupling reaction. **H. Kang, C. Torruellas, Y. Lee, M. Kozłowski**

ORGN **840.** Towards molecular diversity with functionalized titanocenes. **E. Vogelsang, A. Gansäuer**

ORGN **841.** Progress toward the total synthesis of chrysopaentin A. **S. Jana, K. Kim, C. Fullenkamp, C.A. Bewley, G.A. Sullikowski**

ORGN **842.** Synthesis of 11-*cis*-retinol and its incorporation with FeO nanoparticle. **S. Lin, J.D. Rainier**

ORGN **843.** Total synthesis of taumycins A and B. **U.K. Shrestha, T. Newar, J.N. deGruyter, W.A. Maio**

ORGN **844.** Isocryptobellid acid D: Synthetic pursuit and computational comparisons. **G.E. Miller, L. Kim, K.J. Kron, O. Velazquez, G.G. Castro, R.J. Cave, D.A. Vosburg**

ORGN **845.** Termination of cascade cyclizations by MOM-protected phenols. **P. Shah, D.F. Wiemer**

ORGN **846.** Concise synthesis of oncostemomols enabled by transition-metal catalyzed coupling reactions. **E.E. Sartor, J. Cannon**

ORGN **847.** Total synthesis of the  $\alpha$ -alylidene lactone natural products subamolides D and E. **K. Ng, T.G. Minehan**

ORGN **848.** Harnessing click reaction to synthesize mechanically interlocked cucurbit[n]uril molecules. **J. Partridge, V. Ramalingam**

ORGN **849.** Progress toward the total synthesis of Gymnastatin G. **J. Pham, M.E. Jung, J. Ku**

ORGN **850.** Synthesis and optical characterization of benzothiazole-curcumin derivatives for use in photodynamic therapy. **L. Howard**

ORGN **851.** Efforts in the development of new anticancer therapies: C-benzylated chalcones and derivatives. **J. Dallman, A.I. Lansakara, T. Nguyen, R. Rafferty**

ORGN **852.** Synthesis of four new englerin analogs: Using enzymatic resolution to simplify synthetic pathways. **G. Bermudez**

ORGN **853.** Total synthesis of (+)-chimonanthine, (+)-folicanthine, (-)-calycanthine, and (+)-perophoramidine via solid state Norrish I photochemistry. **J. Dotson, E. Rivera**

**THURSDAY MORNING**

**Section A**

Moscone Center  
3018

**Materials, Devices & Switches**

R. D. Broene, *Organizer*

D. J. Brook, *Presiding*

8:20 ORGN **854.** Redox active single-molecule switches. **X. Yin, Y. Zang, L. Venkataraman, L. Campos**

8:40 ORGN **855.** Synthesis, self assembly, and solar cell performance of N-annulated PDI small molecules. **A. Hendsbee, G. Welch**

9:00 ORGN **856.** Color-change photoswitching of an alkenylpyrene excimer dye. **R. Chan**

9:20 ORGN **857.** Novel oligo and polyacenes for intramolecular singlet fission devices. **A. Pun, L. Campos**

9:40 ORGN **858.** Towards simple low-cost molecular materials for use in air processed organic solar cells. **A. Payne, S. Dayneko, G. Welch**

10:00 ORGN **859.** Synthesis and assembly of discrete macrocycles related to two-dimensional covalent organic frameworks. **A.D. Chavez, B.J. Smith, M.K. Smith, P. Beaucage, B.H. Northrop, W.R. Dichtel**

10:20 ORGN **860.** Boron-containing conjugated materials with ultra-high Stokes shift. **J. Cassidy, M. Bautista, I. Brettell-Adams, M. Smith, D.A. Dixon, P. Rugar, N. Hammer**

10:40 ORGN **861.** Tunable highly fluorescent polycyclic azaborene chromophores: Applications in organic materials. **C.J. Saint-Louis, M.T. Huggins, A. Schrock**

11:00 ORGN **862.** Benzodithiophene (BDT) based small molecules for organic photovoltaics. **R. Gunawardhana, C. Bulumulla, J. Du, M.C. Blewter, M.C. Stefan**

11:20 ORGN **863.** Mixed valence in bis(verdazyl) systems. **D.J. Brook**

11:40 ORGN **864.** Withdrawn.

**Section B**

Moscone Center  
3014

**Chemistry of Nanomaterials, Fullerenes, Carbon Nanotubes & Graphene**

**Nanomaterials & Carbon Allotropes**

R. D. Broene, *Organizer*

W. A. Braunecker, *Presiding*

8:00 ORGN **865.** Synthesis and photocatalytic activity of covalently conjugated three-dimensional pristine graphene-TiO<sub>2</sub> nanocomposite. **M. Yan**

8:20 ORGN **866.** Perfluoroalkylated fullerenes for stabilizing organic photovoltaic active layers. **W.A. Braunecker, B.W. Larson, L.E. Garner, V.N. V., P.C. Ramamurthy, O.V. Boltalina, S.H. Strauss**



**8:40 ORGN 867.** Effects of structural features of graphene oxide on its tissue distribution in mice. D. Jasim, K. Kostarelou

**9:00 ORGN 868.** Graphene nanoribbons through directed molecular assembly and stitching. R. Jordan, Y. Wang, R. Mccurdy, S. Khan, R.B. Kaner, Y.F. Rubin

**9:20 ORGN 869.** Fabrication of supramolecular n/p- nanowires via coassembly of oppositely charged peptide-chromophore systems in aqueous media. M. Khalily, B. Kucukoz, A. Karatay, G. Yaglioglu, M. Guler

**9:40 ORGN 870.** Withdrawn.

**10:00 ORGN 871.** Perylene diimides as precise graphene-like mimetics of antioxidant carbon nanomaterials and of superoxide dismutase. L.G. Nilewski, A.S. Jalilov, V. Berka, C. Zhang, A. Yakovenko, G. Wu, T.A. Kent, A. Tsai, J.M. Tour

**10:20 ORGN 872.** Synthesis of functionalized NHC-CO<sub>2</sub> adducts for applications in SERS-based sensing on noble metals. J.F. DeJesus, M.J. Trujillo, X. Gu, M.D. Stevens, J. Bradshaw, J.P. Camden, D.M. Jenkins

**10:40 ORGN 873.** Clinically-translatable, targeted, polymeric nanoparticles for tissue accumulation. N. Collins, M.T. Proetto, N.C. Gianneschi

**11:00 ORGN 874.** Cyclic peptide nanotubes with polar interior functionality. S. Darnall, C. Li, M. Alsina, S. Keten, B. Helms, T. Xu

**11:20 ORGN 875.** Polymer-based retrograde nano-tracers as tools for neuroanatomy. N. Zang, T.B. Diti, M. Tillo, D. Bortone, B. Bloodgood, M. Scanzain, N.C. Gianneschi

**11:40 ORGN 876.** Scintillating possibilities of a drug assisted radiotherapy. G.M. Entract, R.W. Boyle

**Section C**

Moscone Center  
3011

**Flow Chemistry & Continuous Processes**

R. D. Broene, *Organizer*

A. C. Evans, *Presiding*

**8:30 ORGN 877.** Difluorodiazethane: Applications in cycloaddition reactions. L. Mertens, K.J. Hock, R.M. Koenigs

**8:50 ORGN 878.** Continuous bioprocessing (Enz-Flow) approaches toward levomilnacipran synthesis. C. Ayoub, M.G. Nguyen, A.C. Evans

**9:10 ORGN 879.** *Trans*-cycloheptene, sila *trans*-cycloheptene and their application in bioorthogonal chemistry. Y. Fang

**9:30 ORGN 880.** Arming THIOMAB Antibiotic Conjugates (TACs) through process chemistry. S.G. Koenig

**9:50 ORGN 881.** Assessing inter- and intramolecular continuous-flow strategies towards methylphenidate hydrochloride. R. Gérardy, M. Winter, A. Vizza, J.M. Monbaliu

**10:10 ORGN 882.** Catalyst-free thermal deprotection of *tert*-butyl esters. S.J. Ryan, K.P. Cole, R.D. Miller

**10:30 ORGN 883.** AutoSyn: Toward a versatile multistep continuous synthesis device. J.P. Malerich, D. Stout, J.D. White, N. Collins

**10:50 ORGN 884.** Flow chemistry with in-line analytics and feedback control. M.G. Organ

**11:10 ORGN 885.** Continuous processing approaches for tunable asymmetric photochemical synthesis. A.C. Evans

**Section D**

Moscone Center  
3009

**Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species**

R. D. Broene, *Organizer*

S. J. Sobek, *Presiding*

**8:30 ORGN 886.** Structure and photophysical property relationships of amino-benzoic acids. S.J. Sobek, H. Rossiter

**8:50 ORGN 887.** Photoremovable protecting group based on electrocyclic ring closure with leaving group expulsion via a putative zwitterionic intermediate. G.N. Ndzeidze, L. Li, M.G. Steinmetz

**9:10 ORGN 888.** Hydrogen bonding directed photocatalytic hydrodefluorination, facile access to unsymmetric polyfluorinated aromatics. M. Bani Khaled, J.D. Weaver

**9:30 ORGN 889.** Kinetic studies of various (trialkylsilyl)ethoxycarbonyl derivatives. G.C. Daniels, E. Camerino, J.H. Wynne, E.B. Iezzi

**9:50 ORGN 890.** Mechanistic study of Cp\*Co<sup>III</sup>/Rh<sup>III</sup>-catalyzed directed C-H functionalization with diazo compounds. S. Qu, C.J. Cramer

**10:10 ORGN 891.** N-hydroxyphthalimide (NHP) mediated activation of C-H bonds with visible light using organic dyes. S.S. Shah, N.P. Singh

**10:30 ORGN 892.** Synthesis and mechanistic exploration of novel P,N-ligated gold(I) compounds: Effect of pendant amine groups on catalytic enhancement. J. Piedad, A.C. Jones

**10:50 ORGN 893.** Mechanistic evaluation of transition metal-catalyzed tetrahydroxydiboron-mediated H atom transfer from water. T. Le, S. Cummings, A. Brito, B.J. Stokes

**11:10 ORGN 894.** Mechanism of Zn(II)/TMSCl-catalyzed hydroarylation. S. Phan, M. Desai, S. Wilkens, S. Patel, A. Villani-Gale, J. Devery

**11:30 ORGN 895.** Photolysis of thiophene sulfonium ylides: Evidence for product sensitivity. J. Kolatloor, M.P. Sherman, W.S. Jenks

**Section E**

Moscone Center  
3007

**Total Synthesis of Complex Molecules**

R. D. Broene, *Organizer*

Q. Dai, *Presiding*

**8:30 ORGN 896.** Harnessing persistent radicals and stable quinone methide intermediates for the synthesis of resveratrol oligomers. K.J. Romero, X. Zhu, C. Stephenson

**8:50 ORGN 897.** Enantioselective syntheses of rearranged abietane diterpenoids isolated from *Tripterygium wilfordii*. R. Ali, T.W. Bell

**9:10 ORGN 898.** Synthetic efforts towards mandelalide/madeirolide A hybrid structures. J. Li, A. Ghosh, N. Veerasamy, R.G. Carter

**9:30 ORGN 899.** Studies directed toward the synthesis of aspidophytine. Y.E. Turkmen, M. Gravel, V.H. Rawal

**9:50 ORGN 900.** Catalyst-controlled oligomerization for the synthesis of polypyrrolindoline natural products. J.J. Badillo, C.R. Jamison, J. Lipshultz, R.J. Comito, D.W. MacMillan

**10:10 ORGN 901.** Total synthesis of clerobungin A. K.P. Reber, J. Mease

**10:30 ORGN 902.** Synthetic studies towards fischerindoles and ambigines. J. Xu, V.H. Rawal

**10:50 ORGN 903.** Studies towards the total synthesis of nahuico acids. Q. Liu, Y. Deng, A.B. Smith, III

**11:10 ORGN 904.** Exploration of gold(I)-catalyzed alkoxylation for formal synthesis of (+)-laurerincin. H. Park, M. Lanier, P. Mukherjee, A.A. Ribeiro, R. Widenhoefer, J. Hong

**11:30 ORGN 905.** Development and kilogram-scale synthesis of GSK2132838A. Q. Dai

**Section F**

Moscone Center  
3005

**New Reactions & Methodology**

R. D. Broene, *Organizer*

D. R. Stuart, *Presiding*

**8:00 ORGN 906.** Towards effective catalytic C<sub>2</sub> + N<sub>2</sub> aziridination with organic azides for organic synthesis. P.P. Chandrachud, L.C. Keller, J. Kern, G. Elpitiya, S. Roy, D.M. Jenkins

**8:20 ORGN 907.** Synthesis of heterocyclic aldehydes and lactams involving aerobic copper-catalyzed alkene aminooxygenation. T. Wdowik, S.R. Chemler

**8:40 ORGN 908.** Second generation oxirane-based approach for polypropionate construction: Application to the synthesis of ansamycins. J.A. Prieto, W. Torres, D. Rodriguez-Reyes, A. Cruz-Montanez

**9:00 ORGN 909.** Hypervalent iodine(III)-promoted N-incorporation into N-aryl vinylgous carbamates to quinoxaline diesters: Access to 1, 4, 5, 8 tetraazaphenanthrene. S. Arepally, S.S. Duddu

**9:20 ORGN 910.** Metal-free arylation reactions with unsymmetrical diaryliodonium salts. D.R. Stuart

**9:40 ORGN 911.** Synthesis of enantiomerically pure 6-substituted-piperazine-2-acetic acid esters for Fragment Based Lead Discovery (FBLD). S. Chamakuri

**10:00 ORGN 912.** Regio- and stereoselective oxyamination of dienes via tandem aziridination/ring-opening of dienyl carbamates. S. Castillon, I. Gimenez, J. Guasch, Y. Diaz, I. Matheu

**10:20 ORGN 913.** Solvent- and catalyst-free, quantitative protection of hydroxyl, thiol, carboxylic acid, amide and heterocyclic amino functional groups. B. Ahmed, M.L. Jawor, G. Meziel

**10:40 ORGN 914.** Bio-based amines and amides from renewable isosorbide. F. Popowycz, M. Janvier, S. Moebis-Sanchez

**11:00 ORGN 915.** Withdrawn.

**11:20 ORGN 916.** Mechanism-based solution to the ProTide synthesis problem. S.M. Silverman, B. Simmons, Z. Liu, A. Klapars, A. Belomo

**11:40 ORGN 917.** Flexible route to bioactive 6-alkyl- $\alpha$ -pyrones. Y. Qu, G.A. Kraus

**THURSDAY AFTERNOON**

**Section A**

Moscone Center  
3009

**Advanced Materials Technologies, Systems & Processes**

R. D. Broene, *Organizer*

A. R. Lippert, *Presiding*

**1:00 ORGN 918.** Single-molecule peptide sequencing: Side chain modification and model peptide sequencing studies. E.T. Hernandez, J. Swaminathan, A. Boulgakov, A. Bardo, L. Bachman, A. Johnson

**1:20 ORGN 919.** Thio-amine click and declick reactions. I. Kolesnichenko, K. Diehl, S. Robotham, J. Brodbelt, E.V. Ansllyn

**1:40 ORGN 920.** Advanced photoswitch displays for volumetric 3D image generation. A.R. Lippert

**2:00 ORGN 921.** Synthesis of a novel photoreactive collagen-like peptide and its one and two-photon absorption properties. A. Ornelas, K.N. Williams, K.A. Hatch, A. Paez, T. Boland, C. Li, K. Michael

**2:20 ORGN 922.** Synthesis of (7*R*,8*aS*)-octahydro-5,5-dimethylindolizin-7-ol using an enzymatic resolution approach. R.S. Kolluri

**2:40 ORGN 923.** Synthesis and biological evaluation of  $\alpha$ -methoxylated acetylenic fatty acids. C. Morales Guzman, E. Alvarez Benedicto, Z. Torres Martinez, Y. Delgado Reyes, D.J. Sanabria Rios, A.D. Tinoco, R. Balaña Fauce, N.M. Carballeira

**3:00 ORGN 924.** One-pot electrocatalytic oxidation/photocatalytic C-O bond cleavage of lignin systems at ambient temperature. I. Bosque Martinez, C. Stephenson

**3:20 ORGN 925.** Linking substance mixture information with physical properties for discovery. P. Son, V.A. Biehl, E.M. Altizer, A. Windhof, R.B. McWhirter

**3:40 ORGN 926.** Controlling antimicrobial agents' release: Natural polymer-based encapsulation systems. R. Rutenberg, E. Poverenov, E. Fallick

**Section B**

Moscone Center  
3011

**Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species**

R. D. Broene, *Organizer*

D. A. Vosburg, *Presiding*

**1:00 ORGN 927.** Mechanistic complexities of catalytic dihydropyridine reactions. C. Hanson, H. Vonesh, M. Solans, A. Nudo, S. Chowdhury, E. Kaydanovsky, J. Devery

‡Cooperative Cosponsorship

**1:20 ORGN 928.** How cinchona alkaloids steer the product distribution in the reactions of oxindoles with nitrosobenzene. N. Celebi-Olcum

**1:40 ORGN 929.** N-heterocyclic carbene catalyzed ring opening polymerization of glycolide and lactide: A theoretical study. X. Dong, Y. Li, J.M. Grandner, K.N. Houk

**2:00 ORGN 930.** Alkyne metathesis to delineate the effect of building block size on organic cage synthesis. A. Yang, J.S. Moore

**2:20 ORGN 931.** Conjugated trimeric scaffolds accessible using indolylene cyclotrimerizations. J. Lin, T. Shah, A. Goetz, K.N. Houk, N.K. Garg

**2:40 ORGN 932.** Non-bonding S–O interactions: A new element of stereocontrol and catalysis? D. Walden, E. Robinson, T. West, C. Fallan, J. Taylor, M. Greenhalgh, A.D. Smith, P. Ha-Yeon Cheong

**3:00 ORGN 933.** Withdrawn.

**3:20 ORGN 934.** Computational exploration of copper catalyzed azide-alkyne coupling reactions. S. Bidwell, H.P. Hratchian

**3:40 ORGN 935.** Computational comparisons of Diels-Alder transition states for endiandric tetracycles using density functional theory. K.J. Kron, R.J. Cave, D.A. Vosburg

**9:30** Intermission.

**9:50 PHYS 3.** Spin effects on photo-induced electron and energy transfer processes in polynuclear donor-acceptor assemblies. J.K. McCusker

**10:30 PHYS 4.** Energy transfer in quantum dot-molecule assemblies. E.A. Weiss, C. Wang, K. Lee, M. Kodaimati, S. Homan, G.C. Schatz

**11:10 PHYS 5.** Nanocrystal taxonomy and ligand alphabet soup: Covalent bond classification system applied to surface chemistry. N.C. Anderson, N.R. Neale, J.S. Owen

## Section B

Parc 55 San Francisco  
Mason

### Long Range Correlated Motions in Proteins

#### Protein Dynamics & Allostery

A. Markelz, *Organizer, Presiding*

**9:00** Introductory Remarks.

**9:05 PHYS 6.** Mind the gap: Building a bridge between physical and statistical models of allostery. M.A. Cuendet, G. Khelashvili, H. Weinstein, M.V. LeVine

**9:35 PHYS 7.** Entropy in protein function. A.J. Wand

**10:05 PHYS 8.** Predicting optimal allosteric stabilization sites with contact stabilization analysis. A. Dickson, C. Bailey, J. Karanicolas

**10:25** Intermission.

**10:40 PHYS 9.** Allosteric dynamics of AMPA receptors and coupling to membrane fluctuations. J. Lee, J. Krieger, I. Gregor, I. Bahar

**11:10 PHYS 10.** Understanding allosteric regulation of G protein-coupled receptors using molecular simulation. A. Grossfield

**11:40 PHYS 11.** Opening of the intracellular gate affects the structure and ion occupancy of the selectivity filter of a potassium ion channel. H.T. Kratochvil, M.T. Zanni

## Section C

Parc 55 San Francisco  
Hearst

### Sunlight-Driven Processes: Exposing the Mechanisms Underlying Productive Photoactivities

#### Photosynthesis

K. Glusac, M. Olivucci, *Organizers*

D. S. Larsen, *Organizer, Presiding*

**8:00 PHYS 12.** Probing ultrafast dynamics of photosynthetic reaction centers using two-dimensional electronic spectroscopy. J.P. Ogilvie, V. Policht, A. Niedringhaus, A. Loukianov

**8:30 PHYS 13.** Structural and functional modularity of the orange carotenoid protein in governing cyanobacterial photoprotection. C. Kerfeld

**9:00 PHYS 14.** Biomimetic designs and *In-Situ* x-ray structural characterization of catalysts for the artificial leaf. D.M. Tiede, G. Kwon, I. Kim, J. Emery, A.B. Martinson

**9:30 PHYS 15.** Photophysics of coupled carotenoids. M.J. Tauber

**10:00** Intermission.

**10:20 PHYS 16.** Photochemical water oxidation by photosystem II. G.W. Brudvig

**10:50 PHYS 17.** Pyridine Co-catalysis impacting CO<sub>2</sub> reduction over semiconductor photoelectrodes. T. Senftle, E.A. Carter

**11:20 PHYS 18.** Energy transfer mechanisms in green sulphur bacteria. D. Zigmantas, J. Dostal, K. Zidek, K. Kim, M. Alcocer, D. Bina, H. Lokstein, J. Psencik

## Section D

Parc 55 San Francisco  
Divisadero

### Quantum Dynamics in Large Scale Systems

#### Simulating Electrons on Large Scale

*Cosponsored by COMP*

O. V. Prezhdo, *Organizer*

A. V. Akimov, *Organizer, Presiding*

**8:00 PHYS 19.** Spectroscopy of molecules at metal surfaces: Markovian and non-Markovian electron dynamics. M. Pavanello

**8:40 PHYS 20.** Patches for realtime TDDFT: Correlation and a time-dependent Tamm-Dancoff approximation. J. Parkhill

**9:20** Intermission.

**9:35 PHYS 21.** Linked-cluster formulation of screened electron-hole interaction from explicitly-correlated geminal functions without using unoccupied states. M.G. Bayne, A. Chakraborty

**10:15 PHYS 22.** Spectra from stochastic many-body methods. V. Vlcek, R. Baer, E. Rabani, D. Neuhauser

**10:35 PHYS 23.** Description of quasiparticles in stochastic many-body methods. V. Vlcek, R. Baer, E. Rabani, D. Neuhauser

## Section E

Parc 55 San Francisco  
Embarcadero

### PHYS Division Awards Symposium

#### Ahmed Zewail Award in Ultrafast Science & Technology: Symposium in honor of Stephen R. Leone

*Cosponsored by PRES*

J. E. Shea, *Organizer*

D. Zhong, *Presiding*

**8:00** Introductory Remarks.

**8:05 PHYS 24.** From ultrafast spectroscopy to structural dynamics. M. Chergui

**8:45 PHYS 25.** In search of transition states of chemical reactions. A tribute to Ahmed Zewail. L. Banares

**9:25** Intermission.

**9:40 PHYS 26. Award Address** (Ahmed Zewail Award in Ultrafast Science & Technology sponsored by the Ahmed Zewail Endowment Fund by the Newport Corporation (Newport)). Ultrafast x-ray dynamics. S.R. Leone

**10:40 PHYS 27.** Probed quantum systems from the inside: On the attosecond time scale. P. Corkum

**11:20 PHYS 28.** Anion photoelectron/photodissociation spectroscopies: Ozonide solvation dynamics. W.C. Lineberger

## Section F

Parc 55 San Francisco  
Stockton

### Dynamics & Structure of Molecular Fluids: Honoring the Work & Life of Branka Ladanjani

#### Interfaces

A. T. Krummel, N. E. Levinger, *Organizers*  
K. Gaffney, *Presiding*

**8:00** Introductory Remarks.

**8:20 PHYS 29.** Is the surface of clathrate hydrates hydrophilic or oleophilic? V. Molinero

**9:00 PHYS 30.** Solvation and confinement effects on the thermodynamics of helix coil transitions of polyalanine in open nanotubes. D. Suvlu, S. Samarutunga, D. Thirumalai, J.C. Rasaiah

**9:20 PHYS 31.** Ion-induced stabilization of palmitic acid monolayers. H.C. Allen, E. Adams, B. Wellen, A. Vidalis, T. Zhang

**10:00** Intermission.

**10:20 PHYS 32.** Quantitative prediction of position and orientation for a polyhedral nanoparticle at liquid/liquid interfaces. S. Li

**11:00 PHYS 33.** Asymmetric electrowetting at the nanoscale: Molecular dynamics simulations of molecular fluids on graphene. N. van der Vegt

**11:20 PHYS 34.** Rate theory on ion pairings at the liquid/vapor interface of water. L.X. Dang

### Advanced X-Ray Techniques for Catalyst Characterization

#### Catalysts in Action

*Sponsored by CATL, Cosponsored by PHYS*

### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Allosteric Regulation & Mechanisms

*Sponsored by COMP, Cosponsored by PHYS*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>1</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>1</sup>, POLY, PRES<sup>2</sup> and WCC*

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## PHYS

### Division of Physical Chemistry

J. Shea, *Program Chair*

#### OTHER SYMPOSIA OF INTEREST:

**Elucidation of Mechanisms & Kinetics on Surfaces** (see *CATL*, Sun, Mon, Tue, Wed, Thu)

**Light-Driven Chemistry: Photoelectrochemistry & Photocatalysis** (see *CATL*, Mon, Tue, Wed)

**Nanoscience & Nanotechnology for Advanced Materials & Technologies** (see *MPPG*, Mon)

**Nanoscale Spectroscopic Characterization of Catalysts & Polymers** (see *PMSE*, Sun, Mon)

## SUNDAY MORNING

### Section A

Parc 55 San Francisco  
Sutro

### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

#### Experimental Characterization

*Cosponsored by INOR*

S. Corcelli, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:10 PHYS 1.** Scanning tunneling microscopy of alkyl-substituted oligothiophenes on Au(111): Real-space visualization of molecular electronic structure. B. Taber, G. Nazin

**8:50 PHYS 2.** Mixed-valence molecules: Direct imaging of intramolecular charge distribution by STM. S. Kandel

### Catalytic Materials from Molecular Insight

Sponsored by COMP, Cosponsored by CATL, MPPG<sup>‡</sup> and PHYS

### Strong Electron Correlation & Nonadiabatic Dynamics

Sponsored by COMP, Cosponsored by PHYS

### Coherent Multidimensional Spectroscopy in Materials Science

Sponsored by ANYL, Cosponsored by PHYS

## SUNDAY AFTERNOON

### Section A

Parc 55 San Francisco  
Sutro

### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

#### Theory & Modeling

Cosponsored by INOR

S. Corcelli, *Organizer*

S. Kandel, *Presiding*

**1:30 PHYS 35.** Charge motion in disordered molecular solids. M.A. Ratner

**2:10 PHYS 36.** Electronically excited states of organic molecules and transition-metal containing systems are a challenge for quantum chemistry. L. Gagliardi

**2:50** Intermission.

**3:10 PHYS 37.** Theoretical studies of homogeneous and heterogeneous multicenter electrocatalysts. S. Hammes-Schiffer

**3:50 PHYS 38.** Spectroscopy and electron transfer processes in molecular systems of multi metal centers: Insight by *ab-initio* modeling. B.D. Dunietz

**4:30 PHYS 39.** Efficient implementation and assessment of open-shell symmetry-adapted perturbation theory. J.F. Gonthier, L. Dos Anjos Cunha, C.D. Sherrill

### Section B

Parc 55 San Francisco  
Mason

### Long Range Correlated Motions in Proteins

### Protein-Solvent Modeling: Refinement through Comparison with Measurements

A. Markelz, *Organizer*

A. J. Wand, *Presiding*

**1:30 PHYS 40.** Spectral analysis of correlated protein and protein-water vibrations in molecular dynamic simulations. M. Heyden

**2:00 PHYS 41.** 2D-Raman-THz spectroscopy of water and aqueous salt solutions. A. Shalit, D. Sidler, P. Hamm

**2:30 PHYS 42.** Correlated vibrational motion in the Fenna-Matthews-Olson complex. B.S. Rolczynski, H. Zheng, V.P. Singh, P. Navotnaya, J.R. Caram, K. Ashraf, A.T. Gardiner, R.J. Cogdell, G.S. Engel

**2:50 PHYS 43.** Protein intramolecular vibrations couple to the dynamical transition. M. Xu, K. Niessen, Y. Deng, N. Michki, A. Markelz

**3:10 PHYS 44.** Towards development of the *ab-initio*-based force field for biological systems. P. Guronathan, L.V. Slipchenko

### Section C

Parc 55 San Francisco  
Hearst

### Sunlight-Driven Processes: Exposing the Mechanisms Underlying Productive Photoactivities

### Photochemistry & Emerging Techniques

K. Glusac, M. Olivucci, *Organizers*

D. S. Larsen, *Organizer, Presiding*

**1:30 PHYS 45.** Controlling the photostability of uracil with shaped light fields. D. Keefer, S. Thallmair, S. Matsika, R. de Vivie-Riedle

**2:00 PHYS 46.** Using fundamental photochemistry to drive drug development and structural-biology applications. C.E. Crespo-Hernandez

**2:30 PHYS 47.** Direct evidence of molecular charge accumulation during solar excitation of molecular dyes, and guidelines for obtaining large quantum yields. H. Chen, J.M. Cardon, S. Ardo

**2:50 PHYS 48.** Operating photoswitches with sunlight. S. Hecht PhD

**3:20 PHYS 49.** Fuel from water: The reductive side of water splitting and the light-driven generation of hydrogen. R. Eisenberg, H. Lv

**3:50** Intermission.

**4:10 PHYS 50.** Photochemical pathways for motion in E/Z photoswitchable thienyl-ethenes. A.E. Bragg

**4:40 PHYS 51.** Combined experimental and theoretical study of the transient IR spectroscopy of 7-hydroxyquinoline in the first electronically excited singlet state. F. Hoffmann, M. Ekimova, G. Bekçioğlu-Neff, E. Nibbering, D. Sebastiani

**5:00 PHYS 52.** Subensemble-Selective photochemistry by mixed IR/VIS two-dimensional spectroscopy. J. Bredenbeck

### Section D

Parc 55 San Francisco  
Divisadero

### Quantum Dynamics in Large Scale Systems

### Simulating Quantum Nuclei on Large Scale

Cosponsored by COMP

O. V. Prezhdo, *Organizer*

A. V. Akimov, *Organizer, Presiding*

**1:30 PHYS 53.** Linearized path integral methods for capturing quantum effects in molecular dynamics simulations of condensed phase systems. E. Geva

**2:10 PHYS 54.** Phase space vs. coordinate space approaches for overcoming exponential scaling in large quantum calculations. H. Larsson, B. Hartke, D. Tanner

**2:50 PHYS 55.** Path integral methods for nonadiabatic dynamics: Quantum transitions from classical trajectories. N. Ananth

**3:30** Intermission.

**3:45 PHYS 56.** Molecular dynamics of large systems with quantum corrections for selected nuclei. S. Garashchuk

**4:25 PHYS 57.** Nonadiabatic molecular dynamics with time-domain density functional theory. O.V. Prezhdo

**5:05 PHYS 58.** Condensed phase non-adiabatic dynamics from temporally-interpolated memory kernels. D. Hait, M. Mavros, T.A. Van Voorhis

**5:25 PHYS 59.** Preparation of a single highly vibrationally excited quantum state using Stark induced adiabatic Raman passage. W. Perreault, N. Mukherjee, R.N. Zare

### Section E

Parc 55 San Francisco  
Embarcadero

### PHYS Division Awards Symposium

### Ahmed Zewail Award in Ultrafast Science & Technology: Symposium in Honor of Stephen R. Leone

Cosponsored by PRES

J. E. Shea, *Organizer*

S. R. Leone, *Presiding*

**1:30** Introductory Remarks.

**1:35 PHYS 60.** Ultrafast protein folding. M. Gruebele

**2:10 PHYS 61.** How to turn a right hand into left: Chiral plasmons and more. V.A. Apkarian

**2:45 PHYS 62.** Probing and controlling molecular electronic and vibrational states with shaped laser pulses. M. Dantus

**3:20** Intermission.

**3:35 PHYS 63.** Probing ultrafast photochemical processes in solution with femtosecond spectroscopies. M.H. Khalil

**4:10 PHYS 64.** Better chemical filters for better life. V. Stavros, N.C. Cole-Filipiak, M. Staniforth, M. Horbury, N.D. Rodrigues, L.A. Baker, J. Woolley

**4:45 PHYS 65.** Dynamics and mechanism of ultrafast water-protein interactions. D. Zhong

### Section F

Parc 55 San Francisco  
Stockton

### Dynamics & Structure of Molecular Fluids: Honoring the Work & Life of Branka Ladanyi

#### Liquids

A. T. Krummel, N. E. Levinger, *Organizers*

W. H. Thompson, *Presiding*

**1:30 PHYS 66.** Measuring liquid density using optical Kerr effect spectroscopy. J.S. Bender, S. Cohen, X. He, B. Coasne, J.T. Fourkas

**2:10 PHYS 67.** Combined FT-IR and soft-x-ray spectroscopic approach on aqueous ammonium and ammonia. M. Ekimova, W. Quevedo, L. Szyc, P. Wernet, M. Odellius, E. Nibbering

**2:30 PHYS 68.** Structure and dynamics of glyme based electrolytes for sodium based rechargeable batteries. R. Kumar, R. Jorn, D.G. Kuroda

**3:10** Intermission.

**3:30 PHYS 69.** Ultrafast x-ray scattering studies of solvent and solvation dynamics. K. Gaffney, T.B. van Driel, K. Kjaer, R. Hartsock, A. Dohn, K. Moller, M. Nielsen, T. Harlang

**4:10 PHYS 70.** Dramatic impact of confinement on sugars and carbohydrates in confined environments. N.E. Levinger, B.P. Wiebenga-Sanford

**4:30 PHYS 71.** Solvation dynamics of hydrated electrons: Connecting hydrate electron structure to time-resolved photoelectron spectroscopy and temperature-dependent transient absorption experiments. B.J. Schwartz, C. Zhu, E. Farr, W.J. Glover

### Advanced X-Ray Techniques for Catalyst Characterization

#### Theory & Beyond

Sponsored by CATL, Cosponsored by PHYS

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Novel Reactions, Methodologies & Syntheses in Organic Chemistry

Sponsored by PROF, Cosponsored by ANYL<sup>‡</sup>, BIOL<sup>‡</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>‡</sup>, MEDI, ORGN, PHYS, PMSE<sup>‡</sup>, POLY, PRES<sup>‡</sup> and WCC

### Synthesis & Characterization of Materials for Energy Applications

### In Operando & Surface Sensitive Analysis

Sponsored by ANYL, Cosponsored by PHYS

### Catalytic Materials from Molecular Insight

Sponsored by COMP, Cosponsored by CATL, MPPG<sup>‡</sup> and PHYS

### Strong Electron Correlation & Nonadiabatic Dynamics

Sponsored by COMP, Cosponsored by PHYS

### Coherent Multidimensional Spectroscopy in Materials Science

Sponsored by ANYL, Cosponsored by PHYS

## MONDAY MORNING

### Section A

Parc 55 San Francisco  
Sutro

### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

#### Synthesis

Cosponsored by INOR

S. Corcelli, *Organizer*

L. J. Webb, *Presiding*

**8:00 PHYS 72.** Electrical transport in MOFs. M. Dinca, L. Sun, S. Park, G. Skorupskii, L. Xie, C. Hendon

**8:40 PHYS 73.** Solar photochemistry of semiconductor nanocrystals coupled with redox catalysts. G. Dukovic

**9:20 PHYS 74.** Charge transfer between hydrogen-bonded metal-metal quadruple bonds. L. Brown, A.J. Meijer, N. Patmore, K.B. Vincent, L. Wilkinson

**10:00** Intermission.

**10:20 PHYS 75.** Mixed-valency across hydrogen bonds: The effects of electron delocalization. C.P. Kubiak, T.M. Porter

<sup>‡</sup>Cooperative Cosponsorship



- 11:00 PHYS 76.** Role of molecular assemblies in dye sensitized photoelectrosynthesis cells. T.J. Meyer, L. Alibabaei, M.K. Brennaman, B. Sherman, D. Wang, M. Eberhart, M. Sheridan, A. Nayak, Y. Wang
- 11:40 PHYS 77.** Synthesis and characterization of exactly doped semiconductor quantum dots. A. Hassan

## Section B

Parc 55 San Francisco

Powell

### Long Range Correlated Motions in Proteins

#### Measurement Techniques

A. Markelz, *Organizer*

M. Heyden, *Presiding*

- 9:00 PHYS 78. Award Address** (Nakanishi Prize sponsored by the Nakanishi Prize Endowment). Long range effects from *in vitro* to *in vivo*. M. Gruebele

- 9:40 PHYS 79.** Revealing large-amplitude motions using local probes. C.H. Londergan

**10:00** Intermission.

- 10:15 PHYS 80.** Protein dynamics by femtosecond x-ray solution scattering and absorption. M. Cammarata, L. Balducci, M. Levantino

- 10:45 PHYS 81.** Biopolymer elasticities via terahertz spectroscopy. T.M. Korter

## Section C

Parc 55 San Francisco

Hearst

### Sunlight-Driven Processes: Exposing the Mechanisms Underlying Productive Photoactivities

#### Photoreceptor Activity: Non-Rhodopsin Photosensors

K. Glusac, D. S. Larsen, *Organizers*

M. Olivucci, *Organizer, Presiding*

- 8:00 PHYS 82.** Ultrafast biological photomachine: Watching DNA repair in real time. D. Zhong

- 8:30 PHYS 83.** Using light as a trigger to understand biological mechanisms. M. Sans, D.C. Monteiro, J.J. Doyle, B.A. Yorke, A.R. Pearson

- 9:00 PHYS 84.** Unfolding of the C-terminal  $\alpha$  helix in the LOV2 photoreceptor domain observed by time-resolved vibrational spectroscopy. P. Konold, T. Mathes, J. Weissenborn, M. Groot, P. Hegemann, J. Kennis

**9:30** Intermission.

- 9:50 PHYS 85.** Ground state and photo-induced electron transfer in cryptochromes. R. Tazhigulov, K.B. Bravaya

- 10:20 PHYS 86.** Structure-guided design of infrared fluorophores based on the sunlight-driven photoreceptor phytochrome. K.T. Forest

- 10:50 PHYS 87.** Correlating secondary protein dynamics with cryokinetics measurements in cyanobacteriochromes. D.S. Larsen, N. Rockwell, J. Lagarias, P. Kim

- 11:10 PHYS 88.** Revealing the molecular identity of cryptochrome photoactivation reaction. I. Solov'yov

## Section D

Parc 55 San Francisco

Divisadero

### Quantum Dynamics in Large Scale Systems

#### Fragmentation & Linear Scaling: Ab Initio & DFT

*Cosponsored by COMP*

O. V. Prezhdo, *Organizer*

A. V. Akimov, *Organizer, Presiding*

- 8:00 PHYS 89.** Highly accurate and efficient quantum chemical method based on non-orthogonal localized molecular orbitals. W. Yang, F. Gu

- 8:40 PHYS 90.** Ab Initio multiple spawning molecular dynamics with DFT for intersystem crossings. D. Fedorov, S.A. Varganov

- 9:00 PHYS 91.** Linear scaling calculations with the divide-and-conquer method and with non-orthogonal localized molecular orbitals. W. Yang

**9:40** Intermission.

- 9:55 PHYS 92.** Parallel electron dynamics calculations with linear system-size scaling using the time-dependent Hartree-Fock method. E. Rudberg

- 10:35 PHYS 93.** Large-scale real-time TDDFT for studying non-equilibrium electron dynamics in condensed matters: Prospects and challenges in simulating extended systems. Y. Kanai, D. Yost, Y. Yao

- 11:15 PHYS 94.** Multi-petaflop/s quantum molecular dynamics simulations. A. Nakano

## Section E

Parc 55 San Francisco

Embarcadero

### PHYS Division Awards Symposium

#### Peter Debye Award in Physical Chemistry: Symposium in honor of Bruce J. Berne

*Cosponsored by PRES*

J. E. Shea, *Organizer*

G. Hummer, *Presiding*

- 8:00 PHYS 95. Award Address** (Peter Debye Award in Physical Chemistry sponsored by DuPont). Enhanced sampling for thermodynamics and kinetics of ligand-protein binding and unbinding. B.J. Berne

- 8:35 PHYS 96.** Use of molecular dynamics simulations in structure based drug discovery. R. Friesner

- 9:10 PHYS 97.** Free energy simulations of protein-ligand binding and solvation at the interface. R.M. Levy

- 9:45 PHYS 98.** How and when does a drug leave the binding pocket of a host protein. P. Tiwary

**10:20** Intermission.

- 10:30 PHYS 99.** Molecular dynamics simulations of protein dynamics from femtoseconds to milliseconds. G. Hummer

- 11:05 PHYS 100.** Ultra-Coarse-Graining and its applications. G.A. Voth

- 11:40 PHYS 101.** Orderphobic effect: A general mechanism for membrane mediated forces between proteins. D. Chandler, K. Mandadapu

## Section F

Parc 55 San Francisco

Stockton

### Dynamics & Structure of Molecular Fluids: Honoring the Work & Life of Branka Ladanyi

#### Methods

A. T. Krummel, N. E. Levinger, *Organizers*

R. Kumar, *Presiding*

- 8:20 PHYS 102.** Chemical dynamics in Stochastic Hard Collision (SHC) solvents. R. Hernandez

- 9:00 PHYS 103.** Computing multi-dimensional optical spectra from classical trajectories. R.F. Loring

- 9:20 PHYS 104.** Collective behavior of nonequilibrium, nano-confined fluids. D. Limmer

**10:00** Intermission.

- 10:20 PHYS 105.** Tests for, origins of, and corrections to non-Gaussian statistics. A.J. Schile, W.H. Thompson

- 11:00 PHYS 106.** Local structural dynamics revealed by solute-pump/solvent-probe spectroscopy. X. Sun, B.M. Ladanyi, R.M. Stratt

- 11:20 PHYS 107.** Coarse-graining of molecular liquids with integral equation theory. M. Guenza

## Section G

Parc 55 San Francisco

Fillmore

### Expanding the Frontiers in Condensed Phase Astrochemistry: Electron Transfer Processes in Ices & Catalysis on Interstellar Grains

#### Astrophysics of Ice & Dust

R. Kaiser, *Organizer*

M. S. Gudipati, *Organizer, Presiding*

R. L. Hudson, *Presiding*

- 8:00 PHYS 108.** Production mechanisms for complex interstellar molecules. E. Herbst, C.N. Shingledecker

- 8:45 PHYS 109.** Thermally induced low temperature fragmentation reaction in solid phase: Possible answers to the non-detection of some interstellar chemical species. L. Krim

- 9:30 PHYS 110.** Ortho-to-para ratios of hydrogen molecules desorbed from ice at around 10 K: What happens on cosmic ice dust? N. Watanabe, H. Ueta, T. Hama, A. Kouchi

- 10:15 PHYS 111.** Gas-phase chemistry above interstellar and cometary ice analogs. S.L. Widicus Weaver, A.J. Mesko, H. Smith, S.N. Milam

- 10:45 PHYS 112.** Extreme Isotope Ratios in Meteoritic Material: A Gas-Phase Interstellar Origin? L.M. Ziurys, D.T. Halfen, T. Zega

#### Advanced X-Ray Techniques for Catalyst Characterization

#### Electro- & Photo-Catalysis

*Sponsored by CATL, Cosponsored by PHYS*

#### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Dynamics & Modeling of Allosteric Systems

*Sponsored by COMP, Cosponsored by PHYS*

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>1</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>1</sup>, POLY, PRES<sup>1</sup> and WCC*

#### Catalytic Materials from Molecular Insight

*Sponsored by COMP, Cosponsored by CATL, MPPG<sup>1</sup> and PHYS*

#### Strong Electron Correlation & Nonadiabatic Dynamics

*Sponsored by COMP, Cosponsored by PHYS*

#### Coherent Multidimensional Spectroscopy in Materials Science

*Sponsored by ANYL, Cosponsored by PHYS*

## MONDAY AFTERNOON

### Section A

Parc 55 San Francisco

Sutro

#### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

#### Experimental Characterization

*Cosponsored by INOR*

S. Corcelli, *Organizer*

E. Blair, *Presiding*

- 1:30 PHYS 113.** Probing vibrational coupling and relaxation in cyanide-bridged transition metal mixed-valence complexes. M.H. Khalil

- 2:10 PHYS 114.** Electrostatic and electrodynamic fields in lipid bilayer membranes. L.J. Webb

**2:50** Intermission.

- 3:10 PHYS 115.** Voltage-gated switching of anion-molecule assemblies at interfaces and in solution. A.H. Flood

- 3:50 PHYS 116.** Radical chemistry and charge manipulation with an atomic force microscope. L. Gross, B. Schuler, N. Pavliček, S. Fatayer, Z. Majzik, N. Moll, G. Meyer

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**4:30 PHYS 117.** Revisiting the structure-properties relation in charge transport across large area molecular tunneling junctions. J. Chen, H. Yoon, M. Thuo

### Section B

Parc 55 San Francisco  
Powell

### Spectroscopy of Complex Systems Dynamics Relevant to Electron & Proton Transfer

A. V. Benderskii, J. Dawlaty, *Organizers*  
S. T. Roberts, *Presiding*

**1:30 PHYS 118.** Proton coupled electron transfer in photosynthetic oxygen evolution: Role for internal water and hydrogen bonded networks. B.A. Barry, U. Brahmachari, Z. Guo

**2:10 PHYS 119.** Hydrated excess proton-ultrafast vibrational dynamics of the Zundel cation  $H_3O_2^+$ . F. Dahms, R. Costard, B. Fingerhut, E. Pines, E. Nibbering, T. Elsaesser

**2:30 PHYS 120.** Dissecting the molecular structure and dynamics of aqueous systems through many-body molecular dynamics simulations. F. Paesani

**3:10** Intermission.

**3:30 PHYS 121.** Panoramic portrait of photochemical events in solution and proteins captured by femtosecond Raman spectroscopy. L. Tang, B.G. Oscar, Y. Wang, L. Zhu, W. Liu, C. Fang

**4:10 PHYS 122.** Time-resolved infrared spectroscopy as a probe of nonequilibrium hydrogen-bond dynamics: A mixed quantum-classical study of alcohols in liquid solution. E. Geva

**4:30 PHYS 123.** Alteration of photoacidic behavior of pyrenol dyes covalently bound in the nanoconfined, electrostatically-complicated tips of asymmetric nanopores. C. Sanborn, J.V. Chacko, S. Ardo

**4:50 PHYS 124.** Photoinduced charge separation and recombination in DNA strands. B. Kohler

### Section C

Parc 55 San Francisco  
Hearst

### Long Range Correlated Motions in Proteins

### Dynamical Measurements & Calculations using Protein Crystals

A. Markelz, *Organizer*  
M. Cammarata, *Presiding*

**1:30 PHYS 125.** Fast and ultrafast structural investigations of trans to cis isomerizations in photoreactive proteins. M. Schmidt

**2:00 PHYS 126.** Ultra-fast time-resolved serial femtosecond crystallography on myoglobin ligand dissociation. I. Schlichting

**2:30 PHYS 127.** Photo-intermediate State Dependence of Picosecond Motions in Photoactive Proteins. Y. Deng, M. Xu, H. Liu, K. Niessen, M. Schmidt, R.E. Blankenship, A. Markelz

**2:50** Intermission.

**3:05 PHYS 128.** Non-thermal effect of terahertz radiation on crystals of lysozyme at room temperature and bovine trypsin at 100 K. G. Katona, I. Lundholm, W.Y. Wahlgren, M. Garcia Bonete, H. Rodilla, J. Stake, J. Vukusic, A. Duelli, H. Bassereh, G. Bourenkov, T. Schneider, R. Friedman

**3:35 PHYS 129.** Effect of intermolecular interactions on mixing of intermolecular and intramolecular vibrations: Terahertz spectroscopy and solid-state density functional theory. F. Zhang, H. Wang, K. Tominaga, M. Hayashi

**4:05 PHYS 130.** Mutation induced structure changes in histone proteins. T. Yu, G.C. Schatz, J. Licht

### Section D

Parc 55 San Francisco  
Divisadero

### Quantum Dynamics in Large Scale Systems

### Fragmentation & Linear Scaling: Semiempirical & DFTB

*Cosponsored by COMP*

A. V. Akimov, *Organizer*

O. V. Prezhdo, *Organizer, Presiding*

**1:30 PHYS 131.** Nonadiabatic molecular dynamics with tight-binding fragment molecular orbitals. A.V. Akimov

**2:10 PHYS 132.** Fragment orbital-based surface hopping for simulation of charge carrier transport in materials and biomolecules. A. Carof, L. Scalfi, J. Blumberger

**2:50 PHYS 133.** Nonadiabatic molecular mechanics/extended Hückel excited state quantum dynamics method. L.G. Rego, R. Oliboni, A. Torres, G. Bortolini

**3:30** Intermission.

**3:45 PHYS 134.** Chemical reaction simulations treated by linear-scaling Divide-and-Conquer Type Density-Functional Based Tight-Binding Molecular Dynamics (DC-DFTB-MD) method. H. Nakai

**4:25 PHYS 135.** QM/MM simulations of electron/exciton transfer reactions. M. Elstner

**5:05 PHYS 136.** Force field accelerated density functional theory molecular dynamics for simulation of reactive systems at extreme conditions. R. Lindsey, N. Goldman, L.E. Fried

### Section E

Parc 55 San Francisco  
Embarcadero

### PHYS Division Awards Symposium Joel Henry Hildebrand Award in the Theoretical & Experimental Chemistry of Liquids: Symposium in honor of Salvatore Torquato

*Cosponsored by PRES*

J. E. Shea, *Organizer*

P. G. Debenedetti, *Presiding*

**1:30** Introductory Remarks.

**1:35 PHYS 137.** Hard spheres under gravity. F. Stillinger

**2:15 PHYS 138.** Inverse design of interactions for assembly. T. Truskett

**2:55 PHYS 139.** Structure and dynamics in cold aqueous clusters: Quantum and classical perspectives. P.J. Rossky

**3:35** Intermission.

**3:50 PHYS 140.** Nano-scale drying and hydration phenomena. P.G. Debenedetti

**4:30 PHYS 141. Award Address** (Joel Henry Hildebrand Award in the Theoretical & Experimental Chemistry of Liquids sponsored by ExxonMobil Research & Engineering Company). Disordered hyperuniform materials: New states of amorphous matter. S. Torquato

### Section F

Parc 55 San Francisco  
Stockton

### Dynamics & Structure of Molecular Fluids: Honoring the Work & Life of Branka Ladanyi

### Ionic Liquids

A. T. Krummel, N. E. Levinger, *Organizers*

M. Guenza, *Presiding*

**1:30 PHYS 142.** Molecular geometries and electronic structures of ionic liquids: Bulk, vacuum interfaces, and ultrathin films. E. Castner

**2:10 PHYS 143.** Heterogeneity in solvation by an ionic liquid: A qualitative distinction between inertial and diffusive dynamics. S. Verma, S. Corcelli, M.A. Berg

**2:30 PHYS 144.** Solute dynamics in ionic liquids: Experiment and simulation. M. Maroncelli, C. Rumble, B. Conway, C. Uitzlugt

**3:10** Intermission.

**3:30 PHYS 145.** Dynamics and vibrational spectroscopy of solutes in ionic liquids. S. Corcelli

**4:10 PHYS 146.** Photo-induced electron transfer by ions in ionic liquids. B. Wu, M. Maroncelli, E. Castner

**4:30 PHYS 147.** Carbon dioxide dynamics in room temperature ionic liquids and supported ionic liquid membranes: 2D IR and polarization selective pump-probe experiments. M.D. Fayer

### Section G

Parc 55 San Francisco  
Fillmore

### Expanding the Frontiers in Condensed Phase Astrochemistry: Electron Transfer Processes in Ices & Catalysis on Interstellar Grains

### Kuiper Belt Objects & Comets

M. S. Gudipati, *Organizer*

R. Kaiser, *Organizer, Presiding*

N. Watanabe, *Presiding*

**1:30 PHYS 148.** Chemistry in protoplanetary disks. T.K. Henning

**2:15 PHYS 149.** Chemical evolution of organic materials from protoplanetary disk to small bodies recorded in Antarctic micrometeorites. H. Yabuta

**3:00 PHYS 150.** Energetic gas-surface encounters at ice interfaces. G. Langlois, R.S. Thompson, W. Li, K. Gibson, D.R. Killelea, H. Yuan, S.J. Sibener

**3:45 PHYS 151.** Adsorption, diffusion, aggregation, and desorption of simple molecules ( $CO_2$ ,  $CO$ ,  $O_2$ , etc.) on interstellar ice analogs. G. Vidali, J. He, S. Emrtiaz

**4:30 PHYS 152.** Synthesizing the basic PAH unit. B. Sivaraman

### Advanced X-Ray Techniques for Catalyst Characterization

### New Methodologies

*Sponsored by CATL, Cosponsored by PHYS*

### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

### Theory & Experiment

*Sponsored by COMP, Cosponsored by PHYS*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

*Sponsored by PROF, Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVIR, INOR<sup>†</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>†</sup>, POLY, PRES<sup>†</sup> and WCC*

### Catalytic Materials from Molecular Insight

*Sponsored by COMP, Cosponsored by CATL, MPPG<sup>†</sup> and PHYS*

### Strong Electron Correlation & Nonadiabatic Dynamics

*Sponsored by COMP, Cosponsored by PHYS*

### Coherent Multidimensional Spectroscopy in Materials Science

*Sponsored by ANYL, Cosponsored by PHYS*

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

### Sci-Mix

J. E. Shea, *Organizer*

**8:00 - 10:00**

**39, 59.** See previous listings.

**169, 220, 241, 247, 338, 367-368, 380-381, 396, 453, 465, 470, 478, 493, 499, 505, 511, 515, 523, 532, 541.** See subsequent listings.

## TUESDAY MORNING

### Section A

Parc 55 San Francisco  
Sutro

### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

### Applications & Devices

*Cosponsored by INOR*

S. Corcelli, *Organizer*

S. Roy, *Presiding*

**8:00 PHYS 153.** Investigation of quantum-dot cellular automata networks using a quantum annealing processor. J. Retallick, K. Walus

**8:40 PHYS 154.** Multistable mixed-valence molecular entities for quantum cellular automata: Vibronic localization in isolated and coupled cells. B. Tsukerblat, A. Pali

**9:20** Intermission.

**9:40 PHYS 155.** Fully-quantum, non-equilibrium model of vibration-coupled, electric-field-driven electron transfer in mixed-valence molecules. E. Blair

<sup>†</sup>Cooperative Cosponsorship

**10:20 PHYS 156.** Properties of multiple silicon atom artificial molecules on a silicon surface. R.A. Wolkow

**11:00 PHYS 157.** Mixed-valence molecules could be the replacement for the transistor. C. Lent

## Section B

Parc 55 San Francisco  
Mission I

### Spectroscopy of Complex Systems

#### Exciton Dynamics & Dissociation in Heterogeneous Systems

A. V. Benderskii, J. Dawlaty, *Organizers*

P. B. Petersen, *Presiding*

**8:00 PHYS 158.** Extracting triplet excitons produced by singlet exciton fission from perylene-dimide thin films. A.K. Le, J.A. Bender, A.P. Moon, R. Pandey, S.T. Roberts

**8:40 PHYS 159.** Resonance Raman study of exciton-phonon coupling in CdSe and ZnSe quantum dots and their alloys. K. Gong, D.F. Kelley, A.M. Kelley

**9:00 PHYS 160.** Probes of structure, disorder, and dynamics of excited states in conjugated materials. A.E. Bragg

**9:40** Intermission.

**10:00 PHYS 161.** Probing the mechanism of singlet fission with femtosecond stimulated Raman spectroscopy. R.R. Frontiera, S.M. Hart, W.R. Silva, K. Bera, S. Kwang, A. Cassabaum

**10:40 PHYS 162.** Interfacial disorder drives charge separation in molecular semiconductors. A. Willard, C. Lee, L. Shi

**11:20 PHYS 163.** Intermolecular vibronic coherence transfer in an organic electrode material. A. Rury, J. Dawlaty

**11:40 PHYS 164.** When a single structure is not sufficient: Effect of thermal deformation on excitonic properties of semiconductor nanoparticles. J. Scher, A. Srinari, M.G. Bayne, S. Nangia, A. Chakraborty

## Section C

Parc 55 San Francisco  
Hearth

### Long Range Correlated Motions in Proteins

#### Catalysis

A. Markelz, *Organizer*

A. Grossfield, *Presiding*

**9:00 PHYS 165.** Motions in proteins and drug design. J. Smith

**9:30 PHYS 166.** Evolution and designing enzymes for rapid protein dynamics and catalysis. S.D. Schwartz

**10:00 PHYS 167.** Sensitivity to protein vibration directionality and the relation to function. K.A. Niessen, M. Xu, Y. Deng, E. Snell, A. Markelz

**10:20 PHYS 168.** Role of statistical fluctuations and electrostatics in the improvements of de novo enzyme catalysis. T.L. Head-Gordon

**10:50 PHYS 169.** Withdrawn.

## Section D

Parc 55 San Francisco  
Divisadero

### Quantum Dynamics in Large Scale Systems

#### Simulations in Materials Systems

*Cosponsored by COMP*

A. V. Akimov, *Organizer*

O. V. Prezhdo, *Organizer, Presiding*

**8:00 PHYS 170.** Relating chromophoric and structural disorder in conjugated polymers. L. Simine, P.J. Rossky

**8:20 PHYS 171.** Dynamics of organic materials with optical activity: Advances, appraisal, applications. M. Barbatti

**9:00 PHYS 172.** Charge transfer and singlet fission quantum dynamics in organic photovoltaic. P. Huo

**9:40 PHYS 173.** Theoretical investigation of electron-nuclear dynamics in the neutral and cationic  $[\text{Au}_{25}(\text{SH})_{18}]^{\pm}$  [ $q = 0, +1$ ] thiolate-protected gold nanoclusters. R.D. Senanayake, A.V. Akimov, C.M. Aikens

**10:00** Intermission.

**10:15 PHYS 174.** Mapping nuclear dynamics in nonadiabatic molecular dynamics simulations. G. Tao

**10:55 PHYS 175.** Theoretical investigation of novel CdSe/Cd<sub>1-x</sub>Zn<sub>x</sub>S seeded nanorods exhibiting high quantum-yield, high polarization, and minimal blinking. I. Hadar, J.P. Philbin, Y. Panfil, H. Eshet, E. Rabani, U. Banin

**11:15 PHYS 176.** Strong binding of CdSe quantum dots to single-walled carbon nanotubes. B. Rudshiteyn, S. Azoz, W. Ding, F. Ren, M. Askerka, A. Matula, N. Marinkovic, G.L. Haller, L. Pfefferle, V.S. Batista

**11:35 PHYS 177.** Exciton transport in disordered molecular systems in couple with the quantum fluctuating electromagnetic field of metal surface. X. Chen, A. Poudel, M.A. Ratner

## Section E

Parc 55 San Francisco  
Embarcadero

### PHYS Division Awards Symposium

#### ACS Award in Theoretical Chemistry: Symposium in honor of Peter Pulay

*Cosponsored by PRES*

J. E. Shea, *Organizer*

S. Hirata, *Presiding*

**8:00 PHYS 178.** Paradigm changes in the methodology of computational quantum chemistry: A tribute to the contributions by Peter Pulay. W.E. Meyer

**8:30 PHYS 179.** Density cumulant functional theory. H.F. Schaefer

**9:00 PHYS 180.** 34 years of local electron correlation: From Peter Pulay's pioneering work to the state-of-the-art. H. Werner

**9:30** Intermission.

**10:00 PHYS 181.** Merging symmetry projection methods with coupled cluster theory. G.E. Scuseria

**10:30 PHYS 182.** Scalable electron-correlation methods and instabilities versus strong correlation: A legacy of Peter Pulay. S. Hirata

**11:00 PHYS 183. Award Address** (ACS Award in Theoretical Chemistry sponsored by the ACS Division of Physical Chemistry). Molecular properties from quantum mechanical calculations 1967 - 2017: Synergy, successes, and challenges. P. Pulay

## Section F

Parc 55 San Francisco  
Stockton

### Dynamics & Structure of Molecular Fluids: Honoring the Work & Life of Branka Ladanyi

#### Extreme Environments

A. T. Krummel, N. E. Levinger, *Organizers*

M. McCullagh, *Presiding*

**8:00 PHYS 184.** Why do isotropic liquid crystals resemble supercooled liquids? R.M. Strat

**8:40 PHYS 185.** Relaxation and self-diffusion of liquids and supercooled liquids derived from picosecond timescale dynamics. M.T. Cicerone, M. Tyagi, M. Zhi, J.S. Bender

**9:00 PHYS 186.** Fundamental differences between glassy dynamics in two and three dimensions. G. Szamel

**9:20 PHYS 187.** Wetting behavior of alkane-water nanodroplets and planar interfaces. P. Neupane, F. Hrahsheh, G. Wilemski

**10:00** Intermission.

**10:20 PHYS 188.** Supercooled water: Three-body interactions, IR spectra in no man's land, and the liquid-liquid critical point. J.L. Skinner

**11:00 PHYS 189.** Electronically coarse grained model, including all quantum mechanical fluctuations necessary for long-range forces, describes water's properties from ice to the supercritical regime. G.J. Martyna

**11:20 PHYS 190.** Thermodynamic forces between plant cell wall constituents. M.S. Skaf

## Section G

Parc 55 San Francisco  
Fillmore

### Expanding the Frontiers in Condensed Phase Astrochemistry: Electron Transfer Processes in Ices & Catalysis on Interstellar Grains

#### Condensed Materials in the Outer Solar System

R. Kaiser, *Organizer*

M. S. Gudipati, *Organizer, Presiding*

B. L. Henderson, *Presiding*

**8:00 PHYS 191.** Chemistry and processes in the Pluto system. W. Grundy, D. Cruikshank, C. Olkin, S. Stern, K. Ennico-Smith, L. Young, H.A. Weaver

**8:45 PHYS 192.** Links between the ices of comet 67P/Churyumov-Gerasimenko and the interstellar medium from Rosetta/ROSINA observations. M. Rubin, K. Altwegg, H. Balsiger, J. Berthelier, M. Combi, J. De Keyser, B. Fiethe, S. Fuselier, S. Gasc, T. Gombosi, K. Hansen, U. Mall, H. Rème, M. Schuhmann, I. Schroeder, T. Sémon, C. Tzou, J.H. Waite, S. Wampfler, P. Wurz

**9:30 PHYS 193.** Aerosol impact spectrometer – A variable velocity nanoparticle accelerator. R.E. Continetti

**10:15 PHYS 194.** Self-Assembly of prebiotic organic materials from impact events of amino acid solutions. N. Goldman

**10:45 PHYS 195.** Comparison of gas phase and condensed phase species: Sgr B2(N) vs. Comet 67P. D.T. Halfen, J. Bernal, L.M. Ziurys

**11:15 PHYS 196.** Results from recent experiments on electron-stimulated desorption from icy & rocky surfaces. C. Bennett, M.J. Poston, T.M. Orlando

### Advanced X-Ray Techniques for Catalyst Characterization

#### New Methodologies

*Sponsored by CATL, Cosponsored by PHYS*

### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Theory & Experiment

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### Catalytic Materials from Molecular Insight

*Sponsored by COMP, Cosponsored by CATL, MPPGf and PHYS*

### Strong Electron Correlation & Nonadiabatic Dynamics

*Sponsored by COMP, Cosponsored by PHYS*

## TUESDAY AFTERNOON

### Section A

Parc 55 San Francisco  
Sutro

### Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory

#### Theory & Modeling

*Cosponsored by INOR*

S. Corcelli, *Organizer*

C. Lent, *Presiding*

**1:30 PHYS 197.** Information propagation in molecular field coupled nanocomputing logic. M. Graziano, R. Wang, G. Piccinini

**2:10 PHYS 198.** Organic semiconductors: Singlets and triplets and charges, oh my! T.A. Van Voorhis, P. de Silva, T. Zhu

**2:50** Intermission.

**3:10 PHYS 199.** Theoretical study of dynamics in molecular junctions: Effects of molecule and electrode microstructure on electron transport. A. Becker, J. Kern, S. Roy

**3:50 PHYS 200.** Practical approaches for studying photochemistry of large molecules in solution and some nice applications. J.E. Subotnik, A. Jain, G.R. Medders

**4:30 PHYS 201.** Nonadiabatic electron-transfer in mixed-valence molecules. S. Corcelli



**Section B**

Parc 55 San Francisco  
Mission I

**Spectroscopy of Complex Systems****Exciton Dynamics & Dissociation in Heterogeneous Systems**

A. V. Benderskii, J. Dawlaty, *Organizers*

A. Rury, *Presiding*

**1:30 PHYS 202.** Multiresonant coherent multidimensional spectroscopy of cobalamin. J.C. Wright, J. Handali, N. Neff-Mallon

**2:10 PHYS 203.** Two dimensional spectroscopy of photosynthetic light harvesting antennae. G.S. Engel

**2:30 PHYS 204.** Mixed quantum/semiclassical simulations of ultrafast dynamics and spectroscopic signals. J.A. Cina, P.A. Kovac

**3:10** Intermission.

**3:30 PHYS 205.** Harnessing shared vibrations to control energy transfer. D.M. Jonas

**4:10 PHYS 206.** Accessing excitonic structure of a photosynthetic Fenna-Matthews-Olson pigment-protein complex by time-resolved circular dichroism spectroscopy. S. Savikhin, V. Stadnytskyi, G. Orf, R.E. Blankenship

**4:30 PHYS 207.** Withdrawn.

**4:50 PHYS 208.** Ultrafast 2D white light spatial imaging of single nano-structures. A.C. Jones, N.M. Kearns, M.T. Zanni

**5:10 PHYS 209.** Probing ultrafast electron dynamics at surfaces using soft x-ray transient reflectivity spectroscopy. L. Baker, J. Husek, S. Biswas, A. Cirri

**Section C**

Parc 55 San Francisco  
Hearst

**Sunlight-Driven Processes: Exposing the Mechanisms Underlying Productive Photoactivities****Photoreceptor Activity: Rhodopsins Photosensors**

K. Glusac, D. S. Larsen, *Organizers*

M. Olivucci, *Organizer, Presiding*

**1:30 PHYS 210.** Photoactivation mechanisms of rhodopsins from time-resolved optical absorption spectroscopy. D.S. Kliger

**2:10 PHYS 211.** Unexpected rhodopsin functions initiated by common retinal photoisomerization. H. Kandori

**2:50 PHYS 212.** Evidence for a vibrational phase isotope effect on the photochemistry of vision. R.A. Mathies, C. Schnedermann, M. Liebel, K.M. Spillane, P. Kukura, I. Fernandez, J. Lugtenburg

**3:30** Intermission.

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at:  
[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

**3:50 PHYS 213.** Effect of point mutations on the ultrafast photo-isomerization of anabaena sensory rhodopsin. S. Haacke, D. Agathangelou, J. Leonard, H. Kandori, K. Jung

**4:30 PHYS 214.** Understanding and designing color variants of retinal binding proteins by molecular simulations. S. Hayashi

**Section D**

Parc 55 San Francisco  
Divisadero

**Quantum Dynamics in Large Scale Systems****Simulations in Biological Systems**

*Cosponsored by COMP*

A. V. Akimov, *Organizer*

O. V. Prezhdo, *Organizer, Presiding*

**1:30 PHYS 215.** Importance of polarizable embedding in biological systems: Excitonic interactions in photosynthetic proteins. L.V. Slipchenko

**2:10 PHYS 216.** Improving density functional tight binding predictions of free energy surfaces for peptide condensation reactions in solution. M. Kroonblawd, N. Goldman

**2:30 PHYS 217.** Energy profiles for modeling transient kinetic studies of chemical reactions in proteins. A. Nemukhin

**3:10** Intermission.

**3:25 PHYS 218.** QM/MM dynamics for metalloproteins, so far without quantum dynamics. C.E. Valdez, M.R. Nechay, A. Morgenstern, M. Eberhart, A. Alexandrova

**4:05 PHYS 219.** Quantum mechanical force fields for condensed phase molecular simulations. D.M. York

**4:45 PHYS 220.** Single ion solvation free energies with ab initio molecular dynamics. T.T. Duignan, M.D. Baer, G.K. Schenter, C.J. Mundy

**5:05 PHYS 221.** Thermoelectric effect and its dependence on molecular length and sequence in single DNA molecules. Y. Li, L. Xiang, J.L. Palma, Y. Asai, N. Tao

**Section E**

Parc 55 San Francisco  
Embarcadero

**PHYS Division Awards Symposium****E. Bright Wilson Award: Symposium in honor of David J. Nesbitt**

*Cosponsored by PREES*

J. E. Shea, *Organizer*

M. I. Lester, *Presiding*

**1:30 PHYS 222.** Always acetylene! R. Field, J. Baraban, B. Changala, Z. Du, J. Jiang, A. Merer, A. Muthike, C. Saladrigas

**2:05 PHYS 223.** Unimolecular decay of Criegee intermediates to hydroxyl radical products. M.I. Lester

**2:40 PHYS 224. Award Address** (E. Bright Wilson Award in Spectroscopy sponsored by the ACS Division of Physical Chemistry). Good, good, good vibrations! D.J. Nesbitt

**3:25** Intermission.

**3:45 PHYS 225.** Properties of molecular clusters from broadband molecular rotational spectroscopy. B.H. Pate

**4:20 PHYS 226.** Formation of exotic networks of water clusters in helium droplets facilitated by the presence of neon atoms. G.E. Douberly, S. Xantheas

**4:55 PHYS 227.** Spectroscopic resolution attosecond measurements. S.R. Leone

**Section F**

Parc 55 San Francisco  
Stockton

**Dynamics & Structure of Molecular Fluids: Honoring the Work & Life of Branka Ladanyi****Interfaces**

A. T. Krummel, N. E. Levinger, *Organizers*

M. Berg, *Presiding*

**1:30 PHYS 228.** Chemical processes at environmental water-air interfaces. V. Vaida, E. Griffith, R. Rapf, R. Perkins

**2:10 PHYS 229.** Quantifying the catalyst's role in inverse phase transfer catalysis with computer simulations. J.J. Karnes, I. Benjamin

**2:30 PHYS 230.** Visualization of charge motion in nanostructures with pump-probe microscopy. J.M. Papanikolas

**3:10** Intermission.

**3:30 PHYS 231.** Ice: The common solid we hardly know. M.J. Shultz, P.J. Bissón, J. Marmolejos, A. Brumberg

**4:10 PHYS 232.** Solvation dynamics of aqueous solutions in extreme hydrophilic confinement. R.C. Remsing

**4:30 PHYS 233.** Dynamics and structure of water in confined environments. A. Luzar

**Section G**

Parc 55 San Francisco  
Fillmore

**Expanding the Frontiers in Condensed Phase Astrochemistry: Electron Transfer Processes in Ices & Catalysis on Interstellar Grains****Chemistry of Condensates on the Terrestrial Planets**

R. Kaiser, *Organizer*

M. S. Gudipati, *Organizer, Presiding*

N. Goldman, *Presiding*

**1:30 PHYS 234.** Quantum chemistry and ab initio molecular dynamics simulations of reactive chemistry in ionized clusters: From acetylene clusters to aromatics. T. Stein, M. Ahmed, M.P. Head-Gordon

**2:15 PHYS 235.** Nucleobase synthesis via UV-induced oxidation of their precursors in astrophysical ices: A quantum chemical perspective. P. Bera, T. Stein, M.P. Head-Gordon, T.J. Lee

**3:00 PHYS 236.** Theoretical cluster studies of charge shift reactions in astrophysical ices. D.E. Woon

**3:45 PHYS 237.** Formation of formamide NH<sub>2</sub>CHO catalyzed by icy grain particles: Atomistic insights from quantum chemical simulations. A. Rimola, V. Taquet, C. Ceccarelli, N. Balucani, P. Ugliengo

**4:15 PHYS 238.** Adsorption and catalysis of noble gas atoms and electrons on PAH surfaces. R.C. Fortenberry, G.T. Filipek, II, C.M. Novak, M.M. Moore, M.L. Theis, T.J. Lee

**Catalytic Materials from Molecular Insight**

*Sponsored by COMP, Cosponsored by CATL, MPPG<sup>†</sup> and PHYS*

**Strong Electron Correlation & Nonadiabatic Dynamics**

*Sponsored by COMP, Cosponsored by PHYS*

**WEDNESDAY MORNING****Section A**

Parc 55 San Francisco  
Sutro

**Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory****Synthesis**

*Cosponsored by INOR*

S. Corcelli, *Organizer*

M. Lieberman, *Presiding*

**8:00 PHYS 239.** Structural insight into electronic communication and energy transfer in metal organic framework arrays. A.J. Morris, J.M. Rowe

**8:40 PHYS 240.** Nano-Confinement inside molecular metal oxide clusters: Dynamics and modified encapsulation behavior. P. Yin

**9:00 PHYS 241.** Investigating the transformations of polyoxoanions using mass spectrometry and molecular dynamics. L. Vilà Nadal, L. Cronin

**9:20 PHYS 242.** Charge localization vs delocalization in tetranuclear mixed-valence complexes: A spectroscopic study. C. Lapinte, J. Hamon, R. Makhoul, P. Hamon

**10:00** Intermission.

**10:20 PHYS 243.** Cluso-Si<sub>2</sub>C<sub>12</sub> Molecule from cluster to crystal: Structure and properties of cluso-Si<sub>2</sub>C<sub>12</sub> siloxane polymers. X.F. Duan, L.W. Burggraf

**10:40 PHYS 244.** Layer-by-layer assembled MOFs. Building ordered chromophoric arrays and propagating molecular excitons. S. Goswami, O.K. Farha, J.T. Hupp

**11:20 PHYS 245.** Lanthanide-based single-molecule magnets with high blocking temperatures. S. Demir, C. Gould, L.E. Darago, M.I. Gonzalez, K.R. Meihaus, J. Zdrozny, M. Nippe, J.D. Rinehart, J.R. Long

**Section B**

Parc 55 San Francisco  
Powell

**Spectroscopy of Complex Systems****Effects of Nanoconfinement & Local Asymmetry on Dynamics & Chemistry: Local E-Fields**

A. V. Benderskii, J. Dawlaty, *Organizers*

A. Rury, *Presiding*

**8:00 PHYS 246.** Electric fields and enzyme catalysis. S.G. Boxer

**8:40 PHYS 247.** Vibrational sum frequency generation Stark shift spectroscopy: Measuring the electric field at a metal-dielectric interface. S.A. Sorenson, J. Patrow, J. Dawlaty

<sup>†</sup> Cooperative Cosponsorship

9:00 **PHYS 248.** Probing electrostatics along the catalytic cycle of an enzyme with site-specific nitrile probes. **S. Hammes-Schiffer**

9:40 Intermission.

10:00 **PHYS 249.** Calibrating the vibrational Stark effect of nitrile probes in the presence of hydrogen bonding with independently measured electric fields in green fluorescent protein. **L.J. Webb**

10:40 **PHYS 250.** Non-linear SFG spectroscopy of mineral/water interfaces containing electrolytes and tera-hertz spectroscopy in liquid water: A DFT-MD theoretical perspective. **M.P. Gaigeot**

11:00 **PHYS 251.** Atomistic electrodynamic-quantum mechanical approaches for simulating surface-enhanced hyper-Raman scattering: Theory and application. **Z. Hu, D. Chulhai, L. Jensen**

11:20 **PHYS 252.** Attosecond quantum kinetics of photoexcited Germanium. **P. Kraus, C. Kaplan, M.W. Zuerch, H. Chang, L.J. Borja, M.F. Jager, S. Cushing, D.M. Neumark, S.R. Leone**

11:40 **PHYS 253.** Driving delocalized dynamics using the orbital angular momentum of light. **B.S. Rolczynski, P. Navotnaya, G.S. Engel**

## Section C

Parc 55 San Francisco  
Hearst

**Sunlight-Driven Processes: Exposing the Mechanisms Underlying Productive Photoactivities**

**Excited-State Dynamics & Microscopy**

K. Glusac, D. S. Larsen, M. Olivucci, *Organizers*  
S. Haacke, *Presiding*

8:00 **PHYS 254.** Electronic energy redistribution in conjugated molecules and the effect of an energy gradient. **V.D. Kleiman**

8:30 **PHYS 255.** Space- and time-resolved spectroscopy of energy transfer. **T. Brixner**

9:00 **PHYS 256.** Ultrafast vibronic microspectroscopy of nanostructured electronic materials. **C. Schneidermann, J. Lim, A. Rao, P. Kukura**

9:30 **PHYS 257.** Ultrafast spectroscopic observation of cysteine-based redox regulation of coherent energy transfer in a photosynthetic antenna complex. **J.P. Otto, M.A. Allodi, R.G. Saer, S.H. Sohal, R.E. Blankenship, G.S. Engel**

9:50 **PHYS 258.** Resolving the detailed 2D spectral structure of the Fenna-Matthews-Olson complex. **B.S. Rolczynski, S. Yeh, P. Navotnaya, K. Ashraf, A.T. Gardiner, R.J. Cogdell, G.S. Engel**

10:10 Intermission.

10:30 **PHYS 259.** Electronic and geometric dynamics of transition metal complexes for solar energy conversion. **L.X. Chen, M. Shelby, D. Hayes, R. Hadt, P. Kim, S. Brown-Xu, J. Hong, M. Kelley**

11:00 **PHYS 260.** Torsional dynamics, intramolecular charge transfer, and solvent friction in the  $S_2$  ( $1^1B_u$ ) excited state of peridinin: A mechanism for enhanced mid-visible light harvesting in the peridinin-chlorophyll a protein. **W.F. Beck, J.D. Roscioli, S. Ghosh, M.M. Bishop, A.M. LaFountain, H.A. Frank**

11:20 **PHYS 261.** Probing the dynamics of higher-lying excited states. **C.G. Elles, T.J. Quincy, M.S. Barclay**

## Section D

Parc 55 San Francisco  
Divisadero

**Plasmonic Nanomaterials: From Physical Chemistry Fundamentals to Societal Impacts**

**Metamaterials & Information Technology**

P. K. Jain, *Organizer*

C. J. Murphy, *Organizer, Presiding*

8:00 **PHYS 262.** Film-Coupled nanocubes: From ultrafast spontaneous emission to perfect absorbers. **M.H. Mikkelsen**

8:35 **PHYS 263.** Dynamic plasmonic metamaterials with broken symmetry created via directed self-assembly. **D.B. Litt, M.R. Jones, M. Hentschel, P. Alivisatos**

8:55 **PHYS 264.** Towards all-optical chiral resolution with achiral plasmonic and dielectric nanostructures. **J. Dionne**

9:30 **PHYS 265.** Magneto-Optical response of cobalt interacting with plasmonic nanoparticle superlattices. **M.B. Ross, C.A. Mirkin, G.C. Schatz**

9:50 Intermission.

10:05 **PHYS 266.** Heat-assisted magnetic recording: Next-generation mass storage technology. **M. Re, J. Thiele, G. Ju, C. Rea, T. Rausch, M. Siegler, E. Gage**

10:40 **PHYS 267.** Near field thermal imaging: Sub-diffraction and steady state thermal measurements on optically excited gold nanostructures. **S. Baral, A. Rafiel Miandashiti, H.H. Richardson**

11:00 **PHYS 268.** Plasmonic transition metal nitrides for harsh-environment photonic applications. **U. Guler, H. Reddy, K. Chaudhury, A. Naldoni, A. Kildishev, V. Shalae, A. Boltasseva**

11:35 **PHYS 269.** Far-field superresolution detection of plasmonic near-fields. **R.C. Boutelle, D. Neuhauser, S. Weiss**

## Section E

Parc 55 San Francisco  
Embarcadero

**PHYS Division Awards Symposium**

**Francis P. Garvan-John M. Olin Medal: Symposium in honor of Barbara J. Finlayson-Pitt**

*Cosponsored by PRES*

J. E. Shea, *Organizer*

S. A. Nizkorodov, *Presiding*

8:00 Introductory Remarks.

8:05 **PHYS 270. Award Address** (Francis P. Garvan-John M. Olin Medal sponsored by Francis P. Garvan-John M. Olin Medal Endowment). From active molecules to atmospheric models: The central role of molecular level understanding in improving human health and welfare. **B.J. Finlayson Pitts**

8:40 **PHYS 271.** Towards molecular-level understanding of growth, formation and properties of atmospheric acid-base particles. **R.B. Gerber, J. Xu, K. Arquero, B.J. Finlayson Pitts**

9:05 **PHYS 272.** Atmospheric photochemistry of pyruvic acid and related oxoacids. **V. Vaida, A. Reed Harris, R. Rapf, R. Perkins**

9:30 **PHYS 273.** Enhanced reactivity in aqueous aerosols: Why bulk-phase aqueous measurements can mislead us. **D.O. Dehaan**

9:55 Intermission.

10:15 **PHYS 274.** Studies of halogen chemistry in the Arctic. **P.B. Shepson**

10:45 **PHYS 275.** Molecular dynamics simulation studies of ions and acids at atmospherically relevant aqueous solution-air interfaces. **D. Tobias**

11:10 **PHYS 276.** Composition and chemistry of the liquid/vapor interface of aqueous solutions. **J.C. Hemminger**

11:35 **PHYS 277.** Organic photochemistry in atmospheric particulate matter. **S.A. Nizkorodov**

## Section F

Parc 55 San Francisco  
Stockton

**Dynamics & Structure of Molecular Fluids: Honoring the Work & Life of Branka Ladanyi**

**Complex Systems**

A. T. Krummel, N. E. Levinger, *Organizers*  
R. Remsing, *Presiding*

8:20 **PHYS 278.** Biomolecular hydration shells: Dynamics and effect on biochemical function. **D. Laage**

9:00 **PHYS 279.** Probing PDI nanoaggregate structures by combining MD simulations & 2D IR spectroscopy. **A.T. Krummel**

9:20 **PHYS 280.** Biological water or rather water in biology? **P. Jungwirth**

10:00 Intermission.

10:20 **PHYS 281.** Bottom-up treatment of nonpolar solvation for molecular dynamics simulations. **P.T. Lake, M. McCullagh**

11:00 **PHYS 282.** Magnesium fluctuations modulate RNA dynamics in riboswitch. **U. Mohanty**

11:20 **PHYS 283.** Depolarized light scattering and terahertz absorption of protein solutions. **D.V. Matyushov**

## Section G

Parc 55 San Francisco  
Fillmore

**Expanding the Frontiers in Condensed Phase Astrochemistry: Electron Transfer Processes in Ices & Catalysis on Interstellar Grains**

**Physical Properties of Condensed Super Volatiles on Pluto: From the New Horizons Mission**

M. S. Gudipati, *Organizer*

R. Kaiser, *Organizer, Presiding*

G. Vidali, *Presiding*

8:00 **PHYS 284.** Probing molecular growth and charge transfer processes with vacuum ultraviolet mass spectrometry. **M. Ahmed**

8:45 **PHYS 285.** Chemical processing in interstellar grains via electron and UV radiation. **B.L. Henderson, M.S. Gudipati**

9:30 **PHYS 286.** Photon-stimulated processes on planetary surfaces and in astrophysical environments. **T.M. Orlando, C. Bennett, J. McLain, M. Sarantos**

10:15 **PHYS 287.** Chemical functionalization and catalytic activity of polycyclic aromatic hydrocarbons on dust grain surfaces. **L. Hornekaer, J.H. Jorgensen, A.W. Skov**

11:00 **PHYS 288.** PAHs, Dust and ice in the solar system. **A. Mattioda, G. Cruz-Diaz, A. Ricca Bauschlicher, A. de Barros, S. Erickson, P. van Vliet, E. da Silveira, A. Cook**

**Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling**

**Dynamics & Modeling of Allosteric Systems**

*Sponsored by COMR, Cosponsored by PHYS*

## WEDNESDAY AFTERNOON

### Section A

Parc 55 San Francisco  
Sutro

**Multicenter Molecules & Coupled Molecular Assemblies: Synthesis, Characterization & Theory**

**Experimental Characterization**

*Cosponsored by INOR*

S. Corcelli, *Organizer, Presiding*

1:30 **PHYS 289.** Pyrolysis of DNA origami drives carbon atoms into the substrate forming silicon carbide replicas. **M.A. Pillers, M. Lieberman**

2:10 **PHYS 290.** Self-assembled crystals that perform molecular rotor-based computations. **E.H. Sykes, N. Wasio**

2:50 Intermission.

3:10 **PHYS 291.** Simulation of static and dynamic behavior of molecular quantum-dot cellular automata made of Fe and Ru mixed-valence complexes. **K. Tokunaga**

3:50 **PHYS 292.** New reactions in surface chemistry. **F. Rosei**

4:30 **PHYS 293.** Electron transfer in the molecular quantum-dot cellular automata: The competition between Coulomb effect and nuclear relaxation. **Y. Lu, C. Lent**

### Section B

Parc 55 San Francisco  
Powell

**Spectroscopy of Complex Systems**

**Effects of Nanoconfinement & Local Asymmetry on Dynamics & Chemistry**

A. V. Benderskii, *Organizer*

J. Dawlaty, *Organizer, Presiding*

1:30 **PHYS 294.** Dynamics of room temperature ionic liquids measured with two dimensional infrared spectroscopy: The influence of electric fields on observables. **M.D. Fayer**

2:10 **PHYS 295.** Environmental effects on the structure of nanoemulsion interfaces. **A. Carpenter, J. Hensel, R. Ciszewski, B. Schabes, G.L. Richmond**

**2:30 PHYS 296.** Simulations of the vibrational spectroscopy of water at silica interfaces. J.A. Harvey, P.C. Burris, P. Wimalasiri, W.H. Thompson

**3:10** Intermission.

**3:30 PHYS 297.** Spectroscopic insight into efficiency limiting factors in light-driven H<sub>2</sub> generation using 1D and 2D multicomponent semiconductor/catalyst nanoheterostructures. T. Lian

**4:10 PHYS 298.** Transition from molecular vibrations to phonons in atomically-precise cadmium selenide quantum dots. A. Beecher, R.A. Dziatko, M.L. Steigerwald, J.S. Owen, A. Crowther

**4:30 PHYS 299.** Single-molecule exploration of the regulation of photosynthetic light harvesting. G. Schlau-Cohen

**4:50 PHYS 300.** Linear and nonlinear spectroscopy of multicolor photoresists. Z. Tomova, N. Liaros, S. Gutiérrez Razo, H. Ogden, S. Wolf, M. Thum, J.T. Fourkas, A.S. Mullin, D. Falvey, J. Petersen

## Section C

Parc 55 San Francisco  
Hearst

**Sunlight-Driven Processes: Exposing the Mechanisms Underlying Productive Photoactivities**

**Exciton Photodynamics: Soft Materials**

D. S. Larsen, M. Olivucci, *Organizers*  
K. Glusac, *Organizer, Presiding*

**1:30 PHYS 301.** What happens to triplet excitons after singlet fission? C.J. Bardeen

**2:00 PHYS 302.** Introducing a general spin-correct spin-flip configuration interaction method that includes dynamic correlation. J. Mato, M.S. Gordon

**2:20 PHYS 303.** Excitonic triplet-triplet couplings in dimeric and aggregated dyes: Experiment and theory. L.V. Slipchenko, D.A. Hartzler, S. Savikhin

**2:40 PHYS 304.** Singlet fission: Optimal choice of mutual disposition of chromophores. Z. Havlas, P. Felkel, E. Buchanan, J. Michl

**3:10 PHYS 305.** Dynamics of electronic excitations at organic-inorganic interfaces. D. Kilin, Y. Han, D. Vogel, A. Forde, B. Disrud, S.J. Jensen, W. Sapp, A.R. Erck

**3:30** Intermission.

**3:50 PHYS 306.** Conical intersections and non-radiative recombination in semiconductor nanocrystals. B.G. Levine, Y. Shu, B. Fales, W. Peng

**4:20 PHYS 307.** Insights into the mechanism of photovoltaic action from photoacid-functionalized ion-exchange materials. W.N. White, C. Sanborn, D. Fabian, S. Ardo

**4:40 PHYS 308.** Role of the protein in light-driven biological functions: A quantum chemical view. B. Mennucci

**5:10 PHYS 309.** Understanding the quantum dynamics of photosynthetic energy transfer with realistic environment interactions. P. Huo, D. Coker, M. Lee

## Section D

Parc 55 San Francisco  
Divisadero

**Plasmonic Nanomaterials: From Physical Chemistry Fundamentals to Societal Impacts**

**Surface Chemistry, Sensors & Diagnostics**

C. J. Murphy, *Organizer*

P. K. Jain, *Organizer, Presiding*

**1:30 PHYS 310.** Plasmonic nanomaterials for ultrasensitive biosensing. M. Stevens

**2:05 PHYS 311.** Dependence of the plasmonic properties of two silver nanocubes on their separation, relative orientation, refractive index of the substrate and propagation direction of the exciting light. N. Hooshmand

**2:25 PHYS 312.** Controlling chirality of aluminum plasmonic architectures based on copper mask nanosphere template lithography. J.S. Shumaker-Parry

**3:00 PHYS 313.** Understanding molecule-plasmon coupling in surface-enhanced femtosecond stimulated Raman scattering: Combined experimental-theoretical studies. M.O. McAnally, G.C. Schatz, R.P. Van Duyne

**3:20** Intermission.

**3:35 PHYS 314.** Commercialization of optically tailored plasmonic nanoparticles for diagnostic assays and therapeutics. S. Oldenburg, R.K. Baldwin, A.E. Saunders, J.M. Werle, R.T. Decker

**4:10 PHYS 315.** Novel numerical method for electron energy-loss spectroscopy calculation: EELS-FDTD. N. Large, A. Manjavacas, E. Ringe, G.C. Schatz, S.X. Wang, P.J. Nordlander

**4:30 PHYS 316.** SERS sensors for direct detection of environmental contaminants. A.J. Haes, T. Forbes, G. Lu

**5:05 PHYS 317.** Plasmon-induced excited-state heterogeneous catalysis on surface-doped metallic nanoparticles. J. Martinez, E.A. Carter

## Section F

Parc 55 San Francisco  
Stockton

**Dynamics & Structure of Molecular Fluids: Honoring the Work & Life of Branka Ladanyi**

**Water**

N. E. Levinger, *Organizer*

A. T. Krummel, *Organizer, Presiding*

**1:30 PHYS 318.** Mechanisms of electronic excited state relaxation in water clusters. P.J. Rossky

**2:10 PHYS 319.** Withdrawn.

**2:30 PHYS 320.** Solvation structure and photochemical dynamics of seeded molecular clusters. G. Peslherbe

**3:10** Intermission.

**3:30 PHYS 321.** Solvation dynamics revisited: An energy flux approach. J.T. Hynes, R. Rey

**4:10 PHYS 322.** Connecting features of a water molecule with the anomalous properties of liquid water by comparing different water models in computer simulations. T. Ichiye

**4:30 PHYS 323.** Hydration-shell vibrational spectroscopy of water-mediated interactions. D. Ben-Amotz

## Section G

Parc 55 San Francisco  
Fillmore

**Expanding the Frontiers in Condensed Phase Astrochemistry: Electron Transfer Processes in Ices & Catalysis on Interstellar Grains**

**Chemical Composition & Evolution of Comets 67P/CG: As Observed by the Rosetta Mission**

R. Kaiser, *Organizer*

M. S. Gudipati, *Organizer, Presiding*

L. Hornekaer, *Presiding*

**1:30 PHYS 324.** Sugar derivatives in residues produced from the UV irradiation of astrophysical ice analogs. M. Nuevo, S.A. Sandford, J. Saunders, G. Cooper

**2:15 PHYS 325.** Protonation and ionization of organic reactive molecules in low-density amorphous water ice. W.W. Sander, P. Costa, M.S. Gudipati

**3:00 PHYS 326.** Radiation chemistry and redox reactions in icy molecular solids. R.L. Hudson, M. Loeffler

**3:45 PHYS 327.** Electron induced chemistry in interstellar and cometary ices. N.J. Mason

**4:30 PHYS 328.** Non-Ionizing UV (< 7 eV) photochemistry of cosmic ice analogs of ammonia. H. Cumberbatch, A. Bao, C. Arumainayagam

**Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling**

**Inhibition & Therapeutic Applications of Allosteric Mechanisms**

*Sponsored by COMP, Cosponsored by PHYS*

## WEDNESDAY EVENING

### Section A

Moscone Center  
Hall D

**PHYS Poster Session**

J. E. Shea, *Organizer*

**7:00 - 9:00**

**PHYS 329.** Study of the O(<sup>1</sup>P) initiated oxidation of 2-methylfuran via synchrotron multiplexed photoionization mass spectrometry. Y. Fathi, K. Nwachuku, G. Meloni

**PHYS 330.** Photo-induced phase transitions of spin-crossover nanoparticles within the thermal hysteresis loop. A.D. Mena, D.A. Munteanu, R.M. van der Veen, T. Dixon, C.M. Gentle

**PHYS 331.** Insight into the role of water in the photogeneration and properties of bifunctional quinone methides: A time-resolved spectroscopic study of a binol quinone methide. L. Du, X. Zhang, J. Xue, D.L. Phillips

**PHYS 332.** Electronic dynamics in bulk GaAs induced by light with orbital angular momentum. P. Navotnaya, B.S. Rolczynski, G.S. Engel

**PHYS 333.** Equivalency of the kinetic schemes: Mathematical formulation. V.D. Dergachev, A. Petrov, I. Dergachev, S.A. Varganov

**PHYS 334.** Water, hydrogen-bonding networks, redox-active tyrosines, and proton coupled electron transfer reactions in the photosynthetic water oxidizing complex. Z. Guo, B.A. Barry

**PHYS 335.** Withdrawn.

**PHYS 336.** Accessing chiral information in macromolecules via time-resolved circular dichroism spectroscopy. V. Stadnytskyi, G. Orf, R.E. Blankenship, S. Savikhin

**PHYS 337.** Methylglyoxal hydration state equilibrium at the air-water interface. B. Gordon, G. Lindquist, N.A. Valley, S. Wren, G.L. Richmond

**PHYS 338.** Simulating transient x-ray absorption spectroscopy of photo-excited chemical dynamics in molecular systems. S. Pemmaraju, D. Prendergast

**PHYS 339.** Characterization of the structure and dynamics of AOT reverse micelles in heavy alkanes. I. Sitarik, K. Obray, J. Diverdi

**PHYS 340.** Exploring the role of asymmetrically coordinated photoactive metal centers in photoinduced electron transfer reactions: A spectroscopic perspective. B. Dietzek

**PHYS 341.** Chemistry of aerosolized room-temperature ionic liquids. S. Chambreau, G.L. Vaghjani, D. Popolan-Vaida, S.R. Leone

**PHYS 342.** Electron irradiation effects in icy regoliths: The PacMan anomalies on the icy Saturnian moons. M.J. Schaible, R.E. Johnson, L. Zhigilei

**PHYS 343.** Effects of thermal broadening and photoluminescence in functionalized silicon nanocrystals. D. Vogel, D. Kilin

**PHYS 344.** Undistorted fluorescence yield detected soft x-ray absorption spectroscopy: Direct detection of outer (3d->2p), inner (3s->2p) and inverse partial fluorescence yield using TES based spectrometers. C. Titus

**PHYS 345.** Charge transfer dynamics at perovskite quantum dot and Spiro-MeOTAD interface. D. Vogel, D. Kilin

**PHYS 346.** Withdrawn.

**PHYS 347.** Binary mixtures consisting of glass-forming constituent and crystal-forming constituent: Density, rheology and phase transitions in poly(propylene glycol) - water system. B.H. Milosavljevic, S. Lovrinac

**PHYS 348.** Simplifying calculations of IR and Raman spectra from DFT-based molecular dynamics simulations. D.R. Galimberti

**PHYS 349.** Transient absorption spectroscopy with realtime TDDFT: Perovskites and Pauli bleaches. J. Parkhill

**PHYS 350.** New mechanism for glass formation. I.C. Sanchez

**PHYS 351.** Withdrawn.

**PHYS 352.** Role of chloride ion in photosynthetic oxygen-evolution. U. Brahmachari, J.F. Gonthier, C. Sherrill, B.A. Barry

**PHYS 353.** Theoretical <sup>15</sup>N isotropic chemical shift: Challenging the calculation of liquid state references. F. Jolibois, I. Gerber

**PHYS 354.** Computational studies on chemistry of graphene surface. B.Q. Pham, M.S. Gordon

‡ Cooperative Cosponsorship



- PHYS 355.** Proposed two-dimensional topological insulator in SiTe. **Y. Ma, T. Heine**
- PHYS 356.** Sunlight-Driven synthesis of oligomers from oxoacids in aqueous environments. **R. Rapf, R. Perkins, V. Vaidya**
- PHYS 357.** Ultrafast electron transfer in a model organic semiconductor: An experimental and theoretical examination. **V. Duong, D. Nordlund, D. Prendergast, A. Ayzner**
- PHYS 358.** Optoelectronic structures of hybrid lead iodide perovskites probed by electron-rotor interaction. **J. Gong, M. Yang, X. Ma, R.D. Schaller, G. Liu, L. Kong, Y. Yang, M.C. Beard, M. Lesslie, Y. Dai, B. Huang, K. Zhu, T. Xu**
- PHYS 359.** Spectroscopic and theoretical investigations of the intramolecular  $\pi$ -type hydrogen bonding in cyclic and bicyclic molecules. **J. Laane, E.J. Ocola, A. Al-Saadi**
- PHYS 360.** Withdrawn.
- PHYS 361.** Polarization anisotropy measurements for determining the orientation of guest molecules in a self-assembled bis-urea macrocycle host. **P. Kittikhunnatham, B. Som, L.S. Shimizu, A. Greytak**
- PHYS 362.** Withdrawn.
- PHYS 363.** Effects of exciton-delocalizing ligands on intraband relaxation in semiconductor nanocrystals. **M.S. Azzaro, M.C. Babin, S.T. Roberts**
- PHYS 364.** Nonlinear interferometer for complex signal measurement. **M.J. Shultz, J. Wang, P.J. Bisson, J. Marmolejos**
- PHYS 365.** Withdrawn.
- PHYS 366.** Efficient geometry minimization and transition structure optimization using interpolated potential energy surfaces. **J. Zheng, M.J. Frisch**
- PHYS 367.** Photon induced aerosol formation: Photochemically driven reactions of sulfur dioxide with water and organics. **J.A. Kroll, V. Vaidya**
- PHYS 368.** Angular dependence of ionization by short, intense pulses of linear and circularly polarized light simulated by time-dependent configuration interaction with an absorbing potential. **H.B. Schlegel, P. Krause, P. Hoerner, Q. Liao, W. Li**
- PHYS 369.** Ultrafast transient absorption spectroscopy investigation of excited state dynamics of methyl ammonium lead bromide perovskite nanostructures. **H. Telfah, J. Liu, A. Jamhawi, J. Strain, M. Teunis, R. Sardar**
- PHYS 370.** Modelling photodetachment processes in transition metal oxide clusters. **L.M. Thompson, H.P. Hratchian**
- PHYS 371.** Lock and key bidentate binding of ligands on nanocrystals. **X. Li, A. Fast, D. Fishman, Z. Huang, M. Tang**
- PHYS 372.** Multiple *cis* and *trans* conformations of caprylactam and their role in deuterium isotope effect predictions in  $^{13}\text{C}$  NMR. **E. Kleist, B.S. Hudson**
- PHYS 373.**  $\phi$  Photoreduction of  $\text{CHCl}_3$  initiated by illumination of SPEEK/PVA and SPEEK/ $\text{HCO}_3^-$  system via a free radical mechanism. **M. Islam**
- PHYS 374.** Withdrawn.
- PHYS 375.** Tunable molecular separation by photoswitchable MOF membranes. **L. Heinke**
- PHYS 376.** Nanoscale  $\text{MoS}_2$  towards emerging organic optoelectronics. **A. Salam, S. Pal**
- PHYS 377.** Chiroptical investigation of sulfone-bridged heterohelene. **A. Kim, E. Mohammad, M. Vargas, A.G. Petrovic, B. Gliemann, M. Kivala**
- PHYS 378.** Withdrawn.
- PHYS 379.** Tryptophan-to-tryptophan energy Transfer in UV-B photoreceptor UVR8. **X. Li, D. Zhong**
- PHYS 380.** Withdrawn.
- PHYS 381.** Withdrawn.
- PHYS 382.** Accessing spatial heterogeneity in halide lead perovskite thin films with multimodal optical imaging. **Y. Ma, M. Simpson, B. Doughty, S. Das, B. Yang, K. Xiao**
- PHYS 383.** Non-intrusive detection of polyatomic combustion intermediates via photoionization out of Rydberg states. **F. Rudakov**
- PHYS 384.** Description of hydration water in protein (GFP) solution. **J. Nickels, S. Perticaroli, G. Ehlers, C.B. Stanley, E. Mamontov, H.M. O'Neill, Q. Zhang, D. Myles, J. Katsaras**
- PHYS 385.** Raman studies of the photopolymerization of 1,4-diodobuta-1,3-diene in crystalline urea inclusion compounds. **S. Dinca, D.G. Allis, M.B. Sponsler, B.S. Hudson**
- PHYS 386.** Unequal hole and electron diffusion in lead bromide perovskites. **G. Elbaz, D. Straus, O.E. Semonin, T. Hull, D. Paley, P. Kim, J.S. Owen, C.R. Kagan, X. Roy**
- PHYS 387.** First-principles calculations of the K-edge XANES spectra for aqueous  $\text{Na}^+$  and for ion pairs of  $\text{Ca}^{2+}$  with either carbonate or bicarbonate. **M. Galib, N. Govind, J. Fulton**
- PHYS 388.** Photoinduced charge transfer rates in light-harvesting carotenoid-porphyrin- $\text{C}_{60}$  molecular triad. **X. Sun, E. Geva**
- PHYS 389.** Inelastic neutron scattering analysis of tautomeric polymorphic crystals: The strange case of barbituric acid. **B.S. Hudson, Y. Cheng**
- PHYS 390.** Exciton imaging in polycrystalline semiconducting organic thin films using optical resonance imaging. **M.A. Allodi, R.J. Mazukski, P.D. Dahlberg, H. Davis, J. Otto, G.S. Engel**
- PHYS 391.** Withdrawn.
- PHYS 392.** High-Resolution infrared spectroscopy of carbon sulfur clusters. **J.B. Dudek, J. Kozubal, T. Salomon, S. Fanghanel, S. Thorwirth**
- PHYS 393.** Electronic structure of iron-sulfur clusters revealed by 2p3d resonant inelastic x-ray scattering: Implications for biological nitrogen fixation. **B. Van Kuiken, A. Hahn, S. DeBeer**
- PHYS 394.** Vacuum ultraviolet spectroscopy of the lowest-lying electronic state in sub-critical and supercritical water. **T.W. Marin, I. Janik, D.M. Bartels, D. Chipman**
- PHYS 395.** Molecular simulations of  $\text{A}\beta$ -hIAPP cross-seeding assemblies on lipid membranes. **M. Zhang, R. Hu, B. Ren, F. Yang, K. Chu, J. Zheng**
- PHYS 396.** Femtosecond stimulated Raman Spectroscopy of light harvesting complexes: Good vibrations in photosynthesis. **J. Artes Vivanco, Y. Hontani, R. van Grondelle, J. Kennis**
- PHYS 397.** Synthesis and charge carrier dynamics of organolead bromide perovskite/graphitic carbon nitride nanoheterostructures for photocatalytic  $\text{CO}_2$  reduction. **Y. Pu**
- PHYS 398.** Partitioning, clustering, and hydrophobicity in mixtures of phospholipids and aromatics at water interfaces. **R. Perkins, V. Vaidya**
- PHYS 399.** Density fluctuations of carbon dioxide in cylindrical nanopore. **Y. Dai, X. Xu, Y. Liu**
- PHYS 400.** From primordial soup to replicating DNA: Analyzing a proposed precursor of modern nucleotides. **K. Gochenour, M.P. Callahan, K.E. Smith, D.K. Elliott, G.E. Lindberg**
- PHYS 401.** Investigation of electric potential induced by flowing water droplet on electrolyte-insulator-semiconductor structure. **J. Park, Y. Yang, Y. Kim**
- PHYS 402.** Effect of salt and pH on the self-assembly of myristic acid. **B. Williamson, R. Rapf, R. Perkins, V. Vaidya**
- PHYS 403.** Confined phase separation of aqueous-organic nanodroplets. **F. Hrahsheh, Y. Sani Wudil, G. Wilemski**
- PHYS 404.** Molecular properties of a light-gated cation channel from cryptophyta *Guillardia theta*. **Y. Yamauchi, M. Konno, S. Ito, Y. Kato, S. Tsunoda, K. Inoue, H. Kandori**
- PHYS 405.** Triboelectric hydrogen gas detection using palladium functionalized surface. **S. Shin, Y. Kwon, J. Jung, J. Nah**
- PHYS 406.** Asymmetric solvent-mediated electron-transfer chemical doping of graphene. **R.A. Dziatko, K. Harris, M. Gibson, J. Kerten, B. Janicek, A. Crowther**
- PHYS 407.** Nondestructive testing with second harmonic generation. **S.D. Smith, S. Averett, J.E. Patterson**
- PHYS 408.** Nature of two diffuse interstellar bands revealed by electronic transitions in  $\text{C}_{60}^+$ . **S. Ahmadvand, A.O. Lykhin, S.A. Varganov**
- PHYS 409.** Specific peptide-bond dissociation and effects of a phenyl group of some peptide model molecules. **C. Liu, Y. Chiang, H. Lin**
- PHYS 410.** Vapor-liquid and liquid-liquid equilibria for a langmuir monolayer of pentadecanoic acid: A Monte Carlo study. **M.S. Minkara, J. Siepmann**
- PHYS 411.** Withdrawn.
- PHYS 412.** Excited-state dynamics of carotenoid dimers. **S.J. Doyle, M.J. Tauber**
- PHYS 413.** Experimental and computational investigation of the competitive unimolecular reactions of  $\text{CHF}_2\text{CHF}_2$  and  $\text{CHF}_2\text{CF}_3$ . **C.A. Smith, G.L. Heard, B.E. Holmes**
- PHYS 414.** Transient grating spectroscopy of spherulene and spheruleneone: The role of the carbonyl group in the excited state electronic and vibrational dynamics of carotenoids. **S.D. Khosravi, M.M. Bishop, A.M. LaFountain, D. Busa, S. Suresh, D. Turner, G.N. Gibson, H.A. Frank, N. Berrah**
- PHYS 415.** ITC investigations on the dependence of temperature and osmometry on the structure and stability of the DNA I-motif. **T. Sutorius**
- PHYS 416.** Theoretical investigation of RecA filaments search for DNA breaks. **M. Kochugaeva, A. Shvets, A. Kolomeisky**
- PHYS 417.** Withdrawn.
- PHYS 418.** Theoretical study on the reaction of silyldyne radical (SiH) with dimethylacetylene ( $\text{CH}_3\text{CCCH}_3$ ). **Y. Lin, M. Wu, B. Sun, A.H. Chang, R. Kasper**
- PHYS 419.** Cl-initiated oxidation of propargylamine via synchrotron multiplexed photoionization mass spectrometry. **C. Price**
- PHYS 420.** Withdrawn.
- PHYS 421.** Investigation of glass structures using Raman spectroscopy. **V. Torres, M.D. Sonntag**
- PHYS 422.** Ultrafast photoreleasing of the quinoline-derived phototrigger with sensitivity toward 2-photon excitation. **X. Lan**
- PHYS 423.** Singlet/Triplet excited state mediated dehalogenation reactions of itraconazole in acetonitrile and aqueous solutions studied by time-resolved spectroscopy. **Z. Ruixue, M. Li, L. Du, D.L. Phillips**
- PHYS 424.** Nanomorphology stabilization through the solvent additives and fixing agent interlayer for efficient organic and perovskite photovoltaic devices. **D. Wang, W. Jang, S. Ahn, S. Park, J. Park**
- PHYS 425.** Quantum mechanical calculations of the effects of humidity on  $\text{HNO}_3$  chemisorbed onto  $\text{TiO}_2$ . **C.J. Ostaszewski, N.M. Stuart, J.G. Navea**
- PHYS 426.** Computational investigation of hydroperoxyl radical reacting with acetyl peroxy radical. **M.P. DeVault, K.T. Kuwata**
- PHYS 427.** Computational study of hydride binding to the active site of lactate racemase. **R.C. Mauban, S.A. Varganov**
- PHYS 428.** Temperature dependence of the hydrated electron's excited-state relaxation: Distinguishing cavity and non-cavity models. **C. Zho, E.P. Farr, W.J. Glover, B.J. Schwartz**
- PHYS 429.** Excited state proton transfer kinetics of aminonaphthols in aqueous reverse micelles. **A.P. Poblete, K. Takematsu**
- PHYS 430.** Photochemical reactivity of oxoacids in aqueous solution as a function of pH. **M.R. Dooley, R. Rapf, R. Perkins, V. Vaidya**
- PHYS 431.** Prevention of fibrillation of the amyloid- $\beta$  (25-35) peptide by graphene oxide. **S. Bag, S. DasGupta, S. Dasgupta**
- PHYS 432.** FTIR analysis of internal water molecules of a light-driven sodium pump KR2. **S. Tomida, S. Ito, K. Inoue, H. Kandori**
- PHYS 433.** Kinetic modeling of the atmospheric oxidation pathways of dimethyl disulfide and dimethyl sulfide. **J.A. Berlanga**

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- PHYS 434. Withdrawn.
- PHYS 435. Photoaddition of methanol to the stilbenes: Involvement of a common twisted intermediate. S. Gupta, D. Boose, J. Saitiel
- PHYS 436. Utilizing electron spin echo envelope modulation to distinguish between the local secondary structures of an  $\alpha$ -helix and an amphipathic 310-helical peptide. S. Rafferty
- PHYS 437. Hybrid nano-biosystems: An investigation of the impact of quantum dots on the bacteriorhodopsin photocycle. T.J. Wax, J.A. Greco, S. Chen, J. Zhao, R.R. Birge
- PHYS 438. Thermal study of the decomposition of (HTPB) hybrid rocket fuel in the presence of azo-tetrazolate based high nitrogen content high energy materials. M. Yousef, K. Hudson
- PHYS 439. Metal free, redox-active, viologen-based, Deep Eutectic Solvents (DES). L.N. Matsushima, J.C. Goeltz
- PHYS 440. Optical transitions in bulk semiconductors induced by light carrying orbital angular momentum. P. Navotnaya, B.S. Rolczynski, G.S. Engel
- PHYS 441. Core-shell  $\text{MoS}_2/\text{CdS}$  nanorods with extraordinary high photocatalytic activity for hydrogen production under visible-light. Z. Yan
- PHYS 442. Developing and implementing methods for Markov state model construction and conformational sampling to extract the kinetics of protein-protein interactions. Z. He
- PHYS 443. Decomposition of contributions from core-levels exhibiting spin-orbit splitting in XUV core-level spectroscopy. H. Chang, M.W. Zuerch, P. Kraus, C. Kaplan, L.J. Borja, S. Cushing, D.M. Neumark, S.R. Leone
- PHYS 444. Withdrawn.
- PHYS 445. Unusual pattern formation in the cadmium hydroxide system. B. Bohner, Á. Tóth, D. Horvath
- PHYS 446. Photofragmentation dynamics of tetranitromethane. Y. Han, B. Rasulev, D. Kilin
- PHYS 447. Can zwitterionic cyclic polymers show aggregation in solution? P. Du, A. Li, X. Li, R. Kumar, D. Zhang
- PHYS 448. Molecular dynamics of reaction between hydrogen peroxide and zigzag carbon nanotube. B. Disrud, D. Kilin
- PHYS 449. Photophysical studies of nitro substituted porphyrinoids. A. Aggarwal, C. Farley, C.M. Drain
- PHYS 450. First-principles calculations of electron transfer rates. S. Chaudhuri, S. Hedström, D.D. Mendez, H.P. Hendrickson, K. Jung, V.S. Batista
- PHYS 451. Proton diffusion from pH gradients on litmus paper. S. Ostresh
- PHYS 452. Estimating the redox potentials of organic dyes in dichloromethane. F.A. Rodríguez Ortiz, D. Méndez-Hernández
- PHYS 453. Photo-conductivity measurements of water-rich ices at cryogenic temperatures. D. Marchione, R. Yang, M.S. Gudipati
- PHYS 454. Solution behavior and self-assembly of nanoscale macroions into "Blackberry" structure through charge mediated attractions. S. Eghtesadi, P. Yin, D. Li, F. Haso, Y. Gao, T. Liu
- PHYS 455. Analyzing phosphorylation of prebiotic molecules by schreibersite with polarization-modulation: Infrared reflection-absorption spectroscopy. K. Slavicinska, T.J. Beckman, H.L. Abbott-Lyon
- PHYS 456. Spectroscopic characterization of the physical and photo-physical properties of newly developed platinum pincer complexes. S.A. Autry, M. Zhang, V. Dixit, T.K. Hollis, C.E. Webster, N. Hammer
- PHYS 457. Studies of nanoparticle impact dynamics with the aerosol impact spectrometer. M.E. Miller, B.D. Adamson, R.E. Continetti
- PHYS 458. Synchrotron multiplexed photoionization mass spectrometry of Cl-initiated oxidation of tetrahydropyrene (THP) at 298, 550, and 650 K. A. Otten
- PHYS 459. Charge carrier dynamics in highly luminescent cesium lead halide nanocrystals. N. Gibson
- PHYS 460. Photoionization and photodissociation of xylil (methylbenzyl) bromide radicals using VUV synchrotron radiation. Y. Fathi, G. Meloni, P. Hemberger
- PHYS 461. Solvent thermodynamic driving force controls stacking interactions between polyaromatics. A. Rury, C.E. Ferry, J.R. Hunt, M. Lee, D. Mondal, S. O'Connell, E.N. Phan, Z. Peng, P. Pokhilko, D. Sylvinson, Y. Zhou, C.H. Mak
- PHYS 462. Withdrawn.
- PHYS 463. Si-SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> Composite with carbon coating as an anode material for Li-ion batteries. K. Kim, J. Kim
- PHYS 464. Non-Thermal plasma for the heterogeneous chemistry of chemisorbed volatile compounds with free-radicals. C. Bennett-Caso, J.R. Borgatta, J.G. Navea
- PHYS 465. Excited-state investigation of the ultrafast electrocyclization reaction for a molecular photochromic switch. C. Jones, V.A. Spata, S. Matsika
- PHYS 466. PhotochemCAD 3. digital database of >1000 absorption and fluorescence spectra of diverse natural and synthetic tetrapyrrole macrocycles. M. Taniguchi, H. Du, J.S. Lindsey
- PHYS 467. Nonadiabatic dynamics in the formation of the elusive disilavinylidene molecule ( $\text{H}_2\text{SiSi}$ ). C. Kang-Heng, L. Lin, A.H. Chang, R. Kaiser
- PHYS 468. Nonadiabatic dynamics of  $\text{Si}(\text{F}) + \text{Si}_2\text{H}_6$  reaction. B. Sun, C. Jimmy
- PHYS 469. In-situ x-ray spectroscopy study of electrodeposited Ni-Fe hydroxide catalysts for electrochemical oxygen evolution reaction. K. Nie
- PHYS 470. Two-Dimensional electronic spectroscopy of BODIPY dye derivatives: Characterizing photophysics and solvent dependence. Y. Lee, S. Das, R.M. Malamakal, S. Meloni, D.M. Chenoweth, J.M. Anna
- PHYS 471. MRCI study of the ground state and low-lying states of  $\text{Si}_2\text{H}_4$ . D. Corey, J. Song
- PHYS 472. Apparent molar volumes and isentropic compressions of cyclic ethers in aqueous solutions from 288.15 K to 313.15 K at atmospheric pressure. L. Brown, P. Bernal
- PHYS 473. Electrochemical impedance spectroscopy of bipolar membranes for water and CO<sub>2</sub> electrolysis. Z. Yan, L. Zhu, C.C. Li, M. Hickner, T. Mallouk
- PHYS 474. Excited-State proton transfer in aminonaphthols. M. Groves, H.E. Rudel, K. Takematsu
- PHYS 475. Experimental determination of the aqueous redox potentials of environmentally relevant organic pollutants via high-speed cyclic voltammetry. M. Paul, D. Ruuska, S.N. Eustis
- PHYS 476. Brillouin spectroscopy of bamboo fibers. D. Williams, N. Rahbar, K.J. Koski
- PHYS 477. Anisotropic optical response from asymmetrical assembly of gold-silica-quantum dot nanostructure. Y. Luo
- PHYS 478. Enhanced sampling method with hybrid non-equilibrium molecular dynamics/Monte Carlo. D. Suh, C. Chipot, B. Roux
- PHYS 479. Novel approach to investigate the single molecule photophysics of bare CdSe quantum dots. B. Mehlenbacher, J.J. Peterson
- PHYS 480. Synthesis of iron series phosphate micro-nano-materials and their potential applications for electrochemical energy storage. H. Xue, Y. Yan, H. Pang
- PHYS 481. New inorganic pH indicator based on ferricyanide intercalated zinc-aluminum layered double hydroxide. N.A. Ibrahim, A. Chaparadza
- PHYS 482. Many-Body expansion combined with neural networks. K. Yao, J. Herr, J. Parkhill
- PHYS 483. Albumin based nanoparticles as a delivery vehicle for flavonoids and their anticancer activity. P. Ghosh, S. Dasgupta
- PHYS 484. Stability of bovine serum albumin solutions in presence of salts: A calorimetric and solubility study. T. Janc, V. Vlachy, M. Luksic
- PHYS 485. Noninvasive detection of aluminum sensitization using SHG. A. Farnsworth, S. Averett, K. Rellaford, S.D. Smith, J.E. Patterson
- PHYS 486. Feasibility of *in situ* magnetic resonance imaging of semi-industrial chemical reactors at milli-Tesla magnetic fields. D. Barskiy
- PHYS 487. Influence of pH on the photochromic reaction dynamics of phenylamine-substituted diarylethene derivatives. S. Mahvidi, C.J. Otolski, Y. Yokoyama, F. Nourmohammadian, C.G. Elles
- PHYS 488. Ultrafast energy relaxation dynamics and wave-packet motion in Pt(II) bimetallic complexes. P. Kim, S. Brown-Xu, A. Chakraborty, F.N. Castellano, L.X. Chen
- PHYS 489. Investigation on pyrolysis of jet propellant 8. D. Belisario-Lara, A.M. Mebel
- PHYS 490. Post-Marcus charge transfer dynamics via the generalized quantum master equation. E. Mulvihill, E. Geva, A. Schubert, X. Sun, A. Kananenka
- PHYS 491. Withdrawn.
- PHYS 492. Molecule-nanocrystal photon upconversion sensitized by CdSe/CdS core-shell nanocrystals. Z. Huang, M.L. Tang
- PHYS 493. Bath gas and pressure dependence of the anomalous isotopic composition of ozone. A.H. Kazez, K.A. Boering
- PHYS 494. Jet-cooled high resolution infrared spectroscopy of small van der Waals SF<sub>6</sub> clusters. A. Turner, Y. Berger, V. Boudon, L. Bruel, M. Gaveau, M. Mons, A. Potapov, P. Asselin
- PHYS 495. Withdrawn.
- PHYS 496. Ultrafast photophysics of plasmonic aluminum nanoparticles. K. Smith, Y. Cheng, E. Arinze, S. Thon, A.E. Bragg
- PHYS 497. Modeling of hydrodynamic interactions in biological systems. M. Dlugosz
- PHYS 498. Optimization of energy transfer in DNA-dye excitonic circuits. W. Bricker, J. Banal, R. Veneziano, K. Pan, M. Bathe
- PHYS 499. Theoretical investigation of vibrational frequency shifts as probes of charge transfer in organic systems. K. Williams, E. Geva
- PHYS 500. Theoretical study on photoluminescence properties of double salts of silver and gold complexes. S. Chen, B. Sun, A.H. Chang, I.J. Lin
- PHYS 501. Computations of the hyperpolarizability of nonlinear optical chromophores aggregates. X.A. Sosa Vazquez, J. Maat, C. Isborn
- PHYS 502. Surface-Enhanced Raman scattering analysis of DNA modifications in the presence of carboxyplatin. N. Mirsaleh-Kohan, S. Khan, M. Torres, M. Duplanty, P. Hall, M. Garrett
- PHYS 503. Water solubilization of CuInS<sub>2</sub>/ZnS QDs and bioconjugation to fibroblast growth factor studied by FRET. C. Robinson, M. Mohale, A. Nguyen, C.D. Heyes
- PHYS 504. Nonradiative relaxation in real-time electronic dynamics OSCF2: Organolead triiodide perovskite. T.S. Nguyen, J. Parkhill
- PHYS 505. Characterization of  $\alpha$ -hemolysin conformational changes with two-dimensional infrared spectroscopy. C.T. Kuhs, A.T. Krummel
- PHYS 506. Time resolved resonance Raman spectroscopic and laser flash photolysis studies on typical significant stocks-shifted large  $\pi$  system. L. Song-Bo, M. Li, Z. Ruixue, D.L. Phillips
- PHYS 507. Withdrawn.
- PHYS 508. Anomalies of ice Ih in second-order many-body perturbation theory. M. Salim, S. Hirata
- PHYS 509. Withdrawn.
- PHYS 510. Microwave spectroscopy of 3,3,3-trifluoro-2-(trifluoromethyl)propanoic acid-formic acid complex. J. Thomas, M.J. Carrillo, A. Serrato, W. Jaeger, Y. Xu, W. Lin
- PHYS 511. Ultrafast extreme-ultraviolet reflection spectroscopy of electro-phonon dynamics in Germanium. C. Kaplan, P. Kraus, L.J. Borja, M.W. Zuerch, H. Chang, M.F. Jager, S. Cushing, D.M. Neumark, S.R. Leone

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- PHYS 512.** Photoionization cross sections of three propargylic fuels. **M. Winfough**, G. Meloni
- PHYS 513.** Simulating the chemistry of ionizing radiation in solids. **C.N. Shingledecker**, E. Herbst
- PHYS 514.** Synthesis and photophysical characterization of bipyridyl hybrid oligomers: Examining mixed furan-thiophene systems using spectroscopy and DFT methods. **A.E. Steen**, S. Nguyen, T.L. Ellington, G.S. Tschumper, D.L. Watkins, N. Hamner
- PHYS 515.** Modeling protein organization in thylakoid membrane stacks via a lattice gas model. **A. Rosnik**, P. Geissler
- PHYS 516.** Quantum control of Yukawa interaction at nucleus. **Q. Wang**
- PHYS 517.** Withdrawn.
- PHYS 518.** Structural trends and reactivity of first-row transition metal cation-acetylene complexes revealed by probing their C-H stretching fundamentals. **A.D. Brathwaite**, S.A. Ferguson, T.B. Ward, R.S. Walters, M.A. Duncan
- PHYS 519.** Nonadiabatic dynamics of  $C(P) + SiH_4$  reaction. **A.H. Chang**
- PHYS 520.** Preferential solvation of iodide anion in aqueous binary liquid mixtures. **Y. Al Hussain**, B.H. Milosavljevic
- PHYS 521.** Rotational spectroscopic and theoretical studies of the perfluorobutyric acid--formic acid complex. **J. Thomas**, **A. Serrato**, M.J. Carrillo, W. Lin, W. Jaeger, Y. Xu
- PHYS 522.** Molecular geometry and conformation analysis of the monomer and monohydrate of 4,4,4-trifluorobutyric acid. **A. Treviño**, W. Lin
- PHYS 523.** Spatially extended active site: How distal residues contribute to catalysis in human phosphoglucose isomerase. **S.C. Begay**, P.J. Beuning, M.J. Ondrechen
- PHYS 524.** Electronic structure and RRKM calculations on the reaction  $CH_3OH_2^+ + CH_3OH$ . **M. Rosi**, S. Falcinelli, N. Balucani, N. Fagnas-Lago, C. Ceccarelli, D. Skouteris
- PHYS 525.** Photophysical characterization of free-base triphenylcorrole reduced and oxidized tautomers. **G.N. Calvillo**, **C. Reed**, F. Kohl, S. Klein, A. Loogman, S. Lupercio, E.A. Alemán
- PHYS 526.** Enthalpy relaxation below  $T_g$  in low molecular weight poly(dimethylsiloxane). **D. Eason**, A.D. Schwab
- PHYS 527.** Role of ion-specific effects in DNA/ionene complexation. **M. Seru nik**, B. Zener, **B. Hribar Lee**
- PHYS 528.** Effects of the anion nature of cationic polymethine dyes on the spectral-luminescent and photovoltaic properties of polymer-based photoconductive composites. **A.A. Ishchenko**, G. Bulavko, **N. Barashkov**, **T. Sakhno**
- PHYS 529.** Investigation of relationship between the rate of converting leuco form of Indigo Carmine in its colored form and oxygen permeability of polymer films. **N. Barashkov**, I. Irgibayeva, **T. Sakhno**
- PHYS 530.** Novel approaches to the development of biosensor by using systems of formulation and analytical techniques. **G. Ren**, Y. Lo, E.J. Parish, **H. Honda**, T. Wei
- PHYS 531.** Tuning the structure and photophysics of a fluororous phthalocyanine platform. **C.M. Drain**, C. Farley

- PHYS 532.** Using isothermal titration calorimetry to investigate dicationic alkylammonium bromide Gemini surfactants. **M.L. McKim**, B.K. Rich, P. Okoroji-Ohabor, S.J. Bachofer, **R.D. Sheardy**
- PHYS 533.** Linking pH, temperature, ionic strength and conformation for the DNA i-motif. **T. Nguyen**, C. Fraire, A. Fernandes, M. Choi, **R.D. Sheardy**
- PHYS 534.** Uncertainty and sensitivity analysis of the Marcus electron transfer rate model. **E.J. Alvarado**, D.D. Mendez, E.J. Morales-Butler, M. Cruz-Aponte
- PHYS 535.** Tensor structured coupled cluster method. **R. Schutski**, G.E. Scuseria
- PHYS 536.** Evaluation of VLE data from the TraPPE Force Field. **B.L. Eggimann**
- PHYS 537.** DNA mutation and fluorescent label effects in surface-bound 25mer microarrays: Molecular simulation of bright mismatches. **B. Rivard**, **J.M. Stubbs**
- PHYS 538.** Photochemical activity of layered potassium niobate in the redox processes. **V. Shvalagin**, G. Grodzuk, N. Andryushina, V. Granchak, M. Skoryk, **T. Sakhno**, **N. Barashkov**
- PHYS 539.** Investigation of the mechanism of fullerene and carbon nanotube formation by molecular dynamics simulation. **B. Amofah**, T.J. Fuhrer
- PHYS 540.** Quantum chemical studies of ether formation with peroxide reagents. **K.T. Kuwata**, T. Truttmann
- PHYS 541.** Investigation of organic radicals and intermediates via high-resolution infrared spectroscopy. **M.D. Schuder**, A. Kortyna, D.J. Nesbitt

## THURSDAY MORNING

### Section B

Parc 55 San Francisco  
Powell

#### Spectroscopy of Complex Systems

##### Effects of Nanocconfinement & Local Asymmetry on Dynamics & Chemistry: Interfaces

J. Dawlaty, *Organizer*

A. V. Benderskii, *Organizer, Presiding*

**8:00 PHYS 542.** Sum frequency generation spectra from density functional theory. **V.S. Batista**

**8:40 PHYS 543.** Measuring orientation heterogeneity of heterogeneous catalysts using HD 2D SFG spectroscopy. **W. Xiong**, Z. Li, J. Wang, Y. Li

**9:00 PHYS 544.** Heterodyne-detected sum frequency generation spectroscopy of aqueous interfaces. **S. Yamaguchi**

**9:40** Intermission.

**10:00 PHYS 545.** Chiral water structures in biological systems. **M. McDermott**, H. Vanselous, S. Sanders, **P.B. Petersen**

**10:40 PHYS 546.** Water bending vibration: A closer look at the flip-flop of water molecules at charged interfaces. **C. Dutta**, M. Mammetkulyev, A.V. Benderskii

**11:00 PHYS 547.** Probing the surfaces of CdSe quantum dots using sum frequency generation. **B.R. Watson**, B. Doughty, T.R. Calhoun

**11:20 PHYS 548.** Vibrational sum-frequency scattering spectroscopy reveals the detailed surface chemistry of biomaterials in aqueous solutions. **P.K. Johansson**, L. Schmäser, Y. Wang, D.G. Castner

**11:40 PHYS 549.** Understanding catalytic selectivity via the absolute molecular orientation of adsorbed interfacial molecules. **B. Doughty**, S. Goverapet Srinivasan, S. Bryantsev, D. Lee, H. Lee, D.R. Salahub, Y. Ma, D.A. Lutterman

### Section C

Parc 55 San Francisco  
Hearst

#### Sunlight-Driven Processes: Exposing the Mechanisms Underlying Productive Photoactivities

##### Exciton Photodynamics: Hard Materials

D. S. Larsen, M. Olivucci, *Organizers*  
K. Glusac, *Organizer, Presiding*

**8:00 PHYS 550.** Photoexcited carriers recombination and trapping in spherical vs faceted TiO<sub>2</sub> nanoparticles. **C. Di Valentin**, G. Fazio, L. Ferrighi, D. Selli

**8:30 PHYS 551.** Withdrawn.

**8:50 PHYS 552.** Withdrawn.

**9:20 PHYS 553.** Ultrafast transient absorption spectroscopy investigation of photoinduced dynamics in donor-acceptor core-shell nanostructures for organic photovoltaics. **J. Strain**, T.M. Abeywickrama, H.P. Rathnayake, J. Liu

**9:40** Intermission.

**10:00 PHYS 554.** Role of interfaces on hybrid perovskite photocarrier dynamics. **D.S. Ginger**

**10:30 PHYS 555.** Bulk carrier dynamics in nanocrystalline organo-halide perovskites through surface passivation. **R. Stewart**, **J.B. Asbury**

**11:00 PHYS 556.** Direct charge transfer at organic semiconductor/metal interfaces. **W. Xiong**, Y. Li, B. Xiang

**11:20 PHYS 557.** Excitation dynamics in nanoscale materials for solar energy harvesting: Time-domain ab initio studies. **O.V. Prezhdo**

### Section D

Parc 55 San Francisco  
Divisadero

#### Plasmonic Nanomaterials: From Physical Chemistry Fundamentals to Societal Impacts

##### Solutions to the Energy Problem

C. J. Murphy, *Organizer*

P. K. Jain, *Organizer, Presiding*

**8:00 PHYS 558.** Aluminum plasmonics: From new chemistry to new applications. **N.J. Halas**

**8:35 PHYS 559.** Imaging acoustic-plasmonic vibrational dynamics with ultrafast electron microscopy. **D.J. Flannigan**, V.E. Ferry, D.T. Valley

**8:55 PHYS 560.** Shine down - cut the cord. **T. Tumkur**, X. Yang, W. Wang, B. Jiang, X. Zhang, Y. Wei, S. Bahauddin, H. Robatjazi, B. Cerjan, C. Doiron, X. Liu, P. Wray, L. Vayssieres, N.J. Halas, P.J. Nordlander, **I. Thomann**

**9:30 PHYS 561.** Impact of dopant choice on the optical response and near-field enhancement of doped indium oxide nanocrystals. **R.W. Johns**, D.J. Milliron

**9:50** Intermission.

**10:05 PHYS 562.** Withdrawn.

**10:40 PHYS 563.** Strong coupling of localised surface plasmons to light-harvesting complexes from bacteria and plants. **A. Tsargorodskaya**, M. Cartron, G. Kodali, L. Dutton, C. Hunter, P. Torma, **G.J. Leggett**

**11:00 PHYS 564.** Device applications of metafilms. **M. Brongersma**

**11:35 PHYS 565.** Gas phase catalytic cycle of hydrogen production from water using small Mo-oxide cluster anions. **M. Ray**, A. Saha, C. Jarrold, K. Raghavachari

### Section F

Parc 55 San Francisco  
Stockton

#### Expanding the Frontiers in Condensed Phase Astrochemistry: Electron Transfer Processes in Ices & Catalysis on Interstellar Grains

##### Radiation Chemistry of Europa's Surface

R. Kaiser, *Organizer*

M. S. Gudipati, *Organizer, Presiding*

L. M. Ziurys, *Presiding*

**8:00 PHYS 566.** Coupled surface-atmosphere chemical production of oxidants in the solar system. **S.K. Atreya**

**8:45 PHYS 567.** Carbon dioxide chemistry at low temperatures. **R. Hodyss**, S. Piao, M.L. Cable, M.J. Malaska

**9:30 PHYS 568.** Primary phosphorus sources within extraterrestrial ices. **M.A. Pasek**

**10:15 PHYS 569.** Investigating the formation of alkylphosphonic acids in phosphine ices. **A.M. Turner**, R. Kaiser

**10:45 PHYS 570.** Synthesis of dipeptides under possible solar system environments. **E.T. Parker**, J.G. Forsythe, F.M. Fernandez

**11:15 PHYS 571.** Infrared matrix isolation spectroscopy of photochemical products of acetylene and nitrogen in argon matrices. **B.T. Genest**, P.D. Cooper

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### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Inhibition & Therapeutic Applications of Allosteric Mechanisms

Sponsored by COMP, Cosponsored by PHYS

#### Engaging Students in Physical Chemistry

Sponsored by CHED, Cosponsored by PHYS

## THURSDAY AFTERNOON

### Section D

Parc 55 San Francisco  
Divisadero

#### Plasmonic Nanomaterials: From Physical Chemistry Fundamentals to Societal Impacts

##### Solutions for Medicine

P. K. Jain, *Organizer*

C. J. Murphy, *Organizer, Presiding*

**1:30 PHYS 572.** Photothermal therapy of cancer in cells and in different animals using gold nano-rods: A progress report. M.A. El-Sayed

**2:05 PHYS 573.** Single-Molecule super-resolution study of distance-dependent plasmonic fluorescence enhancement and emission mislocalization. B. Fu, J.S. Biteen

**2:25 PHYS 574.** Plasmonic biosensors for resource-limited settings. S. Singamaneni

**3:00 PHYS 575.** Nonlinear and ultrafast spectroscopy of gold-silver-gold core-shell nanoparticles. L.H. Haber, T.E. Karam, R.R. Kumal, H. Smith, R.A. Khoury, B. Kruger, J. Ranasinghe, Z. Zhang

**3:20** Intermission.

**3:35 PHYS 576.** Manipulating light-matter interactions in bioprogrammable crystals. C.A. Mirkin

**4:10 PHYS 577.** Plasmonics at the cluster limit: Dielectric sensing with DNA-stabilized silver clusters. S.M. Copp, D. Schultz, S. Wasey, A. Faris, E. Gwinn

**4:30 PHYS 578.** DNA-Encapsulated silver cluster chromophores. J.T. Petty, R. Dickson, T. Yeh

### Allosteric Interactions & Regulation of Complex Biomolecular Systems: From Proteins to Cell Signaling

#### Mechanisms & Molecular Simulations

Sponsored by COMP, Cosponsored by PHYS

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## POLY

### Division of Polymer Chemistry

C. Lipscomb, T. White and T. Epps, *Program Chairs*

#### OTHER SYMPOSIA OF INTEREST:

**Materials, Devices, and Switches**  
(see ORGN, Tue, Wed, Thu)

**Peptides, Proteins & Amino Acids**  
(see ORGN, Tue, Wed)

**Polymers under Deformation**  
(see PMSE, Tue, Wed)

#### SOCIAL EVENTS:

**Reception, 5:00 PM:** Tue

**Reception, 5:30 PM:** Wed

**Breakfast, 7:30 AM:** Tue

**Luncheon, 12:00 PM:** Sun

## SUNDAY MORNING

### Section A

Moscone Center  
120

#### General Topics: New Synthesis & Characterization of Polymers

B. Barkakaty, D. Garcia, *Organizers*

A. M. Alb, P. S. Majumdar, *Presiding*

**8:00 POLY 1.** Design of experiments based approach to investigate the adhesion of latex paints over alkyl surfaces. P.S. Majumdar, J. Sweeney, C. Kozak, S.A. Carpenter, S. Eberly, W. Howell, L.C. Fioravanti, A.M. Piwowar

**8:20 POLY 2.** Measurement and control of migrating species on water-borne coatings surfaces. J. Bohling, J. Gallagher, A. Gong, K. David, B. Cooper

**8:40 POLY 3.** Mussel inspired coatings based on tannic acid and polyamines. I. Yilgor, E. Yilgor, C. Kosak

**9:00 POLY 4.** Withdrawn.

**9:20 POLY 5.** Macromolecular characterization of biopolymers as alternative depressants for iron ore flotation. A.M. Alb

**9:40 POLY 6.** Shape memory polymers from amino acid-based poly(ester urea)s. G.I. Peterson, E.P. Childers, J. Yu, H. Li, A. Dobrynin, M. Becker

**10:00 POLY 7.** Withdrawn.

**10:20 POLY 8.** Effect of monomer sequence on the properties of hyperbranched copolymers. Y. Shi, H. Gao

**10:40 POLY 9.** Synthesis and characterization of new high temperature multigraft copolymer superelastomer: Polyisoprene-graft-polybenzofulvene. H. Wang, W. Wang, W. Lu, X. Lu, N. Kang, J.W. Mays

**11:00 POLY 10.** Tunable photonic nanocomposite film formed by gelation of self-assembled block copolymer. Y. Huang, Y. Zheng, J. Pribyl, B.C. Benicewicz

**11:20 POLY 11.** Topology transformation of rotaxane-linked star/linear ABC terpolymer: Synthesis and characterization. H. Sato, D. Aoki, T. Takata

**11:40 POLY 12.** Visualizing randomness: Synthesis and imaging of statistical and segmented colloidal copolymers. N.G. Pavlopoulos, J. Pyun

### Section B

Moscone Center  
121

#### Next Generation Smart Materials

Cosponsored by MPPG‡

Y. C. Simon, *Organizer*

E. B. Berda, J. Foster, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 13.** Antisense gene regulation with non-cationic polymer carriers. K. Zhang

**8:35 POLY 14.** Sulfur-free RAFT, sequence-controlled methacrylic multiblock copolymers via emulsion polymerization. D.M. Haddleton, A. Anastasaki, N. Engells, V. Nikolaou, G. Nurumbetov

**9:05 POLY 15.** Precision functional polyethylene-based polymers via acyclic Diene Metathesis (ADMET). K.B. Wagener, M.H. Bell, H. Li, T.W. Gaines

**9:35** Intermission.

**9:45 POLY 16.** One-pot synthesis of responsive polymers with highly branched structures. H. Gao, Y. Shi, X. Cao

**10:15 POLY 17.** Shape memory in self-healing polymers: Synchronized physico-chemical events. Y. Yang, C.C. Hornat, M.W. Urban

**10:45 POLY 18.** Host-guest chemistry to control polymeric architecture and conformation. H.W. Gibson, T. Price, H. Wessels, Z. Bear

### Section C

Moscone Center  
122

#### Polymeric Materials for Performance & Sustainability

##### Biobased Polymers

Cosponsored by MPPG‡

M. Meador, M. A. Meador, S. E. Morgan, *Organizers*

J. M. McCollum, *Presiding*

**8:00** Introductory Remarks.

**8:10 POLY 19.** Molecular dynamics simulation of cellulose nanofibrils used to modify polymer gels. Y. Sliozberg, S. Coleman, H. Dong, J. Snyder, A. West, T. Chantawansri

**8:40 POLY 20.** Mechanophore activation at the crosslinked epoxy-nanocellulose interface: Insight from density functional theory and molecular dynamics simulations. K.S. Khare, F.R. Phelan

**9:10 POLY 21.** Ductile polyacrylonitrile fibers with high cellulose nanocrystals loading. H. Chang, J. Luo, H.c. Liu, A. Bakhtiyari Davijani, P. Wang, G. Lolov, R. Dwyer, S. Kumar

**9:30** Intermission.

**9:45 POLY 22.** New and unexpected properties from polycyanurate networks prepared from bio-based monomers. A.J. Guenther, B.G. Harvey, A.P. Chafin, M.C. Davis, J. Zavala, K. Lamison, J. Reams, M.D. Ford, K. Ghiassi, T.J. Groshens, J.M. Mabry

**10:15 POLY 23.** Styrene-free soybean oil-based thermosets and their natural fiber composites. W. Liu, R. Qiu

**10:35 POLY 24.** Synthesis and properties of new cross-linked bio-based aliphatic polycarbonates. P. Durand

**10:55 POLY 25.** Transient networking in glucarodilactone-containing polyesters. L.M. Lillie, W.B. Tolman, T.M. Reineke

### Section D

Moscone Center  
123

#### Separation of Macromolecules & Particulates

Cosponsored by ANYL, COLL and PMSE

Financially supported by PSS Polymer Standards Service GmbH, The Dow Chemical Company, Tosoh Bioscience LLC, Wyatt Technology

S. V. Orski, Y. Wang, *Organizers*

W. Gao, X. M. Liu, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 26.** Theoretical perspective on the separation mechanism of complex polymers by interaction chromatography. Y. Wang

**8:45 POLY 27.** Polymer microstructure analysis by HPLC. D. Lee, S. Qiu, J. Munro, C. Li Pi Shan, T. Huang, R. Cong

**9:15 POLY 28.** Separation and characterization of living and dead chains in polystyrene synthesized by ATRP. T. Chang

**9:45** Intermission.

**9:55 POLY 29.** Understanding of aqueous oligomers formed during emulsion polymerization and their interfacial behavior via LC-MS. T. Zhang, B. McCulloch, W. Gao, R. Even

**10:25 POLY 30.** Copolymer structure elucidation by multidimensional techniques with focus on UPLC x ESI-TOF-MS. J. Falkenhagen

**10:55 POLY 31.** Application of different chromatographic techniques to characterize chemical and molar mass heterogeneity in graft copolymers. R. Leinweber, P. Montag, J. Preis, W. Radke

**11:25 POLY 32.** Large-scale separation and purification of block copolymers via selective and competitive adsorption on silica. C.Y. Ryu

### Section E

Moscone Center  
124

#### Incorporating Polymer Science into the Classroom

##### Undergraduate Curriculum

Cosponsored by CHED, MPPG‡ and PMSE

K. A. Cavicchi, S. E. Morgan, *Organizers, Presiding*

**8:00 POLY 33.** Green synthesis of renewable triblock polymers in the organic chemistry laboratory: Not your typical white solid. J.E. Wissinger

**8:25 POLY 34.** Undergraduate polymer synthesis developed for lecture and laboratory experiments. P.J. Costanzo

**8:50 POLY 35.** Integration of polymerization kinetics in polymer, physical chemistry, and chemical engineering courses. A. Guymon

**9:15** Intermission.

**9:30 POLY 36.** Polymer physical structure labs at Allegheny College. R.M. Van Horn

‡ Cooperative Cosponsorship

**9:55 POLY 37.** Studying the thermomechanical properties of copolymers to develop laboratory, theoretical, and communication skills essential to a successful research career. **S.A. Sydlík**, W. Koshut, Z. Wright, Z. Smith

**10:20 POLY 38.** Polymeric materials in the beginning organic chemistry course. **B.A. Howell**

## Section F

Moscone Center  
125

### Polymer Applications & Characterization in the Biomedical Industry

X. M. Liu, J. Slager, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 39.** Nitric oxide-releasing hyperbranched polykanamycin as an oral therapeutic. **L. Yang**, X. Wang, D.J. Suchyta, M. Schoenfish

**8:35 POLY 40.** Withdrawn.

**9:05 POLY 41.** Universal multifunctional coating of biomaterials based on salivary acquired pellicle inspired dendrimer. **Y. Xiao**, L. Jianshu

**9:35** Intermission.

**9:50 POLY 42.** Impact of particle modulus on vascular-targeted drug delivery *in vitro* and *in vivo*. **M. Fish**, C. Fromen, T.F. Scott, R. Adili, M. Holinstat, O. Eniola-Adefeso

**10:20 POLY 43.** Kaolin-Polyurethane foam composites for multifunctional wound dressing applications. **J. Lundin**, G.C. Daniels, C.L. McGann, B. Streifel, S.L. Giles, J.H. Wynne

**10:50 POLY 44.** Evolution of morphology in polyurethane biomaterials: Effect of time and storage on material properties. **E. Chen**, S. Eam, A. Padsalgikar

**11:20 POLY 45.** Tuning surface properties of acrylate polymers to direct neurite growth. **B. Leigh**, K. Truong, R. Bartholomew, M.R. Hansen, A. Guymon

**11:50** Concluding Remarks.

## Section G

Moscone Center  
Esplanade Ballroom 310

### Contributions of IBM Almaden to Polymer Science

*Cosponsored by PMSE*

R. D. Miller, *Organizer*

D. Y. Yoon, *Organizer, Presiding*

R. Allen, *Presiding*

**8:15** Introductory Remarks.

**8:25 POLY 46.** Evolution of polymer science at IBM: From microelectronics to Watson Health. **J. Hedrick**

**8:50 POLY 47.** High performance polymer and polymer/inorganic thermoelectric materials. **G. Hadziioannou**

**9:15 POLY 48.** Surface-directed molecular assembly of organic semiconductors for organic electronics. **K. Cho**

**9:40 POLY 49.** Multifunctional layers and memory devices based on ferroelectric polymers. **A.M. Jonas**

**10:05** Intermission.

**10:20 POLY 50.** Multiscale nanoparticle ordering by polymer crystallization. **S. Kumar**

**10:45 POLY 51.** Controlled morphology and its impact on digital memory behavior of well-defined functional polymers in nanoscale thin films. **M. Ree**

**11:10 POLY 52.** Molecular relaxation studies of crystalline polymers, blends and copolymer networks. **D.S. Kalika**

**11:35 POLY 53.** Big sticks and soft interactions (speaking of liquid crystals). **C. Viney**

### Materials Informatics & Computational Modeling

*Sponsored by CINP, Cosponsored by COMP and POLY*

### Frontiers in Nanoscience

*Sponsored by SOCED, Cosponsored by POLY*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis, & Spectroscopy

*Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC*

### New Horizons in Sustainable Materials

### Renewable Polymers: Isolation, Structure & Properties

*Sponsored by CELL, Cosponsored by POLY*

## SUNDAY AFTERNOON

### Section A

Moscone Center  
120

### General Topics: New Synthesis & Characterization of Polymers

B. Barkakaty, D. Garcia, *Organizers*

F. Horkay, B. S. Lokitz, K. J. Wynne, *Presiding*

**1:00 POLY 54.** Adaptive nanoparticles for regulation of endosomal signalling: Targeting pain at the source. **N. Veldhuis**, M. Whittaker, P. Ramirez-Garcia, Q. Mai, T. Lieu, N. Truong, J. Quinn, T. Davis, N.W. Bunnell

**1:20 POLY 55.** Triggering cellular signalling processes with novel macromolecular hydrogen sulfide donors. **F. Ercole**, F. Mansfeld, M. Kavallaris, M. Whittaker, M. Halls, T. Davis, J. Quinn

**1:40 POLY 56.** Toward a cure for facial acne without bacterial resistance buildup. **K.J. Wynne**, S. Nair, M. Beckwith, D. Ohman

**2:00 POLY 57.** Synthesis and environmentally-responsive properties of poly( $\alpha$ -aminoesters): Applications for the delivery of messenger RNA. **T. Blake**, R.M. Waymouth

**2:20 POLY 58.** Synthesis and biological evaluation of well-defined poly(propylene fumarate) oligomers and their use in 3D printed scaffolds. **Y. Luo**

**3:00 POLY 59.** Molecularly imprinted polymers for high-density lipoprotein: Characterization and functionalization. **S. Chunta**, P. Lieberzeit

**3:20 POLY 60.** Molecular interactions among cartilage proteoglycans. **F. Horkay**, P.J. Bassar

**3:40 POLY 61.** *Thermobifida cellulolytica* cutinase as a powerful tool for the synthesis and functionalization of biobased polyesters. **A. Pellis**, E. Herrero Acero, V. Ferrario, L. Gardossi, G.M. Guebitz

**4:00 POLY 62.** Modulating the hydrophobicity of cell penetrating peptide mimics for binding and intracellular delivery of protein cargo. **N.D. Posey**, L.M. Caffrey, L.M. Minter, G.N. Tew

**4:20 POLY 63.** Novel self-assembled nanoparticle platform based on eight-arm-poly(ethylene glycol)-diosgenin prodrugs for co-delivery of anticancer drugs in cancer therapy. **C. Li**, J. Lei

**4:40 POLY 64.** Recent developments in drug-loaded brush-arm star polymers. **M. Golder**, J.A. Johnson

### Section B

Moscone Center  
121

### Carl S. Marvel Creative Polymer Chemistry Award in honor of Theresa M. Reineke

C. Lipscomb, T. J. White, *Organizers*

H. A. Klok, T. P. Lodge, *Presiding*

**1:00 POLY 65.** Polymer-Based nanoparticle therapeutics. **M.E. Davis**

**1:30 POLY 66.** Synthesis of rationally designed polymers for wound healing applications. **H.D. Maynard**

**2:00 POLY 67.** Engineering cell surfaces with synthetic polymers. **H.A. Klok**

**2:30 POLY 68.** Functional polycarbonates as oxidative- and pH-responsive materials. **M. Herrera-Alonso**

**3:00 POLY 69.** Advances at the interface of catalyst design and polymer chemistry. **G.W. Coates**

**3:30 POLY 70.** Biopolymeric conjugates in the design of hybrid biomaterials. **K.L. Kiick**

**4:00 POLY 71.** Bio-inspired materials, synthesis and function. **C.J. Hawker**

**4:30 POLY 72.** Designing tunable multifunctional macromolecules: From sustainable polymers to selective drug and gene delivery vehicles. **T.M. Reineke**

### Section C

Moscone Center  
122

### Polymeric Materials for Performance & Sustainability

### Functional Materials: Gels & Membranes

*Cosponsored by MPPG‡*

M. Meador, M. A. Meador, *Organizers*

S. E. Morgan, *Organizer, Presiding*

**1:00 POLY 73.** Dynamics of solvent molecules in polyacrylate gels supported on a polymeric substrate. **R. Islam**, S. Mani, **R. Khare**

**1:30 POLY 74.** Promising chemical stable membranes developed through combined effect of radical polymerization and non-solvent induced phase separation of acrylic functionalized polysulfone. **M.F. Mehmood**, S. Marco, P. Bosch, M. Giagnorio, A. Tiraferri

**1:50 POLY 75.** Microfluidic spinning of polyethersulfone hollow fiber membranes. **K. Deng**, Z. Liu, F. Luo, R. Xie, X. Ju, W. Wang, L. Chu

**2:10 POLY 76.** Efficient synthesis of functionalized shape-persistent ladder polymers for gas separation. **H.W. Lai**, Y. Teo, Y. Xia

**2:30** Intermission.

**2:45 POLY 77.** Super-Anisotropic swelling of hydrogels layered by domino-effects of cyanobacterial LC macromolecules. **M. Okajima**, T. Kaneko

**3:05 POLY 78.** Siloxane-substituted polynorbornenes as advanced gas separation membranes. **B.K. Long**, K.R. Gmernicki, C. Maroon, M.A. Higgins

**3:35 POLY 79.** CO<sub>2</sub>-philic polymer membranes for high flux CO<sub>2</sub> separation. **T. Hong**, P. Cao, B. Li, S.M. Mahurin, D. Jiang, K. Vogiatzis, J.W. Mays, B.K. Long, A.P. Sokolov, **T. Saito**

**3:55 POLY 80.** Mixed matrix materials containing Pd nanoparticles with superior membrane H<sub>2</sub>/CO<sub>2</sub> separation properties. **H. Lin**, L. Zhu, D. Yin, S. Konda, M. Swihart

**4:15 POLY 81.** pH-Sensitive linear amphiphilic block copolymers for transport and controlled release of molecular oxygen. **V.O. Rodionov**

### Section D

Moscone Center  
123

### Separation of Macromolecules & Particulates

*Cosponsored by ANYL, COLL and PMSE*

*Financially supported by PSS Polymer Standards Service GmbH, The Dow Chemical Company, Tosoh Bioscience LLC, Wyatt Technology*

W. Gao, X. M. Liu, *Organizers*

S. V. Orski, Y. Wang, *Organizers, Presiding*

**1:00** Introductory Remarks.

**1:05 POLY 82.** Gel permeation chromatography of ultralarge polymers: Challenges and limitations. **D.M. Meunier**, Y. Li, W. Gao

**1:45 POLY 83.** Detailed characterization of gelatins from different sources using aqueous gel permeation chromatography with on-line triple detection and multi-angle light scattering detection. **B. Crawshaw**, D. Herrick, W. Gao, X.M. Liu

**2:15 POLY 84.** Characterization of biopolymer stability by size-exclusion chromatography and asymmetric flow field-flow fractionation. **Y. Li**, K. Kuppannan, M. Covington, D. Dodage, D.M. Meunier

**2:45** Intermission.

**3:00 POLY 85.** Composition and microstructure separations of polymers and nanoparticles using thermal field-flow fractionation. **K.R. Williams**, W.C. Smith, M.B. Pillion, K. Bierbaum, J. Oliver, C.R. Bria

**3:40 POLY 86.** Separation and quantification of colloidal particles and polymers made by emulsion polymerization using asymmetrical flow field-flow fractionation with advanced detection: Challenges and progresses. **W. Gao**, S. Brownell, J. Bohling, P. Luo, A. Gong, K. Joshi, F. Zeng

**4:10 POLY 87.** Correlation between structural properties and encapsulation efficiency in polymersomes. **H. Gumz**, S. Boye, D. Appelhans, **A. Lederer**

## Section E

Moscone Center  
124

## Incorporating Polymer Science into the Classroom

## High School &amp; Community College

*Cosponsored by CHED, MPPG‡ and PMSE*

K. A. Cavicchi, *Organizer*

S. E. Morgan, *Organizer, Presiding*

K. Wingo, *Presiding*

**1:00 POLY 88.** Developing polymer research lessons for the high school classroom – NSF RET at The University of Southern Mississippi. K. Wingo, S.E. Morgan

**1:25 POLY 89.** Cross-linking physics and polymers: Making an impact in STEM education. M. Boleware, A. Sharma, J.S. Wiggins

**1:50 POLY 90.** Synthesis and characterization of di(perylene bisimides) for use as an electron accepting material in polymer photovoltaic devices. J. Brownlow, T. Bullock, L. Moore, M. Norman, S.E. Morgan

**2:15 POLY 91.** Innovation at the intersection of research and outreach. K.A. Cavicchi

**2:40** Intermission.

**2:55 POLY 92.** Augmenting primary and secondary education with polymer science and engineering. R. Cersonsky, L. Foster, R.J. Hall, T. Ahn, H.L. van der Laan, T.F. Scott

**3:20 POLY 93.** Polymers inspired by biomimetic bilayers. K.A. Cavicchi, J. Oldham

**3:45 POLY 94.** Are mushrooms the new plastic? Harnessing student design thinking using ecovative materials. M.C. Enright, K. Anderson

**4:10 POLY 95.** Exploring polymers in the high school classroom through medical sutures. C. Knutson, J.E. Wissinger, C. Javner, D.K. Schneiderman

## Section F

Moscone Center  
125

## Polymer Applications &amp; Characterization in the Biomedical Industry

X. M. Liu, J. Slager, *Organizers, Presiding*

**1:00** Introductory Remarks.

**1:05 POLY 96.** Graphene oxide-conjugated polymer hybrid materials for protein sensing. C. Xing

**1:35 POLY 97.** Photo-curable betaine copolymer with high resistance to thrombus and biofilm formation. Z. Zhang, D. Wallach, J. Li, M. Taylor, A. Roussett, V. Wagner

**2:05 POLY 98.** Self-fitting scaffolds based on PCL-PLLA semi-IPN Shape Memory Polymers (SMPs). M. Grunlan, L.L. Woodard, V.M. Page, K.T. Kmetz

**2:35** Intermission.

**2:50 POLY 99.** Effects of gel mass age on critical process parameters of soft gelatin capsule encapsulation. M. Karamsetty, R. Lau

**3:20 POLY 100.** Photo-CuAAC applications in dental restorative materials. B. El-Zaatari, A. Shete, C.J. Kloxin

**3:50 POLY 101.** All-organic conductive fabrics for continuous monitoring of Electrocardiogram (ECG) response. G.A. Sotzing

**4:20 POLY 102.** Polymer materials in medical devices: Addressing issues through material testing and failure analysis. S.J. Benight

**4:50** Concluding Remarks.

## Section G

Moscone Center  
Esplanade Ballroom 310

## Contributions of IBM Almaden to Polymer Science

*Cosponsored by PMSE*

R. D. Miller, D. Y. Yoon, *Organizers*

K. R. Carter, J. Pyun, *Presiding*

**1:00 POLY 103.** Polymers at interfaces. T.P. Russell

**1:25 POLY 104.** Deposition, mechanics and phase behavior of polyelectrolyte complex films. K.R. Shull

**1:50 POLY 105.** From industrial wastes to functional materials: Hybrid materials based on sulfur. K. Char

**2:15 POLY 106.** Self-organization in materials science: From quantum dot LEDs to mechanical actuators. R.W. Zentel

**2:40 POLY 107.** Synthesis and fabrication of functional polymer thin films. K.R. Carter

**3:05** Intermission.

**3:20 POLY 108.** From polymers to particles and back to polymers. J. Pyun, N.G. Pavlopoulos, N. Pinna, K. Char

**3:45 POLY 109.** Multi-stimuli-responsive inks for 3D printing. A. Nelson

**4:10 POLY 110.** Light-induced self-assembly of achiral molecules containing triphenylamine for supramolecular chirality and chiral polymers. S.Y. Kim

**4:35 POLY 111.** From Almaden to Donostia: A trip from polymer brushes and self-crosslinking nanoparticles to poly(ionic liquids). D. Mecerreyes

**5:00 POLY 112.** Research frontiers of the IBM Research Center as inspiration for the design of biological active materials. E. Harth

## Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, COLL, COMP, CWD, ENVR, INOR‡, MEDI, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC*

## Materials Informatics &amp; Computational Modeling

*Sponsored by CINF, Cosponsored by COMP and POLY*

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Novel Reactions, Methodologies &amp; Syntheses in Organic Chemistry

*Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC*

## New Horizons in Sustainable Materials

## Nanocellulose Materials &amp; 3D Structures

*Sponsored by CELL, Cosponsored by POLY*

## MONDAY MORNING

## Section A

Moscone Center  
120

## General Topics: New Synthesis &amp; Characterization of Polymers

B. Barkakaty, D. Garcia, *Organizers*

T. M. Alam, P. Luo, *Presiding*

**8:00 POLY 113.** Variable temperature ROMP: Achieving targeted molar mass and low dispersities from low ring-strain monomers. W.J. Neary, J.G. Kenemur

**8:20 POLY 114.** Synthesis and characterization of aromatizing polyester. W. Joo, A. Lane, D. Liu, K. Matsuzawa, R.A. Mesch, W. Wang, B. Cassidy, A. Dick, S.T. Phillips, C.G. Willson

**8:40 POLY 115.** Synthetic approach for reducing viscosity in commercially relevant polymer latexes. P. Luo, J. Bohling, K. Beshah

**9:00 POLY 116.** Facile synthesis of robust, photopolymerizable liquid crystal elastomers. N.P. Godman, A.D. Auguste, T.J. White

**9:20 POLY 117.** Versatile and general strategy to precision conjugated oligomers (PDI= 1.0). J. Lawrence, E. Goto, A. McGrath, D.S. Laitar, P. Clark, C.J. Hawker

**9:40 POLY 118.** Effect of monomer solubility on the evolution of copolymer morphology during polymerization-induced self-assembly in aqueous solution. A.A. Cockram, T.J. Neal, M.J. Derry, O. Mykhaylyk, N.S. Williams, M.W. Murray, S.N. Emmett, S.P. Armes

**10:00 POLY 119.** Impact of hydration and sulfonation on the nanoscale morphology of water in polyphenylene polymer membranes. T.M. Alam, E.G. Sorte, C. Fujimoto, L.J. Abbott, A.L. Frischknecht

**10:20 POLY 120.** Innovations in the design and synthesis of charged polysulfones. M. Green, Y. Yang

**10:40 POLY 121.** Thermoset in thermoplastic for shape memory polymer: Selective role for net point or switching segment under crosslink network. S. Chirachanchai

**11:00 POLY 122.** Synthesis and characterization of waterborne, silane functional, branched polyetherethanes for self-crosslinking coatings in textile applications. A. Durmus, D. Anil, E. Sevinis Ozbulut, Y.Z. Menciloglu, S. Unal

**11:20 POLY 123.** Withdrawn.

**11:40 POLY 124.** Linear multiblock copolymers with up to ten blocks and high molecular weights: A novel in-situ block copolymer formation approach. E. Grune, A. Mueller, H. Frey

## Section B

Moscone Center  
121

## Next Generation Smart Materials

*Cosponsored by MPPG‡*

E. B. Berda, J. Foster, *Organizers*

Y. C. Simon, *Organizer, Presiding*

S. Camarero-Espinosa, *Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 125.** Multiresponsive polymers for drug delivery and sensors. R. Hoogenboom

**8:35 POLY 126.** In Situ nanoparticulation of conjugated polymers. T. Choi

**9:05 POLY 127.** Polymeric sulfobetaines as solution responsive smart materials. T. Emrick

**9:35** Intermission.

**9:45 POLY 128.** Humidity- and electro-responsive actuation in anisotropically aligned protein films. T. Zarkovic Grove, N. Carter

**10:15 POLY 129.** Smart biomimetic polymersomes. S. Lecommandoux

**10:45 POLY 130.** Topological transformations via dynamic-covalent chemistry. H. Sun, C.P. Kabb, Y. Dai, M.R. Hill, B.S. Sumerlin

## Section C

Moscone Center  
122

## Polymeric Materials for Performance &amp; Sustainability

## High Performance

*Cosponsored by MPPG‡*

M. Meador, M. A. Meador, S. E. Morgan, *Organizers*

J. Buchanan, *Presiding*

**8:00 POLY 131.** Exceptional flame resistance and gas barrier with thick-growing clay-chitosan multilayer coatings. J.C. Grunlan, T. Guin

**8:30 POLY 132.** Phosphorous-functionalized multi wall carbon nanotubes as flame retardants for polystyrene and poly(methyl methacrylate). D.P. Durkin, M.J. Gallagher, B.P. Frank, E.D. Knowlton, P.C. Trulove, D. Fox, H. Fairbrother

**8:50 POLY 133.** Ultra-high thermostability in polybenzoxoles from whole-aromatic amino acid. T. Kaneko, M. Watanabe, M. Ali, M. Singh

**9:10 POLY 134.** Hyperconnected network architectures as a new route to exceptional mechanical properties. J. Burg, R. Dauskardt

**9:30** Intermission.

**9:45 POLY 135.** Continuous manufacturing of twisted yarns from electrospun polymer fibers. W. Panatadasirisuk, S. Yang

**10:05 POLY 136.** Catalyst optimization of covalent organic frameworks by frontier orbital engineering. C.S. Diercks, C.J. Chang, O.M. Yaghi, N. Korienko, S. Lin

**10:25 POLY 137.** Nanoscale toughening mechanism in MoS<sub>2</sub> dispersed epoxy composite system. J. Ryan, S. Webster, S. Roy, R. Wheeler, D. Nepal

**10:45 POLY 138.** Moisture distribution in PEEK, PEKK, PBI, and their blends: A multinuclear solid-state NMR study. J. Bluemel, J.C. Pope

**11:05 POLY 139.** Copolymerization of epoxides and lactones to ultrahigh molecular weight with an aluminum-chelate catalyst. M. Chwatko, N.A. Lynd

‡ Cooperative Cosponsorship



## Section D

Moscone Center  
123

### Excellence in Graduate Polymer Research

*Cosponsored by PRES, PROF, SOCED and YCC*

*Financially supported by POLY Industrial Advisory Board*

C. J. Ellison, T. E. Long, *Organizers*

H. Cheng, C. J. Landry-Coltrain, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 **POLY 140.** Cooperative polymerization of  $\alpha$ -helices induced by macromolecular architecture. R. Baumgartner, H. Fu, Z. Song, Y. Lin, J. Cheng

8:25 **POLY 141.** Prebiotic decapeptide formation from the ester-amide exchange reaction. S. Yu, R. Krishnamurthy, F.M. Fernandez, N.V. Hud, F.J. Schork, M. Grover

8:45 **POLY 142.** Commodity plastic mimics from polyvinyl acetals derived from bioaromatic aldehydes and polyvinyl alcohol. M. Rostagno, S. Shen, I. Ghiviriga, S.A. Miller

9:05 **POLY 143.** Sustainable antimicrobial biomaterials and biobased plastics from natural biomass. M.S. Ganewatta, C. Tang

9:25 **POLY 144.** Efficient, regioselective path to water-soluble polysaccharide ionomers. S. Liu, K.J. Edgar

9:45 Intermission.

10:00 **POLY 145.** Improving the biopharmaceutical properties of oligonucleotides by brush-polymer-assisted compaction. X. Lu, X. Cao, D. Wang, F. Jia, X. Tan, K. Zhang

10:20 **POLY 146.** Complexation of linear DNA and polystyrene sulfonate with cationic copolymer micelles: Effect of polyanion flexibility. Y. Jiang, D. Sprouse, J. Lasser, T.M. Reineke, T.P. Lodge

10:40 **POLY 147.** Photo-Responsive polymeric formulations to attenuate inflammation in cardiovascular tissues. C.T. Greco, T.H. Epps, M.O. Sullivan

11:00 **POLY 148.** Functionalized star-like  $\epsilon$ -caprolactone amphiphilic block copolymers for thermoresponsive micellar drug delivery systems. K.E. Washington, R.N. Kularatne, Y. Ren, M.C. Biewer, M.C. Stefan

## Section E

Moscone Center  
124

### Undergraduate Research in Polymer Science

J. Lott, S. E. Morgan, S. I. Nazarenko, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 **POLY 149.** Multi-scale assembly of polythiophene-surfactant supramolecular complexes. D. Bilger, A. Sarkar, C.D. Danesh, M. Gopinadhan, G. Braggin, J. Figueroa, T. Pham, D. Chun, Y. Rao, C.O. Osuji, M. Stefik, S. Zhang

8:25 **POLY 150.** Polyureas for dielectric applications developed through a rational co-design approach. S.K. Scheirey, G.M. Treich, S. Nasreen, Z. Li, A. Mannodi-Kanakkithodi, Y. Cao, R. Ramprasad, G.A. Sotzing

8:45 **POLY 151.** Incorporation of Diels-Alder chemistry into polymer matrices via an iminer approach. T. Colt, K. Barcus, E. Crenshaw, R. Rhoads, P.J. Costanzo

9:05 **POLY 152.** Stimuli responsive  $\beta$ -cyano-oligo(phenylene vinylene) methylcellulose hydrogels. L. Forte, B. Davis, J. Lott

9:25 Intermission.

9:45 **POLY 153.** Thio-bromo click approach for developing new, ROMP-based flame-resistant materials. J. Grubb, C.E. Hobbs

10:05 **POLY 154.** Utilization of a cysteine core for the preparation of novel mikto-arm star polymer. C. Sarantes, K. Eckhart, C. DeHoe, L. Souza, A. Ventura, A.J. Varni, P.J. Costanzo

10:25 **POLY 155.** Alkynols as a source of flame retardants. A. Gudbrandson, B. Howell

## Section F

Moscone Center  
Esplanade Ballroom 310

### 50th Anniversary Celebration of Macromolecules

*Cosponsored by MPPG‡ and PMSE*

T. P. Lodge, *Organizer, Presiding*

8:00 Introductory Remarks.

8:10 **POLY 156.** Self-assembled supramolecular nanosystems for smart diagnosis and targeted therapy of intractable diseases. K. Kataoka

8:40 **POLY 157.** Electrostatic assembly of nanoparticle systems for controlled and tissue targeted release. P.T. Hammond

9:10 **POLY 158.** Toughening soft materials with sacrificial bonds. J.P. Gong

9:40 Intermission.

10:00 **POLY 159.** Principles of vitrimer chemistry and physics. L. Leibler

10:30 **POLY 160.** How advances in polymer synthesis have enabled advances in polymer physics. K.I. Winey

11:00 **POLY 161.** Entropic barrier theory of dynamics of macromolecules. M. Muthukumar

## Section G

Moscone Center  
125

### Contributions of IBM Almaden to Polymer Science

*Cosponsored by PMSE*

D. Y. Yoon, *Organizer*

R. D. Miller, *Organizer, Presiding*

T. P. Russell, *Presiding*

8:00 **POLY 162.** Story of single-molecule detection and spectroscopy and the surprises leading to super-resolution microscopy and beyond. W.E. Moerner

8:30 **POLY 163.** Learning from nature to create novel nanomaterials. R.K. O'Reilly

8:55 **POLY 164.** Supramolecular biomaterials: From fundamentals to advanced healthcare solutions. E.A. Appel

9:20 **POLY 165.** Applications of functionalized biodegradable polymers in tissue engineering and regenerative medicine. K. Fukushima, Y. Inoue, Y. Haga, M. Oji, S. Takaoka, C. Sato, H. Tsuchiya, M. Tanaka

9:45 **POLY 166.** Degradable elastomeric biomaterials through stereochemically-controlled synthesis. A.P. Dove

10:10 Intermission.

10:25 **POLY 167.** Forty years of spectroscopic studies of polymers at the leading edge from FT-Raman to AFM-IR spectroscopy: Evolution, revolution or back to the future. J.F. Rabolt

10:50 **POLY 168.** Development of multi-functional surfaces with controllable wettability. M.A. Frysal, G. Kenanakis, G. Kaklamani, L. Papoutsakis, S.H. Anastasiadis

11:15 **POLY 169.** Developments in polymer adhesion and fracture at IBM Almaden Reseach Laboratory. H.R. Brown

11:40 **POLY 170.** Effects of molecular topology and interface on conformations and dynamics of polymer melts from atomistic molecular dynamics simulations. D.Y. Yoon

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

*Sponsored by PROF, Cosponsored by ANYL‡, BIOL‡, CHED, CMA, COLL, COMP, CWD, ENVR, INOR‡, MEDI, MPPG, ORGN, PHYS, PMSE‡, POLY, PRES‡ and WCC*

#### Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

## MONDAY AFTERNOON

## Section A

Moscone Center  
120

### Industrial Innovations in Polymer Chemistry

*Cosponsored by MPPG‡ and PMSE*

T. W. Baughman, *Organizer*

J. M. Messman, *Organizer, Presiding*

1:00 **POLY 171.** Development of silicon-containing polymers for modern micro- and nano-electronics. Q. Lin

1:30 **POLY 172.** Advances in Asymmetric Flow Field Flow Fractionation (AF4) combined with MALS in the characterization of polymers in solution. J.A. Ahlgren

2:00 **POLY 173.** Cognitive macromolecular therapeutics. J. Hedrick

2:30 Intermission.

2:45 **POLY 174.** Development of sustainable alternatives for the next generation of chemicals and materials: Continued progress in development of renewably-sourced materials from DuPont. H.E. Bryndza

3:15 **POLY 175.** Future fabricated with light: Photolithography in 2D leading to CLIP in 3D. J.M. DeSimone

3:45 **POLY 176.** Digital manufacturing at the NNSA's National Security Campus. D.E. Bowen

## Section B

Moscone Center  
121

### Next Generation Smart Materials

*Cosponsored by MPPG‡*

J. Foster, Y. C. Simon, *Organizers*

E. B. Berda, *Organizer, Presiding*

T. Zarkovic Grove, *Presiding*

1:00 Introductory Remarks.

1:05 **POLY 177.** Stimuli-responsive metal organic framework nanoparticles. A.J. Morris, C.C. Epley

1:35 **POLY 178.** Atypical responses from polymeric nanoassemblies. S. Thayumanavan

2:05 **POLY 179.** Molecular design strategies for smart materials based on new dynamic bonding motifs in polymers. B. Helms

2:35 Intermission.

2:45 **POLY 180.** Engineering multi-responsive complex coacervate core micelles for biomedical and materials science applications. I. Voets

3:15 **POLY 181.** Processing effects on mechanically adaptive response of cellulose nanocrystal composites. M. Bortner, J. Foster, J. Fallon, B. Kolb, C. Herwig

3:45 **POLY 182.** Self-Assembly and responsiveness of polypeptide-based star and triblock copolymers. C. Machado, I. Smith, B. Barnes, D.A. Savin

4:15 **POLY 183.** Nanoparticle assembly of surface-modified proteins. M. Fach, L. Radi, P.R. Wich

## Section C

Moscone Center  
122

### Polymeric Materials for Performance & Sustainability

#### Biodegradable & Recyclable Polymers

*Cosponsored by MPPG‡*

M. Meador, M. A. Meador, S. E. Morgan, *Organizers*

B. Schmatz, *Presiding*

1:00 **POLY 184.** Recyclable crosslinked polymer networks via one-step controlled radical polymerization: Full property recovery after multiple melt-reprocessing steps of models for tire rubber and other polymer networks. J.M. Torkelson, K. Jin, L. Li

1:30 **POLY 185.** Compounding of thermoplastic polysaccharides and biodegradable polyesters. B. Zhou, J.H. Wang, Q. Jia

1:50 **POLY 186.** Biodegradable polyesters/cellulose esters blends: Thermal and rheological properties important for thermoplastic processing. Y. Bai, J.H. Wang, J. Kuang, B. Zhou

2:10 **POLY 187.** Renewable silicon-containing cross-linked polymers and tuning their properties. Y. Nishimura, J. Chung, Z. Guan

2:30 Intermission.

2:45 **POLY 188.** Biodegradable copolymers based on poly( $\epsilon$ -caprolactone): From packaging to wastewater treatment applications. M.K. Hassan, H. Gayouh, E. Jacob, K. Zadeh, S.A. Al-Muhtaseb, M.A. Al-Maadeed, M. Lahcini

**3:05 POLY 189.** Stress relaxation and reprocessability of cross-linked polyhydroxyurethanes. **D.J. Fortman**, J.P. Brutman, M.A. Hillmyer, W.R. Dichtel

**3:25 POLY 190.** Polycarbonate vitrimers from bis(cyclic carbonates) and polyols. **R.L. Snyder**, D.J. Fortman, W.R. Dichtel

**3:45 POLY 191.** Renewable aliphatic-aromatic copolyesters based on phloretic acid. **M.J. Miri**, M.E. Bloom, J.F. Vicentin, J.M. Marsico, T.S. Geraci, D.S. Honeycutt

**4:05 POLY 192.** Structure-property relationships in modified highly functional bio-based thermosets. **A.Z. Yu**, J.M. Sahouani, D.C. Webster

## Section D

Moscone Center  
123

### Excellence in Graduate Polymer Research

*Cosponsored by PRES, PROF, SOCED and YCC*

*Financially supported by POLY Industrial Advisory Board*

H. Cheng, C. J. Landry-Coltrain, *Organizers*  
C. J. Ellison, T. E. Long, *Organizers, Presiding*

**1:00** Recognition of Poster Presenters.

**1:15 POLY 193.** Mechanically stiff 3D printed biomimetic hydrogel for chondrogenesis and cartilage tissue production. **E. Aisenbrey**, S.J. Bryant

**1:35 POLY 194.** Exciton migration in conjugated polymers at the amphiphilic interfaces. **B. Koo**, T.M. Swager

**1:55 POLY 195.** Molecular engineering of polymers to realize high thermal conductivity in amorphous systems. **A. Shanker**, G. Kim, C. Li, K. Pipe, J. Kim

**2:15 POLY 196.** Directed structure manipulation of conjugated polymers with external fields. **Y. Xi**, L.D. Pozzo

**2:35** Intermission.

**2:50 POLY 197.** Direct, single-step alignment of semiconducting polymer thin films and factors influencing their deposition via solution shearing. **L. Shaw**, P. Hayoz, H. Yan, Y. Diao, J. Reinspach, J.W. To, M. Toney, T. Weitz, Z. Bao

**3:10 POLY 198.** Direct formation of large area two-dimensional nanosheets from fluorescent semi-conducting homopolymer with new orthorhombic crystalline orientation. **S. Yang**, I. Choi, S. Shin, T. Choi

**3:30 POLY 199.** Directed self-assembly of 5 nm block copolymer lamellae enabled by nanoimprint lithography. **A. Lane**, X. Yang, M.J. Maher, G. Blachut, Y. Asano, Y. Someya, S. Sirard, A. Mallavarapu, C.J. Ellison, C.G. Willson

**3:50 POLY 200.** Quantitative predictions of shape memory effects in polymers. **C.C. Hornat**, Y. Yang, M.W. Urban

## Section E

Moscone Center  
124

### Undergraduate Research in Polymer Science

J. Lott, S. E. Morgan, S. I. Nazarenko, *Organizers, Presiding*

**1:00 POLY 201.** Semi-flexible string conformational analysis towards an experimental hydrophobic-folding model system. **R. Kiessling**, C. Barraugh, B. Sanii

**1:20 POLY 202.** pKa determination of a his residue in a self-assembling peptide using Raman spectroscopy. **B. Pogostin**, C.H. Londergan, K.S. Akerfeldt

**1:40 POLY 203.** Aligned spherulites of conjugated polymers induced by carbon nanotubes. **K.J. Reynolds**, S. Zhang

**2:00** Intermission.

**2:20 POLY 204.** Thermally responsive materials with dynamic topology based upon Diels-Alder chemistry. **C. Gregory**, E. Wilborn, P.J. Costanzo

**2:40 POLY 205.** Thermal and flammability properties of epoxy resin containing flame retardants derived from castor oil. **E. Ostrander**

**3:00 POLY 206.** Modular liquid crystal elastomer synthesis: Acid catalyzed oxa-Michael addition. **C. Earl**, Z. Kurji, J.A. Kornfield

**3:20** Intermission.

**3:30** Panel Discussion.

## Section F

Moscone Center  
Esplanade Ballroom 310

### 50th Anniversary Celebration of Macromolecules

*Cosponsored by MPPG $\ddagger$  and PMSE*

T. P. Lodge, *Organizer, Presiding*

**1:00 POLY 207.** Syntheses, structures and functions of AIE polymers. **B. Tang**

**1:30 POLY 208.** Polymer chemistry of graphenes and graphene nanoribbons. **K. Muellen**

**2:00 POLY 209.** Digital polymers: A new class of man-made macromolecules. **J. Lutz**

**2:30** Intermission.

**2:50 POLY 210.** Historical evolution of degradable polymers in the Wooley laboratory: From poly(silyl ester)s to natural product-based polycarbonates. **K.L. Wooley**

**3:20 POLY 211.** Reversible deactivation radical polymerization after nearly 50 years. **K. Matyjaszewski**

**3:50 POLY 212.** 50 Years of macromolecules: A perspective. **T.P. Lodge**

### Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

*Sponsored by PROF, Cosponsored by ANYL $\ddagger$ , BIOL $\ddagger$ , CHED, CMA, COLL, COMP, CWD, ENVR, INOR $\ddagger$ , MEDI, MPPG, ORGN, PHYS, PMSE $\ddagger$ , POLY, PRES $\ddagger$  and WCC*

### ACS Award in Industrial Chemistry: Symposium in honor of Jane Frommer

*Sponsored by I&EC, Cosponsored by ANYL, BIOL, COLL, INOR, ORGN, PMSE and POLY*

### Undergraduate Research Posters

#### Polymer Chemistry

*Sponsored by CHED, Cosponsored by PMSE, POLY and SOCED*

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

C. Lipscomb, *Organizer*

**8:00 - 10:00**

**245, 329-330, 342, 345-348, 351, 353, 355, 357-358, 364-365, 367, 371, 373-378, 383, 385, 388, 390-391, 393, 395, 397-398, 406-407, 421, 424, 428, 430-431, 433-435, 441-442, 453-455, 459, 461-464, 467, 469, 474-475, 477-478.** See subsequent listings.

### Innovating Materials for the Next Generation: Bringing Practical Applications into the Chemistry Classroom

*Sponsored by CHED, Cosponsored by PMSE, POLY and RUBB*

## TUESDAY MORNING

### Section A

Moscone Center  
120

### General Topics: New Synthesis & Characterization of Polymers

B. Barkakaty, D. Garcia, *Organizers*

D. S. Dissanayake, D. A. Waldow, *Presiding*

**8:00 POLY 213.** Diffusion-Ordered NMR Spectroscopy (DOSY) of conjugated polymers. **L.M. Kozycz**, C.J. Hawker, M.L. Chabinyk

**8:20 POLY 214.** Fiber-coupled NMR: A simple and versatile approach to study controlled photopolymerizations in real time. **N. Dolinski**, Z.A. Page, F. Eisenreich, S. Hecht PhD, J. Read De Alaniz, C.J. Hawker

**8:40 POLY 215.** PFPE-based polymeric  $^{19}\text{F}$  MRI agents: A new class of contrast agents with outstanding sensitivity. **C. Zhang**, H. Peng, S. Puttick, D. Searles, A. Whittaker

**9:00 POLY 216.** Decoupling of segmental motion and ionic conductivity in oligomeric ethylene oxide functionalized dicarboxide oxanorbornene polymers. **D.A. Waldow**, A.P. Sokolov, Y. Wang

**9:20 POLY 217.** Light scattering without refractive index increment. A new approach to calibrate SEC-light scattering setups. **W. Radke**, J. Preis, S. Lavric

**9:40 POLY 218.** Polyimide-Tin(poly) ester hybrid films as dielectric materials. **S. Nasreen**, G.M. Treich, M.L. Baczkowski, M. Tefferi, S.K. Scheirey, Y. Cao, G.A. Sotzing

**10:00 POLY 219.** Chemically degradable polymers for applications in nano and biotechnology. **I. Kolesnichenko**, C. Ginestra, M. Chwatko, J. Reuther, N. Lynd, E.V. Anslin

**10:20 POLY 220.** Particles formed from poly(butyl methacrylate)-co poly(acrylic acid). **S. Rimmer**, S.L. Canning, M. Geoghegan

**10:40 POLY 221.** Triethylene glycol monomethyl ether substituted polythiophenes for organic electronic applications. **D.S. Dissanayake**, S.S. Gunathilake, J. Du, T.M. Pathiranaage, E. Sheina, E. Gomez, M.C. Stefan, M.C. Biewer

**11:00 POLY 222.** Withdrawn.

**11:20 POLY 223.** Synthesis and characterization of highly branched, functional poly(arylene ether sulfone)s. **E. Sevinis Ozbulut**, A. Ozturk, I. Sacligil, T. Ormanci Acar, D. Imer, I. Koyuncu, Y.Z. Menceoglu, S. Unal

**11:40 POLY 224.** Can the overall molecular architectures of synthetic polymers be characterized? **R. Gurarslan**, A.E. Tonelli

## Section B

Moscone Center  
121

### Next Generation Smart Materials

*Cosponsored by MPPG $\ddagger$*

E. B. Berda, J. Foster, Y. C. Simon, *Organizers*  
M. Bortner, A. Ostrowski, *Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 225.** Glucose-tactic asymmetric polymersomes. **G. Battaglia**

**8:35 POLY 226.** Design strategy for efficient intramolecular singlet fission in oligoacenes. **E. Kumarasamy**, L. Campos

**9:05 POLY 227.** Elect spun phase separating block-copolymer fibers for biological applications. **S. Camarero-Espinosa**, J. Cooper-White

**9:35** Intermission.

**9:45 POLY 228.** Functional molecular vibrations for stimuli responsive polymers. **J. Lott**

**10:15 POLY 229.** Bio-Inspired porous amphiphobic materials through surface step-growth polymerization. **S. Oyola-Reynoso**, J. Chen, B. Chang, I. Tevis, **M. Thuo**

**10:45 POLY 230.** Controlling mechanical properties of polymeric materials using photo-active metal coordination interactions. **A. Ostrowski**

**11:15 POLY 231.** Examining the mechanical reactivity of substituted cylobutene mechanophores. **C.L. Brown**, T.B. Kouznetsova, B. Bowser, S. Craig

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

$\ddagger$  Cooperative Cosponsorship

## Section C

Moscone Center  
122

## Polymeric Materials for Performance &amp; Sustainability

## Functional Materials for Energy &amp; Electronics

Cosponsored by MPPG‡

M. Meador, M. A. Meador, S. E. Morgan, *Organizers*

B. Long, *Presiding*

**8:00 POLY 232.** Light on an upward trajectory: Sensitized light upconversion in polymers. Y.C. Simon

**8:30 POLY 233.** Conjugated poly-electrolytes as light harvesting antenna. C. Segura, A. Ayzner

**8:50 POLY 234.** Chlorination: A facile method for high-performance polymer solar cells. F. He

**9:10 POLY 235.** Effect of solvent vapor annealing on crystallinity and hole mobility in P3HT:PCBM polymer photovoltaics. L. Moore, M. Bhattacharya, Q. Wu, S. Youm, E.E. Nesterov, S.E. Morgan

**9:30 POLY 236.** Enhancing charge transport in redox active polymers through molecular design. K. Hernandez-Burgos, M. Burgess, E. Chenard, N. Gavvalapalli, R. Assary, J. Moore, J. Rodriguez Lopez

**9:50** Intermission.

**10:05 POLY 237.** Multi-grafting lithium polyacrylate as high-performance polymer binder for lithium-ion battery. P. Cao, M. Abdelmalak, E. Stacy, B. Li, T. Hong, J. Nanda, A.P. Sokolov, T. Saito

**10:25 POLY 238.** Drifting proton transport by nanophase separation induced intrinsic electric field in polymer electrolyte material under anhydrous state. Y. Hu, L. Yan, B. Yue

**10:45 POLY 239.** Photophysical changes driven by complexation of oppositely charged conjugated polyelectrolytes. W.R. Hollingsworth, C. Segura, J. Balderrama, N. Lopez, P. Schleissner, A. Ayzner

**11:05 POLY 240.** Application of polypyrrole-based selective electrodes in electrochemical impedance spectroscopy to determine nitrate concentration. M.C. So, M. Hajmorad, H. Mustafa, S. Alhloul

## Section D

Moscone Center  
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## Excellence in Graduate Polymer Research

Cosponsored by PRES, PROF, SOCED and YCC

Financially supported by POLY  
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C. J. Landry-Coltrain, T. E. Long, *Organizers*

H. Cheng, C. J. Ellison, *Organizers, Presiding*

**8:00 POLY 241.** Consequences of low- $\chi$  design in block copolymer self-assembly. A. Chang, R.H. Grubbs

**8:20 POLY 242.** Development and applications of living alternating ring-opening metathesis polymerization of cyclopropenes. B.R. Eling, Y. Xia, J. Su

**8:40 POLY 243.** Graft-through synthesis and assembly of Janus bottlebrush polymers from A-branch-B diblock macromonomers. K. Kawamoto, M. Zhong, K.R. Gadelrab, L. Cheng, C.A. Ross, A. Alexander-Katz, J.A. Johnson

**9:00 POLY 244.** Strong aliphatic polyester thermoplastic elastomers. A. Watts, M.A. Hillmyer

**9:20 POLY 245.** Synthesis and characterization of bottlebrush polymers: The importance of the Anchor Group. S. Radzinski, J. Foster, R. Chapleski Jr, D. Troya, J. Matson

**9:40** Intermission.

**9:55 POLY 246.** Thiol-ene/yne photopolymerization – Simple reactions to yield complex materials. D.V. Amato, D.L. Patton

**10:15 POLY 247.** Chain-growth CuAAC polymerization: A versatile strategy to produce hyperbranched polymers with well-defined structures in one-pot. X. Cao, Y. Shi, W. Gan, H. Naguib, X. Wang, R. Graff, H. Gao

**10:35 POLY 248.** Water-Soluble ion-containing poly(ether ester)s for extrusion 3D printing. A. Pekkanen, C. Zawaski, C.B. Williams, T.E. Long

**10:55 POLY 249.** Recyclable cross-linked polymer networks via one-step controlled radical polymerization. K. Jin, L. Li, J.M. Torkelson

## Section E

Moscone Center  
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## Structure to Function in Supramolecular Polymers &amp; Materials

R. Kiełtyka, J. B. Matson, *Organizers*

P. Besenius, *Organizer, Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 250.** Living crystallization-driven, seeded growth approaches to functional supramolecular materials. I. Manners

**8:30 POLY 251.** Living supramolecular polymerization of perylene bisimide J-aggregates. W.J. Wagner, V. Stepanenko, F. Wuerthner

**8:50 POLY 252.** Probing hydrogen bond-aromaticity coupling in squaramide-based supramolecular polymers. R. Kiełtyka

**9:15 POLY 253.** Supramolecular polymers in aqueous media: From mechanisms to materials. B. Rybtchinski

**9:40** Intermission.

**9:55 POLY 254.** Zerovalent metallosupramolecular polymers for the in situ nucleation of platinum nanoparticles. L. Montero de Espinosa, L. Olachea, C. Weder

**10:20 POLY 255.** Network structure-property relationships in polymer metal-organic-cage gels. A.V. Zhukhovitskiy, J. Zhao, M. Zhong, E.G. Keeler, E. Alt, P. Teichen, R.G. Griffin, M.J. Hore, A. Willard, J.A. Johnson

**10:40 POLY 256.** Metallo-Supramolecular crosslinked elastomers. R.H. Lambeth, A.M. Savage, F.L. Beyer

**11:00 POLY 257.** Porous functional nanostructures mediated by directed supramolecular interactions. F. Beuerle

**11:25 POLY 258.** Dynamic, multi-stimuli-responsive polymers based on metal-stabilized, dynamic covalent imine bonds. F. Garcia, J. Pells, H. Zuilhof, M. Smulders

## Section F

Moscone Center  
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## Polymer Chemistry (RSC) Lectureship

Cosponsored by MPPG‡

Financially supported by Royal  
Society of Chemistry, Tosoh

J. A. Johnson, E. Pentzer, W. You, *Organizers*

J. Kalow, E. Kumarasamy, *Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 259.** Hybrid nanomaterials. R.K. O'Reilly

**8:35 POLY 260.** Design and synthesis of polymers for next generation energy storage technologies. B.P. Fors

**8:55 POLY 261.** Mechanochemical generation of conjugated polymers from non-conjugated polymers. Z. Chen, J.A. Mercer, N.Z. Burns, Y. Xia

**9:15 POLY 262.** Polymers for thermal and mechanochemical release of nitroxyl (HNO) and other small molecule payloads. D. Church, S. Nourian, C. Lee, M. Ryskamp, A. Vander Meer, N.A. Yakelis, J.P. Toscano, A.J. Boydston

**9:35** Intermission.

**9:55 POLY 263.** Functionally-versatile polypeptide materials. J. Fan, X. He, R. Letteri, T. Nguyen, J. Zou, K.L. Wooley

**10:25 POLY 264.** Bioinspired sequence-defined oligomers and their biological applications. C.A. Alabi

**10:40 POLY 265.** Designer molecules toward advanced polymerizations: Control of sequence and topology for vinyl polymers. M. Ouchi

**11:00 POLY 266.**  $\alpha,\omega$ -Difunctional polyethylene telechelics through functional group tolerant catalysis. S. Mecking

## Polymers under Deformation

## Structure &amp; Morphology Changes during Deformation of Polyolefins &amp; Polymer Composites

Sponsored by PMSE, Cosponsored  
by MPPG‡ and POLY‡

## Developments in the Fields of Celluloses &amp; Lignocelluloses: In honor of Dr. Rajai Atalla

Sponsored by CELL, Cosponsored  
by AGFD, ANYL and POLY

## TUESDAY AFTERNOON

## Section A

Moscone Center  
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## General Topics: New Synthesis &amp; Characterization of Polymers

B. Barkakaty, D. Garcia, *Organizers*

A. Prasher, G. M. Treich, *Presiding*

**1:00 POLY 267.** Organocatalyzed synthesis of polyurethanes. H. Sardon, A. Bossion, A. Yuen

**1:20 POLY 268.** Aqueous copper(II) photoinduced polymerization of acrylates: Low copper concentration and the importance of sodium halide salts. G.R. Jones, R. Whitfield, A. Anastasaki, D.M. Haddleton

**1:40 POLY 269.** Synthesis, characterization, and analysis of a novel polythiourea for dielectric applications aided by molecular dynamics and density functional theory. G.M. Treich, M. Misra, S. Nasreen, M. Tefferi, A. Mannodi-Kanakkithodi, R. Ramprasad, Y. Cao, G.A. Solzing

**2:00 POLY 270.** Controlled ring-opening polymerization of O-carboxyanhydrides using organometallic catalysts. R. Tong, J. Cheng

**2:20 POLY 271.** Synthesis of vinyllic macromolecular rotaxane cross-linkers endowing network polymers with toughness. J. Sawada, D. Aoki, T. Takata

**2:40 POLY 272.** Topology transformation from linear polymer to cyclic Polymer: Effective synthesis of cyclic polymer utilizing [C2]daisy chain dimer. D. Aoki, T. Takata

**3:00 POLY 273.** Wrinkling polymer brush surfaces via postpolymerization modification. C. Reese, W. Guo, L. Xiong, C.M. Stafford, B.S. Lokitz, O. Ovchinnikova, A. Ilevlev, D.L. Patton

**3:20 POLY 274.** Methanol-mediated living cationic polymerization of 4-methoxystyrene via oxonium intermediate. A. Prasher, S.R. Liffland, D.A. Nicewicz, W. You

**3:40 POLY 275.** Withdrawn.

**4:00 POLY 276.** Synthesis and characterization of diamondoid substituted block copolymers. C. Hill, M.F. Roll

**4:20 POLY 277.** Design and synthesis of new initiators for the ring opening polymerization of epoxides inspired by the Vandenberg catalyst. N.A. Lynd

**4:40 POLY 278.** Isospecific, chain shuttling polymerization of propylene oxide using a bimetallic chromium catalyst: A new route to semicrystalline polyols. M. Childers, L.S. Morris, G.W. Coates

## Section B

Moscone Center  
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## Next Generation Smart Materials

Cosponsored by MPPG‡

E. B. Berda, J. Foster, Y. C. Simon, *Organizers*

J. Lott, A. Ostrowski, *Presiding*

**1:00** Introductory Remarks.

**1:05 POLY 279.** Chromonic liquid crystal hydrogels. R. Kularatne, T.H. Ware

**1:25 POLY 280.** Self-Assembly and phase behavior in mixed polymer brushes. C.K. Simocko, A.L. Frischknecht, D. Huber

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**1:45 POLY 281.** Materials for drug capture: Filtering off-target chemotherapy agents from the bloodstream. **M.D. Schulz**, C. Blumenfeld, S. Hettis, R.H. Grubbs

**2:05 POLY 282.** Multifunctional cellulose ether derivatives for high performance amorphous solid dispersions prepared by olefin cross-metathesis and thiol-michael addition. **Y. Dong**, L.I. Mosquera-Giraldo, L. Taylor, K.J. Edgar

**2:25 POLY 283.** Synthesis and characterization of organic ion-pairs as dynamic bonds for stimuli-responsive polymers. **G. Deng**, K.A. Cavicchi

**2:45** Intermission.

**2:55 POLY 284.** Optical devices constructed from smart microgels for sensing. **Q.M. Zhang**, S. Mugo, M. Serpe

**3:15 POLY 285.** Antifouling aminoplast coatings and their layer-by-layer deposition technique. **M. Fevre**, X. Ding, R. Wojtecki, Y. Yang, J. Hedrick

**3:35 POLY 286.** Polymeric sensors for 6-D super-resolution microscopy: Advanced fluorogenic materials for measuring redox reactions at surfaces and in solution. **J. Cole**, A. Hanlon, E.B. Berda

**3:55 POLY 287.** Functionalized poly(propylene fumarate) for 3D printed bone growth scaffolds. **J. Wilson**, A. Kleinfehn, S. Petersen, Y. Chen, M. Becker

**4:15 POLY 288.** Vesicle-to-worm transition provides a new high-temperature oil thickening mechanism. **M.J. Derry**, O. Mykhaylyk, S.P. Armes

## Section C

Moscone Center  
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### Polymers & Biomimicry

A. N. Dhinowala, T. Williams, *Organizers*, *Presiding*

**1:00 POLY 289.** Tough antibiotic-eluting double network hydrogels. **R. Stewart**, D. Lane

**1:30 POLY 290.** Polysulfonates with complex architectures as heparin mimics. **B. Caroline**, R. Peltier, H. Kim, A. Mastrangelo, S. Perrier

**1:50 POLY 291.** Nature-inspired hydrogels that change shape in response to external stimuli or to specific biomolecules. **S.R. Raghavan**

**2:10 POLY 292.** Synthesis of a super-agonist heparin-mimicking block copolymer-FGF2 conjugate. **S. Paluck**, T.H. Nguyen, J.P. Lee, H.D. Maynard

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**2:30 POLY 293.** Triazole polypeptides: Regulation of polypeptide conformation through side-chain hydrogen bonding patterns. **Z. Song**, R.A. Mansbach, R. Baumgartner, A. Ferguson, J. Cheng

**2:50** Intermission.

**3:00 POLY 294.** Bio-inspired metal-coordination dynamics: An easy way to engineer gel viscoelastic mechanics. **N. Holten-Andersen**

**3:30 POLY 295.** Crosslinking acrylate-containing polymers by downstream piezoelectric reduction. **E. Sanders**, H. Mohapatra, A.P. Esser-Kahn

**3:50 POLY 296.** Superhydrophobic coatings from Treated diatomaceous earth. **F.D. Blum**, B.R. Sedai, H. Perera, A. Paul, B.K. Khatiwada, H. Mortazavian

**4:10 POLY 297.** Protein-mimetics materials based on styrene-maleic anhydride copolymers. **A.A. Smith**, S.M. Darnall, A. Hall, **M. Puga**, T. Xu

## Section D

Moscone Center  
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### Excellence in Graduate Polymer Research

*Cosponsored by PRES, PROF, SOCED and YCC*

*Financially supported by POLY Industrial Advisory Board*

H. Cheng, C. J. Ellison, *Organizers*

C. J. Landry-Coltrain, T. E. Long, *Organizers*, *Presiding*

**1:00 POLY 298.** Accessing poly(olefin)-block-poly(thiophene) copolymers via one-pot living polymerizations. **A. Leone**, K. Souther, A.J. McNeil

**1:20 POLY 299.** Distinct thermophysical and interfacial properties associated with low molecular weight cyclic polystyrene in bulk and confined states:  $T_g$  fragility, and thin film stability. **L. Zhang**, R. Elupula, S.M. Grayson, J.M. Torkelson

**1:40 POLY 300.** Unzipping polyester as a new photoresist material. **W. Joo**, A. Lane, D. Liu, K. Matsuzawa, R.A. Mesch, W. Wang, B. Cassidy, A. Dick, S.T. Phillips, C.G. Willson

**2:00 POLY 301.** Organocatalyzed atom transfer radical polymerization via photoredox catalysis. **R.M. Pearson**, G. Miyake

**2:20** Intermission.

**2:35 POLY 302.** Simple, generalizable method towards highly aligned functional polymeric films. **Z. Qiang**, K.A. Cavicchi, B.D. Vogt

**2:55 POLY 303.** High oxygen gas barrier multilayer thin films through pH and ionic strength manipulation of montmorillonite clay. **Y. Song**, D. Hagen, J.C. Grunlan

**3:15 POLY 304.** Controlling and manipulating crease formation in polymer brush platforms. **K. Brooks**, M.J. Razavi, X. Wang, J.J. Locklin

**3:35 POLY 305.** Tuning CO<sub>2</sub>-philicity in highly permeable polymeric membranes for gas separation. **T. Hong**, H. Feng, S. Lai, S.M. Mahurin, D. Jiang, B.K. Long, J.W. Mays, A.P. Sokolov, T. Saito

## Section E

Moscone Center  
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### Structure to Function in Supramolecular Polymers & Materials

P. Besenius, *Organizer*

R. Kielyka, J. B. Matson, *Organizers*, *Presiding*

**1:00** Introductory Remarks.

**1:05 POLY 306.** Self-Assembly of exfoliated monolayer crystals as photoswitchable soft matter. **R.H. Zha**, J.A. Berrocal, G. Vantomme, R. Gosens, B. de Waal, E.W. Meijer

**1:30 POLY 307.** N-annulated perylenes. Outstanding scaffolds to build up functional supramolecular polymers. **L. Sánchez**, J. Buendía, E. Greciano, J. Valera, Y. Dorca, R. Gómez

**1:55 POLY 308.** Controlling the assembly of multicomponent supramolecular gelator systems. **E. Draper**, C. Colquhoun, E. Cross, **D. Adams**

**2:20 POLY 309.** Supramolecular control over thermoresponsive polymers. **R. Hoogenboom**

**2:45 POLY 310.** Control of functional materials and supramolecular network dynamics at both the molecular and colloidal length scales. **O.A. Scherman**

**3:10** Intermission.

**3:25 POLY 311.** Functional materials from self-assembled bis-urea macrocycles. **L.S. Shimizu**, S.R. Salpage, B. Som, A.J. Sindt

**3:50 POLY 312.** Impact of solvency and secondary structure on the conformation of single chain polymeric nanoparticles. **G. ter Huurne**, L. de Windt, A. Palmans, E.W. Meijer, **I. Voets**

**4:15 POLY 313.** Single-chain nanoparticles with sequenced defined segments via multicomponent reactions. **E.B. Berda**, J. Cole

**4:40 POLY 314.** Controlled self-assembly of peptidic Au(I)-metalloamphiphiles into 1D nanorods in water. **B. Kemper**, P. Besenius

**5:00 POLY 315.** Photo- and magneto-responsive self-assembly of nanoparticles. **B. Ravoo**

## Section F

Moscone Center  
125

### Polymer Chemistry (RSC) Lectureship

*Cosponsored by MPPG‡*

*Financially supported by Royal Society of Chemistry, Tosoh*

J. A. Johnson, E. Pentzer, W. You, *Organizers*

A. Anastaski, W. Gutekunst, *Presiding*

**1:00** Introductory Remarks.

**1:05 POLY 316.** Poly(2-oxazoline)s as functional biomaterials. **R. Hoogenboom**

**1:35 POLY 317.** Training the old dog new tricks: The applications of the Biginelli reaction in polymer chemistry. **L. Tao**

**1:55 POLY 318.** Biomass-derived polymers incorporating hydroxycinnamates. **A.M. Kasko**

**2:10 POLY 319.** Polymeric materials for delivery of hydrogen sulfide (H<sub>2</sub>S), a biologically relevant signaling gas. **J.B. Matson**, J. Foster

**2:30 POLY 320.** New strategies for polymer functionalization: From multifunctional homopolymers to polymeric thermometers. **C.A. Figg**, T. Kubo, R.N. Carmean, C.P. Kabb, **B.S. Sumerlin**

**3:00** Intermission.

**3:20 POLY 321.** Cyclopolymerization using Grubbs catalyst. **T. Choi**

**3:40 POLY 322.** Carbohydrate-based macromolecular self-assemblies and their biological functions. **G. Chen**

**4:00 POLY 323.** Harnessing non-covalent interactions for functional organic and polymeric materials. **L. Fang**, T. Yuan, C. Zhu, M.A. Olson

**4:20 POLY 324.** Functional materials constructed by the combination of traditional polymers and host-guest molecular recognition motifs. **F. Huang**

## Polymers under Deformation

### Applying Advances in Characterization Methods for In-Situ Studies of Deformation

*Sponsored by PMSE, Cosponsored by MPPG‡ and POLY‡*

### Advances in Polysaccharides: Practice & Applications

### New Developments in the Industrial Sector

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY*

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

*Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY*

### Recent Advances in Multiblock Copolymers

### Synthesis & Modeling

*Sponsored by PMSE, Cosponsored by POLY‡*

## TUESDAY EVENING

### Section A

Moscone Center  
Hall A

### Excellence in Graduate Polymer Research

*Cosponsored by PRES, PROF, SOCED and YCC*

*Financially supported by POLY Industrial Advisory Board*

H. Cheng, C. J. Ellison, C. J. Landry-Coltrain, T. E. Long, *Organizers*

**6:00 - 8:00**

**POLY 325.** Diversifying catalysts, monomers, cross-coupling strategies and functional groups in the controlled synthesis of conjugated polymers. **Y. Qiu**, K.J. Noonan, T. Kowalewski

**POLY 326.** Bioinspired stimuli-responsive materials: Concurrent shape and color change in programmed cholesteric liquid crystal elastomers. **M.T. Leslie**, G.E. Whnek, L.T. Korley, T.J. White

**POLY 327.** Towards commercially scalable processes for polymers produced by sequential anionic and RAFT polymerization. **M. Forrester**, W. Bradley, N. Hernandez, G.A. Kraus, E.W. Cochran

‡Cooperative Cosponsorship

- POLY 328.** Scalable synthesis of macroCTAs from living anionic polystyrene. **W. Bradley, M. Forrester, N. Hernandez, G.A. Kraus, E.W. Cochran**
- POLY 329.** Synthesizing Hyperbranched Polyglycerol (HPG) derivatives for use in templating hard inorganic nanostructures, biocompatible soft nanoparticles and structure-preserving binder materials for batteries. **J. Iocozzia, Z. Lin**
- POLY 330.** Synthesis of biodegradable polycarbonate nanostructures with selective lysis against gram positive bacteria. **A. Nimmagadda, J. Cai**
- POLY 331.** Promising approach to developing eco-friendly, sustainable and dual-cure coatings. **O. Akdogan**
- POLY 332.** Engineering zwitterionic polymers that control cell adhesion and direct neurite growth to improve cochlear implants. **B. Leigh, E. Cheng, M.R. Hansen, A. Guymon**
- POLY 333.** Modification of alkene-containing copoly lactide scaffolds for biomedical applications. **P. Kalelkar, R. Agarwal, A. Garcia, D.M. Collard**
- POLY 334.** Chalcogen polymers for completely solution-processed inorganic photovoltaics. **T.R. Martin, H. Hillhouse, C.K. Luscombe**
- POLY 335.** Fluorinated thiophenes in PBnDT-TAZ for bulk heterojunction solar cells: The impact of fluorination. **Q. Zhang, L. Yan, W. You**
- POLY 336.** Introducing cobaltocenium to Alkaline Anion Exchange Membrane Fuel Cells (AAEMFC). **H. Yuan, T. Tsai, B. Coughlin**
- POLY 337.** Real-time metrology for photopolymer additive manufacturing with exposure controlled projection lithography. **X. Zhao, D.W. Rosen**
- POLY 338.** Nanoscale considerations responsible for diverse macroscopic phase behavior in substituted isobutyl-POSS/poly(ethylene oxide) blends. **Y. Caydamli, E. Yildirim, J. Shen, X. Fang, M.A. Pasquinnelli, R.J. Spontak, A.E. Tonelli**
- POLY 339.** Stable entrapment of cholesteric 1D photonic domains in Liquid Crystalline Random Terpolymer (LCRTTP) architecture with dual covalent and physical networking sites: A platform towards elastomeric 1D photonic material. **L.H. Mahajan, D. Ndaya, P.B. Deshmukh, M. Gopinadhan, C.O. Osuji, R. Kasi**
- POLY 340.** Nanoporous materials from ultrahigh molecular weight linear block copolymer precursors. **J. Mapas, J. Rzyzewski**
- POLY 341.** Segmental dynamics of poly(styrene-stat-methyl methacrylate-*d*<sub>2</sub>) in bulk and at very small amounts on silica. **U.N. Arua, M. Madduma Arachchilage, F.D. Blum**
- POLY 342.** Simple and accurate determination of reactivity ratios of chain copolymerization following terminal model by *in-situ* <sup>1</sup>H-NMR technique. **D. Debnath, J. Baughman, R.A. Weiss, C.R. Pugh**
- POLY 343.** Withdrawn.
- Section A**  
Moscone Center  
Hall A
- General Topics: New Synthesis & Characterization of Polymers**  
B. Barkakaty, D. Garcia, *Organizers*
- 6:00 - 8:00**
- POLY 344.** Effect of organically modified montmorillonite on polymerization and thermal degradation mechanisms of polybenzoxazine. **A. Hisar Telli, J. Hacaloglu**
- POLY 345.** Hydrophilic-hydrophobic hybrid polymer involving perfluoro- with tetraarylphosphonium moieties: Synthesis, film morphology and electrochemical properties. **W. Wan, X. Yang, R. Smith**
- POLY 346.** CdSe/CdS-Conjugated polymer core-shell hybrid nanoparticles by a grafting-from approach. **S. Huber, T. Deroo, D. Seletskiy, A. Leitenstorfer, S. Mecking**
- POLY 347.** Anisotropic nanocrystals from precisely long-spaced ionomers. **C. Rank, S. Mecking**
- POLY 348.** Dual-patterning optical data storage in polymer films with orthogonally responsive dyes. **P. Wei, B. Li, A.D. Leon, E. Pentzer**
- POLY 349.** 2,1,3-Benzoxadiazole, thiophene and benzodithiophene based random copolymers for organic photovoltaics: Thiophene versus thieno[3,2-b]thiophene as  $\pi$ -conjugated linkers. **S. Goker, G. Hizalan, E. Aktas, S. Kutkan, A. Cirpan, L. Toppare**
- POLY 350.** Multifunctional phosphorus flame retardants for polymeric materials from benzoquinone. **A. Alrubayyi**
- POLY 351.** Photochemical controlled disulfide based thiol-ene/thiol-Michael covalent adaptable network development and application. **X. Han, X. Zhang, N. Sowan, L. Cox, S. Huang, C. Bowman**
- POLY 352.** Withdrawn.
- POLY 353.** Oligomeric 3,4-propylenedioxythiophene dyes for achieving color neutrality with electrochromic devices. **O.A. Yassin, M.T. Otley, X. Zhang, M. Li, G.A. Sotzing**
- POLY 354.** In-situ stabilization of polyolefins in aqueous systems by inorganic particles. **T. Morgen, S. Mecking**
- POLY 355.** Structure-property relationships of conjugated polymers. **S.S. Lawton, D.M. Haddleton**
- POLY 356.** Fluorinated polymethacrylate bottlebrush enables outstanding water- and oil-repellent surfaces. **Y. Luo, K. Hong**
- POLY 357.** Phosphonate functionalized poly-3-hexylthiophenes by controlled Suzuki-Miyaura coupling polymerization for interface modification in hybrid solar cells. **A. Groh, P. Ehrenreich, L. Schmidt-Mende, S. Mecking**
- POLY 358.** Triplet-Triplet annihilation upconversion in epoxy-amine networks. **A.K. Williams, J. Lott**
- POLY 359.** Flexible sulfur copolymer film via inverse vulcanization technique. **V. Wadi, S. Khawaja, S. Al Hassan**
- POLY 360.** Syntheses, electrochemical and spectroelectrochemical characterizations of quinoxaline-based conjugated polymers for organic photovoltaics. **M. Yasa, S. Goker, Y. Arslan Udm, G.E. Gunbas, L. Toppare**
- POLY 361.** Analysis of polyamides with GPC using triple detectors. **R. Farasat**
- POLY 362.** Rapid screening of packing for residual monomers using SIFT-MS. **V.S. Langford, B.J. Prince, D.B. Milligan, M. Perkins, T. Wilks, T. Potter**
- POLY 363.** FTIR characterization of co-deposited LbL film of sPPO and sPS copolymer with PDDA. **C.G. Cho, H. Ryu, A. Heo**
- POLY 364.** Polysulfone-poly(diallylpiperidinium hydroxide) multiblock copolymers containing alkaline stable spirocyclic quaternary ammonium cations for alkaline exchange membranes. **B.J. Graziano, D.J. Strasser, D.M. Knauss**
- POLY 365.** Investigating the dynamic assembly of boronate esters and diazaboroles for the formation of frameworks and polygons. **V. Drogkaris, B.H. Northrop**
- POLY 366.** Withdrawn.
- POLY 367.** Structure-property-processing-application relationship of amino acid-based poly(ester urea)s. **J. Yu, M. Becker**
- POLY 368.** From exhaust gas to drug delivery: Nano carriers based on carbon dioxide and tailored epoxide building blocks. **M. Scharfenberg, H. Frey**
- POLY 369.** Hyperbranched polymers for the disruption of quorum sensing in *Pseudomonas aeruginosa*. **W. Martin, J. Shepherd**
- POLY 370.** Smart polymers - drug delivery with polyvinylphosphonates. **C. Schwarzenböck, B. Rieger**
- POLY 371.** Polyglutamic acid based GRAS nanogels for drug delivery. **P. Prasad, M. Molla, W. Cui, M. Canakci, B. Osborne, J. Mager, S. Thayumanavan**
- POLY 372.** Conformational effect of trehalose monomers and polymers on protein stabilization. **M. Messina, J. Ko, Z. Yang, J.M. Strouse, K.N. Houk, H.D. Maynard**
- POLY 373.** Fabrication of biodegradable surfaces of modified poly(lactic acid) for biomedical applications. **P. Kalelkar, D.M. Collard**
- POLY 374.** Investigation of the dynamic aminal bond exchange towards the design and synthesis of polyaminal polymers. **A. Chao, D. Zhang**
- POLY 375.** Bio-based semi-crystalline polyphosphoesters via polyesterification reactions. **H. Busch, S. Mecking**
- POLY 376.** Encoding function in protein-oligonucleotide precision biopolymers. **W. Liu, T. Weil**
- POLY 377.** Poly(acrylic acid) based block copolymers as excipients for enhancing solubility of poorly water soluble drugs. **A. Purchel, W.S. Boyle, T.M. Reineke**
- POLY 378.** Dual effect of thiol addition on fluorescent polymeric micelles: ON-to-OFF emissive switch and morphology transition. **A.B. Mabire, M. Robin, H. Willcock, A. Pitto-Barry, N. Kirby, R.K. O'Reilly**
- POLY 379.** Fabrication and orthogonal modification of multi-functional nanogels for targeted therapy. **L. Chambre, B. Aktan, R. Sanyal, A. Sanyal**
- POLY 380.** Withdrawn.
- POLY 381.** Catalytic precision polymerization of polar monomers: Rare earth metal-mediated synthesis of homopolymers and polymer brushes. **P. Pahl, B.S. Soller, B. Rieger**
- POLY 382.** High swelling acrylate elastomers with a RAFT crosslinker by high-throughput approach. **J. Lee, K.A. Cavicchi**
- POLY 383.** Amino functional poly(propylene oxide). **J. Blankenburg, J. Herzberger, H. Frey**
- POLY 384.** Novel aliphatic polycarbonate elastomers based on CO<sub>2</sub> and epoxides. **L. Kunze**
- POLY 385.** Synthesis of star-comb double crystalline copolymers of  $\epsilon$ -caprolactone /  $\gamma$ -lactide: Effect of main-chain structure on crystallization behavior. **X. Leng**
- POLY 386.** Diene functional polyethers: A versatile platform for triazolinedione click chemistry: New multi-functional PEGs for pharmaceutical purposes and clickable polyethers. **T. Johann, H. Frey**
- POLY 387.** Advances in Pd-initiated polymerization of diazoacetates: From variety of functional groups, living polymerization system, to high stereoregularity. **H. Shimamoto, E. Ihara**
- POLY 388.** One-Pot synthesis of hyperbranched polymers with over a million molecular weight and low polydispersity. **X. Cao, Y. Shi, X. Wang, R. Graff, H. Gao**
- POLY 389.** Safole Oxide (SFO): A novel functional epoxide monomer for the introduction of Catechol moieties into multifunctional Poly(ethylene glycol) via monomer activated technique. **O. Linker, T. Johann, H. Frey**
- POLY 390.** Withdrawn.
- POLY 391.** Chain multiplication of fatty acids. **M. Haeussler, T. Witt, S. Mecking**
- POLY 392.** Synthesis and applications of dialkyne functionalized fulvenes. **A. Pelouquin, N.P. Godman, G.J. Balaich, S.T. Iacono**
- POLY 393.** Side group effects on aggregation properties of conjugated polymers. **Y. Yang, K.S. Schanze**
- POLY 394.** Synthesis of DABCO based cationic polymers with ROMP technique and examination of antibacterial activity. **A. Kaymaz, T. Eren, S. Bucak**
- POLY 395.** Click chemistry toward stable reverse osmosis membranes for water desalination. **B.L. Hamlett, M. Finn, R.P. Lively, B. McCool**
- POLY 396.** Synthesis of high melting precision aliphatic polysulfones via ADMET polymerization. **M.H. Bell, G. Hester, T.W. Gaines, K.B. Wagener**
- POLY 397.** Self-Assembly of brush block copolymer photonic crystals featuring low T<sub>g</sub> side chains. **A.L. Liberman-Martin, C. Chu, A. Chang, R.H. Grubbs**
- POLY 398.** Synthesis of molecular brushes with ultrahigh grafting density using accelerated CuAAC coupling-onto strategy. **Y. Shi, W. Gan, X. Cao, H. Gao**
- POLY 399.** Ultra-rigid indenyl-based group IV metallocene complexes for nearly perfect PP catalysis. **M. Machat, B. Rieger**
- POLY 400.** Controlled ring-opening polymerization of O-carboxyanhydrides using  $\beta$ -diiminate zinc catalyst. **R. Wang, J. Cheng**
- POLY 401.** Microwave-assisted polyarylene: Synthesis, characterization, and optimization. **S.M. Budy, D.Y. Son**
- POLY 402.** Expanding the scope of radical traps in RTA-ATRC reactions by using solvent mixtures and additives. **E.S. Tillman, M. Arce**

POLY 403. Withdrawn.

POLY 404. High-strain elastomeric networks from thiol-ene chemistry. **A.J. Guenther**, J.C. Marcischak, T.S. Haddad, J. Reams, M.D. Ford, J.M. Mabry

POLY 405. Synthesis of polythiophene as a possible smart functional polymer. **M.N. Siddiqui**, N. Ullah, A. Al-Betar, A. Al-Saadi

POLY 406. Synthesis and characterization of multi-cationic quaternary ammonium containing polymers. **Z.D. Whitmore**, S.M. Duggan, M.C. Jennings, W.M. Wuest, K.P. Minbiole, D.L. Zubris

POLY 407. Withdrawn.

POLY 408. Computational and experimental investigations of the thiol-Michael click reaction and its applications in dendrimer synthesis. **S.H. Frayne**, B.H. Northrop

## Section A

Moscone Center

Hall A

### Polymer Applications & Characterization in the Biomedical Industry

X. M. Liu, J. Slager, *Organizers*

6:00 - 8:00

POLY 409. <sup>1</sup>H NMR study on polymer-peptide mixed micelles for adjuvant application. **O. Zholobko**, A. Kohut, A.S. Voronov

POLY 410. Delivering antigen to monocytes using protein transduction domain mimics. **C. Backlund**, G.N. Tew, T.L. Andresen, L. Parhamilar

POLY 411. Polymer structure and conformation alters immune recognition of viral nanoparticle-polymer conjugates. **P. Lee**, S. Isarov, J.D. Wallat, P. Stewart, N. Steinmetz, M.J. Hore, J.K. Pokorski

POLY 412. Polymeric HIPE foams as multifunctional wound dressings designed for treatment of combat-related trauma. **C.L. McGann**, B. Streifel, J. Lundin, J.H. Wynne

POLY 413. Genomic DNA functionalized architected materials fabricated via two-photon lithography for drug capture. **D. Yee**, M.D. Schulz, C. Blumenfeld, R.H. Grubbs, J.R. Greer

POLY 414. Rheological characterization of alginate-based hydrogels for biomedical applications. **W. Hom**, S.R. Bhatia

POLY 415. Microcomputed tomography study of the wear behavior of porous PEEK for spine devices. **D. Safranski**, N. Evans, B. Torstrick, A. Lin, K. Gall, R.E. Guldberg

POLY 416. Withdrawn.

The use of any device to capture images (e.g., cameras and camera phones) or sound (e.g., tape and digital recorders) or to stream, upload or rebroadcast speakers or presentations is strictly prohibited at all official ACS meetings and events without express written consent from ACS.

POLY 417. Sandcastle worm-inspired blood-resistant bone graft binder using a sticky mussel protein for augmented *in vivo* bone regeneration. **H. Kim**, B. Choi, H.J. Cha, S. Jun

POLY 418. Protein stabilization via Poly(Ethylene Glycol)-based (PEG) amphiphilic nanomicelles. **Y. Lien**, M.R. Smith

POLY 419. Brushed polymers as promising grafting agents against protein binding. **B. Wang**, T. Blin, A. Käkinen, X. Ge, E. Pilkington, J. Quinn, M. Whittaker, T. Davis, P. Ke, F. Ding

POLY 420. Charge-Altering Releasable Transporters (CARTs) for the delivery and release of messenger RNA in living animals. **C. McKinlay**, J. Vargas, T. Blake, J. Hardy, K. Masamitsu, C. Contag, P.A. Wender, R.M. Waymouth

## Section A

Moscone Center

Hall A

### Polymeric Materials for Performance & Sustainability

M. Meador, M. A. Meador, S. E. Morgan, *Organizers*

6:00 - 8:00

POLY 421. Organic solar cell based on porphyrin functionalized Rosette nanotube. **E. Keyvani-Someh**, L. Shuai, W. Lee, H. Fenniri

POLY 422. Synthesis and applications of recyclable polymer-bound transition metals sequestrants. **D. Chouikhi**, T. Malinski, M. Al-Hashimi, D.E. Bergbreiter, H.S. Bazzi

POLY 423. Cross-linked films from star-shape poly( $\epsilon$ -caprolactone): Effects of branch number and chain length on elastic properties. **D.K. Saha**, M. Ebara, T. Aoyagi

POLY 424. Effects of molecular weight on power conversion efficiency of an end-capped polythiophene. **P.R. Pulley**, D.J. Patterson

POLY 425. PHB and Montmorillonite Clay Composites as KNO<sub>3</sub> and NPK controlled release fertilizers. **J. Souza**, A. Campos, **R. Faez**

POLY 426. Chitosan-montmorillonite spray dried microsphere and microcapsules for fertilizer encapsulation. **D. França**, Á.F. Medina, C.F. Souza, **R. Faez**

POLY 427. Nontoxic and nonvolatile alternatives for hexane and heptane and their use in catalysis. **M.L. Harrell**, T. Malinski, C. Torres-Lopez, K. Gonzalez, D.E. Bergbreiter

POLY 428. Sustainable polyaldimines from lignin-derived aromatic aldehydes and aliphatic diamines. **M. Rostagno**, S.A. Miller

POLY 429. High performance waterborne exterior coatings with improved durability, eco-footprint and cost through the use of self-assembled polymer pigment composites. **J. Bohling**, P. Luo, J. Tanzer, A.M. Maurice, M. Koback, M. Belowich, C. Valente, W. Gao, J. Reffner

POLY 430. Succinate polyester polyol copolymers and blends: Synthesis, compatibility, crystallization kinetics, and crystal morphologies. **H.S. Hamilton**, A.A. Seba, J.E. Blue, W.D. Coggio, A. Schrock

POLY 431. Novel conjugated polymer binders and their processing for Si-based Li-ion battery anodes. **A.L. Miranda**, X. Li, H. An, J.L. Lutkenhaus, R. Verduzco

POLY 432. Aniline oligomers and polyaniline: Supercapacitors and freestanding films. **C. Lin**, R. Li, R.B. Kaner

POLY 433. Exploring inverse vulcanization of sulfur with natural source monomers as cathodic materials for long life lithium sulfur batteries. **I. Gomez**, O. Leonet, A. Blazquez, D. Mecerreyes

POLY 434. Synthesis and properties of physically cross-linked hydrogel obtained from amphiphilic copolymer. **D. Debnath**, R.A. Weiss, C.R. Pugh

POLY 435. Effects of substituents on the ceiling temperature of cyclopentene in ring-opening metathesis polymerization. **H. Liu**, Y. Ren

POLY 436. Periodical mesoporous polymers from H-bonding-modulated block copolymer supramolecules. **Y. Wang**, L. Guo

POLY 437. Photo-responsive solubility, color, and fluorescence of phthalocyanine dye in solution and polymer films. **B. Li**, P. Wei, A. de Leon, T. Frey, E. Pentzer

POLY 438. New achievement toward greener BIAN-NHC ruthenium complex. **A.R. Hlil**, J. Balogh, R. Tuba, M. Al-Hashimi, H. Bazzi

POLY 439. Thiol-ene polymerization of biobased monomers deriving from syringaresinol. **Y. Chen**, M. Janvier, S. Jaufaurally, P. Ducrot, **F. Allais**

POLY 440. Effect of methoxy substituent position on thermal properties and solvent resistance of lignin-inspired poly(dimethoxy phenyl methacrylate). **S. Wang**, G. Wieber, T.H. Epps

POLY 441. Improving the rheology and mechanical response in alumina-poly(vinylidene fluoride)-poly(lactic acid) composites. **J. Bencomo**, J.M. McCollum, S.T. Iacono

## Section A

Moscone Center

Hall A

### Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications

*Cosponsored by PMSE*

D. H. Thompson, G. Wenz, *Organizers*

6:00 - 8:00

POLY 442. Self-healing hydrogels based on ionic interactions and host-guest complexation using both cationic  $\beta$ -cyclodextrin oligomers and anionic poly(acrylic acid) networks. **S. Joo**, D. Jeong, S. Jung

## Section A

Moscone Center

Hall A

### Structure to Function in Supramolecular Polymers & Materials

P. Besenius, R. Kiełtyka, J. B. Matson, *Organizers*

6:00 - 8:00

POLY 443. Thermodynamic insights into the entropically driven self-assembly of rylene bisimide dyes in water. **P. Peethambaran Nair Syamala**, D. Goerl, B. Soberats, F. Wuerthner

POLY 444. Kinetic control of supramolecular polymerization by ultrasonication. **M. Wehner**, S. Ogi, W.J. Wagner, V. Stepanenko, F. Wuerthner

POLY 445. Molecular weaving of flexible covalent organic frameworks. **Y. Liu**, Y. Ma, O. Terasaki, O.M. Yaghi

POLY 446. Unique dynamics of poly(dimethyl siloxanes) with associating chain ends. **K. Xing**, P. Cao, M. Tress, T. Saito, V. Novikov, S. Cheng, A.P. Sokolov

POLY 447. Structure and rheology of hydrophobic modified polyacrylamide-nanoparticle mixture. **F. Peng**, Y. Ke

POLY 448. Heparin-Treated trehalose-based polymers exhibit enhanced transfection efficiency in challenging cell types. **W. Boyle**, T.M. Reineke

## Section A

Moscone Center

Hall A

### Undergraduate Research in Polymer Science

J. Lott, S. E. Morgan, S. I. Nazarenko, *Organizers*

6:00 - 8:00

POLY 449. Design and synthesis of solution processable *n*-channel  $\pi$ -conjugated polymers and device applications. **A. Tonnaer**, R. Topiwala, N. Patel, Z. Yuan, E. Reichmanis

POLY 450. Novel copolymers of styrene and some ring-disubstituted propyl 2-cyano-3-phenyl-2-propenoates. **G.B. Kharas**, V.A. Sloan-Lyon, M. Cieszynski, J.D. Manuel, S.L. Mei, J.B. Mubang, P.E. Skorseth, K.E. Smith, N. Tassone, E. Tolberd, D.Z. Yan

POLY 451. Fabricating novel optical sensors by embedding gold nanoparticles inside peptoid nanosheets. **K. Chen**, E. Robertson, R.N. Zuckermann

POLY 452. Exploration of the electron transfer reaction between 1-ethyl-3-methyl-4-vinyl imidazolium triflate and ethyl vinyl ether. **S. Lucisano**, M. Detwiler, T.W. Smith

POLY 453. Synthesis, characterization and photophysical properties of new 2-(2-methoxyphenoxy)-6-(3-methoxyphenoxy)-1,5-naphthyridine:phenylene vinylenes copolymers. **A.A. Boali**, M. Mansha, N. Ullah

POLY 454. Synthesis and characterization of conducting polymers with degradable crosslinks. **R. Grant**, A. Murphy

POLY 455. Actuation of electrospun silk-conducting polymer composites. **J. Bontrager**, T. Fuller, S. Maxwell, A. Murphy

POLY 456. Solvent effects and isothermal crystallization of poly(ethylene oxide)-block-poly( $\epsilon$ -caprolactone). **C. Tower**, R.M. Van Horn, K. Allen, A. Carandang

POLY 457. Crystallization trends of equal molecular weight poly(ethylene oxide)-*b*-poly(caprolactone). **N. Brigham**

POLY 458. Isothermal crystallization analysis of poly(ethylene oxide)-block-poly( $\epsilon$ -caprolactone) with Larger  $w_{PEO}$  or  $w_{PCL}$ . **M. Steffen**, R.M. Van Horn

POLY 459. Synthesis of low molecular weight anionic acrylamide-based polymers for determination of structure/binding interactions with  $\alpha$ -glucan. **H. Kolell**, A. Bristol, S.E. Morgan

POLY 460. Amine assisted photo-initiated RAFT polymerization using visible light: A kinetic and mechanistic study. **M. Allegranza**, Z. DeMartini, A. Kloster, **Z. Digby**, D. Konkolewicz

‡Cooperative Cosponsorship



**POLY 461.** Employment of thiazolidine chemistry for novel polymer composition and structure. **C. DeHoe,** C. Sarantes, K. Eckhart, L. Souza, P.J. Costanzo

**POLY 462.** Characterization of a thiol-ene/acrylate-based polymer for neuroprosthetic implants. **D. Do,** M. Ecker, W. Voit

**POLY 463.** Withdrawn.

**POLY 464.** Highly functional methacrylated bio-based resin system for UV/Vis-curable coatings. **J. Sahouani,** A.Z. Yu, D.C. Webster

**POLY 465.** Finding green alternatives to platinum catalysts for the hydrosilylation and hydrogenation of carboxylic acid derivatives. **J. Arens,** C. Cheng

**POLY 466.** Synthesis and characterization of highly fluorinated dendrimers utilizing orthogonal chemistry. **A. Richert,** A.R. Jennings, S.T. Iacono

**POLY 467.** Molecular weight changing polymers via Diels-Alder chemistry. **T. Schoch,** M.R. Martinez, M. Meyersohn, M. Markmann, P.J. Costanzo

**POLY 468.** Thio-bromo click approach for the preparation of a new class of cross-linked, ROMP-based gels. **D. Gutierrez,** C.E. Hobbs

**POLY 469.** Inversion of molecular topology and composition using Diels-Alder chemistry. **M. Meyersohn,** M. Markmann, P.J. Costanzo

**POLY 470.** Gallic acid esters with flame retarding properties. **K.L. Oberdorfer**

**POLY 471.** Magnetic field triggered degradation of xylan with a xylanase-copolymer conjugate for controlled drug delivery. **T. Richardson**

**POLY 472.** Development of new fluorocyclic-polyhedral oligomeric silsesquioxane containing polymers of varying architectures. **E.C. Lochmaier,** A.R. Jennings, S.T. Iacono

**POLY 473.** Amphiphilic polyurethane coatings for fouling release applications. **R. Burgett,** D.C. Webster, T.P. Galhenage

**POLY 474.** Oligomeric flame retardants for polymeric materials from itaconic acid. **V. Hill,** B. Howell, Y. Daniel

**POLY 475.** Polysoaps to serve as stimuli-responsive micelles for environmental remediation applications. **C.R. Kasprzak,** P.D. Pickett, C.L. McCormick

**POLY 476.** Counterion effects on the glass transition temperature of ionic liquid polymers. **A. Mayers,** S. Lucisano, T.W. Smith

**POLY 477.** Ab initio Monte Carlo simulations of military contaminants binding to cellulose and its derivatives. **T. Truttmann,** M. Roth, G. Todde, M.K. Shukla, G. Subramanian

**POLY 478.** Reducing immune response of nucleic acids by brush polymer assisted compaction. **M. Corley,** X. Lu, X. Cao, K. Zhang

**POLY 479.** Nanomorphology of novel synthesized diblock copolymers with and without lithium salt characterized by atomic force microscopy. **M. Longstaff,** D.A. Waldow

**POLY 480.** Time-Dependent release of methylene blue from PEO-*b*-PCL films for the prevention of anaphylaxis. **H. Fischer,** J.E. Jurczyk, M. Seraly, R.M. Van Horn

## WEDNESDAY MORNING

### Section A

Moscone Center  
120

#### General Topics: New Synthesis & Characterization of Polymers

B. Barkakaty, D. Garcia, *Organizers*

B. M. Aden, A. Shete, *Presiding*

**8:00 POLY 481.** Synthesis and fabrication of Persistent Micelle Templates (PMT) in a single day. **A. Sarkar,** M. Stefik

**8:20 POLY 482.** Rapid free-electron initiated selective polymerization at room temperature. **B. Chang,** S. Oyola-Reynoso, J. Chen, M. Lu, M. Thuo

**8:40 POLY 483.** Blue-light activated bulk photo-Cu(I)-catalyzed azide-alkyne cycloaddition (photo-CuAAC) click reaction-based networks: Properties and application. **A. Shete,** B. El-Zaatar, C.J. Kloxin

**9:00 POLY 484.** Aza-Michael reaction applied to PDMS: Kinetic modelling, selectivity control and novel potentialities. **A. Genest,** S. Binauld, E. Pouget, F. Ganachaud, E. Fleury, D. Portinha

**9:20 POLY 485.** Stereoregular copolymerization of butadiene with heterofunctionalized diene monomers. **I. Goettker Genannt,** H. Leicht, S. Mecking

**9:40 POLY 486.** Investigations on polystyrene - C60 nanocomposites. **E. Ibrahim,** S. Casas, D. Chipara, J. Hinthorne, M. Chipara

**10:00 POLY 487.** In situ gradient functionalization of azlactone-based block copolymer brushes. **B.M. Aden,** B.S. Lokitz, M. Kilbey

**10:20 POLY 488.** Improvement of nitinol corrosion resistance by SIATRP: The key role of electrografting process. **B. Arrotin,** J. Delhalle, P. Dubois, Z. Mekhalif, L.M. Mespouille

**10:40 POLY 489.** Zwitterionic diblock copolymer nanoparticles prepared by polymerization-induced self-assembly exhibit pH-responsive schizophrenic behavior. **S.L. Canning,** S.P. Armes

**11:00 POLY 490.** Poly(S-alkylsulfonfylcysteines): The first cysteine derivatives combining stability during polypeptide synthesis with fast chemoselective disulfide formation. **M. Barz**

**11:20 POLY 491.** Bio-Based oligoethers from isosorbide and 1,3-propanediol: Synthesis and characterization. **E. Fleury,** J. Rodier, A. Rousseau

### Section B

Moscone Center  
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#### New Generation Smart Materials

*Cosponsored by MPPG†*

E. B. Berda, J. Foster, Y. C. Simon, *Organizers*

M. Karman, J. Lott, *Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 492.** Bioinspired control of polymer self-assembly via ligand-metal ion interactions. **A. Knight,** J. Larsson, C.J. Hawker

**8:25 POLY 493.** Let's get things in order: Sequence controlled anionic polymerization of aziridines. **E. Rieger,** T. Gleede, A. Manhart, L. Thoni, M. Wagner, F. Wurm

**8:45 POLY 494.** Design and synthesis of cellulose based polyelectrolytes via olefin cross-metathesis. **B.L. Nichols,** K.J. Edgar

**9:05 POLY 495.** Hollow polycaprolactone nanocages from variable grafting-density polymer-grafted silica nanoparticles: Materials for next-generation oil dispersants. **K.C. Bentz,** M. Ejaz, S.M. Grayson, D. Savin

**9:25 POLY 496.** Group-Transfer-Polymerization: A highly versatile tool for tailor-made smart polymers. **F. Adams,** P.T. Altenbuchner, B. Rieger

**9:45** Intermission.

**9:55 POLY 497.** Smart hydrogel-based valves inspired by the stomata in plants: Ability to regulate water flow based on temperature, pH, and light. **S.R. Raghavan,** A. Gargava

**10:15 POLY 498.** Design and study of biodegradable and photodegradable thermoplastic elastomers. **K.J. Arrington,** J. Waugh, S. Radzinski, J. Matson

**10:35 POLY 499.** Stimuli-Responsive dendronized polymers for next generation biomaterials. **W. Li,** J. Yan, K. Liu, A. Zhang

**10:55 POLY 500.** Smart organic two-dimensional materials based on a rational combination of non-covalent interactions. **J. Ziwen,** W. Bai, S. Thayumanavan

**11:15 POLY 501.** Discrete chromophores as a path towards high contrast anodically coloring electrochromic polymers. **D. Christiansen,** A.L. Tomlinson, J.R. Reynolds

### Section C

Moscone Center  
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#### Polymeric Materials for Performance & Sustainability

##### Other Functional Materials

*Cosponsored by MPPG†*

M. Meador, M. A. Meador, S. E. Morgan, *Organizers*

R. L. Snyder, *Presiding*

**8:00 POLY 502.** Synthesis and evaluation of thermally-responsive coatings based upon Diels-Alder chemistry and renewable materials. **D. Amato,** G. Strange, J.P. Swanson, K. Varney, D. Amato, P.J. Costanzo

**8:30 POLY 503.** Superhydrophobic nanocomposite films based on polypentafluorostyrene-modified fumed silica. **Q. Yin,** E. Beyou, A. Charlot, D. Portinha

**8:50 POLY 504.** Environmentally-safe and transparent superhydrophobic coatings. **J. Mates,** R. Ibrahim, A. Vera, S. Guggenheim, J. Qin, D. Calewarts, D. Waldroup, C. Megaridis

**9:20 POLY 505.** Polyelectrolyte multilayer nanocoating exhibiting super oxygen gas barrier and 100% self-healing efficiency. **Y. Song,** K. Meyers, R. Ramakrishnan, J. Geringer, S. Qin, M. Humood, S.I. Nazarenko, J.C. Grunlan

**9:40** Intermission.

**9:55 POLY 506.** Polyphenylenesulfide and polyetheretherketone POSS nanocomposites: Improvements in rheological and crystallization behavior. **S.E. Morgan,** K.M. Knauer, G. Brust, M. Carr, R. Cardona, J. Lichtenhan

**10:25 POLY 507.** Carbon nanofiber and graphene nanoplatelet containing polycaprolactam nanocomposites: Improvements in mechanical performance in the context of unique interfacial interactions. **J. Buchanan,** E.R. Reed-Gore, S.L. Williams, Z.B. McClelland, R.D. Moser, M.K. Shukla

**10:55 POLY 508.** Robust and scalable macromolecular architectures as additives for lubrication oils. **R. Bou Zerdan,** B. van Ravensteyn, D. Seo, N. Cadirov, D. Lee, J. Gerbec, T. Watanabi, C.J. Hawker, M.E. Helgeson, J.N. Israelachvili

### Section D

Moscone Center  
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#### Polymers & Biomimicry

A. N. Dhinojwala, T. Williams, *Organizers,* *Presiding*

**8:00 POLY 509.** Natural and bio-inspired polyphenols as multifunctional coatings. **P.B. Messersmith,** P. Burch, W. Reese, K. Healy

**8:30 POLY 510.** Designing mechano-responsive polymers that encompass biomimetic cryptic bonds. **S. Biswas,** V. Yashin, A. Balazs

**8:50 POLY 511.** Host-defense peptide-mimetic polymers to target the solution state of bacteria for modulation of biofilm formation. **L. Foster,** S.I. Yusa, K. Kuroda

**9:10 POLY 512.** Polymerization in micro channels of teeth towards artificial leaves. **J.C. Tiller,** C. Fik

**9:30 POLY 513.** Effects of *Stenocara* beetle-inspired biphilic patterns on the rate of water collection from humid air. **J.J. Benkoski,** K. Gerasopoulos, L. Luedeman, M. McCarthy, M.M. Rahman, E. Ölçeroglu

**9:50** Intermission.

**10:05 POLY 514.** Effects of chemistry and dynamic three dimensional morphology of the epicuticular wax on water wettability and permeability of the prickly pear cacti cuticle. **K. Rykaczewski,** R. Linder, K. Manning, L. Majure

**10:35 POLY 515.** Mimicking muscle fiber structure and function through electromechanical actuation of nanofiber bundles. **S.Y. Severt,** S. Maxwell, J. Bontrager, T. Fuller, J. Leger, A. Murphy

**10:55 POLY 516.** Advances in asymmetric heterogeneous catalysis: Synthesis of novel nanoreactors. **E. Lestini,** L.D. Blackman, R.K. O'Reilly

**11:15 POLY 517.** Rational design of anti-freeze-protein mimetic materials to enable the cryopreservation of cells. **M.I. Gibson**

**11:35 POLY 518.** Biomimetic polymer coated carbon nanotube gas sensor for real-time air quality sensor suite. **Y.H. Ngo,** G. Slusher, K. Fullerton, C. Suarez, R.R. Naik, J.A. Martin, C. Grigsby, S.S. Kim

### Section E

Moscone Center  
124

#### Structure to Function in Supramolecular Polymers & Materials

R. Kiltyka, *Organizer*

P. Besenius, J. B. Matson, *Organizers, Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 519.** Self-assembly and hydrogelation of a peptide derived from semenogelin I. K.S. Akerfeldt

**8:30 POLY 520.** Tubular supramolecular polymers. H. Cui

**8:55 POLY 521.** Withdrawn.

**9:15 POLY 522.** Light-triggered self-assembly and actuation of DNA nanostructures using photocaged nucleotides. N. Stephanopoulos

**9:40** Intermission.

**9:55 POLY 523.** Supramolecular materials from virus-like particles as building blocks. J.J. Cornelissen

**10:20 POLY 524.** Supramolecular gels for delivery of hydrogen sulfide. J.B. Matson, Y. Qian, K. Kaur

**10:45 POLY 525.** Tubular supramolecular polymers. S. Perrier

**11:10 POLY 526.** Synthesis of a tough thermoplastic elastomer that rapidly absorb water for use in hemorrhage control applications. T.R. Long, E. Bain, F.L. Beyer, R. Mrozek, A.M. Savage, J. Lenhart

**11:30 POLY 527.** Functional, bio-inspired supramolecular polymeric materials – the interplay between covalent and non-covalent bonds. O. Goor, M. Grillaud, P. Franssen, P.Y. Dankers

## Section F

Moscone Center  
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**Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications**

**Self-Healing Materials & Networks**

*Cosponsored by PMSE*

*Financially supported by Wacker Chemical Corporation, Jewell Laboratories LLC*

D. H. Thompson, *Organizer*

G. Wenz, *Organizer, Presiding*

A. E. Tonelli, *Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 528.** From synthesis of nonlinear block copolymers based on cyclodextrins to functional nanoparticles and Shish-Kebabbs. Z. Lin

**8:35 POLY 529.** Slide-Ring materials: Tough polymers from cyclodextrin. K. Ito

**9:05 POLY 530.** Supramolecular materials: Self-healing and stimuli-responsive polymeric materials through host-guest interactions. A. Harada

**9:35** Intermission.

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**9:50 POLY 531.** Peculiar viscoelasticity and tensile behavior of polyrotaxane glass. K. Kato, K. Nemoto, K. Mayumi, H. Yokoyama, K. Ito

**10:20 POLY 532.** Self-healing car paints from cyclodextrin polyrotaxanes. G. Wenz, G. Kali

**10:50 POLY 533.** Concurrent covalent and supramolecular polymerization. X. Hou, C. Ke, J.F. Stoddart

**11:20** Panel Discussion.

## Bio-based Gels & Porous Materials

### Biopolymer Hydrogels

*Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

### Polymers under Deformation

### AFM & Nanoindentation Studies

*Sponsored by PMSE, Cosponsored by MPPG‡ and POLY‡*

### Advances in Polysaccharides: Practice & Applications

### Novel Biocatalytic & Biopolymeric Approaches

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY*

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atala

*Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY*

### Recent Advances in Multiblock Copolymers

### Synthesis

*Sponsored by PMSE, Cosponsored by POLY‡*

## WEDNESDAY AFTERNOON

### Section A

Moscone Center  
120

### General Topics: New Synthesis & Characterization of Polymers

B. Barkakaty, D. Garcia, *Organizers*

J. Su, Y. Teo, *Presiding*

**1:00 POLY 534.** Synthesis and organocatalytic polymerization of azacapro lactones. C. Turlington, R.M. Waymouth

**1:20 POLY 535.** Synthesis and self-assembly of brush block copolymers with various grafting densities. T. Lin, A. Chang, C. Bates, R.H. Grubbs

**1:40 POLY 536.** Surprising and diverse reactivities of cyclopropenes in ring-opening metathesis polymerization. J. Su, Y. Xia

**2:00 POLY 537.** Deprotonated ureas as simple, ultra-fast and highly selective super catalysts for ring-opening polymerizations. B. Lin

**2:20 POLY 538.** Synthesis and characterization of crosslinked biodegradable polymers obtained using a redox-triggered crosslinking reaction. K.R. Delle Chiaie, A.B. Biernesser, L. Yablou, A.W. Sudyn, G.R. Michalowski, J.A. Byers

**2:40 POLY 539.** Going beyond ruthenium in metal-cation-based anion exchange membranes. M. Kwasny, G.N. Tew

**3:00 POLY 540.** Polyladders: A new polymer architecture via ROMP of rigid ladder motifs. Y. Teo, Y. Xia

**3:20 POLY 541.** Prolines as efficient catalyst for stereocontrolled polymerization of rac-lactide. H. Sardon, A. Sanchez-sanchez, I. Rivilla, A. Basterrechea, M. Agirre, D. Mecerreyes, F. Cossio

**3:40 POLY 542.** Taking charge of thiol-allylic ionic liquid photopolymerizations. A. Tibbits, L. Mumper, Y. Yan, C.J. Kloxin

**4:00 POLY 543.** Silsesquioxane-based thermosetting phenylethynyls: Synthesis, thermally induced crosslinking and thermophysical properties. T.S. Haddad, G.R. Yandek, J. Zavala, J. Lamb, J. Reams, K. Ghilassi, J.M. Mabry, A.J. Guenther

**4:20 POLY 544.** New synthetic route to tetraarylphosphonium polyelectrolytes via Pd (0) catalyzed polycondensation from diols and diphenylphosphine. W. Wan, X. Yang, R. Smith

**4:40 POLY 545.** Thioimides: Fast and selective catalysts for ring-opening polymerizations. X. Zhang, R.M. Waymouth

## Section B

Moscone Center  
121

### Next Generation Smart Materials

*Cosponsored by MPPG‡*

E. B. Berda, J. Foster, Y. C. Simon, *Organizers*

Y. Dong, B. L. Nichols, *Presiding*

**1:00** Introductory Remarks.

**1:05 POLY 546.** Enzyme-responsive nanoparticles for the targeted delivery of tetrazine-labeled proteins. J. Michaelis, P. Tufar, M.D. Burkart, N.C. Gianneschi

**1:25 POLY 547.** Probing the causes of thermal hysteresis using tunable  $N_{agg}$  micelles with linear and brush-like thermoresponsive coronas. L.D. Blackman, M.I. Gibson, R.K. O'Reilly

**1:45 POLY 548.** Mechanochemical fluorescence switching in polymers containing dithiomaleimide moieties. M. Karman, E. Verde-Sesto, Y.C. Simon, C. Weder

**2:05 POLY 549.** Activation of a maleimide-anthracene mechanophore localized at a silica-polymer interface. J. Sung, M. Robb, J.S. Moore, S. White, N.R. Sottos

**2:25** Intermission.

**2:35 POLY 550.** CO<sub>2</sub>/pH-responsive polymeric particles with built-in fluorescence read-out. A.B. Mabire, Q. Brouard, A. Pitto-Barry, R.J. Williams, H. Willcock, N. Kirby, E. Chapman, R.K. O'Reilly

**2:55 POLY 551.** Preparing core-shell single molecules: Architecturally sound highly branched polymers with tuneable properties. T. Swift, R. Hoskins, S. Rimmer

**3:15 POLY 552.** Optical devices constructed from responsive microgels for polyphenols detection. S.M. Mugo, M. Serpe, Q.M. Zhang

**3:35 POLY 553.** Stimuli-Responsive helical dendronized polymers with switchable conformation. W. Li, K. Liu, A. Zhang

**3:55 POLY 554.** Thermomechanical deformation of liquid crystalline elastomers: From flat to functional. B.A. Kowalski, C. Mostajeran, M. Warner, T.J. White

## Section C

Moscone Center  
122

### Polymeric Materials for Performance & Sustainability

### Recyclable & Bio-Based Materials

*Cosponsored by MPPG‡*

M. Meador, M. A. Meador, S. E. Morgan, *Organizers*

J. Mates, *Presiding*

**1:00 POLY 555.** Polymerizations with elemental sulfur: Sustainable fossil fuel chemistry. Y. Zhang, R.S. Glass, K. Char, J. Pyun

**1:30 POLY 556.** Computational modeling of bio-based furan polymers and bio-inspired polymer adhesives. I. Yeh, C.B. Flinderspacher, J.J. La Scala, J.A. Orlicki, J. Lenhart, J. Andzelm

**1:50 POLY 557.** Sugar-derived thermoresponsive block copolymers. S. Wang, J. He, M.B. Foston, T.H. Epps

**2:10 POLY 558.** Oxidatively-cured coatings from renewable-based poly(vinyl ether)s. D. Kalita, B.J. Chisholm, M.P. Sibi

**2:30** Intermission.

**2:45 POLY 559.** Effects of metal oxide loading on mechanical and rheological response in poly(vinylidene fluoride)-poly(lactic acid) composites. J.M. McCollum, J. Bencomo, S.T. Iacono

**3:15 POLY 560.** Mechanistic investigation and kinetic modeling of PPV polymerization via Gilch using time-resolved low temperature and *in situ* UV-irradiation NMR-spectroscopy. A. Schönbein, M. Wagner, J. Kind, P.W. Blom, C.M. Thiele, J.J. Michels

**3:35 POLY 561.** Incorporation of glucose in triblock copolymers to create sustainable adhesive and elastomeric materials. M. Nasiri, T.M. Reineke

**3:55 POLY 562.** Chemorheology of a methacrylate based thermoplastic resin. D. Cousins, Y. Suzuki, J.R. Dorgan

## Section D

Moscone Center  
123

### Polymers & Biomimicry

A. N. Dhinojwala, T. Williams, *Organizers, Presiding*

**1:00 POLY 563.** Mimicking mussel adhesive proteins: How close can we get to the real thing? J.J. Wilker, S. Daily, N. Hamada, S.L. Huntington, T.A. Jones, M.G. Mazzotta, B. McGill, M. North, A. Putnam, H. Siebert, A. Tibabuzo

**1:30 POLY 564.** Adhesion under humid conditions: Lessons from Spider Silk. S. Singla, G. Amarpuri, N. Dhopkatkar, T.A. Blackledge, A.N. Dhinojwala

**1:50 POLY 565.** Spiders tune glue viscoelasticity to maximize adhesion. G. Amarpuri, N. Dhopkatkar, T.A. Blackledge, A.N. Dhinojwala

**2:10 POLY 566.** Solvent-Free, mussel-inspired polyester adhesives with impressive underwater adhesion. Y. Xu, A. Narayanan, Q. Liu, S. Kaur, A.N. Dhinojwala, A. Joy

**2:40** Intermission.

‡Cooperative Cosponsorship

**2:55 POLY 567.** Paradigm shift in mussel-inspired adhesion. K. Ahn

**3:25 POLY 568.** Poly(ester urea) based adhesives: Improved deployment and adhesion by incorporating poly(propylene glycol) segments. V. Bhagat, J. Zhou, M. Becker

**3:45 POLY 569.** Constructing and deconstructing the barnacle adhesive interface. C.R. So, K.P. Fears, D. Barlow, D. Leary, C.M. Spillmann, K.J. Wahl

## Section E

Mosccone Center  
124

### Structure to Function in Supramolecular Polymers & Materials

R. Kiely, J. B. Matson, *Organizers*

P. Besenius, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 POLY 570.** Programmable brush polymer self-assembly via DNA hybridization. K. Zhang

**1:30 POLY 571.** Self- and co-assemblies of BODIPY derivatives as drug nanocarriers. A. Rödle, A. Ramos Torres, V. Stepanenko, G. Fernandez

**1:55 POLY 572.** Developing functional platforms for responsive materials and combination antimicrobials via non-covalent bonding in macromolecular systems. J.C. Barnes, A.F. Greene, X. Li

**2:20 POLY 573.** Molecular organization, mechanical properties, and ion transport in hierarchically structured repeat-protein materials. T. Zarkovic Grove, N. Carter

**2:45 POLY 574.** Active materials by coupling self assembly to the consumption of fuel. R. Eelkema, J. van Esch, G. Koper, J. Boekhoven, W. Hendriksen

**3:10** Intermission.

**3:25 POLY 575.** Super resolution imaging of supramolecular materials. L. Albertazzi

**3:50 POLY 576.** Tunable structure and function of electrostatically self-assembled polymer nano-objects in solution. F. Groehn, A. Kutz, M. Wagner, A. Krieger, S. Frühbeißer, G. Mariani, R. Schweins

**4:15 POLY 577.** Self-assembling zwitterions as building blocks for switchable gels and polymers. C. Schmuck

**4:40 POLY 578.** Reversible H- and J-type aggregation of a single perylene bisimide leading to different photoconductivity. E. Draper, M.A. Zwijnenburg, D.J. Adams

**5:00 POLY 579.** Conductivity and mechanics in self-organized networks. G.N. Tew

## Section F

Mosccone Center  
125

### Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications

#### Biomaterials

*Cosponsored by PMSE*

*Financially supported by Wacker Chemical Corporation, Jewell Laboratories LLC*

G. Wenz, *Organizer*

D. H. Thompson, *Organizer, Presiding*

I. Carneiro Leao, *Presiding*

**1:00 POLY 580.** Structure-Activity relationships on the *in vivo* therapeutic efficacy of 2-hydroxypropyl- $\beta$ -cyclodextrin: pluronic polyrotaxanes in Niemann-Pick type C disease. C.J. Collins, B. Loren, Y. Mondjinou, S. Alam, K. Haldar, D.H. Thompson

**1:30 POLY 581.** Broad-spectrum anti-virals from cyclodextrins. S. Jones, F. Stellacci

**2:00 POLY 582.** Withdrawn.

**2:30** Intermission.

**2:40 POLY 583.** Rapid enrichment of bacteria using a microfluidic device coupled with host-guest interactions. A. Pérez-Anes, A. Szarpak-Jankowska, D. Jary, G. Delapierre, R. Auzely-Velty

**3:10 POLY 584.** Host-guest macromolecular assemblies: Interplay between macromolecular design, interactions and structure. C. Amiel, I. Antoniuk, B. Plazzotta, D. Kaczmarek, V. Wintgens, G. Volet, T. Nielsen, I. Varga, J. Pedersen

**3:40** Intermission.

**3:50 POLY 585.** Novel emulsions from palmitoyl cyclic sugar. A. Cavac-Paulo

**4:20 POLY 586.** Self-assembly of responsive nanocontainers based on cyclodextrins. B. Ravoo

## Section G

Mosccone Center  
Esplanade Ballroom 310

### ACS Award in Polymer Chemistry: Symposium in honor of Murugappan Muthukumar

*Cosponsored by PMSE*

T. P. Lodge, *Organizer, Presiding*

V. M. Prabhu, *Presiding*

**1:00 POLY 587.** Illumination alters the conformation and thermodynamics of conjugated polymers. B. Morgan, M.D. Dadmun

**1:30 POLY 588.** Hierarchical structure and dynamics of oligocarbonate-functionalized PEG block copolymers. V.M. Prabhu

**2:00 POLY 589.** Polymer physics to understand protein evolution under extreme temperature. K. Ghosh

**2:30 POLY 590.** Rayleighian approach for studying the kinetics of ionic transport in polymeric media. R. Kumar

**3:00 POLY 591.** Ohm's law, polymer electrolytes and lithium batteries. N.P. Balsara, D.M. Pesko

**3:30 POLY 592.** Directing the phase behavior of polyelectrolyte complexes using chiral patterned peptides. N. Pacalin, L. Leon, M.V. Tirrell

**4:00 POLY 593.** Effect of melt viscosity on self-nucleation of ethylene- and propylene-1-alkene random copolymers. R.G. Alamo

**4:30 POLY 594. Award Address** (ACS Award in Polymer Chemistry sponsored by ExxonMobil Chemical Company). Polymer crystallization: New concepts and implications. M. Muthukumar

## Bio-based Gels & Porous Materials

### Biopolymer Organogels

*Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

### Polymers under Deformation

#### Control of Deformation across the Length Scale for Advanced Polymer Materials

*Sponsored by PMSE, Cosponsored by MPPG# and POLY#*

#### Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry

#### Advanced Materials & Structures

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG#, PMSE and POLY*

#### Advances in Polysaccharides: Practice & Applications

#### Novel Materials & Methodologies

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG#, PMSE and POLY*

#### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

*Sponsored by CELL, Cosponsored by AGFD, ANYL and POLY*

#### Recent Advances in Multiblock Copolymers

#### Characterization

*Sponsored by PMSE, Cosponsored by POLY#*

## WEDNESDAY EVENING

### Section A

Mosccone Center  
134

#### POLY/PMSE Plenary Lecture & Awards

*Cosponsored by PMSE*

C. Lipscomb, C. R. Snyder, *Organizers*

C. L. Soles, *Presiding*

**5:30** Welcome Reception.

**6:45 POLY 595.** Directed assembly of hierarchical polymeric materials. J.J. De Pablo

**7:30** Award Presentation and Reception.

## THURSDAY MORNING

### Section A

Mosccone Center  
120

#### General Topics: New Synthesis & Characterization of Polymers

B. Barkakaty, D. Garcia, *Organizers*

A. E. London, N. Penfold, *Presiding*

**8:00 POLY 596.** Chemical conversion of linkages in covalent organic frameworks. P. Waller, S.J. Lyle, T. Osborn Popp, C.S. Diercks, J.A. Reimer, O.M. Yaghi

**8:20 POLY 597.** Effects of  $\alpha$ -olefin chain length and monomer concentration on molecular weights and molecular weight distributions of various  $\alpha$ -olefin-maleic anhydride copolymers. H. Kim, C. Tabako, N.S. Kheifallah, J. Arroyave, R. Sharma

**8:40 POLY 598.** Functional polyphosphoramidates and nanostructures with acid-triggered backbone cleavage. H. Wang, L. Su, R. Li, S. Zhang, K.L. Wooley

**9:00 POLY 599.** Synthesis of bottle-brush polymers using the transfer-to approach. S. Radzinski, J. Foster, J. Matson

**9:20 POLY 600.** Insight into the catalytic mechanism of metal-free ROMP – A DFT and experimental study. J.C. Johnson, T. Kensy, C.B. Rinderspacher, A.J. Boydston, D. Knorr

**9:40 POLY 601.** Stimulus-responsive non-ionic diblock copolymers: Protonation of a tertiary amine end-group induces vesicle-to-worm or vesicle-to-sphere transitions. N. Penfold, J. Lovett, P. Verstraete, J. Smets, S.P. Armes

**10:00 POLY 602.** SI-RAFT Polymerization of chloroprene on silica nanoparticles for the application in rubber nanocomposites. Z.M. Abbas, Y. Zheng, M.M. Mohammadkhani, B.C. Benicewicz

**10:20 POLY 603.** Hydrogen-bonded pore-switchable aqueous nanotubes via visible light-mediated room-temperature polymerization-induced self-assembly. P. Gao, Y. Ding, Z. Cui, Y. Cai

**10:40 POLY 604.** Well-defined PDMAEA stars via Cu(0)-mediated reversible deactivation radical polymerisation. R. Whitfield, A. Anastasaki, N. Truong, P. Wilson, K. Kempe, T. Davis, D.M. Haddleton

**11:00 POLY 605.** Hybrid nanoparticle-polymer brush composites for detection of radionuclides in water. V. Bliznyuk, A. Seliman, S.M. Husson, T.A. Devol

**11:20 POLY 606.** pH-Responsive diblock copolymer nano-objects prepared by polymerization-induced self-assembly. J. Lovett, N. Warren, N. Penfold, C. Mable, S.P. Armes

### Section B

Mosccone Center  
121

#### Next Generation Smart Materials

*Cosponsored by MPPG#*

E. B. Berda, J. Foster, Y. C. Simon, *Organizers*

Y. Dong, M. Karman, *Presiding*

**8:00** Introductory Remarks.

**8:05 POLY 607.** Innovative bionanocomposites based on polysaccharides and protein nanofibers. N.H. Silva, I. Marrucho, C. Freire



8:25 POLY 608. Withdrawn.

8:45 POLY 609. Self-healing polymers for electronic skin, energy storage and actuators. C. Wang

9:05 POLY 610. Synthesis of humidity-gradient responsive copolyamides via Retro-Michael reaction. D.H. Wang, R.N. McKenzie, P.R. Buskohl, R.A. Vaia, L. Tan

9:25 Intermission.

9:40 POLY 611. Application of base amplification to extrinsic self-healing materials. S. Lai, T. Doan, W. Li, N.R. Sottos, P.V. Braun

10:00 POLY 612. How to make a material predictive. T. Raidt, F. Katzenberg, J.C. Tiller

10:20 POLY 613. Alkali-metal-ion accelerated on-demand release from cyclic poly(phthalaldehyde) microcapsules. S. Tang, H. Liu, J. Moore

10:40 POLY 614. Shape memory polypropylene. F. Katzenberg, T. Raidt, J.C. Tiller

## Section C

Moscone Center  
122

### Polymeric Materials for Performance & Sustainability

#### Applications

Cosponsored by MPPG‡

M. Meador, S. E. Morgan, *Organizers*

M. A. Meador, *Organizer, Presiding*

8:00 POLY 615. Making wind power better – new polymer composites with improved sustainability metrics. J.R. Dorgan

8:30 POLY 616. Hexagonal liquid crystal-carbon nanotube composites. C.R. Kasprzak, E. Scherzinger, J. Parkinson, S. Zhang

8:50 POLY 617. Conjugated materials with multistage sidechains for water processable organic electronics. B. Schmatz, Z. Yuan, A. Lang, J. Hernandez, E. Reichmanis, J.R. Reynolds

9:10 POLY 618. Driving performance in low VOC binder rich paints. P.S. Majumdar, D. Conner, P. Luo, S. Eberly, T.A. Phillips, P. Doll, G.W. Dombrowski

9:30 Intermission.

9:45 POLY 619. Bio-based/biodegradable materials from thermoplastic cellulose and aliphatic polyester. J.H. Wang, B. Zhou

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10:15 POLY 620. Multifunctional materials based on nanofibers and open and closed cell aerogel foams for sustainability. S.C. Jana, N. Teo, S.J. Kim, S. Rajgarhia, M. Ghosh

10:45 POLY 621. Robust porous polymers enabled by rapid TFA-etch with improved selectivity for polylactide. A. Sarkar, M. Stefiik

## Section D

Moscone Center  
123

### Polymers & Biomimicry

T. Williams, *Organizer*

A. N. Dhinojwala, *Organizer, Presiding*

8:00 POLY 622. Making silk without silkworms: Using industrial biotechnology to make performance protein-based fibers. D. Breslauer

8:30 POLY 623. Protein transduction domain mimics from simple polymer scaffolds. G.N. Tew

8:50 POLY 624. Multi-compartmentalized polymersomes as structural analogues of eukaryotic cells. A. Peyret, E. Ibarboure, A. Tron, L. Beauté, R. Rust, O. Sandre, N. McClenaghan, S. Lecommandoux

9:10 POLY 625. Understanding the effect of nanoparticle rigidity on the mechanism of cellular uptake. P. Gurnani, C. Sanchez Cano, S. Perrier

9:30 Intermission.

9:40 POLY 626. Polypept(o)ides: Combining the functionality of polypeptides with the stealth-like properties of polysarcosine. M. Barz

10:00 POLY 627. Synthetic antibodies. A. Poma, A. Guerreiro, H. Brahmabhatt, H. Pendergraff, J. Watts, G. Battaglia, N.W. Turner, S. Piletsky

10:20 POLY 628. Permeable polymersomes as cascade nanoreactor protocells. L.D. Blackman, M.I. Gibson, R.K. O'Reilly

10:40 POLY 629. Exploring principles of tissue morphogenesis and cancer progression using synthetic matrices. X. Jia

11:00 POLY 630. Structural effects of relative side group locations on antibacterial and hemolytic activities of amphiphilic PEGylated macromolecules. A. Punia, E. He, K. Lee, N. Yang

11:20 POLY 631. Generalized Manning model captures excess ion atmosphere around highly charged polymers. U. Mohanty

11:40 POLY 632. Synthesis of a library of degradable and protein-stabilizing polyesters using thiol-ene post-polymerization modification. E. Pelegrí-O'Day, S. Paluck, H.D. Maynard

## Section E

Moscone Center  
124

### Structure to Function in Supramolecular Polymers & Materials

P. Besenius, R. Kiełtyka, J. B. Matson, *Organizers*

K. J. Arrington, B. Kemper, *Presiding*

8:00 Introductory Remarks.

8:05 POLY 633. Recyclable elastomeric networks based on reversible cross-linking chemistry. P. Berto, F. Peruch, S. Grellier

8:25 POLY 634. Topology transformable polymers derived by mechanical linkage. T. Takata

8:50 POLY 635. Supramolecular structures of polymers around nanocarbons. S. Zhang

9:15 POLY 636. Tensile property enhancement and photo-actuation of supramolecular self-assembled copolymers of P3HT. T.M. Pathirana, J.M. Boothby, M.C. Biewer, T.H. Ware, M.C. Stefan

9:35 Intermission.

9:50 POLY 637. Hydrogen bonding supramolecular polymers with temperature controlled switchable mechanical properties reveal photohealable effects. A. Razgoniaev, K. Mikhailov, F. Obrezkov, A. Ostrowski

10:10 POLY 638. Regioselective, metal free C-C coupling of hexafluorobenzene for stable porous polymer networks. D. Thirion, V. Rozyyev, A. Adishev, C.T. Yavuz

10:35 POLY 639. UV Patterned calixarene-derived supramolecular gels with spatially resolved mechanical and fluorescent properties. J. Lee, J.H. Jung, K. Sakurai

10:55 POLY 640. Trefoil knotted block copolymer via ring-expansion strategy. P. Cao, L. Rong, J. Mangadla, R.C. Advincula

11:15 POLY 641. Perylene bisimide aggregation in water: Self-assembly features and development of stimuli responsive materials. B. Soberats, D. Göri, P. Syamala, F. Wuerthner

## Section F

Moscone Center  
125

### Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications

#### Stimuli-responsive Polymers & Polymer Processing

Cosponsored by PMSE

Financially supported by Wacker Chemical Corporation, Jewell Laboratories LLC

D. H. Thompson, G. Wenz, *Organizers*

A. Harada, K. Ito, *Presiding*

8:00 POLY 642. Developing cyclodextrin-based 3D printing materials. Q. Lin, H. Wang, C. Ke

8:20 POLY 643. Stimuli responsive nanoparticles from cyclodextrin polymers. T. Nielsen

8:40 POLY 644. Preparation of shape memory polymers or self-healing composites based on cyclodextrin-based inclusion. Z. Chao, K. Guo, Y. Xiao, B. Li, S. Zhang

9:00 Intermission.

9:10 POLY 645. Highly porous, mechanically strong, cyclodextrin-rich polyimide gels designed for advanced applications: Synthesis, characterization, and applications. E. Leonhardt, T. Williams, K.L. Wooley

9:30 POLY 646. Monodisperse thermoresponsive cyclodextrins with switchable inclusion complexation. J. Yan, W. Li, K. Liu, A. Zhang

9:50 POLY 647. Restructuring polymers via nano-confinement and subsequent release. A.E. Tonelli

10:20 Intermission.

10:30 POLY 648. Controlled rotaxa-polymerization for well-defined polyrotaxanes. G. Kali, J. Hilschmann, G. Wenz

10:50 POLY 649. Amphiphilic cyclodextrin functionalized surfaces. K.L. Larsen

11:10 POLY 650. Polydiacetylenyl  $\beta$ -cyclodextrin based smart vesicles for colorimetric assay of arginine and lysine. E. Cho, H. Kim, Y. Choi, S. Paik, S. Jung

11:40 Concluding Remarks.

## Bio-based Gels & Porous Materials

### Aero-, Cryo- & Xerogels

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

### Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry

### Commercial & Versatile Technology

Sponsored by CELL, Cosponsored by MPPG‡ and POLY

### Advances in Polysaccharides: Practice & Applications

#### New Functional Materials

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

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### Recent Advances in Multiblock Copolymers

#### Application

Sponsored by PMSE, Cosponsored by POLY‡

## THURSDAY AFTERNOON

### Bio-based Gels & Porous Materials

#### Open-Porous Carbon Materials

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

### Reactive Extrusion: Advances at the Nexus of Polymer Processing, Materials Technology & Green Chemistry

### Energy, Food & Packaging Development

Sponsored by CELL, Cosponsored by MPPG‡ and POLY

### Advances in Polysaccharides: Practice & Applications

### Preparation, Characterization & Applications

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG‡, PMSE and POLY

### Developments in the Fields of Celluloses & Lignocelluloses: In honor of Dr. Rajai Atalla

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‡Cooperative Cosponsorship

## PMSE

## Division of Polymeric Materials Science and Engineering

A. Tsou, M. Grunlan, B. Olsen, X. Jia and C. Snyder, *Program Chairs*

### OTHER SYMPOSIA OF INTEREST:

**Advanced Materials & Technologies for Solar Energy Conversion & Storage** (see ENFL, Sun, Mon, Tue)

**Bio-based Gels & Porous Materials** (see CELL, Wed, Thu)

**Contributions of IBM Almaden to Polymer Science** (see POLY, Sun, Mon)

**Next Generation Smart Materials** (see POLY, Sun, Mon, Tue, Wed, Thu)

**Polymer Applications & Characterization in the Biomedical Industry** (see POLY, Sun, Tue)

**Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications** (see POLY, Tue, Wed, Thu)

### SOCIAL EVENTS:

Reception, 5:30 PM: Wed

### BUSINESS MEETINGS:

Executive Committee Meeting, 4:30 PM: Sun

Business Meeting, 5:00 PM: Mon

## SUNDAY MORNING

### Section A

Moscone Center

Esplanade Ballroom 303

#### Young Investigator's Symposium

*Cosponsored by DAC<sup>2</sup>*

*Financially supported by Sigma-Aldrich, IBM, Solvay, Henkel, Tosoh, JACS, ACS Central Science, Chemistry of Materials, ACS Nano, Macromolecules, ACS Macro Letters, Chem (Cell Press)*

L. Campos, J. M. Garcia, *Organizers*

W. Gutekunst, A. Obermyer, *Presiding*

**9:00 PMSE 1.** Organic polymer chemistry in the context of novel processes. J.M. Desimone

**9:30 PMSE 2.** Design of hydrogel-based synthetic extracellular matrix mimics for fundamental studies of disease and regeneration. A.M. Kloxin

**10:00 PMSE 3.** Cartilage tissue engineering: Using soft material scaffolds. G. O'Connell

**10:30** Intermission.

**10:45 PMSE 4.** Piezo-chemical mediated ATRP via mechanical energy for self-improving materials. A.P. Esser-Kahn, H. Mohapatra, E. Sanders

**11:15 PMSE 5.** Dynamic and user-programmable biomaterials for 4D cell culture. J.A. Shadish, L. Liu, C.A. DeForest

**11:45 PMSE 6.** Better together: Biomaterial manufacturing with microbial consortia. M.A. O'Malley

### Section B

Moscone Center

Esplanade Ballroom 304

#### ACS Award in Applied Polymer Science: Symposium in honor Zhenan Bao

#### Polymer Synthesis

*Cosponsored by WCC*

*Financially supported by Chemistry of Materials (ACS Journal), Corning Inc., MilliporeSigma*

Q. Lin, E. Reichmanis, *Organizers, Presiding*

**8:30** Introductory Remarks.

**8:40 PMSE 7.** Precisely functionalized molecular nanoparticles are unique elements for macromolecular science: From nanoatoms to giant molecules. S.Z. Cheng

**9:10 PMSE 8.** Staging delivery nanomaterial approaches to address short and long term healing. P.T. Hammond

**9:40 PMSE 9.** Vanishing polymers: Polymer systems designed to fail. C.K. Ober, A. Leonard, K. Camera

**10:10** Intermission.

**10:30 PMSE 10.** Side chains in conjugated polymers: Designing beyond solubility. J.R. Reynolds

**11:00 PMSE 11.** Polymeric semiconductor for high-performance field-effect transistor and circuit. Y. Liu

**11:30 PMSE 12.** Synthesis, processing and function of coplanar  $\pi$ -conjugated organic polymers. L. Fang

### Section C

Moscone Center

Esplanade Ballroom 305

#### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

R. Baumgartner, K. C. DeMella, *Presiding*

**8:30 PMSE 13.** Functional polyesters for heat triggered norbornene thermosets. R. Baumgartner, K. Ryba, Z. Song, R. Wang, K. Harris, J.S. Katz, J. Cheng

**8:50 PMSE 14.** Structured polymeric microparticles via aerosol cationic photopolymerization. M. Bazzano, R. Pisano, M. Woerner, S. Marco

**9:10 PMSE 15.** Improving spin-cast epoxy telescope mirrors with spiro orthocarbonates, polyhedral oligomeric silsesquioxanes, and functionalized multi-walled carbon nanotubes. K. Brodhacker

**9:30 PMSE 16.** Raman-active polymer dots for live cell imaging. S. Brucks, F. Hu, W. Min, L. Campos

**9:50 PMSE 17.** Graphene as nanofiller: Tailoring the functionality for use in polymer nanocomposites. L. Burk

**10:10** Intermission.

**10:25 PMSE 18.** Polyisobutylene oligomers as tools for nanoparticle solubilization. C. Chao, P. Manyam, N. Riaz, R. Khanoyan, S. Madrahimov, D.E. Bergbreiter

**10:45 PMSE 19.** Hybrid double network hydrogels with high strength and toughness. H. Chen, Q. Chen, F. Yang, K. Chu, R. Hu, M. Zhang, B. Ren, J. Zheng

**11:05 PMSE 20.** Exploring the use of metalized nanocellulose in the supporting layer of polysulfone forward osmosis membranes: A water reclamation approach. P.E. Cruz Tato, L. Santiago-Martoral, K. Vega, E.O. Ortiz Quiles, E. Nicolau

**11:25 PMSE 21.** Functionalized polymer foam sorbents for oil spill remediation. E. Barry, A. Mane, J. Libera, J. Elam, S.B. Darling

**11:45 PMSE 22.** Photoresponsive multi-compartment capsules for controlled release. K.C. DeMella, S.R. Raghavan

### Section D

Moscone Center

Esplanade Ballroom 306

#### Janus Particles: Synthesis, Characterization & Applications

*Cosponsored by COLL and MPPG<sup>2</sup>*

S. Bon, D. Lee, S. Sacanna, *Organizers*

E. Pentzer, *Organizer, Presiding*

D. Watkins, *Presiding*

**9:00 PMSE 23.** Responsive Janus particles. T.M. Swager

**9:30 PMSE 24.** Gram-scale synthesis of magnetic-semiconductor Janus nanoparticles: Ramifications for colloidal polymers. N.G. Pavlopoulos, N. Pinna, K. Char, J. Pyun

**10:00 PMSE 25.** Fabrication and characterization of Golf-ball shaped microparticles based on the biodegradable polymers. K. Cho, S. Yoon, J. Yim

**10:30** Intermission.

**10:50 PMSE 26.** Synthesis of monodisperse bicompartmentalized amphiphilic Janus microparticles for tailored assembly at oil-water interface. J. Kim

**11:20 PMSE 27.** Programmable self-assembly of 3-dimensional structures from micron-scale units. B. Cassidy, W. Glazener, K. Li, M. Li, C. Jung, A.D. Ellington, C.G. Willson

**11:40 PMSE 28.** Shear-induced alignment of Janus particle lamellar structures. R.A. DeLaCruz-Araujo, D. Beltran-Villegas, R.G. Larson, U.M. Cordova-Figueroa

### Section E

Moscone Center

Esplanade Ballroom 307

#### 1D Nanomaterials: Synthesis, Assembly, Properties & Applications Polymer-Based

S. B. Darling, J. Hahn, *Organizers, Presiding*

**8:00 PMSE 29.** Gene regulation via co-assembled, noncationic DNA-polymer conjugates. D. Wang, F. Jia, X. Lu, X. Cao, X. Tan, K. Zhang

**8:20 PMSE 30.** Nanostructured films for therapeutic delivery and wound healing. T. Desai

**8:50 PMSE 31.** Optically active protein films inspired by cephalopods. E. Leung, L. Phan, A.A. Gorodetsky

**9:10 PMSE 32.** Tetrazine mediated drug delivery. J. Geng, K. Neumann, S. Jain, M. Bradley

**9:30 PMSE 33.** Investigating the dynamics of self-assembling cyclic peptide-polymer nanotubes. J.Y. Rho, J. Brendel, S. Perrier

**9:50** Intermission.

**10:05 PMSE 34.** Functional nanofibrous materials: Controllable fabrication and applications. B. Ding

**10:25 PMSE 35.** Microwave structured polyamide-6 nanofiber/net membrane embedded with poly(m-phenylene isophthalamide) staple fibers for ultrafine particle filtration. H. Liu, S. Zhang, L. Liu, J. Yu, B. Ding

**10:45 PMSE 36.** Bio-inspired nano-structured polymer thin films via self-assembly of magnetic nanoparticles. A. Karim, I.J. Zvonkina

**11:05 PMSE 37.** Preparation and characterization of antimicrobial fibrous membranes based on polyhydroxybutyrate. X. Ren, X. Fan, T. Huang

**11:25 PMSE 38.** Tunable peptide constructs for systematically controlling the structure and assembly of chiral gold nanoparticle single helices. S. Mokashi Punekar, A. Merg, N.L. Rosi

### Section F

Moscone Center

Esplanade Ballroom 308

#### Nanoscale Spectroscopic Characterization of Catalysts & Polymers

#### NMR-Based Methods

*Financially supported by Anasys Instruments, Bruker BioSpin, Bruker Nano, ExxonMobil Chemical Company, Neaspec*

D. Yablon, *Organizer*

J. Rapp, *Organizer, Presiding*

**8:30 PMSE 39.** Atomic-scale characterization of catalytic materials by advanced solid-state NMR methods. T. Kobayashi, F.A. Perras, M. Pruski

**9:00 PMSE 40.** Understanding nanoscopic interfaces in tapered copolymers and their impact on macroscopic properties. J.L. White, A. Clough, J. Kelsey, J.J. Zhou

**9:30 PMSE 41.** Model, fumed silica-supported catalysts: Characterization and performance. M. Afeworki, P. Brant

**10:00** Intermission.

**10:10 PMSE 42.** Solid-state NMR characterization of rare-earth nanoparticles. D.A. Hirsh, B. Richard, N. Johnson, A. Ritcey, F. Van Veggel, R.W. Schurko

**10:40 PMSE 43.** Early time kinetics and mechanisms of polymerization reactions by hyperpolarized NMR. C. Chen, W. Shih, C. Hilty

**11:10 PMSE 44.** Structure and dynamics at interfaces in hybrid materials. U. Scheler

### Section G

Moscone Center

Esplanade Ballroom 309

#### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

M. J. Derry, L. E. Hanzly, *Presiding*

**8:30 PMSE 45.** Shear-induced alignment of diblock copolymer worm gels. M.J. Derry, O. Mykhaylyk, S.P. Armes

**8:50 PMSE 46.** Combining spray and atmospheric plasma deposition of transparent bilayer protective coatings on plastics for exceptional adhesion and hardness. Y. Ding, S. Dong, D. He, Z. Zhao, R. Dauskardt

**9:10 PMSE 47.** Withdrawn.

**9:30 PMSE 48.** Dual precursor atmospheric plasma deposition of organosilicate transparent functional coating on plastics. S. Dong, Y. Ding, D. He, Z. Zhao, R. Dauskardt

**9:50 PMSE 49.** Manipulating ordering and alignment in nanostructured thin films by combining substrate and solvent annealing effects. T.H. Epps, C.K. Shelton

**10:10** Intermission.

**10:25 PMSE 50.** Harnessing the interaction between surfactant and catalyst to control ATRP in dispersed media. M. Fantin, Y. Wang, P. Chmielarz, F. Lorandj, K. Matyjaszewski

**10:45 PMSE 51.** Metal coordination complexes in mechanically responsive systems. K. Hall, M.H. Horst, S.W. Telford, K.J. Franz

**11:05 PMSE 52.** Helical lipopeptide with enhanced antimicrobial activity. Z. Han, M. Xiong, J. Cheng

**11:25 PMSE 53.** Protein self-assembly in polar polymer environments of varying viscosity. L.E. Hanzly, J.R. Barone

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy

Sponsored by PROF, Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>†</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>‡</sup>, POLY, PRES<sup>†</sup> and WCC

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG<sup>‡</sup> and PMSE

#### Separation of Macromolecules & Particulates

Sponsored by POLY, Cosponsored by ANYL, COLL and PMSE

#### Incorporating Polymer Science into the Classroom

#### Undergraduate Curriculum

Sponsored by POLY, Cosponsored by CHED, MPPG<sup>‡</sup> and PMSE

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#### Contributions of IBM Almaden to Polymer Science

Sponsored by POLY, Cosponsored by PMSE

### SUNDAY AFTERNOON

#### Section A

Moscone Center  
Esplanade Ballroom 303

#### Young Investigator's Symposium

Cosponsored by DAC<sup>‡</sup>

Financially supported by Sigma-Aldrich, IBM, Solvay, Henkel, Tosoh, JACS, ACS Central Science, Chemistry of Materials, ACS Nano, Macromolecules, ACS Macro Letters, Chem (Cell Press)

L. Campos, J. M. Garcia, *Organizers*

V. Piunova, J. Qin, *Presiding*

**1:30 PMSE 54.** Doing more with controlled radical polymerization. C.J. Hawker

**2:00 PMSE 55.** Polymeric nanomaterials for tailoring the functions of the cellular glycocalyx. K. Godula

**2:30 PMSE 56.** Shaping the future of polymer molecular weight distributions. B.P. Fors

**3:00 PMSE 57.** Rational synthesis of semiconductor fragments. R.S. Klausen

**3:30** Intermission.

**3:45 PMSE 58.** Design and development of negative photochromic systems. J. Read De Alaniz

**4:15 PMSE 59.** Orthogonally responsive small molecule dyes in polymer films: Data storage in 0, 1, 2, 3. P. Wei, B. Li, A.C. de Leon, E. Pentzer

**4:45 PMSE 60.** Ultrafast gelation of injectable reactive microgels: The power of TAD click chemistry. R. Absil, S. Çakir, R. Teixeira, G. Rivero, S. Gabriele, P. Dubois, C. Barner-Kowollik, F.E. Du Prez, L.M. Mespouille

#### Section B

Moscone Center  
Esplanade Ballroom 304

#### ACS Award in Applied Polymer Science: Symposium in honor Zhenan Bao

#### Advances in Organic Solar Cells

Cosponsored by WCC

Financially supported by Chemistry of Materials (ACS Journal), Corning Inc., MilliporeSigma

Q. Lin, E. Reichmanis, *Organizers, Presiding*

**1:30 PMSE 61.** New polymers and synthetic strategies to polymers for photovoltaic and perovskite solar cells. A. Facchetti

**2:00 PMSE 62.** Development of organic semiconducting polymers: Toward real applications. M. He, W. Niu, J.R. Matthews, A. Wallace

**2:30 PMSE 63.** Benzotriazole: A versatile building block for conjugated polymers based solar cells. W. You

**3:00** Intermission.

**3:30 PMSE 64.** Ternary organic solar cells. T.P. Russell

**4:00 PMSE 65.** Melt-processable complementary semiconducting polymer blends for organic electronics. J. Mei

**4:30 PMSE 66.** Graphene-polymer and nanocarbon-polymer composites for cellular mechanics and wireless, wearable sensors. D.J. Lipomi

**5:00 PMSE 67.** Single crystal Rubrene: Tested and proven. A.L. Briseno

#### Section C

Moscone Center  
Esplanade Ballroom 305

#### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

J. N. Lo, K. P. Mineart, *Presiding*

**1:30 PMSE 68.** Post-printing functionalization of radiopaque amino acid based poly(ester urea)s. S. Li, Y. Xu, M. Becker

**1:50 PMSE 69.** CO<sub>2</sub>-responsive poly(N,N-dimethylaminoethyl methacrylate) hydrogels with fast responsive rate. X. Li, R. Xie, Z. Jia, X. Ju, W. Wang, Z. Liu, L. Chu

**2:10 PMSE 70.** Eliminating porosity in benzoxazine thermosets. J.N. Lo, X. Zhang, T.J. Williams, S. Nutt

**2:30 PMSE 71.** Electrochemically mediated ATRP on non-Pt electrodes, in organic and aqueous media. F. Lorandj, M. Fantin, A. Ahmed Isse, A. Gennaro

**2:50 PMSE 72.** Thiol-ene networks for triplet-triplet annihilation. J. Lott, A. Jentsch, B. Davis

**3:10** Intermission.

**3:25 PMSE 73.** Chiral self-assembly of achiral  $\pi$ -conjugated polyelectrolytes induced by hyaluronic acid. P. Manandhar, T. Vokata, J. Moon

**3:45 PMSE 74.** Solvent stable electrospun membranes developed through ultraviolet induced reactive electrospinning. M.F. Mehmood, N.P. Guile, S. Marco, P. Mallon

**4:05 PMSE 75.** Novel surface grafting chemistries for the functionality manipulation of composite separation membranes. J. Meng

**4:25 PMSE 76.** Hybrid stealth liposomes via incorporation of cholesterol-functionalized diblock copolymers. K.P. Mineart, S. Venkataraman, Y. Yang, J. Hedrick, V. Prabhu

**4:45 PMSE 77.** Enhancement of sulfonated polyphenylene properties as a proton conducting membrane by blending with novel polysulfone-base polymer. B. Motealleh, T.D. Largier, C.J. Cornelius

#### Section D

Moscone Center  
Esplanade Ballroom 306

#### Janus Particles: Synthesis, Characterization & Applications

Cosponsored by COLL and MPPG<sup>‡</sup>

S. Bon, E. Pentzer, S. Sacanna, *Organizers*

D. Lee, *Organizer, Presiding*

L. Bradley, *Presiding*

**1:30 PMSE 78.** External-field induced propulsion of particles with broken symmetry. N. Wu

**2:00 PMSE 79.** UV-triggered decoration of Janus micro/nano particles. N. Razza, S. Marco

**2:20 PMSE 80.** Controlling morphology and nanoparticle location within hybrid polymer-inorganic Janus particles using flash nanoprecipitation. V. Lee, C. Sosa, R. Liu, R.K. Prudhomme, R.D. Priestley

**2:40 PMSE 81.** Propulsion of metal-iodidelectric Janus particles by contact charge electrophoresis. K. Bishop, Y. Dou, C. Cartier, W. Fei, S. Pandey, S. Razavi, I. Kretzschmar

**3:10** Intermission.

**3:30 PMSE 82.** Self-assembly and reconfiguration of Janus ellipsoids at high concentrations. M.J. Solomon, S. Razavi, Y. Liu

**4:00 PMSE 83.** Synthesis of highly tailorable nanoparticle combinatorial libraries. J. Hedrick, P. Chen, E.J. Kluender, B. Meckes, C.A. Mirkin

**4:20 PMSE 84.** Synthesis, self-assembly and collective behaviors of asymmetric motile rodlike colloids. Y. Yang, A. Gyedu, K. Liu, Z. Nie

#### Section E

Moscone Center  
Esplanade Ballroom 307

#### 1D Nanomaterials: Synthesis, Assembly, Properties & Applications Polymer-Based

S. B. Darling, J. Hahn, *Organizers, Presiding*

**1:00 PMSE 85.** PVA silica composite nanofibers via sol gel electrospinning. T. Pirzada, S. Arvidson, C.D. Saquing, S. Shah, S.A. Khan

**1:20 PMSE 86.** Mesoporous block copolymer nanofibers by selective swelling. X. Shi, Y. Wang

**1:50 PMSE 87.** Electrospun nanofibrous materials for CO<sub>2</sub> capture. X. Wang, B. Ding, J. Yu

**2:10 PMSE 88.** Electrospun nanofiber composite as proton exchange membrane for fuel cell. B. Motealleh, F. Huang, T.D. Largier, C.J. Cornelius

**2:30 PMSE 89.** Programming the orientation of carbon nanotubes in liquid crystalline elastomers. T. Guin, A.D. Auguste, B. Kowalski, V. Tondiglia, T.J. White

**2:50** Intermission.

**3:05 PMSE 90.** Development and studies of DBfA/DfA block copolymers for optoelectronics. S.S. Sun, M. Hasib, T.H. Nguyen

**3:25 PMSE 91.** Enticing and general strategy for 1D nanocrystals with unprecedented control over dimensions, compositions and architectures using bottlebrush-like block copolymers as nanoreactors. Z. Lin

**3:55 PMSE 92.** Multilevel structured polysulfone/polyacrylonitrile/polyamide-6 nanofiber/nets membranes for sieving airborne particles. N. Tang, S. Zhang, J. Yu, B. Ding

**4:15 PMSE 93.** Molecular design of poly(3-hexylthiophene)-graft-poly(2-vinylpyridine) copolymers to control the crystallinity for solution-assembled nanowires. Y. Kim, H. Kim, J. Kim, R.C. Hayward, B. Kim

5 dendronized polymers with increased structural perfection: Approaching  $g_{max}$  of cylindrical nano-objects. D. Messmer, D. Schlueter

<sup>‡</sup> Cooperative Cosponsorship



## Section F

Moscone Center  
Esplanade Ballroom 308

### Nanoscale Spectroscopic Characterization of Catalysts & Polymers

#### Raman & SFG

Financially supported by Anasys Instruments, Bruker BioSpin, Bruker Nano, ExxonMobil Chemical Company, Neaspec

J. Rapp, D. Yablon, *Organizers*

Z. Su, *Presiding*

**1:30 PMSE 95.** Confocal Raman microscopy of the in-situ uniaxial deformation of a polyethylene dog bone. C.R. Lopez-Barron, Y. Zeng, J. Schaefer, A. Eberle, T.P. Lodge, F.S. Bates

**2:00 PMSE 96.** Scanning angle Raman spectroscopy measurements of thin polymer films and buried polymer interfaces. E.A. Smith, J.M. Bobbitt, D. Mendivelso-Perez, C. Nyamekye

**2:20** Intermission.

**2:30 PMSE 97.** Predicting Raman spectra of condensed polymer phases from simulations. Q. Chen, S. Milner

**2:50 PMSE 98.** Spatially resolved EDS and Raman characterization of crosslinked polymeric catalysts biomass hydrolysis. M.V. Tyufekchiev, P. Duan, M.T. Timko, M. Emmert, K. Schmidt-Rohr, S. Granados Focil

**3:10 PMSE 99.** Effect of interfacial molecular orientation on power conversion efficiency of perovskite solar cell. M. Xiao, J. Jasensky, Z. Chen

## Section G

Moscone Center  
Esplanade Ballroom 309

### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

J. A. Nikles, K. Olson, *Presiding*

**1:30 PMSE 100.** Genetically encoded lipid-polypeptide hybrid biomaterials. D. Mozdehi, K.M. Luginbuhl, J. Simon, M. Dzuricky, F. Huang, K.L. Buehne, N.R. Mayne, A. Chilkoti

**1:50 PMSE 101.** Withdrawn.

**2:10 PMSE 102.** High performance multistage-stage cure resins for Continuous Liquid Interface Production (CLIP). A. Nebipasagi, A.L. Quintanilla, S.J. Mecham, J. Cushen, J. Rolland, J.M. DeSimone

**2:30 PMSE 103.** Kinetics of drug release from polymer micelles. J.A. Nikles, L.N. Cobb, J.A. Gettinger, B.J. McCormick, S.M. Nikles, A.L. Glover, C.S. Brazel, D.E. Nikles

**2:50** Intermission.

**3:05 PMSE 104.** Chitosans in nano-structured films for biosensing and antimicrobial coatings. O.N. Oliveira

**3:25 PMSE 105.** Developing nonflammable perfluoropolyether electrolytes for safe lithium-ion batteries. K. Olson, M. Chintapalli, K. Timachova, J. Yin, A.C. Marschliok, E.S. Takeuchi, K.J. Takeuchi, S.J. Mecham, N.P. Balsara, J.M. Desimone

**3:45 PMSE 106.** Recruiting physisorbed water for green and bio-degradable perfluorinated surface modifications. S. Oyola-Reynoso, J. Chen, B. Chang, J. Bloch, M. Thuo

**4:05 PMSE 107.** Fluorescent block copolymer-MoS<sub>2</sub> nanohybrids for real-time photothermal heating and imaging. C. Park, B. Kim

**4:25 PMSE 108.** Functional nanogels for decoration of biointerfaces. A. Pich, A. Töpel

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Novel Reactions, Methodologies & Syntheses in Organic Chemistry

Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG<sup>2</sup> and PMSE

#### Separation of Macromolecules & Particulates

Sponsored by POLY, Cosponsored by ANYL, COLL and PMSE

#### Incorporating Polymer Science into the Classroom

#### High School & Community College

Sponsored by POLY, Cosponsored by CHED, MPPG<sup>2</sup> and PMSE

#### Innovative Chemistry & Materials for Electrochemical Energy Storage

#### Cathode Materials

Sponsored by ENFL, Cosponsored by MPPG<sup>2</sup> and PMSE

#### Contributions of IBM Almaden to Polymer Science

Sponsored by POLY, Cosponsored by PMSE

#### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

#### Homogeneous Catalysis

Sponsored by INOR, Cosponsored by PMSE

## MONDAY MORNING

### Section A

Moscone Center  
Esplanade Ballroom 303

#### Young Investigator's Symposium

Cosponsored by DAC<sup>2</sup>

Financially supported by Sigma-Aldrich, IBM, Solvay, Henkel, Tosoh, JACS, ACS Central Science, Chemistry of Materials, ACS Nano, Macromolecules, ACS Macro Letters, Chem (Cell Press)

L. Campos, J. M. Garcia, *Organizers*

J. Kalow, K. Mirica, *Presiding*

**9:00 PMSE 109.** Cancer immune therapy targeting the cell surface glycoalyx. C.R. Bertozzi

**9:30 PMSE 110.** Functional ladder materials enabled by efficient catalysis. Y. Xia

**10:00 PMSE 111.** Synthesis of polythioaminals using in-situ generated imines as reactive intermediates: Polymers for tailorable surface topology. R. Wojtecki

**10:30** Intermission.

**10:45 PMSE 112.** Convergence of high rate and selectivity in organocatalytic ring-opening polymerization. M.K. Kiesewetter, E. Kiesewetter, K. Fastnacht, S. Spink

**11:15 PMSE 113.** Block copolymers and crosslinked copolymers obtained with redox-switchable polymerization catalysts. J.A. Byers, K.R. Delle Chiaie, A.B. Biernesser, A.W. Sudyn

**11:45 PMSE 114.** Generation, stability and applications of gelified foams. C. Monteux, F. Lequeux, R. Deleurence, T. Saison

### Section B

Moscone Center  
Esplanade Ballroom 304

#### ACS Award in Applied Polymer Science: Symposium in honor Zhenan Bao

#### Novel Organic Materials

Cosponsored by WCC

Financially supported by Chemistry of Materials (ACS Journal), Corning Inc., MilliporeSigma

Q. Lin, E. Reichmanis, *Organizers, Presiding*

**8:30 PMSE 115.** Enhanced ionic conductivity of peg-containing polyimide/ionic liquid membrane upon thermal annealing. C.W. Frank, E.T. Woo, J. Lu, E. Coletta, J. Mun, A. Spakowitz, D.Y. Yoon, M. Toney

**9:00 PMSE 116.** Supramolecular free radicals. X. Zhang

**9:30 PMSE 117.** Designing functional interfaces using click chemistry. J.J. Locklin

**10:00** Intermission.

**10:30 PMSE 118.** Super-wettability based fabrication of organic functional materials. L. Jiang

**11:00 PMSE 119.** Nanostructured polymer gels as a multifunctional material platform for energy and responsive electronics. G. Yu

**11:30 PMSE 120.** Alternative architectures and polymer coupling layers for field-effect biosensors. H.E. Katz

### Section C

Moscone Center  
Esplanade Ballroom 305

#### Support & Activator Effects on Metal Mediated Polymerization

Cosponsored by CATL, INOR and MPPG<sup>2</sup>

Financially supported by ExxonMobil Chemical Company, Argonne National Laboratory

M. Delferro, *Organizer*

L. Luo, *Organizer, Presiding*

J. Severn, *Presiding*

**8:00 PMSE 121.** Methylaluminoxane as activator for olefin polymerization catalysts. W. Kaminsky

**8:25 PMSE 122.** Unexpected activation modes of constrained geometry precatalysts. J. Klosin

**8:50 PMSE 123.** Structure, function, and modelling of MAO catalyst activators. M. Bochmann, F. Ghiotto, D. Rosca, M. Linnolahti

**9:15 PMSE 124.** Actively supporting the world's strongest fiber. J. Severn

**9:40** Intermission.

**10:00 PMSE 125.** Effect of formation of ionic aggregates higher than ion pairs on the kinetics of a single olefin insertion into the Zr-C bond. C. Zuccaccia, A. Macchioni, L. Sian

**10:25 PMSE 126.** Evidence of coordinated Trimethylaluminum (TMA) in Methylaluminoxane (MAO) as the major active site and its quantification. L. Luo, A. Jain, J. Harlan

**10:50 PMSE 127.** Late transition metal sites supported on sulfated oxides for polymerization reactions. M.P. Conley

**11:15 PMSE 128.** Surface-supported and solution phase homoleptic rare earth silazido catalysts. A.D. Sadow

### Section D

Moscone Center  
Esplanade Ballroom 306

#### Janus Particles: Synthesis, Characterization & Applications

Cosponsored by COLL and MPPG<sup>2</sup>

S. Bon, D. Lee, E. Pentzer, *Organizers*

S. Sacanna, *Organizer, Presiding*

**9:00 PMSE 129.** Seeded emulsion polymerization for non-spherical particles and clickable Janus colloids. L. Bradley, W. Chen, F. Tu, K.J. Stebe, D. Lee

**9:30 PMSE 130.** Janus graphene oxide: Preparation and characterization. A.C. de Leon

**9:50 PMSE 131.** Seeing the unseen: Interrogating intracellular dynamics using Janus particles. Y. Yu

**10:20** Intermission.

**10:40 PMSE 132.** Transport of active Janus particles in geometrically-confined spaces. D. Velegol, A. Sen, S. Das, A. Garg

**11:10 PMSE 133.** Synthesis and characterization of janus linear-dendritic hybrids as next generation biomaterials. D.G. Abebe, D.L. Watkins

**11:30 PMSE 134.** Synthesis and assembly of mono-patch particles. G. Yi, S. Kim, D. Pine, S. Sacanna, J. Oh

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## Section E

Moscone Center  
Esplanade Ballroom 307

### Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

Financially supported by Tosoh, Japan Analytical Industry (JAI) Co., Ltd

L. Fang, J. Mei, *Organizers*

C. Di, *Organizer, Presiding*

**8:00 PMSE 135.** Polymer molecular design and processing for efficient macroscale charge transport pathways. E. Reichmanis

**8:30 PMSE 136.** Melt-processable complementary semiconducting polymer blends for organic field-effect transistors. Y. Zhao, X. Zhao, A. Gumyusenge, J. Mei

**8:45 PMSE 137.** Degradable and biocompatible conjugated polymer for solution-processed imperceptible transient electronics. T. Lei, Z. Bao

**9:05 PMSE 138.** Design and synthesis of semiconducting polymers for high-performance field-effect transistors. Y. Liu

**9:35 PMSE 139.** Room-temperature air-stable spin transport in molecular-based multipurpose spin valves. X. Sun

9:55 Intermission.

**10:15 PMSE 140.** Traps in conjugated polymers: Morphological and disorder effects. A. Salleo

**10:45 PMSE 141.** Thioxanthone derivatives and their application for OLEDs. Y. Wang

**11:05 PMSE 142.** Deep-blue light-emitting polymers containing spiro[fluorene-9,9'-thioxanthene-S,S-dioxide] isomers. F. Peng, W. Yang, Y. Cao

**11:25 PMSE 143.** Making light with light: Patterning LED pixels from solution. Z.A. Page, B. Narupai, C. Pester, D.S. Laitar, A. Sokolov, S. Mukhopadhyay, R. Bou Zerdan, A. McGrath, K. Kearns, J. Kramer, C.J. Hawker

## Section F

Moscone Center  
Esplanade Ballroom 308

### Nanoscale Spectroscopic Characterization of Catalysts & Polymers

#### Infrared-Spectroscopy-Based Methods

Financially supported by Anasys Instruments, Bruker BioSpin, Bruker Nano, ExxonMobil Chemical Company, Neaspec

J. Rapp, *Organizer*

D. Yablon, *Organizer, Presiding*

**9:00 PMSE 144.** Measuring correlated chemical composition and thermal conductivity at the nanoscale with AFM probes. A. Centrone

**9:30 PMSE 145.** Investigation of nano-domain composition in high-impact polypropylene by AFM-IR. P. Bao, Z. Su, F. Tang

10:00 Intermission.

**10:10 PMSE 146.** How do biofilms eat their food? Understanding microbiological degradation of polyurethanes at the nanoscale with AFM-IR. D. Barlow, J.C. Biffinger, C. Hung, L.J. Nadeau, T. Zicht, A.L. Crouch, J.N. Russell, W.J. Crookes-Goodson

**10:40 PMSE 147.** Nanoscale infrared spectroscopy for the chemical characterization of polymer systems. E. Dillon, C. Prater, K. Kjoller

**11:00 PMSE 148.** Nano-FTIR: Quantitative infrared imaging and spectroscopy at 10nm spatial resolution. A.J. Huber

## Section G

Moscone Center  
Esplanade Ballroom 309

### Molecular Engineering of Peptide Assembly

#### Protein Assembly

Financially supported by ACS Biomacromolecules

A. Kros, S. L. Perry, *Organizers*

H. Cui, M. V. Tirrell, *Organizers, Presiding*

8:10 Introductory Remarks.

**8:15 PMSE 149.** Self-assembled fibrils composed of protein-based polymers with silk-like domains: Multiple roles for hydrophilic side-chains. L. Beun, S. Dhayal, L. Albertazzi, M. Werten, F. de Wolf, M.C. Stuart, R. de Vries

**8:45 PMSE 150.** Self-assembly of stimulus responsive biohybrid polymers. A. Chilkoti

**9:15 PMSE 151.** Self-assembled protein-inorganic hybrid supraparticles for enzyme immobilization. W. Park, A. Caparco, J. Champion

9:45 Intermission.

**10:00 PMSE 152.** Minimal DNA length needed for the assembly of virus coat proteins. S. Maassen, M. de Ruiter, J.J. Cornelissen

**10:30 PMSE 153.** Environmental influence on assembly landscapes in protein materials. C. Chen, J. Tan, M. Hsieh, A. Rha, R. Rengifo, J. Goodwin, A. Mehta, N. Anthony, M. Grover, D.G. Lynn

**11:00 PMSE 154.** Electrostatic effects on self-assembly in protein-polymer block copolymers. B.D. Olsen, D. Chang, C. Lam, C. Mills

**11:30 PMSE 155.** Design of peptide and protein-based copolymer self-assembled biomaterials. S. Lecommandoux, E. Garanger

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

Sponsored by PROF, Cosponsored by ANYL<sup>1</sup>, BIOL<sup>1</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, IMEDI, MPPG, ORGN, PHYS, PMSE<sup>3</sup>, POLY, PRES<sup>2</sup> and WCC

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG<sup>2</sup> and PMSE

#### Innovative Chemistry & Materials for Electrochemical Energy Storage

#### Flow Batteries & Organic Electrodes

Sponsored by ENFL, Cosponsored by MPPG<sup>2</sup> and PMSE

### 50th Anniversary Celebration of Macromolecules

Sponsored by POLY, Cosponsored by MPPG<sup>2</sup> and PMSE

### Contributions of IBM Almaden to Polymer Science

Sponsored by POLY, Cosponsored by PMSE

## MONDAY AFTERNOON

## Section A

Moscone Center  
Esplanade Ballroom 303

### Young Investigator's Symposium

Cosponsored by DAC<sup>2</sup>

Financially supported by Sigma-Aldrich, IBM, Solvay, Henkel, Tosoh, JACS, ACS Central Science, Chemistry of Materials, ACS Nano, Macromolecules, ACS Macro Letters, Chem (Cell Press)

L. Campos, J. M. Garcia, *Organizers*

E. A. Appel, S. A. Sydlik, *Presiding*

**1:30 PMSE 156.** Magnetically-active hybrid inorganic-organic network materials. J.A. Flores, A. Jahnke, A. Pavia Sanders, K.L. Wooley

**2:00 PMSE 157.** Molecular precision and enzymatic disassembly of polymeric micelles. A.J. Harnoy, M. Segal, M. Buzhor, G. Slor, I. Rosenbaum, R.J. Amir

**2:30 PMSE 158.** Controlled synthesis of  $\pi$ -conjugated polymers. D.S. Seferos

**3:00 PMSE 159.** Influence of conjugated polymer thin-film morphology and exciton-plasmon coupling on nanophotonic light trapping and light extraction. D. O'Carroll

3:30 Intermission.

**3:45 PMSE 160.** Functional organic frameworks in solution and thin films. Y. Liu, H. Wang, S. Cai, B. He, Z. Li, J. Tian, D. Zhang

**4:15 PMSE 161.** Elastomeric and fluidic metamaterials: Towards large-area, reconfigurable metamaterials. J. Dionne

**4:45 PMSE 162.** Structural engineering of  $sp^2$  functional polymer materials at the molecular and nanoscopic scales. L. Fang

## Section B

Moscone Center  
Esplanade Ballroom 304

### ACS Award in Applied Polymer Science: Symposium in honor Zhenan Bao

#### Frontiers in Organic & Flexible Electronics

Cosponsored by WCC

Financially supported by Chemistry of Materials (ACS Journal), Corning Inc., MilliporeSigma

Q. Lin, E. Reichmanis, *Organizers, Presiding*

**1:30 PMSE 163.** How do we design organic and inorganic materials for flexible, transparent electronic circuitry? T.J. Marks

**2:00 PMSE 164.** Design and applications of dopants and acceptors for organic electronic applications. S.R. Marder

**2:30 PMSE 165.** Advances in fabrication: A discussion. J.M. Desimone

3:00 Intermission.

**3:30 PMSE 166.** Development of new electron acceptors for high efficient, non-fullerene OPV solar cells. L. Yu

**4:00 PMSE 167.** Approaches to sustainable materials and processes for flexible electronics. G. Zhang, B. Risteen, P. Chu, E. Reichmanis

**4:30 PMSE 168. Award Address** (ACS Award in Applied Polymer Science sponsored by Eastman Chemical Company). Skin-inspired polymer electronic materials. Z. Bao

## Section C

Moscone Center  
Esplanade Ballroom 305

### Support & Activator Effects on Metal Mediated Polymerization

Cosponsored by CATL, INOR and MPPG<sup>2</sup>

Financially supported by ExxonMobil Chemical Company, Argonne National Laboratory

M. Delferro, L. Luo, *Organizers*

R. L. Kuhlman, S. L. Scott, *Presiding*

**1:00 PMSE 169.** Single site catalysis: How to avoid co-catalysts in polymerization. J.M. Basset, J. Pelletier

1:25 PMSE 170. Withdrawn.

1:50 PMSE 171. Activator effects in ATRP. K. Matyjaszewski

2:15 PMSE 172. Impact of silica structure on the distribution of activator on supported catalyst particles. X. Ye

2:40 Intermission.

**3:00 PMSE 173.** C-H activation and olefin insertion of Cp<sup>Alkyl</sup>Hf(IV)-complexes observed by NMR and mass spec during olefin polymerization. R.L. Kuhlman, A. Gies, L. Tensi, C. Zuccaccia, A. Macchioni

**3:25 PMSE 174.** Keltan ACE™ technology: Activation of post-metallocene EPDM polymerization catalysts. G. van Doremale, M. Valla, R. Bernardo, A. Berthoud

**3:50 PMSE 175.** Group 4 complexes in the homopolymerization and copolymerization of olefins. M.S. Eisen

**4:15 PMSE 176.** New insights into activating metallocene catalysts for olefin polymerization. C.G. Blakley, M.G. Thorn, S.P. Diefenbach

## Section D

Moscone Center  
Esplanade Ballroom 306

### Janus Particles: Synthesis, Characterization & Applications

Cosponsored by COLL and MPPG<sup>2</sup>

D. Lee, E. Pentzer, S. Sacanna, *Organizers*

S. Bon, *Organizer, Presiding*

A. V. Zhukhovitskiy, *Presiding*

**1:30 PMSE 177.** Design and assembly of asymmetrically functionalized particles via digital alchemy. S.C. Glotzer, G. Van Anders

**2:00 PMSE 178.** Catalytic propulsion and magnetic steering of soft, patchy microcapsules: Ability to pick-up and drop-off microscale cargo. S.R. Raghavan, A. Lu

**2:20 PMSE 179.** Emerging concepts in colloidal self-assembly: Rapid prototyping 3D DNA origami and self-sorting systems. A. Walther

2:50 Intermission.

<sup>‡</sup> Cooperative Cosponsorship

- 3:10 PMSE 180.** Interfacial polymerization on dynamic complex colloid: Creating stabilized Janus droplets upon external perturbation. Y. He, S. Savagatrup, T.M. Swager
- 3:30 PMSE 181.** Janus polymersomes. L. Ruiz-Perez, C. Contini, G. Battaglia
- 3:50 PMSE 182.** Asymmetric polymersomes for active delivery to the brain by chemotaxis. G. Battaglia

## Section E

Moscone Center  
Esplanade Ballroom 307

### Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

Financially supported by Tosoh, Japan Analytical Industry (JAI) Co., Ltd

C. Di, J. Mei, *Organizers*

L. Fang, *Organizer, Presiding*

- 1:30 PMSE 183.** Three-dimensional, porous conjugated polymers for photocatalytic hydrogen production. L. Yu
- 2:00 PMSE 184.** Electroactive polymers for advanced energy storage devices: From synthesis to engineering. Y. Kim, W. Abousamra, D. Yang, O. Melton, J. Jung, S. Besic, M. Birschnbach, V. Ebron, R. Mercado, P.J. Kinlen, H. Nguyen
- 2:20 PMSE 185.** Withdrawn.
- 2:35 PMSE 186.** Synthesis of long-chain acrylate copolymers for ultra-sensitive temperature sensors with wide range tunability. F. Daigle, K. Yang, J. Reeder, H. Handley, J. Elliott, W. Voit
- 2:50 PMSE 187.** Nanoconfined polymer electrolytes for rechargeable thin film lithium-ion batteries. Z. Zhang, J. Ding, K. Yager, B. Ocko, F. Fisher, C. Black

**3:05** Intermission.

- 3:25 PMSE 188.** Materials for 3rd-generation solar cells based on singlet fission. L. Campos
- 3:55 PMSE 189.** Organic thin-film transistors with functionalized surface for biosensing applications. H. Shen, C. Di, D. Zhu
- 4:10 PMSE 190.** Higher hole mobility in lower-crystallinity conjugated polymers and their application to energy devices. T. Park
- 4:25 PMSE 191.** Solution-processed nanoporous organic semiconductor thin films for health and environmental monitoring. F. Zhang, G. Qu, E. Mohammadi, J. Mei, Y. Diao
- 4:40 PMSE 192.** Promising new dielectric polymers for pulsed-power high energy density capacitors using the process of rational co-design. G.A. Sozting

## Section F

Moscone Center  
Esplanade Ballroom 308

### Nanoscale Spectroscopic Characterization of Catalysts & Polymers

#### Infrared-Spectroscopy-Based Methods

Financially supported by Anasys Instruments, Bruker BioSpin, Bruker Nano, ExxonMobil Chemical Company, Neaspec

J. Rapp, D. Yablon, *Organizers*

P. Bao, *Presiding*

- 1:30 PMSE 193.** Ultra-broadband synchrotron infrared nano-spectroscopy and imaging. H.A. Bechtel, M.C. Martin, E. Muller, O. Khatib, M.B. Raschke
- 2:00 PMSE 194.** Joint nanoscale chemical-sensitive infrared imaging and mechanical property mapping of polymers at sub 20 nm spatial resolution. X. Xu, L. Wang, H. Wang
- 2:30** Intermission.
- 2:40 PMSE 195.** Characterization of metastable crystalline polymorphs in electrospun polymer nanofibers using AFM-IR spectroscopy and Selected Area Electron Diffraction (SAED). J.F. Rabolt
- 3:10 PMSE 196.** Developing predictive tools for onset of damage in polymer composite: Experimental insights on chemical network structure of epoxy system and its influence on mechanical performance. D. Nepal, J. Chalker, E. Mungall, G.S. Kedziora, A. Ecker, B. Rooths, J. Ryan, S. Barr, J. Moller, C. Kirkham, R.J. Berry, T. Breitzman

**3:30 PMSE 197.** Withdrawn.

## Section G

Moscone Center  
Esplanade Ballroom 309

### Molecular Engineering of Peptide Assembly

#### Drug Delivery

Financially supported by ACS Biomacromolecules

H. Cui, M. V. Tirrell, *Organizers*

A. Kros, S. L. Perry, *Organizers, Presiding*

- 1:30 PMSE 198.** Intra- and extra-cellular manipulation of cell signaling using elastin-like polypeptides. Z. Li, D. Tyrpak, M. Park, C. Lee, A. Kouhi, J. Dhandhukia, S. Hamm-Alvarez, C. Okamoto, J.A. MacKay
- 2:00 PMSE 199.** Organelle-specific subcellular delivery using mitochondria-penetrating peptides. S.O. Kelley
- 2:30 PMSE 200.** Dual-ligand peptide-functionalized liposomes targeting  $\alpha_v\beta_3$  and  $\alpha_5\beta_1$  integrins enhance gene delivery and selectivity to cancer cells. R.M. Levine, E. Kokkoi
- 3:00** Intermission.
- 3:15 PMSE 201.** Shape-changing drug carriers programmed with peptides for tissue targeting. N.C. Gianneschi
- 3:45 PMSE 202.** Enzyme-cleavable peptide amphiphiles enhance intracellular delivery. H. Acar, M.R. Schnorenberg, J.L. LaBelle, M.V. Tirrell
- 4:15 PMSE 203.** Rational design of peptide hydrogels for sustained drug delivery. R. Hoogenboom, A. Madder, S. Ballet

- 4:45 PMSE 204.** Drug-bearing supramolecular filament hydrogels. H. Cui

### Industrial Innovations in Polymer Chemistry

Sponsored by POLY, Cosponsored by MPPG<sup>2</sup> and PMSE

#### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

#### Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>1</sup>, POLY, PRES<sup>2</sup> and WCC

#### ACS Award in Industrial Chemistry: Symposium in honor of Jane Frommer

Sponsored by I&EC, Cosponsored by ANYL, BIOL, COLL, INOR, ORGN, PMSE and POLY

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG<sup>2</sup> and PMSE

#### Innovative Chemistry & Materials for Electrochemical Energy Storage

#### Capacitors

Sponsored by ENFL, Cosponsored by MPPG<sup>2</sup> and PMSE

#### 50th Anniversary Celebration of Macromolecules

Sponsored by POLY, Cosponsored by MPPG<sup>2</sup> and PMSE

#### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

#### Supported Organometallics & Heterogeneous Catalysis

Sponsored by INOR, Cosponsored by PMSE

#### Undergraduate Research Posters Polymer Chemistry

Sponsored by CHED, Cosponsored by PMSE, POLY and SOGED

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

M. Grunlan, *Organizer*

8:00 - 10:00

**18, 27, 29, 44, 53, 69, 78, 80, 83, 89, 94, 98, 121, 128-130, 180-181, 202.** See previous listings.

**206, 212, 229, 267, 270, 299, 303, 476-477, 479, 483, 488, 496, 500, 509, 511, 513, 515, 523, 532, 538, 549, 555, 557, 560, 568, 579, 584, 585, 602, 608, 611, 630-632, 635, 643, 659, 663, 688-690.** See subsequent listings.

#### Innovating Materials for the Next Generation: Bringing Practical Applications into the Chemistry Classroom

Sponsored by CHED, Cosponsored by PMSE, POLY and RUBB

## TUESDAY MORNING

### Section A

Moscone Center  
Esplanade Ballroom 303

#### Biomaterials for Immunotherapy

Z. Gu, D. J. Irvine, *Organizers*

H. Cheng, *Organizer, Presiding*

C. Jewell, Z. Liu, *Presiding*

- 8:30 PMSE 205.** Lymph node-targeted delivery of vaccines for cancer prophylaxis and synergistic cancer immunotherapy. X. Chen, G. Zhu

- 9:00 PMSE 206.** Engineering nanomaterial morphology to enhance immunotherapeutic strategies. S. Yi, S. Allen, N. Karabin, Y. Liu, E.A. Scott

- 9:30 PMSE 207.** Ex vivo engineered immune organoids for controlled differentiation of germinal center-like B cells. A. Singh

**10:00** Intermission.

- 10:15 PMSE 208.** Targeted polymeric nanoparticles: From discovery to clinical trials. O.C. Farokhzad

- 10:45 PMSE 209.** Discovery and early clinical development of Synthetic Vaccine Particles (SVP) to induce antigen-specific immune tolerance. K. Kishimoto

- 11:15 PMSE 210.** Novel polysaccharide carrier for vaccine adjuvant CpG-DNA for cancer immunotherapy. K. Sakurai, N. Miyamoto, S. Mochizuki

- 11:45 PMSE 211.** Engineered polymer nanogels for lymph node restricted immune activation. B. De Geest

### Section B

Moscone Center  
Esplanade Ballroom 304

#### Polymers under Deformation

#### Structure & Morphology Changes during Deformation of Polyolefins & Polymer Composites

Cosponsored by MPPG<sup>2</sup> and POLY<sup>2</sup>

Financially supported by Asylum Research, ExxonMobil Chemical Company

A. I. Norman, D. Yablon, *Organizers*

Y. Gao, *Presiding*

- 8:30 PMSE 212.** Deformation of amorphous, semi crystalline, and segmented polyolefin elastomers. S. Datta

- 9:00 PMSE 213.** Tensile deformation mechanism of propylene-ethylene random copolymer. J. Zhao, Y. Sun, Y. Men

- 9:30 PMSE 214.** Nanohybrid Shish-Kebab (NHSK) structure in composites of Poly(Ethylene Terephthalate) (PET) and Multiwall Carbon Nanotubes (MWCNTs). E.L. Heeley, D. Hughes, E. Crabb, J. Bowen, O. Bikondo, B. Mayoral, T. McNally

**10:00** Intermission.

- 10:10 PMSE 215.** Polymer chain stretching during uniaxial deformation: An *in-situ*, time-resolved SANS study in polymer melts. C. Lopez-Barron, J. Richards, Y. Zeng

- 10:40 PMSE 216.** Shear induced crystallization of bimodal and unimodal high density polyethylene. Y. Zhang, A.I. Norman, J. Throckmorton, A.K. Doufas, A.H. Tsou, B.S. Hsiao



**11:10 PMSE 217.** Observations of unfolding for isotactic polypropylene under uniaxial stretching by solid-state NMR. T. Miyoshi

### Section C

Moscone Center  
Esplanade Ballroom 305

#### Support & Activator Effects on Metal Mediated Polymerization

*Cosponsored by CATL, INOR and MPPG<sup>‡</sup>*

*Financially supported by ExxonMobil Chemical Company, Argonne National Laboratory*

L. Luo, *Organizer*

M. Delferro, *Organizer, Presiding*

**8:00 PMSE 218.** Influence of ligand structures on chromium alkene oligomerization catalysts. T. Wambach, T.D. Tilley

**8:25 PMSE 219.** Examination of nascent polyolefin structure formed during polymerization on supported Ziegler-Natta and metallocene catalysts. P. Brant

**8:50 PMSE 220.** Amorphous silica as a support and activator of chromium-based catalysts for olefin polymerization. S.L. Scott, A. Fong, Y. Wang, B. Peters, A.E. Stiegman

**9:15 PMSE 221.** Controlling active site formation for supported metallocene catalysts. K.M. Clark, A. Hock, B. Liu, W.B. Beaulieu, G.L. Glass

9:40 Intermission.

**10:00 PMSE 222.** Bimetallic effects in Ni-catalyzed ethylene polymerization catalysis. I. Tonks, A.J. Smith, H. Chiu, R.J. Hue, E.D. Kalkman

**10:25 PMSE 223.** Single-site(s) or not single-site(s): That is the question. C. Coperet

**10:50 PMSE 224.** Alkali cations as leading actors in olefin polymerization catalysis. L. Do, Z. Cai, D. Xiao

**11:15 PMSE 225.** Toward green olefin metathesis: Homogeneous polymer-supported ruthenium catalysts. H. Bazzi

### Section D

Moscone Center  
Esplanade Ballroom 306

#### Innovations in Drug Delivery Systems & Combination Products

##### Controlled Release

A. S. Kulshrestha, S. Sridharan, *Organizers, Presiding*

**8:30 PMSE 226.** Withdrawn.

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**8:55 PMSE 227.** Small molecule responsive nanostructures for controlled drug delivery. K. Neumann, S. Jain, J. Geng, M. Bradley

**9:20 PMSE 228.** Telodendrimers: A unique platform for engineering macromolecules based nanocarriers for tailored drug delivery. A.K. Kakkar

**9:45 PMSE 229.** Well-defined targeted polymer-taxane produgs. B. De Geest, B. Louage

10:10 Intermission.

**10:20 PMSE 230.** Sutureless wound closure with covalent controlled release for local drug delivery: Therapeutic methacrylate adhesives. Z. Wright, B. Holt, S.A. Sydlik

**10:45 PMSE 231.** Electrically induced controlled release from biopolymer capsules. A. Gargava, S.R. Raghavan

### Section E

Moscone Center  
Esplanade Ballroom 307

#### Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

*Financially supported by Tosoh, Japan Analytical Industry (JAI) Co., Ltd*

C. Di, L. Fang, J. Mei, *Organizers*

D. Lipomi, *Presiding*

**8:00 PMSE 232.** High efficiency non-fullerene polymer solar cells. S.A. Jenekhe

**8:30 PMSE 233.** Molecular engineering on conjugated side chains for high performance polymer photodetectors and solar cells. Y. Liang

**8:50 PMSE 234.** All-polymer solar cells based on conjugated perylene diimide polymer acceptors. Y. Guo, Y. Li, H. Yan, D. Zhao

**9:20 PMSE 235.** Highly efficient thick-film polymer solar cells. J. Chen

**9:40 PMSE 236.** Solution-processable molecular donors & acceptors for efficient bulk-heterojunction solar cells. P. Beaujuge

10:00 Intermission.

**10:20 PMSE 237.** Optimized alloy-parallel morphology of ternary organic solar cells. W. Ma

**10:50 PMSE 238.** Lead perovskite formation and its application for solar cell. Y. Guo

**11:10 PMSE 239.** Characterization of charge transport networks in non-fullerene bulk-heterojunction thin films. M. Roders

**11:25 PMSE 240.** Multiscale simulation of solution phase behavior during organic solar cell processing. F.L. Lee, A.B. Farimani, K.L. Gu, H. Yan, Z. Bao, V.S. Pande

**11:40 PMSE 241.** Impact of fluorination in non-fullerene acceptor organic photovoltaics. N. Bauer, Q. Zhang, X. Zhan, W. You

### Section F

Moscone Center  
Esplanade Ballroom 308

#### Cooperative Research Award: Symposium in honor of Paul A. Kohl & Edmund Elce

S. C. Jana, E. Reichmanis, *Organizers, Presiding*

**8:30 PMSE 242.** Molecular engineering of anion exchange membranes for fuel cell technology application. C. Bae

**9:00 PMSE 243.** Nanocellulose thin films and nanocellulose aerogels. A. Chang, K.L. Martin, Y. Li, K.R. Carter

**9:30 PMSE 244.** Epoxy-based polymorbornenes for MEMS, microelectronics, and photonics. M. Raeeszadeh

**10:00 PMSE 245.** Stable, high molecular weight polyaldehydes. J.M. Schwartz, O. Phillips, A. Engler, J. Lee, A. Suttief, P. Kohl

10:30 Intermission.

**10:45 PMSE 246.** Vinyl addition polymerization of norbornene monomers. Catalyst developments at Promerus LLC. L.F. Rhodes

**11:15 PMSE 247.** Polymer dielectrics for electronic devices and packaging. P. Kohl, E. Elce

### Section G

Moscone Center  
Esplanade Ballroom 309

#### Molecular Engineering of Peptide Assembly

##### Supramolecular Assemblies

*Financially supported by ACS Biomacromolecules*

S. L. Perry, M. V. Tirrell, *Organizers*

H. Cui, A. Kros, *Organizers, Presiding*

**8:15 PMSE 248.** Dipeptide-based low molecular weight gelators. E. Draper, C. Colquhoun, M. Wallace, J. Iggo, D. Adams

**8:45 PMSE 249.** Heterotypic supramolecular assemblies of short peptidic derivatives. J. Li, B. Xu

**9:15 PMSE 250.** Exploring the peptide sequence space for function. R. Ulijn

**9:45 PMSE 251.** Self-assembling short peptides into complex supramolecular gels with emergent catalytic function. N. Singh, M. Araujo, B. Escuder Gil

10:05 Intermission.

**10:20 PMSE 252.** Peptide sequence variation tunes mechanical properties and charge carrier formation within peptide-based supramolecular nanomaterials. J.D. Tovar

**10:50 PMSE 253.** Biomolecules for non-biological things: Materials construction through peptide design and solution assembly. D.J. Pochan

**11:20 PMSE 254.** Self-assembly of peptide amphiphiles in nonpolar solvents. J.W. Schneider, E. Carvalho, J. Vries, P.J. Sides, D.C. Prieve

**11:50 PMSE 255.** Directing self-assembly and stability of micelles by secondary structure formation in polypeptides. M. Barz

### Section H

Moscone Center  
Esplanade Ballroom 310

#### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

X. Hu, F. Huang, *Presiding*

**8:30 PMSE 256.** Withdrawn.

**8:50 PMSE 257.** Preparation of CO<sub>2</sub> permeable nanomembranes from amine-containing nano-gel particles. Y. Hoshino, T. Gyobu, R. Honda, K. Imamura, C. Yamashita, T. Watanabe, I. Taniguchi, Y. Miura

**9:10 PMSE 258.** Programming temporal shapeshifting. X. Hu, J. Zhou, M. Vatankeh-Varnoosfaderani, W.F. Daniel, Q. Li, A.P. Zhushma, A. Dobrynin, S. Sheyko

**9:30 PMSE 259.** Reversible photochemical control over contact electrification of polymer coatings. X. Hu, S.W. Thomas

**9:50 PMSE 260.** Tunable non-iridescent photonic colloidsomes of bio-inspired core-shell melanin nanoparticles via reverse emulsion process. Z. Hu, M. Xiao, Z. Wang, Y. Li, M. Shawkey, A.N. Dhinojwala, N.C. Gianneschi

10:10 Intermission.

**10:25 PMSE 261.** New bis-( $\mu$ -alkoxo-alkyl-aluminum) initiators for lactone polymerization. C. Huang, M. Chwatko, N.A. Lynd

**10:45 PMSE 262.** Hybrid organic-inorganic multi-block 6F-DABA polyimide SiO<sub>2</sub>-TiO<sub>2</sub> nanocomposites: Structure, physical properties, and gas transport. F. Huang, C.J. Cornelius

**11:05 PMSE 263.** Fabrication of geometrically complex micro-lattices with Continuous Liquid Interface Production (CLIP) for biological applications. R. Jansziewicz, C.J. Bloomquist, S.J. Mechem, J.M. Desimone

**11:25 PMSE 264.** Redox exfoliation of layered transition metal dichalcogenides. A. Jawaid, J. Che, R.A. Vaia

**11:45 PMSE 265.** Synthesis and characterization of amphiphilic brush copolymers for applications in drug delivery and as antimicrobial agents. P. Kalelkar, D.M. Collard

#### Advanced Materials & Technologies for Solar Energy Conversion & Storage

*Sponsored by ENFL, Cosponsored by CATL, MPPG<sup>‡</sup> and PMSE*

#### Innovative Chemistry & Materials for Electrochemical Energy Storage

##### Solid-State Electrolytes & Beyond Li

*Sponsored by ENFL, Cosponsored by MPPG<sup>‡</sup> and PMSE*

#### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

##### Conjugated Polymeric Materials

*Sponsored by INOR, Cosponsored by PMSE*

## TUESDAY AFTERNOON

### Section A

Moscone Center  
Esplanade Ballroom 303

#### Biomaterials for Immunotherapy

H. Cheng, *Organizer*

Z. Gu, D. J. Irvine, *Organizers, Presiding*

**1:30 PMSE 266.** Nanoparticle mediated remodeling of the suppressive immune microenvironment in tumors. L. Huang

**2:00 PMSE 267.** Designer vaccine nanodiscs for personalized cancer immunotherapy. J. Moon

**2:30 PMSE 268.** Harnessing biomaterials to study and engineer lymph node function. C. Jewell

**3:00 PMSE 269.** Engineering lymph-node targeting vaccines for type 1 diabetes. H. Liu

<sup>‡</sup>Cooperative Cosponsorship

- 3:30 PMSE 270.** Macroporous scaffolds for immune cell modulation. P. Li, Z. Fan, H. Cheng
- 3:45 PMSE 271.** Manipulating immune cell responses with designer Janus interfaces. Y. Yu

## Section B

Moscone Center  
Esplanade Ballroom 304

### Polymers under Deformation

#### Applying Advances in Characterization Methods for In-Situ Studies of Deformation

*Cosponsored by MPPG<sup>2</sup> and POLY<sup>2</sup>*

*Financially supported by Asylum Research, ExxonMobil Chemical Company*

D. Yablon, *Organizer*

A. I. Norman, *Organizer, Presiding*

- 1:30 PMSE 272.** *In situ* TEM nanomechanical testing of polymers. F.I. Allen, N. Velez, M. Jones, G. Meyers, A. Minor
- 2:00 PMSE 273.** *In situ* morphology observations of single high-performance fibers with novel multi-axial strain approach. K.E. Strawhecker, M.R. Roenbeck, S. Lustig, E.J. Sandoz-Rosado
- 2:30 PMSE 274.** Investigating the mechanism of stress-oscillation phenomenon in a semi-crystalline biopolymer. E.L. Heeley, D. Hughes, E. Crabb, C. Cafolla, C. Wan
- 2:50** Intermission.
- 3:00 PMSE 275.** *In situ* Raman mapping of materials under mechanical loading: A platform for simultaneous Raman spectroscopy and nanoindentation. C.A. Michaels, Y. Gerbig, R.F. Cook
- 3:30 PMSE 276.** Development of  $\mu$ RheoSANS at NIST. D. Seeman, J. Weston, D.L. Blair, P. Salipante, S.D. Hudson, K. Weigandt
- 3:50 PMSE 277.** Polycaprolactone flow-induced crystallization as probed by simultaneous Raman, rheology, and optical microscopy. A. Kotula, K. Migler
- 4:10 PMSE 278.** Investigation of swelling thermodynamics of extended chain conformations within polymer thin films. S.V. Orski, E. Chan, K. Beers

## Section C

Moscone Center  
Esplanade Ballroom 305

### Support & Activator Effects on Metal Mediated Polymerization

*Cosponsored by CATL, INOR and MPPG<sup>2</sup>*

*Financially supported by ExxonMobil Chemical Company, Argonne National Laboratory*

M. Delferro, L. Luo, *Organizers*

L. Do, I. Tonks, *Presiding*

- 1:00 PMSE 279.** Olefin trimerization with titanium catalysts: MAO/silica-supported variants display higher productivities. J.E. Bercauw, D. Aluthge, A. Sattler, J.A. Labinger
- 1:25 PMSE 280.** Effects of activation on coordination-addition polymerization of polar vinyl monomers: From living and chemo/stereoselective to catalytic polymerization. E.Y. Chen

- 1:50 PMSE 281.** Structure-property relations of ethylene-propylene random copolymer comparison between Ziegler/Natta and self-supported single-site products. J. Wang, L. Boragno, L. Resconi, M. Gähleitner
- 2:15 PMSE 282.** Designing high-performance palladium and nickel catalysts for olefin polymerization and copolymerization. C. Chen

**2:40** Intermission.

- 3:00 PMSE 283.** Expanding the range of polyolefin materials through Living Coordinative Chain Transfer Polymerization (LCCTP). L.R. Sita

- 3:25 PMSE 284.** Benefits from the use of cycloalkyl-bridged metallocene catalysts in ethylene polymerization. J.M. Praetorius, Q. Yang, C. Boxell, W.B. Beaulieu

- 3:50 PMSE 285.** Self-assembled multinuclear palladium catalysts for olefin polymerization. R.F. Jordan

- 4:15 PMSE 286.** Withdrawn.

## Section D

Moscone Center  
Esplanade Ballroom 306

### Innovations in Drug Delivery Systems & Combination Products

#### Novel Drug Delivery

A. S. Kulshrestha, S. Sridharan, *Organizers, Presiding*

- 1:30 PMSE 287.** Efficient transdermal delivery of NSAIDS from new pressure sensitive adhesive technology (TEPI), delivery of ibuprofen, licochaine, diclofenac, etc. D.M. Haddleton, G. Nurumbetov, V. Nikolaou, E. Tombs
- 1:55 PMSE 288.** Hydrogen peroxide-activatable nanotherapeutics: Ultrasound imaging and anti-inflammatory therapy of oxidative stress-associated diseases. D. Lee, C. Kang, E. Jung, E. Hong, Y. Go
- 2:20 PMSE 289.** On the combined use of cyclodextrins and D- $\alpha$ -tocopheryl polyethylene glycol succinate as a drug delivery system. G. Gonzalez-Gaitano, C. Dreiss, J. Puig

**2:45** Intermission.

- 2:55 PMSE 290.** Enzyme-responsive nanomaterials for targeted delivery of chemo- and immunotherapeutics. C.E. Callmann, N.C. Gianneschi

- 3:20 PMSE 291.** Divided we stand: Exploiting sequegels for time-staged delivery of dual chemotherapeutics. P. Majumder, U. Baxa, J. Schneider

- 3:45 PMSE 292.** Covalently captured dynamic self-assembled star-shaped polyglutamates as drug delivery vehicles. A. Duro-Castano, V.J. Nebot, A. Niño-Pariente, N. Feiner, J.J. Arroyo, A. Paul, A. Arminan, L. Albertazzi, M.J. Vicent

## Section E

Moscone Center  
Esplanade Ballroom 307

### Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

*Financially supported by Tosoh, Japan Analytical Industry (JAI) Co., Ltd*

C. Di, L. Fang, *Organizers*

J. Mei, *Organizer, Presiding*

- 1:30 PMSE 293.** Development of organic semiconducting materials for photovoltaic applications. S.R. Marder, J. Zhang, T. Parker, Q. Shi, S. Blakey, B. Xu, S. Agarkar, G. Pirotte, J. Reynolds, X. Zhan

- 2:00 PMSE 294.** Aza-Diels-Alder route to polyquinolines. M. Umerani, R. Kurakake, P. Patel, D.J. Dibble, R. Lopez, J.W. Ziller, A.A. Gorodetsky

- 2:15 PMSE 295.** Synthesis of novel quinoindal type conjugated polymers and application to organic field-effect transistors. H. Hwang, Y. Kim, M. Kang, K. Hwang, M. Lee, D. Kim

- 2:30 PMSE 296.** BDOPV-based conjugated polymers towards high performance n-type polymer field-effect transistors. J. Pei

- 3:00 PMSE 297.** Synthesis of well-defined ladder-type oligomeric *p*-phenylene derivatives via Ring-Closing olefin Metathesis (RCM). J. Lee, L. Fang

**3:15** Intermission.

- 3:35 PMSE 298.** Design and synthesis of novel electron donors and acceptors for high performance organic electronic materials. Y. Liu, B. He, M. Kolaczowski, L. Klivansky, T. Chen

- 4:05 PMSE 299.** Structure-property correlation study of quinoindal ladder oligomers and polymers. X. Ji, L. Fang

- 4:20 PMSE 300.** Generic strategy for cross-linking organic semiconducting polymer thin-films. B. Watson, N. Rolston, K. Bush, L. Taleghani, R. Dauskardt

- 4:40 PMSE 301.** New design principles for realization of high performance electrochromic materials. G.E. Gunbas

- 5:00 PMSE 302.** Innovative carboxylic acid functional propylene dioxythiophene (ProDOT-COOH) monomer for bioelectronics. D. Mantione, A. Sanchez-Sanchez, H. Sardon, D. Mecerreyes

## Section F

Moscone Center  
Esplanade Ballroom 308

### Recent Advances in Multiblock Copolymers

#### Synthesis & Modeling

*Cosponsored by POLY*

*Financially supported by ExxonMobil Chemical Company, The Dow Chemical Company*

Z. Bai, B. K. Long, *Organizers*

J. Zhang, *Organizer, Presiding*

**1:00** Introductory Remarks.

- 1:05 PMSE 303.** Tandem ring-opening metathesis/vinyl insertion copolymerization of ethylene with cyclic olefins: Access to functional polyolefin block-copolymers. M. Buchmeiser

- 1:35 PMSE 304.** Sequence controlled multiblock copolymers: New chemistries lead to new possibilities. A. Anastasaki, N. Engelis, V. Nikolaou, G. Nurumbetov, N. Truong, M. Whittaker, T. Davis, D.M. Haddleton

- 2:05 PMSE 305.** Synthesis of and morphological consequences of frustration in ABC and ABCA' multiblock polymers. M.A. Hillmyer

- 2:35 PMSE 306.** Fast and slow dynamical processes in simulations of block copolymer micelles. D. Morse, J. Mysona

**3:05** Intermission.

- 3:25 PMSE 307.** Multiblock copolymers by ATRP. K. Matyjaszewski

- 3:55 PMSE 308.** Manipulation of effective interaction parameters from ARB and AHB type triblock copolymers. J. Bang, S. Woo, A. Khan, D. Ryu, S. Choi, J. Huh

- 4:25 PMSE 309.** Block copolymers by simultaneous copolymerisation of different monomers, unusual initiators and polymeranalogous transformations. M. Klapper, F. Karagoez, I. Freudensprung, K. Muellen

**4:55** Concluding Remarks.

## Section G

Moscone Center  
Esplanade Ballroom 309

### Molecular Engineering of Peptide Assembly

#### Helical Peptides

*Financially supported by ACS Biomacromolecules*

H. Cui, A. Kros, *Organizers*

S. L. Perry, M. V. Tirrell, *Organizers, Presiding*

- 1:30 PMSE 310.** Decipher 3-helix micelle as nanocarrier. T. Xu

- 2:00 PMSE 311.** Hydrophobic interactions in peptide folding, association, and assembly. M. Shell

- 2:30 PMSE 312.** Drug delivery via cell membrane fusion using lipopeptide modified liposomes. A. Kros

**3:00** Intermission.

- 3:15 PMSE 313.** Collagen hybridizing peptide: Targeted binding, self-assembly, and biomedical application. M.S. Yu

- 3:45 PMSE 314.** Using molecular tuning to design functional polypeptide assemblies. T.J. Deming

- 4:15 PMSE 315.** Programmed assembly of helix bundle-forming peptide-dendron hybrids. J.G. Rudick

- 4:45 PMSE 316.** Histidine-rich amphiphilic peptides exhibit a range of biological functions and self-associate into helical coiled-coil fibers and hydrogels. B. Bechinger, L. Vermeer, J. Wolf, A. Galy, D. Fenard

Technical program information known at press time.

The official technical program for the 253rd ACS National Meeting is available at: [www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)

## Section H

Moscone Center  
Esplanade Ballroom 310

## General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

D. Roy, A. Shete, *Presiding*

**1:30 PMSE 317.** Bactericidal and non-hemolytic macromolecules through synergistic variation in spacer arm and separate center design. A. Punia, K. Punia, K. Chatterjee, S. Mukherjee, J. Fata, P. Banerjee, K.S. Raja, N. Yang

**1:50 PMSE 318.** Rubber toughening of photocurable resins for Continuous Liquid Interface Production (CLIP). A.L. Quintanilla, L. Huang, A. Nebipasagil, S.J. Mecham, J.M. Desimone

**2:10 PMSE 319.** New class of organoaluminum initiators for epoxide polymerizations. C. Rodriguez, R.C. Ferrier, N. Lynd

**2:30 PMSE 320.** Effect of CNCs on crystallization kinetics of polycaprolactone as probed by Rho-Raman microscopy. D. Roy, A. Kotula, D. Fox, K. Migler, J. Gilman, B. Natarajan

**2:50 PMSE 321.** Vat photopolymerization additive manufacturing for the construction of graded and multi-material objects. J. Schwartz, C. Thrasher, A.J. Boydston

**3:10 Intermession.**

**3:25 PMSE 322.** Weld formation in polymer extrusion additive manufacturing processes. J. Seppala, S. Hoon Han, K.E. Hillgartner, C.S. Davis, K. Migler

**3:45 PMSE 323.** Understanding moisture outgassing kinetics of a silica reinforced polydimethylsiloxane using experimental and first-principles modeling. H. Sharma, W. McLean II, R.S. Maxwell, L. Dinh

**4:05 PMSE 324.** Polymer gel electrolytes with jefamine-amine coupled polyureas structure for enhancing efficiency of dye-sensitized solar cells. S. Shen, P. Shih, K. Ho, J. Lin

**4:25 PMSE 325.** One-pot blue-light triggered Interpenetrating Polymeric Network (IPN) from rapid CuAAC and methacrylate reactions with superior mechanical properties. A. Shete, C.J. Kloxin

**4:45 PMSE 326.** Preventing blood loss with self-sealing hemostatic needles. M. Shin, H. Lee

## Advances in Polysaccharides: Practice &amp; Applications

## New Developments in the Industrial Sector

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG<sup>2</sup>, PMSE and POLY

## Advanced Materials &amp; Technologies for Solar Energy Conversion &amp; Storage

Sponsored by ENFL, Cosponsored by CATL, MPPG<sup>2</sup> and PMSE

## Innovative Chemistry &amp; Materials for Electrochemical Energy Storage

## 2D Energy Storage Materials

Sponsored by ENFL, Cosponsored by MPPG<sup>2</sup> and PMSE

## 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

## Materials for Energy Conversion

Sponsored by INOR, Cosponsored by PMSE

## TUESDAY EVENING

## Section A

Moscone Center  
Hall A

## Joint PMSE/POLY Poster Session

M. Grunlan, *Organizer*

6:00 - 8:00

## General Posters/New Concepts in Polymeric Materials.

**PMSE 327.** Photo-controlled proton transfer in polymer films using metastable-state photoacids. N. Abeyrathna, C. Yang, T. Khalil, Y. Liao

**PMSE 328.** Tuning interfacial energy of nanodiamond fillers for property reinforcement in polymer nanofiber composites. P. Adhikari, S.A. Khan, O.J. Rojas

**PMSE 329.** Synthesis of fluorescent phenyleneethynylene trimer-containing polymer. M. Ahmed, J. Moon

**PMSE 330.** Heteroarm core cross-linked star polymers via RAFT alternating copolymerization. N. Ahn, M. Seo

**PMSE 331.** Preparation and structural studies of electrospun poly(vinyl alcohol)/Ru<sub>2</sub>S<sub>3</sub> and hydroxylethyl/Ru<sub>2</sub>S<sub>3</sub> nanofibers. P.A. Ajibade

**PMSE 332.** High loaded sulfur – polymer/graphene cathode material for Li-S batteries. A. Abraham, V. Pillai, S. Lonkar, S. Al Hassan

**PMSE 333.** Tunable hygromorphism: Structural implications of low molecular weight gels and electrospun nanofibers in bilayer composites. S. Alexander, L.T. Korley

**PMSE 334.** Synthesis and developing properties of functional phenolic polymers for eco-friendly thermal printing papers. B. An, K. Choi, H. Kwon, Y. Ryu

**PMSE 335.** High performance electrochromic material shows voltage-dependent fluorescence change. G. Atakan, Y. Arslan Udum, G.E. Gunbas

**PMSE 336.** Device physics of the organic alloying effect in high-efficiency ternary blend polymer/fullerene bulk-heterojunction solar cells. T. Aubry, B.J. Schwartz

**PMSE 337.** Performance of liquid benzoxazine-PEG blend resin systems for potential industrial composites processing. E. Brown, D.A. Rider

**PMSE 338.** Novel comonomers for highly branched LDPE. H.A. Brown, M. Demirors, C. Eddy, S. Ewart, J. Osby

**PMSE 339.** Dimeric drug polymeric nanoparticles with exceptionally high drug loading and quantitative loading efficiency. K. Cai, J. Cheng

**PMSE 340.** Production and characterization of microbial polyhydroxyalkanoates. A. Cal, D. Sikkema, M. Ponce, W.J. Orts, C. Lee

**PMSE 341.** Architectural influence on the assembly of biosynthetic polymer analogues to a peptide hydrogel. A.S. Carlini, D.T. Crystal, S. Sahu, F.J. Hidalgo, A.P. Blum, N.C. Gianneschi

**PMSE 342.** Metal-containing polyesters from 3,5-pyridinedicarboxylic acid, 2-ketoglutaric acid, dipicolinic acid, and camphoric acid. C.E. Carraher, M. Roner, P. Slawek, F. Mosca, D. Patel, K. Black, J. Einkauf, F. Russell, J. Frank, A. Moric-Johnson, L. Miller, L. Chen

**PMSE 343.** Synthesis of metallocene-containing polyethers. C.E. Carraher, M. Roner, K. Black, J. Frank

**PMSE 344.** Development of *Aloe vera*/violet silver nanoparticles/bacterial cellulose film for using as burn wound dressings. L. Chatchawanwirote

**PMSE 345.** Fully physically-linked hydrogels with superior mechanical, self-healing, and antifouling properties. H. Chen, Q. Chen, F. Yang, K. Chu, R. Hu, M. Zhang, B. Ren, J. Zheng

**PMSE 346.** Reduced confinement and its effect on stability in strong polyelectrolyte brushes. W. Chen, M. Menzel, T. Watanabe, O. Prucker, J. Ruehe, C.K. Ober

**PMSE 347.** Effect of oligomeric resin on silica-filled rubber compound. Y. Chen, Y. Liu, F. Lo, Z. Zheng, C. Hsieh, C. Dai

**PMSE 348.** Withdrawn.

**PMSE 349.** Modified Stöber method for the synthesis of dextran-SiO<sub>2</sub> glyconanoparticles for siRNA delivery. O.M. Chesniak, D. Vocelle, C. Chan, S. Walton, M.R. Smith

**PMSE 350.** Synthesis and characterization of indolocarbazole pyrroledione-based organic semiconductors. K. Choi, J. Park, J. Kwon, Y. Ryu, B. An, S.Y. Park

**PMSE 351.** Fabrication of Pickering emulsion stabilized by associative magnetic nanoparticles for recoverable emulsion flooding. S. Choi, J. Kim

**PMSE 352.** Biodegradable hairy nanoparticles for biomedical applications. S. Christau, J. Lahann

**PMSE 353.** Preparation and characterization of hydrogel wound dressing loaded PLGA/white thyme oil PLGA nanospheres for used as pressure ulcer treatment. C. Choipang, O. Suwanton, P. Chusynuan, P. Ekabutr, P. Supapol

**PMSE 354.** Design of electronically-active polyionenes at organic/inorganic interfaces. M.D. Cole, M. Sheri, C. Bielicki, T. Emrick

**PMSE 355.** Development of double layer-wound dressing of biopolymer containing rice extract and essential oil for biomedical applications. P. Chusynuan, N. Chimnoi, A. Makarasen, N. Reuk-ngam, L. Pattani, P. Khlaychan, S. Techasakul

**PMSE 356.** Monomer encapsulated ARGET ATRP emulsion polymerization for synthesis of Polymer-Grafted Nanoparticles (PGNs). R. Cordero, C.K. Ober, R.A. Vaia

**PMSE 357.** Morphology and responsive properties of mosaic polymer brushes. O. Davydovich, E. Chu, P.B. Moore, A. Sidorenko

**PMSE 358.** Synthesis of latexes from plant oil-based acrylic monomers. Z. Demchuk, I. Tarnavchik, V. Kirianchuk, A.S. Voronov

**PMSE 359.** Induction of adipose-derived stem cells on nanofibrous, porous microspheres for vascularized adipose tissue regeneration *in vivo*. Y.R. Doleyres, J. Wang, X. Jin, P.X. Ma

**PMSE 360.** Preparation and characterization of a nano-composite constrained high temperature drilling fluid with water soluble AM-SAS-SSS copolymers by inverse microemulsion polymerization. Q. Deng, Y. Ke

**PMSE 361.** Self-healing poly(hydroxyalkanoates) formed from metal-ligand complexation. T. Ebrahimi, S. Hatzikiriakos, P. Mehrhodavandi

**PMSE 362.** Synthesis and characterization of Polycaprolactone (PCL) membranes as scaffolds for bone tissue engineering. E.A. Dwomoh, J. Santillan, E.O. Ortiz-Quiles, E. Nicolau

**PMSE 363.** Biologically relevant polymeric materials based on the azobenzene motif. T. Eom, Y. Lee, S. Kim, J. Bang, A. Khan

**PMSE 364.** Laminar flow-based fabrication of thin film battery separators from aramid nanofibers. A.E. Emre, P. Weerappuli, S. Takayama, N. Kotov

**PMSE 365.** Understanding ordering of block-copolymer-based supramolecules on lithographically patterned surfaces. K. Evans, T. Xu

**PMSE 366.** Advanced polymer nanocomposites for 3D printing in space. C. Fincher, Y. Mizuno, G. Garner, T. Ozkan, J. Meyer

**PMSE 367.** Synthesis, characterization and gas transport properties of Tröger's Base-Based Polyimides of Intrinsic Microporosity (TB-PIM-PIs). B. Ghanem, N. Alaslai, I. Pinnau

**PMSE 368.** Selective  $\alpha$ -olefin oligomerization using group IV amine bis(phenolate) catalysts. T.N. Gunasekara, M.M. Abu-Omar

**PMSE 369.** Near infrared responsive hydrogels with fast and spatially controlled responses. I.M. Hill

**PMSE 370.** Tailoring multi-site catalysts and in-situ formation of self-reinforcing all-polyolefin composites for sustainable light-weight construction. T. Hees, M. Stürzel, R. Mülhaupt

**PMSE 371.** Material design for perovskite solar cell. C. Holmes, O. Allam, Z. Greenberg, S. Jang, K. Kim

**PMSE 372.** Enhancement of elasticity in alginate-clay nanocomposite hydrogels with PEO-PPO-PEO copolymers. W. Hom, S.R. Bhatia

**PMSE 373.** Stimuli-sensitive lipid coated nanogels (lipogels) for hydrophilic and hydrophobic guest delivery. C. Homyak, S. Thayumanavan

**PMSE 374.** Single component hydrogel simultaneously exhibiting stretchable, self-healing, stimuli-responsive, and adhesive properties. S. Hong, H. Lee

**PMSE 375.** Withdrawn.

**PMSE 376.** Morphology and adsorption kinetics of 0D, 1D, and 2D carbonaceous nanomaterial networks in polymeric electrospun fibers. N. Hoogesteijn von Reitzenstein, O. Apul, E.L. Pruitt, K. Hristovski, P.K. Westerhoff

**PMSE 377.** Incorporation of Nile red in hyperbranched poly n-isopropylacrylamide and its response to environmental change. R. Hoskins, S. Rimmer

**PMSE 378.** Hybrid organic-inorganic polyimide SiO<sub>2</sub>-TiO<sub>2</sub> nanocomposites: Structure, physical properties, and gas separation. F. Huang, C.J. Cornelius

‡ Cooperative Cosponsorship



- PMSE 379.** Synthesis of a dendritic scaffold that will be used for antioxidant dendrimer synthesis. U.G. Huynh, C.Y. Lee
- PMSE 380.** Chemosensor of Nile Red deposition in poly(styrene-co-maleic anhydride) core-shell for copper cation in water. K. Hwang, J. Park, J. Lee
- PMSE 381.** Carbon dioxide gas indicating film using the hydrophobic ion pair dye doped on poly(ethyleneimine)/poly(styrene-co-maleic anhydride). K. Hwang, W. Choi, J. Lee
- PMSE 382.** Synthesis of various cycloaliphatic polyester copolymers based on Poly(1,4-cyclohexylenedicyclohexane-1,4-dicarboxylate) (PCCD) with tunable glass transition temperature and viscosity using melt polymerization technique. S. Ikkardesler, R. Piyade, A.E. Acar
- PMSE 383.** One-step fabrication of multi-scale diffractive gratings by directional photofluidized surface relief of azo polymers. Y. Jeong
- PMSE 384.** Preferential ordering of poly(3-hexylthiophene) on two type graphene substrates. K. Jo, S. Chae, J. Choi, S. Won, J. Kim, H. Kim
- PMSE 385.** Structural characterization of three-helix micelle delivery platform for neurological disease treatment. B. Jung, J. Ang, T. Xu
- PMSE 386.** Development of chitosan derivatives/starch foam for use as oral surgical wound dressing. N. Jungprasertchai
- PMSE 387.** Synthesis of cycloaliphatic polyesters, poly(1,4-cyclohexylenedicyclohexane-1,4-dicarboxylate) (PCCD), for low temperature curing powder coatings. K. Kalayci, R. Piyade, B. Salman, A.E. Acar
- PMSE 388.** Adhesion control of polymeric dry adhesives using partial wrinkle generation method. S. Kang
- PMSE 389.** Withdrawn.
- PMSE 390.** Microfluidic synthesis of uniform gelatin microparticles for temporary embolization. B. Kim, S. Choi, S. Han, J. Kim
- PMSE 391.** Stimuli-responsive release of guests from mesoporous nanocontainer induced by conformational conversion of peptide gatekeepers. J. Lee, C. Kim
- PMSE 392.** Surface modification of microcrystalline cellulose to capture CO<sub>2</sub> as fillers in LDPE composite. K. Ha, H. Kim, S. Park, Y. Yang
- PMSE 393.** Thermal stability and physical properties of basalt fiber reinforced epoxy composite modified by silane coupling agents. H. Kim, J. Lee, I. Nam
- PMSE 394.** Fluorescent supracolloidal chains of diblock copolymer micelles with color tunability. K. Kim, S. Jang, B. Sohn
- PMSE 395.** Fabrication of methacrylated silk fibroin hydrogel by photo-cross-linking. M. Kim, H. Kim, Y. Park, C. Ki
- PMSE 396.** Effect of plant oil unsaturation on emulsion copolymerization with vinyl monomers. K. Kingsley, O. Shevchuk, I. Tarnavchik, A. Voronov
- PMSE 397.** Chemical warfare agent simulant sensing via natural polymeric photonic crystals. J. Kittle
- PMSE 398.** Synthesis of amphiphilic PEO-b-PCL-b-PEO triblock copolymers as novel polymeric surfactants. J. Lee, H. Seo, J. Kim
- PMSE 399.** Withdrawn.
- PMSE 400.** Optimization of electrochromics on polycarbonate substrates: Use of thermal and long wavelength photo-initiators. M. Li, X. Zhang, G.A. Sozling
- PMSE 401.** Preparation and characterization of a novel halogen-free flame retarded polyamide 6. K. Liu, Y. Li, R. Xiao
- PMSE 402.** MOF-random copolymer nanocomposite. S. Liu, T. Xu
- PMSE 403.** Dynamic mechanical behavior of thermoset rubber blends. Y. Liu, Y. Chen, J. Wang, H. Lin, C. Dai, C. Hsieh
- PMSE 404.** Graphene/polyaniline blended fiber for conducting and flexible energy storage devices. Y. Feng, J. Shen, C. Ma, D. Zhang, Z. Xiao, Y. Liu, Y. Min
- PMSE 405.** Synthesis of graft copolymers with N-vinylimidazole onto pristine and modified polypropylene monofilaments: PP-g-PNVIm, (PP-g-PHEMA)-g-PNVIm, and (PP-g-PNIPAAm)-g-PNVIm. F. Lopez Saucedo, E. Bucio
- PMSE 406.** Enzyme induced mineralization of hydrogels. M. Meuris, N. Rauner, J.C. Tiller
- PMSE 407.** Polymer thin film surfaces for molecular transport and concentration. K.A. Miller, L. Kiseley, P.V. Braun
- PMSE 408.** Relationship between cure temperature and the mechanical, physical, and dielectric performance of a polydimethylsiloxane/glass composite for electric motor insulation. S. Miller, K. Becker, T. Williams, D. Scheiman, P. Heimann, A. Ring
- PMSE 409.** Physical, thermal, electrochemical and fuel cell performance study of sulfonated poly(phenylene)s/novel branched polysulfone-based polymer blend. B. Motealleh, T.D. Largier, F. Huang, C.J. Cornelius
- PMSE 410.** Imprinted polymeric materials for selective recognition of anti-diabetic drugs in complex mixtures. A. Mujahid, I. Haq, T. Hussain, S. Bajwa
- PMSE 411.** Zinc and cadmium coordination polymers of aliphatic systems as dielectric materials. S. Nasreen, M.L. Baczkowski, G.M. Treich, A. Mannodi-Kanakithodi, S.K. Scheirey, R. Ramprasad, G.A. Sozling
- PMSE 412.** Agarose coating to combat peritoneal dialysis catheter-associated complications. K. Neoh, M. Li, J. Rahmat, K. Mandakhalikar, E. Kang, E. Chiong
- PMSE 413.** Synthesis and characterization of copolymers of  $\beta,\beta'$ - branched alkyl fused thiophenes with branched alkyl diketopyrrolopyrrole. W. Niu, A. Wallace, J.R. Matthews, M. He
- PMSE 414.** UV-curable flame retardant coatings for cotton fabrics. Z. Yildiz, H. Onen, A. Gungor, Y. Wang, K. Jacob
- PMSE 415.** Effect of catalyst concentration on acid-epoxy reactions: A powder coating study. A. Ozdemir, A. Ozcan, B. Salman, A.E. Acar
- PMSE 416.** Catalyst screening for powder coating by differential scanning calorimetry. A. Ozdemir, A. Ozcan, A.E. Acar
- PMSE 417.** Withdrawn.
- PMSE 418.** Optimizing parameters for electrospinning alginate- and chitosan-based nanofibers. K. Penton, W. Weeks, T. Brown, S.K. Hamilton
- PMSE 419.** Physical and chemical analysis of photodegraded high-density polyethylene by natural and accelerated ultraviolet light exposure. L.N. Perry, D. Stanley, H. Hsueh, J. Kim, D.L. Hunston, C.C. White, L. Sung
- PMSE 420.** Janus dendrimer from poly(aryl ether) linked PAMAM for supergelation and guest release. P. Prabhakaran
- PMSE 421.** Curcumin-glucose macromolecular conjugates via click-chemistry for selective chelation of toxic metals. K. Punia, A. Averick, A. Punia, S. Dolai, S.R. Guariglia, W. L'Amoreaux, K.S. Raja
- PMSE 422.** Increase in compatibilization of engineered resins with modified polyolefins. R. Putans, Q. Wan, B. Walther, E. Keene, Y. Li, M. Williams
- PMSE 423.** Enhancement of binding affinity of catechol and catecholic polymer to 4-fluorophenylboronic acid through nitration of aromatic ring. S. Qiu, S. Jin, N. Yang
- PMSE 424.** Protein surface PEGylation for the emulsion-based formation of stable nanoparticles. L. Radi, M. Fach, E. Steiert, P. Wich
- PMSE 425.** Novel properties of polymers upon critical cross-linking right at the borderline between thermoplastic and elastomer. T. Raidt, F. Katzenberg, J.C. Tiller
- PMSE 426.** Light-activated non-equilibrium processes at the interface of a nanoassembly. P. Rangadurai, S. Thayumanavan, M. Molla, J.J. De Pablo
- PMSE 427.** Graphene oxide armored polythioether particles. B. Rodier, E. Mosher, S. Burton, R. Matthews, E. Pentzer
- PMSE 428.** In situ synthesis of conductive polymers within covalent organic frameworks. N. Sahiner, S. Demirci
- PMSE 429.** Photomediated approach for patterned bottlebrush networks. C. Sample, E. Discekici, N. Dolinski, D. Lunn, A. Anastasaki, C.J. Hawker
- PMSE 430.** Charge transfer modulated self-assembly in poly(aryl) ether dendron derivatives with improved stability and transport characteristics. S. Satapathy
- PMSE 431.** Polymer antibiotic conjugates based on poly(2-oxazoline)s. M. Schmidt, C. Krumm, J.C. Tiller
- PMSE 432.** Understanding the relationship between semiconducting polymer crystallinity and the electrical properties of sequentially-processed F4TCNQ-doped P3HT films. D.T. Scholes, P. Yee, S.A. Hawks, J. Lindemuth, S.H. Tolbert, B.J. Schwartz
- PMSE 433.** New approach to fabricate thermally responsive nanoscale emulsion films by layer-by-layer deposition. H. Seo, J. Lee, J. Kim
- PMSE 434.** CO<sub>2</sub>-sensitive poly(N-isopropylacryl amide-co-acrylic acid) copolymers with high glass transition temperatures. Y. Shieh, P. Lin
- PMSE 435.** Fabrication of superhydrophobic coatings on AA 6061. N.A. Siddiqui, A. Zeeshan, H. Haseeb, M. Shaharyar
- PMSE 436.** Functionalized nanofiber scaffolds for neural differentiation of mouse ESCs. E. Silanteyeva, J. Carpenter, W. Nasir, R. Willis, M. Becker
- PMSE 437.** Continuous Electrocardiogram (ECG) measurement via optimization of electrochemical state of a conductive polymer on fabric. S.K. Sinha, Y. Noh, G.M. Treich, S.H. Alipour, K.H. Chon, G.A. Sozling
- PMSE 438.** Super oxygen and improved water vapor barrier of polypropylene film with polyelectrolyte multilayer nanocoatings. Y. Song, P. Tzeng, J.C. Grunlan
- PMSE 439.** Preparation of surfactant-resistant polymeric vesicles with ultra-thick membranes through RAFT dispersion polymerization. Z. Song, Y. Huang, V. Prasad, R. Baumgartner, S. Zhang, K. Harris, J.S. Katz, J. Cheng
- PMSE 440.** Glycocalyx-inspired nitric oxide-releasing polysaccharide coating on TiO<sub>2</sub> nanotube surfaces reduce platelet adhesion and activation. J. Staver, R. Simon-Walker, R. Romero, Y. Zang, M.M. Reynolds, K. Popat, M. Kipper
- PMSE 441.** Facile approach to large-scale and three-dimensional pore-forming on polymeric objects. J. Huang, W. Sun
- PMSE 442.** Withdrawn.
- PMSE 443.** Snatching bacteria out of biofilms using the power of polymer desolvation. T. Swift, R. Pflenderleith, S. Rimmer
- PMSE 444.** Fabrication and characterization of thiol-norbornene schizophyllan hydrogels. H. Tae, S. Lee, M. Kim, C. Ki
- PMSE 445.** Preparation and characterization of full biobased polyamide 109 based on the renewable monomer: Application in engineering thermoplastics. L. Tao, R. Xiao
- PMSE 446.** Effect of multi-branched PDLA additives on the mechanical and thermomechanical properties of blends with PLLA. L.F. Torres, C. Momahan, W.J. Orts
- PMSE 447.** Control of graphene at the interface of the polyethylene/polypropylene blends: Fabricated conductive composites with ultralow percolation thresholds. C. Tu, K. Nagata, M. Higuchi
- PMSE 448.** Aramid nanofiber films for ionizing radiation detection via semi-conducting nanoparticles. D. Vecchio, B. Davis, M. Hammig, N. Kotov
- PMSE 449.** Photophysics of polarons and bipolarons in F4TCNQ-doped semiconducting polymers. M.G. Voss, D.T. Scholes, J. Challa, J. Lindemuth, B.J. Schwartz
- PMSE 450.** Convenient one-step preparation of isoporous nanostructures by melt-shear organization. S. Vowinkel, M. Gallei
- PMSE 451.** Modifying PDMS surface using infiltration interfacial polymerization. M. Wang, J.M. Gorham, J. Kilgore, F. DelRio, Z. Zhang, Y. Ding
- PMSE 452.** New polyolefins via ring-opening metathesis polymerization for biomedical applications. Y. Wang, M.A. Hillmyer
- PMSE 453.** Homoporous structures derived from amphiphilic block copolymers. Y. Wang
- PMSE 454.** PEG-polypeptide dual brush block copolymers. Z. Wang, J. Cheng
- PMSE 455.** Responsive nanoporous membranes by selective swelling of triblock terpolymers. Y. Wang, Z. Wang
- PMSE 456.** Towards fibers that will possess hydrophobic/oleophobic properties for an extended period of time. L. Wei, T. Demir, P. Brown, I.A. Luzinov

- PMSE 457.** Modified biopolymers as dynamic materials for nanoparticle drug delivery. D. Bamberg, M. Fach, L. Radi, P.R. Wich
- PMSE 458.** Iron(II) crosslinked bipyridine-terminated poly(dimethylsiloxane) as an elastomer. Z. Williams, E. Burwell, A. Chiomento, J. Pawlik, A.D. Schwab, M.S. Hambourger
- PMSE 459.** Withdrawn.
- PMSE 460.** Super-wettability based fabrication of one-dimensional materials. Y. Wu, L. Jiang
- PMSE 461.** Zwitterionic polymer brushes for salt-responsive polymer structure-surface activity relationship. S. Xiao, H. Chen, R. Hu, M. Zhang, B. Ren, F. Yang, K. Chu, J. Yang, J. Zheng
- PMSE 462.** Large nanoparticle assembly in block copolymer-based supramolecule. Y. Xiao, T. Xu
- PMSE 463.** Effect of weight ratios of PHBV/PLA polymer blends on nitrate removal efficiency and microbial community during solid-phase denitrification. Z. Xu
- PMSE 464.** Synthesis and characterization of ultralow fouling poly(N-acryloylglycinamide) brushes. F. Yang, H. Chen, Q. Chen, K. Chu, R. Hu, M. Zhang, B. Ren, J. Zheng
- PMSE 465.** Effects of silane surface treatment of microcrystalline cellulose on mechanical properties of polyurethane composites. K. Ha, Y. Yang, H. Kim, S. Park, K. Lim
- PMSE 466.** Study on the functional effect of nano composites lubricant and lubricating drilling fluid. C. Yu, Y. Ke
- PMSE 467.** Cationic conjugated polymers for discrimination of microbial pathogens. H. Yuan
- PMSE 468.** Uniaxial stretching induced packing and folding structure change in isotactic polypropylene. S. Yuan, T. Miyoshi
- PMSE 469.** Next generation semiconducting carbonaceous material, graphyne: Its synthesis, properties and electrical applications. E. Yun, S. Cho, D. Ryu, H. Lee
- PMSE 470.** Effect of temperature and concentration on self-assembly and mechanical properties of triblock copolymer gels. M. Zabet, S. Mishra, S. Kundu
- PMSE 471.** Membrane gas separation accelerated by hollow nanospheres. J. Zhang, S.M. Mahurin, S. Dai
- PMSE 472.** Neutral color tuning of flexible conjugated polymer electrochromic devices achieved by multi-component systems. X. Zhang, M. Li, G.A. Sotzing
- PMSE 473.** Polymer-aided rituximab-epirubicin conjugate for treatment of B-cell malignancies. L. Zhang, Y. Fang, J. Kopecek, J. Yang
- PMSE 474.** Mixed micellar assemblies as polymer adjuvants for peptide administration. O. Zholobko, A. Kohut, S. Stafslien, L. Vanderaman, A.S. Voronov
- PMSE 475.** Multi-stimuli-responsive amphiphilic assemblies through simple postpolymerization modifications. J. Ziwen, X. Liu, S. Thayumanavan
- PMSE 477.** Injectable cyclic peptide pro-gelators as enzyme-responsive hydrogels for post-myocardial infarction tissue engineering. A.S. Carlini, N.C. Gianneschi
- PMSE 478.** Water-soluble Au(I)-phosphate complexes: From post-modification of biomolecules to peptidic self-assembly into fluorescent micelles. B. Kemper, P. Besenius
- PMSE 479.** Controlling size, shape and function of core cross-linked nanostructures: Exploiting secondary structure in reactive polypept(o)ides to direct self-assembly. K. Klinker, O. Schäfer, D. Huesmann, L. Braun, L. Capelão, M. Barz
- PMSE 480.** Amino acid-encoded transient helicity by biocatalytic self-assembly. M. Kumar, R. Ulijn
- PMSE 481.** Biomimetic approach to engineering high affinity protein-binding supramolecular nanofibers. Y. Li, L. Lock, Y. Wang, X. Xu, Z. Li, H. Cui
- PMSE 482.** Peptide-Oligonucleotide Chimeras (POCs): Programmable building blocks for the construction of soft nanoscale matter. A. Merg, R. Thamer, S. Mokashi Punekar, S.T. Nguyen, N.L. Rosi
- PMSE 483.** Biologically active peptide quaternary structures with topological diversity using orthogonal, abiotic dynamic covalent reactions. J.F. Reuther, I. Kolesnichenko, E.T. Hernandez, D.V. Ukrainsev, E.V. Anslin
- PMSE 484.** Withdrawn.
- Recent Advances in Multiblock Copolymers.**
- PMSE 485.** Withdrawn.
- PMSE 486.** Graded, hierarchically porous carbon materials from block copolymer and organic additive co-assembly. S.A. Hesse, J. Werner, P. Beauceage, K. Barteau, U.B. Wiesner
- PMSE 487.** Janus container. F. Liang
- PMSE 488.** Elaboration of photoreversible poly( $\epsilon$ -caprolactone)-based networks with two-way shape-memory effect. F. Pilate, R. Mincheva, L. Wu, J. Raquez, P. Dubois
- PMSE 489.** Video-rate AFM imaging of block copolymer evolution. J.G. Raybin, J. Ren, P.F. Nealey, S.J. Sibener
- PMSE 490.** Polymersome membrane-confined self-assembly. L. Ruiz-Perez, L. Messenger, J. Gaitzsch, A.S. Joseph, L. Sutto, F. Gervasio, G. Battaglia
- PMSE 491.** Development of engineered bionanomaterial based on dispersed nanodiamonds into self-assembled polystyrene-block-poly(ethylene oxide) copolymer. J. Santillan, Y. Rodríguez, S.A. Bello, E. Nicolau
- PMSE 492.** Transient network formed by supramolecular assembly of oligocarbonate-fluorene end-functionalized poly(ethylene glycol). G. Wei, S. Ali, V.M. Prabhu, S. Venkataraman, Y. Yang, J. Hedrick
- PMSE 493.** Microscopic structures in ion exchange fuel cell membranes. J. Lu, A. Spakowitz, C. Frank, M. Toney
- PMSE 494.** Effects of network termination on elastic and thermal expansion asymmetries in hybrid molecular materials. J. Burg, R. Dauskardt
- PMSE 495.** Correlating radiative dynamics with structural heterogeneity in conjugated polymers. W.R. Hollingsworth, J. Lee, L. Fang, A. Ayzner
- 1D Nanomaterials: Synthesis, Assembly, Properties & Applications.**
- PMSE 496.** Dual modal nanosensors for the early detection of *Escherichia coli* O157:H7. T. Banerjee, S. Sulthana, T. Shelby, J.G. McAfee, S. Santra
- PMSE 497.** Gradient structure nanofibrous assemblies for broadband acoustic absorption. L. Cao, J. Yu, B. Ding
- PMSE 498.** Versatile stimuli-responsive ROMP-based polymeric system for modulating orientation of liquid crystal microdroplets. Y. Huang, Y. Kim, N.C. Gianneschi, N.L. Abbott
- PMSE 499.** Aligned silver nanowire transparent electrodes for flexible electronic devices. S. Kang, S. Cho, H. Ko
- PMSE 500.** Role of phenolic compounds in the formation of fluorescent carbon nanoparticles from natural polysaccharides. K. Lee, E. Park, C. Jeong, S. Park, H. Lee
- PMSE 501.** Electret polyvinylidene fluoride nanofibers hybridized by polytetrafluoroethylene nanoparticles for high-efficiency air filtration. L. Yuyao, X. Zhao, J. Yu, B. Ding
- PMSE 502.** Layer-by-layer assembly and spectroelectrochemical study of alizarin red S-based thin films. W. Ma, J. Lutkenhaus
- PMSE 503.** Polymerization of 3,4-ethylenedioxythiophene in CD-MOF. W. Michida, A. Nagai, M. Sakuragi, K. Kusakabe
- PMSE 504.** Nanoribbons and nanofractals self-assembled from graphene quantum dots. Z. Qu, W. Feng, N. Kotov
- PMSE 505.** Development of designer nanomedicines and nanosensors: Important roles in human health. S. Santra, T. Banerjee, T. Shelby, S. Sulthana, J.G. McAfee, I.S. Zegar
- PMSE 506.** Hierarchically structured superhydrophobic and superoleophilic nanofibrous membranes for effective oil-water separation. F. Wang, L. Huang, B. Ding
- PMSE 507.** Hydrophobic polyvinylidene fluoride fibrous membranes with simultaneously water/windproof and breathable performance. X. Yu, Y. Li, X. Wang, B. Ding
- PMSE 508.** Polyurethane/fluorinated polyurethane membranes with waterproof and breathable performance improved by lithium chloride. J. Zhao, Y. Li, L. Liu, B. Ding
- Innovations in Drug Delivery Systems & Combination Products.**
- PMSE 509.** Polypept(o)ides: From polymers based on endogenous amino acids to therapeutics and imaging agents. M. Barz
- PMSE 510.** Controllable multi-compartmental capsules with distinct cores and shells for synergistic release. F. He, W. Wang, X. He, X. Yang, M. Li, R. Xie, X. Ju, Z. Liu, L. Chu
- PMSE 511.** PEG architecture effect on the hybridization thermodynamics and protein accessibility of PEGylated oligonucleotides. F. Jia, X. Lu, X. Tan, K. Zhang
- PMSE 512.** Transiently responsive block copolymer micelles based on (meth)acrylamides engineered with hydrolyzable carbonate side chains. B. De Geest, S. Kasmi
- PMSE 513.** Protein-induced supramolecular disassembly of amphiphilic polypeptide nanoassemblies. M. Molla, P. Prasad, S. Thayumanavan
- PMSE 514.** Tuning cell behaviour by nanoparticles shape. L. Rizzello, A.S. Joseph, C. De Pace, G. Battaglia
- PMSE 515.** Micellar thrombin-binding aptamers as reversible nanoparticle anticoagulants. A. Roloff, A.S. Carlini, N.C. Gianneschi
- PMSE 516.** Light activation and triggered drug release of multi-agent loaded nanoconstructs for simultaneous suppression of multiple treatment escape pathways in the pancreatic cancer. B.B. Sears, B.Q. Spring, L. Zheng, T. Hasan
- PMSE 517.** Dendrimer-modified MoS<sub>2</sub> nanoflowers for combinational gene silencing and photothermal therapy of tumors. X. Shi, L. Kong, L. Xing, C. Alves, L. Du
- PMSE 518.** Drug-eluting magneto-fluorescent nanoparticles for combined imaging and therapy. A. Simchi, Y. Wang
- PMSE 519.** Engineering the local lymph node microenvironment to promote immunological tolerance. L.H. Tostanoski, T. Simon, J. Bromberg, C. Jewell
- PMSE 520.** Self-assembled transferin-polymer conjugate nanocarriers for the delivery of therapeutics. A. Wong, A.P. Johnston, G.K. Such
- PMSE 521.** Helical antimicrobial polypeptides with radial amphiphilicity. M. Xiong, J. Cheng
- PMSE 522.** Enteric elastomer enables safe gastric retention and extended oral drug delivery for improved medication adherence. S. Zhang, R.S. Langer
- Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications**  
Sponsored by POLY, Cosponsored by PMSE
- WEDNESDAY MORNING**
- Section A**
- Moscone Center  
Esplanade Ballroom 303
- Biomaterials for Immunotherapy**
- H. Cheng, D. J. Irvine, *Organizers*  
Z. Gu, *Organizer, Presiding*  
H. Liu, J. Moon, *Presiding*
- 8:30 PMSE 523.** Phototherapy-triggered cancer immunotherapy with nanoparticles. S. Liu
- 9:00 PMSE 524.** Nanotechnology-mediated delivery of nucleic acids for cancer therapy. J. Shi
- 9:30 PMSE 525.** Enhancing cancer immunotherapy using responsive biomaterials. L. Tang
- 10:00 PMSE 526.** Transiently thermosensitive tetrahydropyran/furanlylated-polyacrylamides: Synthesis, self-assembly, acid-triggered degradation and formulation of Amphotericin B as a vaccine adjuvant. B. De Geest, S. Van Herck
- 10:15 Intermission.**
- 10:30 PMSE 527.** Modular nanostructures for immunotherapy. C.A. Mirkin

‡Cooperative Cosponsorship

**11:00 PMSE 528.** Nanolayer assembly as a platform for immunomodulatory release systems. **P.T. Hammond**

**11:30 PMSE 529.** Ionic polyphosphazenes and their potential as immunotherapies. **A.K. Andrianov**

## Section B

Moscone Center  
Esplanade Ballroom 304

### Polymers under Deformation

#### AFM & Nanoindentation Studies

*Cosponsored by MPPG<sup>2</sup> and POLY<sup>2</sup>*

*Financially supported by Asylum Research, ExxonMobil Chemical Company*

A. I. Norman, *Organizer*

D. Yablon, *Organizer, Presiding*

**8:30 PMSE 530.** Mechanical properties of polymers determined by nanoindentation. **A. Bushby**

**9:00 PMSE 531.** Confined plasticity in polymer thin films. **G.L. Cross**, O. Brazil, J. de Silva, M. Chowdhury, W. Shi, W. Oliver, J.B. Pethica

**9:30 PMSE 532.** Dynamic mechanical behavior of thermoset silica-filled rubber blends. **C. Dai**, Y. Chen, Y. Liu, J. Wang, F. Lo, C. Hsieh

**10:00** Intermission.

**10:10 PMSE 533.** AFM methods for aqueous probing of lubricious gel coatings for medical devices. **G.D. Haugstad**, M. Zeng, C. Colling, A. McCormick

**10:40 PMSE 534.** Importance of the mechanical model used for the interpretation of atomic force microscopy measurements of the mechanical properties of nanofibers. **J. Hutter**, S. Makaremi, W. Wan

**11:10 PMSE 535.** Pressing and sliding on gels and brushes. **C.H. Mathis**, R. Simic, L. Isa, N.D. Spencer

**11:40 PMSE 536.** Deformation rate dependence of Atomic Force Microscope based nanomechanical measurements. **B. Pittenger**, J. He, L. Huang, T. Mueller, P. De Wolf

## Section C

Moscone Center  
Esplanade Ballroom 305

### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

J. L. Almodovar, P. Byrley, *Presiding*

**8:30 PMSE 537.** Epitaxial, ultra-thin gold coating as a barrier to prevent oxidation of silver nanowires. **Y. Zhu**, X. Ma, S. Kim, P. Byrley, M. Liu, R. Yan

**8:50 PMSE 538.** Coordinate immobilization of Silver Nanoparticles on Aminated Polyethersulfone (AgNPs-APES) composite membrane for prolong and controlled silver ion (Ag<sup>+</sup>) release. **M. Saliman Haider**, G.N. Shao, K. Hee Taik

**9:10 PMSE 539.** Bioinspired graphene-based nanocomposites via synergistic toughening. **Q. Cheng**

**9:30 PMSE 540.** Nanohybrid films of functional biopolyimides with metal oxides by simple surface-engineering. **S. Dwivedi**, T. Kaneko

**9:50 PMSE 541.** Multi-walled carbon nanotubes –Sulfur/High-Density Polyethylene (HDPE) multi-composites: Synthesis, crystallization, morphology and thermo-mechanical properties. **K. Jena**, S. Al Hassan

**10:10** Intermission.

**10:25 PMSE 542.** Engineering nano-structured hydroxyapatite/collagen composite scaffolds by green electrospinning. **J.L. Almodovar**, D. Castilla, M. Maldonado, P. Sundaram

**10:45 PMSE 543.** Scalable manufacturing of biomimetic moldable hydrogels for industrial applications. **E.A. Appel**

**11:05 PMSE 544.** Withdrawn.

**11:25 PMSE 545.** CO<sub>2</sub>-selective composite membranes for pre-combustion carbon capture. **J. Bachman**, J.R. Long

**11:45 PMSE 546.** Orthogonal oxime and Diels-Alder hyaluronan hydrogels as tunable matrices for multicellular tumour spheroid formation. **A.E. Baker**, R.Y. Tam, M.S. Shiochet

## Section D

Moscone Center  
Esplanade Ballroom 306

### Innovations in Drug Delivery Systems & Combination Products

#### Novel Drug Delivery

A. S. Kulshrestha, *Organizer*

S. Sridharan, *Organizer, Presiding*

S. R. Raghavan, *Presiding*

**8:30 PMSE 547.** Onion-like multilayered capsules based on stimuli-responsive polymers: A new design for multi-step release of drugs. **S.R. Raghavan**, B. Zarket

**8:55 PMSE 548.** Electroresponsive drug delivery using conducting polymer nanoparticles. **D. Samanta**, N. Hosseini-Nassab, R.N. Zare

**9:20 PMSE 549.** Multifunctional poly-ether-based lipids for liposomal nano drug carrier systems. **A. Danner**, H. Frey

**9:45 PMSE 550.** Drug-eluting devices fabricated using the 3D printing technique Continuous Liquid Interface Production (CLIP) for controlled release applications. **C.J. Bloomquist**, R. Jansuziewicz, J.C. Luft, S.J. Mecham, A.Z. Wang, J.M. Desimone

**10:10** Intermission.

**10:20 PMSE 551.** Core cross-linked polypept(o)ide-based nanostructures: A novel platform for drug delivery. **K. Klinker**, T. Bauer, O. Schäfer, D. Huesmann, L. Braun, M. Barz

**10:45 PMSE 552.** Optimizing drug release using silicone based implantable drug delivery systems. **N. Deorkar**

**11:10 PMSE 553.** Magnetic nanostructures decorated hydrogels as a theranostic platform for biomedical applications. **V. Nandwana**, S. Ryooc, T.S. Zheng, M.M. You, V.P. Dravid

## Section E

Moscone Center  
Esplanade Ballroom 307

### Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

*Financially supported by Tosoh, Japan Analytical Industry (JAI) Co., Ltd*

C. Di, L. Fang, J. Mei, *Organizers*

C. Wang, *Presiding*

**8:00 PMSE 554.** Controlling the active layer microstructure through conjugated block copolymers for solar cells and transistors. **E. Gomez**, B. Smith, M. Aplan, Y. Lee

**8:30 PMSE 555.** Complementary semiconducting polymer blends melt-processed at 130°C for organic field-effect transistors with hole mobility approaching 1.0cm<sup>2</sup>/Vs. **A. Gumyusenge**, X. Zhao, Y. Zhao, J. Mei

**8:45 PMSE 556.** Withdrawn.

**9:15 PMSE 557.** Inkjet printing high-resolution nanoparticle patterns by controlling substrate rheology. **M. Li**

**9:35 PMSE 558.** Withdrawn.

**9:55** Intermission.

**10:15 PMSE 559.** Chemical blending vs physical blending: Comparing two approaches for polymer solar cells. **Q. Zhang**, M.A. Kelly, L. Yan, W. You

**10:45 PMSE 560.** Surface-directed assembly for large-area coating of highly-aligned conjugated polymer thin films. **E. Mohammadi**, C. Zhao, Y. Meng, J. Mei, J. Zuo, D. Shukla, Y. Diao

**11:00 PMSE 561.** Effect of chain length and comonomers/regiodefects on the stability of liquid crystalline phases in semiconducting polymers. **C.R. Snyder**

**11:20 PMSE 562.** Interface engineering of graphene for enhanced photo-voltaic performance. **Y. Wang**

**11:40 PMSE 563.** Removable and recyclable conjugated polymers for highly selective and high-yield dispersion and release of low-cost carbon nanotubes. **T. Lei**, Z. Bao

## Section F

Moscone Center  
Esplanade Ballroom 308

### Recent Advances in Multiblock Copolymers

#### Synthesis

*Cosponsored by POLY*

*Financially supported by ExxonMobil Chemical Company, The Dow Chemical Company*

Z. Bai, B. K. Long, J. Zhang, *Organizers*

C. Bates, *Presiding*

**8:00** Introductory Remarks.

**8:05 PMSE 564.** Sequence controlled block copolymers by RAFT polymerisation. **S. Perrier**

**8:35 PMSE 565.** Design and synthesis of acrylate-based sulfonated super-elastomers. **K. Misichronis**, W. Wang, Y. Wang, J.W. Mays, T. Saito, S. Cheng

**9:05 PMSE 566.** Novel segmented Polyhydroxyurethane (PHU): Control of naphase separation to achieve properties unlike and like those of segmented polyurethane and the potential to overcome challenges associated with recyclability of network PHU. **J.M. Torkelson**

**9:35** Intermission.

**9:55 PMSE 567.** Modifications to ethylene oxide /1,2-butylene oxide-based block copolymers and their effects on micellar behavior. **K. Harris**, E. Keene, V. Prasad

**10:25 PMSE 568.** Complex ordered phases via designed multi-block copolymers. **A. Shi**

**10:55 PMSE 569.** Architecture effects in block polymer self-assembly. **C. Bates**

**11:25 PMSE 570.** Synthetic strategies for preparing (AB)<sub>n</sub> multiblock copolymers combining chain- and step-growth polymerization. **K.A. Cavicchi**

**11:55** Concluding Remarks.

## Section G

Moscone Center  
Esplanade Ballroom 309

### Molecular Engineering of Peptide Assembly

#### Peptides at Surface & Polypeptides

*Financially supported by ACS Biomacromolecules*

H. Cui, S. L. Perry, *Organizers*

A. Kros, M. V. Tirrell, *Organizers, Presiding*

**8:15 PMSE 571.** Regulation and surface confinement of dynamic supramolecular peptide assemblies. **P. Besenius**, D. Spitzer, P. Ahlers, H. Frisch

**8:45 PMSE 572.** Peptide-enhanced surface deposition of polymers and polymer nanoparticles. **H.A. Klok**

**9:15 PMSE 573.** Designer synthetic polypeptides for cancer therapeutics. **P.T. Hammond**

**9:45** Intermission.

**10:00 PMSE 574.** Patterning and structure in polypeptide-based coacervates. **S.L. Perry**

**10:30 PMSE 575.** Effect of surfaces and osmolytes in modulating peptide assembly. **J.E. Shea**

**11:00 PMSE 576.** Synthesis of brush polypeptides. **R. Baumgartner**, H. Fu, Z. Song, Y. Lin, J. Cheng

**11:30 PMSE 577.** Creating nanostructured films with high molecular weight periodically sequenced polypeptides. **R.S. Tu**

### Bio-based Gels & Porous Materials

#### Biopolymer Hydrogels

*Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

#### Advances in Polysaccharides: Practice & Applications

#### Novel Biocatalytic & Biopolymeric Approaches

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG<sup>2</sup>, PMSE and POLY*

#### Innovative Chemistry & Materials for Electrochemical Energy Storage

#### Electrolytes & Interface

*Sponsored by ENFL, Cosponsored by MPPG<sup>2</sup> and PMSE*

#### Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications

#### Self-Healing Materials & Networks

*Sponsored by POLY, Cosponsored by PMSE*



### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

#### Polymerization, Coordination Chemistry & Interfacial Catalysis

Sponsored by INOR, Cosponsored by PMSE

## WEDNESDAY AFTERNOON

### Section A

Moscone Center  
Esplanade Ballroom 303

#### Biomaterials for Immunotherapy

Z. Gu, D. J. Irvine, *Organizers*  
H. Cheng, *Organizer, Presiding*  
J. Shi, *Presiding*

**1:30 PMSE 578.** Engineering silk-based microneedles for enhanced vaccines and cancer immunotherapy. D.J. Irvine

**2:00 PMSE 579.** Designing biomaterials for CAR-T immunotherapy. P. Wang

**2:30 PMSE 580.** Local delivery of checkpoints antibodies. Z. Gu, C. Wang, Y. Ye

### Section B

Moscone Center  
Esplanade Ballroom 304

#### Polymers under Deformation

#### Control of Deformation across the Length Scale for Advanced Polymer Materials

Cosponsored by MPPG<sup>2</sup> and POLY<sup>2</sup>

Financially supported by Asylum Research, ExxonMobil Chemical Company

A. I. Norman, D. Yablon, *Organizers*  
E. L. Heeley, Y. Yang, *Presiding*

**1:30 PMSE 581.** Mechanical annealing and scraping of ferroelectric polymers at the nanoscale. S. Hong

**2:00 PMSE 582.** Development of pressure-sensitive amorphous materials bearing TGAQ motifs. Y. Ren, S. Lee, J.M. Christensen, N. Plotnikov, M. Burgess, T.J. Martinez, D.D. Dlott, J.S. Moore

**2:20 PMSE 583.** Determining the electromechanical response mechanism of nanostructured ionic block copolymers under an applied electric field. B.S. Lokitz, J. Dugger, M. Chen, T.E. Long, R. Kumar, J. Browning

**2:40 PMSE 584.** Investigation into stress whitening production caused by coatings additives. E. Radley, C. Lowe, D. Gethin

**3:00** Intermission.

**3:10 PMSE 585.** Mechanochromic and photochromic fluorescence in epoxy. R.E. Toivola, S. Jang, D. Mannikko, S. Stoll, B. Flinn, A.K. Jen

**3:30 PMSE 586.** Effect of uniformly applied force and molecular characteristics of a polymer chain on its adhesion to graphene and carbon nanotube substrates. S. Pattanayek

**3:50 PMSE 587.** Omnidirectional nonlinear elasticity in liquid crystal elastomers. A.D. Auguste, N.P. Godman, T.J. White

**4:10 PMSE 588.** Reliability of polymer backsheet structures in photovoltaic modules. P. Yuen, R. Dauskardt

### Section C

Moscone Center  
Esplanade Ballroom 305

#### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*  
E. Kynaston, *Presiding*

**1:30 PMSE 589.** Effects of the temperature and UV intensity levels on degradation behaviors of high-density polyethylene. J. Kim, H. Hsueh, D.L. Hunston, D. Jacobs, L.N. Perry, C.C. White, L. Sung

**1:50 PMSE 590.** Natural phenolic polymers for multi-functionalization of surface of fibers using laccase. S. Kim, H. Lee, J. Kim, F. Oliveira, J. Nakamatsu

**2:10 PMSE 591.** Synthesis and characterization of cardanol based vinyl ester resins. E. Kinaci, E. Can, J.J. La Scala, G.R. Palmese

**2:30 PMSE 592.** Tapping mode based AFM technique for quantitative characterization of mechanical properties of polymers. M. Kocun, A. Labuda, R. Proksch

**2:50 PMSE 593.** Moldable photo-responsive elastomers from thermoreversible networks formed by triblock copolymer self-assembly. Z. Kurji, E. Bernhardt, M.G. Kuzyk, J.A. Kornfield

**3:10** Intermission.

**3:25 PMSE 594.** Patchy nanofibers from the self-assembly of a conjugated diblock copolymer. E. Kynaston, Y. Fang, J. Manion, N. Obhi, J. Howe, D.F. Perepichka, D.S. Seferos

**3:45 PMSE 595.** Multi-scale coarse-graining with effective polarizabilities. P.G. Lafond, T.W. Sirk, J. Andzelm, S. Izvekov

**4:05 PMSE 596.** Sulfonated Diels-Alder poly(phenylene) gas transport phenomena: Effect of chemistry and counterion. T.D. Largier, F. Huang, C.J. Cornelius

**4:25 PMSE 597.** Temperature-dependent shape and morphology transformation of block copolymer particles by controlled assembly of thermoresponsive polymers. J. Lee, K. Ku, J. Shin, B. Kim

**4:45 PMSE 598.** Design and synthesis of zwitterionic polyphosphoester-based coating materials for <sup>64</sup>Cu doped Au nanoclusters towards advanced *in vivo* pharmacokinetics. R. Li, G. Heo, L. Su, H. Wang, Y. Song, G. Sun, Y. Liu, K.L. Wooley

### Section D

Moscone Center  
Esplanade Ballroom 306

#### Innovations in Drug Delivery Systems & Combination Products

#### Biodegradable Vehicles for Drug Delivery

A. S. Kulshrestha, S. Sridharan, *Organizers*, *Presiding*

**1:30 PMSE 599.** Development of a gemcitabine-polymer conjugate with enhanced cytotoxicity against a pancreatic cancer cell line. F. Joubert, S. Perrier, G. Pasparakis

**1:55 PMSE 600.** Nitric oxide-releasing alginate as a biodegradable antibacterial scaffold. M.R. Ahonen, D.J. Suchyta, M. Schoenfish

**2:20 PMSE 601.** Polylactide-based multi-functional biodegradable polymer-drug conjugates. H. Sun, R. Zhang, W. Cheng, A. Commisso, M. Capeling, C. Cheng

**2:45** Intermission.

**2:55 PMSE 602.** Synthesis and self-assembly of amino functional AB-type biodegradable block copolymers. F. Karagoz, R. Dorrestein, M. Klapper

**3:20 PMSE 603.** Biodegradable, enzyme-responsive nanoparticles for acute myocardial infarction. G.M. Policastro, D. Wright, N.C. Gianneschi, K. Christman

**3:45 PMSE 604.** Pro-Antimicrobial Networks with Degradable Acetals (PANDAs) prepared via thiol-ene photopolymerization. D. Amato, D.V. Amato, D.L. Patton

### Section E

Moscone Center  
Esplanade Ballroom 307

#### Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

Financially supported by Tosoh, Japan Analytical Industry (JAI) Co., Ltd

C. Di, L. Fang, J. Mei, *Organizers*  
Y. Diao, *Presiding*

**1:30 PMSE 605.** Materials and measurements for flexible electronics. D. DeLongchamp

**2:00 PMSE 606.** Mechanically adaptive electronic polymers for transparent self-healing artificial muscle. C. Wang

**2:20 PMSE 607.** Mechanical properties of organic semiconductors for mechanically stable and intrinsically stretchable solar cells. D.J. Lipomi

**2:50 PMSE 608.** Inducing elasticity through oligo-siloxane crosslinks for intrinsically stretchable semiconducting polymers. G. Wang, L. Shaw, J. Xu, T. Kurosawa, B.C. Schroeder, J. Oh, S.J. Benight, Z. Bao

**3:05 PMSE 609.** Self-healable electrical insulation for high voltage aircraft. T. Williams, E. Shin, D. Scheiman, M. Lizzano, P. Mensah, J. Walker

**3:20** Intermission.

**3:40 PMSE 610. Award Address** (ACS Award for Team Innovation sponsored by ACS Corporation Associates). Development of photo-definable benzocyclobutene dielectric polymers: An enabling material for integrated circuit packaging. R. Devries, P. Garrou, C.E. Mohler, E. Moyer, T. Stokich

**4:10 PMSE 611.** Highly stretchable polymer semiconductor films through nanoconfinement effect. J. Xu, S. Wang, Z. Bao

**4:25 PMSE 612.** All-solution-processed stretchable transistor arrays based on polymer semiconductor and dielectric. S. Wang, F. Molina Lopez, J. Xu, J. Liu, J. Chung, Z. Bao

**4:40 PMSE 613.** Effects of sterilization on self-softening thiol-ene/acrylate polymers for bioelectronics. M. Ecker, V. Danda, J. Pancrazio, W. Voit

### Section F

Moscone Center  
Esplanade Ballroom 308

#### Recent Advances in Multiblock Copolymers

*Characterization*  
Cosponsored by POLY

Financially supported by ExxonMobil Chemical Company, The Dow Chemical Company

B. K. Long, J. Zhang, *Organizers*  
Z. Bai, *Organizer, Presiding*

**1:00** Introductory Remarks.

**1:05 PMSE 614.** Control of gelation and syneresis of aqueous cellulosic ether materials. R.L. Sackmler, C.E. Mohler, R. Adden, M. Brackhagen, J.D. Moore, B. Huebner-Keese

**1:35 PMSE 615.** Thermoplastic elastomers from linear and star polymers containing polyethylene blocks. R.A. Register, A.B. Burns

**2:05 PMSE 616.** Bicontinuous morphologies from binary blends of narrow dispersity block polymers. M.K. Mahanthappa

**2:35 PMSE 617.** Dynamic properties of polyolefin block copolymers prepared through living coordination polymerization. L.R. Sita

**3:05** Intermission.

**3:25 PMSE 618.** Strain hardening in immiscible PE/PP blends via interfacial reinforcement with PE-cb-PP comb-block copolymers. C. Lopez-Barron, A.H. Tsou, P. Jiang, D.J. Crowther

**3:55 PMSE 619.** Using crystallisation driven assembly to prepare 2-dimensional nanomaterials. R.K. O'Reilly

**4:25 PMSE 620.** Structure, phase behavior, and rheology of block copolymers in crosslinkable acrylate monomers. Z. Bai, J. Huang, V. Ginzburg, M. Williams, K. Penkala, J. Joo, C. Taylor, L. Chen, C.J. Tucker

**4:55** Concluding Remarks.

### Section G

Moscone Center  
Esplanade Ballroom 309

#### Molecular Engineering of Peptide Assembly

#### Peptides for Medicine

Financially supported by ACS Biomacromolecules

A. Kros, M. V. Tirrell, *Organizers*

H. Cui, S. L. Perry, *Organizers, Presiding*

**1:30 PMSE 621.** Supramolecular polypeptide materials for modulating immune and inflammatory processes. J. Collier

**2:00 PMSE 622.** Tit for tat: Design evolution of anticancer peptides from self-assembled hydrogels and how cancer cells gain resistance to their action. J.P. Schneider

**2:30 PMSE 623.** Self-assembling multidomain peptides for tissue regeneration. J.D. Hartgerink

**3:00** Intermission.

**3:15 PMSE 624.** Designable peptide assemblies. V.P. Coticello

**3:45 PMSE 625.** Designing peptides for use in regenerative medicine and biosensing. M. Stevens

4:15 PMSE **626**. Peptide-polymer and asymmetric peptide assemblies. S.I. Stupp, L.C. Palmer, Z. Yu

4:45 PMSE **627**. Engineering peptide hydrogels: From fibres to networks. A.F. Miller, A. Saiani

5:15 Concluding Remarks.

## Bio-based Gels & Porous Materials

### Biopolymer Organogels

Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY

### Advances in Polysaccharides: Practice & Applications

### Novel Materials & Methodologies

Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG<sup>+</sup>, PMSE and POLY

### Innovative Chemistry & Materials for Electrochemical Energy Storage

### Anode Materials & Li-S

Sponsored by ENFL, Cosponsored by MPPG<sup>+</sup> and PMSE

### Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications

### Biomaterials

Sponsored by POLY, Cosponsored by PMSE

### ACS Award in Polymer Chemistry: Symposium in honor of Murugappan Muthukumar

Sponsored by POLY, Cosponsored by PMSE

### 2017 Priestley Medalist: Symposium in honor of Tobin J. Marks

### Catalysis: Characterization, Computations & Reactivity

Sponsored by INOR, Cosponsored by PMSE

## WEDNESDAY EVENING

### POLY/PMSE Plenary Lecture & Awards

Sponsored by POLY, Cosponsored by PMSE

## THURSDAY MORNING

### Section A

Moscone Center  
Esplanade Ballroom 303

### Biomaterials for Immunotherapy

H. Cheng, Z. Gu, D. J. Irvine, *Organizers*

E. A. Scott, L. Tang, Y. Yu, *Presiding*

8:30 PMSE **628**. Functionalized polymersomes as carriers for immune activation. R.W. Zentel, S. Schuerer, R. Krini, M. Scherer, M. Helm, M. Bros, R. Ose, H. Jonuleit

8:45 PMSE **629**. Immune-modulator polymersomes. A. Poma, C. Lopez Vasquez, L. Rizzello, Y. Zhu, D. Cecchin, J. Gaitzsch, I. Romano, E. Mele, C.K. Williams, G. Battaglia

9:00 PMSE **630**. Rationalization of a lipid-polymeric nanoparticle-based nicotine nanovaccine for immunotherapy against nicotine addiction: A focus on hapten localization. Z. Zhao, T. Harmon, P. Pentel, C. Zhang

9:15 PMSE **631**. Engineering anti-cancer immunity using polymeric nanoparticles that transform into synthetic cell surface receptors in response to intracellular pH. B. De Geest, R. De Coen

9:30 PMSE **632**. Enhanced cancer immunotherapy by microneedle patch-assisted delivery of anti-PD1 antibody. Z. Gu, C. Wang, Y. Ye

9:45 Intermission.

10:00 PMSE **633**. Synthetic polymers delivering peptide neoantigens and TLR-7/8 agonists as personalized cancer vaccines. G. Lynn, C. Sedlik, R. Laga, O. Lantz, R. Seder

10:15 PMSE **634**. Tunable glycopolyptides bearing pattern-recognition motifs affect phagocytosis and cytokine expression. J. Kramer, M. Zhou, C. Delaveris, C.R. Bertozzi

10:30 PMSE **635**. Poly(peptide) based tumor immune therapy: Combining vaccination and abolishment of immune tolerance. M. Barz

10:45 PMSE **636**. Intracellular unfolding nanoparticles for the delivery of immune-stimulatory cues towards anticancer immunity. L. Nuhn, B. De Geest

### Section B

Moscone Center  
Esplanade Ballroom 304

### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

R. Y. Tam, H. Wang, *Presiding*

8:30 PMSE **637**. Stimuli-responsive hyaluronan-based hydrogels provide biochemically-defined, biomimetic scaffolds for 3D cell culture. R.Y. Tam, S. Fisher, A.E. Baker, L. Smith, L. Julian, J. Yockell-Lelievre, W. Stanford, M.S. Shoichet

8:50 PMSE **638**. Effect of branching chain parameter on rheological behavior of comb-like (co)polymers with high branching degree. T. Tang

9:10 PMSE **639**. Effects of pendant alkyl chain length on water barrier properties of epoxy/amine thermosets. J. Vergara, G.R. Palmese

9:30 PMSE **640**. Toughening hybrid nanocomposites with molecularly confined polymers by chemically tuning the polymer-surface interaction. C. Wang, S.G. Isaacson, K. Lioni, W. Volksen, T.P. Magbitang, R. Dauskardt, G. Dubois

9:50 Intermission.

10:05 PMSE **641**. Novel polyamide liquid core-shell microcapsules responsive to solvent environments. H. Wang, S.C. Zimmerman, J.M. Grolman, J. Moore

10:25 PMSE **642**. Architectural effect of organic nanoparticles on block copolymer thin film orientation. H. Wang, S. Kim, A. Khan, J. Huh, J. Bang

10:45 PMSE **643**. Air-triggered self-sealing polymeric materials spontaneously formed at liquid/air interface. Y. Wang, H. Lee

11:05 PMSE **644**. Smart microgels as functional valves for detection of Pb<sup>2+</sup>. Y. Wang, Z. Liu, H. Peng, L. Zhang, W. Wang, X. Ju, R. Xie, L. Chu

11:25 PMSE **645**. Polymeric exfoliating dispersants of poly(oxyethylene)-imide-amide structures for waterborne delaminating graphite into graphene and uses in electrostatic-heat dissipation and flexible conductive films. G. Wang, S. Shen, W. Wang, W. Lo, C. Ho, Y. Wang, J. Lin

### Section C

Moscone Center  
Esplanade Ballroom 305

### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

M. J. Worthington, K. Yang, *Presiding*

8:30 PMSE **646**. Formation of well-defined, functional nanotubes via osmotically induced shape transformation of biodegradable polymersomes. D.S. Williams, L.K. Abdelmohsen, D.A. Wilson, J. van Hest

8:50 PMSE **647**. Heterogeneous nucleation of lamella polypropylene on SWNT-alumina hybrid platelets for discontinuous composite reinforcement. Z. Winter, J. Faust, M. Minus

9:10 PMSE **648**. Renewable polysulfides for mercury capture and environmental remediation. M.J. Worthington, J.M. Chalker

9:30 PMSE **649**. Producing low reflectance coatings utilizing synergistic effects of polymer phase separation. S.L. Giles, N.W. Heller, C.R. Clayton, J.H. Wynne

9:50 Intermission.

10:05 PMSE **650**. Withdrawn.

10:25 PMSE **651**. Combined material and photochemical printing with cantilever-free polymer tip arrays. Z. Xie, C.A. Mirkin

10:45 PMSE **652**. Environmentally friendly high-performance furan-based polyimides. S. Yadav, J.J. La Scala, J.M. Sadler, G.R. Yandek, G.R. Palmese

11:05 PMSE **653**. Withdrawn.

11:25 PMSE **654**. Diels-Alder rapid extrusion 3D printing of melt-processable thermoset polymers. K. Yang, J. Grant, W. Archer, W. Voit

### Section D

Moscone Center  
Esplanade Ballroom 306

### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

I. Yilgor, L. Zou, *Presiding*

8:30 PMSE **655**. Stiffer but more healable exponential layered assemblies with boron nitride nanoplatelets. M. Yang

8:50 PMSE **656**. Hydrolysable polyureas based on hindered urea bonds. Y. Yang, H. Ying, J. Cheng

9:10 PMSE **657**. Chemistry in porous polymers: Fine tuning chemical interactions. C.T. Yavuz, V. Rozyev, Y. Song, N.A. Dogan, Y. Hong

9:30 PMSE **658**. Fabrication of microporous PLA foams via thermally induced phase separation and solvent exchange. I. Yilgor, E. Yilgor, O.C. Onder

9:50 Intermission.

10:05 PMSE **659**. 3D printed bioceramic/biodegradable polymer scaffolds for bone tissue engineering. J. Yu, Y. Xu, S. Li, G.V. Seifert, M. Becker

10:25 PMSE **660**. One-pot synthesis of inorganic nanoparticle vesicles via surface-initiated polymerization-induced self-assembly. Y. Zheng, Y. Huang, Z. Abbas, B.C. Benicewicz

10:45 PMSE **661**. Design and synthesis of amine-functionalized Porous Polymer Networks (PPNs) for carbon capture. L. Zou, H. Zhou

11:05 PMSE **662**. Utilizing hard transparent arrays for polymer pen lithography for high resolution patterning. J. Hedrick, K.A. Brown, E.J. Kluender, M. Cabezas, P. Chen, C.A. Mirkin

11:25 PMSE **663**. Enhanced piezoelectric response of electrospun PVDF with ZnO nanorods. M. Kim, J. Fan, Y. Wu

### Section E

Moscone Center  
Esplanade Ballroom 307

### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

M. Graffeo, P. Samanta, *Presiding*

8:30 PMSE **664**. Dynamic hydrogels with tunable mechanics and their biological applications. J. Lou, F. Liu, Y. Xia

8:50 PMSE **665**. Fatigue of injection molded and 3D-printed polycarbonate urethane in solution. A. Miller, D.L. Safranski, K.E. Smith, D.G. Sycks, R.E. Guldberg, K. Gall

9:10 PMSE **666**. Homogenous nucleated crystallization of poly(ethylene oxide) under confinement in electrospun nanofibers of polystyrene/poly(ethylene oxide) blends. P. Samanta

9:30 PMSE **667**. Rheological characteristics of hairy particles in oscillatory shear flow. W. Xiong, S. Li, X. Wang

9:50 Intermission.

10:05 PMSE **668**. Kirigami nanocomposite as strain-tunable diffraction gratings. L. Xu, N. Kotov

10:25 PMSE **669**. Synthesis and properties of quaternized polyethersulfones and their applications as alkaline anion exchange. J. Chen, P. Chen, H. Chen

10:45 PMSE **670**. Ion transport and nanoscale morphology in cyclopropenium-based polymerized ionic liquids. J. Freyer

11:05 PMSE **671**. Drug delivery: Accelerating the drug development pathway for increased speed to patient. M. Graffeo

11:25 PMSE **672**. Single particle fluorescence microscopy reveals unexpected photobrightening in dye aggregates. D. Hinton, J. Ng, R.H. Goldsmith

### Section F

Moscone Center  
Esplanade Ballroom 308

### Recent Advances in Multiblock Copolymers

### Application

Cosponsored by POLY

Financially supported by ExxonMobil Chemical Company, The Dow Chemical Company

Z. Bai, B. K. Long, J. Zhang, *Organizers*

A. Lane, *Presiding*

8:00 Introductory Remarks.

**8:05 PMSE 673.** Block copolymer-directed assembly of pharmaceutical nanoparticles: Effects of Mw and chemistry on assembly, delivery, and in vivo performance. R.F. Pagels, H. Lu, B.K. Wilson, S.M. D'Addio, S.M. Ansell, L.D. Mayer, C. Vauthier, A. Pietrangelo, A. Panagiotopoulos, **R.K. Prudhomme**

**8:35 PMSE 674.** Janus composites and interfacial engineering. **Z. Yang**

**9:05 PMSE 675.** Orientation control in thin films of a high- $\chi$  block copolymer with a surface active embedded neutral layer. **J. Zhang**, P.D. Hustad, P. Trefonas

**9:35 PMSE 676.** Polypropylene-based olefin block copolymers as compatibilizers for polyethylene and polypropylene. **Y. Hu**

**10:05** Intermission.

**10:25 PMSE 677.** Multiblock copolymer phase separation in thermoset polyurethanes. **K. Aou**

**10:55 PMSE 678.** Strengthening thermosensitive ABC linear triblock copolymer micellar hydrogels with thermosensitive hairy nanoparticles. **B. Zhao**

**11:25 PMSE 679.** Aligned 5 nm block copolymer lamellae for high resolution lithography applications. **A. Lane**, X. Yang, M.J. Maher, G. Blachut, Y. Asano, Y. Someya, S. Sirard, A. Mallavarapu, C.J. Ellison, C.G. Willson

**11:55 PMSE 680.** Bioorthogonal synthesis of protein mimetic multiblock copolymers. **X. Jia**

**12:25** Concluding Remarks.

## Section G

Moscone Center  
Esplanade Ballroom 309

### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

T. Hussain, *C. Zhu, Presiding*

**8:30 PMSE 681.** Fabrication highly conductive copper powder and films by chemical methods with polymer dispersant. **P. Huang**, J. Lin, Y. Leu

**8:50 PMSE 682.** Establishment of correlation between MWCNTs dimensions and electrical character of MWCNTs based polymer composites. **T. Hussain**, A. Alvi, A. Mujahid

**9:10 PMSE 683.** Production of core-sheath structured nanofibrous membranes for high temperature fuel cells. **S. Jahangiri**, I. Aravi, Y.Z. Menciloglu, L. Isikel Sanli, E. Ozden Yenigun

**9:30 PMSE 684.** Crystalline MoOx thin-films as hole transport layer in organic solar cells. **A. Cauduro**, R. dos Reis, M. Ahmadpour, G. Chen, A. Schmid, C. Méthivier, N. Witkowski, H. Rubahn, **M. Madsen**

**9:50** Intermission.

**10:05 PMSE 685.** Uniformly distributed heteroatoms containing two-dimensional networks. **J. Mahmood**, J. Baek

**10:25 PMSE 686.** Role of enhanced hydrogen bonding of selectively reduced graphite oxide in fabrication of poly(vinyl alcohol) nanocomposites in water as EMI shielding material. **K. Manna**

**10:45 PMSE 687.** Anti-icing property of transparent heater with super-repellency and electrothermogenesis exhibited by PEDOT:PSS/cyanoacrylate composite nanoparticles. **S. Shiratori**, T. Matsubayashi, M. Tenjimbayashi

**11:05 PMSE 688.** Host-guest self-assembled surface with controllable switch for bacteria killing and detaching. **Z. Shi**, W. Zhao

**11:25 PMSE 689.** Conformational control of  $\pi$ -conjugated molecules using hydrogen bonds. **C. Zhu**, A. Mu, Z. Guo, L. Fang

## Bio-based Gels & Porous Materials

### Aero-, Cryo- & Xerogels

*Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

### Advances in Polysaccharides: Practice & Applications

#### New Functional Materials

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG<sup>†</sup>, PMSE and POLY*

### Innovative Chemistry & Materials for Electrochemical Energy Storage

#### Electrochemical Catalysis & Energy Conversion

*Sponsored by ENFL, Cosponsored by MPPG<sup>†</sup> and PMSE*

### Smart Polymeric Materials from Cyclodextrins: Novel Designs & Applications

### Stimuli-Responsive Polymers & Polymer Processing

*Sponsored by POLY, Cosponsored by PMSE*

## THURSDAY AFTERNOON

### Section A

Moscone Center  
Esplanade Ballroom 303

### General Papers/New Concepts in Polymeric Materials

M. Grunlan, *Organizer*

R. C. Steinhardt, S. A. Sydlík, *Presiding*

**1:30 PMSE 690.** Improvement in dynamic mechanical and barrier properties of innovative polymer clay nanocomposites based on polystyrene matrix. **I. Soltani**, R.J. Spontak

**1:50 PMSE 691.** Effect of fatty acid chain length in amidoamine crosslinkers on material properties of epoxy systems. **A. Sridhar**, J. Vergara, C. Abrams, G.R. Palmese

**2:10 PMSE 692.** Facile *in-situ* polymer brush characterization using whispering gallery mode sensors. **A. Stanton**, R.C. Bailey

**2:30 PMSE 693.** Discovering the cellular origin of agonist synergies towards the development of better vaccines. **R.C. Steinhardt**, B. Moser, A. Esser-Kahn

**2:50** Intermission.

**3:05 PMSE 694.** Efficient dispersion of mineral hemostatics in a poly-HIPE scaffold for severe wound treatment. **B. Streifel**, J. Lundin, C.L. McGann, J.H. Wynne

**3:25 PMSE 695.** Functional triblock bottlebrush polymers: From synthesis toward biomedical applications. **L. Su**, G. Sun, K.L. Wooley

**3:45 PMSE 696.** Polymer complexation and the beautiful lie: Complex laddering of globular structures. **T. Swift**, S. Rimmer

**4:05 PMSE 697.** Polyphosphate and polyamide modified graphite as a degradable, cell instructive scaffold for bone regeneration. **S.A. Sydlík**, A. Arnold, B. Holt

**4:25 PMSE 698.** Investigating dynamic mechanical properties of inventive polyvinylacetate clay nanocomposites with improved gas barrier properties. **I. Soltani**, R.J. Spontak

## Bio-based Gels & Porous Materials

### Open-Porous Carbon Materials

*Sponsored by CELL, Cosponsored by AGFD, CARB, COLL, PMSE and POLY*

### Advances in Polysaccharides: Practice & Applications

### Preparation, Characterization & Applications

*Sponsored by CELL, Cosponsored by AGFD, CARB, MPPG<sup>†</sup>, PMSE and POLY*

## PROF

## Division of Professional Relations

R. Libby, *Program Chair*

### SOCIAL EVENTS:

Reception, 5:00 PM: Tue

### BUSINESS MEETINGS:

Business Meeting, 3:00 PM: Tue

## SUNDAY MORNING

### Section A

Hotel Nikko San Francisco  
Nikko Ballroom III

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy

*Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>†</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>†</sup>, POLY, PRES<sup>†</sup> and WCC*

*Financially supported by Peter K. Dorhout (ACS President-Elect) & Merck*

M. Morris, J. S. Nowick, *Organizers*

P. Rodenbough, *Presiding*

**9:00** Introductory Remarks.

**9:05 PROF 1.** Coupling multiple proton transfers to electron transfer in bio-inspired Tyr-His models. **M.T. Huynh**, S.J. Mora, M. Villalba, A. Teillout, J.D. Gust, T.A. Moore, A.L. Moore, S. Hammes-Schiffer

**9:25 PROF 2.** Ligand to metal charge transfer in early transition metal bicyclic guanidinate complexes. **J. Olson**, D. Swenson, L. Messerle

**9:45 PROF 3.** New materials from superatomic build blocks: The Fe<sub>3</sub>O<sub>4</sub>p<sub>2</sub>Cl<sub>4</sub> cluster as a probe for singlet fission and novel battery materials. **A. Pinkard**, M. Trinh, A. Pun, S. Sanders, E. Kumarasamy, M. Sfeir, L. Campos, X. Roy, Z. Xiaoyang

**10:05 PROF 4.** In situ Raman investigation of chemical vapor deposition of WN<sub>2</sub>C<sub>2</sub> thin films from tungsten imido precursors. **M. Nolan**, A. Koley, S. Kim, T.J. Anderson, L. McElwee-White

**10:25** Intermission.

**10:40 PROF 5.** Direct observation of localized surface plasmon resonances in single nanocrystals of doped metal oxides. **R.W. Johns**, D.J. Milliron

**11:00 PROF 6.** Theoretical and numerical study of catalytic metal-noble metal nanoparticle aggregates for plasmon-mediated catalysis. **N.P. Montoni**, D.J. Masiello

**11:20 PROF 7.** Soft donor coordination compounds of the mid to late actinides. **S.S. Galley**, T.E. Albrecht-Schmitt

**11:40 PROF 8.** Investigation of f-element bonding with neutral soft chalcogen donors for lanthanide/actinide separations. **A.V. Blake**, S.R. Daly

## SUNDAY AFTERNOON

### Section A

Hotel Nikko San Francisco  
Nikko Ballroom III

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Novel Reactions, Methodologies & Syntheses in Organic Chemistry

*Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>†</sup>, MEDI, ORGN, PHYS, PMSE<sup>†</sup>, POLY, PRES<sup>†</sup> and WCC*

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M. Morris, J. S. Nowick, *Organizers*

M. Nolan, *Presiding*

**1:40** Introductory Remarks.

**1:45 PROF 9.** Development of a unified strategy for the synthesis of enmein-type ent-kauranoids. **J.C. Beck**, S.E. Reisman

**2:05 PROF 10.** Chiral phosphoric acids as Brønsted acid promoters of latent nucleophile reactions. **R.A. Escobar**, S. Schaus

**2:25** PROF 11. Withdrawn.

**2:45 PROF 12.** Spin-Selective generation of triplet nitrenes: Olefin aziridination through visible-light photosensitization of azidoformates. **S. Scholz**, E. Farney, S. Kim, D. Bates, T.P. Yoon

**3:05** Intermission.

**3:20 PROF 13.** Aldol condensation of biomass-derived feedstocks in HZSM-5 zeolite: Quantum chemistry and experiments point to keto/enol as the rate-determining step. **A.N. Miguez**, Q. Sun, S. Vatheeswaran, W. Sherman, X. Qi, W. Fan, S.M. Auerbach

**3:40 PROF 14.** Automated reaction progress analysis: A rapid and robust method for elucidating catalyst monopoly. **R. Chung**, J. He in

**4:00 PROF 15.** Panel discussion. Celebrating LGBT identities in chemistry: Opportunities, challenges, and perspectives. **M. Morris**, J.S. Nowick

<sup>†</sup> Cooperative Cosponsorship



### Chemical Angel Network: Chemists Investing in Chemical Companies

Sponsored by BMGT, Cosponsored by PROF and SCHB<sup>2</sup>

### Holy Grails in Chemistry: Celebrating the 50th Anniversary of Accounts of Chemical Research Journal

Sponsored by PRES, Cosponsored by BIOL, BMGT, CARB, CATL, CELL, COLL, ENVR, HIST, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF

### Starting a Successful Research Program at a PUI

Sponsored by YCC, Cosponsored by PROF

### The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross

Sponsored by WCC, Cosponsored by CHED, CMA and PROF

## SUNDAY EVENING

### Section A

Moscone Center  
Exposition, Halls B/C

#### General Posters

R. Libby, Organizer

6:30 - 8:30

PROF **16**. White light from hybrid water soluble Au (I) phosphor systems for OLED applications. C. Williams, E.N. Benton, S.B. Marpu, M.A. Omary

PROF **17**. Collaborations and outreach: A review of ACS presence at the 2017 Out to Innovate™ career summit for LGBTQ+ people in STEM. B.L. Belmont, C.J. Bannochie

PROF **18**. Materials for teaching professionalism in chemistry. S.M. Schelble

### Entrepreneurial Opportunities in Chemistry

Sponsored by YCC, Cosponsored by BMGT, PROF and SCHB

## MONDAY MORNING

### Section A

Hotel Nikko San Francisco  
Nikko Ballroom III

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries

Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC

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M. Morris, J. S. Nowick, Organizers

A. Mercer, Presiding

9:00 Introductory Remarks.

9:05 PROF **19**. Understanding the unusual isotope effects in ozone formation for applications to atmospheric chemistry and climate. A.H. Kazez, K.A. Boering

9:25 PROF **20**. Fulvenallene and fulvenallenyl photodissociation dynamics at 248 nm. M. Shaperov, I.A. Ramphal, D.M. Neumark

9:45 PROF **21**. Irradiation of secondary organic aerosol material in the presence of volatile organic compounds: The role of photosensitization. K.T. Malecha, S.A. Nizkorodov

10:05 PROF **22**. Chemical x-ray photodiffraction for structural characterization of short-lived intermediates. P.P. Rodenbough, P. Naumov

10:25 Intermission.

10:40 PROF **23**. Megasupramolecules as molecular probes of turbulence. R. Lhota, R. McMullen, D. Huynh, M. Wei, J.A. Kornfeld, B. McKeon

11:00 PROF **24**. Effect of annealing temperature on graphene supported nickel catalysts with regards to its structure and urea oxidation properties. D. Glass, S.G. Prakash, G. Olah

11:20 PROF **25**. Dietary proanthocyanidin detector response factors have appreciable variability. M.R. Dorris, B.W. Bolling

### Space Chemistry: How it Helps Space Exploration

Sponsored by YCC, Cosponsored by CPRC and PROF

### Science for a Sustainable Energy Future

#### Energy Storage

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF

### Teaching, Researching & Community Building in the Global Chemical Enterprise

Sponsored by IAC, Cosponsored by BMGT<sup>2</sup>, ENVR<sup>2</sup>, I&EC, PRES<sup>2</sup> and PROF

### Celebrating 90 years of the WCC: Reflections of Past Chairs

Sponsored by WCC, Cosponsored by PRES and PROF

### Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## MONDAY AFTERNOON

### Section A

Hotel Nikko San Francisco  
Nikko Ballroom III

### LGBT Graduate & Postdoctoral Student Chemistry Research Symposium

### Advances in Medicinal & Biological Chemistry: From Therapeutics to Education

Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC

Financially supported by Peter K. Dorhout (ACS President-Elect) & Merck

M. Morris, J. S. Nowick, Organizers

R. Lhota, Presiding

2:00 Introductory Remarks.

2:05 PROF **26**. Advancing ferrocenyl derivatives pharmacophores throughout the incorporation of heterocycles in their scaffolds. J.C. Aponte-Santini, I. Montes-González, J. Davila, D.J. Sanabria Rios, Y. Morales-Lozada, A. Baerga-Ortiz, A.R. Guadalupe Quinones, A. Serrano-Brizuela, E. Colón-Lorenzo, F.T. Halaweish

2:25 PROF **27**. Development of a selective and stable anti-cancer agent by exploiting high levels of reactive oxygen species. K.G. Earnest, A.L. Kadekaro, Y. Zhang, E.J. Merino

2:45 PROF **28**. Thioether-bridged peptide macrocycles as inhibitors of the Sonic Hedgehog/patched 1 protein-protein interaction. A. Owens, R. Fasan

3:05 PROF **29**. Enzyme-Directed imidazoquinolines for cancer immunotherapy. J. Hantho, R.J. Mancini, A.E. Nielsen

3:25 Intermission.

3:40 PROF **30**. Engineering a synthetic peptide/GPCR communication language in yeast. J. Brisbois, S. Billerbeck, M. Jimenez, N. Agmon, M. Shen, J. Temple, J. Boeke, V.W. Cornish

4:00 PROF **31**. Backbone C5 hydrogen bonds in proteins. R.W. Newberry, R.T. Raines

4:20 PROF **32**. Withdrawn.

4:40 PROF **33**. Student accuracy and confidence on items assessing problematic topics in the biochemistry sequence. A. Mercer, A. Wolfson, J.E. Lewis

### Rising Star Award Symposium

Sponsored by WCC, Cosponsored by BIOL, ENFL and PROF

### Science for a Sustainable Energy Future

### Chemical & Biological Conversions Approaches to Energy Conversion

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>2</sup>, ORGN and PROF

### Space Chemistry: How it Helps Space Exploration

Sponsored by YCC, Cosponsored by CPRC and PROF

### Teaching, Researching & Community Building in the Global Chemical Enterprise

Sponsored by IAC, Cosponsored by BMGT<sup>2</sup>, ENVR<sup>2</sup>, I&EC<sup>2</sup>, PRES<sup>2</sup> and PROF

### Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## MONDAY EVENING

### Section A

Moscone Center  
Hall D

#### Sci-Mix

R. Libby, Organizer

8:00 - 10:00

16-18. See previous listings.

## TUESDAY MORNING

### Section A

Hotel Nikko San Francisco  
Monterey I

### Producing Knowledgeable, Well-Rounded, T-Shaped Chemists for the 21st Century: Current Perspectives from High School, Undergraduate & Graduate Educators

Cosponsored by BMGT, CHED and PRES

J. L. Bryant, J. C. Giordan, Organizers

S. M. Graham, Organizer, Presiding

8:40 PROF **34**. Depth and breadth. Content and skills. Experts and generalists. The emerging need for T-shaped individuals: Opening overview. S.M. Graham

8:50 PROF **35**. Preparing T-shaped chemists: Using big ideas to understand and communicate chemistry. G.T. Rushton

9:10 PROF **36**. Process - The missing element. D. Hanson

9:30 PROF **37**. Transformational and innovative approaches to STEM graduate education - building T shaped professionals with a Lens of the Market® as well as a Lens of Science. J.C. Giordan, M. Dolgos, M. Storksdieck, R.G. Carter

9:50 Intermission.

10:00 PROF **38**. Remembering to cross your T: Teaching and learning chemistry with today's teenagers. J.L. Ball

10:20 PROF **39**. Who gives a darn? An application based organic chemistry curriculum to develop T-shaped students. E.C. Bucholtz

10:40 PROF **40**. Transformational and innovative approaches to STEM graduate education: Building T shaped professionals with real world internship experiences. S.E. York

11:00 Intermission.

11:10 Interactive Panel With Facilitated Q&A.

11:30 Concluding Remarks.

11:40 "Office Hours" with Speakers

### Chemists & Writing for Fun & Profit: Write Your Own Career

Sponsored by SCHB, Cosponsored by CPRC and PROF

### The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross

Sponsored by WCC, Cosponsored by CHED, CMA and PROF

### Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

### ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler

### Materials Chemistry of Solutions & Solids for a Sustainable Future

Sponsored by INOR, Cosponsored by BMGT<sup>2</sup>, MPPG and PROF

### Advancing Undergraduate Research Research Supportive Curricular Innovations

Sponsored by CHED, Cosponsored by PROF

## TUESDAY AFTERNOON

## Section A

Hotel Nikko San Francisco  
Monterey I

## REU Chemistry in Action: Student Perspectives

L. M. Watkins, *Organizer*  
S. A. France, *Presiding*

1:30 Introductory Remarks.

1:35 **PROF 41.** Synthetic studies of redox-active, self-associating macrocycles: Perspectives on a materials chemistry REU. R.E. Fadler, J. Dobscha, H.D. Castillo, S.L. Tait, A.H. Flood

1:55 **PROF 42.** Passport to success: Research experience abroad. S. Ramirez

2:15 **PROF 43.** Understanding the products of the bisulfite reaction with 5-methylcytidine and 5-hydroxymethyl-2'-deoxycytidine. H. Donelick, A.M. Fleming, C.J. Burrows

2:35 **PROF 44.** Synthesis of a new mixed occupancy  $\text{Yb}_{1-x}\text{Ca}_x\text{MgSb}_{11}$  ( $x = 0, 1, 2$ ) for thermoelectric device application. K. Meyer, S. Kaulzarich, E.L. Kunz Wille

2:55 Intermission.

3:10 **PROF 45.** Aspect ratio dependent growth mechanism revealed in gold nanorod synthesis. T. Ripplinger, J. Zhao, S. Thota

3:30 **PROF 46.** Correlation between Hammett parameters and vibrational Stark effects in benzonitrile derivatives. J. Alvarez Duque, J.R. Hunt, J. Dawlaty

3:50 **PROF 47.** Intracellular tracing of deferasirox and its Ti(IV) complex by the FITC probe to study their cytotoxic mechanism of action. M. Kowaleff, Y. Delgado, A.D. Tinoco, Z. Torres, A.M. Vázquez

4:10 **PROF 48.** Antibiotic-carbon dot conjugate for imaging and as bactericidal agents. I. Sun, I.V. Ogunbge

4:30 Concluding Remarks.

## Entrepreneurship in Biotechnology, Advanced Materials, Drug Discovery &amp; Information Systems

*Sponsored by SCHB, Cosponsored by MEDI and PROF*

## Excellence in Graduate Polymer Research

*Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC*

## ACS Award in the Chemistry of Materials: Symposium in honor of Douglas A. Keszler

## Chemists Leading the Charge: Chemists Using Business Acumen &amp; Transformative Research to Address Societal Needs

*Sponsored by INOR, Cosponsored by BMGT, MPPG, PRES and PROF*

## Advancing Undergraduate Research Focus on Early Access to Research &amp; Broadening Participation of Under-Represented Groups

*Sponsored by CHED, Cosponsored by CMA<sup>2</sup>, PROF and WCC*

## TUESDAY EVENING

## Excellence in Graduate Polymer Research

*Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC*

## WEDNESDAY MORNING

## Section A

Hotel Nikko San Francisco  
Monterey I

## Looking Beyond Your Current Boundaries: What's the Next Step?

## Academic Route: PhD to Postdoc to Ass. Prof.

*Cosponsored by BMGT and YCC*

M. Grandbois, *Organizer*

J. T. Kelly, *Organizer, Presiding*

9:00 Introductory Remarks.

9:05 **PROF 49.** Crossing boarders as a postdoc: An unexpected journey after a PhD. J.T. Kelly

9:35 **PROF 50.** Securing a tenure-track position at a research university: The hiring process. N. Hammer

10:05 **PROF 51.** Professor Gig at a medium-sized PUI. R.C. Fortenberry

10:35 Intermission.

10:45 **PROF 52.** Expanding the academic excellence model through gender diversity. D. Stallings, S. Iyer, R. Hernandez

11:15 **PROF 53.** Creating a mentoring culture to improve demographic diversity in academia. S. Iyer, D. Stallings, R. Hernandez

11:45 Concluding Remarks.

## Advancing Undergraduate Research

*Sponsored by CHED, Cosponsored by CMA, PROF and WCC*

## WEDNESDAY AFTERNOON

## Section A

Hotel Nikko San Francisco  
Monterey I

## Looking Beyond Your Current Boundaries: What's the Next Step?

## Industrial Route: PhD, Postdoc, Scientist

*Cosponsored by BMGT and YCC*

J. T. Kelly, *Organizer*

M. Grandbois, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 **PROF 54.** Thinking about a career in industry? C.J. Murphy

2:05 **PROF 55.** Realizing you're ready: How my everyday experience translated into job seeking success. S.L. Hemmingson

2:35 **PROF 56.** Personal brand development and social networking strategies for professional chemists. J.L. MacLachlan

3:05 Intermission.

3:15 **PROF 57.** Managing your career with power! How to get that first promotion and prepare yourself for future roles. M. Grandbois, S. Collick

3:45 **PROF 58.** Career transitions for a young industrial chemist: From the bench to management. A.K. Gupta, M. Grandbois

4:15 Concluding Remarks.

## RUBB

## Rubber Division

W. Stahl, *Program Chair*

## MONDAY EVENING

## Innovating Materials for the Next Generation: Bringing Practical Applications into the Chemistry Classroom

*Sponsored by CHED, Cosponsored by PMSE, POLY and RUBB*

## SCHB

## Division of Small Chemical Businesses

J. Sabol, *Program Chair*

## OTHER SYMPOSIA OF INTEREST:

**Advances in Organic Synthesis: Successes from Academia-Industry Partnerships** (see ORGN, Tue)

**Ask Dr. Safety: Chemical & Occupational Safety in the Cannabis Industry** (see CHAS, Sun)

**Cannabis Law: Navigating Complex Regulatory & Legal Issues in States with Legal Cannabis Programs** (see CHAL, Wed)

**Careers in Chemical Information** (see CINF, Sun)

**Green Chemistry: Theory & Practice** (see CHED, Sun)

**Kathryn C. Hach Award for Entrepreneurial Success: Symposium in honor of David R. Walt** (see ANYL, Tue)

## SOCIAL EVENTS:

**SCHB Member's Welcome Social Hour**, 5:30 PM: Sat

**Coffee & Networking**, 8:00 AM: Tue

**Luncheon**, 11:30 AM: Tue

**Reception**, 5:00 PM: Tue

## BUSINESS MEETINGS:

**Business Meeting**, 6:30 PM: Sat

**Executive Committee Meeting**, 7:00 PM: Sat

## SUNDAY AFTERNOON

## Chemical Angel Network: Chemists Investing in Chemical Companies

*Sponsored by BMGT, Cosponsored by PROF and SCHB<sup>2</sup>*

## Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

## SUNDAY EVENING

## Section A

Moscone Center  
Halls B/C

## Entrepreneurs' Poster Session

G. W. Ruger, *Organizer*

6:00 - 8:00

**SCHB 1.** SCHB is the home for entrepreneurs inside the ACS. A. Rahman, P.C. Lauro, M. Chorghade, A. Katak, D.J. Deutsch, J.E. Sabol, J.L. MacLachlan, E.L. Oltermann, R. Chorghade, C.A. Burton, T. Siepmann, P.C. Kearney, G.W. Ruger

**SCHB 2.** Chemical Angel Network: Chemists investing in chemical companies. S.S. White, M. Vreeke, J.C. Giordan

**SCHB 3.** Small chemical businesses providing materials and resources to promote the sciences through outreach activities. G.W. Ruger

## Entrepreneurial Opportunities in Chemistry

*Sponsored by YCC, Cosponsored by BMGT, PROF and SCHB*

## MONDAY MORNING

## Cannabis: Emerging Challenges in Regulations, Product Analysis &amp; Processing

*Sponsored by CHAS, Cosponsored by CCS and SCHB<sup>2</sup>*

## Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

## MONDAY AFTERNOON

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## Hollyweird Chemistry

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## MONDAY EVENING

## Section A

Moscone Center  
Hall D

## Sci-Mix

G. W. Ruger, *Organizer*

8:00 - 10:00

1-3. See previous listings.

<sup>2</sup>Cooperative Cosponsorship

## TUESDAY MORNING

## Section A

Hotel Nikko San Francisco  
Nikko Ballroom I

**Chemists & Writing for Fun & Profit: Write Your Own Career**

*Cosponsored by CPRC and PROF*

L. M. Balbes, *Organizer, Presiding*

8:00 Networking.

8:30 Introductory Remarks.

8:35 **SCHB 4.** How I got my job at C&EN. L. Wang

9:05 **SCHB 5.** Translating my way around the periodic table. K.M. Tkaczyk

9:35 **SCHB 6.** How to write your first book without knowing how. J.E. Brown

10:05 Intermission.

10:20 **SCHB 7.** Taking a leap of faith from one non-traditional career to another. S.P. Hasford

10:50 **SCHB 8.** Leveraging social media for effective content marketing for corporate and non-profit entities in the chemical enterprise. J.L. Maclachlan

11:20 **SCHB 9.** Confessions of The Speaking Scientist®: Growing a business that helps scientists communicate when the stakes are high. N. Milanovich

**Green Chemistry Adoption: Progressive Changes by Different Industry Sectors**

*Sponsored by ENVR, Cosponsored by CEI, MEDI, ORGN and SCHB<sup>2</sup>*

## TUESDAY AFTERNOON

## Section A

Hotel Nikko San Francisco  
Nikko Ballroom I

**Entrepreneurship in Biotechnology, Advanced Materials, Drug Discovery & Information Systems**

*Cosponsored by MEDI and PROF*

B. A. Bunin, *Organizer*

P. C. Kearney, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 **SCHB 10.** Surface-functionalized hollow silica nanoparticles for advanced material applications. V.O. Rodionov, H. Ahmad

1:35 **SCHB 11.** Xtractite: An inorganic ion-exchange material for sorption of radionuclides and heavy metals. A.W. Apblett, E. Kadossov, N.F. Materer, C.K. Perkins

2:05 **SCHB 12.** Funding a deep-tech startup: Taking an idea from the back of a napkin to market. R. Nordsell, J.H. Melman

2:35 **SCHB 13.** Practical wet adhesives and tough resin composites for real business. K. Ahn

3:05 Intermission.

3:20 **SCHB 14.** 3D tissue-engineered bone marrow, a novel 3D-cell culture model: From basic biological mechanism to a fast revenue generating start-up company with diversified business models. K. Azab

3:50 **SCHB 15.** Welcome to the real world. S. Jin

4:20 **SCHB 16.** CDD vault: Building the dominant hosted platform for global hosted commercial and humanitarian drug discovery collaborations. B.A. Bunin

4:50 Concluding Remarks.

**Green Chemistry Adoption: Progressive Changes by Different Industry Sectors**

*Sponsored by ENVR, Cosponsored by CEI, MEDI, ORGN and SCHB<sup>2</sup>*

## WEDNESDAY MORNING

## Section A

Hotel Nikko San Francisco  
Golden Gate

**Cannabis: A Growing Sector for Business & Employment**

*Cosponsored by CHAS*

E. M. Pryor, *Organizer*

E. L. Oltermann, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 **SCHB 17.** Emerging opportunity of becoming a cannabis inspector for private and public institutions. J. Marcu, E.M. Pryor, M.J. Wilcox, E.L. Oltermann

8:35 **SCHB 18.** Employment opportunities in cannabis science: A view into future needs in the cannabis economy and the drivers behind them. G. Murray, G.M. Sanz

9:05 **SCHB 19.** Chemistry and cannabis: Highlighting the demand for chemists in key roles for a burgeoning industry. A. Pham

9:35 Intermission.

9:50 **SCHB 20.** Optimizing yield and composition of cannabis extracts of large scale SFE. M. Roggen

10:20 **SCHB 21.** Scientific and economic challenges facing cannabis testing laboratories. J.T. Fishedick, E.M. Pryor

10:50 **SCHB 22.** Serving as an educator in the cannabis staffing market. K. Humiston, K. Arfsten

11:20 Panel Discussion.

11:50 Concluding Remarks.

## CCS

**Committee on Chemical Safety**

E. Howson, *Program Chair*

## SUNDAY AFTERNOON

**Best Practices in Selecting & Presenting Safety Training Content**

*Sponsored by CHAS, Cosponsored by CCS and PRES*

**Ask Dr. Safety: Chemical & Occupational Safety in the Cannabis Industry**

*Sponsored by CHAS, Cosponsored by CCS*

## MONDAY MORNING

**Cannabis: Emerging Challenges in Regulations, Product Analysis & Processing**

*Sponsored by CHAS, Cosponsored by CCS and SCHB<sup>2</sup>*

## MONDAY AFTERNOON

**Cannabis: Emerging Challenges in Regulations, Product Analysis & Processing**

*Sponsored by CHAS, Cosponsored by CCS and SCHB<sup>2</sup>*

## TUESDAY MORNING

**Information Flow in Environmental Health & Safety**

*Sponsored by CHAS, Cosponsored by CCS and CINF<sup>2</sup>*

## TUESDAY AFTERNOON

**Information Flow in Environmental Health & Safety**

*Sponsored by CHAS, Cosponsored by CCS and CINF<sup>2</sup>*

## WEDNESDAY MORNING

**What Have We Learned & Where Are We Going: Post-Settlement in the University of California**

*Sponsored by CHAS, Cosponsored by CCS and PRES*

## WEDNESDAY AFTERNOON

**What Have We Learned & Where Are We Going: Post-Settlement in the University of California**

*Sponsored by CHAS, Cosponsored by CCS and PRES*

## CCPA

**Committee on Chemistry and Public Affairs**

S. Butts, *Program Chair*

## SUNDAY AFTERNOON

## Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

## MONDAY MORNING

## Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

## MONDAY AFTERNOON

## Hollyweird Chemistry

*Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC*

## CWD

**COMMITTEE ON CHEMISTS WITH DISABILITIES**

J. Johnston, *Program Chair*

## SUNDAY MORNING

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**
**Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis & Spectroscopy**

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC*

## SUNDAY AFTERNOON

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**
**Novel Reactions, Methodologies & Syntheses in Organic Chemistry**

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, MPPG, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC*

## MONDAY MORNING

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**
**Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries**

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC*

## MONDAY AFTERNOON

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium**
**Advances in Medicinal & Biological Chemistry: From Therapeutics to Education**

*Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC*



**WEDNESDAY MORNING****Communicating Science in the Twenty-First Century to Diversified Audiences**

Sponsored by CHED, Cosponsored by CPRC, CWD and PRES

**WEDNESDAY AFTERNOON****Communicating Science in the Twenty-First Century to Diversified Audiences**

Sponsored by CHED, Cosponsored by CPRC, CWD and PRES

**CCA****COMMITTEE ON COMMUNITY ACTIVITIES**

M. McGinnis, Program Chair

**MONDAY MORNING****Fundamentals of Chemistry Outreach Education: From Program Design to Assessment**

Sponsored by CHED, Cosponsored by CCA, LSAC, SOCED and YCC

**MONDAY AFTERNOON****Fundamentals of Chemistry Outreach Education: From Program Design to Assessment**

Sponsored by CHED, Cosponsored by CCA, LSAC, SOCED and YCC

**DAC****Committee on Divisional Activities**

R. Bennett, Program Chair

**SUNDAY MORNING****Young Investigator's Symposium**

Sponsored by PMSE, Cosponsored by DAC<sup>‡</sup>

**SUNDAY AFTERNOON****Young Investigator's Symposium**

Sponsored by PMSE, Cosponsored by DAC<sup>‡</sup>

**MONDAY MORNING****Young Investigator's Symposium**

Sponsored by PMSE, Cosponsored by DAC<sup>‡</sup>

**MONDAY AFTERNOON****Young Investigator's Symposium**

Sponsored by PMSE, Cosponsored by DAC<sup>‡</sup>

**CEI****Committee on Environmental Improvement**

C. Middlecamp, Program Chair

**SUNDAY MORNING****Citizens First!**

Sponsored by CHED, Cosponsored by CEI

**Green Chemistry: Theory & Practice**

Sponsored by CHED, Cosponsored by CEI

**Contaminants of Emerging Concern in Natural & Engineered Systems**

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

**Green Chemistry & the Environment**

Sponsored by ENVR, Cosponsored by CEI

**SUNDAY AFTERNOON****Hollyweird Chemistry**

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

**Citizens First!**

Sponsored by CHED, Cosponsored by CEI

**Green Chemistry: Theory & Practice**

Sponsored by CHED, Cosponsored by CEI

**Contaminants of Emerging Concern in Natural & Engineered Systems**

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

**Green Chemistry & the Environment**

Sponsored by ENVR, Cosponsored by CEI

**Integrated & Sustainable Environmental Remediation**

Sponsored by ENVR, Cosponsored by CEI

**MONDAY MORNING****ACS-CEI Award for Incorporating Sustainability into Chemistry Education**

Sponsored by CHED, Cosponsored by CEI

**Science for a Sustainable Energy Future**

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENFL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>‡</sup>, ORGN and PROF

**Hollyweird Chemistry**

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

**Contaminants of Emerging Concern in Natural & Engineered Systems**

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

**MONDAY AFTERNOON****Hollyweird Chemistry**

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

**Science for a Sustainable Energy Future****Chemical & Biological Conversions Approaches to Energy Conversion**

Sponsored by PRES, Cosponsored by BIOL, BIOT, BMGT, CARB, CATL, CEI, CELL, COLL, ENVR, GEOC, I&EC, MEDI, MPPG<sup>‡</sup>, ORGN and PROF

**Contaminants of Emerging Concern in Natural & Engineered Systems**

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

**Undergraduate Research Posters****Green Chemistry & Sustainability**

Sponsored by CHED, Cosponsored by CEI and SOCED

**TUESDAY MORNING****GSSPC: Water Sustainability****Chemists in Pursuit of Clean Water**

Sponsored by CHED, Cosponsored by CEI and PRES

**Green Chemistry Adoption: Progressive Changes by Different Industry Sectors**

Sponsored by ENVR, Cosponsored by CEI, MEDI, ORGN and SCHB<sup>‡</sup>

**Perspectives on Climate Change Literacy & Education: Local to International**

Sponsored by CHED, Cosponsored by CEI and IAC

**Innovative Materials & Technologies for Sustainable Water Purification****Adsorption Technologies**

Sponsored by ENVR, Cosponsored by CEI

**Processes, Technologies & Sensors for Food-Energy-Water Nexus Research**

Sponsored by ENVR, Cosponsored by CEI and CHED

**TUESDAY AFTERNOON****GSSPC: Water Sustainability****Chemists in Pursuit of Clean Water**

Sponsored by CHED, Cosponsored by CEI and PRES

**Green Chemistry Adoption: Progressive Changes by Different Industry Sectors**

Sponsored by ENVR, Cosponsored by CEI, MEDI, ORGN and SCHB<sup>‡</sup>

**Innovative Materials & Technologies for Sustainable Water Purification****Adsorption Technologies**

Sponsored by ENVR, Cosponsored by CEI

**Science & Perception of Climate Change**

Sponsored by ENVR, Cosponsored by CEI and CHED

**WEDNESDAY MORNING****Innovative Materials & Technologies for Sustainable Water Purification****Membrane & Other Treatment**

Sponsored by ENVR, Cosponsored by CEI

**WEDNESDAY AFTERNOON****Advances in Resource Recovery & Conservation in Water Systems**

Sponsored by ENVR, Cosponsored by AGFD, CEI and GEOC

**Innovative Materials & Technologies for Sustainable Water Purification****Photocatalytic**

Sponsored by ENVR, Cosponsored by CEI

**WEDNESDAY EVENING****Contaminants of Emerging Concern in Natural & Engineered Systems**

Sponsored by ENVR, Cosponsored by AGRO, ANYL and CEI

**Green Chemistry & the Environment**

Sponsored by ENVR, Cosponsored by CEI

**Innovative Materials & Technologies for Sustainable Water Purification**

Sponsored by ENVR, Cosponsored by CEI

**Integrated & Sustainable Environmental Remediation**

Sponsored by ENVR, Cosponsored by CEI

**Science & Perception of Climate Change**

Sponsored by ENVR, Cosponsored by CEI and CHED

**THURSDAY MORNING****Advances in Resource Recovery & Conservation in Water Systems**

Sponsored by ENVR, Cosponsored by AGFD, CEI and GEOC

**Innovative Materials & Technologies for Sustainable Water Purification****Catalytic**

Sponsored by ENVR, Cosponsored by CEI

**THURSDAY AFTERNOON****Advances in Resource Recovery & Conservation in Water Systems**

Sponsored by ENVR, Cosponsored by AGFD, CEI and GEOC

**Innovative Materials & Technologies for Sustainable Water Purification****Catalytic & Electrochemical**

Sponsored by ENVR, Cosponsored by CEI

<sup>‡</sup> Cooperative Cosponsorship

## ETHX

## Committee on Ethics

K. Vitense, Program Chair

## MONDAY AFTERNOON

## The Write Thing to Do: Ethical Considerations in Authorship &amp; the Assignment of Credit

Sponsored by CINP, Cosponsored by CHED, CPRM and ETHX

## IAC

## International Activities Committee

E. Tratras Contis, Program Chair

## SOCIAL EVENTS:

Networking Globally: Helping Chemistry Students Find Success in Careers and Study Abroad, 4:30 PM: Sun

International Welcome Reception, 5:30 PM: Sun

## SUNDAY MORNING

## Section A

Hotel Nikko San Francisco  
Carmel I

## Blending Chemistry &amp; Culture: Undergraduate Research Abroad through ACS IREU Program

Cosponsored by CHED

L. Brown, Organizer

C. LaPrade, Organizer, Presiding

9:15 Introductory Remarks.

9:25 IAC 1. My summer experience: Researching water oxidation catalysts and experiencing the beauty of Italy. R. Hutchinson

9:45 IAC 2. La ragazza in Italia: The p-docelyoxybenzylidimethylamine oxide (pDoAO) gel as pH sensitive artificial gland. N.E. Caldero-Rodríguez

10:05 IAC 3. Multiple reaction conditions &amp; multiple reasons why I need to travel more. S. Fusi

10:25 IAC 4. Optics in Umbria: Investigating nanoparticles and fluorescence in the land of pizza and piazzas. R. Warnock, G. Massaro, L. Latterini

10:45 Intermission.

11:00 IAC 5. Fascinating summer with research in organic solar cells, exploring Glasgow and the beautiful highlands of Scotland. M. Matar Abed

11:20 IAC 6. Bagpipes, highlands, and cholesterol functionalized gold nanoparticles. R. Kress

11:40 IAC 7. Performing synthesis and gaining cultural awareness in Germany. E. Janeira

12:00 IAC 8. Summer in Germany: Exploring Europe, making friends, and synthesizing peptides. M. Gaviria

## Chemistry of Korean Foods &amp; Beverages

Sponsored by AGFD, Cosponsored by IAC

## SUNDAY AFTERNOON

## Section A

Hotel Nikko San Francisco  
Carmel II

## Blending Chemistry &amp; Culture: Undergraduate Research Abroad through ACS IREU Program

Cosponsored by CHED

L. Brown, Organizer

C. LaPrade, Organizer, Presiding

1:30 IAC 9. Prost to polymers and proteins: A summer spent exploring the world from the nano to global scale. M.J. Austin, S. Schubert, M. Leiske, A. Traeger, U.S. Schubert

1:50 IAC 10. Summer in Germany: Improving lithium ion battery technology and exploring Europe. N. James

2:10 IAC 11. Summer in Germany: Computational electrochemistry, magnesium batteries, and self-discovery. A.T. Berry

2:30 IAC 12. Applying global solutions to bacterial infections: Synthesis of cystobactamide 861-2. A. Deyett

2:50 IAC 13. International research experience: Investigating the biosynthesis of terrein in *Aspergillus terreus* and experiencing Germany. M. Villanueva

3:10 IAC 14. Undergraduate research in Singapore: Explorations of protein-protein interactions and Southeast Asia. K. Senn, B. Woo, S. Chng

3:30 IAC 15. Exploring southeast Asia and biogenic synthesis of silver nanoparticles. L. Browder, D. Yong Wei Ying, W.S. Chin

3:50 IAC 16. MOFs to mee soto: A summer at the National University of Singapore. M. Molenda

4:10 Concluding Remarks.

## Chemistry of Korean Foods &amp; Beverages

Sponsored by AGFD, Cosponsored by IAC

## MONDAY MORNING

## Section A

Hotel Nikko San Francisco  
Carmel I

## Teaching, Researching &amp; Community Building in the Global Chemical Enterprise

Cosponsored by BMGT, ENVR, I&amp;EC, PRES and PROF

L. Brown, P. Kostiuk, E. Tratras Contis, Organizers, Presiding

9:00 Introductory Remarks.

9:15 IAC 17. Festival De Química: A successful model to communicate the value and impact of chemistry to local communities. I. Montes-González, L. Brown

9:45 IAC 18. Beyond the lab: An international Younger Chemists Network in the works. J. Breffke, P. Kostiuk

10:15 IAC 19. Fighting chemophobia through community building: Lessons learned from the local, national, and international arenas. C. Janaky, L. Brown

10:45 Intermission.

11:00 IAC 20. Global perspectives of Citizen Science. I.T. Urasa, L. Brown

11:30 IAC 21. The challenges and benefits of international research collaborations for undergraduate institutions. T.W. Hanks, P. Kostiuk

12:00 Intermission.

12:30 Panel Discussion.

## MONDAY AFTERNOON

## Section A

Hotel Nikko San Francisco  
Carmel I

## Teaching, Researching &amp; Community Building in the Global Chemical Enterprise

Cosponsored by BMGT, ENVR, I&amp;EC, PRES and PROF

L. Brown, P. Kostiuk, E. Tratras Contis, Organizers, Presiding

1:30 IAC 22. Green chemistry education in Brazil: The 2016 Global Innovation Imperatives (Gii) program from the perspective of a chemist in industry. S.C. Nanita, P. Kostiuk

2:00 IAC 23. Sharing best practices in the global chemical enterprise. E. Tratras Contis, L. Brown

2:30 Intermission.

2:45 IAC 24. Developing an ACS international chapter in the presence of a strong local chemical society. S. McAlpine, P. Kostiuk

3:15 IAC 25. Malta Conference Series: Measuring the success of science diplomacy. Z.M. Lerman, M.Z. Hoffman

3:45 Concluding Remarks.

## International &amp; Multicultural Perspective

Sponsored by CHED, Cosponsored by IAC

## TUESDAY MORNING

## Perspectives on Climate Change Literacy &amp; Education: Local to International

Sponsored by CHED, Cosponsored by CEI and IAC

## WEDNESDAY MORNING

## Research on Learning in the Lab

Sponsored by CHED, Cosponsored by IAC<sup>†</sup>

## Research on Learning in the Lab

Sponsored by CHED, Cosponsored by IAC<sup>†</sup>

## LSAC

## Committee on Local Section Activities

M. Rudd, Program Chair

## SUNDAY AFTERNOON

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## MONDAY MORNING

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Fundamentals of Chemistry Outreach Education: From Program Design to Assessment

Sponsored by CHED, Cosponsored by CCA, LSAC, SOCED and YCC

## MONDAY AFTERNOON

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Fundamentals of Chemistry Outreach Education: From Program Design to Assessment

Sponsored by CHED, Cosponsored by CCA, LSAC, SOCED and YCC

## CMA

## Committee on Minority Affairs

J. Sarquis, Program Chair

## SUNDAY MORNING

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis &amp; Spectroscopy

Sponsored by PROF, Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>†</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>†</sup>, POLY, PRES<sup>†</sup> and WCC

## SUNDAY AFTERNOON

## The Importance of Role Models &amp; Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross

Sponsored by WCC, Cosponsored by CHED, CMA and PROF

**LGBT Graduate & Postdoctoral Student Chemistry Research Symposium****Novel Reactions, Methodologies & Syntheses in Organic Chemistry**

Sponsored by PROF, Cosponsored by ANYL<sup>‡</sup>, BIOL<sup>‡</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>‡</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>‡</sup>, POLY, PRES<sup>‡</sup> and WCC

**MONDAY MORNING****LGBT Graduate & Postdoctoral Student Chemistry Research Symposium****Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries**

Sponsored by PROF, Cosponsored by ANYL<sup>‡</sup>, BIOL<sup>‡</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>‡</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>‡</sup>, POLY, PRES<sup>‡</sup> and WCC

**MONDAY AFTERNOON****LGBT Graduate & Postdoctoral Student Chemistry Research Symposium****Advances in Medicinal & Biological Chemistry: From Therapeutics to Education**

Sponsored by PROF, Cosponsored by ANYL<sup>‡</sup>, BIOL<sup>‡</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>‡</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>‡</sup>, POLY, PRES<sup>‡</sup> and WCC

**TUESDAY MORNING****The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross**

Sponsored by WCC, Cosponsored by CHED, CMA and PROF

**ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences: Symposium in honor of Sandra Y. McGuire**

Sponsored by CHED, Cosponsored by CMA and WCC

**TUESDAY AFTERNOON****Advancing Undergraduate Research Focus on Early Access to Research & Broadening Participation of Under-Represented Groups**

Sponsored by CHED, Cosponsored by CMA<sup>‡</sup>, PROF and WCC

**WEDNESDAY MORNING****Advancing Undergraduate Research**

Sponsored by CHED, Cosponsored by CMA, PROF and WCC

**CPRM****Committee on Patents and Related Matters**

S. Shah, Program Chair

**MONDAY AFTERNOON****The Write Thing to Do: Ethical Considerations in Authorship & the Assignment of Credit**

Sponsored by CINF, Cosponsored by CHED, CPRM and ETHX<sup>‡</sup>

**CPRC****Committee on Public Relations and Communications**

D. Nelson, Program Chair

**OTHER SYMPOSIA OF INTEREST:**

**Chemists & Writing for Fun & Profit: Write Your Own Career** (see SCHB, Tue)

**Communicating Science in the Twenty-First Century to Diversified Audiences** (see CHED, Wed)

**Science & Perception of Climate Change** (see ENVR, Tue, Wed)

**Perspectives on Climate Change Literacy & Education; Local to International** (see CHED, Tue)

**Citizens First!** (see CHED, Sun)

**Chemistry through the Eyes of Non-Chemists** (see HIST, Mon, Tue)

**EVENTS:**

**Workshop—Getting Involved: Chemistry Ambassadors' Forum, 2:00 PM: Sun**

**SUNDAY AFTERNOON****Section A**

Moscone Center  
135

**Hollyweird Chemistry**

Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

D. J. Nelson, Organizer, Presiding  
K. Grazier, D. A. Kirby, Presiding

1:10 Introductory Remarks.

1:15 CPRC 1. Science in the TV show Breaking Bad. D.J. Nelson

1:45 CPRC 2. Bridging the worlds of science fiction and science fact on Star Trek. A. Bormanis

2:15 CPRC 3. How "The Universe" is made. C. Campbell

2:45 CPRC 4. NOVA's "Hunting the Elements" and other chemistry projects. C. Schmidt, P. Rosenstein

3:15 CPRC 5. Science and science fiction: The boundary between fantasy and futurism. J. Colwell

3:45 CPRC 6. Science as a human story. S.E. Lyons

4:15 Panel Discussion.

**MONDAY MORNING****Section A**

Moscone Center  
135

**Hollyweird Chemistry**

Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

D. J. Nelson, Organizer, Presiding

M. A. Griep, Presiding

9:00 CPRC 7. Hollyweird scientists. K. Grazier

9:30 CPRC 8. Correctness, creativity, and compromise: The art of putting good science into great television. J.G. Sotos

10:00 CPRC 9. Role of scientific integrity in cinematic and televised science. D.A. Kirby

10:30 CPRC 10. Who is speaking? Film and TV as part of an on-going dialogue between science and society. E. Stengler

11:00 CPRC 11. Too many geeks? S. Cass

11:30 Panel Discussion.

**Space Chemistry: How it Helps Space Exploration**

Sponsored by YCC, Cosponsored by CPRC and PROF

**MONDAY AFTERNOON****Section A**

Moscone Center  
135

**Hollyweird Chemistry**

Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

D. J. Nelson, Organizer, Presiding

J. G. Sotos, Presiding

1:15 CPRC 12. Teaching chemistry using popular media. J.G. Goll

1:45 CPRC 13. How to teach chemistry using Movie Wow! M.A. Griep, M. Mikasen

2:15 CPRC 14. Effective science communication in the popular media. J.J. Grbic

2:45 CPRC 15. Making science humerus (pun intended). N. Reagan

3:15 CPRC 16. This is your brain on Hollywood. Any questions? J. Cail

3:45 Panel Discussion.

**Space Chemistry: How it Helps Space Exploration**

Sponsored by YCC, Cosponsored by CPRC and PROF

**TUESDAY MORNING****Chemists & Writing for Fun & Profit: Write Your Own Career**

Sponsored by SCHB, Cosponsored by CPRC and PROF

**WEDNESDAY MORNING****Communicating Science in the Twenty-First Century to Diversified Audiences**

Sponsored by CHED, Cosponsored by CPRC, CWD and PRES

**WEDNESDAY AFTERNOON****Communicating Science in the Twenty-First Century to Diversified Audiences**

Sponsored by CHED, Cosponsored by CPRC, CWD and PRES

**COMSCI****Committee on Science**

M. Kociolek, Program Chair

**MONDAY AFTERNOON****Section A**

Moscone Center  
132

**Chemical Innovation Partnerships: Industry-University Success Stories**

Cosponsored by BMGT

M. G. Kociolek, Organizer, Presiding

1:00 Introductory Remarks.

1:05 COMSCI 1. Successful models and key principles in university-industry partnerships. A. Boccanfuso

1:35 COMSCI 2. Open Laboratory initiatives and their role in innovation partnerships. M.G. Kociolek

2:05 Intermission.

2:15 COMSCI 3. Successful university partnerships in the pharmaceutical industry. C.J. Welch

2:45 COMSCI 4. Government's role in public-private partnerships. G. Wang

3:15 Panel Discussion.

**SCC****Senior Chemists Committee**

T. Beattie, Program Chair

**SUNDAY AFTERNOON****Golden Age of Industrial Chemistry**

Sponsored by HIST, Cosponsored by SCC and YCC

<sup>‡</sup>Cooperative Cosponsorship



## SOCED

## Society Committee on Education

M. Roslonowski, Program Chair

## SOCIAL EVENTS:

Networking Social with Graduate School Recruiters, 1:00 PM: Sun  
Undergraduate Social, 8:30 PM: Sun  
Undergraduate Speed Networking with Chemistry Professionals, 4:00 PM: Mon

## EVENTS:

SciBabe: Chemistry Blogger, 4:00 PM: Sun  
Student Awards Ceremony, 7:00 PM: Sun  
Chemistry & the Environment Film Series, 12:00 PM: Mon

## SUNDAY MORNING

## Section A

San Francisco Marriott Marquis  
Golden Gate A

## Frontiers in Nanoscience

Cosponsored by POLY

M. C. Roslonowski, Organizer, Presiding

9:30 Introductory Remarks.

9:45 SOCED 1. Donor-Acceptor molecules for organic photovoltaics. M.C. Stefan

10:10 SOCED 2. Incorporating Diels-Alder chemistry to prepare thermally-responsive materials. M. Markmann, M.R. Martinez, T. Kleine, M. Meyersohn, C. Gregory, T. Colt, P.J. Costanzo

10:30 SOCED 3. Single molecule/aggregate spectroscopy for plastic semiconducting polymers. Z. Hu

10:50 SOCED 4. Withdrawn.

11:10 SOCED 5. Degradable conjugated polymers: New biomaterials for biological labeling, sensing, and delivery. J. Moon

11:30 SOCED 6. Directed self-assembly: A new frontier for nanolithography. A. Baruth

11:50 Q&amp;A.

12:05 Concluding Remarks.

## Undergraduate Research Papers

Sponsored by CHED, Cosponsored by SOCED

## SUNDAY AFTERNOON

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Undergraduate Research Papers

Sponsored by CHED, Cosponsored by SOCED

## MONDAY MORNING

## Section A

San Francisco Marriott Marquis  
Golden Gate A

## Chemistry of Fermented Beverages

M. C. Roslonowski, Organizer, Presiding

10:00 Introductory Remarks.

10:10 SOCED 7. Chemistry in homebrewing. R. Burns

10:45 Q&amp;A.

10:55 SOCED 8. How offering a beer course can make you famous and infamous. M.C. Roslonowski

11:30 Q&amp;A.

11:40 SOCED 9. Beer, chemistry and the secrets of the universe. M.B. Cichowicz

12:15 Q&amp;A.

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Fundamentals of Chemistry Outreach Education: From Program Design to Assessment

Sponsored by CHED, Cosponsored by CCA, LSAC, SOCED and YCC

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## Undergraduate Research Papers

Sponsored by CHED, Cosponsored by SOCED

## MONDAY AFTERNOON

## Section A

San Francisco Marriott Marquis  
Golden Gate A

## Eminent Scientist Lecture with Dr. Carolyn Bertozzi

Cosponsored by MEDI

M. C. Roslonowski, Organizer, Presiding

2:30 Introductory Remarks.

2:40 SOCED 10. What life and research share in common: Finding opportunity in failure. C.R. Bertozzi

3:40 Concluding Remarks.

3:55 Q&amp;A.

## Hollyweird Chemistry

Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC

## Fundamentals of Chemistry Outreach Education: From Program Design to Assessment

Sponsored by CHED, Cosponsored by CCA, LSAC, SOCED and YCC

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## Undergraduate Research Papers

Sponsored by CHED, Cosponsored by SOCED

## Undergraduate Research Posters

## Agricultural &amp; Food Chemistry

Sponsored by CHED, Cosponsored by AGFD<sup>2</sup> and SOCED<sup>2</sup>

## Undergraduate Research Posters

## Agricultural &amp; Food Chemistry

Sponsored by CHED, Cosponsored by AGFD<sup>2</sup> and SOCED<sup>2</sup>

## Undergraduate Research Posters

## Analytical Chemistry

Sponsored by CHED, Cosponsored by ANYL and SOCED

## Undergraduate Research Posters

## Biochemistry

Sponsored by CHED, Cosponsored by BIOL and SOCED

## Undergraduate Research Posters

## Biotechnology

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## Undergraduate Research Posters

## Chemical Education

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## Undergraduate Research Posters

## Computational Chemistry

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## Undergraduate Research Posters

## Environmental Chemistry

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## Undergraduate Research Posters

## Geochemistry

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## Undergraduate Research Posters

## Green Chemistry &amp; Sustainability

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## Undergraduate Research Posters

## Inorganic Chemistry

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## Undergraduate Research Posters

## Medicinal Chemistry

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## Undergraduate Research Posters

## Nanotechnology

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## Undergraduate Research Posters

## Organic Chemistry

Sponsored by CHED, Cosponsored by SOCED

## Undergraduate Research Posters

## Physical Chemistry

Sponsored by CHED, Cosponsored by SOCED

## Undergraduate Research Posters

## Polymer Chemistry

Sponsored by CHED, Cosponsored by PMSE, POLY and SOCED

## MONDAY EVENING

## Successful Student Chapters

Sponsored by CHED, Cosponsored by SOCED

## TUESDAY MORNING

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## TUESDAY AFTERNOON

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## TUESDAY EVENING

## Excellence in Graduate Polymer Research

Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC

## WCC

## Women Chemists Committee

K. Wozniak and R. Cole, Program Chairs

## SOCIAL EVENTS:

Breakfast, 7:30 AM: Mon  
Just Cocktails, 4:00 PM: Mon  
Luncheon, 12:00 PM: Tue

## EVENTS:

Poster Session, 11:00 AM: Tue

## SUNDAY MORNING

## High School Program

Sponsored by CHED, Cosponsored by WCC

## LGBT Graduate &amp; Postdoctoral Student Chemistry Research Symposium

## Emerging Applications in Inorganic Chemistry: Energy, Materials, Catalysis &amp; Spectroscopy

Sponsored by PROF, Cosponsored by ANYL<sup>2</sup>, BIOL<sup>2</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>2</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>2</sup>, POLY, PRES<sup>2</sup> and WCC

## ACS Award in Applied Polymer Science: Symposium in honor Zhenan Bao

## Polymer Synthesis

Sponsored by PMSE, Cosponsored by WCC

## ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend

## Honoring the Contribution to Single Crystal Catalysis

Sponsored by CATL, Cosponsored by COLL and WCC

**Lanthanide & Actinide Chemistry***Sponsored by INOR, Cosponsored by WCC***SUNDAY AFTERNOON****Section A**Hotel Nikko San Francisco  
Monterey II**The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross***Cosponsored by CHED, CMA and PROF*K. A. Woznack, *Organizer*E. A. Nalley, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 WCC 1. Encouraging true grit women in science: The story of a grit grinder. R.A. Woodall

2:00 WCC 2. Paying it forward in mentoring. A.F. Charlebois

2:25 WCC 3. POM (Power of Mentorship): The role mentorship in chemical sciences played in my life. F.F. Minter

2:50 Intermission.

3:00 WCC 4. Encouragement. R. Libby

3:25 WCC 5. What Women Can Do<sup>™</sup>: Encouraging and retaining women in STEM. J.L. Bryant

3:50 WCC 6. Reaching gender equity for women of color in STEM. The importance of role models and mentors. T. Thomas, J.M. Iriarte-Gross

4:15 WCC 7. Mentors, role models, and advisors: Distinctions, examples, and ethical issues. S.C. Greer

4:40 Concluding Remarks.

**High School Program***Sponsored by CHED, Cosponsored by WCC***LGBT Graduate & Postdoctoral Student Chemistry Research Symposium****Novel Reactions, Methodologies & Syntheses in Organic Chemistry***Sponsored by PROF, Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>†</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>†</sup>, POLY, PRES<sup>†</sup> and WCC***ACS Award in Applied Polymer Science: Symposium in honor Zhenan Bao****Advances in Organic Solar Cells***Sponsored by PMSE, Cosponsored by WCC***ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend****Honoring the Contribution to Single Crystal Catalysis***Sponsored by CATL, Cosponsored by COLL and WCC***SUNDAY EVENING****F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in honor of Pingyun Feng***Sponsored by INOR, Cosponsored by WCC***MONDAY MORNING****Section A**Hotel Nikko San Francisco  
Monterey II**Celebrating 90 years of the WCC: Reflections of Past Chairs***Cosponsored by PRES and PROF*R. S. Cole, *Organizer*T. N. Horton, *Organizer, Presiding*L. S. Sremaniak, *Presiding*

9:15 Introductory Remarks.

9:25 WCC 8. Looking at life from both sides now. F.K. Wood-Black

9:45 WCC 9. WCC: Reaching out. C. Ribes

10:05 WCC 10. Partnerships, awards and taboo topics, oh my! Happy Birthday WCC! A.F. Charlebois

10:25 Intermission.

10:40 WCC 11. Back to the 80s... or not? M.A. Cavanaugh

11:00 WCC 12. Transformation of the Women's Chemists Committee: 1995-1997. C. Bodurov

11:20 WCC 13. Sustainable programs to encourage and retain women chemists: Efforts from the Women Chemists Committee (WCC). J.L. Bryant

11:40 WCC 14. Rising stars in the WCC Hall of Fame: Perspectives on recognizing mid-career chemists. J. Cohen

**ACS Award for Achievement in Research for the Teaching & Learning of Chemistry: Symposium in honor of Marcy H. Towns***Sponsored by CHED, Cosponsored by WCC***LGBT Graduate & Postdoctoral Student Chemistry Research Symposium****Frontiers in Analytical & Physical Chemistry: From Atmospheric to Atomic Discoveries***Sponsored by PROF, Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>†</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>†</sup>, POLY, PRES<sup>†</sup> and WCC***ACS Award in Applied Polymer Science: Symposium in honor Zhenan Bao****Novel Organic Materials***Sponsored by PMSE, Cosponsored by WCC***ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend****Honoring the Contribution to Nanocatalysis***Sponsored by CATL, Cosponsored by COLL and WCC***MONDAY AFTERNOON****Section A**Hotel Nikko San Francisco  
Monterey II**Rising Star Award Symposium***Cosponsored by BIOL and PRES*M. A. Kane, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 WCC 15. Novel liquid-like nano-scale hybrid materials with tunable chemical and structural properties for combined CO<sub>2</sub> capture and conversion. A.A. Park

1:55 WCC 16. Catalyzing innovation – the diverse elements of my career. B.A. Kilos

2:15 WCC 17. Inspiration from nature: Mentors and molecules. E.E. Carlson

2:35 Intermission.

2:40 WCC 18. From a farm kid to a scientist and the analyses along the way. E.S. Baker, X. Zheng, N. Aly, X. Zhang, K. Burnum-Johnson, D. Orton, Y. Ibrahim, R. Smith

3:00 WCC 19. Stay on target: Isozyme-specific first responders in precision electrophile signaling. Y. Aye

3:20 WCC 20. Biological chemistry of F-elements: From decontamination to targeted radiotherapy. R.J. Abergel

3:40 Concluding Remarks.

**ACS Award for Achievement in Research for the Teaching & Learning of Chemistry: Symposium in honor of Marcy H. Towns***Sponsored by CHED, Cosponsored by WCC***LGBT Graduate & Postdoctoral Student Chemistry Research Symposium****Advances in Medicinal & Biological Chemistry: From Therapeutics to Education***Sponsored by PROF, Cosponsored by ANYL<sup>†</sup>, BIOL<sup>†</sup>, CHED, CMA, COLL, COMP, CWD, ENVR, INOR<sup>†</sup>, MEDI, MPPG, ORGN, PHYS, PMSE<sup>†</sup>, POLY, PRES<sup>†</sup> and WCC***ACS Award in Applied Polymer Science: Symposium in honor Zhenan Bao****Frontiers in Organic & Flexible Electronics***Sponsored by PMSE, Cosponsored by WCC***ACS Award in Surface Chemistry: Symposium in honor of Cynthia M. Friend****Honoring the Contribution to Nanocatalysis***Sponsored by CATL, Cosponsored by COLL and WCC***TUESDAY MORNING****Section A**Hotel Nikko San Francisco  
Monterey II**The Importance of Role Models & Mentors in Reaching Gender Equity in Chemical Sciences: A Symposium in Honor of Judith Iriarte-Gross***Cosponsored by CHED, CMA and PROF*E. A. Nalley, K. A. Woznack, *Organizers*R. A. Woodall, *Presiding*

8:30 Introductory Remarks.

8:35 WCC 21. Why STEM is still a four-letter word for women. E.A. Nalley

9:00 WCC 22. Mentors and role models: Stories from the field. K.M. Schulz

9:25 WCC 23. Expanding Your Horizons (EYH) addresses equity issues for girls in STEM. P.R. Pulley

9:50 Intermission.

10:00 WCC 24. Challenges and opportunities for leadership in the 21st century. D.G. Schmidt

10:25 WCC 25. Underrepresentation of women in science and what we can do about it. D.J. Nelson

10:50 WCC 26. Reaching gender equity in the chemical sciences: The importance of role models and mentors. Fortune cookie wisdom for women in the chemical sciences. J.M. Iriarte-Gross

**ACS Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences: Symposium in honor of Sandra Y. McGuire***Sponsored by CHED, Cosponsored by CMA and WCC***ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in honor of Yvonne C. Martin***Sponsored by COMP, Cosponsored by BIOL, MEDI and WCC***Biomass & Biofuel Processing***Sponsored by ENFL, Cosponsored by CELL, MPPG<sup>†</sup> and WCC***TUESDAY AFTERNOON****ACS Chemical Biology Award Symposium***Sponsored by BIOL, Cosponsored by WCC***ACS Award Lectures***Sponsored by COLL, Cosponsored by CATL and WCC***ACS Award for Computers in Chemical & Pharmaceutical Research: Symposium in honor of Yvonne C. Martin***Sponsored by COMP, Cosponsored by BIOL, MEDI and WCC***Frank H. Field & Joe L. Franklin Award for Outstanding Achievement: Symposium in Honor of Vicki H. Wysocki***Sponsored by ANYL, Cosponsored by WCC***Biomass & Biofuel Processing***Sponsored by ENFL, Cosponsored by CELL, MPPG<sup>†</sup> and WCC***Advancing Undergraduate Research****Focus on Early Access to Research & Broadening Participation of Under-Represented Groups***Sponsored by CHED, Cosponsored by CMA<sup>†</sup>, PROF<sup>†</sup> and WCC***Advancing Undergraduate Research****Focus on Early Access to Research & Broadening Participation of Under-Represented Groups***Sponsored by CHED, Cosponsored by CMA<sup>†</sup>, PROF<sup>†</sup> and WCC*<sup>†</sup> Cooperative Cosponsorship

**WEDNESDAY MORNING****Nobel Laureate Signature Award for Graduate Education in Chemistry: Symposium in honor of Junqi Li & Martin D. Burke***Sponsored by ORGN, Cosponsored by WCC***Biomass & Biofuel Processing***Sponsored by ENFL, Cosponsored by CELL, MPPG<sup>2</sup> and WCC***Lanthanide & Actinide Chemistry***Sponsored by INOR, Cosponsored by WCC***Advancing Undergraduate Research***Sponsored by CHED, Cosponsored by CMA, PROF and WCC***WEDNESDAY AFTERNOON****Chemical Probes for Bacterial Imaging***Sponsored by BIOL, Cosponsored by WCC***Biomass & Biofuel Processing***Sponsored by ENFL, Cosponsored by CELL, MPPG<sup>2</sup> and WCC***THURSDAY MORNING****Lanthanide & Actinide Chemistry***Sponsored by INOR, Cosponsored by WCC***THURSDAY AFTERNOON****Lanthanide & Actinide Chemistry***Sponsored by INOR, Cosponsored by WCC***YCC****Younger Chemists Committee***D. Williams, Program Chair***SUNDAY AFTERNOON****Section A***Moscone Center  
2000***Starting a Successful Research Program at a PUI***Cosponsored by PROF**Financially supported by Council on Undergraduate Research**M. L. Druelinger, Organizer, Presiding***1:00** Introductory Remarks.**1:05 YCC 1.** What is undergraduate research and why do research at a predominantly undergraduate institution? M.R. Malachowski**1:25 YCC 2.** Collaborative research with undergraduates: Research project and research group design. M.R. Malachowski**1:45 YCC 3.** Balancing teaching, research, service and life in the context of Primarily Undergraduate Institutions (PUIs). B.L. Gourley**2:05 YCC 4.** Art and necessity of gaining internal support from institutional administrators. M.L. Druelinger**2:25** Intermission.**2:40 YCC 5.** Undergraduate new investigator grants at the ACS Petroleum Research Fund. T. Clancy**3:05 YCC 6.** Funding opportunities at the National Science Foundation of particular interest to faculty at Primarily Undergraduate Institutions (PUIs). C.A. Bessel**3:35 YCC 7.** Writing more competitive grant proposals. C.A. Bessel**3:55 YCC 8.** Finding small grant opportunities to jump-start your research. B.L. Gourley**4:15 Q&A & Panel Discussion.****4:35** Concluding Remarks.**Golden Age of Industrial Chemistry***Sponsored by HIST, Cosponsored by SCC and YCC***Hollyweird Chemistry***Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC***SUNDAY EVENING****Section A***Moscone Center  
2000***Entrepreneurial Opportunities in Chemistry***Cosponsored by BMGT, PROF and SCHB**J. Schmitt, J. Schwarzbach, Organizers, Presiding***5:00** Introductory Remarks.**5:10 YCC 9.** Cofounding a biochemical startup. P.V. Robinson**5:35 YCC 10.** Working with academia and startups. J.C. Ramos**6:00 YCC 11.** Cofounding a materials startup. L. Brockway**6:25 YCC 12.** Working with national labs and the government for your startup. X. Wei**6:50** Panel Discussion.**7:30** Concluding Remarks.**MONDAY MORNING****Section A***Moscone Center  
2000***Space Chemistry: How it Helps Space Exploration***Cosponsored by CPRC and PROF**F. Darvas, R. F. Hirsch, A. E. Pavliath, Organizers, Presiding***8:00** Introductory Remarks.**8:05 YCC 13.** General chemistry of the planets. L.B. Roberson**8:35 YCC 14.** Chemistry in space: Demands, perspectives and tools. R.V. Jones, F. Darvas**9:05 YCC 15.** Pharmacy on demand by synthesis in the space. F. Gupton**9:35 YCC 16.** Polymers and nanostructuring in flow synthesis: Space chemistry perspective. R.C. Advincula**10:05** Intermission.**10:20** Introduction of Dr. Shannon Lucid.**10:25 YCC 17.** Following chemistry into space. S. Lucid**10:55 YCC 18.** Advanced synthesis in micro-structured flow reactors: From rocket propellants to future space explorations. S. Loebbecke**11:25 YCC 19.** Polyimide and polyamide aerogels: Lightweight, multifunctional materials for aerospace applications. M. Meador**Hollyweird Chemistry***Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC***Fundamentals of Chemistry Outreach Education: From Program Design to Assessment***Sponsored by CHED, Cosponsored by CCA, LSAC, SOCED and YCC***Excellence in Graduate Polymer Research***Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC***MONDAY AFTERNOON****Section A***Moscone Center  
2000***Space Chemistry: How it Helps Space Exploration***Cosponsored by CPRC and PROF**F. Darvas, R. F. Hirsch, A. E. Pavliath, Organizers, Presiding***1:30 YCC 20.** Flow chemistry: An enabler for space chemistry. V. Hessel, T. Noel**2:00 YCC 21.** Utilizing flow chemistry to harness high energy photochemical reactions in space. A.B. Beeler**2:30 YCC 22.** Challenges and opportunities regarding the (photo) electrochemical transformation of CO<sub>2</sub> on the Mars. C. Janaky**3:00** Intermission.**3:15 YCC 23.** Electrochemistry: Reagentless oxidations and reductions in space. T. Wirth**3:45 YCC 24.** Flow fine synthesis: High yielding and selective organic synthesis in space by flow methods. S. Kobayashi**4:15 YCC 25.** Martian chemical and mineralogical analysis with ChemCam and SuperCam. S.M. Clegg, R. Wiens, S. Maurice, O. Gasnault**Hollyweird Chemistry***Sponsored by CPRC, Cosponsored by AGRO, CARB, CCPA, CEI, CHED, ENFL, HIST, LSAC, NUCL, POLY, SCHB, SOCED and YCC***Fundamentals of Chemistry Outreach Education: From Program Design to Assessment***Sponsored by CHED, Cosponsored by CCA, LSAC, SOCED and YCC***Excellence in Graduate Polymer Research***Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC***TUESDAY MORNING****Excellence in Graduate Polymer Research***Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC***TUESDAY AFTERNOON****Excellence in Graduate Polymer Research***Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC***TUESDAY EVENING****Excellence in Graduate Polymer Research***Sponsored by POLY, Cosponsored by PRES, PROF, SOCED and YCC***WEDNESDAY MORNING****Looking Beyond Your Current Boundaries: What's the Next Step?****Academic Route: PhD to Postdoc to Ass. Prof.***Sponsored by PROF, Cosponsored by BMGT and YCC***WEDNESDAY AFTERNOON****Looking Beyond Your Current Boundaries: What's the Next Step?****Industrial Route: PhD, Postdoc, Scientist***Sponsored by PROF, Cosponsored by BMGT and YCC***THURSDAY MORNING****Young Investigators in Nuclear & Radiochemistry***Sponsored by NUCL, Cosponsored by YCC***THURSDAY AFTERNOON****Young Investigators in Nuclear & Radiochemistry***Sponsored by NUCL, Cosponsored by YCC*

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**Technical program information known at press time.****The official technical program for the 253rd ACS National Meeting is available at:****[www.acs.org/SanFran2017](http://www.acs.org/SanFran2017)**

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# EXPOSITION HIGHLIGHTS

**SEE WHAT'S NEW INSIDE THE EXPOSITION.** Visit the ACS National Exposition at the Moscone Center, Halls B/C, from Sunday, April 2, through Tuesday, April 4. The show hours will be Sunday, 6:00 to 8:30 PM, and Monday and Tuesday, 9:00 AM to 5:00 PM. Companies will showcase services, instruments, books, computer hardware, scientific software, and an array of chromatographic, lab, and safety equipment. Technical personnel will give demonstrations, answer questions, and discuss your needs and interests.

Visit the revamped ACS Career Fair where you'll meet recruiters from top employers like KAUST, Brewer Science, Gilead and many more. Create an online profile and upload your résumé to our database where recruiters can schedule in-person interviews with you. While at the Career Fair, network with potential employers and drop-off your résumé, attend Career Pathways Workshops, and meet with ACS Career Consultants.

Also, join us at the ACS booth in the middle of the exposition floor, where ACS staff members will present the many

benefits, services, products, and merchandise offered by ACS.

**Online exposition.** The online exposition is a component within the exhibitor directory that enables attendees to view videos, press releases, brochures, and flyers of participating exhibitors. Access the online exposition at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017) to learn more about exhibiting companies and download product information that meets your needs.

**Free exhibitor workshops.** Free workshops will be hosted by exhibitors on the exposition floor and in private rooms inside the Moscone Center. These workshops will introduce new products and services, build skills with specific tools and techniques, and highlight innovative applications that may improve your productivity. Register at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017) to reserve your seat.

**Presentations & special events.** Join us on Sunday from 6:00 to 8:30 PM for the attendee welcome reception. Take an afternoon break on Tuesday from 3:00 to

5:00 PM and visit the exhibitors before the exposition closes. Access the mobile app, play a game with participating exhibitors and win special prizes!

**Internet & technology.** Get free internet access and leave messages for one another at the meeting mail terminals inside the town center. Enjoy free Wi-Fi service at designated areas in the Moscone Center.

**Admission requirements & expo-only registration.** Exposition admission is complimentary for all national meeting registrants; however, you are required to wear your badge. Individuals who want to visit the exhibits without registering for the technical component of the national meeting can obtain an expo-only badge for \$60. Students with school identification can obtain an expo-only badge for \$30. Registration can be handled online or in person at ACS attendee registration at the Moscone Center, North Lobby, and at our satellite registration areas at the Hilton San Francisco Union Square, and Grand Hyatt San Francisco.



ACS Exposition

# EXHIBITORS

The following list of exhibitors, as of Feb. 11, is the property of the American Chemical Society. Any unauthorized use of this list, or any part thereof, either directly or indirectly, is strictly prohibited.


Visit the Online ACS National Exposition at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017) to download the updated exhibitor list and access product information.

**101**, 375 South End Avenue, Apt. 9G, New York, NY, United States 10280, 917-587-7883, Internet: [www.101edu.co](http://www.101edu.co) **101** builds subject-specific classroom engagement tools that promote active learning in college STEM courses. Our first product for chemistry courses, Chem101, was piloted with 2000 students across 8 schools in Fall 2016 including Carnegie Mellon, Columbia University, and the University of Cincinnati. **1530**

**abcr GmbH**, Im Schlehert 10, Karlsruhe, Germany 76187, +49 721 950 61101, fax: +49 721 950 6133, Internet: [www.abcr.de](http://www.abcr.de) With **abcr**, you have access to over 260,000 products from the organic, organometallic and inorganic specialty chemicals area.

– R&D services: custom synthesis, research projects  
– Production: research, syntheses, scale-up, pilot and commercial plant in our production facilities  
– Semi bulk / bulk business  
– Catalogue business: procurement and sales of specialty chemicals **1718**

**Accela ChemBio Co. Ltd.**, 9883 Pacific Heights Blvd., Suite H, San Diego, CA, United States 92121, 858-699-3322, fax: 858-769-6322 or 858-876-1948, e-mail: [info@accelchem.com](mailto:info@accelchem.com), Internet: [www.accelchem.com](http://www.accelchem.com) **Accela ChemBio** focus on design, synthesis, manufacture R&D chemicals and pharmaceutical intermediates for worldwide scientific research institutions and industrial development corporations. Since founding in 2007, **Accela** are providing high-quality, innovative products to over 3,000+ valuable customers in 38 countries. We run ISO9001-Quality-System daily, and certified by Tuv since 2010. **418**

 **Ace Glass, Inc.**, 1430 N. West Blvd., PO Box 688, Vineland, NJ, United States 08360, 800-223-4524, fax: 800-543-6752, e-mail: [sales@aceglass.com](mailto:sales@aceglass.com), Internet: [www.aceglass.com](http://www.aceglass.com) **Ace Glass Incorporated** has been a leader and innovator of scientific glassware, lab equipment and glass apparatus for over 80 years. **Ace Glass** provides a wide variety of quality U.S. manufactured standard and custom scientific glassware, including reactors engineered to any customer specifications from 100mL-200L. **518**

## ACS Career Fair Recruiters

**ACS Career Consultants** **2028**  
**Aramco Services Company** **1825**  
**Brewer Science, Inc.** **1927**  
**Central Intelligence Agency (CIA)** **1931**  
**Getson & Schatz, P.C.** **2026**  
**Gilead** **1735**  
**Institute for Basic Science (IBS)** **1934**  
**KAUST** **1725**  
**Lanzhou University** **1933**  
**Merck & Co.** **1925**  
**Open Eye** **2030**  
**ORAU** **1935**  
**Sasol** **2034**

**ACS Career Navigator**, 1155 16th Street, NW, Washington, DC, United States 20036, 202-872-6031, e-mail: [k\\_redmond@acs.org](mailto:k_redmond@acs.org), Internet: [www.acs.org/content/acs/en/careers/career-navigator.html](http://www.acs.org/content/acs/en/careers/career-navigator.html) **725**

**ACS Committee on Chemical Health & Safety**, P.O. Box 152329, San Diego, CA, United States 92195, 619-990-4908, Internet: [www.acs.org/safety](http://www.acs.org/safety) The **ACS Committee on Chemical Safety** and the **Division of Chemical Health and Safety** provide this opportunity for you to learn more about chemical safety within the ACS and to have chemical safety experts answer your questions. **1125**

**ACS Division of Small Chemical Businesses (SCHB)**, 4344 Moorpark Ave., Ste # 1, San Jose, CA, United States 95129, 408-834-8597, fax: 408-351-7900, e-mail: [expo-booth@acs-schb.org](mailto:expo-booth@acs-schb.org), Internet: [www.acs-schb.org](http://www.acs-schb.org) The **ACS Division of Small Chemical Businesses (SCHB)** has objectives "To aid in the formation, development, and growth of small chemical businesses." **SCHB** helps chemists working in small enterprises, including self-employed, with the legal, social, educational, legislative, regulatory, and economic aspects of their unique professional status. **1329**

**ACS Education**, 1155 16th Street, NW, Washington, DC, United States 20036, 202-872-6269, fax: 202-833-7732, e-mail: [education@acs.org](mailto:education@acs.org), Internet: [www.acs.org/education](http://www.acs.org/education) The **ACS Education Division** serves learners and educators by building communities and providing effective chemistry education resources, grants, communities, professional development opportunities, standards and guidelines. Stop by our booth to find information that can support your efforts to provide innovative, relevant, and effective chemistry education from kindergarten through professional education. **725**

**ACS Green Chemistry Institute**, 1155 16th Street, NW, Washington, DC, United States 20036, 202-872-6102, fax: 202-776-8009, e-mail: [gci@acs.org](mailto:gci@acs.org), Internet: [www.acs.org/gci](http://www.acs.org/gci) The **ACS Green Chemistry Institute** believes that innovation in sustainable and green chemistry and engineering (GC&E) is vital to solving environmental and human health challenges. Our mission is to catalyze and enable the implementation of GC&E throughout the global chemical enterprise and empower you to re-imagine a sustainable future. **724**

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**TWD Kemtech America****Booth # 400**

Chemistry Glassware

**Unisense A/S****Booth # 320**

Hydrogen Sensor  
Oxygen Sensor  
Hydrogen Sulfide Sensor  
Nitrous Oxide Sensor  
pH Sensor

**V&P Scientific, Inc.****Booth # 213**

VP 710N NanoStirrus

**Vacuum Atmospheres Co.****Booth # 1207**

NexGen  
Genesis

**Vapourtec Ltd.****Booth # 1717**

SF-10 Reagent Pump

**ViridisChem, Inc.****Booth # 1804**

Green Pocketbook  
Green Analyzer

**Waters Corp.****Booth # 609**

Xevo TQ-XS  
Unispray

**Wavefunction, Inc.****Booth # 709**

Spartan'16 Parallel Suite  
Spartan Student Edition version 7  
Odyssey Instructor Edition version 5  
Odyssey Student Edition version 5  
iSpartan and Odyssey Apps

**Wyatt Technology Corp.****Booth # 605**

ViscoStar III

**X-Ability Co., Ltd.****Booth # 1634**

Winmostar  
Transparent Resin 3D Printing  
Fragment ER  
XA-CUDA-QM

**Xenometrix Ltd.****Booth # 1706**

P-Metrix  
Genius IF  
X-Calibur  
X-Cite  
Nova

**Yamato Scientific America, Inc.****Booth # 1714**

ADL311SA Compact and Economical Spray  
Dryer  
RE301 Rotary Evaporator  
SM Series Standard Sterilizers with Dryer  
DKN Series Forced Convection Ovens  
IN Series Refrigerant Incubators

**Yamazen Science, Inc.****Booth # 500**

AKROS  
Flash MS  
TLC Reader  
WPrep-2XY  
Flash-ELSD

**Zurich Instruments AG****Booth # 301**

MFA Impedance Analyzer  
MFLI Lock-in Amplifier  
HF2LI Lock-in Amplifier  
UHFLI Lock-in Amplifier

# EXPOSITION

## COMPANIES LISTED BY BROAD CATEGORIES

A more detailed product listing can be found by visiting the National Exposition at [www.acs.org/sanfran2017](http://www.acs.org/sanfran2017). In addition to Meeting Mail stations in the convention center, product categories, along with companies supplying the products, can be searched using this free service.

## Academic & Educational Services

101	1530
ACS Career Navigator	725
ACS Division of Small Chemical Businesses (SCHB)	1329
ACS Education	725
ACS Green Chemistry Institute	724
ACS Meetings & Expositions	725
AgileBio LLC - LabCollector	1431
Anasazi Instruments Inc.	1016
Asahi Spectra Co., Ltd.	1427
Authentic Development	220
BioSolveIT	1418
Brush with Science	1435
Cambridge Crystallographic Data Ctr.	1429
Cellatrix, LLC	1635
CEM Corp.	618
Cengage Learning, Inc.	503
Chem21Labs LLC	1900
CONFLEX Corp.	1112
De Gruyter	1306
Elsevier	909
Extrel CMS	1020
Federal Bureau of Investigation	730
Flinn Scientific Inc.	1819
Frontiers	314
Gamry Instruments	1221
Gaussian	919
InfoChem GmbH	1017
Int'l Centre for Diffraction Data	1702
Kimble Chase LLC	1524
Leggett Technical Consulting, LLC	1732
Magritek Inc.	1110
Maruzen Co., Ltd.	1012
McGraw-Hill Education	1302
MDPI AG	1618
Mestrelab Research SL	627
Mettler-Toledo AutoChem, Inc.	405
MicroLAB, Inc.	525
My Green Lab	1535
Nanalysis Corp.	501
Nat'l Academies Of Sciences Engineering and Medicine	1018
NIST	1213
NT-MDT Spectrum Instruments	1316
Ocean Optics, Inc.	1319
Oxford University Press	1008
PASCO scientific	435
Quantachrome Corp.	312
Royal Society of Chemistry	901
SCIENCE/AAAS	1527
Semichem	917
Software for Chemistry & Materials	721
Specac, Ltd.	1809
Syrris Ltd.	1602
Thieme Chemistry	732
University Science Books	1013
Vernier Software & Technology	1218
ViridisChem, Inc.	1804
W.W. Norton	713
Wavefunction, Inc.	709
Westcoast Separation, LLC	1632
Wiley	800
Wilmad-LabGlass	613
X-Ability Co., Ltd.	1634
Yamazen Science, Inc.	500

## Accessible Products

Accela ChemBio Co. Ltd.	418
AdValue Technology	1224
Chemily, LLC	1630

CP Lab Safety	1208
KP Technology Ltd.	1534
LABCONCO, Corp.	404
McGraw-Hill Education	1302
MilliporeSigma	718
Pine Research Instrumentation	1424
Qorpak	521
Rigaku Americas Corp.	1308
Thieme Chemistry	732
ViridisChem, Inc.	1804
W.W. Norton	713
Wiley	800

## Analytical Research

Accela ChemBio Co. Ltd.	418
Agilent Technologies	1401
Analytik Jena US, Inc.	316
Anasazi Instruments Inc.	1016
Anton Paar USA	818
Asylum Research, an Oxford Instruments Company	1305
Bruker	1101,1100
Cellatrix, LLC	1635
Chemily, LLC	1630
Chemshuttle	1801
CiVentiChem	1014
CONFLEX Corp.	1112
Extrel CMS	1020
FRITSCH Milling and Sizing	1721
Gamry Instruments	1221
Harrick Scientific	303
Hidden Analytical Inc.	626
Kimble Chase LLC	1524
KP Technology Ltd.	1534
Macherey-Nagel Inc.	1708
Magritek Inc.	1110
Malvern Instruments, Inc.	1106
McGraw-Hill Education	1302
Mestrelab Research SL	627
Metrohm USA, Inc.	1324
Mettler-Toledo AutoChem, Inc.	405
MilliporeSigma	718
Nanalysis Corp.	501
Nanomediical Diagnostics	1434
NanoTemper Technologies Inc.	319
Nat'l Academies Of Sciences Engineering and Medicine	1018
NIST	1213
NT-MDT Spectrum Instruments	1316
OriginLab Corp.	1426
Parr Instrument Co.	1201
Particle Sizing Systems	502
Pine Research Instrumentation	1424
PROTO Manufacturing	1711
Quantachrome Corp.	312
Regis Technologies	403
Sciex	1505
Semichem	917
Specac, Ltd.	1809
StellarNet Inc.	1425
Supercritical Fluid Technologies	1314
Teledyne Isco - Chromatography	1019
Thermo Fisher Scientific	1114,1115
Unisense A/S	320
ViridisChem, Inc.	1804
Westcoast Separation, LLC	1632
Wiley	800
WuXi AppTec (Shanghai) Co. Ltd.	1601
X-Ability Co., Ltd.	1634
Xenometrix Ltd.	1706

## Business Management & Services

Accela ChemBio Co. Ltd.	418
ACS Career Navigator	725
ACS Division of Small Chemical Businesses (SCHB)	1329
AgileBio LLC - LabCollector	1431
Authentic Development	220
Quantum Analytics	1712
Richman Chemical Inc.	1808

## Career Development & Training

Accela ChemBio Co. Ltd.	418
ACS Career Navigator	725
ACS Division of Small Chemical Businesses (SCHB)	1329
ACS Green Chemistry Institute	724
ACS Meetings & Expositions	725
Authentic Development	220
McGraw-Hill Education	1302
SCIENCE/AAAS	1527
Wiley	800

## Chemical Health & Safety

ACS Committee on Chemical Health & Safety	1125
ACS Division of Small Chemical Businesses (SCHB)	1329
ACS Green Chemistry Institute	724
ACS Meetings & Expositions	725
ACS Member Insurance Program	725
AgileBio LLC - LabCollector	1431
CP Lab Safety	1208
Federal Bureau of Investigation	730
Flinn Scientific Inc.	1819
Inert	1918
Leggett Technical Consulting, LLC	1732
McGraw-Hill Education	1302
Mettler-Toledo AutoChem, Inc.	405
My Green Lab	1535
NIST	1213
Quantachrome Corp.	312
Rigaku Americas Corp.	1308
Roki S&S America Inc.	214
Sciex	1505
ThalesNano Nanotechnology Inc.	524
ViridisChem, Inc.	1804

## Chemicals/Reagents/Raw Materials

abcr GmbH	1718
Accela ChemBio Co. Ltd.	418
ACS Division of Small Chemical Businesses (SCHB)	1329
AdValue Technology	1224
Advanced ChemBlocks Inc.	1015
Advanced Polymer Materials Inc.	1728
AK Scientific, Inc.	1320
Ark Pharm, Inc.	717
Astatech, Inc.	1228
Carbosynth LLC	1720
Cellatrix, LLC	1635
ChemBridge Corp.	1129
Chemily, LLC	1630
Chemshuttle	1801
CiVentiChem	1014
CombiPhos Catalysts, Inc.	1011
Enamine LLC	216
Flinn Scientific Inc.	1819
Hummel Croton Inc.	1531
Johnson Matthey	1703
Metrohm USA, Inc.	1324
Mettler-Toledo AutoChem, Inc.	405
MilliporeSigma	718
MPD Chemicals	1600
nanoComposix, Inc.	1627
Oakwood Products Inc.	601
Oxchem Corporation	1219
Pharmablock USA, Inc.	1226
Qorpak	521
Quantachrome Corp.	312
Rapp Polymere GMBH	1715
Regis Technologies	403
Richman Chemical Inc.	1808
Rigaku Americas Corp.	1308
Roki S&S America Inc.	214
Sorbent Technologies	1206
Spectrum Chemical Mfg Corp.	425
SpiroChem AG	421
Strem Chemicals	701



Synquest Laboratories, Inc.	1609
TCI America	1111
Thermo Fisher Scientific	1114,1115
WuXi AppTec (Shanghai) Co. Ltd.	1601
Xenematrix Ltd.	1706

### Laboratory Equipment & Services

Accela ChemBio Co. Ltd.	418
Ace Glass, Inc.	518
ACS Division of Small Chemical Businesses (SCHB)	1329
Advion	1107
AGI USA Inc.	1525
AgileBio LLC - LabCollector	1431
Agilent Technologies	1401
Analytik Jena US, Inc.	316
Anasazi Instruments Inc.	1016
Anasy Instruments Corp.	1127
Anton Paar USA	818
Asahi Spectra Co., Ltd.	1427
Biolin Scientific	402
Biotage	526
BrandTech Scientific	1625
Brookhaven Instruments Corp.	1318
Bruker	1101,1100
BUCHI Corporation	1613
CEM Corp.	618
Chemglass Life Sciences	700
Chemrus Inc.	1628
CONFLEX Corp.	1112
CP Lab Safety	1208
DeLong America	419
Edinburgh Instruments	1501
Flinn Scientific Inc.	1819
Formulation USA	1312
FRITSCHE Milling and Sizing	1721
Gamry Instruments	1221
GERSTEL Inc.	1202
Heidolph North America	1325
HEMCO Corporation	1631
Hidden Analytical Inc.	626
HORIBA Scientific	1605
IKA Works, Inc.	1419
Inert	1918
Int'l Centre for Diffraction Data	1702
Integrated Surface Technologies	1526
ionBench	1800
J-KEM Scientific	1619
Japan Analytical Industry Co. Ltd.	1333
JASCO	1217,1216
Kimble Chase LLC	1524
KNF Neuberger	1225
Komplx Engineering, LLC	1629
KP Technology Ltd.	1534
LABCONCO, Corp.	404
Leggett Technical Consulting, LLC	1732
M. BRAUN, Inc.	1007
Magritek Inc.	1110
Malvern Instruments, Inc.	1106
Maruzen Co., Ltd.	1012
Metrohm USA, Inc.	1324
Mettler-Toledo AutoChem, Inc.	405
MicroLAB, Inc.	525
Microtrac Inc.	634
Minus K Technology, Inc.	420
Molymod Models - Spiring Ltd	1214
Moubio LLC	218
Nanalysis Corp.	501
Nanolimages	1335
Nanomomedical Diagnostics	1434
NanoTemper Technologies Inc.	319
Neaspec GmbH	1328
NT-MDT Spectrum Instruments	1316
Ocean Optics, Inc.	1319
Oxford Instruments	1303
Park Systems, Inc.	1229
Parr Instrument Co.	1201
Particle Sizing Systems	502
PASCO scientific	435
Piercan USA Inc.	1705
Pine Research Instrumentation	1424
PolyK Technologies, LLC	1730
PROTO Manufacturing	1711
Proton OnSite	401
Qorpak	521
Quantachrome Corp.	312

Quantum Analytics	1712
Rigaku Americas Corp.	1308
Robertson Microlit Laboratories, Inc	1603
Roki S&S America Inc.	214
Sciex	1505
Sheldon Manufacturing Inc.	1707
Shimadzu Scientific Instruments Inc.	810
Sorbent Technologies	1206
Specac, Ltd.	1809
StellarNet Inc.	1425
Supercritical Fluid Technologies	1314
Surface Measurement Systems	221
SurForce LLC	1432
Teledyne Isco - Chromatography	1019
ThalesNano Nanotechnology Inc.	524
Thermo Fisher Scientific	1114,1115
Tosoh Bioscience LLC	625
TWD Kemtech America	400
Unisense A/S	320
V&P Scientific, Inc.	213
Vacuubrand	1519
Vacuum Atmospheres Co.	1207
Vacuum Technology Inc.	1814
Vapourtec Ltd.	1717
Vernier Software & Technology	1218
Vigor Tech USA, LLC	1300
Waters Corp.	609
Westcoast Separation, LLC	1632
Wilmad-LabGlass	613
Wyatt Technology Corp.	605
Xenematrix Ltd.	1706
Xenocs SA	1227
Yamato Scientific America, Inc.	1714
Yamazen Science, Inc.	500

### Other

ACS Meetings & Expositions	725
ACS Member Insurance Program	725
ACS Membership	725
ACS Publications	725
ACS Web Strategy & Operations	725
AIP Publishing - The Journal of Chemical Physics	629
Bentham Sciences Publishers Ltd.	1818
Central Intelligence Agency (CIA) - CF	1931
CiVentiChem	1014
CONFLEX Corp.	1112
Exergy	1810
Formulation USA	1312
ICE Publishing	212
Inert	1918
Institute for Basic Science (IBS)	1934
Int'l Centre for Diffraction Data	1702
MilliporeSigma	718
Minus K Technology, Inc.	420
Molymod Models - Spiring Ltd	1214
NanoTemper Technologies Inc.	319
Ocean Optics, Inc.	1319
Paraza Pharma Inc.	1521
Piercan USA Inc.	1705
Robertson Microlit Laboratories, Inc	1603
SpringerNature	708
Taylor & Francis Group	705
Uniqsis	1430
US EPA Green Chemistry Program	728
Vacuum Atmospheres Co.	1207

### R&D and Manufacturing Services

abcr GmbH	1718
Accela ChemBio Co. Ltd.	418
Ace Glass, Inc.	518
Advanced ChemBlocks Inc.	1015
Advanced Polymer Materials Inc.	1728
AgileBio LLC - LabCollector	1431
Agilent Technologies	1401
AK Scientific, Inc.	1320
Aldlab Chemicals, LLC	1528
Anasazi Instruments Inc.	1016
Ark Pharm, Inc.	717
Asahi Spectra Co., Ltd.	1427
BioSolveIT	1418
Carbosynth LLC	1720

Cellatrix, LLC	1635
Chemshuttle	1801
CiVentiChem	1014
CONFLEX Corp.	1112
Flinn Scientific Inc.	1819
Gaussian	919
Inert	1918
Integrated Surface Technologies	1526
Johnson Matthey	1703
KP Technology Ltd.	1534
Leggett Technical Consulting, LLC	1732
M. BRAUN, Inc.	1007
Mestrelab Research SL	627
Mettler-Toledo AutoChem, Inc.	405
Minus K Technology, Inc.	420
Moubio LLC	218
MPD Chemicals	1600
Nanalysis Corp.	501
nanoComposix, Inc.	1627
NanoTemper Technologies Inc.	319
NT-MDT Spectrum Instruments	1316
Optibrium Ltd.	1420
Particle Sizing Systems	502
Pharmablock USA, Inc.	1226
PharmAgra Labs, Inc.	1529
PIKE Technologies	1301
PolyK Technologies, LLC	1730
PROTO Manufacturing	1711
Regis Technologies	403
Richman Chemical Inc.	1808
Robertson Microlit Laboratories, Inc	1603
Roki S&S America Inc.	214
Semichem	917
Software for Chemistry & Materials	721
Sorbent Technologies	1206
Specac, Ltd.	1809
SpiroChem AG	421
Supercritical Fluid Technologies	1314
SurForce LLC	1432
Synquest Laboratories, Inc.	1609
Syrris Ltd.	1602
ThalesNano Nanotechnology Inc.	524
TWD Kemtech America	400
Uniqsis	1430
Vigor Tech USA, LLC	1300
Wilmad-LabGlass	613
WuXi AppTec (Shanghai) Co. Ltd.	1601
Yamato Scientific America, Inc.	1714

### Scientific Computer & Data Management

Ace Glass, Inc.	518
ACS Division of Small Chemical Businesses (SCHB)	1329
AgileBio LLC - LabCollector	1431
Agilent Technologies	1401
BioSolveIT	1418
Chemical Computing Group	1624
Collaborative Drug Discovery	1620
CONFLEX Corp.	1112
CrystalMaker Software Ltd.	1331
Elsevier	909
Flinn Scientific Inc.	1819
Gaussian	919
InfoChem GmbH	1017
McGraw-Hill Education	1302
Mestrelab Research SL	627
Metamolecular, LLC	1533
MicroLAB, Inc.	525
NIST	1213
NT-MDT Spectrum Instruments	1316
OriginLab Corp.	1426
PerkinElmer Informatics, Inc.	619
Schrodinger, Inc.	1001
Semichem	917
Software for Chemistry & Materials	721
Thermo Fisher Scientific	1114,1115
ViridisChem, Inc.	1804
Waters Corp.	609
Wavefunction, Inc.	709
WuXi AppTec (Shanghai) Co. Ltd.	1601
X-Ability Co., Ltd.	1634

## EXPOSITION

### Technical Literature/Websites/ Databases

Accela ChemBio Co. Ltd.	418
ACS Division of Small Chemical Businesses (SCHB)	1329
ACS Green Chemistry Institute	724
AgileBio LLC - LabCollector	1431
Anton Paar USA	818
De Gruyter	1306
Elsevier	909
Flinn Scientific Inc.	1819
InfoChem GmbH	1017
KP Technology Ltd.	1534
McGraw-Hill Education	1302
Mettler-Toledo AutoChem, Inc.	405
MilliporeSigma	718
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Pearson	1803
Royal Society of Chemistry	901
SCIENCE/AAAS	1527
Specac, Ltd.	1809
Thieme Chemistry	732
ViridisChem, Inc.	1804
Wiley	800
WuXi AppTec (Shanghai) Co. Ltd.	1601

### Testing & Measurement Instrumentation

Ace Glass, Inc.	518
AgileBio LLC - LabCollector	1431
Analytik Jena US, Inc.	316
Anasazi Instruments Inc.	1016
Asylum Research, an Oxford Instruments Company	1305
Biolin Scientific	402
Brookhaven Instruments Corp.	1318
Bruker	1101,1100
Cellatrix, LLC	1635
CEM Corp.	618
DeLong America	419
Gamry Instruments	1221
Harrick Scientific	303
Hidden Analytical Inc.	626
HORIBA Scientific	1605
Inert	1918
J-KEM Scientific	1619
JASCO	1217,1216
Kimble Chase LLC	1524
Komplx Engineering, LLC	1629
Krüss America, LLC	1210
Magritek Inc.	1110
Malvern Instruments, Inc.	1106
McGraw-Hill Education	1302
Metrohm USA, Inc.	1324
Mettler-Toledo AutoChem, Inc.	405
MicroLAB, Inc.	525

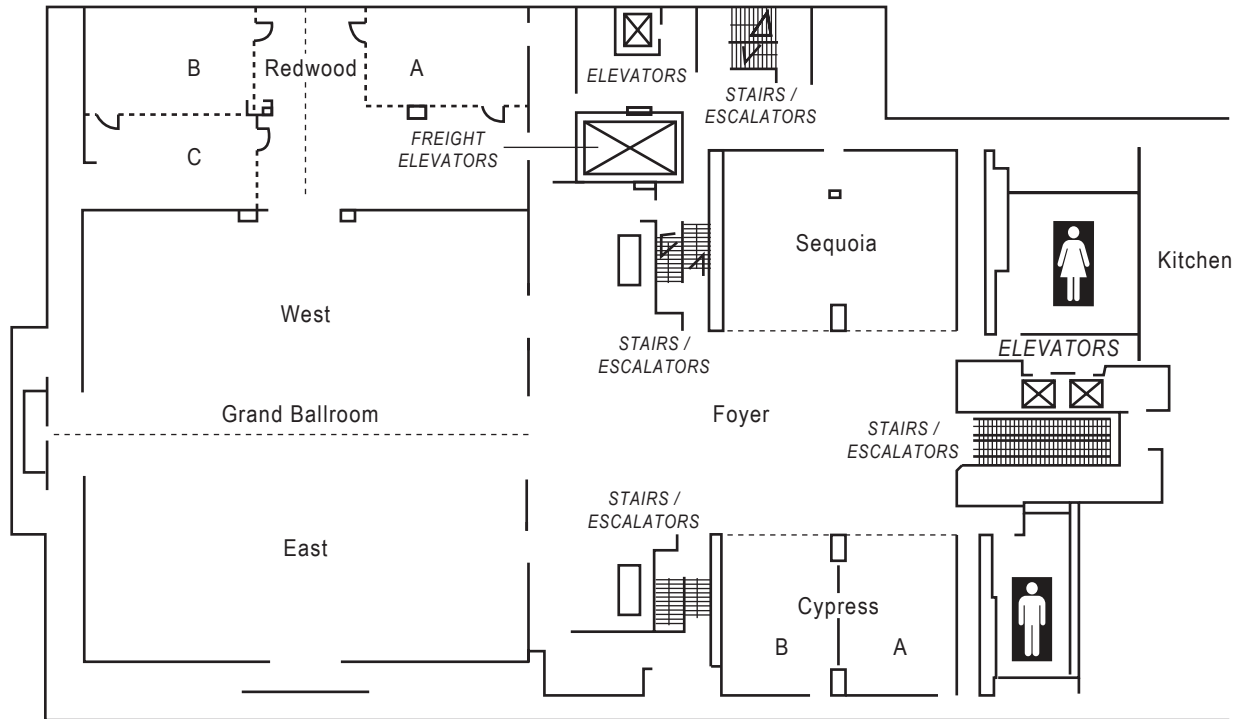
Microtrac Inc.	634
Minus K Technology, Inc.	420
Moubio LLC	218
Nanalysis Corp.	501
Nanolimages	1335
Nanomical Diagnostics	1434
Neaspec GmbH	1328
NIST	1213
NT-MDT Spectrum Instruments	1316
Ocean Optics, Inc.	1319
Oxford Instruments	1303
Park Systems, Inc.	1229
Parr Instrument Co.	1201
Particle Sizing Systems	502
PASCO scientific	435
PolyK Technologies, LLC	1730
PROTO Manufacturing	1711
Quantachrome Corp.	312
Quantum Analytics	1712
Sciex	1505
Sheldon Manufacturing Inc.	1707
StellarNet Inc.	1425
Supercritical Fluid Technologies	1314
Surface Measurement Systems	221
SurForce LLC	1432
TA Instruments	504
Thermo Fisher Scientific	1114,1115
Unisense A/S	320
Vacuum Atmospheres Co.	1207
Vernier Software & Technology	1218
Waters Corp.	609
Wyatt Technology Corp.	605
Zurich Instruments AG	301



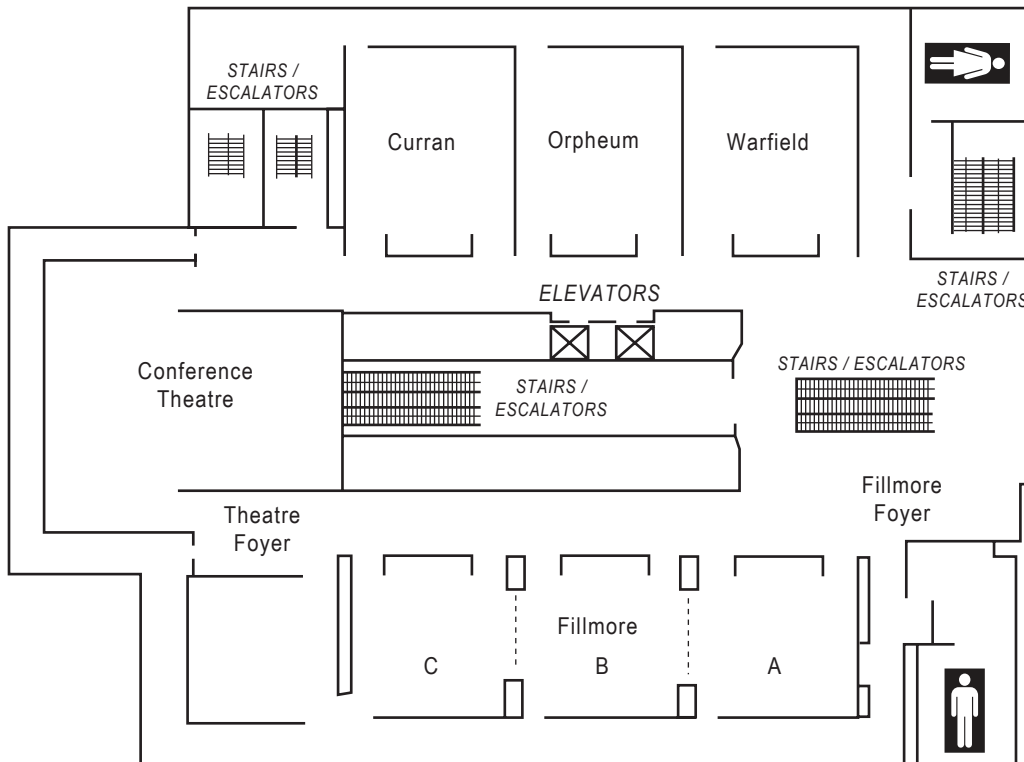


# GRAND HYATT SAN FRANCISCO

## Ballroom Level

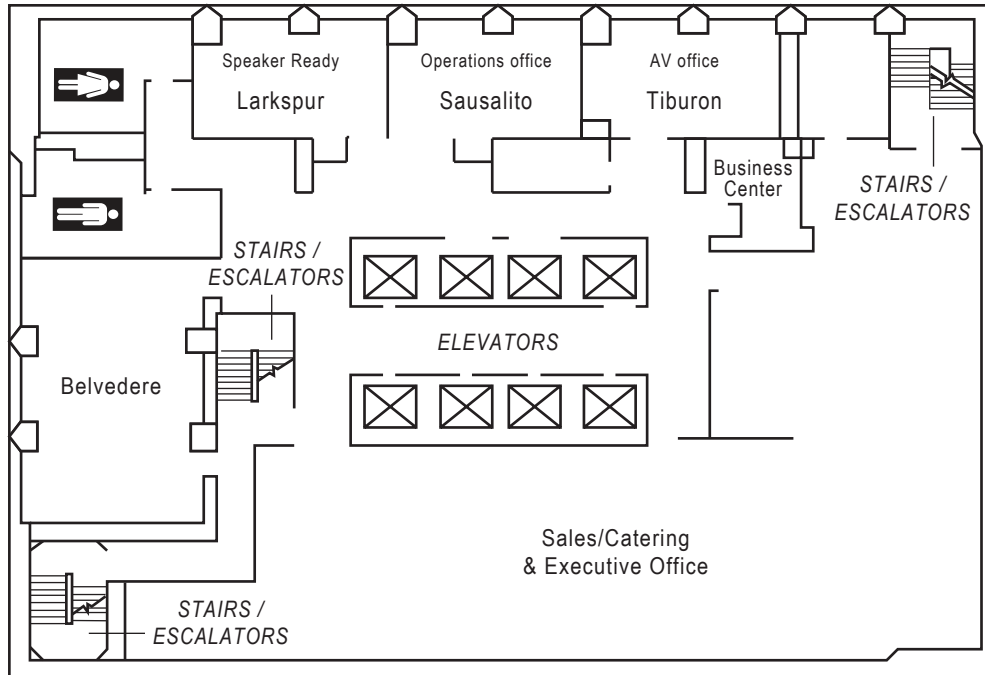


## Theatre Level

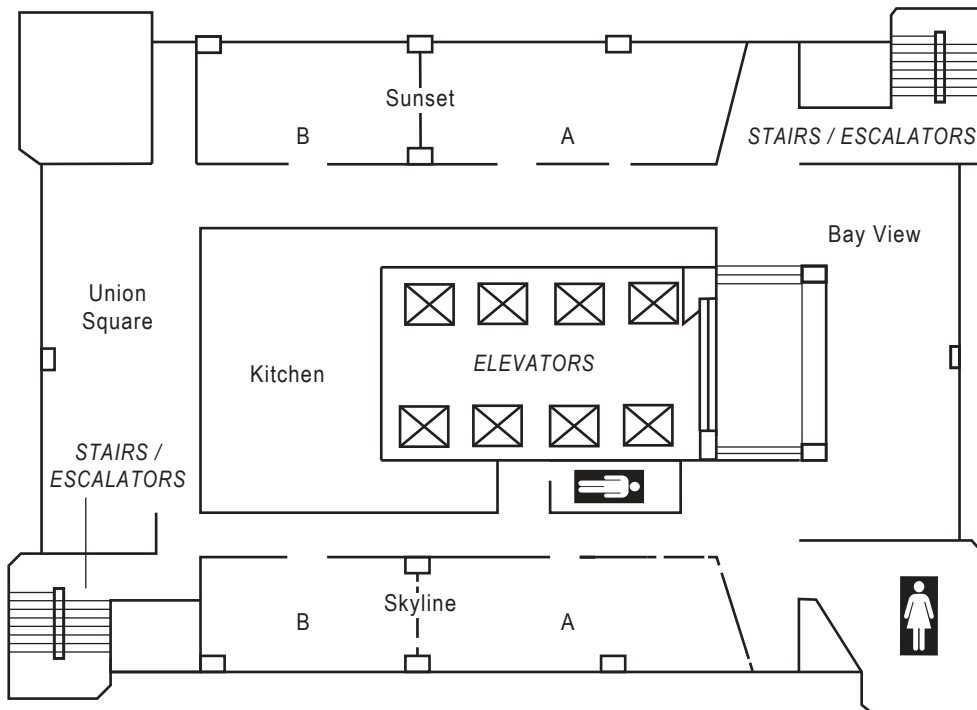


# GRAND HYATT SAN FRANCISCO

## Second Floor



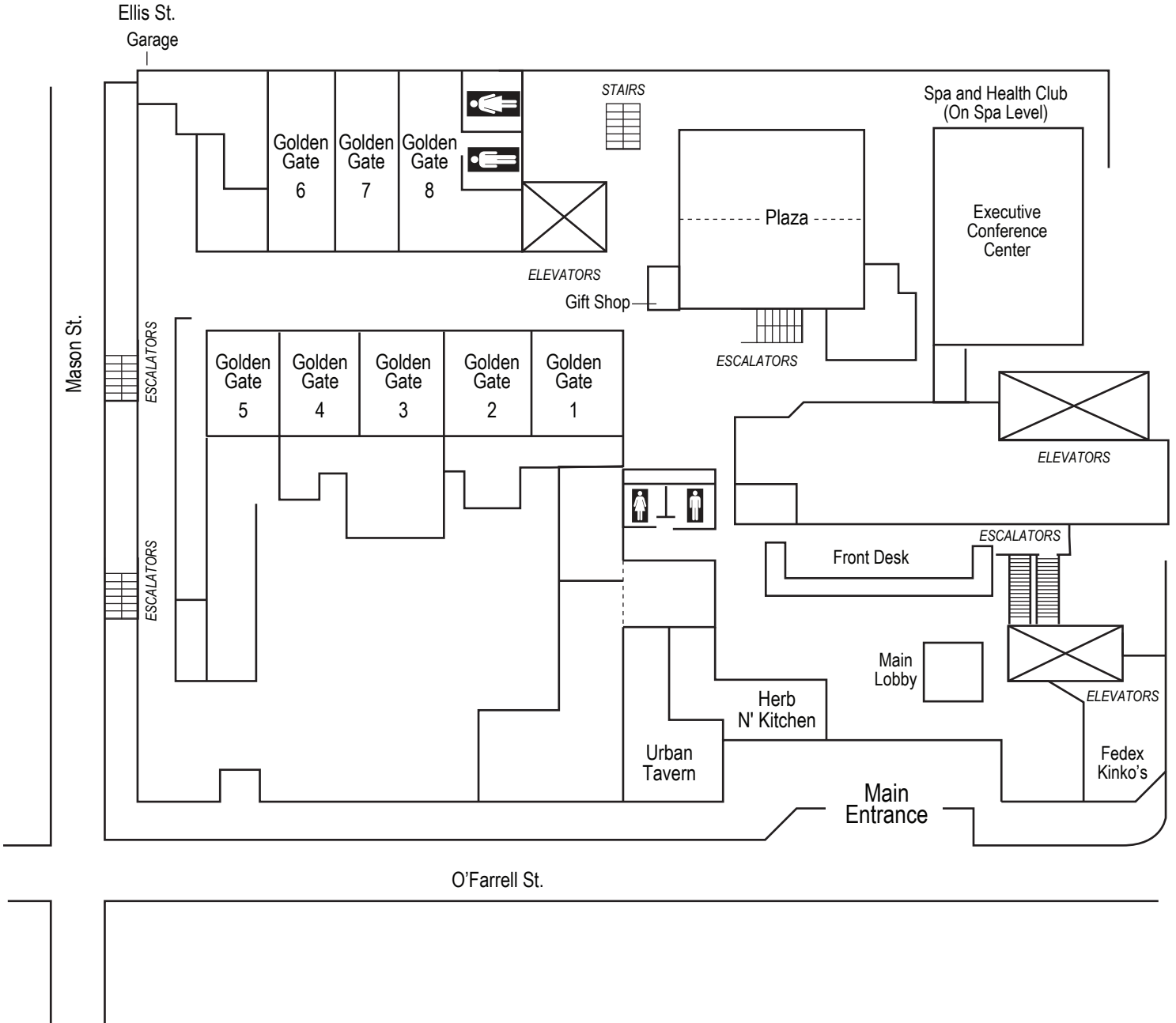
## 36th Floor



# HILTON UNION SQUARE

## Tower 3

### Lobby Level

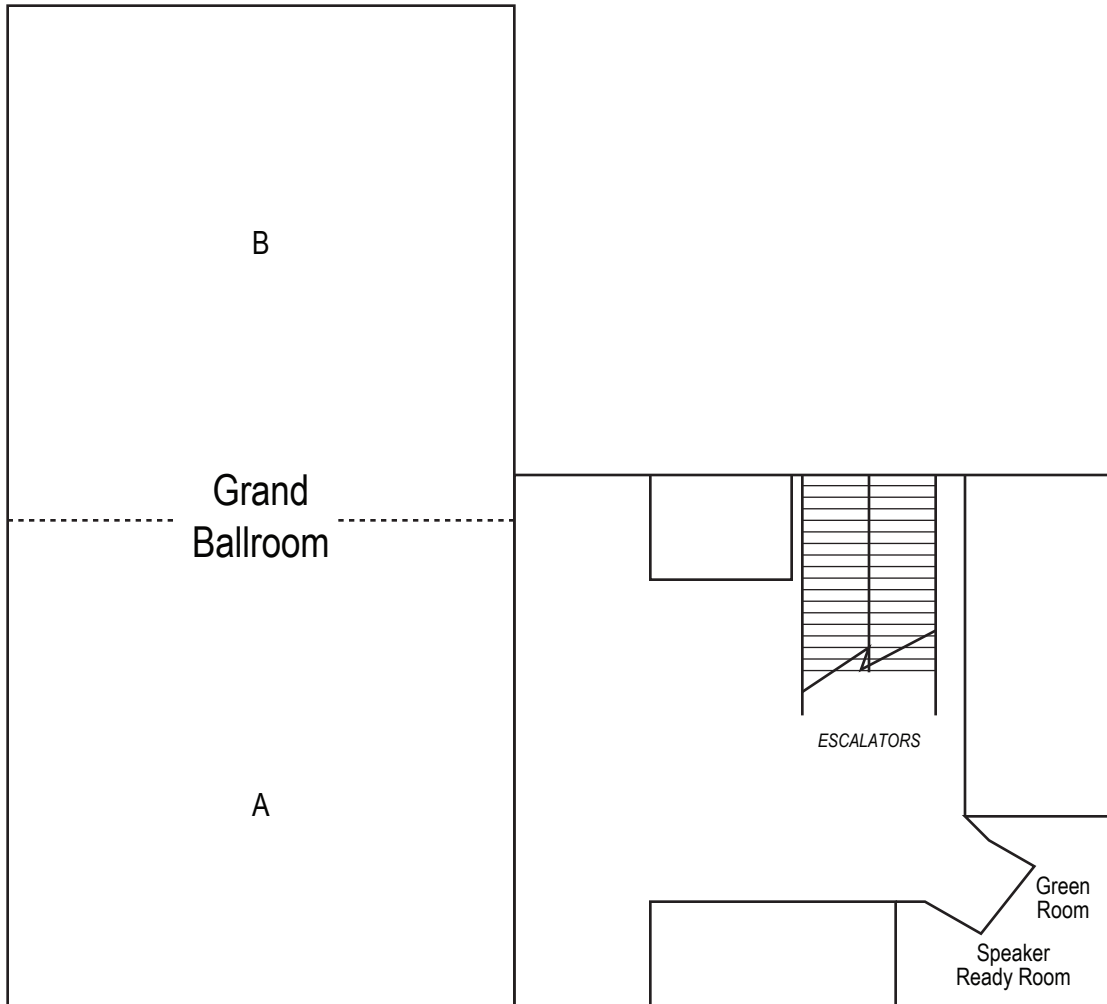




# HILTON UNION SQUARE

## Tower 3

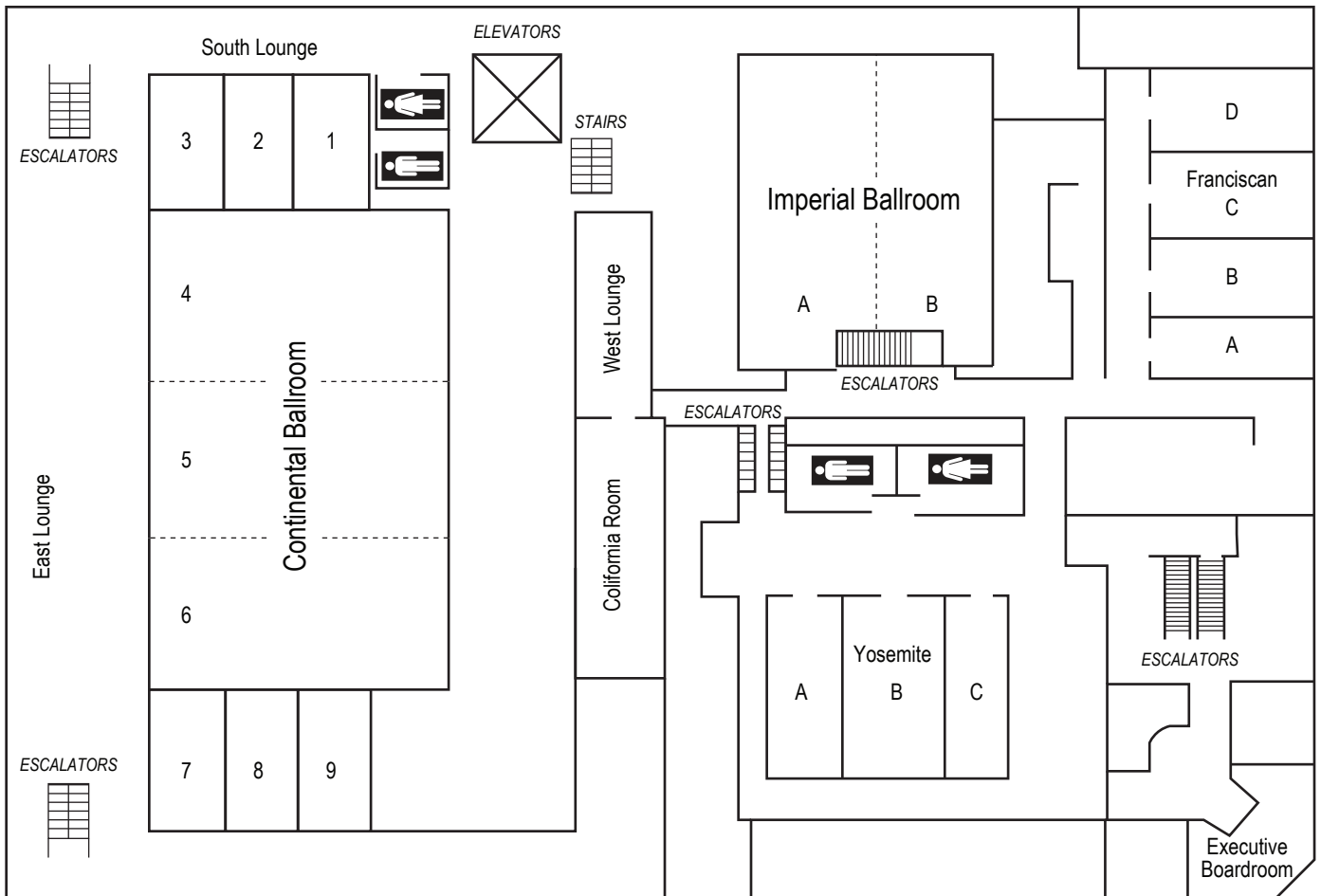
GB Level



# HILTON UNION SQUARE

## Tower 3

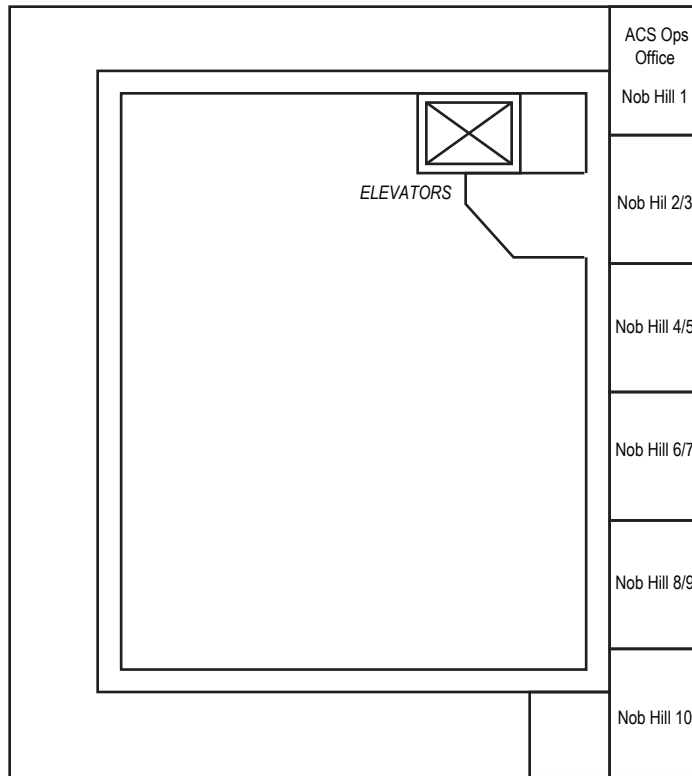
### B Ballroom Level



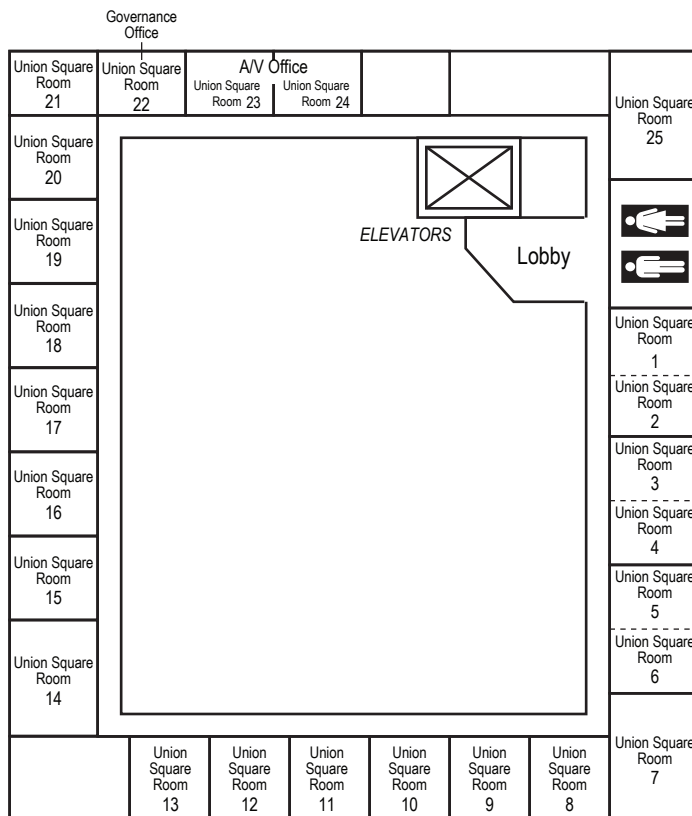
# HILTON UNION SQUARE

Sixth Floor

Tower 3



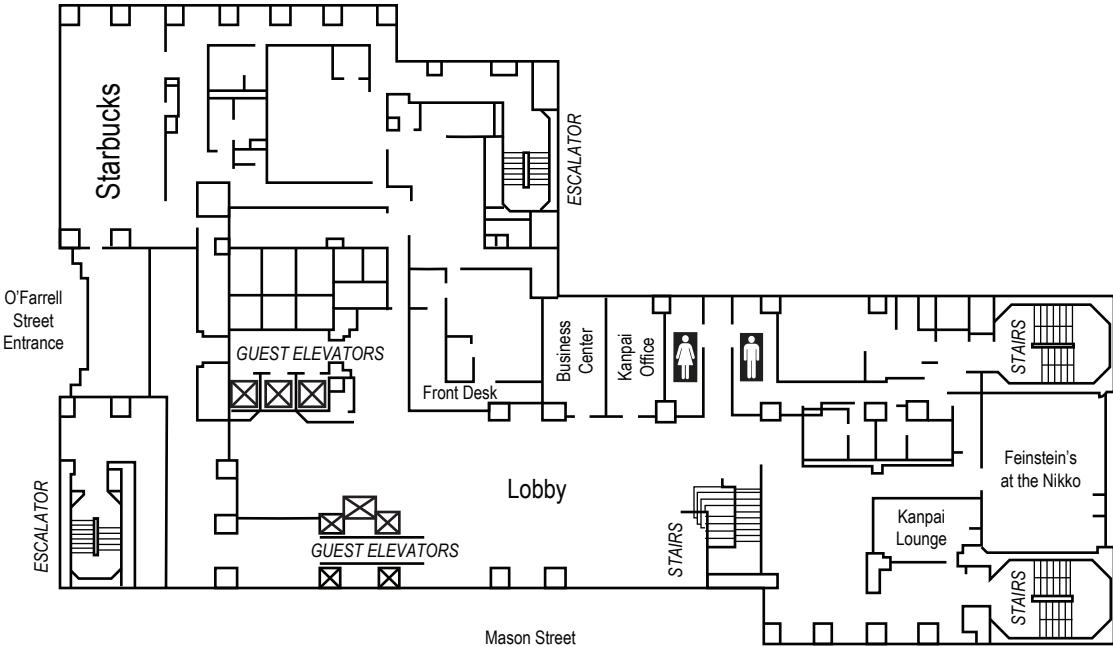
Fourth Floor



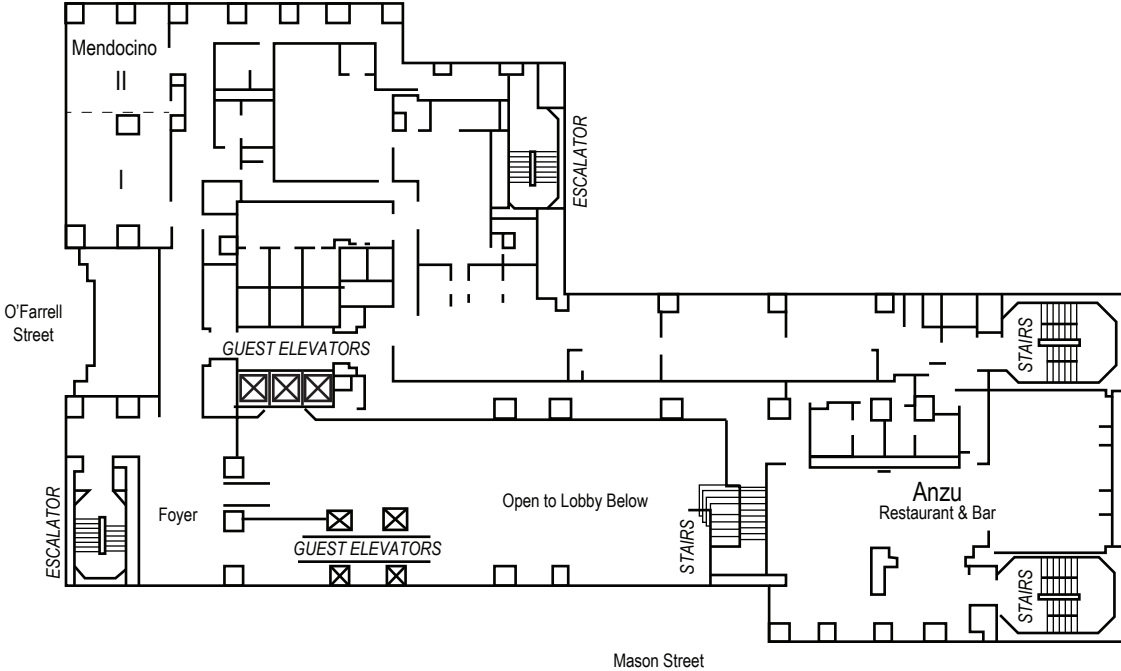


# HOTEL NIKKO

## First Floor

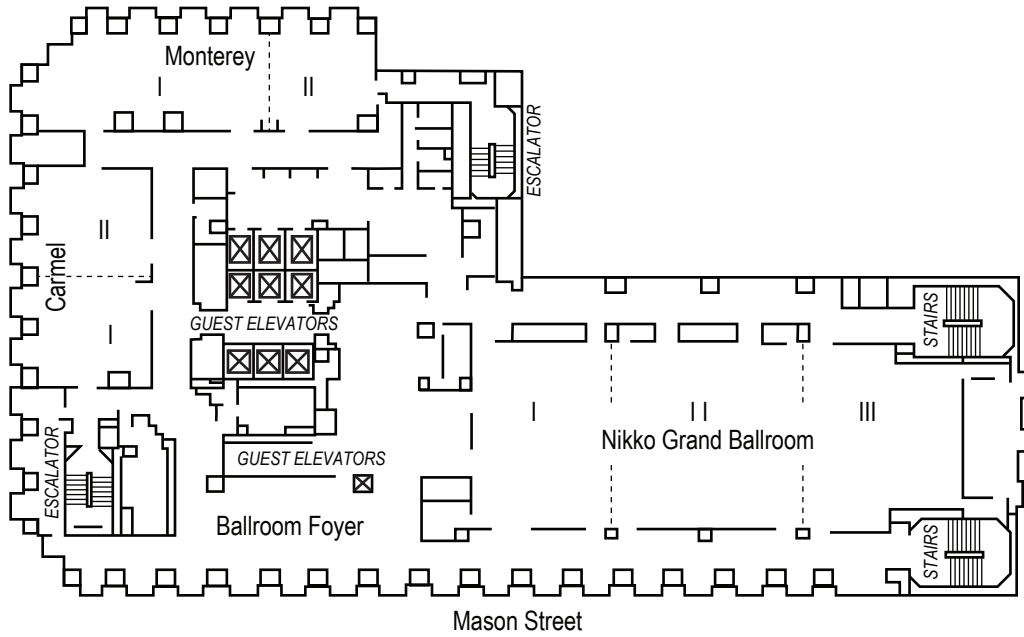


## Second Floor

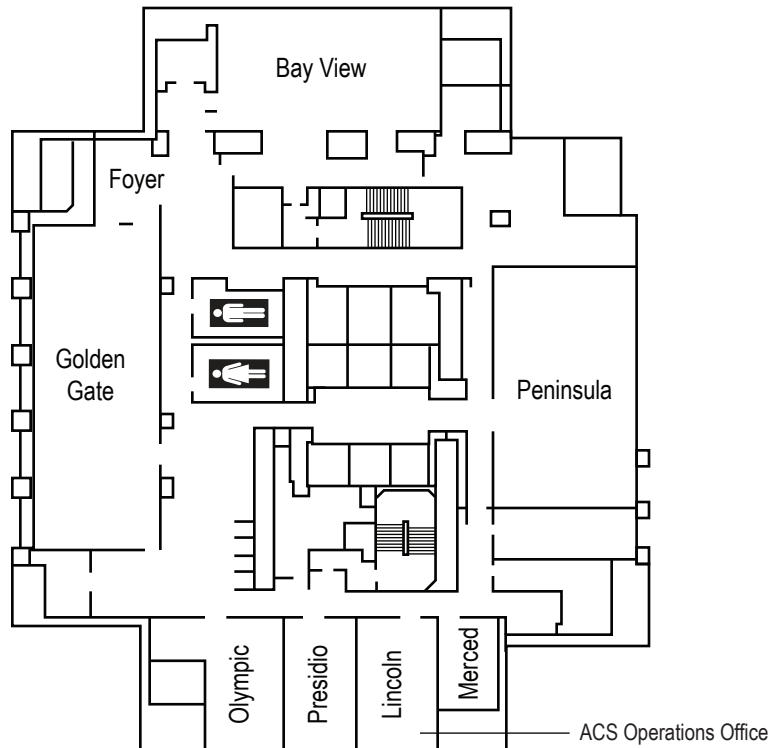


# HOTEL NIKKO

## Third Floor



## Twenty Fifth Floor

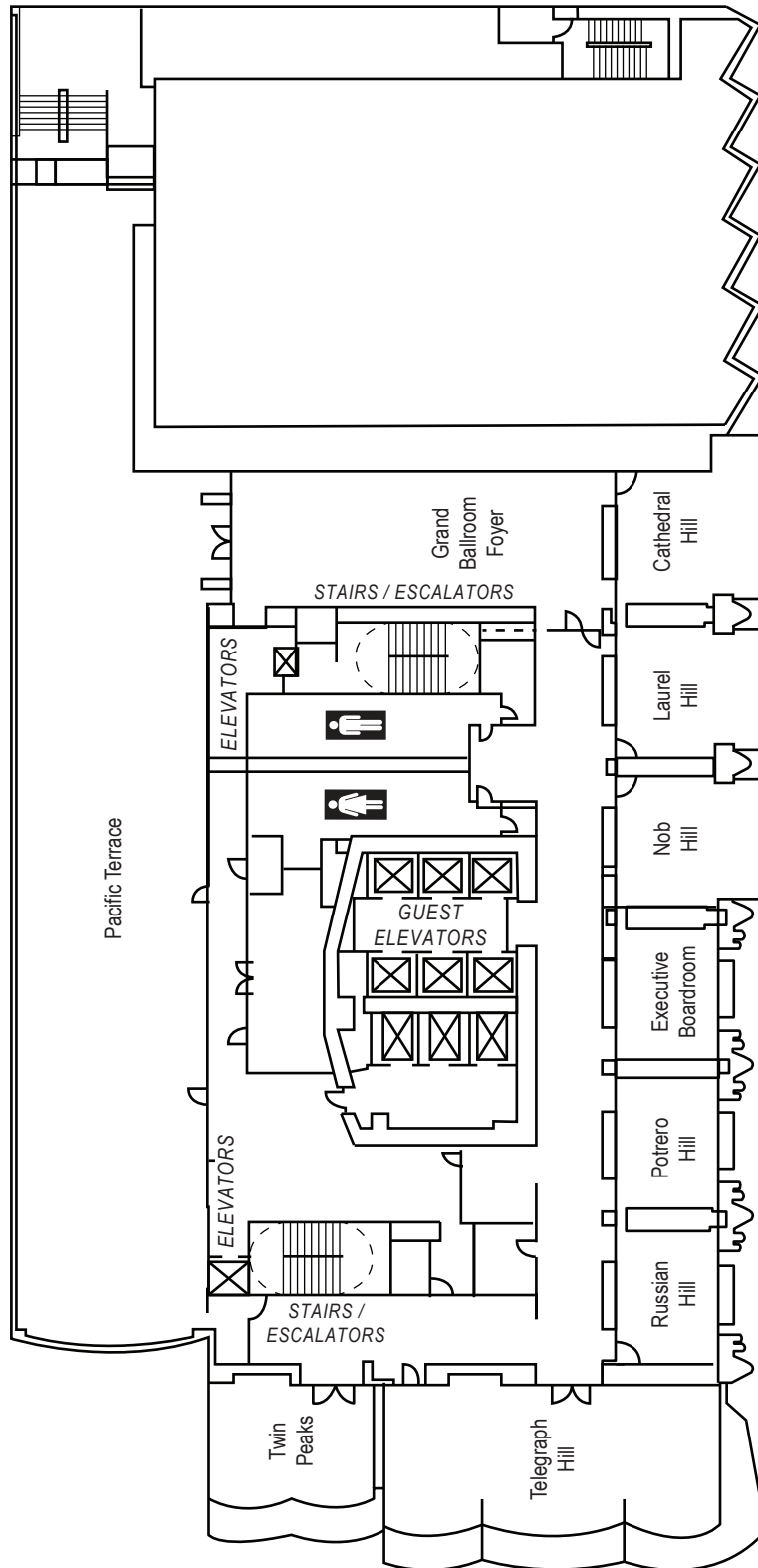






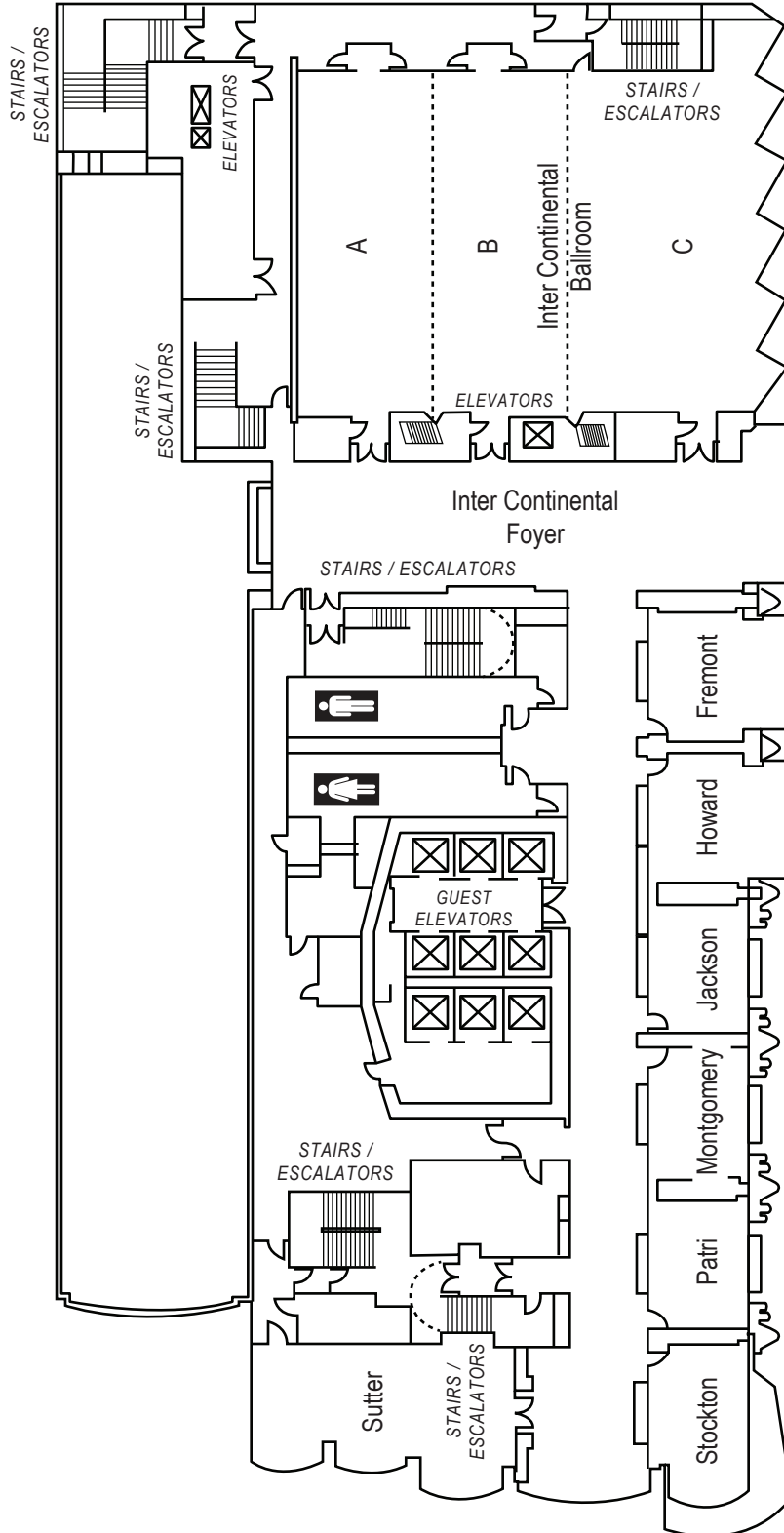
# INTER CONTINENTAL

## 4th Floor



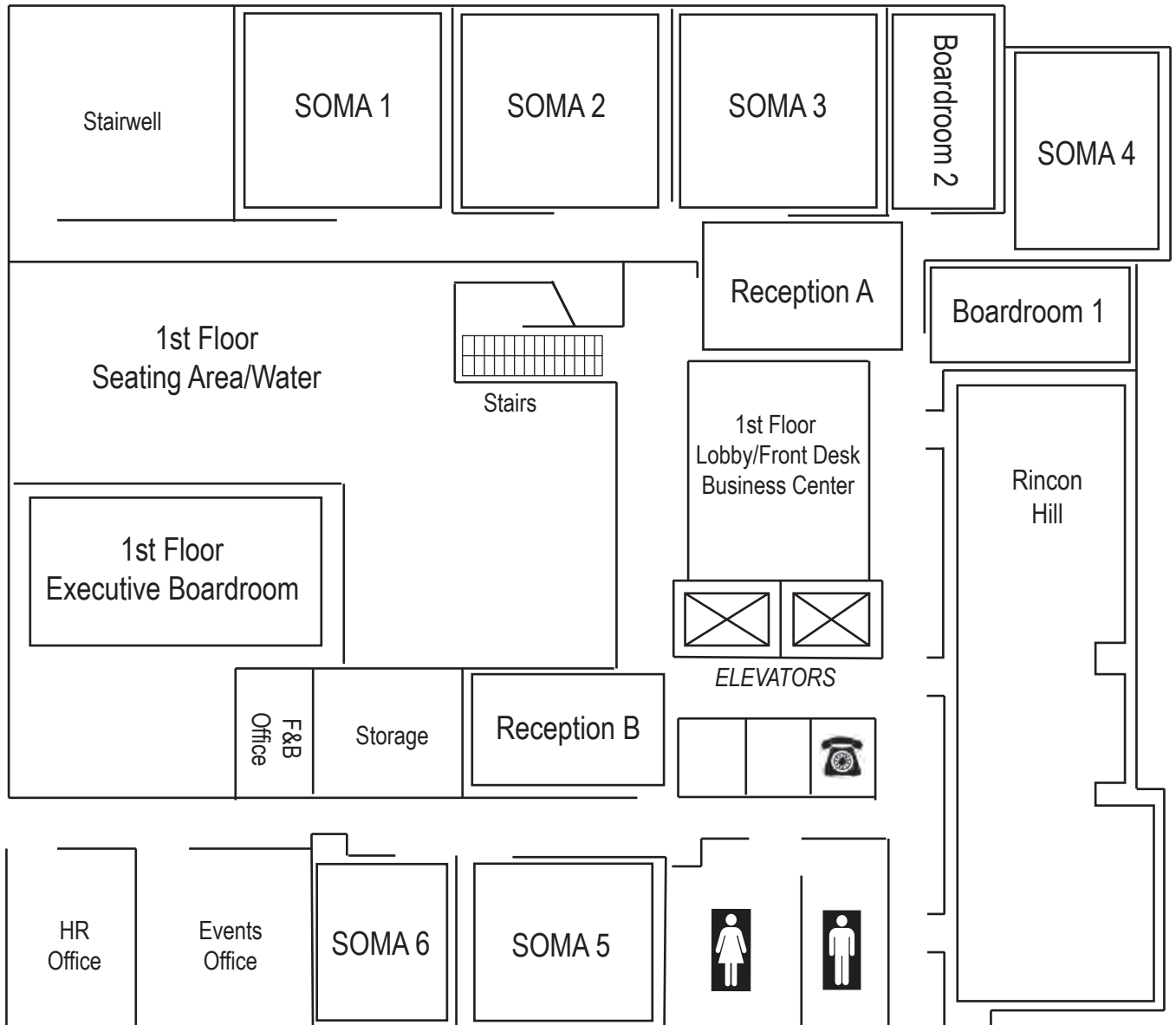
# INTER CONTINENTAL

## 5th Floor



# MARRIOTT COURTYARD

## Meeting Rooms and Reception Areas Floor Plans

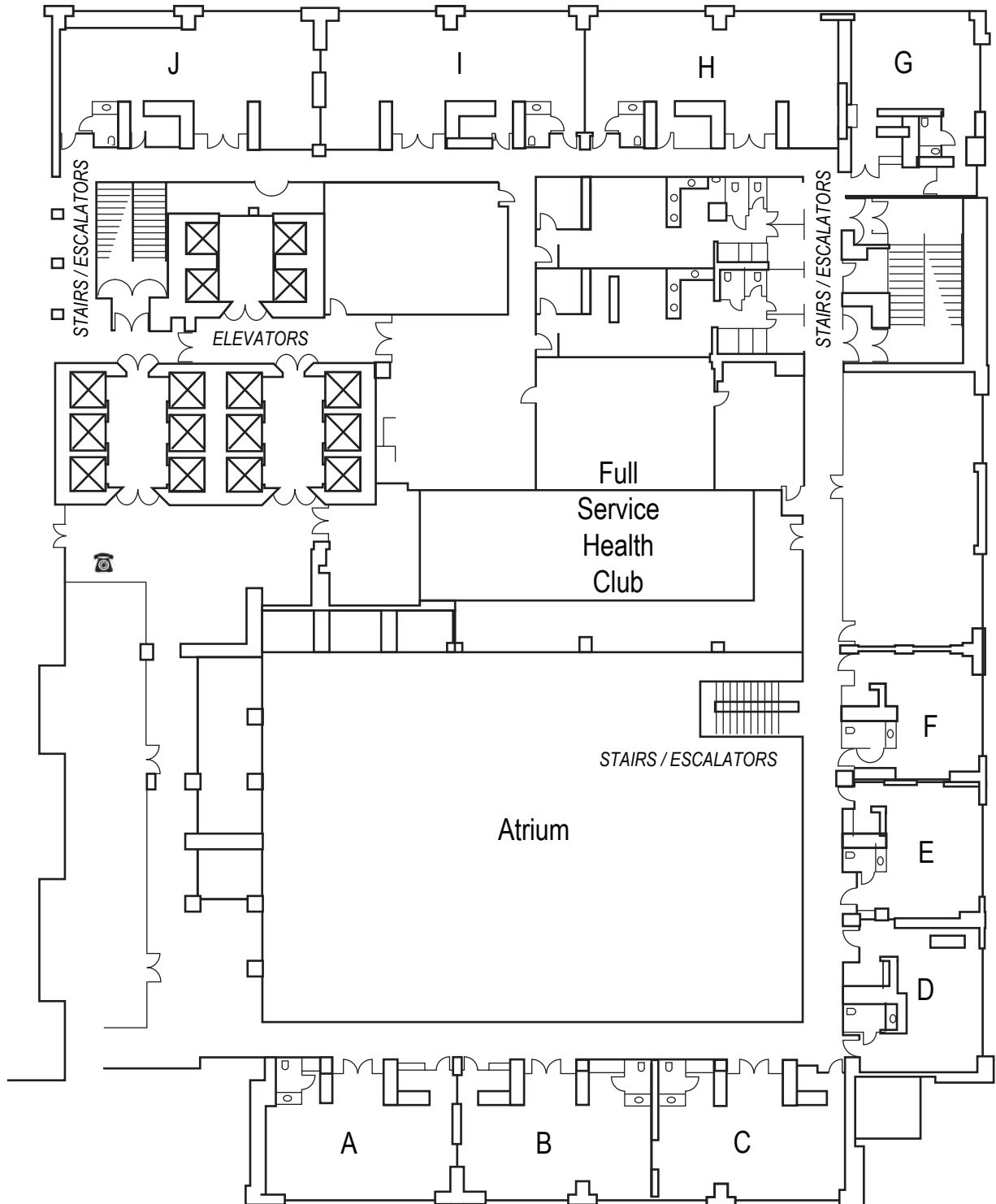






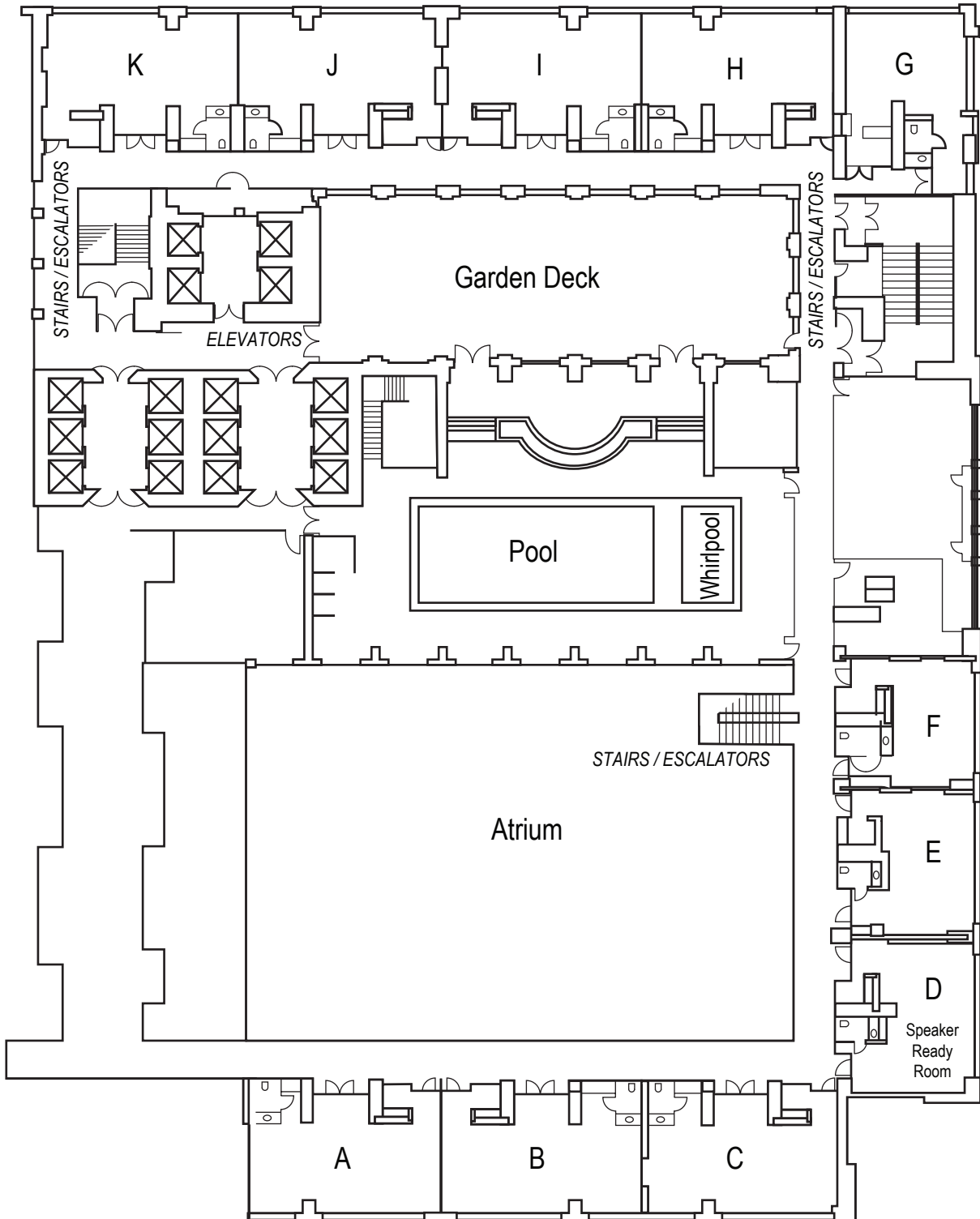
# MARRIOTT MARQUIS

## Pacific Fourth Floor



# MARRIOTT MARQUIS

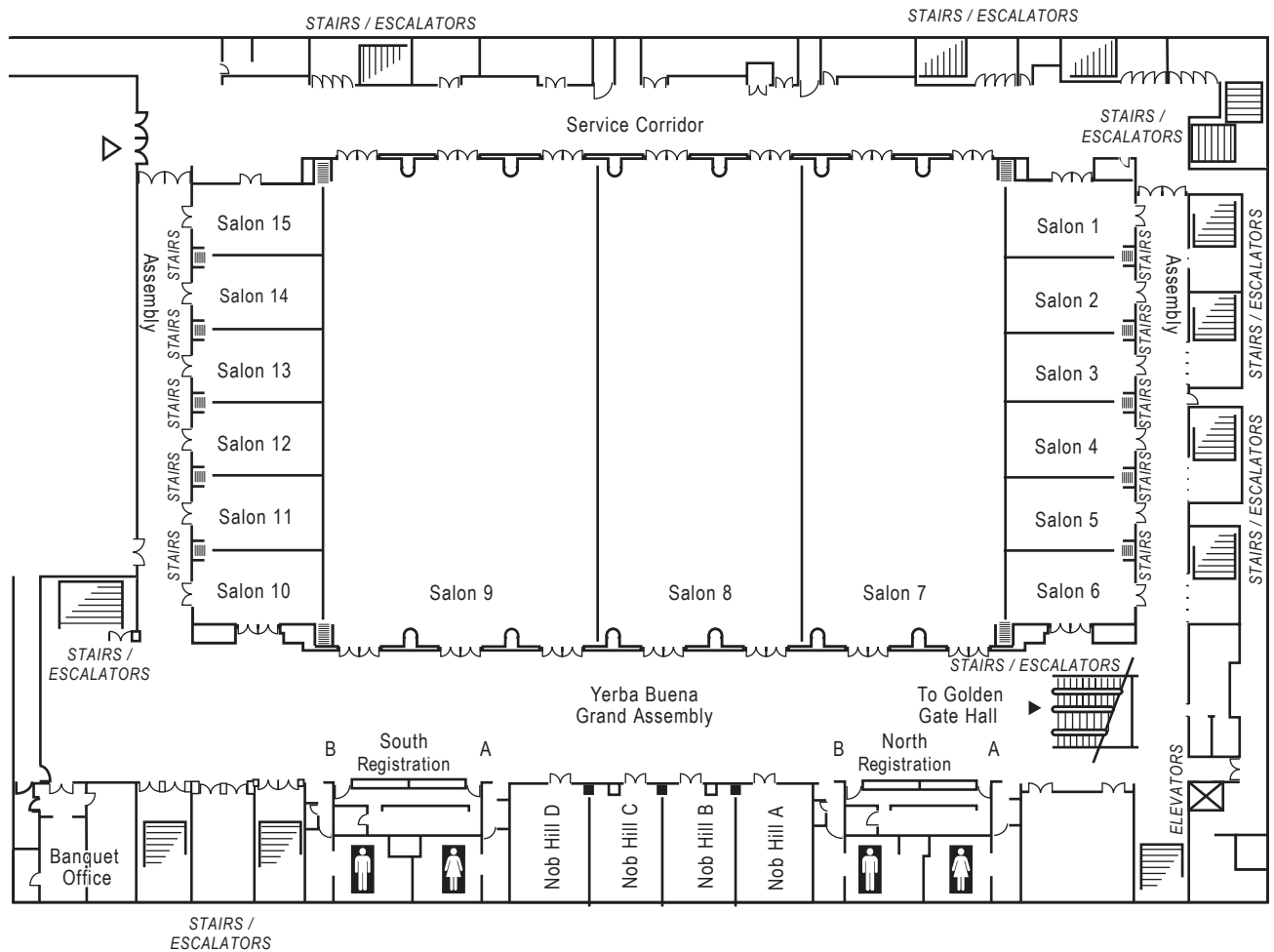
## Sierra Fifth Floor



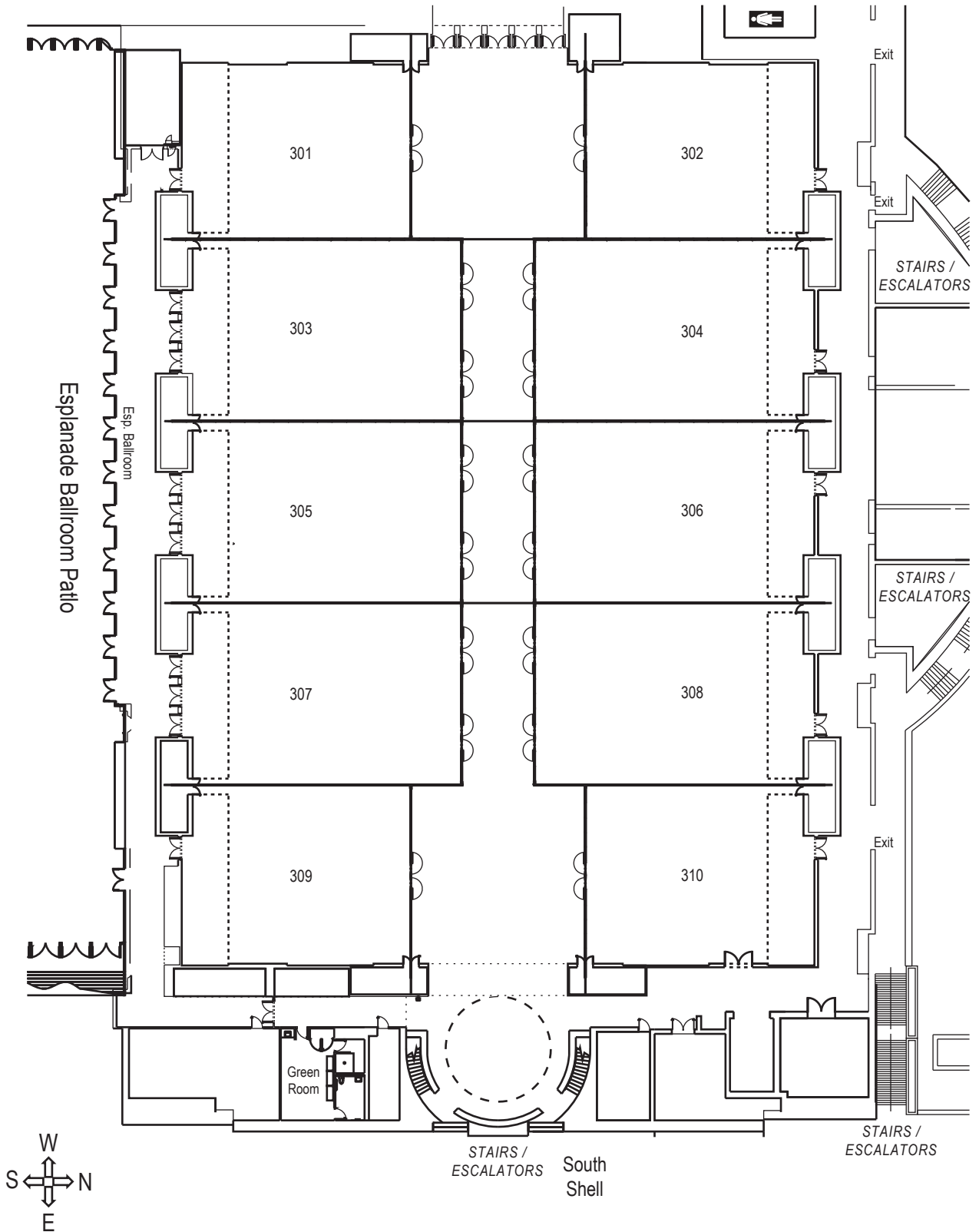


# MARRIOTT MARQUIS

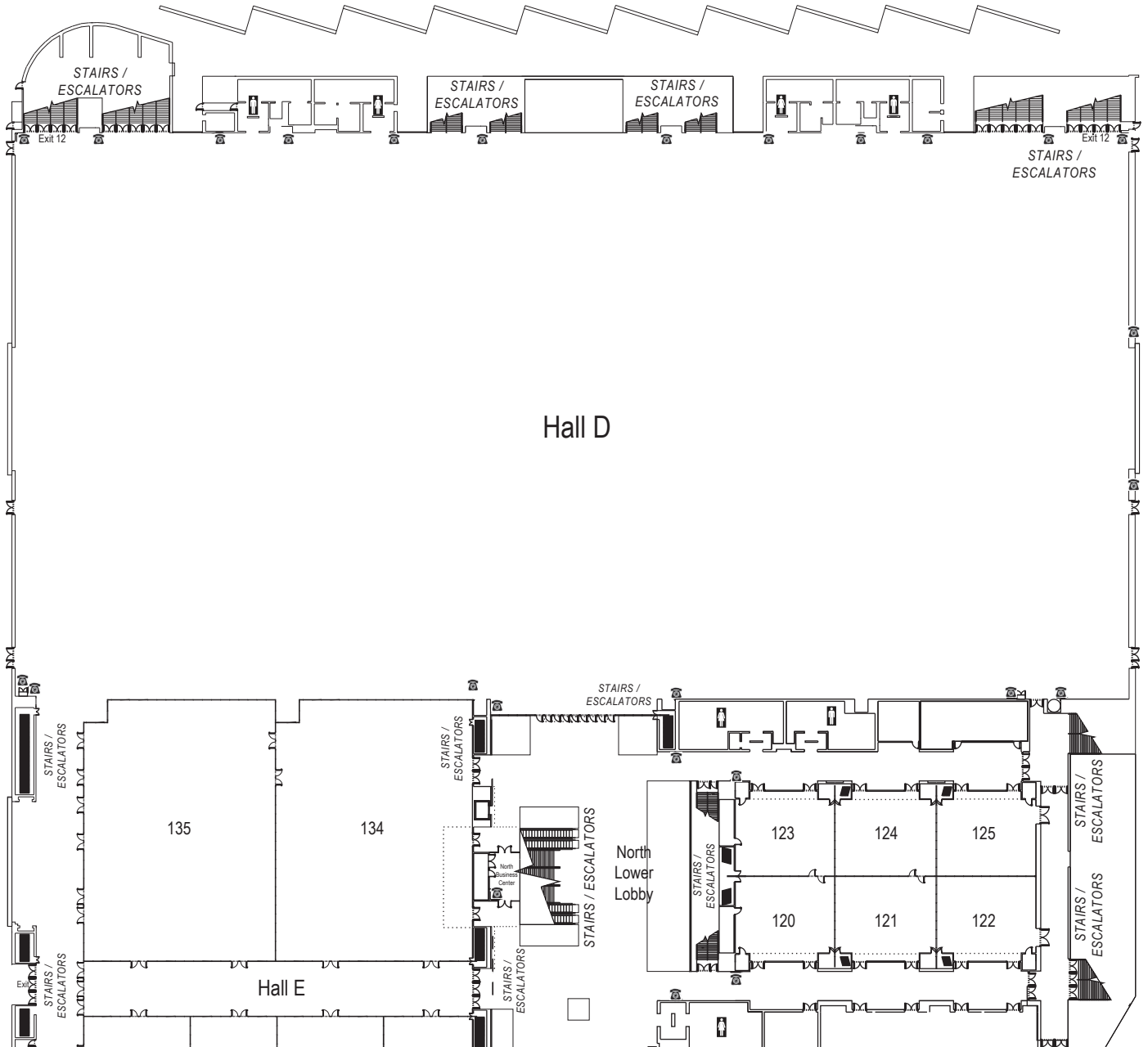
## Yerba Buena Ballroom



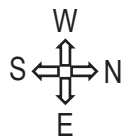
# MOSCONE ESPLANADE



# MOSCONE ESPLANADE

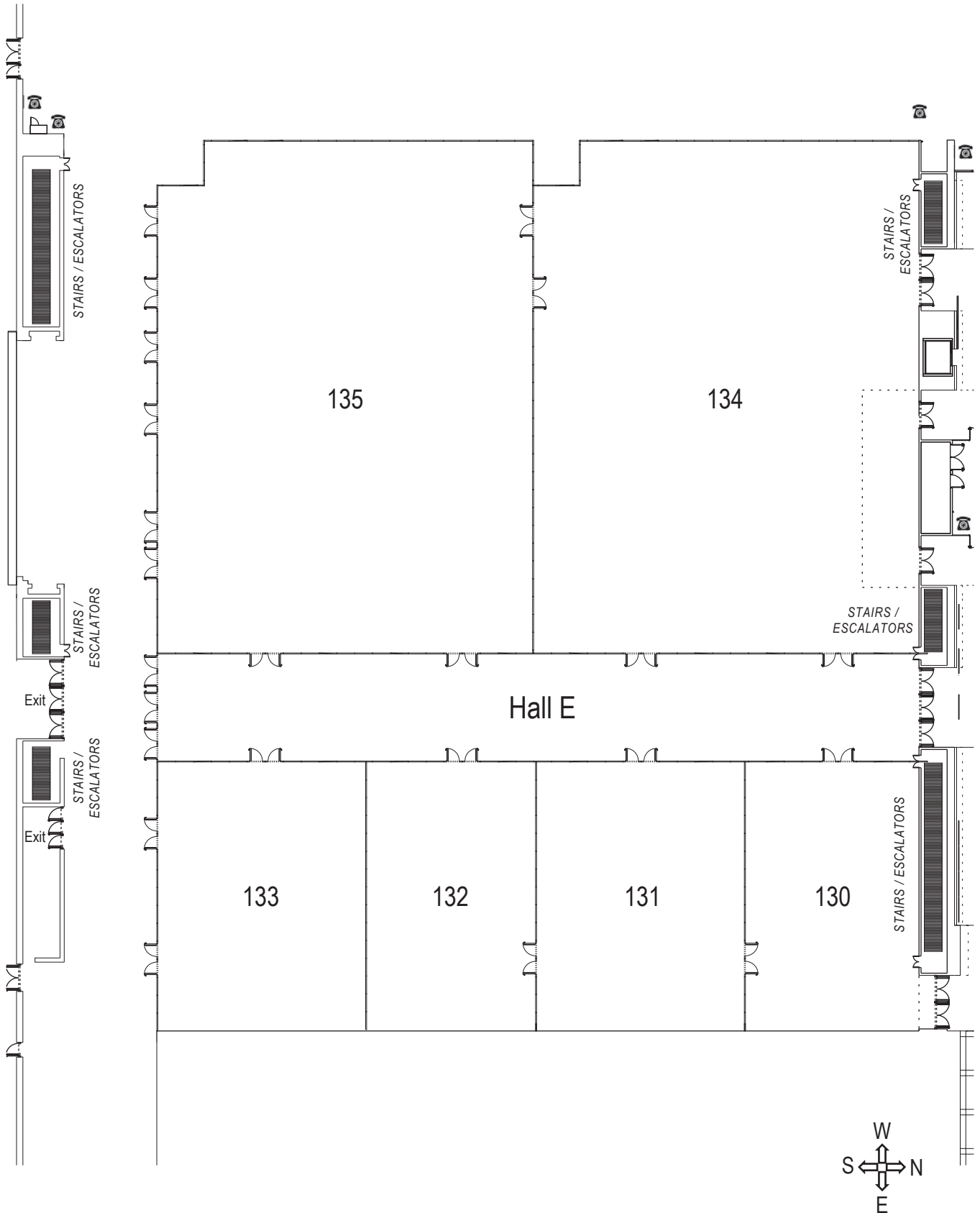


North  
Shell



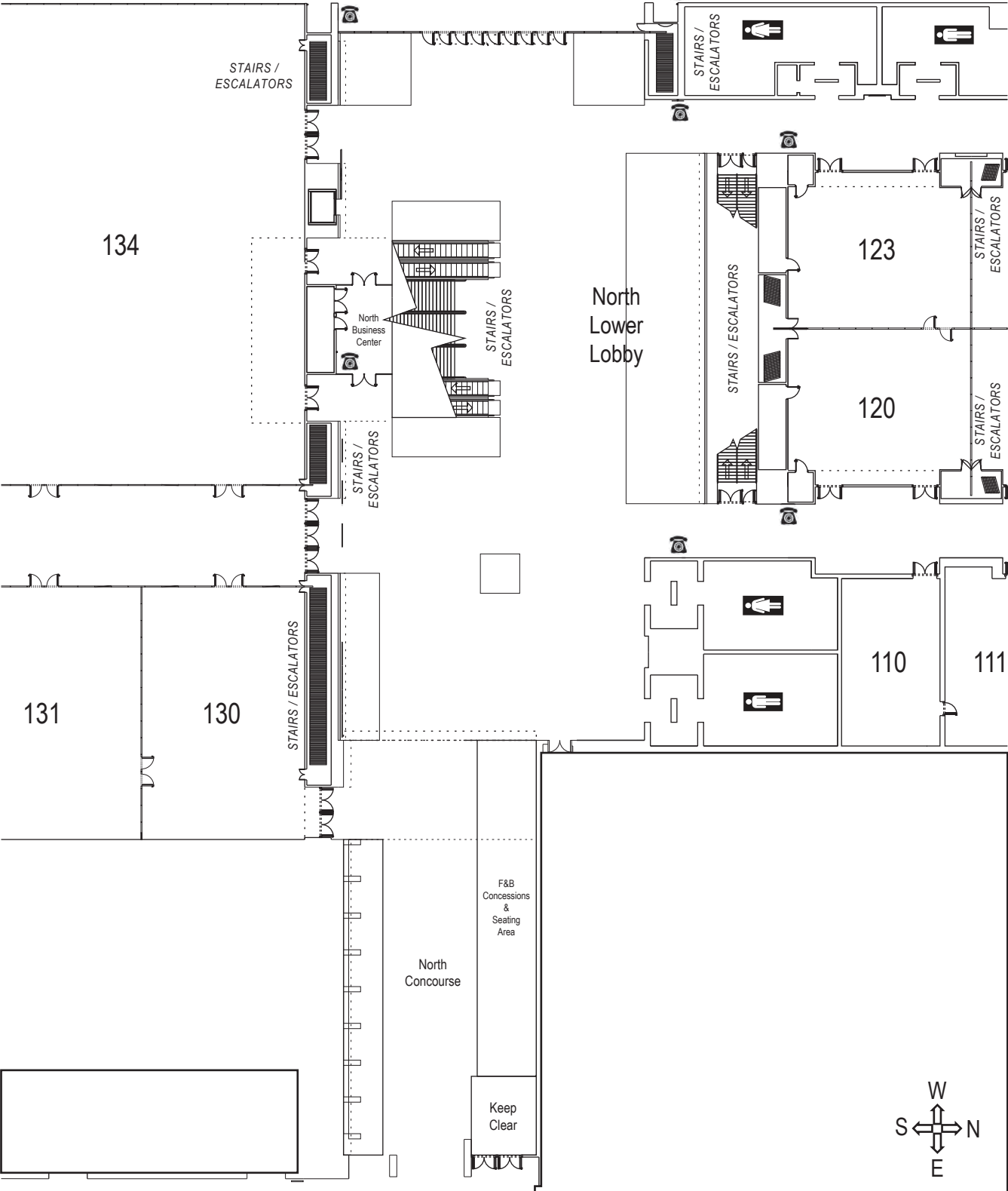


# MOSCONE MEETING ROOMS 130-135

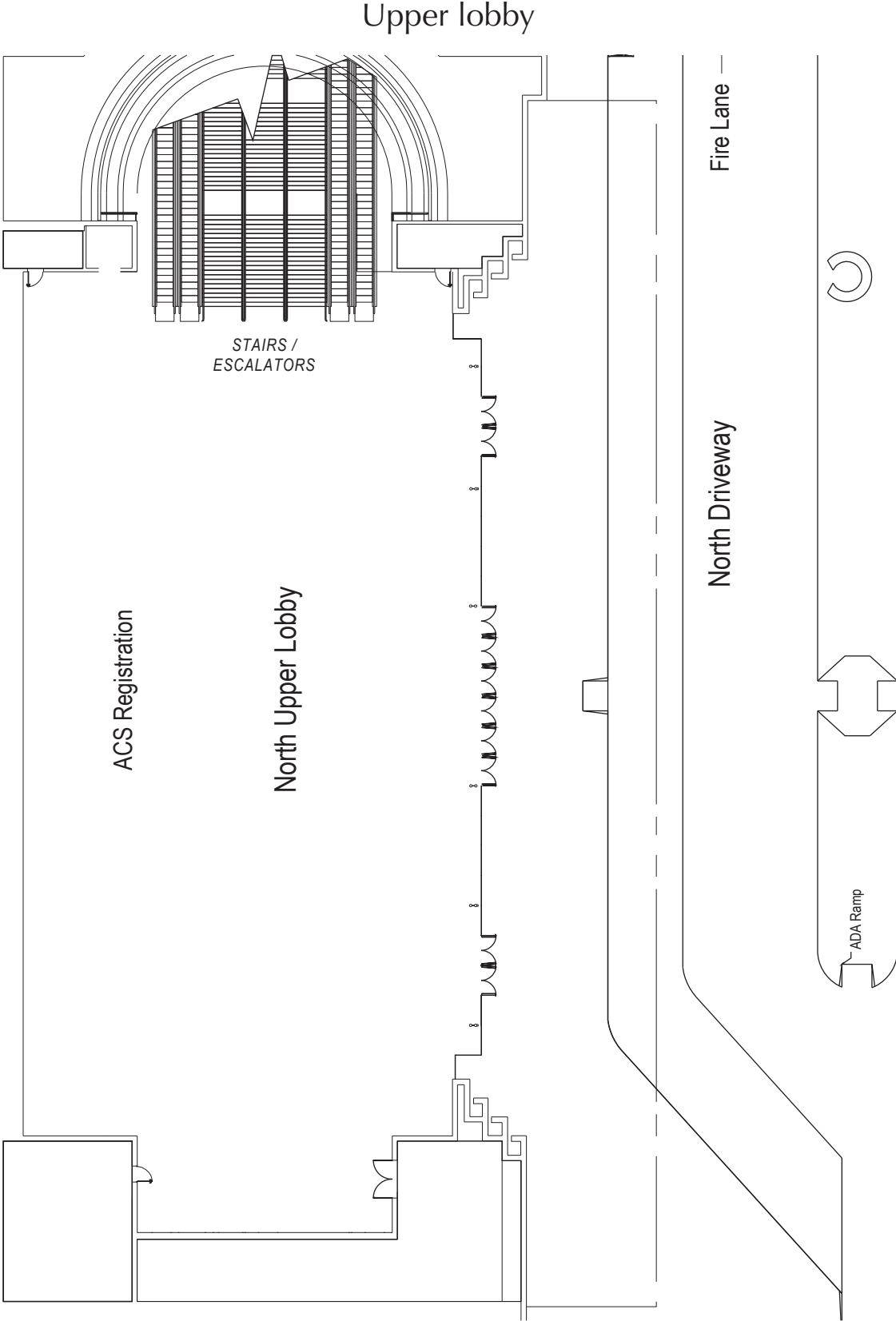


# MOSCONE NORTH

lower lobby

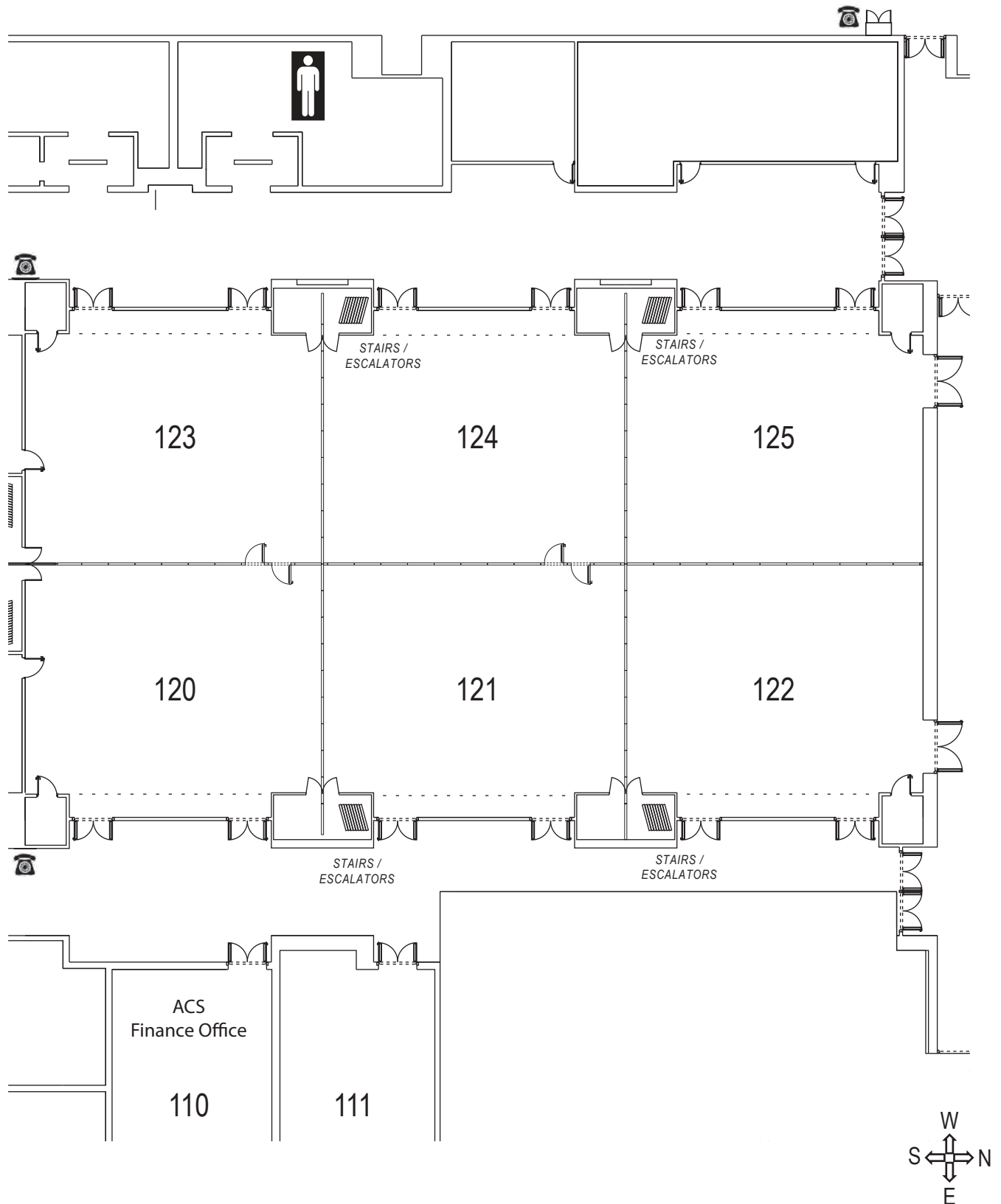


# MOSCONE NORTH



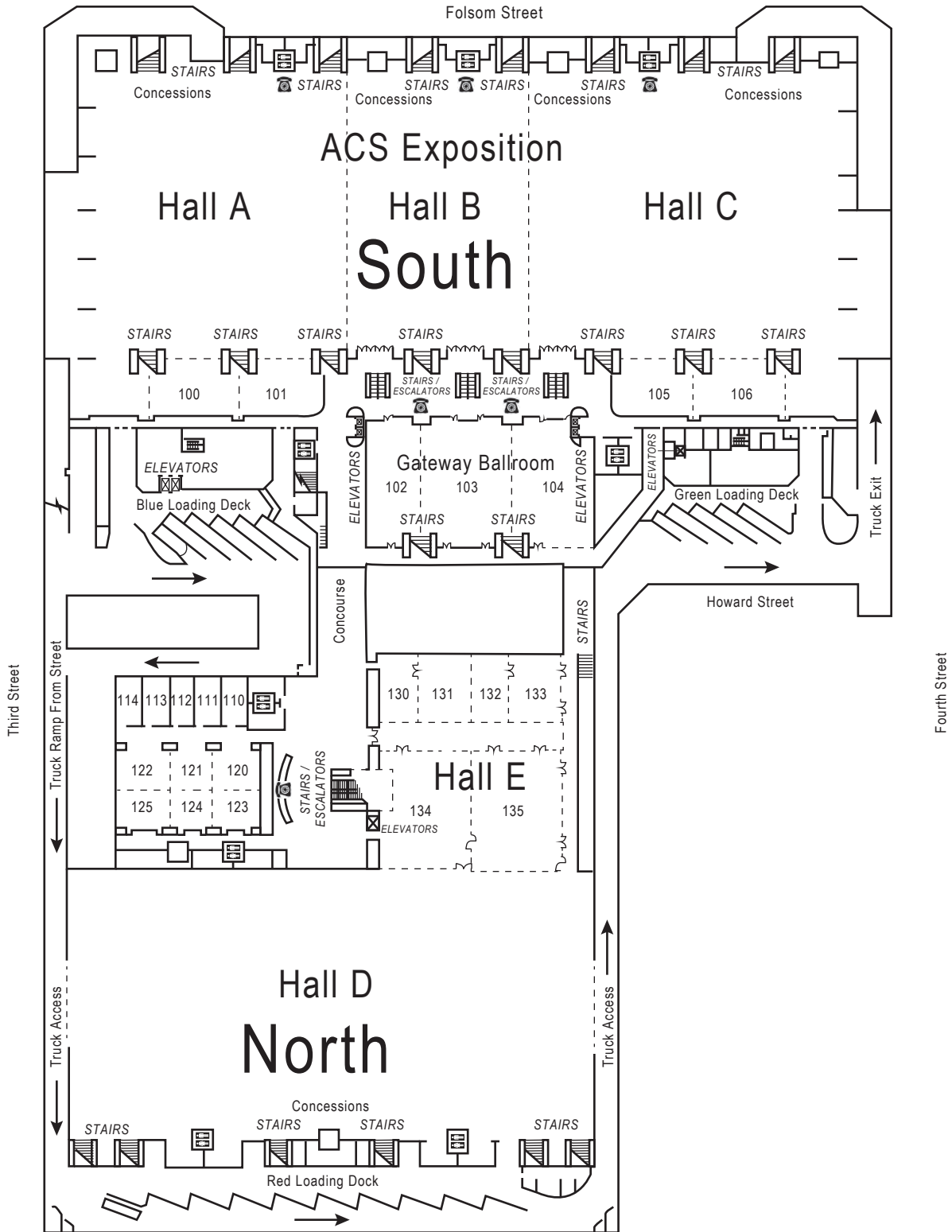


# MOSCONE NORTH BLDG MEETING SPACE

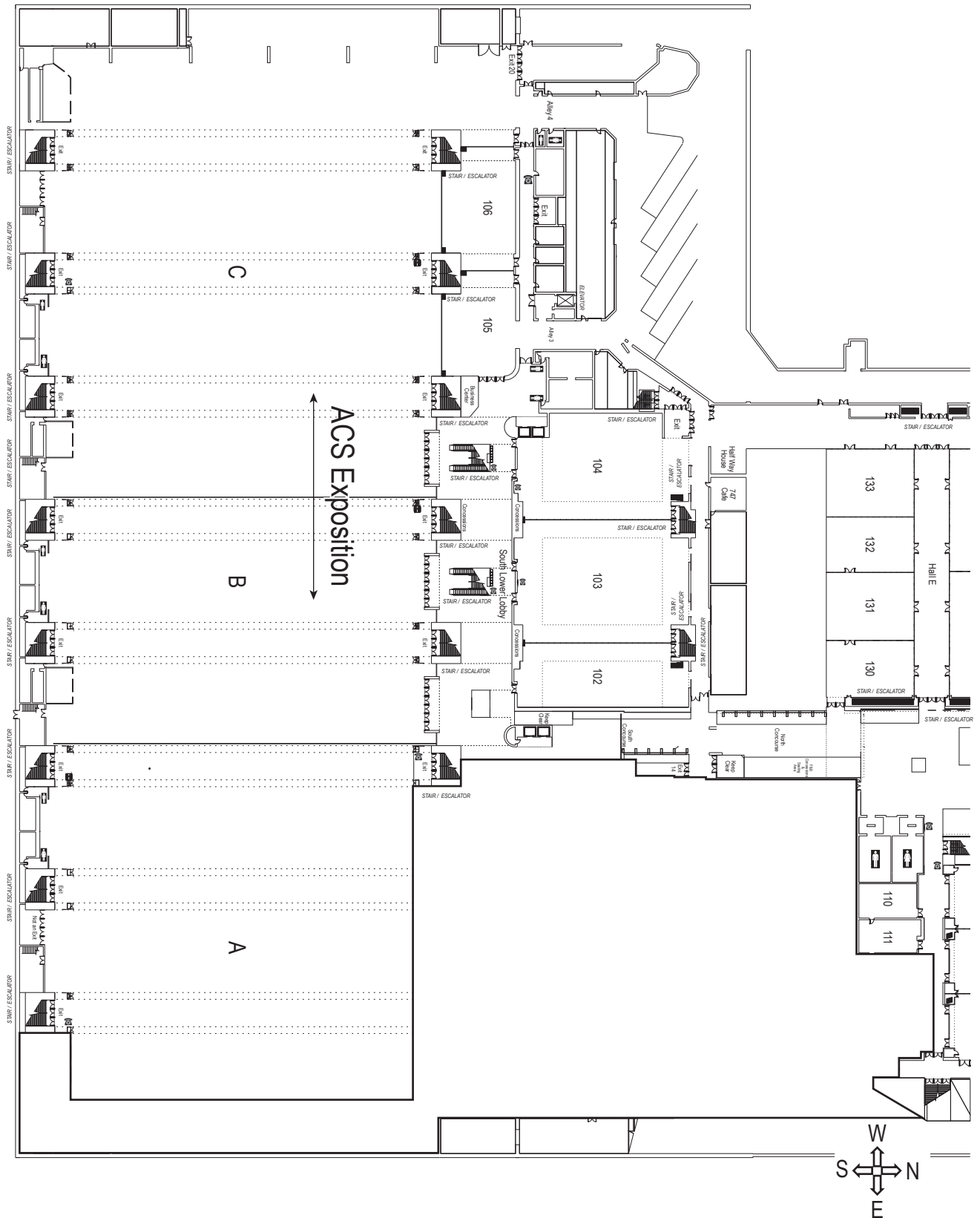


# MOSCONE SOUTH & NORTH

## Exhibit Level



# MOSCONE SOUTH BLDG HALLS A, B AND C

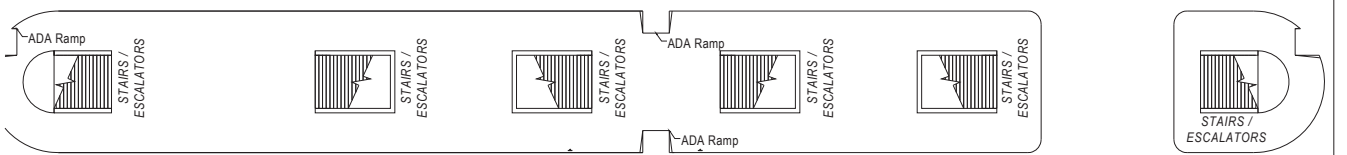




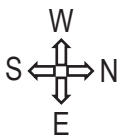
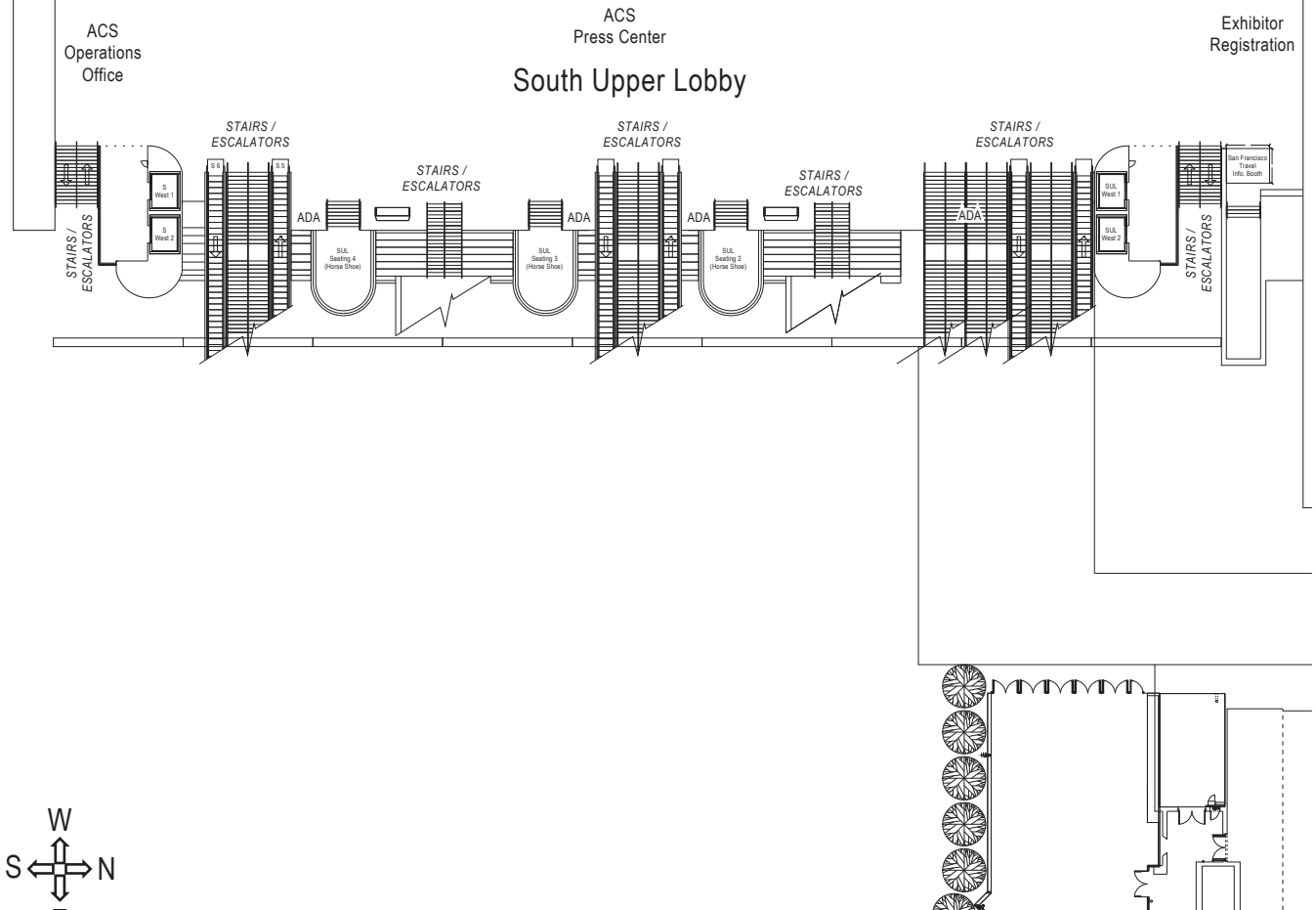
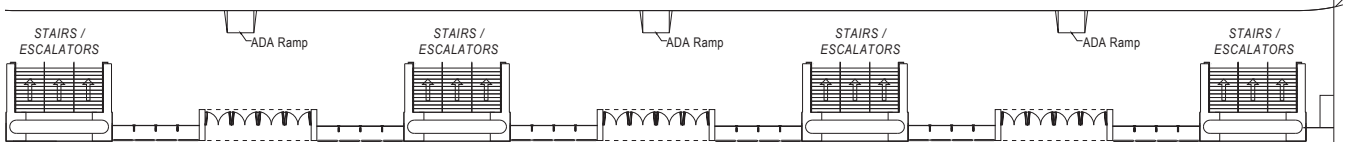
# MOSCONE SOUTH

## Upper Lobby

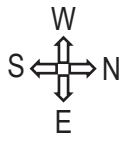
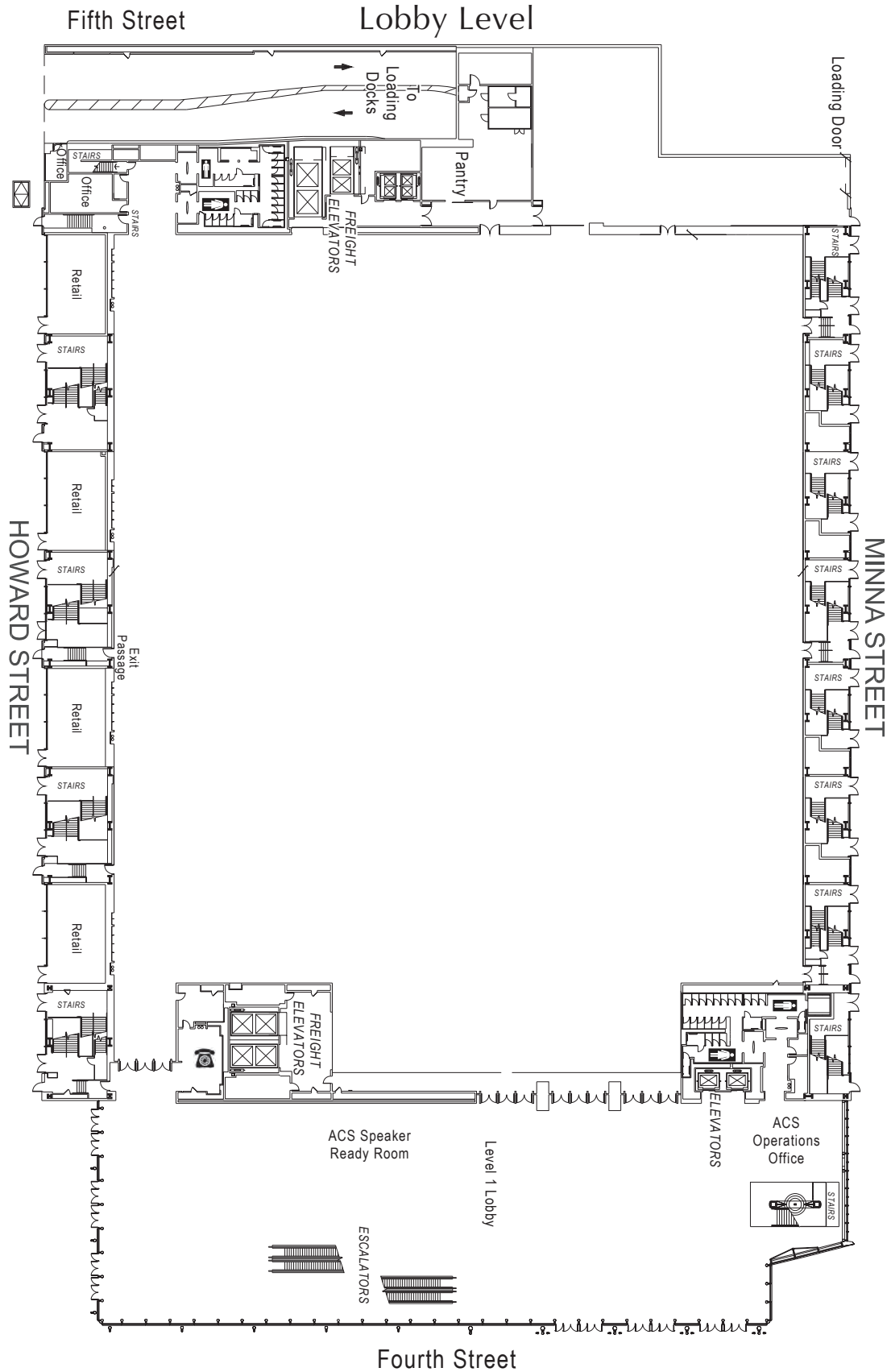
Howard Street



South Driveway



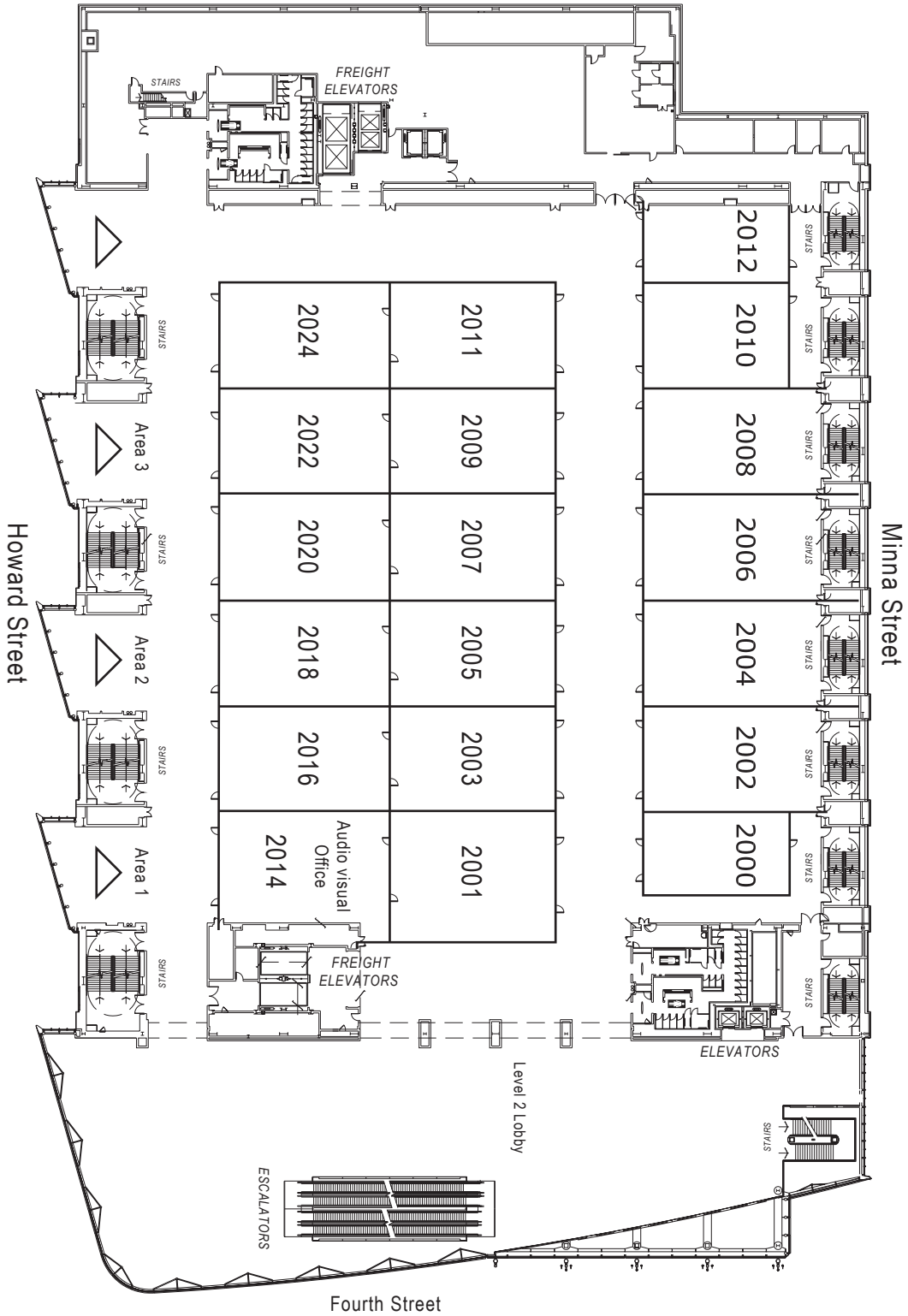
# MOSCONE WEST



# MOSCONE WEST

Level 2

Fifth Street

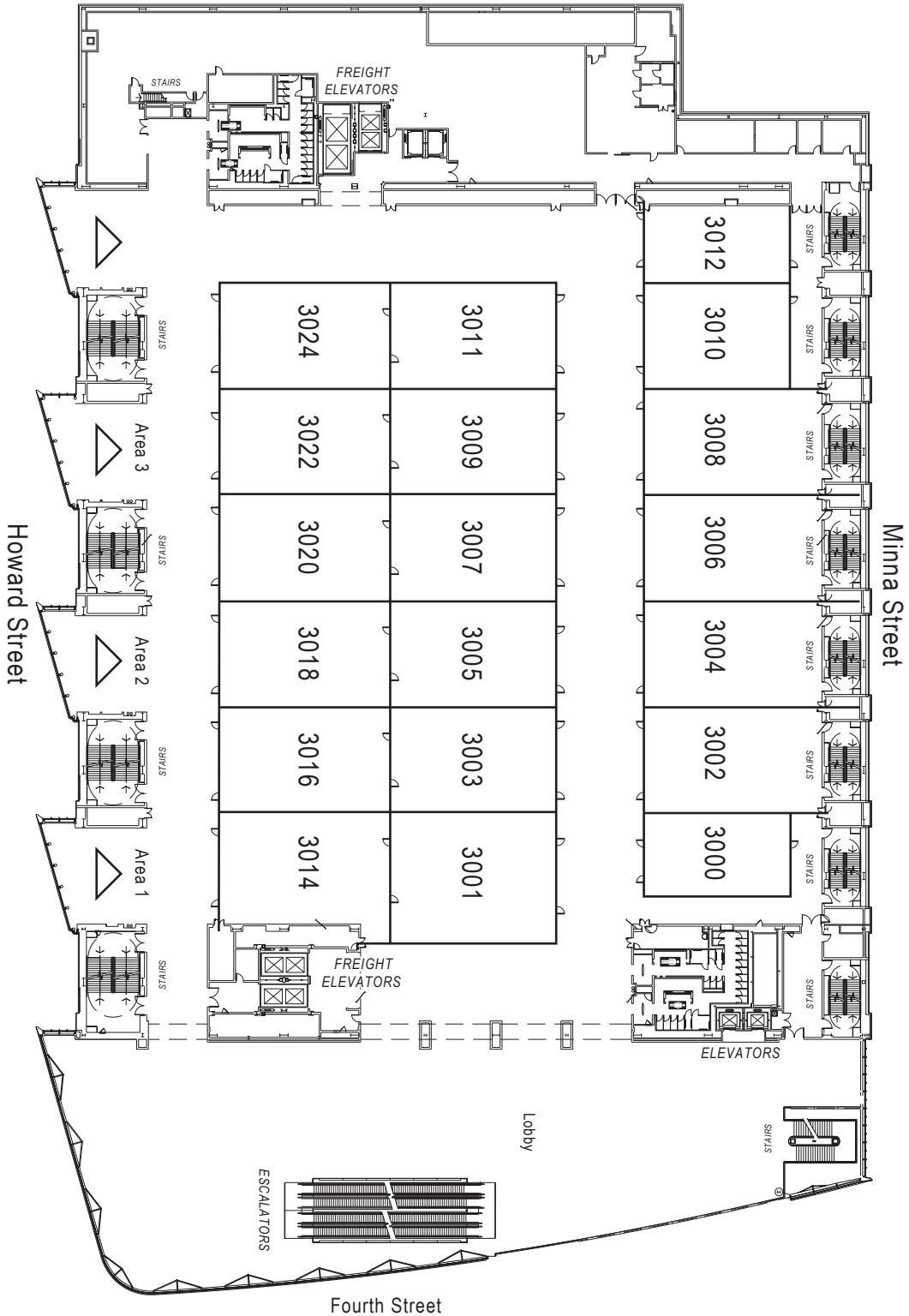




# MOSCONE WEST

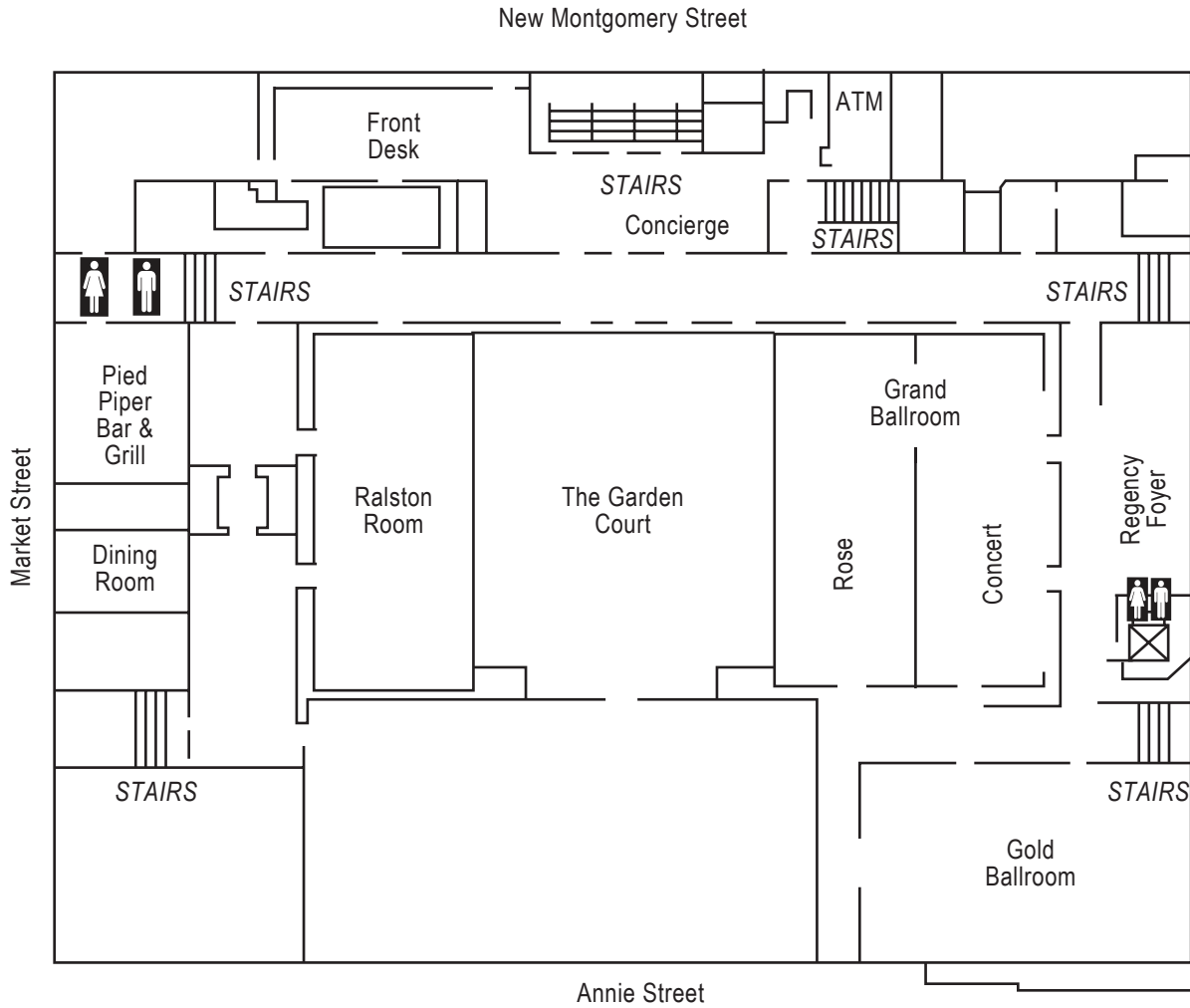
Level 3

Fifth Street

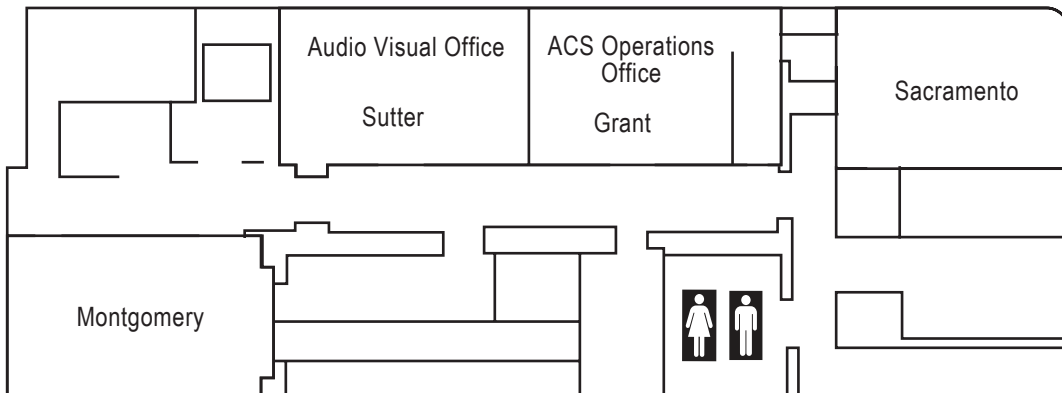


# PALACE HOTEL

## Lobby Level

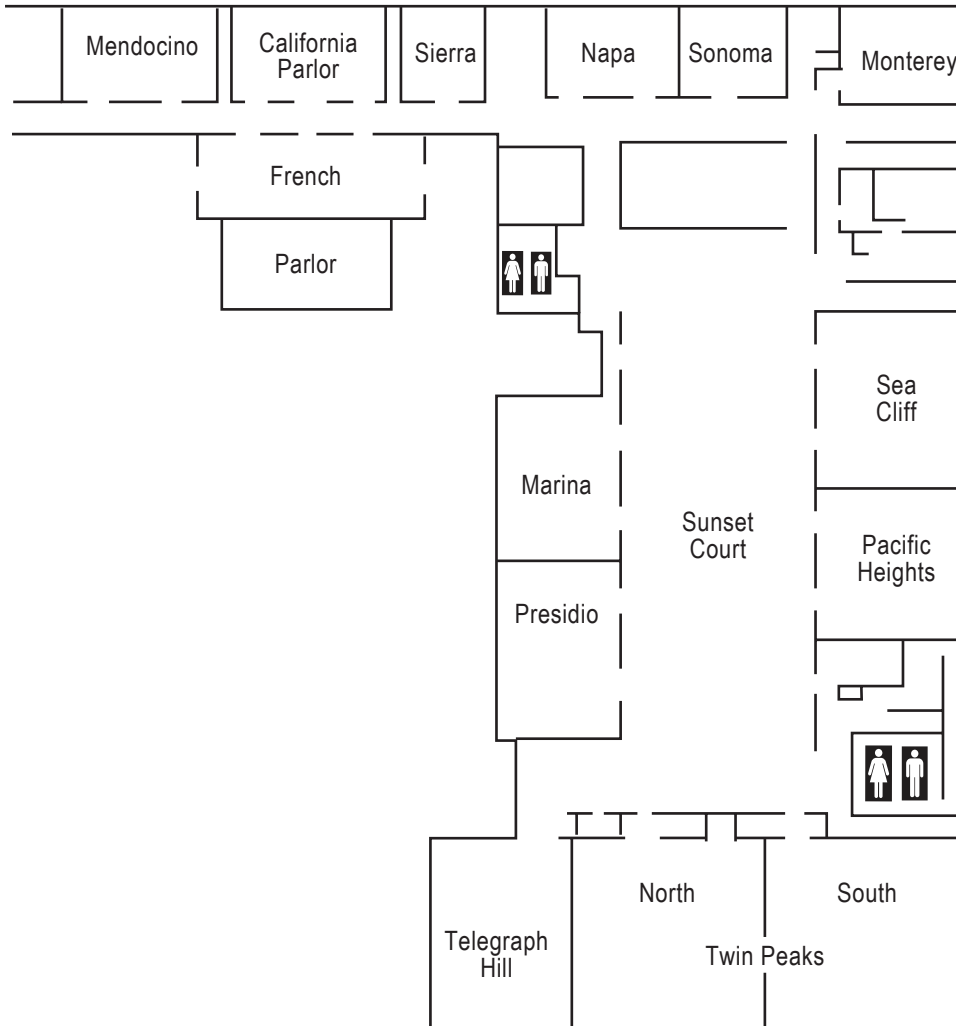


## Mezzanine



# PALACE HOTEL

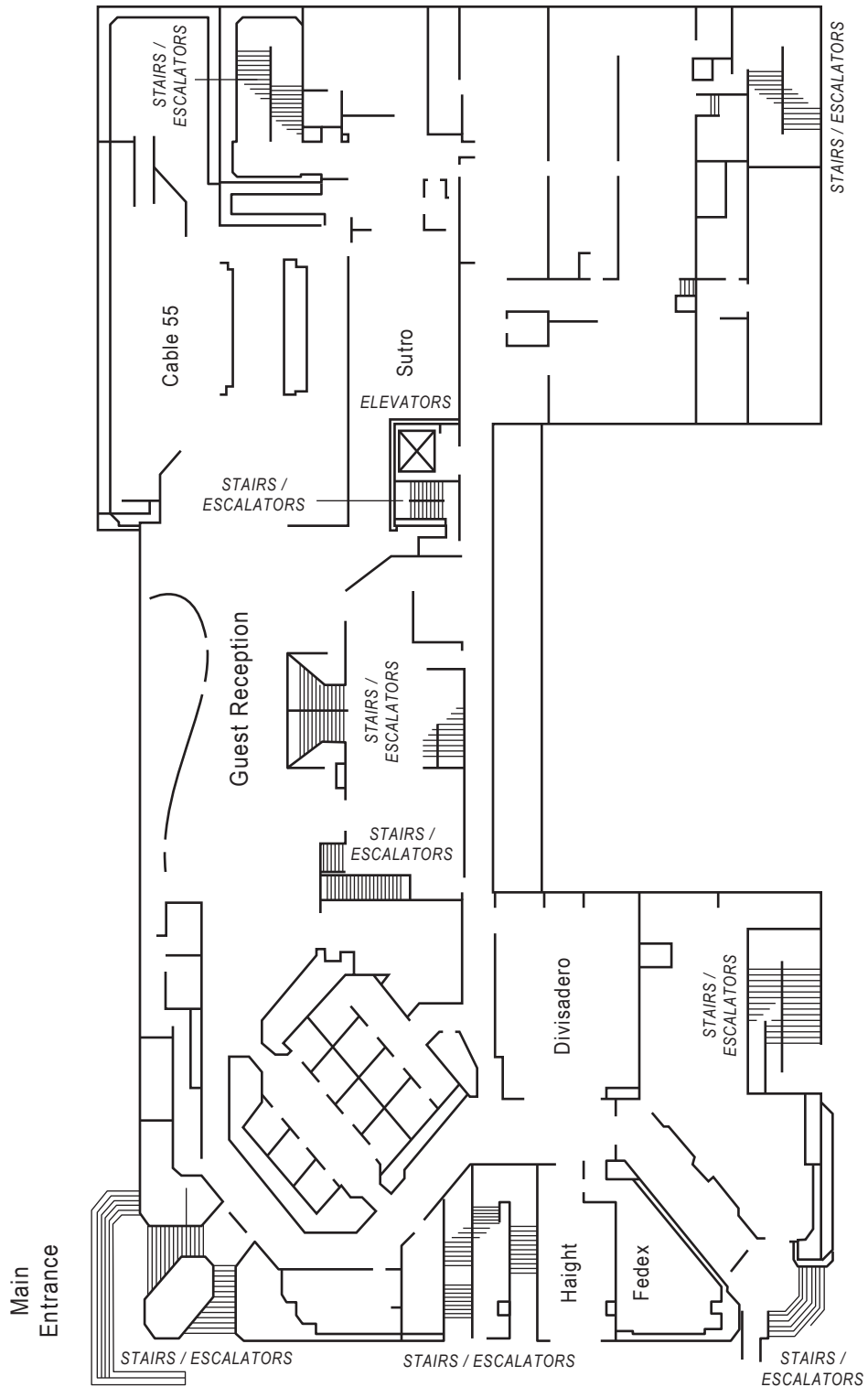
## Second Level





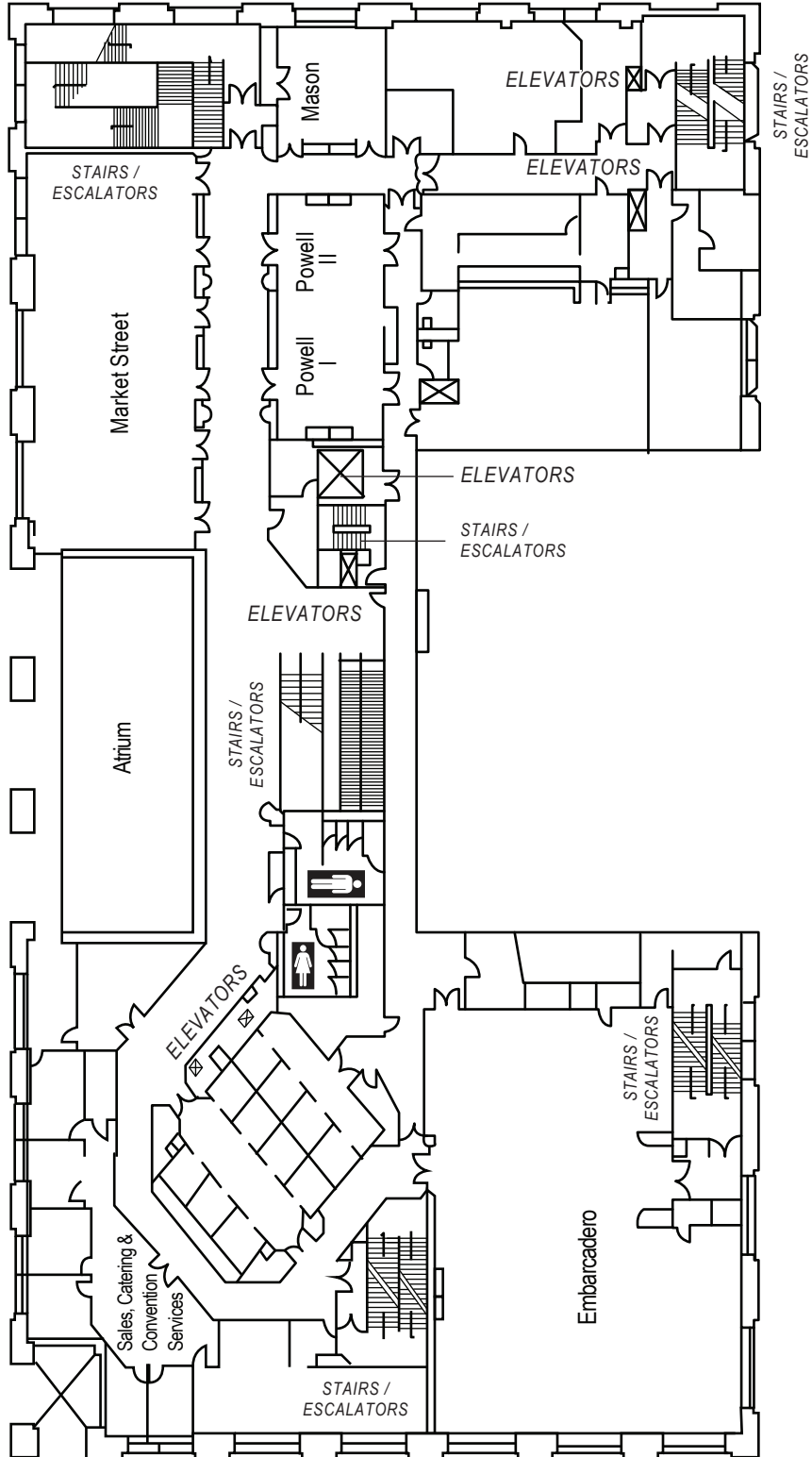
# PARC 55

## Level two



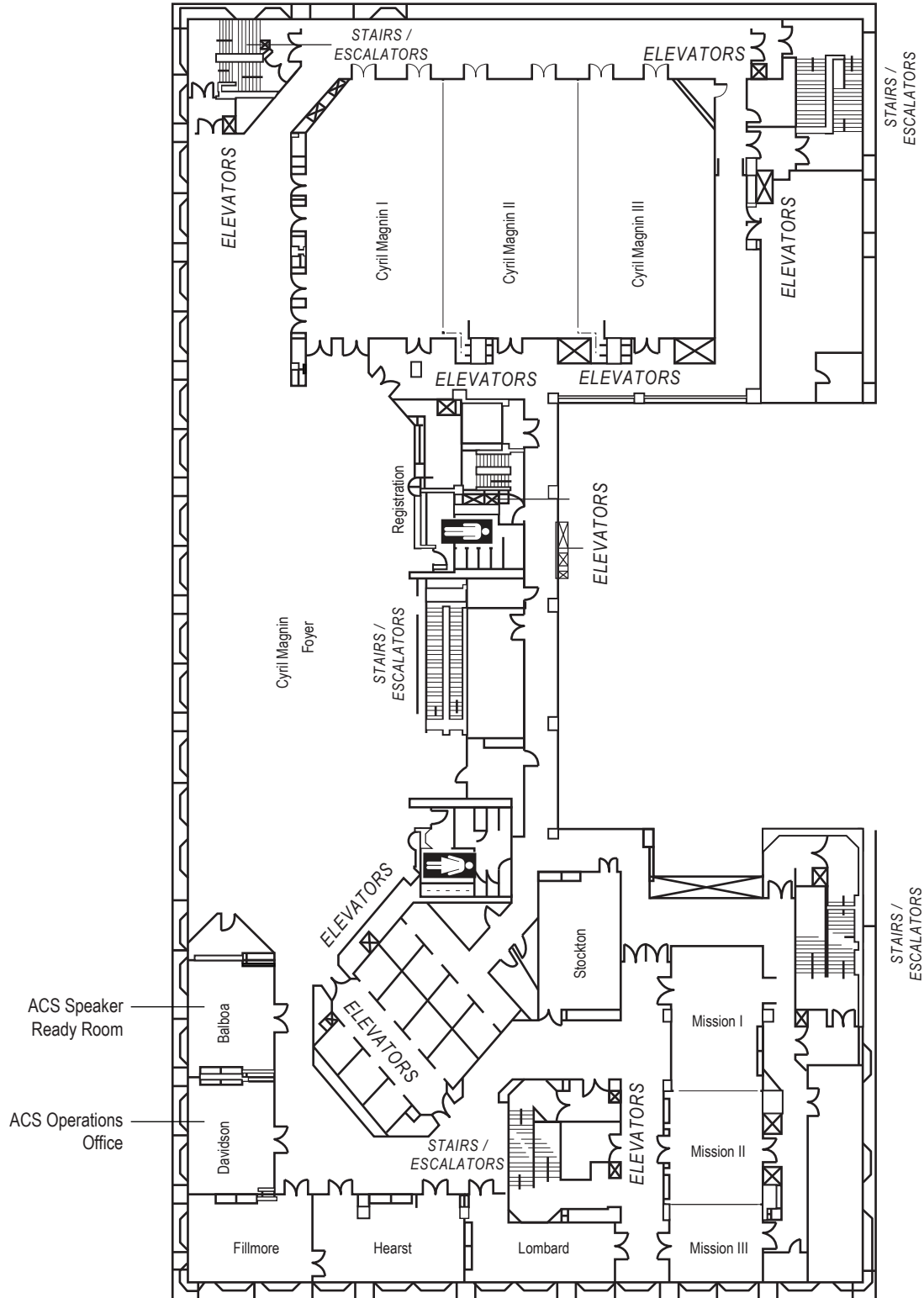
# PARC 55

## 3rd Floor



# PARC 55

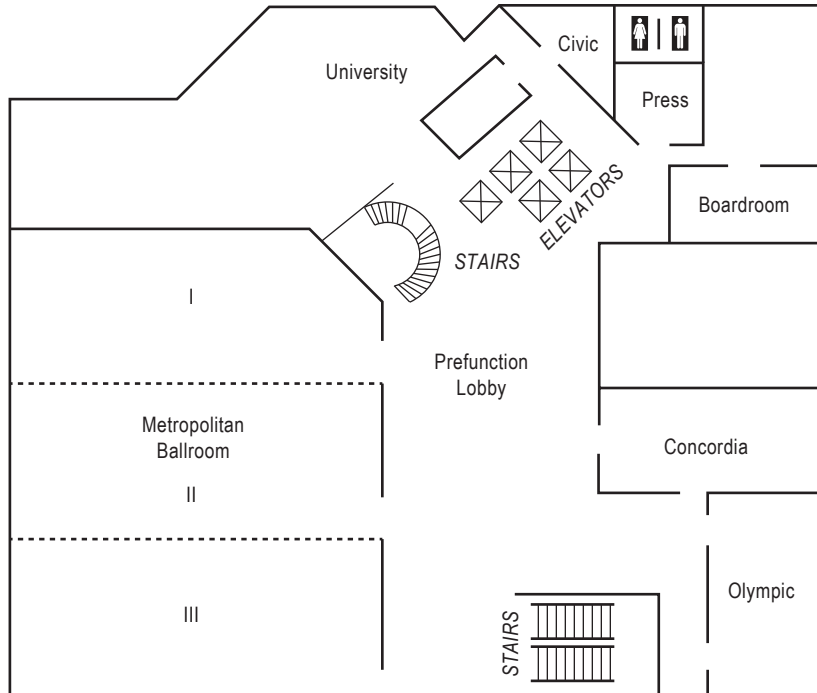
## 4th Floor



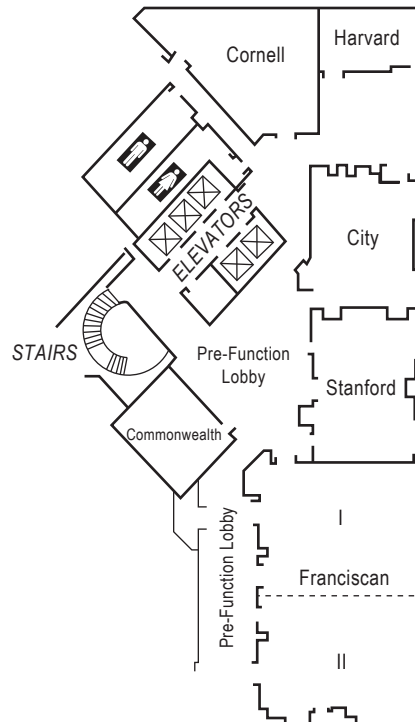


# PARK CENTRAL

## Second Floor

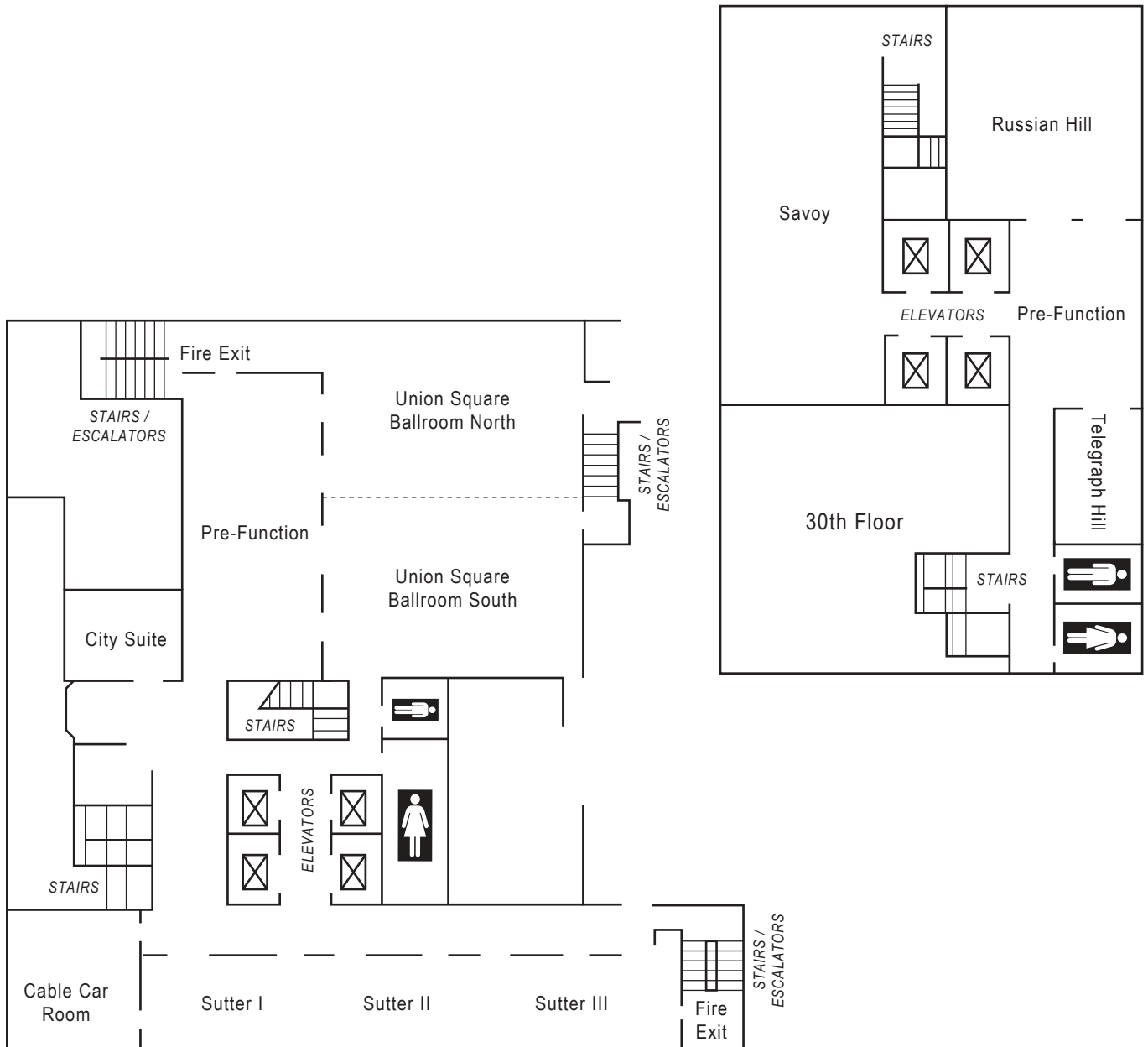


## Third Floor



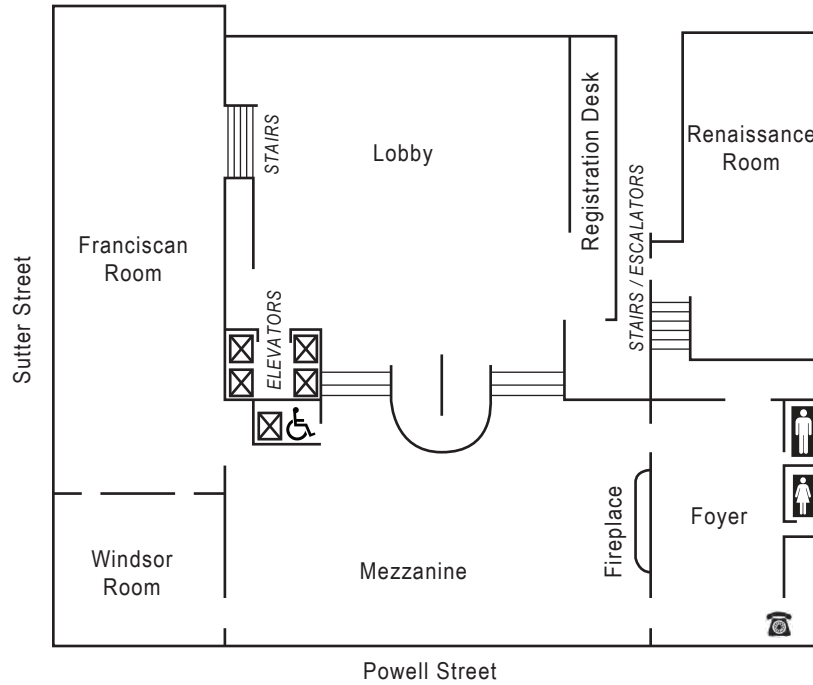
# SAN FRANCISCO MARRIOTT UNION SQUARE

## Mezzanine Level

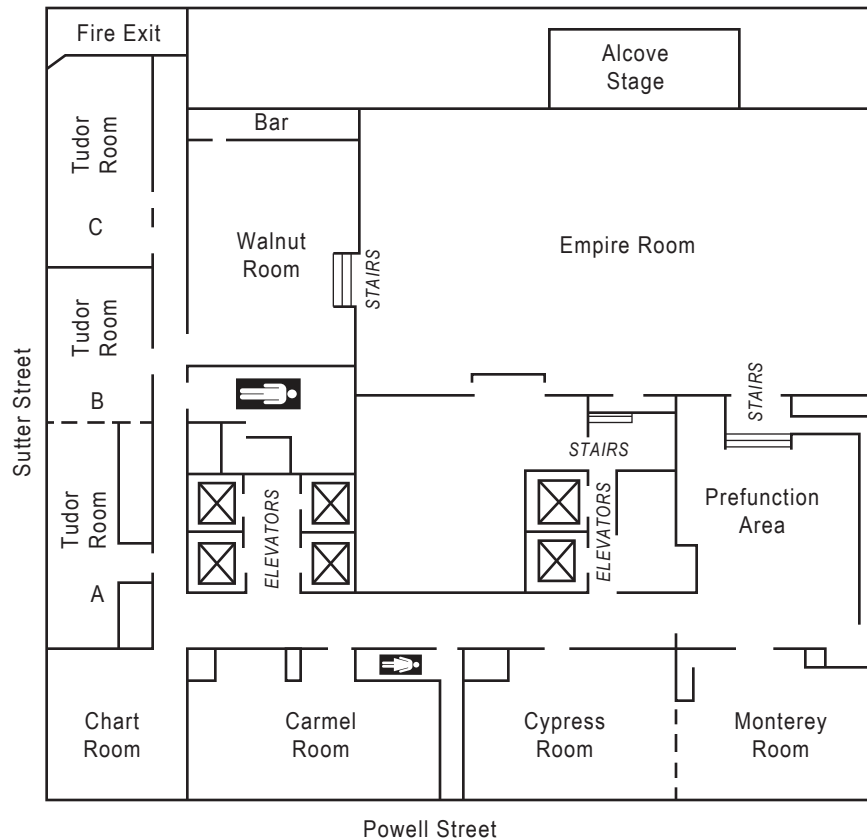


# SAN FRANCISCO MARRIOTT UNION SQUARE

## Mezzanine Level



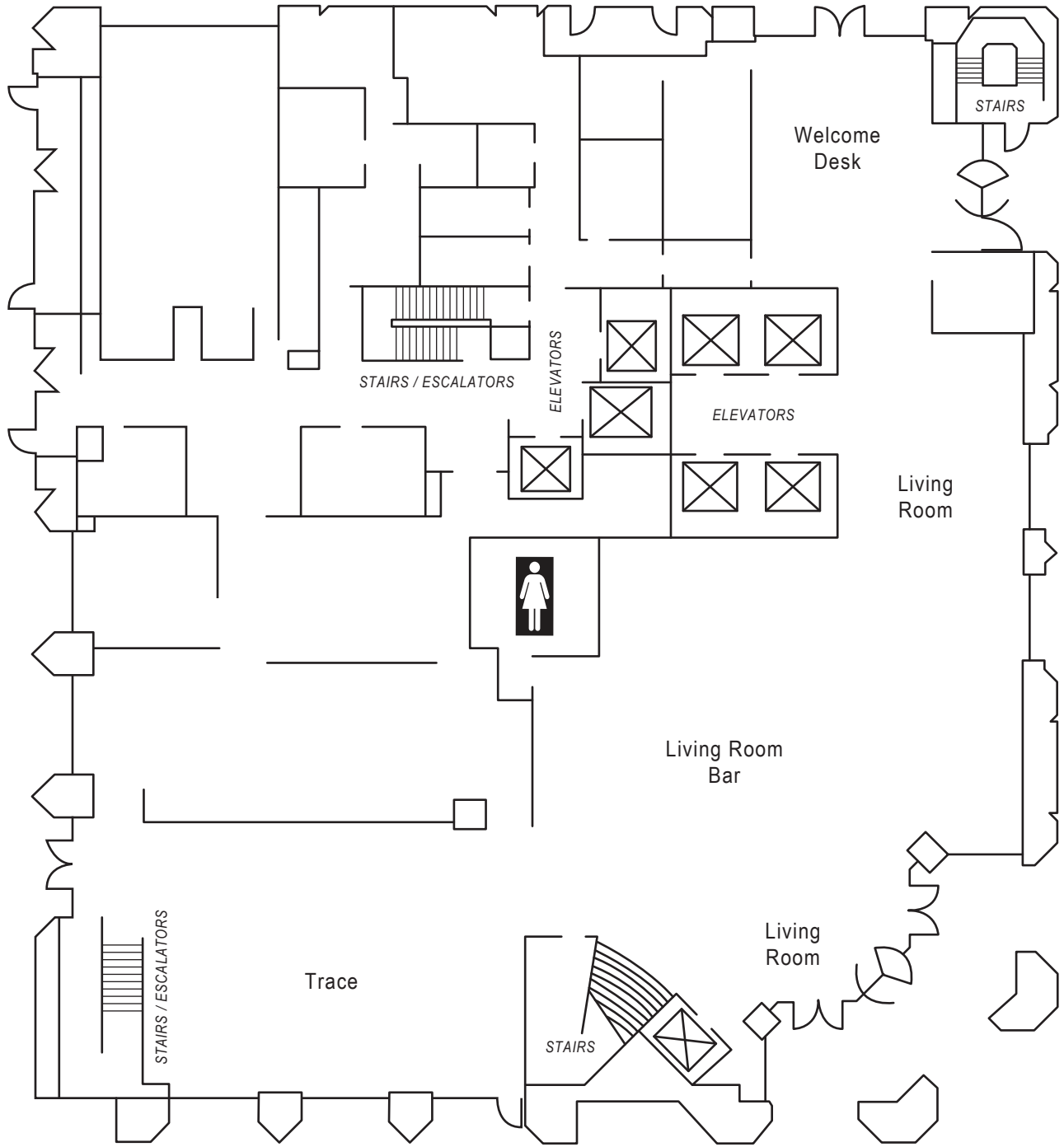
## Second Floor





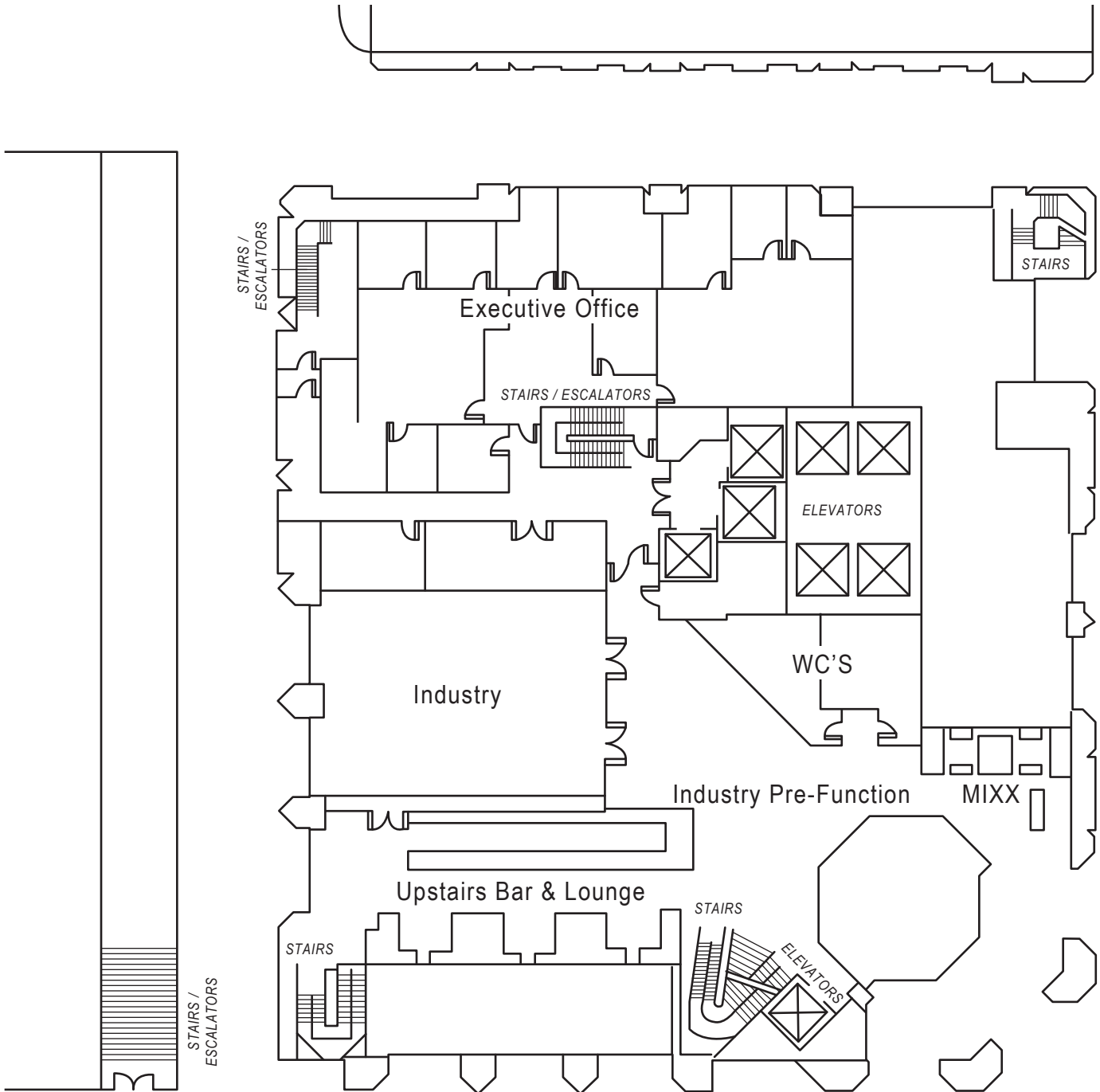
# WESTIN ST. FRANCIS

## First Floor



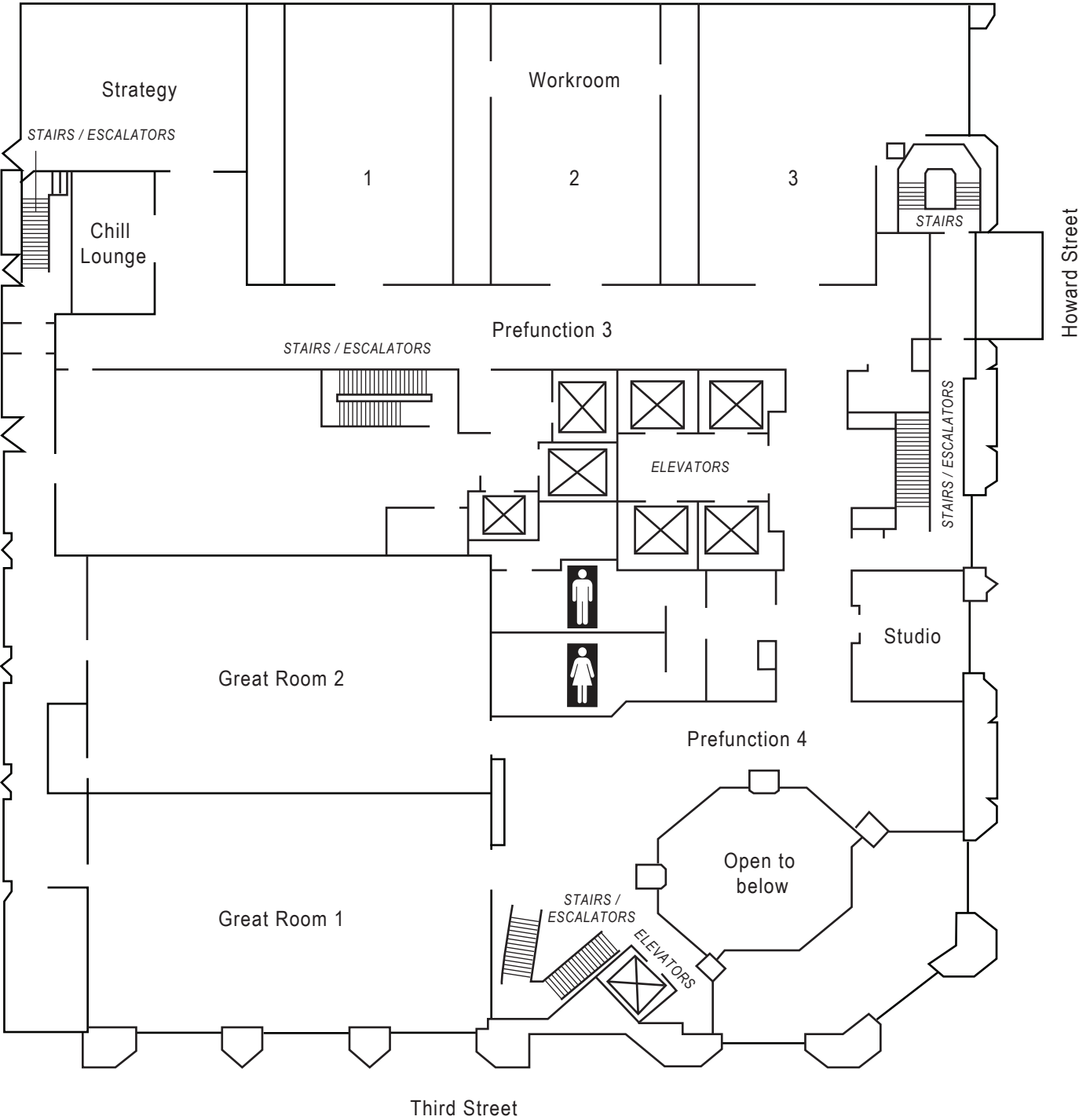
# WESTIN ST. FRANCIS

## Second Floor



# WESTIN SAN FRANCISCO

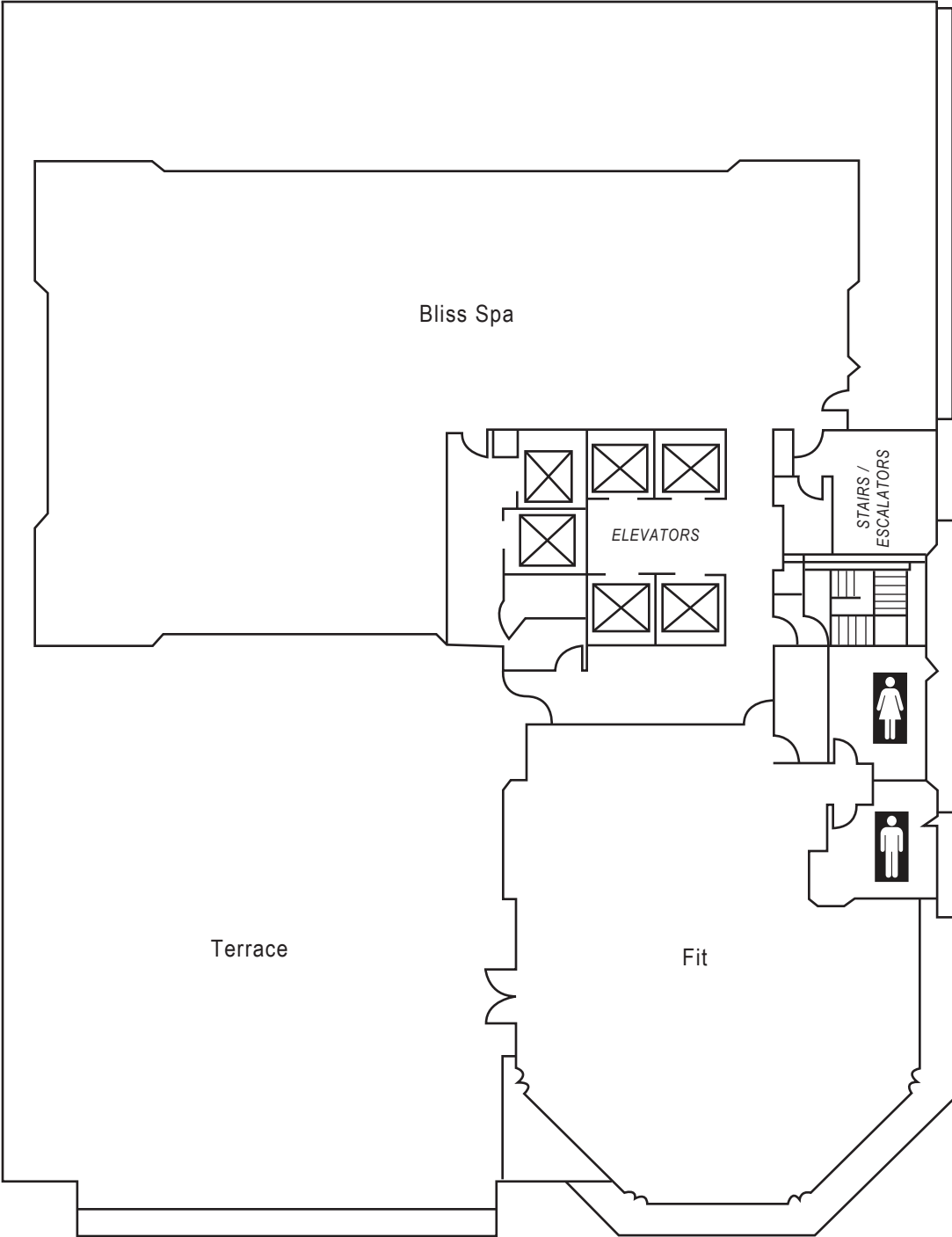
## Third Floor Function Space





# WESTIN SAN FRANCISCO

## Fourth Floor Function Space



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## Authors

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Adelstein, N.	COMP	307	Agather, A.	ENVR	193	Ahmed, S.	CHED	1568
Adelstein, N.	ENFL	238	Agbo, P.	INOR	1136	Ahmed, Y.O.	INOR	852
Adelstein, N.	ENFL	280	Agebeworvi, G.	INOR	1548	Ahmed, Y.O.	INOR	853
Adelstein, N.	ENFL	293	Ager, J.	CATL	430	Ahn, E.	CATL	483
Adem, Y.	BIOT	17	Aggarwal, A.	PHYS	449	Ahn, E.	COLL	204
Aden, B.M.	POLY	487	Aggarwal, P.	CHED	735	Ahn, H.	INOR	830
Adeoye, J.	ENFL	322	Aggarwal, V.K.	ORGN	300	Ahn, J.	INOR	1527
Adetule, O.O.	ENVR	908	Aggrawal, M.	AGFD	210	Ahn, J.	COLL	265
Adetunji, O.	CHED	1820	Aghababaei, R.	COLL	110	Ahn, J.	ENFL	224
Adeyemo, A.	ANYL	204	Aghabali, A.	INOR	1092	Ahn, J.	ENFL	226
Adeyemo, A.	ANYL	205	Aghajani, M.	ENVR	751	Ahn, J.	AGFD	88
Adeyemo, A.	ANYL	206	Aghazada, S.	INOR	1246	Ahn, J.	MEDI	372
Adeyemo, A.	ANYL	207	Agirre, M.	POLY	541	Ahn, J.	BIOT	615
Adeyemo, A.	ANYL	208	Agirrezabal-Telleria, I.	CATL	603	Ahn, J.	COLL	728
Adeyemo, A.	ANYL	209	Agloro, A.	CHED	936	Ahn, J.	ENVR	381
Adeyemo, A.	ANYL	210	Agmon, N.	PROF	30	Ahn, J.	ENVR	424
Adhikari, D.	GEOC	21	Agner, J.	MEDI	344	Ahn, K.	MEDI	147
Adhikari, D.	GEOC	50	Agnetta, L.	MEDI	214	Ahn, K.	POLY	40
Adhikari, D.	GEOC	54	Agnew, D.	INOR	414	Ahn, K.	POLY	567
Adhikari, D.	GEOC	257	Agnew, D.W.	INOR	202	Ahn, K.	SCHB	13
Adhikari, D.	GEOC	288	Agniswamy, J.	MEDI	379	Ahn, K.	INOR	1063
Adhikari, P.	PMSE	328	Ago, M.	CELL	249	Ahn, K.	INOR	1074
Adhikari, P.	ENVR	575	Ago, M.	CELL	295	Ahn, N.	PMSE	330
Adhikari, S.	CELL	379	Ago, M.	CELL	531	Ahn, N.	MEDI	307



Ahn, S.	CATL	109	Akimov, A.V.	COMP	375	Alarbi, A.	CHED	705
Ahn, S.	AGFD	71	Akimov, A.V.	COMP	456	Alarcon, M.	CHED	760
Ahn, S.	AGFD	72	Akimov, A.V.	COMP	477	Alaskar, A.	MEDI	168
Ahn, S.	PHYS	424	Akimov, A.V.	PHYS	131	Alaslai, N.	PMSE	367
Ahn, T.	POLY	92	Akimov, A.V.	PHYS	173	Alavala, R.	MEDI	34
Ahonen, M.R.	PMSE	600	Akin-Ojo, O.	COMP	56	Alavattam, S.	BIOT	19
Ahrens, M.	I&EC	11	Akiyama, S.	ORGN	236	Alawwa, N.	CHED	1788
Ahsan, M.	CHED	519	Akkas, T.	BIOT	143	Alayoglu, S.	COLL	639
Ahuja, S.	BIOT	116	Akopov, G.	INOR	1071	Alayoglu, S.	INOR	92
Ahuja, S.	BIOT	547	Akopov, G.	INOR	1078	Alayoglu, S.	INOR	1137
Ahuja, V.	MEDI	349	Akrobetu, D.J.	CARB	45	Alayoglu, S.	NUCL	39
Ai, H.	BIOL	249	Aksan, A.	ENVR	845	Alb, A.M.	POLY	5
Ai, H.	BIOL	349	Aktan, B.	POLY	379	Albanese, C.	INOR	1524
Aiello, S.	CHED	701	Aktas, E.	POLY	349	Albaneze-Walker, J.	ORGN	305
Aihara, Y.	ORGN	825	Akturk, E.S.	INOR	1542	Albarracin-Caballero, J.D.	CATL	276
Aiken, G.	ENVR	25	Akturk, E.S.	INOR	629	Alba-Rubio, A.	CATL	319
Aiken, G.	ENVR	31	Akula, B.	MEDI	254	Alba-Rubio, A.	CATL	331
Aiken, G.	ENVR	269	Akula, B.	MEDI	255	Al-bazboz, B.	CHED	1790
Aiken, G.	ENVR	346	Akula, P.G.	MEDI	178	Albelda, T.M.	INOR	330
Aiken, G.	ENVR	351	Akyol, Ç.	ENFL	184	Alberg, D.G.	ORGN	113
Aiken, G.	ENVR	427	Al Dawood, A.	INOR	740	Alberg, D.G.	ORGN	125
Aiken, G.	ENVR	428	Al Farra, I.	CHED	1795	Albert, D.	CHED	785
Aiken, G.	ENVR	768	Al Hakim, S.	ENVR	677	Albertazzi, L.	PMSE	149
Aiken, G.	ENVR	770	Al Hassan, S.	CATL	315	Albertazzi, L.	PMSE	292
Aiken, G.	GEOC	299	Al Hassan, S.	CATL	316	Albertazzi, L.	POLY	575
Aikens, C.M.	COMP	12	Al Hassan, S.	COLL	64	Albertini, L.	CHED	334
Aikens, C.M.	COMP	375	Al Hassan, S.	COLL	149	Alberto, M.	INOR	1196
Aikens, C.M.	COMP	480	Al Hassan, S.	COLL	246	Alberts, D.	CINF	16
Aikens, C.M.	COMP	481	Al Hassan, S.	COLL	842	Albertsson, A.	CELL	220
Aikens, C.M.	PHYS	173	Al Hassan, S.	INOR	1276	Albertsson, A.	MPPG	8
Aires-Barros, M.R.	BIOT	53	Al Hassan, S.	PMSE	332	Al-Betar, A.	POLY	405
Aires-Barros, R.	BIOT	186	Al Hassan, S.	PMSE	541	Albin, T.J.	BIOL	236
Aisenbrey, E.	POLY	193	Al Hassan, S.	POLY	359	Albin, T.J.	MEDI	395
Aissa, B.	ENFL	264	Al Hussain, Y.	PHYS	520	Albing, G.	CHED	2086
Aist, N.	CHED	921	Al Jaf, O.	COLL	669	Albing, G.R.	CHED	2004
Aitchison, H.	INOR	101	Al Jallaf, F.	AGFD	83	Albino Rivera, E.	CHED	1776
Aitchison, H.	INOR	407	Al Mughalaq, M.	CHED	158	Albrecht, C.	CHED	801
Aitken, J.A.	CHED	1144	Al Qaradawi, S.Y.	CATL	392	Albrecht, T.	INOR	1305
Aitken, M.	ENVR	53	Al Rubaya, N.	INOR	318	Albrecht, T.A.	I&EC	126
Aitomaki, Y.	CELL	93	Al-Abadleh, H.A.	GEOC	149	Albrecht, T.R.	I&EC	48
Ajamian, A.	COMP	362	Alabdulrahman, A.	CATL	479	Albrecht-Schmitt, T.E.	INOR	972
Ajamian, A.	MEDI	47	Al-Abed, S.R.	ENVR	312	Albrecht-Schmitt, T.E.	INOR	1072
Ajamian, A.	MEDI	89	Al-Abed, S.R.	ENVR	380	Albrecht-Schmitt, T.E.	NUCL	60
Ajamian, A.	MEDI	138	Al-Abed, S.R.	ENVR	863	Albrecht-Schmitt, T.E.	NUCL	105
Ajamian, A.	MEDI	442	Alabi, C.A.	POLY	264	Albrecht-Schmitt, T.E.	NUCL	106
Ajibade, P.A.	INOR	963	Alabi, P.E.	ORGN	509	Albrecht-Schmitt, T.E.	NUCL	132
Ajibade, P.A.	INOR	1033	Alabugin, I.	COMP	380	Albrecht-Schmitt, T.E.	NUCL	135
Ajibade, P.A.	PMSE	331	Alahmadi, R.	CHED	419	Albrecht-Schmitt, T.E.	PROF	7
Ajifa, H.	COLL	734	Alaimo, C.	ENVR	50	Albrieux, F.	ENFL	401
Ajifa, H.	COLL	763	Alaimo, C.	ENVR	553	Albright, E.	ORGN	557
Ajmeera, R.	MEDI	34	Alajmi, B.	INOR	368	Albright, H.	ORGN	729
Ajo-Franklin, J.	GEOC	11	Alam, I.	ENVR	1002	Albuquerque, G.	CATL	61
Aka, G.	INOR	648	Alam, M.	GEOC	241	Alcantar, M.	CHED	1732
Akagi, A.E.	BIOL	295	Alam, M.	GEOC	311	Alcantar, N.	CHED	1962
Akal, A.L.	BIOT	438	Alam, M.	GEOC	348	Alcocer, M.	PHYS	18
Akal, A.L.	BIOT	496	Alam, M.	CATL	416	Alcon, J.	CHED	1586
Akam, E.	BIOL	245	Alam, M.	ORGN	24	Aldakhil, T.	MEDI	144
Akana, M.E.	ORGN	111	Alam, M.	ORGN	807	Aldalbahi, A.	COLL	740
Akanda, N.	CHED	796	Alam, M.	BIOT	689	Aldana-Mendoza, J.A.	BIOL	86
Akanda, N.	CHED	835	Alam, M.	COLL	620	Aldas, M.	CELL	142
Akato, K.	ENFL	423	Alam, S.	CHED	1536	Aldeek, F.	COLL	445
Akay, S.	CINF	112	Alam, S.	MEDI	406	Alden, S.	COLL	262
Akbar, W.	COLL	797	Alam, S.	COLL	368	Alderfer, K.	CHED	634
Akbulatov, A.	ANYL	6	Alam, S.	BIOT	330	Al-Dhahir, I.	COLL	333
Akbulut, M.	CELL	292	Alam, S.	POLY	580	Aldrich, C.C.	CHED	1187
Akdogan, O.	POLY	331	Alam, T.M.	CHED	1037	Aldrich, C.C.	MEDI	216
Akduman, I.	MEDI	62	Alam, T.M.	POLY	119	Aldrich, C.C.	MEDI	329
Akech, S.R.	ENVR	778	Alamo, R.G.	POLY	593	Aldrich, C.C.	MEDI	450
Akerfeldt, K.S.	POLY	202	Alamri, H.	ANYL	135	Aldrich, C.C.	ORGN	377
Akerfeldt, K.S.	POLY	519	Alamri, M.	CELL	347	Aldrich, J.V.	MEDI	4
Akers, C.	CHED	1309	Alanazi, A.	CHED	972	Aldrich, J.V.	MEDI	441
Akers, M.	CHED	480	Alanis, I.	CHED	761	Alejandro, A.	CHED	853
Akfur, C.	MEDI	396	Al-Ansari, Z.	CELL	369	Alejandro, A.	CHED	856
Akhand, S.S.	CHED	39	Alao, J.	CHED	609	Alem, N.	NUCL	88
Akhimien, E.V.	CHED	1795	Alao, J.	CHED	647	Aleman, E.A.	CHED	217
Akhlaq, S.	CHED	564	Alao, O.J.	MEDI	238	Aleman, E.A.	CHED	1860
Akhtar, N.	AGFD	89	Alaparthi, M.	ORGN	589	Aleman, E.A.	PHYS	525
Akhtar, W.	ORGN	273	Alappat, B.	CHED	337	Alemán, J.J.	CATL	470
Akhtar, W.	ORGN	428	Alappat, B.	CHED	813	Alemán, J.J.	ORGN	73
Akimov, A.V.	COMP	170	Alarbi, A.	BIOL	283	Alemán, J.J.	ORGN	330

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Alemayehu, A.	INOR	1240	Alino, V.	CHED	1831	Allnutt, M.	CHED	608
Alenko, A.	BIOL	90	Alipour, S.H.	PMSE	437	Allodi, M.A.	ANYL	302
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Alessi, D.	GEOC	241	Alivisatos, A.	COLL	188	Allodi, M.A.	PHYS	390
Alessi, D.	GEOC	302	Alivisatos, A.	COLL	284	Allred, Z.	CHED	151
Alessi, D.	GEOC	311	Alivisatos, A.	INOR	1419	Allsbrook, A.P.	COLL	361
Alessi, D.	GEOC	337	Alivisatos, A.	PRES	1	Allwein, B.T.	BIOL	234
Alessi, D.	GEOC	340	Alivisatos, P.	COLL	193	Al-Maadeed, M.A.	POLY	188
Alessi, D.	GEOC	348	Alivisatos, P.	INOR	674	Almaguer, A.	CHED	1844
Alexander, B.	ORGN	631	Alivisatos, P.	INOR	694	AlMahri, M.	COLL	64
Alexander, C.	ANYL	241	Alivisatos, P.	INOR	816	Almaliti, J.	MEDI	463
Alexander, C.W.	ORGN	429	Alivisatos, P.	PHYS	263	Almaraz, M.	CHED	1199
Alexander, D.	ANYL	93	Alizadehmojarad, A.	COLL	49	Almarsson, O.	COLL	8
Alexander, D.	ANYL	104	Alizadehmojarad, A.	COLL	420	Almarsson, O.	COLL	86
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Alexander, J.E.	CHED	2028	Aljuhani, N.	INOR	824	Almarwani, B.M.	BIOL	129
Alexander, K.	CHED	1885	Alkan Gursel, S.	CELL	299	Al-Masum, M.	ORGN	664
Alexander, M.	CHED	980	Alkan, M.	COMP	455	Almeida, J.M.	CHED	51
Alexander, M.	COLL	55	Alkanaimsh, S.	BIOT	7	Almeida, L.M.	COLL	373
Alexander, S.	BIOT	548	Alkanaimsh, S.	BIOT	469	Al-Menhali, A.	GEOC	14
Alexander, S.	PMSE	333	Al-Kaysi, R.O.	MEDI	168	Almeter, N.	CHED	1675
Alexander, S.C.	BIOL	48	Al-Kaysi, R.O.	ORGN	679	Almheiri, Z.	ENVR	645
Alexander, S.C.	BIOT	289	Alkema, D.	ANYL	292	Almirall, J.	ANYL	363
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Alexandratos, S.	ENVR	453	Allais, F.	CATL	157	Almlen, A.	BIOT	518
Alexandre, A.	ANYL	448	Allais, F.	CELL	16	Almodovar Ortiz, A.	CHED	1802
Alexandre, G.	ENVR	221	Allais, F.	ORGN	302	Almodovar Ortiz, A.	CHED	1886
Alexandre, G.	ENVR	665	Allais, F.	POLY	439	Almodovar, J.L.	PMSE	542
Alexandridis, P.	COLL	423	Allam, O.	PMSE	371	Almond, D.	ORGN	149
Alexandrova, A.	CATL	601	Allan, P.K.	ANYL	37	Almstrand, R.	GEOC	77
Alexandrova, A.	CATL	643	Allard, M.M.	CHED	440	Al-Muhtaseb, S.A.	POLY	188
Alexandrova, A.	COMP	204	Allard, M.M.	ENVR	902	Almutairi, A.	ENVR	802
Alexandrova, A.	COMP	465	Allard, S.	ENVR	449	Al-niss, H.	ANYL	117
Alexandrova, A.	INOR	384	Allardyce, D.	MEDI	119	Alonso, E.A.	CHED	1229
Alexandrova, A.	PHYS	218	Allbritton, N.L.	ANYL	339	Alonso-Gutierrez, J.	BIOT	245
Alexanian, E.J.	ORGN	46	Allcock, H.	ENFL	83	Aloqayli, S.	ENFL	219
Alexanian, E.J.	ORGN	490	Allcock, H.	POLY	7	Alper, L.	POLY	730
Alexeev, Y.	COMP	454	Allec, S.I.	COMP	419	Alpers, C.	ENVR	770
Alezi, D.	ENFL	33	Allegrezza, M.	POLY	460	Alpers, C.	GEOC	97
Alfaro, C.	ANYL	284	Alleman, T.	POLY	40	Alpers, C.N.	ENVR	768
Alfaro, V.	INOR	241	Allen, A.	GEOC	61	Alpert, B.K.	BIOT	482
Alfassi, G.	CELL	325	Allen, B.J.	ENVR	266	Alpert, B.K.	CATL	144
Alfe, D.	COMP	234	Allen, D.	CHED	472	Alpert, B.K.	COLL	146
Alfindee, M.	ORGN	515	Allen, F.I.	PMSE	272	Alpert, B.K.	INOR	1319
Alfonso, D.	CATL	71	Allen, G.H.	CHED	154	Al-Quaiti, F.	COMP	253
Alfonso, D.	CATL	119	Allen, H.C.	PHYS	31	Alqurafi, M.	MEDI	75
Alfonso, P.J.	BIOT	332	Allen, H.E.	GEOC	353	Alqurafi, M.	MEDI	82
Alford, A.	AGFD	88	Allen, J.E.	INOR	836	Alquzah, O.	CHED	1015
Alfutimie, A.	BIOT	443	Allen, J.G.	BIOT	114	Alrashedi, N.	INOR	685
Alghoul, Z.	CHED	2003	Allen, J.R.	MEDI	127	Al-Refai, R.	CHED	742
Alhallak, I.	CHED	1637	Allen, K.	CHED	1697	Alric, I.	CELL	46
Al-Hashimi, M.	CATL	387	Allen, K.	CHED	1729	Alrubayyi, A.	POLY	350
Al-Hashimi, M.	CATL	390	Allen, K.	CHED	1753	Al-Saadi, A.	PHYS	359
Al-Hashimi, M.	CATL	392	Allen, K.	POLY	456	Al-Saadi, A.	POLY	405
Al-Hashimi, M.	POLY	422	Allen, K.E.	ORGN	136	Al-Saidi, W.	CATL	322
Al-Hashimi, M.	POLY	438	Allen, M.	ANYL	332	Al-Saidi, W.	CATL	611
Alhassan, M.	MEDI	112	Allen, M.A.	ENFL	73	Alsarraj, M.	CHED	873
Alhloul, S.	POLY	240	Allen, M.C.	CATL	432	Alsarraj, M.	CHED	1788
Alhthlol, L.	INOR	115	Allen, N.	ORGN	157	Alsaygh, A.A.	CATL	577
Ali, A.M.	GEOC	229	Allen, N.	GEOC	110	Alsaiee, A.	CHED	1747
Ali, A.M.	GEOC	231	Allen, N.	GEOC	149	Alsenani, S.	CHED	419
Ali, A.M.	GEOC	310	Allen, R.J.	INOR	1484	Alshreimi, A.	ORGN	806
Ali, A.M.	GEOC	354	Allen, S.	PMSE	206	Alsina, M.	ORGN	874
Ali, G.	ENFL	220	Allen, T.L.	INOR	1059	Alsop, R.	BIOT	343
Ali, G.	ENFL	221	Allen, W.E.	ORGN	547	Alsop, R.	BIOT	370
Ali, I.	ANYL	216	Allen, W.E.	ORGN	607	Alston, J.R.	CELL	26
Ali, M.	POLY	133	Allen, W.E.	ORGN	608	Alt, E.	POLY	255
Ali, M.F.	CHED	517	Allen, W.E.	ORGN	609	Alt, N.	BIOT	614
Ali, M.R.	BIOL	306	Allen, W.E.	ORGN	610	Altaf, A.	BIOL	301
Ali, M.R.	COLL	594	Allendorf, M.	INOR	1530	Altaf, A.	ENFL	243
Ali, M.R.	COLL	598	Allerson, C.	BIOL	178	Al-Tamimi, L.	ORGN	696
Ali, R.	ORGN	897	Alley, W.	CELL	433	Altel, T.H.	ORGN	70
Ali, R.	CHED	774	Alleyn, J.R.	MEDI	298	Altel, T.H.	ORGN	92
Ali, R.	CHED	1769	Alleyn, J.R.	ORGN	268	Altenbuchner, P.T.	POLY	496
Ali, R.	CATL	484	Allgeier, A.	COLL	325	Altenhofer, E.	ORGN	135
Ali, S.	MEDI	111	Allgeier, A.	ORGN	341	Althahban, S.	ENFL	92
Ali, S.	PMSE	492	Allis, D.G.	PHYS	385	Altiery, A.	CHED	1863
Aliagas, I.	MEDI	342	Allison, S.	INOR	933	Altizer, E.M.	AGFD	267

Altizer, E.M.	ORGN	925	am Ende, C.	MEDI	361	An, J.	ORGN	530
Altizer-Evans, M.	CHED	77	Amabilino, D.	COLL	648	An, K.	CATL	628
Althmaier, M.	NUCL	108	Amado Piña, D.	ENVR	698	An, M.	ORGN	289
Althmaier, M.	NUCL	109	Amado, A.	INOR	302	An, T.	ENVR	9
Althmaier, M.	NUCL	111	Amador, A.	ORGN	29	An, T.	ENVR	275
Altman, A.B.	INOR	96	Amador, J.M.	INOR	441	An, T.	ENVR	687
Altman, A.B.	INOR	140	Amador, J.M.	INOR	454	An, T.	BIOT	449
Altman, A.B.	NUCL	39	Amador, J.M.	INOR	457	An, W.	COMP	83
Altman, E.	INOR	248	Amador, J.M.	INOR	767	An, X.	ENVR	924
Altman, M.	MEDI	112	Amador, J.M.	CHED	2139	An, Y.	ENFL	134
Altman, P.	ORGN	292	Amador, J.M.	INOR	453	Anagnostopoulos, V.A.	INOR	1138
Altman, R.A.	ORGN	666	Amador, J.M.	INOR	455	Ananimoghadam, O.	ORGN	640
Altmann, P.J.	INOR	834	Amador, J.M.	INOR	768	Anand, R.	MEDI	112
Altmann, P.J.	INOR	1538	Amamiya, K.	GEOC	247	Anand, R.	CINF	13
Altunkaya, A.	BIOT	86	Amanchukwu, C.	ANYL	405	Anandakathir, R.	ANYL	405
Altwegg, K.	PHYS	192	Amano, M.	MEDI	379	Ananin, A.V.	CHED	1561
Alu, A.	INOR	1577	Amanuel, S.	AGFD	269	Ananth, N.	COMP	130
Aluthge, D.	INOR	1449	Amanuel, S.	CHED	239	Ananth, N.	PHYS	55
Aluthge, D.	PMSE	279	Amara, J.	BIOT	710	Ananth, R.	COLL	237
Alvarado, C.	ORGN	73	Amaral, M.	COMP	564	Anantharaj, S.	INOR	484
Alvarado, E.J.	PHYS	534	Amaral, V.	GEOC	42	Anantharaj, S.	INOR	1052
Alvarado, J.	CHED	868	Amarante, D.	CHED	1073	Anasie, D.	ENVR	437
Alvarado, O.A.	CHED	397	Amarasiriwardena, D.D.	ANYL	93	Anastasaki, A.	PMSE	304
Alvarenga, A.	ENVR	854	Amarasiriwardena, D.D.	ANYL	104	Anastasaki, A.	PMSE	429
Alvarenga, J.	ORGN	426	Amaris, Z.	INOR	518	Anastasaki, A.	POLY	14
Álvarez Benedicto, E.	ORGN	923	Amaro, R.E.	CINF	53	Anastasaki, A.	POLY	268
Álvarez Colon, N.I.	CHED	1776	Amaro, R.E.	CINF	140	Anastasaki, A.	POLY	604
Álvarez Duque, J.	PROF	46	Amaro, R.E.	COMP	309	Anastasiadis, S.H.	POLY	168
Álvarez Lamsfus, C.	INOR	1132	Amaro, R.E.	COMP	311	Anastasio, C.	ENVR	603
Álvarez Martínez, G.E.	CHED	1863	Amaro, R.E.	COMP	365	Anaya Castro, M.	CELL	46
Álvarez Martínez, G.E.	COLL	296	Amaro, R.E.	COMP	366	Anaya, A.	CHED	1333
Álvarez Pérez, A.	ORGN	668	Amaro, R.E.	COMP	411	Anayah, R.	BIOL	258
Álvarez Puebla, R.	COLL	117	Amaro, R.E.	COMP	427	Ancajas, C.F.	ORGN	578
Álvarez- Sanchez, C.O.	CHED	1752	Amaro, R.E.	MEDI	499	Ancona, M.	COLL	571
Álvarez- Sanchez, C.O.	ENFL	101	Amarपुरi, G.	POLY	564	Andahazy, W.	COLL	263
Álvarez, C.	AGFD	135	Amarपुरi, G.	POLY	565	Andaraarachchi, H.	INOR	1013
Álvarez, D.A.	ENVR	49	Amasha, M.	ENVR	588	Andasson, J.	I&EC	18
Álvarez, F.	MEDI	246	Amasha, M.	ENVR	677	Anderko, A.M.	GEOC	32
Álvarez, J.	BIOT	556	Amati, M.	CATL	225	Anderko, A.M.	GEOC	62
Álvarez, L.	INOR	251	Amato, D.	PMSE	604	Andersen, C.	BIOT	181
Álvarez, M.	AGFD	51	Amato, D.	POLY	502	Andersen, C.P.	ENVR	548
Álvarez, M.	AGFD	57	Amato, D.	POLY	502	Andersen, H.	ENVR	640
Álvarez, M.	ANYL	79	Amato, D.V.	PMSE	604	Andersen, J.	BIOT	383
Álvarez, M.	ANYL	86	Amato, D.V.	POLY	246	Andersen, J.	CHED	1279
Álvarez, M.	ANYL	87	Amatucci, G.G.	ANYL	245	Andersen, J.	INOR	898
Álvarez, M.	ANYL	178	Amaya, M.C.	CELL	41	Andersen, L.K.	ENFL	323
Álvarez, M.	CHED	172	Amaya, P.	BIOT	493	Andersen, M.	ENVR	756
Álvarez, M.	CHED	774	Ambos, E.	CHED	2064	Andersen, R.A.	INOR	1392
Álvarez, M.	CHED	809	Amburgey-Peters, J.C.	CHED	823	Andersen, W.W.	CHED	533
Álvarez, M.	CHED	981	Ameh, T.	ENVR	145	Andersen, W.W.	CHED	1821
Álvarez, M.	CHED	992	Amend, J.	GEOC	216	Anderson, A.	AGFD	44
Álvarez, M.	CHED	1769	Amer, H.	CELL	37	Anderson, A.C.	BIOL	284
Álvarez, M.P.	BIOT	236	Americis, M.	MEDI	461	Anderson, A.M.	CHED	1152
Álvarez, M.P.	CHED	253	Amezcu, M.A.	ENVR	712	Anderson, A.M.	CHED	1709
Álvarez, M.P.	CHED	1312	Amhed Isse, A.	PMSE	71	Anderson, A.S.	ORGN	352
Álvarez, M.P.	CHED	1327	Amiel, C.	POLY	584	Anderson, B.	CHED	1790
Álvarez, O.	CHED	1863	Amin, S.M.	CHED	1033	Anderson, B.	CHED	333
Álvarez, P.J.	ENVR	488	Amir, R.J.	PMSE	157	Anderson, B.	INOR	1158
Álvarez, P.J.	ENVR	646	Amirav, L.	CATL	265	Anderson, B.	NUCL	34
Álvarez, R.	MEDI	138	Amman, M.	CHED	411	Anderson, B.	BIOL	51
Álvarez-Asencio, R.	COLL	318	Ammann, S.E.	ORGN	74	Anderson, B.	CHAS	49
Álvarez-Cohen, L.	ENVR	460	Amnorzahira, A.	ENVR	158	Anderson, B.	AGFD	117
Alvaro, E.	CINF	156	Amofah, B.	PHYS	539	Anderson, B.D.	COLL	863
Alvaro, P.R.	ENVR	762	Amoozegar, A.	GEOC	171	Anderson, B.G.	CHED	986
Alvarodiaz, J.	CHED	338	Amorello, A.	BIOL	222	Anderson, C.	CHED	2016
Alver, C.	COLL	301	Amorim, T.	COLL	373	Anderson, C.	CELL	466
Alves, C.	PMSE	517	Amornsakchai, T.	CELL	177	Anderson, C.	AGFD	248
Alves, C.R.	CELL	176	Amos, R.	CELL	175	Anderson, C.	ORGN	258
Alves, C.R.	CELL	513	Amyot, M.	ENVR	559	Anderson, C.J.	MEDI	275
Alves, L.	CELL	464	An, B.	ORGN	566	Anderson, D.	ANYL	115
Alves, M.	CHED	938	An, B.	PMSE	334	Anderson, H.V.	CHED	1262
Alves, M.R.	COLL	374	An, B.	PMSE	350	Anderson, I.	CINF	137
Alves, T.C.	COMP	307	An, D.	INOR	1136	Anderson, J.	CHED	697
Alves, V.M.	ENVR	1009	An, D.	INOR	1387	Anderson, J.	CHED	1872
Alvi, A.	PMSE	682	An, H.	BIOT	335	Anderson, J.	INOR	1406
Alwohaibi, M.	CELL	164	An, H.	CATL	288	Anderson, J.S.	INOR	77
Aly, N.	ANYL	441	An, H.	CATL	323	Anderson, J.S.	INOR	513
Aly, N.	WCC	18	An, H.	AGFD	72	Anderson, K.	CHED	116
Aly, Y.	ENVR	616	An, H.	AGFD	84	Anderson, K.	CHED	1759
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Anderson, N.	ORGN	402	Andrus, M.	CHED	1419	Antoniuk, I.	POLY	584
Anderson, N.	CHED	678	Andrus, M.	ORGN	484	Antoniuk-Pablant, A.D.	ENFL	174
Anderson, N.C.	INOR	692	Andryushina, N.	PHYS	538	Antoniv, M.	CHED	732
Anderson, N.C.	INOR	1343	Andy, D.	BIOL	224	Antonopolous, D.A.	GEOC	182
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Anderson, N.C.	PHYS	5	Andzelm, J.	PMSE	595	Antonov, L.	MEDI	407
Anderson, N.H.	INOR	1216	Andzelm, J.	POLY	556	Antonsson, M.	MEDI	12
Anderson, N.H.	NUCL	11	Aneja, B.	MEDI	406	Antonsson, T.K.	ORGN	23
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Anderson, R.	ENVR	452	Ang, J.	PMSE	385	Antos, J.	ORGN	619
Anderson, R.	BIOT	248	Ang, S.	ENFL	70	Antunes, F.	CELL	400
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Anderson, S.	MEDI	105	Angelaud, R.	ORGN	481	Anumol, T.	ENVR	57
Anderson, S.L.	CATL	601	Angelaud, R.	ORGN	701	Anumol, T.	ENVR	108
Anderson, S.L.	CATL	616	Angelaud, R.	ORGN	737	Anumol, T.	ENVR	132
Anderson, T.J.	INOR	1410	Angeles Boza, A.M.	CHED	1143	Anumol, T.	ENVR	214
Anderson, T.J.	PROF	4	Angeles Boza, A.M.	CHED	1549	Anumol, T.	ENVR	636
Anderson, W.C.	INOR	801	Angeles, A.R.	ORGN	345	Anwander, R.	INOR	1318
Andersson, B.	BIOT	586	Angelillo, J.	CHED	667	Anwander, R.	INOR	1380
Andersson, D.	MEDI	396	Angelo, J.	BIOT	79	Anzelmo, J.	ENFL	432
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Andersson, M.	GEOC	334	Angermann, J.	CHAS	10	Aoki, D.	POLY	11
Andersson, M.	ORGN	320	Angermann, J.	ENVR	667	Aoki, D.	POLY	271
Andersson, N.	BIOT	540	Angle, K.J.	CHED	319	Aoki, D.	POLY	272
Andersson, N.	BIOT	81	Anguiano, J.	ENFL	3	Aoki, D.	AGFD	161
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Anding, C.	CHED	1319	Anhê, F.F.	AGFD	24	Aoki, N.	CHED	1011
Ando, H.	INOR	117	Anil, D.	POLY	122	Aoki, R.	INOR	1184
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Ando, K.	COLL	781	Anjana, T.	INOR	1276	Aoyagi, T.	POLY	423
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Andolina, C.M.	ENFL	98	Anjum, U.	CATL	426	Apaja, V.	COMP	84
Andorfer, M.	BIOT	142	Anker, J.N.	ANYL	458	Apak, R.	ENVR	67
Andorko, J.I.	ANYL	310	Anketell, M.	ORGN	836	Aparicio, C.	CHED	804
Andorko, J.I.	BIOT	470	Anna, J.M.	ANYL	268	Apblett, A.W.	CATL	479
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Andrade, L.N.	ENVR	79	Anna, L.J.	CHED	2030	Apblett, A.W.	ENVR	376
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André, J.	CATL	554	Anosova, I.	BIOL	55	Appgar, K.	BIOT	425
Andreana, P.R.	AGFD	193	Anovitz, L.	GEOC	11	Aphale, A.	CATL	172
Andreana, P.R.	CARB	11	Anovitz, L.	GEOC	43	Apkarian, V.A.	COLL	231
Andreana, P.R.	MEDI	85	Anovitz, L.	GEOC	168	Apkarian, V.A.	COLL	466
Andrescu, E.	COLL	561	Ansar, S.M.	CATL	632	Apkarian, V.A.	PHYS	61
Andrescu, E.	COLL	569	Ansari, F.	CELL	166	Aplan, M.	PMSE	554
Andrescu, E.	COLL	574	Ansell, S.M.	CELL	166	Apon, A.	COMP	424
Andrescu, S.	ANYL	481	Anseth, K.S.	PMSE	673	Aponick, A.	ORGN	30
Andreiadis, E.	NUCL	104	Anslyn, E.V.	BIOT	665	Aponick, A.	ORGN	31
Andreola, L.	CHED	869	Anslyn, E.V.	MEDI	429	Aponick, A.	ORGN	303
Andreoli, J.	CHED	1966	Anslyn, E.V.	ORGN	467	Aponick, A.	ORGN	304
Andreoni, W.	ENFL	36	Anslyn, E.V.	ORGN	687	Aponte Ortiz, C.	CHED	1776
Andresen, B.M.	ORGN	692	Anslyn, E.V.	ORGN	692	Aponte-Reyes, L.M.	CHED	1312
Andresen, B.M.	MEDI	112	Anslyn, E.V.	ORGN	919	Aponte-Reyes, L.M.	CHED	253
Andresen, K.	CHED	1307	Anslyn, E.V.	PMSE	483	Aponte, A.C.	CHED	1874
Andresen, T.L.	POLY	410	Anslyn, E.V.	POLY	219	Aponte-Cruz, L.M.	CHED	253
Andresson, T.	BIOL	83	Anthony, A.	AGFD	93	Aponte-Cruz, L.M.	CHED	1312
Andrew, C.	CHED	709	Anthony, A.	AGFD	53	Aponte-Santini, J.C.	CHED	498
Andrews, A.M.	COLL	660	Anthony, G.	COLL	351	Aponte-Santini, J.C.	CHED	1433
Andrews, A.M.	ANYL	32	Anthony, N.	PMSE	153	Aponte-Santini, J.C.	PROF	26
Andrews, A.M.	COLL	132	Anthony, S.M.	COLL	228	Apori, A.	BIOT	144
Andrews, A.M.	COLL	215	Anthony, T.	CHED	573	Apostolidis, P.	BIOT	512
Andrews, A.M.	COLL	435	Antia, F.	BIOT	594	Appah, E.	CHED	2167
Andrews, J.	CHED	1018	Antic, D.	ORGN	444	Appel, A.M.	INOR	42
Andrews, M.	MEDI	347	Antipov, E.	ANYL	404	Appel, A.M.	INOR	539
Andrews, M.	INOR	1385	Antisdell, M.K.	CHED	1876	Appel, E.A.	PMSE	543
Andrews, M.Y.	GEOC	100	Antoni, G.	MEDI	403	Appel, E.A.	POLY	164
Andrews, S.	INOR	1222	Antoni, M.	COLL	128	Appelhans, D.	POLY	87
Andrews, W.	ENFL	229	Antonick, P.	GEOC	62	Applegate, J.C.	CHED	1115
Andrianov, A.K.	PMSE	529	Antonietti, M.	CATL	492	Applegate, J.C.	INOR	842
Andrianova, A.	CELL	246	Antoniewicz, M.R.	BIOT	107	Applen, J.	CHAL	23
Andricopulo, A.D.	MEDI	134	Antoniewicz, M.R.	BIOT	150			

Aprahamian, I.	ORGN	713	Armbrust, K.L.	ENVR	598	Arnoult, S.	CELL	58
Apt, S.	COLL	257	Armbrust, K.L.	ENVR	714	Arnson, B.	CHED	1801
Apul, O.	PMSE	376	Armbrust, K.L.	ENVR	715	Arnst, K.	MEDI	271
Aquino, D.	BIOT	339	Armbrust, K.L.	ENVR	917	Arocho-Caban, M.S.	CHED	1884
Aquino, M.	ANYL	219	Armbrust, K.L.	ENVR	918	Aron, K.	BIOT	1
Ara, K.M.	ANYL	43	Armen, J.M.	INOR	301	Aronson, C.L.	CHED	1304
Ara, K.M.	ANYL	50	Armen, M.A.	ENVR	385	Aronson, C.L.	CHED	1319
Arabi, A.A.	COMP	580	Armenta, E.	MEDI	239	Aronson, C.L.	CHED	2031
Arab-Tehrany, E.	CELL	55	Armentrout, P.B.	CHED	878	Aronson, C.L.	CHED	2189
Arachchi, R.W.	INOR	89	Armentrout, P.B.	CHED	893	Arora, A.	POLY	521
Arachchilage, J.M.	ENVR	817	Armes, S.P.	COLL	66	Arora, J.	COMP	435
Araga, R.	ENVR	750	Armes, S.P.	COLL	346	Arosio, P.	CHED	689
Araiza, S.M.	INOR	1076	Armes, S.P.	COLL	428	Arpin, C.	MEDI	273
Araki, K.	BIOL	76	Armes, S.P.	COLL	669	Arpin, C.	MEDI	439
Arambula, J.	INOR	1197	Armes, S.P.	COLL	776	Arquero, K.	PHYS	271
Arambula, J.F.	MEDI	93	Armes, S.P.	COLL	817	Arredondo, J.	CELL	420
Aramburu, A.	CELL	340	Armes, S.P.	COLL	818	Arredondo, V.	ORGN	28
Aramthanapon, K.	COLL	851	Armes, S.P.	INOR	675	Arreola, A.	COLL	212
Aranha, H.	BIOT	343	Armes, S.P.	PMSE	45	Arreola, A.	COLL	766
Aranha, H.	BIOT	370	Armes, S.P.	POLY	118	Arriaga, J.	CHED	1552
Aranibar, N.	MEDI	315	Armes, S.P.	POLY	288	Arrieta, R.	ENVR	368
Araujo, K.	CHED	688	Armes, S.P.	POLY	489	Arrieta, R.	INOR	1515
Araujo, M.	PMSE	251	Armes, S.P.	POLY	601	Arrieta-Perez, R.R.	INOR	1446
Aravi, I.	PMSE	683	Armes, S.P.	POLY	606	Arrington, K.J.	CELL	256
Araya, E.	ENVR	612	Arminan, A.	PMSE	292	Arrington, K.J.	POLY	498
Araz, K.	BIOT	144	Armitage, B.	ORGN	550	Arrotin, B.	POLY	488
Arbitman, J.K.	ORGN	812	Armitage, B.A.	ORGN	538	Arrowsmith, C.H.	BIOL	320
Arce, J.	ANYL	331	Armstrong, A.	CHED	750	Arrowsmith, C.H.	MEDI	23
Arce, M.	POLY	402	Armstrong, B.	CHED	1068	Arrowsmith, C.H.	MEDI	355
Arce-Ramos, J.	CATL	588	Armstrong, B.	CHAS	48	Arroyave, A.	INOR	414
Archer, K.E.	MEDI	474	Armstrong, B.	ORGN	129	Arroyave, J.	POLY	597
Archer, W.	PMSE	654	Armstrong, B.	ORGN	215	Arroyo, C.	CELL	142
Archermann, S.	ENVR	286	Armstrong, C.	CHED	1204	Arroyo, J.J.	PMSE	292
Archibald, W.	CHED	1315	Armstrong, L.	CHED	22	Arroyo-Mora, L.E.	ENVR	510
Arcifa, A.	COLL	31	Armstrong, L.	CHED	844	Arshad, S.	ENVR	194
Arciniegas, M.	ENFL	263	Armstrong, L.	CHED	1963	Arshad, S.	ENVR	700
Arciva, S.	ENVR	701	Armstrong, L.	CHED	2072	Arshath, S.A.	CELL	368
Arcoria, P.	CHED	882	Armstrong, L.B.	ENVR	292	Arshi, A.T.	CHED	1268
Ardanuy, M.	CELL	64	Armstrong, M.	NUCL	155	Arsiwala, A.	BIOT	401
Ardebili, H.	ENFL	296	Armstrong, S.A.	CHED	1797	Arsiwala, A.	BIOT	404
Ardebili, H.	ENFL	297	Arnadottir, L.	CATL	548	Arslan Udum, Y.	PMSE	335
Ardecky, R.	MEDI	321	Arnadottir, L.	COLL	316	Arslan Udum, Y.	POLY	360
Ardeshna, H.	BIOT	48	Arnarson, L.	CATL	593	Arslan, I.	CATL	513
Ardo, S.	PHYS	47	Arnatt, C.K.	MEDI	200	Arslan, Z.	ENVR	412
Ardo, S.	PHYS	123	Arnatt, C.K.	MEDI	212	Arslan, Z.	GEOC	244
Ardo, S.	PHYS	307	Arnatt, C.K.	MEDI	217	Arslanian, A.	CHED	407
Arellano, M.	AGFD	149	Arndt, A.	CHED	391	Artashyan, E.	ORGN	315
Arellano-García, L.	ENVR	394	Arndt, D.	ENVR	494	Arteaga, A.	ENFL	281
Arens, J.	POLY	465	Arndt, H.	CHED	1154	Arterburn, J.B.	ORGN	520
Arepally, S.	ORGN	909	Arndt, H.	CHED	1160	Artero, V.	INOR	628
Arevalo Perez, J.	ENVR	516	Arnold, A.	CHED	1796	Artes Vivancos, J.	PHYS	396
Arevalo Perez, J.C.	ENVR	699	Arnold, A.	INOR	79	Arthur, C.	CHED	44
Arevalo, E.	ENVR	536	Arnold, A.	PMSE	697	Artigas, P.	COMP	402
Arevalo, J.S.	COMP	159	Arnold, F.H.	ORGN	58	Artikis, E.	COMP	312
Arey, B.	GEOC	37	Arnold, H.	NUCL	85	Artyushkova, K.	GEOC	229
Arey, J.	COMP	55	Arnold, J.	INOR	96	Artyushkova, K.	GEOC	310
Arey, J.	ENVR	32	Arnold, J.	INOR	97	Artyushkova, K.	GEOC	354
Arey, J.	MEDI	84	Arnold, J.	INOR	140	Arua, U.N.	POLY	341
Arfsten, K.	SCHB	22	Arnold, J.	INOR	309	Arulmoli, J.	BIOT	663
Argenton, A.	COLL	823	Arnold, J.	INOR	375	Arulsamy, N.	FLUO	14
Argibay, N.	COLL	748	Arnold, J.	INOR	597	Arulsamy, N.	INOR	313
Argueso, J.	GEOC	303	Arnold, J.	INOR	1139	Arulsamy, N.	INOR	1494
Argueta, A.	CHED	819	Arnold, J.	INOR	1141	Arulsamy, N.	INOR	1545
Arias, P.L.	CATL	487	Arnold, J.	INOR	1337	Arumainayagam, C.	CHED	1151
Arias, R.N.	INOR	1313	Arnold, J.	INOR	1482	Arumainayagam, C.	PHYS	328
Arias, S.	ORGN	73	Arnold, J.	INOR	1557	Arumainayagam, C.R.	CHED	1665
Arias-Paic, M.	ENVR	183	Arnold, L.	CHED	1369	Arumugam, K.	INOR	1197
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Ariciu, A.	NUCL	64	Arnold, R.G.	ENVR	983	Arunkumar, A.	BIOT	126
Arico, A.	NUCL	152	Arnold, R.G.	ENVR	1018	Arunkumar, A.	BIOT	675
Ariens, R.	BIOL	300	Arnold, R.S.	CHED	1185	Arunkumar, A.	BIOT	205
Arif, R.	ORGN	456	Arnold, W.	ENVR	95	Arvai, A.	ANYL	219
Arinze, E.	PHYS	496	Arnold, W.	ENVR	265	Arvanitis, A.	I&EC	3
Aris, H.	ENVR	982	Arnold, W.	ENVR	266	Arvidson, K.	CINF	45
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Arita, Y.	ENVR	65	Arnold, W.	ENVR	653	Arvizu, D.E.	PRES	16
Arita, Y.	ENVR	811	Arnold, W.	ENVR	942	Aryal, G.H.	ANYL	118
Arja, K.	MEDI	409	Arnold, W.	ENVR	1015	Aryal, G.H.	ORGN	574
Arkin, M.	MEDI	142	Arnold, W.	GEOC	206	Aryal, G.H.	ORGN	575
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Asadian, M.	ANYL	87	Athauda, T.	COLL	290	Autschbach, J.	NUCL	115
Asai, Y.	PHYS	221	Athuluri-Divakar, S.	MEDI	255	Auxenfans, T.	ENFL	379
Asakawa, A.	BIOL	74	Atkinson, D.	ENVR	960	Auxier, J.	NUCL	134
Asamoah, A.	CELL	112	Atkinson, E.J.	CHED	1290	Auxier, J.D.	NUCL	49
Asano, Y.	PMSE	679	Atkinson, E.J.	CHED	1329	Auxier, J.D.	NUCL	53
Asano, Y.	POLY	199	Atmar, R.	ANYL	306	Auxier, J.D.	NUCL	142
Asante-Appiah, E.	MEDI	346	Atmar, R.	BIOT	300	Auxilia, F.	ENFL	234
Asbury, J.B.	ANYL	264	Atmodjo, M.	CELL	175	Auzely-Velty, R.	POLY	583
Asbury, J.B.	PHYS	555	Atreya, S.K.	PHYS	566	Avakian, R.	CINF	25
Aschaffenburg, D.	CATL	500	Atsavaprannee, B.	BIOT	219	Avalos Ramirez, A.	ENVR	149
Aschenaki, Y.	ORGN	227	Atsumi, S.	CHED	759	Avalos, J.L.	BIOT	29
Asciutto, E.K.	COMP	255	Attanayake, N.	CATL	121	Avanes, E.	BIOT	723
Asgari, S.	BIOT	390	Attanayake, N.	COLL	714	Avant, B.	ENVR	672
Asgar, F.	BIOL	11	Attanzio, A.	COLL	738	Avasarala, S.	GEOC	229
Ashamole, B.	CHED	42	Attoti, Y.	AGFD	218	Avasarala, S.	GEOC	354
Ashamole, B.	ORGN	651	Atwater, H.	CATL	129	Avaz, S.	ENVR	386
Ashby, G.	COLL	377	Atwater, H.	CATL	175	Avdagic, A.	MEDI	167
Ashby, J.	BIOL	51	Atwood, C.H.	CHED	234	Avei, M.	INOR	1351
Ashby, M.T.	CHED	191	Atwood, C.H.	CHED	235	Avellan, A.	ENVR	493
Ashby, R.	AGFD	118	Atwood, C.H.	CHED	303	Avellan, A.	ENVR	549
Ashcroft, J.	CHED	2117	Atwood, D.A.	INOR	576	Avena-Bustillos, R.J.	BIOL	80
Asher, D.	BIOT	598	Atwood, J.L.	INOR	576	Avendaño, C.	BIOT	165
Asher, J.	COMP	243	Atwood, P.	INOR	576	Averett, S.	PHYS	407
Asher, J.	COMP	537	Atzeri, C.	INOR	324	Averett, S.	PHYS	485
Ashfaq, H.	CATL	439	Atzker, C.	BIOT	570	Averick, A.	PMSE	421
Ashkar, R.	COLL	83	Au, C.	AGFD	80	Averous, L.	CELL	81
Ashkar, R.	COLL	624	Au, C.	AGFD	81	Averous, L.	CELL	307
Ashkar, R.	COLL	698	Au, S.K.	BIOT	563	Avery, B.	CHED	712
Ashley, C.	COLL	534	Auad, M.	CELL	379	Avetian, S.	CHED	1815
Ashley, C.	INOR	523	Auad, M.L.	CELL	110	Avila, A.	ENVR	987
Ashley, C.	INOR	1143	Auad, M.L.	CELL	111	Avila, E.	ENVR	738
Ashley, D.C.	COLL	363	Auad, M.L.	CELL	145	Avila, L.	CHED	1853
Ashmore, R.	CHED	1615	Auad, M.L.	CELL	151	Avila, P.	CATL	594
Ashmus, R.A.	CARB	79	Auad, M.L.	CELL	152	Avila-Bront, G.	CHED	1260
Ashraf, K.	PHYS	42	Auad, M.L.	CELL	377	Avila-Bront, G.	COLL	311
Ashraf, K.	PHYS	258	Aube, J.	MEDI	386	Avina, M.	CHED	1690
Ashraf-Khorassani, M.	ANYL	317	Aube, J.	ORGN	167	Avitia-Domínguez, C.I.	MEDI	227
Ashwell, M.	COMP	19	Auberry, D.L.	CATL	303	Avitia-Domínguez, C.I.	MEDI	240
Askerka, M.	COMP	567	Aubin, A.	ANYL	350	Avitia-Domínguez, C.I.	MEDI	288
Askerka, M.	PHYS	176	Aubrey, M.	INOR	1175	Avitia-Domínguez, C.I.	MEDI	289
Askounis, E.	PMSE	544	Aubrey, M.	INOR	1222	Avoundjian, A.	ANYL	213
Aslan, K.	COLL	202	Aubrey, M.	INOR	1404	Awad, A.	ENVR	75
Aslan, K.	COLL	651	Aubrey, M.	INOR	1405	Awad, A.	ENVR	459
Aslan, K.	COLL	734	Aubry, T.	PMSE	336	Awad, A.	ENVR	992
Aslan, K.	COLL	763	Audemar, M.	CATL	247	Awad, Y.	GEOC	347
Aslan, K.	COLL	832	Audi, M.C.	CHED	1210	Awakawa, T.	MEDI	376
Asmus, L.	COMP	248	Audie, J.H.	COMP	305	Aweeka, F.	ANYL	126
Asmussen, M.	ENVR	301	Audie, J.H.	COMP	364	Awwa, M.	MEDI	218
Aso, R.	CATL	272	Audubert, C.	ORGN	799	Axelrod, H.	BIOT	282
Aspaas, A.	CHED	307	Auer, M.	CELL	17	Axelsson, J.C.	INOR	1175
Aspinwall, C.A.	ANYL	420	Auerbach, S.M.	PROF	13	Axelsson, A.	ORGN	301
Aspley, A.	CHED	266	Auffan, M.	CHAS	40	Axtell, J.	INOR	477
Asprec, W.	BIOT	77	Auffan, M.	ENVR	221	Axtell, J.C.	INOR	384
Aspuru-Guzik, A.	COMP	436	Auger, S.	CHED	1391	Axtell, J.C.	INOR	1151
Assary, R.	POLY	236	Augsburger, M.	COLL	213	Axtell, J.C.	INOR	1537
Assefa, N.	COMP	399	Auguste, A.D.	PMSE	89	Axthelm, j.	ANYL	447
Assefa, Z.	INOR	1548	Auguste, A.D.	PMSE	587	Axup, A.	MEDI	161
Asselin, P.	PHYS	494	Auguste, A.D.	POLY	116	Ay, M.	MEDI	465
Assiri, M.A.	ENFL	65	Augustine, M.P.	GEOC	237	Ayache, M.	ANYL	278
Astha, F.	ORGN	438	Augustyn, V.	ANYL	2	Ayala, J.	GEOC	84
Asthagiri, A.R.	CATL	64	Auh, J.	AGFD	9	Ayala, N.Y.	CHED	1230
Asthagiri, A.R.	CATL	192	Aukszi, B.	CHED	765	Ayala, P.Y.	CINF	126
Asthagiri, A.R.	ENFL	85	Aulabaugh, A.E.	MEDI	301	Ayala, S.C.	ENVR	695
Astot, C.	ANYL	255	Aulakh, D.	INOR	1399	Ayala-Rosa, J.	CHED	1176
Astot, C.	ANYL	294	Aumiller, W.M.	COLL	729	Ayappa, G.K.	COLL	459
Asundi, A.S.	CATL	162	Aumis, M.	MEDI	149	Ayarza, J.	CARB	48
Asunskis, D.	CHED	2145	Aupoil, J.	GEOC	320	Aydil, E.S.	CHED	1301
Asuri, P.	ANYL	307	Aurich, M.	BIOT	86	Aydil, E.S.	COLL	860
Aswath, M.	BIOT	319	Aurori, K.	BIOT	132	Aydin, E.	ENVR	205
Atakan, G.	PMSE	335	Ausman, K.D.	COLL	306	Aydin, E.	ENVR	283
Atalla, R.H.	CELL	367	Austin, A.	INOR	704	Aydin, M.	PHYS	509
Atallah, B.	INOR	516	Austin, D.L.	CHED	1124	Aye, Y.	BIOL	193
Atallah, B.	INOR	1523	Austin, M.J.	CHED	1162	Aye, Y.	WCC	19
Ataman, M.	BIOT	178	Austin, M.J.	IAC	9	Ayers, J.	COLL	285
Ataman, M.	BIOT	408	Austin, R.	GEOC	171	Ayers, P.	COMP	86
Ataman, M.	BIOT	431	Austin, R.N.	CHED	1953	Aykanat, A.	ANYL	487
Atanasov, M.	INOR	739	Austin, R.N.	INOR	998	Ayon, N.J.	MEDI	175
Atangcho, L.	BIOT	604	Autillo, M.	NUCL	146	Ayoola, H.	CATL	322
Athanasopoulos, D.	CELL	99	Autry, S.A.	PHYS	456	Ayora, C.	GEOC	153



Ayothiraman, S.	BIOT	565	Backfisch, G.	MEDI	11	Bahar, I.	COMP	77
Ayoub, C.	ORGN	793	Backlund, C.	POLY	410	Bahar, I.	PHYS	9
Ayoub, C.	ORGN	794	Bäckström, S.	MEDI	17	Bahauddin, S.	PHYS	560
Ayoub, C.	ORGN	878	Backus, K.M.	INOR	232	Bahng, J.	COLL	65
Ayouni, L.	ENFL	1	Bäckvall, J.	BIOT	368	Bahnson, B.J.	BIOL	291
Ayres, J.	ORGN	376	Backvall, J.E.	COLL	470	Bahrami, A.	COMP	429
Ayres, R.	ORGN	510	Bacon, F.H.	BIOT	489	Bahsi, I.	AGFD	147
Ayturk, E.	BIOT	125	Bacon, J.W.	INOR	1250	Bahtiar, R.	CELL	299
Ayturk, E.	BIOT	566	Bacsa, J.	INOR	1553	Bai, C.	MEDI	474
Ayturk, E.	BIOT	712	Baczkowski, M.L.	PMSE	411	Bai, F.	COLL	304
Ayzner, A.	ENFL	212	Baczkowski, M.L.	POLY	218	Bai, F.	COLL	305
Ayzner, A.	PHYS	357	Badaj, A.C.	INOR	99	Bai, F.	COLL	794
Ayzner, A.	PMSE	495	Badakhshanian, L.	GEOC	8	Bai, L.	MEDI	265
Ayzner, A.	POLY	233	Badding, C.	INOR	1032	Bai, R.	ENVR	410
Ayzner, A.	POLY	239	Baddour, F.G.	CATL	242	Bai, W.	POLY	500
Azab, K.	SCHB	14	Bader, M.	CHED	1936	Bai, X.	ENFL	138
Azam, A.	MEDI	406	Bader, T.	CHED	258	Bai, X.	BIOL	332
Azam, H.	AGFD	58	Bader, T.	CHED	1135	Bai, Y.	POLY	186
Azam, M.	MEDI	406	Bader, T.	CHED	1394	Bai, Y.	GEOC	236
Azarabadi, H.	COLL	855	Badger, J.	CELL	192	Bai, Z.	CATL	407
Azarikia, F.	COLL	158	Badillo, J.J.	ORGN	900	Bai, Z.	I&E	124
Azarmi, F.	INOR	1006	Badiola, J.J.	BIOL	208	Bai, Z.	PMSE	620
Azer, M.	NUCL	155	Badjic, J.D.	ORGN	471	Baia, M.	CELL	318
Azevedo, A.	BIOT	53	Badoga, S.	ENFL	108	Baidoo, E.	BIOT	176
Azevedo, A.	BIOT	186	Badoga, S.	ENFL	451	Baidoo, E.	BIOT	245
Azevedo, E.	CELL	364	Badour, A.	ORGN	744	Baier-Anderson, C.	ENVR	933
Azghani, A.	CHED	576	Badshah, A.	BIOL	11	Baik, J.	BIOT	118
Azimi, S.	CHED	387	Badshah, A.	ENFL	243	Baik, M.	GEOC	267
Azizi, A.	NUCL	88	Badway, F.	ANYL	245	Baik, M.	COLL	363
Azizian, M.F.	ENVR	287	Bae, C.	PMSE	242	Baik, M.	INOR	593
Azodi, M.M.	ENVR	220	Bae, D.	INOR	869	Bailey, B.	MEDI	164
Azofra, L.M.	BIOL	248	Bae, H.	ORGN	109	Bailey, C.	PHYS	8
Azofra, L.M.	COMP	207	Bae, H.	INOR	1026	Bailey, C.B.	BIOL	258
Azoz, S.	PHYS	176	Bae, J.	ENVR	177	Bailey, C.B.	BIOT	336
Azzaro, M.S.	PHYS	363	Bae, J.	ENFL	241	Bailey, D.	BIOT	275
Baalbaki, A.	ENVR	588	Bae, S.	ANYL	85	Bailey, E.	CHED	677
Baalbaki, A.	ENVR	677	Bae, S.	ENVR	890	Bailey, J.	ORGN	47
Babadi, R.	INOR	1333	Bae, W.	BIOL	233	Bailey, J.V.	GEOC	154
Babaoglu, K.	MEDI	367	Bae, Y.	GEOC	82	Bailey, J.V.	GEOC	155
Babar, M.	MEDI	136	Baeg, J.	INOR	1222	Bailey, J.V.	GEOC	272
Babault, N.	MEDI	23	Baek, B.	CATL	588	Bailey, N.	CINF	66
Babcock, E.F.	CHED	1345	Baek, D.	MEDI	258	Bailey, N.	CINF	127
Babcock, E.F.	CHED	1346	Baek, D.	AGFD	71	Bailey, R.C.	PMSE	692
Baber, A.	COLL	798	Baek, D.	AGFD	84	Bailey, S.K.	CHED	1667
Baber, A.E.	COLL	263	Baek, J.	INOR	886	Bailey, W.F.	ORGN	782
Baber, A.E.	COLL	362	Baek, J.	ORGN	475	Bain, C.D.	COLL	582
Babich, I.	CELL	244	Baek, J.	PMSE	399	Bain, C.D.	COLL	625
Babin, M.C.	PHYS	363	Baek, J.	PMSE	685	Bain, E.	POLY	526
Babinska, A.	BIOL	197	Baek, K.	COLL	272	Bain, K.	CHED	1946
Baca, G.	ORGN	720	Baek, M.	COMP	145	Bain, K.	CHED	2047
Bacani, R.	CHED	647	Baek, S.	AGFD	192	Bain, M.P.	CELL	233
Baccam, B.	INOR	757	Baek, S.	AGFD	194	Bair, W.	CHED	389
Baccile, N.	COLL	819	Baek, S.	AGFD	195	Bair, W.	CHED	390
Bach, H.	COLL	343	Baek, S.	AGFD	196	Baird, M.	INOR	932
Bach, J.	MEDI	146	Baell, J.B.	BIOL	320	Baird, N.	CATL	80
Bach, S.B.	AGFD	96	Baer, M.D.	COMP	57	Baird, T.	BIOL	222
Bach, S.B.	ANYL	112	Baer, M.D.	COMP	93	Baird, T.	BIOL	229
Bach, S.B.	ANYL	122	Baer, M.D.	GEOC	328	Baird, Z.	ANYL	284
Bach, S.B.	ANYL	127	Baer, M.D.	GEOC	329	Baiz, C.	ANYL	65
Bacha, T.	ORGN	133	Baer, M.D.	PHYS	220	Bajaj, A.	CHED	1889
Bachas, L.	ENVR	606	Baer, R.	PHYS	22	Bajani, D.	COLL	695
Bache, M.	CHED	1527	Baer, R.	PHYS	23	Bajdich, M.	CATL	73
Bacher, M.	CELL	259	Baer, S.	CHED	1597	Bajdich, M.	INOR	1270
Bachert, J.	ORGN	399	Baer, S.	CHED	1803	Bajgar, A.	BIOT	504
Bachman, J.	INOR	1505	Baerga-Ortiz, A.	ORGN	702	Bajorath, J.	MEDI	426
Bachman, J.	INOR	1510	Baerga-Ortiz, A.	PROF	26	Bajpai, A.	CATL	46
Bachman, J.	PMSE	545	Baez, J.	BIOL	150	Bajracharya, A.	ENVR	749
Bachman, L.	ORGN	918	Baeza, M.	INOR	1515	Bajwa, B.	ORGN	819
Bachofer, S.J.	COLL	288	Bag, S.	PHYS	431	Bajwa, S.	PMSE	410
Bachofer, S.J.	ENVR	294	Bagabas, A.	CATL	479	Bak, G.	CELL	269
Bachofer, S.J.	PHYS	532	Baganz, F.	BIOT	441	Bak, S.	CATL	380
Bachorik, J.	ENVR	307	Bagga, K.K.	CHED	1976	Bakanas, I.	ORGN	133
Bachrach, S.M.	CHED	849	Bagga, K.K.	CHED	1988	Baker, A.	CATL	319
Bachrach, S.M.	CHED	850	Bagge-Hansen, M.	COLL	706	Baker, A.	ENVR	756
Bacic, A.	CELL	233	Baghdadli, N.	COLL	157	Baker, A.E.	PMSE	546
Back, J.	INOR	848	Baghdadli, N.	COLL	672	Baker, A.E.	PMSE	637
Bäck, M.	MEDI	503	Bagley, S.W.	ORGN	33	Baker, D.	COLL	366
Back, S.	CATL	321	Baglia, R.A.	INOR	1093	Baker, E.	CHED	931
Backer, B.	MEDI	197	Bagus, P.S.	NUCL	29	Baker, E.L.	ORGN	491
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Baker, J.G.	INOR	1517	Baldoni, M.	COLL	646	Bandyopadhyay, D.	ORGN	616
Baker, L.	CATL	579	Baldree, G.J.	CHED	1472	Bandyopadhyay, D.	ORGN	617
Baker, L.	INOR	1232	Balducci, L.	PHYS	80	Bandyopadhyay, D.	ORGN	790
Baker, L.	PHYS	209	Baldus, M.	CATL	582	Bandyopadhyay, D.	ORGN	791
Baker, L.	ORGN	399	Baldwin, A.	COLL	414	Banerjee, A.C.	CATL	361
Baker, L.A.	ANYL	388	Baldwin, E.	CHED	1777	Banerjee, P.	PMSE	317
Baker, L.A.	PHYS	64	Baldwin, L.	ENFL	395	Banerjee, R.	INOR	277
Baker, M.	INOR	840	Baldwin, M.	CHED	1507	Banerjee, R.	BIOL	182
Baker, M.	INOR	838	Baldwin, R.K.	PHYS	314	Banerjee, S.	ENVR	197
Baker, M.L.	BIOT	482	Bale, H.	ANYL	400	Banerjee, S.	INOR	992
Baker, M.L.	CATL	144	Baleanu Gogonea, C.	ANYL	135	Banerjee, S.	ANYL	230
Baker, M.L.	COLL	146	Bales, K.R.	MEDI	361	Banerjee, S.	ANYL	272
Baker, M.L.	INOR	1319	Balگووین, S.J.	GEOC	89	Banerjee, S.	MEDI	167
Baker, N.	CINF	107	Bali, A.	CHED	1248	Banerjee, S.	BIOT	250
Baker, N.	CINF	109	Balija, A.M.	CHED	95	Banerjee, S.	BIOT	260
Baker, N.	ENVR	937	Balimane, P.	MEDI	339	Banerjee, T.	PMSE	459
Baker, N.	HIST	37	Balius, T.E.	COMP	21	Banerjee, T.	PMSE	496
Baker, R.	CATL	248	Balius, T.E.	COMP	356	Banerjee, T.	PMSE	505
Baker, R.	CATL	249	Balkus, K.J.	CATL	357	Banes, G.	CHED	1487
Baker, R.	CHED	1137	Balkus, K.J.	CATL	550	Baneyx, F.	BIOT	214
Baker, R.	INOR	305	Ball, D.B.	CHED	1414	Banfield, J.F.	ENVR	460
Baker, R.	INOR	1219	Ball, D.B.	CHED	1418	Bang, J.	COLL	56
Baker, R.	FLUO	6	Ball, J.L.	PROF	38	Bang, J.	COLL	433
Baker, S.	ORGN	805	Ballard, E.	CHED	1460	Bang, J.	PMSE	308
Baker, S.E.	BIOT	137	Ballard, J.	CHED	1304	Bang, J.	PMSE	363
Baker, S.E.	BIOT	139	Ballet, S.	PMSE	203	Bang, J.	PMSE	642
Baker, T.	BIOL	186	Ballicora, M.	MEDI	264	Banga, R.	COLL	680
Bakhmoutov, V.	COLL	679	Ballmer, S.G.	ORGN	625	Bange, A.F.	CHED	437
Bakhti, S.	COLL	639	Ballweg, T.	COLL	775	Bange, A.F.	CHED	446
Bakhtiary Davijani, A.	POLY	21	Balog, A.	MEDI	368	Banh, T.	INOR	241
Bakhtiary Davijani, A.	CELL	223	Balogh, J.	CATL	387	Bani khaled, M.	ORGN	888
Bakken, G.A.	COMP	35	Balogh, J.	CATL	390	Banik, B.	MEDI	86
Bakkers, E.	INOR	1153	Balogh, J.	POLY	438	Banik, D.	BIOL	319
Bakkers, E.	INOR	1582	Balow, R.	CATL	12	Banin, U.	PHYS	175
Bakkour, R.	ENVR	241	Balow, R.	CATL	60	Banister, S.	MEDI	39
Bakowski, N.	CHED	2158	Balow, R.B.	COLL	835	Banister, S.	MEDI	165
Bala, C.	I&EC	41	Balsamo, J.	CHED	350	Baniya, S.	CHED	1665
Bala, S.	BIOL	38	Balsara, N.P.	PMSE	105	Banker, M.E.	MEDI	316
Bala, S.	BIOL	55	Balsara, N.P.	POLY	591	Banks, E.D.	CHED	843
Balachandran, J.	ENFL	413	Balsiger, H.	PHYS	192	Banks, O.G.	ORGN	619
Balaich, G.J.	CHED	1057	Balskus, E.P.	BIOL	358	Banman, B.J.	COMP	336
Balaich, G.J.	INOR	327	Baltensperger, U.	ENVR	317	Bann, P.	ENVR	664
Balaich, G.J.	INOR	857	Baltgalvis, K.	MEDI	159	Bann, P.	ENVR	663
Balaich, G.J.	POLY	392	Baltic, E.M.	ENFL	362	Bannan, C.	COMP	528
Balajka, J.	CATL	614	Baltz, R.J.	CHED	1797	Bannochie, C.J.	PROF	17
Balakrishna chandrababu, K.	BIOT	479	Balucani, N.	PHYS	237	Banquy, X.	COLL	670
Balan, A.	COLL	284	Balucani, N.	PHYS	524	Bansal, R.	BIOT	216
Balan, R.	CHED	114	Baluha, D.R.	CHED	457	Bansal, R.	BIOT	239
Balan, T.	ORGN	836	Baluyut, J.	CHED	1893	Bansal, R.	BIOT	685
Balaña Fauce, R.	ORGN	923	Balyan, S.	CATL	440	Bansal, V.	BIOT	241
Balarezo, F.	CHED	657	Bam, R.	ORGN	437	Bansal, V.	BIOT	342
Balasanthiran, C.	COLL	717	Bam, W.	ENVR	575	Bansal, V.	BIOT	581
Balasanthiran, C.	INOR	481	Bamberg, K.	MEDI	17	Bansode, A.B.	CATL	542
Balasanthiran, C.	INOR	1411	Bamberger, D.	PMSE	457	Banta, S.	BIOT	122
Balasanthiran, C.	INOR	1519	Bamberger, S.N.	CHED	1635	Banta, S.	BIOT	576
Balasanthiran, V.	ORGN	735	Bamforth, C.	AGFD	150	Banta-Green, C.J.	ENVR	122
Balasubramanian, M.	ANYL	61	Ban, J.	BIOT	429	Banzon, P.	ORGN	610
Balasubramanian, M.	ENFL	270	Banach, C.	CHED	619	Bao, A.	PHYS	328
Balasubramanian, M.	ENVR	103	Banal, J.	PHYS	498	Bao, G.	COLL	682
Balasubramanian, M.	INOR	1529	Banappagari, S.	BIOT	21	Bao, L.	AGFD	262
Balasubramanian, V.	ORGN	591	Banares, L.	PHYS	25	Bao, L.	ENVR	240
Balazs, A.	POLY	510	Banares, M.A.	CATL	514	Bao, P.	PMSE	145
Balbo, P.	MEDI	316	Banares, M.A.	CATL	517	Bao, P.	PMSE	197
Balboa, A.	INOR	1367	Banares, M.A.	CATL	593	Bao, T.	BIOT	380
Balboni, E.	CHED	968	Banares, M.A.	CATL	594	Bao, X.	ORGN	711
Balboni, E.	GEOC	230	Banas, S.	MEDI	397	Bao, X.	BIOT	449
Balboni, E.	NUCL	97	Banaszak Holl, M.M.	COLL	340	Bao, X.	CATL	289
Balch, A.L.	INOR	374	Bancroft, L.	CHED	1489	Bao, X.	CATL	407
Balch, A.L.	INOR	1092	Banda, D.M.	BIOL	58	Bao, X.	CATL	417
Balch, A.L.	INOR	1256	Banda, J.	ENVR	125	Bao, X.	CATL	455
Balch, A.L.	INOR	1331	Bandara, G.	ANYL	456	Bao, Y.	COLL	599
Balch, A.L.	INOR	1333	Bandara, P.	ENVR	505	Bao, Y.	CELL	346
Baldauff, E.A.	CHED	347	Bandarian, V.	INOR	660	Bao, Z.	CATL	166
Baldauff, E.A.	CHED	1849	Bandholz, K.	ORGN	399	Bao, Z.	ENFL	330
Baldelli, S.	COLL	20	Bandstra, J.Z.	CHED	916	Bao, Z.	ENVR	144
Balderas-Hernández, P.	ENVR	698	Bandstra, J.Z.	GEOC	135	Bao, Z.	INOR	1091
Balderas-Rentería, I.	ORGN	790	Bandstra, J.Z.	GEOC	156	Bao, Z.	INOR	1231
Balderrama, J.	POLY	239	Banducci, A.	COMP	190	Bao, Z.	PMSE	137

Bao, Z.	PMSE	168	Bardine, C.	BIOL	56	Barrett, D.	INOR	55
Bao, Z.	PMSE	240	Bardo, A.	ORGN	918	Barrett, J.A.	CATL	251
Bao, Z.	PMSE	563	Bardwell, J.K.	CHED	1569	Barrett, J.A.	ENFL	106
Bao, Z.	PMSE	608	Bare, S.R.	CATL	224	Barrett, M.A.	COLL	621
Bao, Z.	PMSE	611	Bare, S.R.	COLL	636	Barrett, S.	CHED	808
Bao, Z.	PMSE	612	Barfield, R.	MEDI	397	Barriera Diaz, M.	CHED	345
Bao, Z.	POLY	197	Bargar, J.R.	GEOC	142	Barriera Diaz, M.	CHED	1825
Baquerizo, M.	AGFD	90	Bargar, J.R.	NUCL	25	Barrington, S.	CHED	36
Bar shalom, D.	CELL	439	Bargar, J.R.	NUCL	26	Barrios Antúnez, D.	ORGN	191
Baraban, J.	PHYS	222	Barge, L.M.	CHED	997	Barrios Antúnez, D.	ORGN	665
Barajas, E.	INOR	1515	Barifcani, A.	GEOC	48	Barrios, A.M.	MEDI	213
Barajas, J.	CHED	1235	Barile, C.	ENFL	89	Barrios-Masias, F.	ENVR	972
Barakat, S.	CHED	237	Barim, G.	INOR	1528	Barrish, J.C.	MEDI	21
Barakat, S.	CHED	788	Barin, G.	INOR	58	Barrish, J.C.	MEDI	25
Baral, S.	PHYS	267	Barin, G.	INOR	1175	Barrish, J.C.	MEDI	339
Baran, K.	CHED	420	Barkhordarian, H.	BIOT	70	Barron, D.	ANYL	322
Baran, P.S.	ORGN	212	Barkley, N.E.	ANYL	227	Barron, M.G.	ENVR	934
Baran, P.S.	ORGN	451	Barko, K.	CHED	1485	Barron, M.G.	ENVR	1011
Baran, P.S.	ORGN	825	Barksdale, E.	CHED	723	Barron, T.C.	CHED	266
Baran, P.S.	ORGN	826	Barlett, C.	GEOC	200	Barroso, T.L.	CELL	512
Baranger, A.M.	CHED	22	Barlow, D.	CATL	12	Barr-Ramsey, M.	AGFD	117
Baranger, A.M.	CHED	180	Barlow, D.	CATL	60	Barry, B.	INOR	964
Baranger, A.M.	CHED	181	Barlow, D.	PMSE	146	Barry, B.	INOR	965
Baranger, A.M.	CHED	194	Barlow, D.	POLY	569	Barry, B.	INOR	1254
Baranger, A.M.	CHED	231	Barman, S.	ORGN	553	Barry, B.A.	PHYS	118
Baranger, A.M.	CHED	812	Barnaby, A.	BIOL	231	Barry, B.A.	PHYS	334
Baranger, A.M.	CHED	844	Barnaby, J.	ENVR	143	Barry, B.A.	PHYS	352
Baranger, A.M.	CHED	1963	Barnaby, O.	MEDI	51	Barry, E.	PMSE	21
Baranger, A.M.	CHED	1974	Barnaeva, E.	CINF	64	Barry, K.	CHED	150
Baranger, A.M.	CHED	2068	Barnard, E.	COLL	142	Barskiy, D.	PHYS	486
Baranger, A.M.	CHED	2072	Barnash, K.D.	CHED	1189	Barsyte-Lovejoy, D.	BIOL	320
Baranger, A.M.	CHED	2170	Barndök, H.	ENVR	431	Bart, S.C.	NUCL	81
Baranger, A.M.	ENVR	292	Barner-Kowollik, C.	COLL	434	Bart, S.C.	NUCL	106
Baranov, D.	ANYL	25	Barner-Kowollik, C.	PMSE	60	Bart, S.C.	NUCL	148
Baranov, D.	ANYL	303	Barnes, A.	BIOT	105	Barta, K.	CATL	156
Baranova, E.	CATL	249	Barnes, A.	COLL	689	Barta, K.	CATL	200
Barash, D.	COMP	474	Barnes, B.	CELL	124	Barta, K.	I&EC	28
Barashkov, N.	ENVR	793	Barnes, B.	ENVR	779	Bartberger, M.D.	MEDI	127
Barashkov, N.	PHYS	528	Barnes, B.	POLY	182	Barteau, K.	PMSE	486
Barashkov, N.	PHYS	529	Barnes, C.	INOR	576	Barteau, M.A.	CATL	618
Barashkov, N.	PHYS	538	Barnes, C.	NUCL	140	Bartel, C.	CATL	597
Barauskas, J.	COLL	79	Barnes, C.	ORGN	135	Bartel, C.	COMP	524
Barazesh, J.M.	ENVR	1016	Barnes, J.C.	POLY	572	Bartelink, E.J.	CHED	3
Barb, A.W.	CELL	436	Barnes, L.	ANYL	170	Bartels, D.M.	PHYS	394
Barba de la Rosa, A.P.	AGFD	155	Barnes, M.	COLL	515	Bartels, F.	ORGN	829
Barba de la Rosa, A.P.	AGFD	219	Barnes, P.L.	ENFL	284	Bartelt-Hunt, S.L.	COLL	285
Barback, C.	BIOT	249	Barnes, P.L.	MEDI	270	Barter, L.	AGFD	105
Barback, C.	BIOT	384	Barnes, R.T.	ENVR	270	Barth, E.	CHED	1003
Barbara, I.	POLY	123	Barnes, T.A.	COMP	510	Barth, E.	CHED	1518
Barbaretta, J.	BIOL	201	Barnett, J.	CHED	2057	Barth, E.	CHED	1545
Barbatti, M.	COMP	50	Barnett, K.L.	INOR	1164	Barth, E.	ORGN	124
Barbatti, M.	PHYS	171	Barnett, M.	CHED	1795	Barth, S.	COLL	153
Barbeau, J.	AGFD	22	Barney, J.	ANYL	157	Barth, S.J.	INOR	920
Barbera, J.	CHED	13	Barnhill, C.	CATL	168	Barth-Naftilan, E.	GEOC	255
Barbero, A.	CHED	1355	Barnhill, M.	CHED	1108	Bartholomeusz, C.	MEDI	429
Barbero, B.	ENVR	704	Barone, J.R.	BIOT	535	Bartholomew, R.	POLY	45
Barbeto, L.	MEDI	74	Barone, J.R.	CELL	121	Bartlett, A.	BIOT	339
Barbier, J.	ENFL	401	Barone, J.R.	CELL	123	Bartlett, B.M.	ENFL	418
Barbier, J.	ENFL	449	Barone, J.R.	CELL	184	Bartlett, M.	BIOT	5
Barbier, N.	ANYL	134	Barone, J.R.	CELL	227	Bartlett, M.	BIOT	156
Barbieri, M.	MEDI	471	Barone, J.R.	PMSE	53	Bartlett, M.J.	BIOT	454
Barboiu, M.D.	ENVR	501	Barone, S.	ENVR	933	Bartlett, R.J.	COMP	271
Barboiu, M.D.	ORGN	416	Barr, E.	BIOT	159	Bartlett, R.J.	COMP	373
Barbosa, L.C.	ORGN	641	Barr, M.	ENVR	654	Bartlett, S.	MEDI	266
Barbosa, M.	ENVR	121	Barr, S.	PMSE	196	Bartlett, S.L.	CHED	946
Barbosa, R.	CHED	669	Barragan, C.	INOR	1313	Bartlett, S.L.	CHED	947
Barbour, K.M.	CHED	1510	Barraud, C.	COLL	577	Bartley, G.E.	AGFD	202
Barcellos, D.	GEOC	127	Barraugh, C.	POLY	201	Bartley, G.E.	BIOL	80
Barcelo Bovea, V.	ENVR	662	Barraza, B.	INOR	461	Bartley, J.	CATL	105
Barcelo Bovea, V.C.	BIOT	532	Barraza, S.	ORGN	403	Bartol, T.	COMP	77
Barcelo, C.	CHED	672	Barreca, D.	AGFD	179	Bartolo, M.	AGFD	64
Barcelo, D.	ENVR	134	Barrera Pacheco, A.	AGFD	155	Bartolo, M.	GEOC	9
Barceló, D.	ENVR	638	Barrera-Díaz, C.	ENVR	698	Bartolotti, L.J.	BIOL	276
Barclay, M.S.	PHYS	261	Barres, A.R.	COLL	684	Barton, C.R.	CHED	1408
Barcus, K.	POLY	151	Barres, C.	CELL	450	Barton, J.K.	INOR	742
Barde, M.	CELL	110	Barrett, A.H.	AGFD	217	Barton, Z.J.	ANYL	277
Barde, M.	CELL	377	Barrett, B.	INOR	1299	Bartz, J.C.	COLL	285
Barde, M.	CELL	379	Barrett, C.	CHED	119	Baruah, B.	INOR	791
Bardeen, C.J.	ORGN	679	Barrett, C.	ORGN	193	Baruah, B.	INOR	1016
Bardeen, C.J.	PHYS	301	Barrett, C.J.	CATL	448	Baruah, S.	INOR	791



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Baruch, P.	BIOL	198	Batchelor, B.L.	CELL	501	Bauli, C.	CELL	29
Baruth, A.	SOCED	6	Batchelor, C.	CINF	66	Baum, D.A.	BIOL	118
Barvaliya, D.	CHED	1717	Batchelor, C.	CINF	127	Baum, J.C.	ORGN	341
Barybin, M.V.	CHED	1115	Bateman, D.	CHED	590	Baum, M.M.	CHED	997
Barybin, M.V.	CHED	1134	Bateman, D.	CHED	1856	Baum, M.M.	MEDI	83
Barybin, M.V.	INOR	841	Bateman, D.	CHED	1993	Baum, M.M.	MEDI	428
Barybin, M.V.	INOR	842	Bateman, S.	COLL	685	Bauman, M.	CHED	1556
Barybin, M.V.	INOR	1544	Bates, A.	ENVR	110	Baumann, A.	NUCL	108
Barz, M.	PMSE	255	Bates, C.	PMSE	569	Baumann, A.	INOR	1088
Barz, M.	PMSE	479	Bates, C.	POLY	535	Baumann, E.	ENVR	313
Barz, M.	PMSE	509	Bates, D.	INOR	817	Baumann, E.	ENVR	193
Barz, M.	PMSE	551	Bates, D.	PROF	12	Baumann, P.	BIOT	188
Barz, M.	PMSE	635	Bates, F.S.	PMSE	95	Baumann, P.	BIOT	213
Barz, M.	POLY	490	Bates, G.	ENVR	874	Baumann, P.	BIOT	411
Barz, M.	POLY	626	Bates, R.	BIOT	512	Baumeister, J.E.	NUCL	140
Barzen-Hanson, K.A.	ENVR	961	Bates, T.A.	MEDI	124	Baumer, T.	NUCL	164
Basa, P.	ANYL	227	Batey, R.A.	ORGN	298	Baumgartner, B.	BIOL	107
Basallote, M.G.	INOR	276	Bathe, M.	PHYS	498	Baumgarten, M.	ORGN	760
Bascal, H.	CHED	131	Batista, A.S.	ENVR	676	Baumgartner, J.	BIOL	269
Basconi, J.	BIOT	11	Batista, A.S.	ENVR	703	Baumgartner, R.	PMSE	13
Basha, J.	BIOT	517	Batista, E.R.	INOR	1213	Baumgartner, R.	PMSE	439
Basheer, C.	ENFL	453	Batista, E.R.	NUCL	13	Baumgartner, R.	PMSE	476
Bashir, S.	BIOL	87	Batista, E.R.	NUCL	21	Baumgartner, R.	PMSE	576
Bashir, S.	CATL	355	Batista, E.R.	NUCL	22	Baumgartner, R.	POLY	140
Bashir, S.	COLL	565	Batista, E.R.	NUCL	71	Baumgartner, R.	POLY	293
Bashiri, G.	MEDI	373	Batista, E.R.	NUCL	75	Baun, A.	ORGN	404
Basile, M.C.	INOR	1477	Batista, J.R.	ENVR	102	Baur, D.	BIOT	79
Basile, R.	MEDI	478	Batista, V.S.	BIOT	85	Bautista, E.	CHED	2117
Basile, R.	MEDI	479	Batista, V.S.	COMP	518	Bautista, J.	CHED	41
Basile, V.	INOR	490	Batista, V.S.	COMP	567	Bautista, J.	CHED	1827
Basim, G.	COLL	375	Batista, V.S.	ENFL	171	Bautista, M.	ORGN	860
Basim, G.	COLL	797	Batista, V.S.	INOR	38	Bavetsias, V.	BIOL	314
Basim, G.	I&EC	134	Batista, V.S.	PHYS	176	Bawendi, M.G.	ORGN	457
Basirico, L.	ENVR	574	Batista, V.S.	PHYS	450	Baxa, U.	PMSE	291
Baskar, D.	BIOT	424	Batista, V.S.	PHYS	542	Baxter, A.	COLL	380
Baskin, A.	ENFL	283	Batmunkh, M.	ENFL	104	Baxter, A.	INOR	847
Baskin, D.	COLL	239	Batool, S.	BIOT	555	Baxter, E.T.	CATL	601
Basra, K.	ENVR	992	Batra, J.	BIOT	559	Bay, S.	ENVR	571
Basran, J.	INOR	176	Batt Throne, S.B.	AGFD	60	BaycinHizal, D.	BIOT	584
Bassalo, M.	BIOT	63	Batt, A.	AGFD	61	Bayda, S.	COLL	277
Basser, P.J.	BIOL	266	Batt, A.	BIOL	222	Bayden, A.S.	COMP	305
Basser, P.J.	POLY	60	Batt, A.	CARB	76	Bayden, A.S.	COMP	364
Bassereh, H.	PHYS	128	Batt, D.G.	MEDI	21	Bayer, A.M.	COLL	368
Basset, J.	CATL	570	Battaglia, D.	ENVR	378	Bayles, K.	MEDI	372
Basset, J.M.	CATL	572	Battaglia, G.	ANYL	416	Bayliff, J.A.	ORGN	399
Basset, J.M.	PMSE	169	Battaglia, G.	MEDI	417	Bayliss, P.	CHED	824
Bassett, M.K.	CHED	1652	Battaglia, G.	PMSE	181	Bayly, C.I.	COMP	528
Bassiri, M.	MEDI	295	Battaglia, G.	PMSE	182	Bayne, K.A.	INOR	298
Basta, L.	CHED	637	Battaglia, G.	PMSE	490	Bayne, M.G.	COMP	18
Basta, L.	CHED	687	Battaglia, G.	PMSE	514	Bayne, M.G.	PHYS	21
Basterrechea, A.	POLY	541	Battaglia, G.	PMSE	629	Bayne, M.G.	PHYS	164
Bastian, N.R.	AGFD	51	Battaglia, G.	POLY	225	Bays, N.	MEDI	112
Bastian, N.R.	AGFD	57	Battaglia, G.	POLY	627	Baysinger, G.	CINF	132
Bastian, N.R.	ANYL	79	Battaglia, G.	BIOT	427	Bazhenov, A.S.	COMP	163
Bastian, N.R.	ANYL	86	Battaglia, J.	COLL	173	Bazilio, A.	CHED	912
Bastian, N.R.	ANYL	87	Batte, T.	CHED	377	Bazilio, A.	COLL	566
Bastian, N.R.	ANYL	178	Batteas, J.D.	CHED	1300	Bazin, P.	CATL	269
Bastian, N.R.	CHED	172	Batteas, J.D.	COLL	26	Bazin, P.	CATL	593
Bastian, N.R.	CHED	774	Batteas, J.D.	COLL	407	Baz-Lomba, J.A.	ANYL	442
Bastian, N.R.	CHED	809	Batteas, J.D.	COLL	547	Bazzano, M.	PMSE	14
Bastian, N.R.	CHED	981	Batteas, J.D.	COLL	754	Bazzi, H.	CATL	387
Bastian, N.R.	CHED	992	Battye, N.	ENVR	539	Bazzi, H.	PMSE	225
Bastian, N.R.	CHED	1769	Baudry, J.Y.	MEDI	139	Bazzi, H.	POLY	438
Bastien, M.	CINF	55	Bauer, A.F.	CHED	260	Bazzi, H.S.	CATL	390
Bastien, M.	CINF	130	Bauer, A.F.	CHED	1785	Bazzi, H.S.	CATL	392
Bastillo, K.	INOR	1030	Bauer, C.	INOR	433	Bazzi, H.S.	POLY	422
Bastin, L.	CHED	81	Bauer, C.	INOR	434	Be, N.A.	COLL	683
Bastin, L.	CHED	1011	Bauer, C.F.	CHED	1948	Beal, P.A.	BIOL	46
Bastos, M.S.	CELL	154	Bauer, E.	CATL	414	Beal, P.A.	BIOL	146
Basu, A.	CELL	105	Bauer, M.	ORGN	265	Beal, P.A.	BIOL	147
Basu, A.K.	ORGN	531	Bauer, M.E.	ENVR	266	Beale, O.	ANYL	91
Basu, R.	MEDI	136	Bauer, N.	PMSE	241	Beaman, K.	MEDI	155
Basu, S.	CELL	466	Bauer, T.	PMSE	551	Beamer, P.	CHED	2001
Basu, S.M.	CHED	606	Bauer, W.	CELL	294	Bear, Z.	POLY	18
Basu, U.	BIOL	84	Bauer, W.	CELL	525	Beard, M.C.	INOR	155
Basu, U.	MEDI	193	Bauer, W.	CELL	526	Beard, M.C.	INOR	483
Basun, K.	ENVR	808	Baughman, J.	POLY	342	Beard, M.C.	INOR	689
Bataineh, M.S.	ENVR	210	Baughman, N.N.	ORGN	599	Beard, M.C.	PHYS	358
Batarseh, J.	CHED	1481	Baulard, A.	MEDI	369	Beard, T.A.	INOR	17
Batarseh, J.	CHED	563	Baulard, A.	MEDI	455	Bearden, M.	ENFL	77

Beardsley, R.L.	BIOT	157	Becker, U.	GEOC	159	Belgacem, N.	CELL	155
Beasley, A.	ENVR	934	Becker, W.C.	ENVR	260	Belhseine, Y.	ENFL	14
Beattie, N.	INOR	18	Beckford, F.A.	CHED	1085	Belina, S.P.	FLUO	40
Beatty, J.W.	ORGN	210	Beckford, F.A.	INOR	620	Belisario-Lara, D.	PHYS	489
Beatty, J.W.	ORGN	327	Beckham, G.	BIOT	140	Bell, A.M.	CHED	1277
Beatty, K.E.	BIOL	338	Beckham, G.	CATL	242	Bell, A.T.	CATL	292
Beaucage, P.	ORGN	859	Beckham, G.	CATL	245	Bell, A.T.	INOR	1563
Beaucage, P.	PMSE	486	Beckham, G.	CELL	216	Bell, A.T.	CATL	75
Beauchamp Perez, C.	CHED	1863	Beckham, G.	COMP	390	Bell, A.T.	CATL	274
Beauchamp Perez, C.	COLL	296	Beckham, G.	ENVR	61	Bell, A.T.	CATL	586
Beauchamp, J.	CHED	759	Beckham, G.	I&EC	27	Bell, A.T.	COMP	40
Beauchamp, K.	COMP	310	Beckingham, B.	ENFL	55	Bell, A.T.	I&EC	23
Beauchamp, M.J.	ANYL	44	Beckingham, L.E.	GEOC	11	Bell, A.T.	INOR	1346
Beaudoin Bertrand, M.	MEDI	21	Beckman, T.J.	PHYS	455	Bell, C.	MEDI	119
Beaudoin, M.	AGFD	2	Becknell, N.	INOR	639	Bell, D.	ENVR	727
Beaudry, D.	ORGN	22	Beck-Pancer, S.	BIOT	511	Bell, H.	CHED	815
Beaudry, D.	ORGN	504	Becktold, C.	ANYL	185	Bell, I.M.	MEDI	20
Beaudry, D.R.	ORGN	701	Beckwith, M.	POLY	56	Bell, J.	BIOL	300
Beaudry, G.	AGFD	20	Becnel, J.J.	AGFD	197	Bell, J.	BIOT	595
Beaudry, J.	ENVR	985	Bedford, M.	CHED	1112	Bell, J.A.	ENVR	467
Beaufils, N.	ENFL	338	Bedford, M.	CHED	1679	Bell, J.R.	CHED	219
Beaugrand, J.	CATL	157	Bedford, S.	CHED	1871	Bell, K.A.	INOR	245
Beaugrand, J.	CELL	16	Bednar, R.	BIOL	304	Bell, M.	CHED	1011
Beaujuge, P.	PMSE	236	Bednarz, K.	CARB	63	Bell, M.H.	POLY	15
Beaulac, R.	INOR	157	Bedolla Sotelo, D.	CHED	709	Bell, M.H.	POLY	396
Beaulac, R.	INOR	533	Bee, J.S.	BIOT	567	Bell, N.S.	INOR	440
Beaulac, R.	INOR	698	Beecher, A.	PHYS	298	Bell, N.S.	INOR	1522
Beaulieu, N.	INOR	428	Beecher, L.	COLL	466	Bell, S.	ANYL	189
Beaulieu, W.B.	PMSE	221	Beecher, S.A.	INOR	917	Bell, S.	ANYL	222
Beaulieu, W.B.	PMSE	284	Beekmeyer, R.	NUCL	64	Bell, S.	ANYL	224
Beaumier, E.	INOR	602	Beeler, A.B.	YCC	21	Bell, T.W.	MEDI	79
Beaumier, E.	INOR	632	Beeman, J.W.	CATL	556	Bell, T.W.	ORGN	897
Beaumont, S.K.	INOR	1129	Beers, K.	PMSE	278	Bellachioma, G.	INOR	1278
Beauté, L.	POLY	624	Beers, K.	POLY	608	Bellamacina, C.	ANYL	223
Beauvais, L.G.	CHED	1120	Beeton, C.	COLL	239	Bellamacina, C.	COMP	295
Beauvais, L.G.	CHED	1565	Beeton, C.	COLL	757	Bellamacina, C.	MEDI	341
Beaven, A.	ENVR	705	Begay, S.C.	PHYS	523	Bellemin-Laponnaz, S.	CHED	1066
Beavers, C.	INOR	1106	Begg, J.	GEOC	158	Beller, H.R.	BIOT	179
Beavers, C.	INOR	1174	Begoyan, V.	ORGN	507	Beller, M.	INOR	541
Beavis, Z.	CHED	1443	Begum, B.	MEDI	252	Belli, K.	GEOC	161
Becerra Lopez, J.	AGFD	107	Begum, S.	CELL	322	Belling, J.N.	COLL	435
Becerra Lopez, J.	BIOL	78	Behbahani, M.	ENVR	680	Bellini, L.	COMP	327
Becerra, O.	INOR	333	Behera, P.	INOR	988	Bello, S.A.	PMSE	491
Becerra-Arteaga, A.	BIOT	340	Behm, R.J.	CATL	297	Bello, S.A.	CHED	1749
Bechelli, S.	COMP	260	Behm, R.J.	CATL	298	Bellocco, E.	AGFD	179
Bechgaard, K.	GEOC	188	Behm, R.J.	CATL	480	Bellomo, A.	ORGN	916
Bechinger, B.	PMSE	316	Behmke, D.	CHED	2008	Belloncle, C.	CELL	296
Bechtel, H.A.	ANYL	278	Behnke, G.	COLL	274	Bellott, B.J.	ANYL	195
Bechtel, H.A.	PMSE	193	Behnke, T.	COLL	121	Bellott, B.J.	CHED	141
Bechtold, J.O.	COLL	433	Behra, P.	ANYL	220	Bellott, B.J.	CHED	1077
Beck, H.	BIOT	614	Behra, P.	ENVR	85	Bellott, B.J.	CHED	1097
Beck, J.	CHED	816	Behra, P.	ENVR	558	Bellott, B.J.	CHED	1767
Beck, J.	CHED	831	Behrens, M.	CHED	1226	Bellows, B.	ENVR	145
Beck, J.C.	PROF	9	Bei, E.	ENVR	339	Belmabkhout, Y.	ENFL	33
Beck, J.R.	BIOL	251	Beiler, A.M.	CATL	218	Belmabkhout, Y.	ENFL	350
Beck, J.R.	BIOL	347	Beisel, C.	BIOT	468	Belmares, J.	CHED	1807
Beck, L.	COLL	140	Beisswenger, P.J.	BIOT	147	Belmont, B.L.	PROF	17
Beck, S.W.	CHED	986	Beiyuan, J.	GEOC	347	Belosevic, M.	ENVR	810
Beck, T.	BIOT	100	Bejger, C.	INOR	1042	Belov, V.N.	ORGN	17
Beck, T.	BIOT	522	Bejger, C.	INOR	1567	Belowich, M.	POLY	429
Beck, W.F.	PHYS	260	Bekarian, M.	CHED	691	Beltman, R.	CHED	1510
Beckemeyer, A.	ORGN	255	Bekçioğlu-Neff, G.	PHYS	51	Beltman, R.	CHED	1805
Becker, A.	PHYS	199	Bekenstein, Y.	INOR	694	Beltman, R.	CHED	1830
Becker, C.	BIOL	79	Beke-Somfai, T.	ORGN	371	Belton, S.	CHED	1590
Becker, D.P.	MEDI	235	Bekins, B.A.	GEOC	307	Beltramini, L.	CELL	143
Becker, D.P.	MEDI	264	Bekker, B.	CHED	1331	Beltran, A.	INOR	299
Becker, K.	PMSE	408	Bekoe, J.	BIOT	427	Beltran, A.	INOR	311
Becker, M.	CHED	1699	Belaj, F.	INOR	369	Beltran-Sanchez, M.	COLL	256
Becker, M.	PMSE	68	Belanger, B.	MEDI	147	Beltran-Villegas, D.	PMSE	28
Becker, M.	PMSE	436	Bélanger, M.	CHED	10	Belyaeva, E.	ENVR	30
Becker, M.	PMSE	659	Belanger, S.E.	ENVR	934	Ben-Amotz, D.	PHYS	323
Becker, M.	POLY	6	Beld, J.	BIOL	85	Benatrehina, P.	AGFD	156
Becker, M.	POLY	287	Belfield, G.	INOR	56	Benatrehina, P.	AGFD	166
Becker, M.	POLY	367	Belfield, K.D.	CHED	1591	Benavides, K.	INOR	985
Becker, M.	POLY	568	Belford, R.E.	CHAS	34	Benayoun, S.	COLL	670
Becker, N.M.	CHED	67	Belford, R.E.	CHED	1910	Benbrook, D.	ORGN	757
Becker, N.M.	CHED	203	Belford, R.E.	CINF	73	Bence, J.	CHED	1061
Becker, S.	CHED	674	Belford, R.E.	CINF	103	Bench, G.	ANYL	58
Becker, S.	CHED	685	Belgacem, N.	CELL	79	Benck, J.	CATL	263
Becker, T.	CHED	534	Belgacem, N.	CELL	131	Bencomo, J.	POLY	441

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Bencomo, J.	POLY	559	Bennon, B.J.	COMP	546	Berg, S.	ENVR	521
Bender, J.A.	PHYS	158	Benny, P.D.	I&EC	93	Berg, S.M.	CHED	987
Bender, J.E.	INOR	975	Benoit, G.	ORGN	433	Berg, S.M.	CHED	988
Bender, J.E.	INOR	976	Benoit, J.	ENVR	982	Bergamaschi, B.	ENVR	186
Bender, J.E.	INOR	977	Benore, M.	INOR	622	Bergbreiter, D.	CHED	1376
Bender, J.E.	INOR	978	Bensalah, A.T.	CHED	1366	Bergbreiter, D.E.	ENVR	813
Bender, J.S.	PHYS	66	Bensaude Vincent, B.	HIST	19	Bergbreiter, D.E.	PMSE	18
Bender, J.S.	PHYS	185	Benson, B.	CHED	1742	Bergbreiter, D.E.	POLY	422
Bender, T.A.	ORGN	432	Benson, B.	INOR	883	Bergbreiter, D.E.	POLY	427
Benderskii, A.V.	PHYS	546	Benson, B.	INOR	1275	Berge, M.	BIOT	74
Bendinsky, R.	ORGN	399	Benson, C.	ORGN	642	Bergensträhle, M.	CELL	323
Benedetti, M.F.	ENVR	221	Benson, E.	INOR	1347	Berger, B.	CATL	85
Benedetti, M.F.	ENVR	345	Benson, I.	ENFL	358	Berger, B.	INOR	693
Benedetti, M.F.	ENVR	665	Benson, J.	MEDI	458	Berger, K.	CHED	1379
Benedict, A.	ANYL	451	Benson, K.R.	BIOL	318	Berger, M.E.	COMP	70
Benedict, A.	CHED	1086	Bent, S.F.	CATL	162	Berger, R.	INOR	625
Benedict, J.B.	CHED	1587	Bent, S.F.	CATL	560	Berger, R.	INOR	946
Benedict, L.	CHED	287	Bent, S.F.	COLL	73	Berger, R.	COLL	434
Benedict, L.	CHED	336	Bent, S.F.	COLL	614	Berger, Y.	PHYS	494
Benedict, L.	CHED	348	Bent, S.F.	INOR	1517	Bergeret, A.	CELL	57
Benedict, L.	CHED	350	Bentley, A.K.	CHED	245	Berggren, J.	BIOT	608
Benedict, T.	CHED	941	Bentley, A.K.	INOR	221	Bergin, R.A.	GEOC	349
Beng, T.	ORGN	505	Bentley, A.K.	INOR	426	Bergkamp, J.J.	CHED	760
Beng, T.	ORGN	506	Bentley, A.K.	INOR	431	Bergkvist, M.	BIOT	624
Beng, T.	ORGN	745	Bentley, G.J.	BIOT	28	Berglund, L.	CELL	61
Beng, T.	ORGN	746	Bentley, W.E.	BIOT	440	Berglund, L.	CELL	166
Beng, T.	ORGN	778	Bentley, W.E.	BIOT	492	Berglund, L.	CELL	371
Beng, T.	ORGN	786	Bentley, W.E.	COLL	412	Berglund, L.	CELL	393
Bengtsson, E.	COLL	700	Benton, E.N.	PROF	16	Berglund, L.	CELL	93
Bengtsson, E.	COLL	701	Bentz, K.	BIOL	220	Bergman, R.G.	INOR	59
Beni, J.	CHED	580	Bentz, K.C.	POLY	495	Bergman, R.G.	INOR	375
Benicewicz, B.C.	PMSE	660	Bentzel, T.C.	CHED	1544	Bergman, R.G.	INOR	498
Benicewicz, B.C.	POLY	10	Benvenuti, S.	AGFD	141	Bergman, R.G.	INOR	597
Benicewicz, B.C.	POLY	602	Benvenuto, M.A.	CHED	389	Bergman, R.G.	INOR	1557
Benight, S.J.	PMSE	608	Benvenuto, M.A.	CHED	390	Bergquist, A.	ENVR	82
Benight, S.J.	POLY	102	Benvenuto, M.A.	ENVR	741	Bergqvist, S.	MEDI	350
Benincosa, W.	ENFL	126	Benvenuto, M.A.	ENVR	742	Bergsman, D.S.	COLL	614
Benincosa, W.	ENFL	129	Benyakhlef, M.	CELL	399	Bergsman, D.S.	INOR	1517
Benipal, G.S.	ANYL	88	Beniz, L.B.	CATL	67	Bergstrom, L.	CELL	237
Benito, G.	CHED	1725	Beniz, L.B.	CHED	1104	Bergueiro, J.	COLL	214
Benjamin, I.	PHYS	229	Benzie, A.L.	MEDI	121	Berhow, M.A.	AGFD	163
Benjamin, S.E.	COLL	538	Benziger, A.	INOR	1131	Berisha, N.	MEDI	252
Benjamin, S.E.	INOR	488	Benzmiller, L.M.	CHED	1235	Berk, S.M.	INOR	236
Benkaddour, S.	GEOC	92	Bera, K.	PHYS	161	Berka, V.	ORGN	871
Benkaddour, S.	GEOC	287	Bera, P.	PHYS	235	Berkani, M.	ENVR	686
Benko, Z.	INOR	1311	Beran, K.A.	CHED	875	Berke, M.	BIOT	723
Benkoski, J.J.	POLY	513	Beran, K.A.	CHED	1261	Berkebile, S.	COLL	750
Bennati, M.	INOR	770	Beratan, D.N.	PHYS	378	Berkefeld, A.	CELL	127
Bennati-Granier, C.	CELL	126	Berben, L.A.	INOR	79	Berkelbach, T.	COMP	230
Bennecke, M.	BIOT	398	Berben, L.A.	INOR	163	Berkenbosch, T.	MEDI	426
Bennemo, M.	BIOT	75	Berben, L.A.	INOR	543	Berkhout, A.	INOR	1572
Bennemo, M.	BIOT	363	Berben, L.A.	INOR	1251	Berkman, C.E.	MEDI	141
Bennett, A.	ANYL	292	Berben, L.A.	INOR	1297	Berkman, C.E.	MEDI	197
Bennett, A.	INOR	136	Berben, L.A.	INOR	1397	Berkman, C.E.	MEDI	275
Bennett, C.	PHYS	196	Berben, L.A.	INOR	1472	Berkman, C.E.	MEDI	287
Bennett, C.	PHYS	286	Bercaw, J.E.	INOR	496	Berks, A.	CHAL	1
Bennett, J.	CHED	19	Bercaw, J.E.	INOR	1449	Berkson, Z.	INOR	702
Bennett, J.	CHED	32	Bercaw, J.E.	PMSE	279	Berlanga, J.A.	PHYS	433
Bennett, J.	CHED	1473	Berch, J.K.	CHED	1025	Berleant, D.	CHAS	34
Bennett, J.	CHED	1474	Berch, J.K.	CHED	1031	Berlin, J.M.	CHED	1503
Bennett, J.	CHED	1533	Berckman, E.	BIOT	533	Berlin, J.M.	COLL	495
Bennett, J.	CHED	1534	Berda, E.B.	POLY	286	Berlin, J.M.	COLL	539
Bennett, J.	INOR	300	Berda, E.B.	POLY	313	Berlin, J.M.	COLL	676
Bennett, J.	ANYL	362	Bereau, T.	COMP	134	Berlin, K.D.	ORGN	757
Bennett, J.	NUCL	123	Berenguer, R.	CATL	40	Berlinguette, C.P.	CATL	70
Bennett, J.	INOR	1266	Berens, M.	CHED	108	Bermudez, G.	ORGN	852
Bennett, J.A.	ANYL	137	Berensmeier, S.	BIOT	525	Bermudez, V.M.	CATL	12
Bennett, K.H.	CHED	128	Beres, M.	ANYL	348	Bermudez, V.M.	CATL	60
Bennett, K.H.	CHED	137	Beres, N.	CHED	1698	Bernacki, J.P.	BIOT	721
Bennett, K.H.	CHED	2032	Beres, N.	CHED	1785	Bernal, F.	ANYL	213
Bennett, M.	MEDI	75	Berezin, M.Y.	ENVR	163	Bernal, J.	PHYS	195
Bennett, M.	BIOT	484	Berg, B.	ANYL	30	Bernal, P.	PHYS	472
Bennett, R.	ANYL	318	Berg, C.	FLUO	11	Bernal, R.	COLL	106
Bennett, Z.	BIOT	57	Berg, C.	ENVR	518	Bernaes, V.	COLL	100
Bennett-Caso, C.	PHYS	464	Berg, J.K.	CELL	203	Bernaes, V.	INOR	677
Benninghoff, A.	MEDI	105	Berg, J.M.	NUCL	13	Bernard, A.J.	INOR	1049
Benningshof, J.C.	MEDI	378	Berg, L.	MEDI	396	Bernard, C.	MEDI	149
Benningshof, J.C.	MEDI	426	Berg, M.A.	ANYL	60	Bernard, C.R.	CHED	886
Bennington, M.	INOR	214	Berg, M.A.	PHYS	143	Bernard, D.	MEDI	236
Bennington, M.	INOR	396	Berg, S.	ENVR	187	Bernard, D.	MEDI	243



Bernard, D.	MEDI	377	Beshah, K.	POLY	115	Bharadwaj, V.	CELL	72
Bernard, E.	GEOC	221	Besic, S.	PMSE	184	Bharani, S.	COLL	606
Bernard, F.	MEDI	16	Besic, S.	PMSE	653	Bharathi, V.	MEDI	254
Bernard, J.	CELL	450	Besley, E.	COLL	646	Bharathi, V.	MEDI	255
Bernard, J.	CELL	496	Besley, N.	COLL	646	Bhardwaj, J.	CELL	179
Bernardes, G.	BIOL	13	Bess, E.	BIOL	355	Bhardwaj, M.	CHED	529
Bernardinelli, O.D.	CELL	364	Bess, E.N.A.	BIOT	664	Bhargava, K.	AGFD	49
Bernardino, S.J.	ORGN	583	Bessel, C.A.	INOR	133	Bhaskar, U.	BIOT	592
Bernardo, R.	PMSE	174	Bessel, C.A.	YCC	6	Bhaskara, R.	COMP	429
Bernasek, S.L.	GEOC	357	Bessel, C.A.	YCC	7	Bhat, M.	BIOT	711
Bernbeck, M.G.	INOR	375	Bessen, N.	NUCL	48	Bhat, N.G.	ORGN	238
Berne, B.J.	PHYS	95	Best, M.	COLL	368	Bhat, N.G.	ORGN	239
Bernhard, S.S.	ORGN	35	Bestrich, N.	BIOT	727	Bhat, N.G.	ORGN	240
Bernhard, S.S.	ORGN	762	Bestwick, M.	CHED	565	Bhat, N.G.	ORGN	241
Bernhard, S.S.	ORGN	832	Bestwick, M.	CHED	664	Bhat, S.	COMP	19
Bernhardt, E.	PMSE	593	Bestwick, M.	CHED	676	Bhat, S.	COMP	147
Bernhardt, P.	ORGN	190	Bestwick, M.	CHED	717	Bhati, A.P.	CINF	81
Bernier, N.A.	CHED	104	Betancourt, I.	MEDI	227	Bhati, A.P.	COMP	68
Bernier, N.A.	INOR	298	Betancourt, I.	MEDI	289	Bhatia, H.	BIOT	487
Bernier, N.A.	INOR	303	Betancourt, L.	ANYL	428	Bhatia, S.R.	PMSE	372
Bernin, D.	CELL	516	Betancourt, M.	MEDI	419	Bhatia, S.R.	POLY	414
Bernot, K.	INOR	1473	Betancourt, M.	ORGN	412	Bhatnagar, A.	ENVR	705
Bernskoetter, W.H.	INOR	122	Betenbaugh, M.J.	BIOT	115	Bhatnagar, A.	BIOT	424
Bernskoetter, W.H.	INOR	492	Betenbaugh, M.J.	BIOT	385	Bhatnagar, S.	ENVR	59
Bernstein, L.A.	NUCL	18	Betenbaugh, M.J.	BIOT	584	Bhatnagar, S.	ENVR	211
Bernstorff, S.	ANYL	219	Betenbaugh, M.J.	BIOT	666	Bhatt, A.	BIOL	220
Bernt, C.M.	ENFL	106	Betley, T.	INOR	507	Bhatt, C.P.	ORGN	217
Bernt, C.M.	CATL	238	Betley, T.	INOR	1157	Bhatt, P.	ENFL	350
Berrah, N.	PHYS	414	Beton, P.	COLL	646	Bhattacharjee, M.	INOR	994
Berreau, L.M.	INOR	626	Betrus, A.	ORGN	136	Bhattacharjee, M.	INOR	100
Berreau, L.M.	INOR	718	Betti, M.	AGFD	47	Bhattacharya, A.	COLL	528
Berreau, L.M.	MEDI	105	Betti, M.	AGFD	138	Bhattacharya, A.	CHED	1197
Berreau, L.M.	MEDI	120	Bettler, G.	INOR	838	Bhattacharya, C.	BIOL	34
Berrin, J.	CELL	126	Bettler, G.	INOR	839	Bhattacharya, D.S.	CARB	72
Berrios-Rivera, J.L.	CELL	146	Bettler, G.	INOR	840	Bhattacharya, L.	GEOC	28
Berrocal, J.A.	COLL	813	Betts, A.R.	GEOC	264	Bhattacharya, M.	POLY	235
Berrocal, J.A.	POLY	306	Beuerle, F.	ORGN	644	Bhattacharya, P.	ENFL	398
Berry, A.T.	CHED	1157	Beuerle, F.	POLY	257	Bhattacharya, R.	CARB	83
Berry, A.T.	IAC	11	Beuming, T.	COMP	19	Bhattacharyya, A.	GEOC	19
Berry, D.	ENFL	128	Beuming, T.	COMP	30	Bhattacharyya, A.	GEOC	53
Berry, D.	ENFL	133	Beun, L.	PMSE	149	Bhattacharyya, S.	COMP	113
Berry, D.	COLL	685	Beuning, C.N.	ANYL	227	Bhattarai, N.	ANYL	308
Berry, J.	BIOT	664	Beuning, C.N.	BIOL	140	Bhaumik, M.	BIOT	132
Berry, J.	COLL	146	Beuning, C.N.	INOR	233	Bhebe, P.	BIOT	33
Berry, J.F.	INOR	1155	Beuning, C.N.	INOR	1323	Bhike, M.	NUCL	3
Berry, R.J.	PMSE	196	Beuning, C.N.	ORGN	543	Bhinderwala, F.	CHED	556
Berry, R.M.	CELL	242	Beuning, P.J.	BIOL	150	Bhoi, S.	I&E	131
Berryman, O.B.	ORGN	469	Beuning, P.J.	BIOL	226	Bhokisham, N.	BIOT	492
Bershtein, S.	COMP	113	Beuning, P.J.	CHED	2039	Bhoyate, S.	ENFL	217
Berstis, L.	CELL	216	Beuning, P.J.	COMP	306	Bhupathiraju, N.	MEDI	252
Bertagnolli, K.R.	CHED	651	Beuning, P.J.	COMP	367	Bhupathiraju, N.	ORGN	13
Bertels, L.W.	COMP	541	Beuning, P.J.	PHYS	523	Bhupathiraju, N.	ORGN	397
Bertelsen, E.	NUCL	137	Bevak, A.	CHED	1068	Bhusal, R.P.	MEDI	373
Berthelmer, J.	PHYS	192	Bevan, D.R.	BIOT	287	Bhutani, A.	INOR	988
Berthet, A.	MEDI	317	Bever, A.M.	MEDI	59	Bhutani, A.	INOR	1357
Berthon, C.	NUCL	146	Beverly, O.	ANYL	329	Bhuvanesh, N.	CHED	1131
Berthoud, A.	PMSE	174	Bevilacqua, P.C.	COLL	276	Bhuvanesh, N.	INOR	875
Bertinetto, C.	CELL	274	Bevsek, H.M.	CHED	1680	Bhuvanesh, N.	INOR	1324
Berto, P.	POLY	633	Bewley, C.A.	ORGN	841	Bhuvanesh, N.S.	INOR	1321
Bertoia, J.	NUCL	83	Beyene, A.	COLL	420	Bi, G.	ANYL	348
Bertolotti, A.	MEDI	304	Beyer, A.	CHED	442	Bi, X.	COLL	70
Berton, C.	CELL	287	Beyer, B.	BIOT	357	Bi, X.	ENVR	629
Bertozzi, C.R.	BIOL	242	Beyer, B.	BIOT	418	Bi, Z.	ENFL	413
Bertozzi, C.R.	BIOL	348	Beyer, F.L.	POLY	256	Biagioni, R.N.	ENVR	139
Bertozzi, C.R.	CHED	560	Beyer, F.L.	POLY	526	Bialik, E.	CELL	516
Bertozzi, C.R.	ORGN	626	Beyer, N.J.	CHED	1862	Bian, L.	COLL	633
Bertozzi, C.R.	PMSE	109	Beyers, S.	MEDI	275	Bian, P.	COLL	687
Bertozzi, C.R.	PMSE	634	Beyou, E.	POLY	503	Biancardi, A.	CATL	13
Bertozzi, C.R.	PRES	4	Bezler, D.	INOR	566	Bianco, K.E.	CHAL	14
Bertozzi, C.R.	SOCED	10	Bezpaliko, M.	CHED	1065	Bianco, K.E.	CHAL	15
Bertrand, B.	INOR	720	Bezpaliko, M.	INOR	361	Bibby, K.	GEOC	339
Bertrand, G.	INOR	108	Bezrukov, S.M.	COLL	6	Bichler, K.A.	CHED	1411
Bertrand, G.	INOR	1316	Bhagat, V.	POLY	568	Bick, A.	COMP	189
Bertrand, G.	ORGN	434	Bhagi-Damodaran, A.	INOR	179	Bickelhaupt, F.	BIOL	322
Bertrand, S.	CHED	1774	Bhagwagar, M.	CHED	390	Bicker, K.	BIOL	94
Berville, M.	ORGN	638	Bhalala, P.	AGFD	218	Bickler, J.R.	MEDI	490
Besan, M.	MEDI	502	Bhambure, R.	BIOT	729	Bickler, J.R.	MEDI	491
Besenius, P.	PMSE	478	Bhan, A.	CATL	190	Bickler, J.R.	ORGN	602
Besenius, P.	PMSE	571	Bhandare, R.	MEDI	35	Bida, M.	CHED	500
Besenius, P.	POLY	314	Bhandari, M.	ORGN	656	Biddy, M.J.	CATL	242

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Biddy, M.J.	CATL	245	Billiot, E.	CHED	422	Bisson, P.J.	PHYS	364
Bidwell, S.	ORGN	934	Billiot, E.	CHED	488	Biswal, A.	CELL	175
Bieber, A.	CHED	455	Billiot, E.	CHED	896	Biswas, A.	INOR	104
Bieberbach, M.	BIOT	398	Billiot, F.H.	CHED	412	Biswas, A.	CELL	176
Biedermann, D.	MEDI	189	Billiot, F.H.	CHED	415	Biswas, A.	CELL	514
Biedermann, L.	COLL	137	Billiot, F.H.	CHED	422	Biswas, K.	INOR	785
Biegaj, K.	CELL	289	Billiot, F.H.	CHED	488	Biswas, K.	INOR	1353
Biehl, V.A.	AGFD	267	Billiot, F.H.	CHED	896	Biswas, M.	COLL	592
Biehl, V.A.	ORGN	925	Billmyer, N.	ENVR	611	Biswas, N.	ENVR	151
Bieker, I.	COMP	279	Billo, T.	CATL	164	Biswas, N.	ENVR	857
Bieker, I.	COMP	302	Bills, A.	CHED	1634	Biswas, P.	BIOT	243
Bielawski, C.	INOR	585	Bills, A.	CHED	1693	Biswas, P.	INOR	1142
Bielefeldt, A.R.	ENVR	633	Bilodeau, C.	BIOT	260	Biswas, S.	ORGN	553
Bielefeldt, A.R.	GEOC	341	Bilodeau, C.	BIOT	253	Biswas, S.	POLY	510
Bielicki, C.	PMSE	354	Bilyeu, C.	BIOL	101	Biswas, S.	INOR	1232
Bielski, A.L.	CHED	1214	Bin, Y.	MEDI	497	Biswas, S.	PHYS	209
Bielski, R.	MEDI	173	Bina, D.	PHYS	18	Biswas, S.	MEDI	213
Biener, J.	CATL	92	BinAhmed, S.	ENVR	1000	Biswas, S.K.	CELL	351
Biener, J.	CATL	239	Binauld, S.	POLY	484	Biteen, J.S.	PHYS	573
Biener, M.	CATL	92	Bingaman, S.	CHED	618	Bixby, M.C.	CHED	1133
Biener, M.M.	CATL	239	Bingcheng, Y.	ANYL	215	Bixby, R.J.	GEOC	310
Bienski, L.D.	CHED	669	Bingham, P.	MEDI	350	Biyari, A.	CHED	751
Bienski, L.D.	CHED	1304	Binz, J.M.	NUCL	88	Biyari, A.	CHED	1827
Bienski, L.D.	CHED	1319	Birarda, G.	COLL	130	Bizarro, M.	ENVR	201
Bienski, L.D.	CHED	2031	Birbeck, J.	ENVR	296	Bizarro, M.	ENVR	593
Bienski, L.D.	CHED	2189	Bird, J.	CHED	575	Bizeau, A.	CELL	181
Bienstock, R.J.	CINF	18	Bird, J.	CHED	576	Bizer, G.	CHED	239
Bienstock, R.J.	CINF	58	Bird, J.	CHED	755	Bjoerk, J.	COLL	480
Bierbach, U.	INOR	751	Birdwell, J.E.	ENFL	433	Bjorgaard, J.	COMP	361
Bierbach, U.	INOR	935	Birge, R.R.	PHYS	437	Bjorklund, J.A.	ORGN	802
Bierbach, U.	INOR	941	Biriukov, D.	GEOC	279	Bjorkman, T.	BIOT	34
Bierbach, U.	MEDI	77	Biriukov, D.	GEOC	280	Bjorkman, T.	BIOT	474
Bierbaum, K.	POLY	85	Birkhold, S.T.	INOR	787	Bjorkman, T.	BIOT	518
Bierma, J.	BIOL	238	Birkner, N.	GEOC	63	Bjorkman, T.	BIOT	560
Bierma, J.	BIOL	298	Birkner, N.	GEOC	176	Bjornsson, R.	INOR	1368
Bierma, J.	COLL	486	Birnbaum, E.R.	NUCL	13	Blachut, G.	PMSE	679
Biermann, U.	CELL	424	Birney, L.B.	CHED	383	Blachut, G.	POLY	199
Biernat, K.	INOR	247	Biros, S.M.	INOR	14	Black, A.S.	ORGN	691
Biernesser, A.B.	INOR	394	Biros, S.M.	INOR	382	Black, C.	PMSE	187
Biernesser, A.B.	INOR	500	Biros, S.M.	INOR	974	Black, D.	CHED	1423
Biernesser, A.B.	INOR	563	Biros, S.M.	INOR	975	Black, K.	PMSE	343
Biernesser, A.B.	INOR	683	Biros, S.M.	INOR	976	Black, K.	PMSE	342
Biernesser, A.B.	PMSE	113	Biros, S.M.	INOR	977	Black, N.	INOR	1037
Biernesser, A.B.	POLY	538	Biros, S.M.	INOR	978	Black, R.S.	CHED	119
Biesalski, M.A.	CELL	119	Biros, S.M.	INOR	981	Black, R.S.	CHED	1833
Biesalski, M.A.	CELL	523	Birrell, J.A.	INOR	189	Black, S.	CHED	1183
Biesbrock, M.	CHED	778	Birschbach, M.	PMSE	184	Blackburn, I.	CHED	1687
Biewer, M.C.	ORGN	862	Birschbach, M.	PMSE	653	Blackburn, J.	CHED	41
Biewer, M.C.	POLY	148	Birschbach, P.M.	CHED	864	Blackledge, M.S.	CHED	1212
Biewer, M.C.	POLY	221	Bisanz, J.	BIOL	355	Blackledge, M.S.	CHED	1219
Biewer, M.C.	POLY	636	Bisanz, J.	BIOL	358	Blackledge, M.S.	CHED	1226
Biewer, N.P.	CHED	1410	Bisceglia, K.	CHED	355	Blackledge, M.S.	CHED	1934
Biewer, N.P.	CHED	1845	Bisceglia, K.J.	CHED	951	Blackledge, M.S.	CHED	2172
Biffinger, J.C.	PMSE	146	Bischel, H.	ENVR	567	Blackledge, T.A.	POLY	564
Bifulco, N.	MEDI	351	Biser, P.S.	CHED	526	Blackledge, T.A.	POLY	565
Bifulco, S.	BIOL	240	Bish, J.	ENVR	983	Blacklock, W.	INOR	468
Bifulco, S.	ENVR	663	Bishnoi, S.	ORGN	676	Blackman, J.	AGFD	145
Bifulco, S.	ENVR	664	Bishop, B.	GEOC	348	Blackman, L.D.	POLY	516
Bigand, V.	CELL	511	Bishop, K.	PMSE	81	Blackman, L.D.	POLY	547
Bigger, S.W.	CELL	504	Bishop, K.J.	COLL	69	Blackman, L.D.	POLY	628
Bikash, C.R.	BIOL	173	Bishop, K.M.	CHED	1236	Blackmond, D.G.	I&E	20
Bikbajeva, Z.	I&E	91	Bishop, K.M.	CHED	1237	Blackmond, D.G.	ORGN	450
Bikondoa, O.	PMSE	214	Bishop, L.C.	CHED	1237	Blackstock, D.J.	BIOT	243
Bikos, D.A.	COLL	71	Bishop, M.A.	CHED	16	Blackstock, S.C.	CHED	1525
BILAL, M.	CINF	118	Bishop, M.A.	CINF	97	Blackstock-Jmaiff, L.	ENVR	160
BILAL, M.	CINF	123	Bishop, M.M.	PHYS	260	Blackwell, B.S.	CHED	1304
Bilger, D.	POLY	149	Bishop, M.M.	PHYS	414	Blackwell, B.S.	CHED	1319
Bilgic, D.	AGFD	147	Bishop, O.	CHED	941	Blackwood, E.	MEDI	342
Bilgin Saritas, N.	ENVR	205	Bishop, R.	CHED	76	Bladorn, E.	CHED	830
Bill, A.	MEDI	150	Bishop, R.	CHED	144	Blagg, J.	BIOL	314
Bill, J.	BIOT	708	Bishop, R.	CHED	1236	Blagg, J.	CINF	148
Billard, I.	I&E	18	Bishop, R.	CHED	1237	Blaha, B.	BIOT	184
Billard, T.	FLUO	38	Bishop, T.	CHED	1447	Blaha, P.	COMP	461
Billerbeck, S.	PROF	30	Bisignano, P.	COMP	440	Blaich, G.	MEDI	11
Billger, M.	MEDI	17	Bismarck, A.	CELL	289	Blain, J.M.	MEDI	261
Billinge, S.	INOR	1270	Bismarck, A.	CELL	368	Blaine, C.A.	CHED	477
Billings, C.	CHED	768	Bismarck, A.	CELL	455	Blair, D.L.	PMSE	276
Billings, S.	GEOC	202	Bisoffi, M.	ORGN	613	Blair, E.	PHYS	155
Billiot, E.	CHED	412	Bissell, J.	CELL	406	Blair, S.	BIOT	249
Billiot, E.	CHED	415	Bisson, P.J.	PHYS	231	Blair, S.	BIOT	384

Blair, S.	CHED	1655	Bliss, L.	INOR	435	Bocarsly, J.D.	INOR	1079
Blake, A.V.	INOR	959	Bliss, L.	INOR	516	Bocarsly, J.D.	INOR	1365
Blake, A.V.	NUCL	38	Bliznyuk, V.	POLY	605	Boccanfuso, A.	COMSCI	1
Blake, A.V.	PROF	8	Blobaum, A.L.	MEDI	245	Bochmann, M.	INOR	700
Blake, D.R.	CHED	945	Bloch, E.D.	INOR	1223	Bochmann, M.	INOR	720
Blake, J.M.	GEOC	229	Bloch, E.D.	INOR	1404	Bochmann, M.	INOR	1547
Blake, J.M.	GEOC	231	Bloch, J.	PMSE	106	Bochmann, M.	PMSE	123
Blake, J.M.	GEOC	310	Block, E.	COMP	77	Bock, D.	BIOT	364
Blake, K.	CHED	581	Block, J.	AGFD	78	Bock, D.C.	INOR	1410
Blake, L.	MEDI	452	Block, J.	AGFD	85	Bock, F.	CELL	312
Blake, T.	POLY	57	Block, S.	ORGN	693	Bock, J.	BIOT	509
Blake, T.	POLY	420	Bloed, C.J.	INOR	644	Bock, P.	CELL	463
Blake-Hedges, J.	BIOL	259	Bloemer, A.T.	CHED	1088	Bockman, M.	CHED	1187
Blake-Hedges, J.	BIOL	357	Blokhin, A.V.	MEDI	458	Bockus, A.T.	CHED	1375
Blakeley, M.P.	INOR	176	Blom, H.	BIOT	518	Bocos, E.	ENVR	352
Blakely, M.N.	INOR	145	Blom, P.W.	POLY	560	Boda, K.	COMP	501
Blakely, M.N.	INOR	284	Blomquist, O.	CHED	619	Bodah, Z.	CHED	348
Blakely, R.D.	BIOT	273	Bloodgood, B.	ORGN	875	Bodarky, C.	BIOT	93
Blakemore, D.	ORGN	431	Bloom, M.E.	POLY	191	Bodé, N.	CHED	10
Blakemore, J.D.	CHED	1145	Bloomquist, C.J.	PMSE	263	Bodé, N.	CHED	164
Blakemore, P.R.	CHED	1429	Bloomquist, C.J.	PMSE	550	Bodenschatz, C.	CATL	338
Blakeney, S.N.	BIOL	72	Blotevogel, J.	ENVR	213	Bodenschatz, C.	CATL	532
Blakey, S.	PMSE	293	Blotevogel, J.	GEOC	303	Bodily, R.	CHED	289
Blakley, C.G.	PMSE	176	Blough, R.	CHED	835	Bodily, R.	CHED	767
Blanchard, P.	GEOC	157	Blough, R.	CHED	1981	Bodin, N.	COLL	429
Blanchard, P.	ORGN	675	Blue, J.E.	CHED	769	Bodner, G.M.	CHED	26
Blanco, A.	ENVR	431	Blue, J.E.	POLY	430	Bodner, G.M.	CHED	214
Blanco, K.	AGFD	107	Bluemel, J.	INOR	218	Bodner, G.M.	CHED	238
Blanco, M.A.	BIOT	23	Bluemel, J.	INOR	1495	Bodner, G.M.	CHED	263
Blanco-Tirado, C.	ORGN	821	Bluemel, J.	INOR	1499	Bodner, G.M.	CHED	2067
Blaney, L.M.	ENVR	47	Bluemel, J.	ORGN	864	Bodner, G.M.	CHED	2156
Blaney, L.M.	ENVR	109	Bluemel, J.	POLY	138	Bodner, G.M.	ENVR	469
Blaney, L.M.	ENVR	119	Bluhm, H.	CATL	647	Bodrenko, I.	COMP	484
Blaney, L.M.	ENVR	124	Bluhm, H.	COLL	235	Bodrenko, I.	COMP	500
Blaney, L.M.	ENVR	520	Bluhm, H.	GEOC	115	Bodsgard, B.R.	CHED	1040
Blaney, L.M.	ENVR	719	Blum, A.	ENVR	78	Bodugam, M.	ORGN	658
Blaney, L.M.	ENVR	720	Blum, A.	ENVR	962	Bodurow, C.	WCC	12
Blaney, L.M.	ENVR	982	Blum, A.P.	PMSE	341	Boduszynski, M.M.	ENFL	2
Blaney, L.M.	ENVR	985	Blum, D.E.	CHED	1698	Boduszynski, M.M.	ENFL	155
Blaney, L.M.	ENVR	988	Blum, D.E.	CHED	1785	Bodwin, J.	CHED	1089
Blank, B.R.	MEDI	457	Blum, F.D.	POLY	296	Boe, B.G.	INOR	430
Blank, I.	AGFD	257	Blum, F.D.	POLY	341	Boeckler, J.	ENVR	852
Blankenbuehler, M.T.	CHED	1772	Blum, L.	ENVR	112	Boeger, R.A.	BIOL	116
Blankenburg, J.	POLY	383	Blum, S.	INOR	1390	Boehm, M.	CINF	82
Blankenship, R.E.	PHYS	127	Blum, V.	COLL	510	Boehm, M.	MEDI	340
Blankenship, R.E.	PHYS	206	Blum, V.	COMP	464	Boehm, T.	MEDI	167
Blankenship, R.E.	PHYS	257	Blumberger, J.	GEOC	68	Boeke, J.	PROF	30
Blankenship, R.E.	PHYS	336	Blumberger, J.	PHYS	132	Boekfa, B.	INOR	347
Blanski, R.	INOR	114	Blume, R.	CATL	111	Boekhoven, J.	POLY	574
Blasco, T.	CATL	434	Blumenfeld, C.	COLL	417	Boering, K.A.	PHYS	493
Blasi, P.F.	CHAL	11	Blumenfeld, C.	POLY	281	Boering, K.A.	PROF	19
Blasie, J.K.	COLL	385	Blumenfeld, C.	POLY	413	Boerneke, M.	CHED	2163
Blasky-López, V.M.	CHED	1879	Blumenthal, R.M.	BIOL	128	Boerth, D.W.	ORGN	205
Blass, B.E.	MEDI	35	Bo, C.	INOR	1235	Boerth, D.W.	ORGN	820
Blatti, J.	CHED	1302	Boali, A.A.	POLY	453	Boes, J.	CATL	47
Blattner, K.	MEDI	35	Boardman, B.	CHED	135	Boesen, A.	ENVR	824
Blaylock, M.J.	ENVR	239	Boardman, B.	INOR	707	Boeth, D.	BIOT	570
Blayney, M.B.	ANYL	133	Boateng, C.A.	MEDI	148	Boettcher, S.W.	ANYL	243
Blazevic, R.	CHED	1847	Bobbitt, J.M.	PMSE	96	Boettcher, S.W.	CATL	182
Blazquez, A.	POLY	433	Bobb-Semple, D.	COLL	73	Boettcher, S.W.	INOR	167
Blecking, A.	CHED	177	Bober, B.A.	CHED	817	Boettcher, S.W.	INOR	655
Blecking, A.	CHED	766	Bobylev, M.M.	CHED	249	Boettcher, S.W.	INOR	1413
Blecking, A.	CHED	2079	Bobylev, M.M.	CHED	1349	Boettger, S.	ANYL	75
Bleken, B.T.	COLL	640	Bobylev, M.M.	CHED	1367	Boga, S.B.	MEDI	112
Blell, R.	COLL	606	Bobylev, M.M.	CHED	1368	Bogacz, I.	CHED	1679
Blenda, A.	CHED	44	Bobylev, M.M.	CHED	1412	Bogalhas, M.	MEDI	474
Blenner, M.A.	BIOT	87	Bobylev, M.M.	CHED	1416	Boger, D.L.	ORGN	726
Blenner, M.A.	BIOT	226	Bobylev, M.M.	CHED	1417	Bogetti, A.	ORGN	161
Blenner, M.A.	BIOT	279	Bobylev, M.M.	CHED	1448	Boggara, M.	BIOT	698
Blewett, M.	INOR	232	Bobylev, M.M.	CHED	1449	Bogges, E.	BIOT	173
Blewett, T.	GEOC	302	Bobyleva, L.I.	CHED	249	Boggs, J.	CHED	744
Blickem, M.	CINF	112	Bobyleva, L.I.	CHED	1349	Boggs, K.R.	CHED	1940
Bligaard, T.	CATL	45	Bobyleva, L.I.	CHED	1367	Boginski, I.	MEDI	32
Bligaard, T.	COMP	192	Bobyleva, L.I.	CHED	1368	Boglaienko, D.	COLL	47
Bligaard, T.	COMP	202	Bobyleva, L.I.	CHED	1412	Bogojeski, J.	BIOL	166
Blin, T.	POLY	419	Bobyleva, L.I.	CHED	1416	Bogyo, M.S.	MEDI	132
Blinov, K.	CINF	48	Bobyleva, L.I.	CHED	1417	Bohan, P.	ORGN	248
Bliss, E.	CHED	1471	Bobyleva, L.I.	CHED	1448	Bohling, J.	POLY	2
Bliss, J.	ENVR	326	Bobyleva, L.I.	CHED	1449	Bohling, J.	POLY	86
Bliss, J.	ENVR	1024	Bocarsly, J.D.	INOR	522	Bohling, J.	POLY	115



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<b>Bohlke, J.</b>	ENVR	268	<b>Bonello, P.</b>	AGFD	263	<b>Boresch, S.</b>	COMP	236
<b>Böhm, A.</b>	CELL	523	<b>Bonetti, K.</b>	FLUO	41	<b>Borgatta, J.R.</b>	PHYS	464
<b>Bohman, S.R.</b>	ORGN	100	<b>Bonetti, S.J.</b>	BIOL	268	<b>Borges, J.</b>	CELL	56
<b>Bohman, S.R.</b>	ORGN	197	<b>Bonetti, S.J.</b>	CHED	547	<b>Borghei, M.</b>	CELL	249
<b>Böhmer, M.</b>	INOR	1549	<b>Bonetti, S.J.</b>	INOR	226	<b>Borghei, M.</b>	CELL	531
<b>Bohn, M.</b>	BIOL	141	<b>Bonev, S.</b>	INOR	1535	<b>Borgonovi, M.</b>	MEDI	347
<b>Bohner, B.</b>	PHYS	445	<b>Bong, D.</b>	ORGN	406	<b>Borguet, E.</b>	COLL	714
<b>Bohonak, D.</b>	BIOT	680	<b>Bonger, K.M.</b>	ORGN	552	<b>Borguet, E.</b>	GEOC	70
<b>Bohoul, A.</b>	COLL	61	<b>Bongers, A.</b>	CHED	2048	<b>Borhan, B.</b>	ORGN	119
<b>Bohre, A.</b>	CATL	416	<b>Bonifacio, C.S.</b>	CATL	322	<b>Borhan, B.</b>	ORGN	581
<b>Boice, A.</b>	GEOC	301	<b>Bonifazi, A.</b>	MEDI	148	<b>Borja, L.J.</b>	PHYS	252
<b>Boidi, F.</b>	GEOC	121	<b>Bonificio, A.</b>	CHED	1228	<b>Borja, L.J.</b>	PHYS	443
<b>Boily, J.</b>	GEOC	71	<b>Bonilla, S.</b>	ANYL	185	<b>Borja, L.J.</b>	PHYS	511
<b>Boily, J.</b>	ENVR	41	<b>Bonin, A.</b>	MEDI	137	<b>Borjesson, M.E.</b>	CELL	118
<b>Boily, J.</b>	ENVR	919	<b>Bonitatibus, S.</b>	CHED	104	<b>Bork, J.</b>	AGFD	85
<b>Boison, D.</b>	MEDI	249	<b>Bonitatibus, S.</b>	INOR	20	<b>Borkiewicz, O.</b>	GEOC	173
<b>Boisseau, S.</b>	CELL	494	<b>Bonn, M.</b>	ORGN	760	<b>Borkiewicz, O.</b>	INOR	1529
<b>Boissy, N.E.</b>	CHED	1711	<b>Bonnaillie, L.</b>	AGFD	39	<b>Borkin, D.</b>	BIOL	190
<b>Boisvert, L.</b>	CHED	866	<b>Bonnaud, L.</b>	CELL	394	<b>Bormanis, A.</b>	CPRC	2
<b>Bojkovic, J.</b>	COMP	295	<b>Bonneau, G.</b>	ORGN	302	<b>Bornhorst, G.</b>	AGFD	189
<b>Bokka, A.</b>	CATL	413	<b>Bonnecaze, R.T.</b>	COLL	501	<b>Borodina, Y.</b>	CINF	152
<b>Boland, D.</b>	GEOC	40	<b>Bonnet, P.</b>	NUCL	114	<b>Boron, T.T.</b>	INOR	293
<b>Boland, N.E.</b>	CHED	932	<b>Bonnin, E.</b>	CELL	296	<b>Boron, T.T.</b>	INOR	1265
<b>Boland, T.</b>	ORGN	921	<b>Bonnin, R.</b>	COMP	582	<b>Borovac, D.</b>	COLL	27
<b>Bolarinwa, O.</b>	MEDI	242	<b>Bono, P.</b>	CELL	57	<b>Borovik, A.</b>	INOR	525
<b>Bolden, D.</b>	ENVR	797	<b>Bonser, S.M.</b>	CHED	1463	<b>Borovik, A.</b>	INOR	1190
<b>Boldrin Zanoni, M.</b>	ENVR	356	<b>Bonser, S.M.</b>	CHED	1574	<b>Borovik, A.</b>	INOR	1263
<b>Bolduc, K.</b>	CHED	1881	<b>Bonson, S.</b>	CHED	513	<b>Borrega, M.</b>	CELL	36
<b>Bolduc, K.</b>	INOR	1056	<b>Bontemps, L.</b>	CHED	338	<b>Borreguero, J.M.</b>	GEOC	194
<b>Bolea, R.</b>	BIOL	208	<b>Bontrager, C.</b>	ORGN	685	<b>Borrelli, K.</b>	COMP	451
<b>Boles, J.</b>	COLL	502	<b>Bontrager, J.</b>	POLY	455	<b>Borschneck, D.</b>	ENVR	310
<b>Boles, T.H.</b>	CHED	358	<b>Bontrager, J.</b>	POLY	515	<b>Borschneck, D.</b>	ENVR	549
<b>Boles, T.H.</b>	CHED	414	<b>Bonvin, A.</b>	CHED	904	<b>Bortner, M.</b>	CELL	236
<b>Bolessa, E.</b>	BIOT	717	<b>Bonvin, A.</b>	CHED	1215	<b>Bortner, M.</b>	POLY	181
<b>Boleware, M.</b>	POLY	89	<b>Bonvin, A.</b>	COMP	368	<b>Bortolini, G.</b>	PHYS	133
<b>Bolger, E.</b>	COMP	274	<b>Bonyi, E.</b>	COLL	202	<b>Borton, M.</b>	GEOC	343
<b>Bolger, M.B.</b>	MEDI	399	<b>Bonyi, E.</b>	COLL	832	<b>Bortone, D.</b>	ORGN	875
<b>Bolich, R.</b>	GEOC	171	<b>Book, B.</b>	MEDI	160	<b>Borup, R.</b>	ENFL	366
<b>Bolinger, J.</b>	COLL	390	<b>Book, J.</b>	GEOC	195	<b>Borwankar, A.</b>	BIOT	90
<b>Bolling, B.W.</b>	AGFD	183	<b>Booker, S.J.</b>	INOR	773	<b>Borwankar, A.</b>	BIOT	119
<b>Bolling, B.W.</b>	AGFD	186	<b>Bookser, B.C.</b>	ORGN	461	<b>Borys, M.C.</b>	BIOT	1
<b>Bolling, B.W.</b>	PROF	25	<b>Boomgaard, T.</b>	CELL	314	<b>Borys, M.C.</b>	BIOT	119
<b>Bollinger, J.M.</b>	INOR	774	<b>Boon, B.</b>	ORGN	266	<b>Borys, M.C.</b>	BIOT	513
<b>Bolotin, J.</b>	ENVR	4	<b>Boon, E.M.</b>	BIOL	310	<b>Borys, N.</b>	COLL	142
<b>Bolotnikov, J.</b>	CHED	1337	<b>Boon, M.</b>	GEOC	14	<b>Bosch, E.</b>	CHED	1459
<b>Bolotnikov, J.</b>	COLL	324	<b>Boone-Kukoyi, Z.</b>	COLL	202	<b>Bosch, E.</b>	CHED	1488
<b>Boltalina, O.V.</b>	FLUO	16	<b>Boone-Kukoyi, Z.</b>	COLL	734	<b>Bosch, E.</b>	CHED	1491
<b>Boltalina, O.V.</b>	ORGN	866	<b>Boone-Kukoyi, Z.</b>	COLL	763	<b>Bosch, I.</b>	COLL	663
<b>Boltasseva, A.</b>	PHYS	268	<b>Boons, G.</b>	CARB	34	<b>Bosch, P.</b>	POLY	74
<b>Boltoeva, M.</b>	NUCL	161	<b>Boons, G.</b>	CELL	174	<b>Boschi, V.</b>	ENVR	654
<b>Bolton, E.</b>	CHED	228	<b>Boons, G.</b>	CELL	353	<b>Boscoboinik, J.A.</b>	CATL	93
<b>Bolton, E.</b>	CINF	32	<b>Boonyarattanakalin, S.</b>	AGFD	259	<b>Boscoe, B.P.</b>	ORGN	673
<b>Bolton, E.</b>	CINF	57	<b>Boose, D.</b>	PHYS	435	<b>Bose, A.</b>	GEOC	180
<b>Bolton, E.</b>	CINF	105	<b>Booth, C.</b>	INOR	92	<b>Bose, S.</b>	INOR	499
<b>Bolton, E.</b>	CINF	146	<b>Booth, C.</b>	INOR	1137	<b>Bose, T.</b>	ANYL	136
<b>Bolton, E.</b>	CINF	173	<b>Booth, C.</b>	NUCL	39	<b>Bosio, M.</b>	ENVR	515
<b>Bolton, G.</b>	BIOT	47	<b>Boothby, J.M.</b>	POLY	636	<b>Bosley, B.</b>	CHED	485
<b>Bolton, G.</b>	BIOT	181	<b>Boothman, C.</b>	GEOC	157	<b>Bosley, B.</b>	CHED	1849
<b>Bolvin, H.</b>	NUCL	146	<b>Boparai, H.</b>	ENVR	306	<b>Bosley, B.D.</b>	INOR	1341
<b>Bombardelli, F.</b>	ENVR	554	<b>Bopegedera, A.P.</b>	CHED	14	<b>Bosley, J.</b>	CHED	2138
<b>Bominaar, E.L.</b>	INOR	276	<b>Boppidi, K.</b>	BIOT	585	<b>Bosmajian, C.</b>	CHED	1371
<b>Bominaar, E.L.</b>	INOR	948	<b>Boraei, I.</b>	ENVR	35	<b>Bosmajian, C.</b>	ORGN	472
<b>Bomma, S.</b>	ENVR	850	<b>Boragno, L.</b>	PMSE	281	<b>Bosonetta, J.D.</b>	CHED	115
<b>Bommarius, A.S.</b>	BIOT	563	<b>Boralugodage, N.</b>	INOR	193	<b>Bosque Martínez, I.</b>	ORGN	924
<b>Bommarius, B.</b>	BIOT	563	<b>Boralugodage, N.P.</b>	CATL	546	<b>Bossion, A.</b>	POLY	267
<b>Bommier, C.</b>	ENFL	414	<b>Boravilas, J.</b>	CATL	235	<b>Bossmann, S.H.</b>	INOR	1147
<b>Boms, E.</b>	CHED	1375	<b>Boravilas, J.</b>	ORGN	133	<b>Bossmann, S.H.</b>	INOR	1526
<b>Bonath, M.</b>	INOR	1380	<b>Borbilas, E.</b>	INOR	1476	<b>Bossmann, S.H.</b>	MEDI	80
<b>Boncella, J.M.</b>	INOR	1216	<b>Borbulevych, O.</b>	COMP	581	<b>Bossmann, S.H.</b>	MEDI	420
<b>Boncella, J.M.</b>	NUCL	11	<b>Borca, C.H.</b>	CELL	3	<b>Bostick, B.C.</b>	GEOC	250
<b>Bonchio, M.</b>	CATL	234	<b>Borch, T.</b>	ENVR	213	<b>Bostick, B.C.</b>	GEOC	276
<b>Bonchio, M.</b>	INOR	1330	<b>Borch, T.</b>	GEOC	285	<b>Bostick, D.A.</b>	NUCL	158
<b>Bond, J.</b>	CATL	533	<b>Borch, T.</b>	GEOC	303	<b>Boswell, C.A.</b>	NUCL	31
<b>Bond, J.</b>	I&EC	31	<b>Borch, T.</b>	GEOC	304	<b>Botchway, S.</b>	INOR	1385
<b>Bond, N.</b>	BIOT	645	<b>Borch, T.</b>	ENVR	27	<b>Boteju, K.</b>	INOR	1541
<b>Bondarenko, P.V.</b>	BIOT	70	<b>Borden, W.T.</b>	ORGN	445	<b>Botero Besada-Lombana, P.B.</b>	BIOT	543
<b>Bonde, N.</b>	CHED	770	<b>Bordet, P.</b>	INOR	709	<b>Bothof, C.A.</b>	BIOT	562
<b>Bone, R.G.</b>	CHAL	26	<b>Boreen, M.</b>	INOR	97	<b>Botka, V.</b>	ORGN	366
<b>Bone, R.G.</b>	CHAL	27	<b>Borer, B.</b>	BIOT	431	<b>Botman, A.</b>	COLL	589

Botta, M.	INOR	1445	Bowers, G.M.	GEOC	143	Boyle, T.J.	INOR	440
Bottorff, S.C.	I&EC	93	Bowers, J.S.	BIOT	43	Boyle, T.J.	INOR	520
Bottorff, S.C.	NUCL	158	Bowker, M.	CATL	118	Boyle, T.J.	INOR	1149
Botts, E.	ENVR	373	Bowler, H.G.	CHED	469	Boyle, T.J.	INOR	1248
Botts, M.	ANYL	91	Bowles, C.	CHED	367	Boyle, T.J.	INOR	1378
Botts, R.T.	CHED	397	Bowles, D.	BIOL	361	Boyle, T.J.	INOR	1459
Bou Zerdan, R.	PMSE	143	Bowlin, T.L.	MEDI	126	Boyle, T.J.	INOR	1522
Bou Zerdan, R.	POLY	508	Bowling, N.P.	CHED	1459	Boyle, W.	POLY	448
Bou-Abdallah, F.	CHED	689	Bowling, N.P.	CHED	1488	Boyle, W.S.	POLY	377
Bou-Abdallah, F.	COLL	567	Bowling, N.P.	CHED	1491	Boyles, C.	CHED	339
Bouchard, C.	AGFD	5	Bowlsby, A.	MEDI	273	Boynton, A.N.	INOR	236
Bouchard, D.C.	ENVR	666	Bowman, C.	POLY	351	Boynton, N.R.	CHED	1510
Bouchard, D.C.	ENVR	672	Bowman, C.	CHED	630	Boysen, G.	CHED	45
Bouchard, D.C.	ENVR	968	Bowman, D.N.	COMP	243	Bozack, M.	CATL	361
Bouchard, J.	CELL	420	Bowman, D.N.	COMP	537	Bozarth, J.	MEDI	18
Bouchareb, M.	ENVR	686	Bowman, H.	BIOL	185	Bozekowski, J.	BIOT	193
Bouchet, L.M.	COLL	214	Bowman, k.	MEDI	24	Bozell, J.J.	ENFL	337
Boudjelal, M.	MEDI	168	Bowman, M.	CHED	694	Bozell, J.J.	ENFL	392
Boudon, C.	PHYS	507	Bowman, R.	CHED	728	Bozell, J.J.	ORGN	650
Boudon, V.	PHYS	494	Bowman, S.	CINF	111	Bozic, M.	CELL	157
Boudreaux, C.	INOR	614	Bowman-James, K.	CHED	1084	Bozic, M.	CELL	454
Boudreaux, C.	INOR	839	Bowman-James, K.	INOR	11	Bozich, J.	ENVR	497
Boudreaux, C.	INOR	1209	Bowman-James, K.	INOR	196	Bozkurt, A.	ENVR	386
Boudreaux, K.A.	CHED	1778	Bowman-James, K.	INOR	1339	Brabander, D.	ENVR	855
Boudreaux, K.A.	CHED	1816	Bowser, A.K.	INOR	141	Brabander, D.	GEOC	269
Boughorbel, F.	INOR	1576	Bowser, B.	POLY	231	Brabander, M.	BIOT	226
Bouhelassa, M.	ENVR	686	Bowser, M.	ANYL	45	Braboy, G.	CHED	1824
Bouhouste, Y.	CATL	57	Bowser, M.A.	CHED	1237	Bracco, G.	COLL	615
Bouhouste, Y.	INOR	1243	Bowyer, C.	ENVR	560	Bracco, J.	GEOC	193
Bouisseau, A.	ORGN	402	Bowyer, P.J.	CHED	30	Bracco, J.	GEOC	194
Boukari, H.	CHED	581	Boxall, K.	BIOL	314	Bracewell, D.G.	BIOT	15
Boukdad, S.	NUCL	97	Boxell, C.	PMSE	284	Bracewell, D.G.	BIOT	246
Boukouvalas, J.	ORGN	641	Boxer, M.	CINF	63	Bracic, M.	CELL	454
Boulesbaa, A.	GEOC	70	Boxer, S.G.	COLL	381	Bracic, M.	CELL	480
Bouley, R.	MEDI	10	Boxer, S.G.	ORGN	9	Brack, E.	ENVR	825
Boulgakov, A.	ORGN	918	Boxer, S.G.	PHYS	246	Brack, E.	ENVR	838
Boulkamh, A.	ENVR	523	Boy, R.	I&EC	32	Brackhagen, M.	PMSE	614
Boulnois, F.	COMP	112	Boyanov, M.	GEOC	132	Bradbury, R.	COLL	83
Boulos, S.	CELL	109	Boyanov, M.	GEOC	239	Bradbury, R.	COLL	698
Boulton, R.	AGFD	112	Boyanov, M.	GEOC	291	Bradbury, R.	COLL	703
Boulven, M.	ORGN	218	Boyapati, S.	MEDI	34	Bradford, D.	CHED	1513
Boumlic, A.	BIOT	598	Boyce, G.R.	ORGN	361	Bradford, S.E.	COMP	99
Bour, D.	ENFL	32	Boyd, C.L.	CHED	1025	Bradford, S.E.	ENFL	313
Bour, J.R.	INOR	142	Boyd, D.	CATL	261	Bradford, S.E.	PHYS	417
Bourbeau, M.P.	MEDI	127	Boyd, J.E.	CHED	112	Bradley, A.R.	CINF	71
Bourbiaux, K.	MEDI	455	Boyd, J.E.	CHED	924	Bradley, A.S.	GEOC	121
Bourdeau, R.	BIOT	593	Boyd, J.E.	CHED	1765	Bradley, C.A.	CHED	1116
Bourdelais, A.	BIOL	276	Boyd, L.	I&EC	10	Bradley, C.A.	CHED	1117
Bourenkov, G.	PHYS	128	Boyd, L.E.	CHED	1804	Bradley, C.A.	CHED	2032
Bourg, I.C.	ENVR	43	Boyd, M.J.	ENFL	196	Bradley, E.L.	ENVR	807
Bourg, I.C.	GEOC	16	Boyd, S.	ORGN	49	Bradley, H.G.	ORGN	399
Bourg, I.C.	GEOC	42	Boyd, S.	ENVR	649	Bradley, J.	ORGN	268
Bourg, I.C.	GEOC	114	Boyde, N.C.	INOR	600	Bradley, L.	PMSE	129
Bourgault, J.	AGFD	193	Boyde, N.C.	INOR	1488	Bradley, L.M.	ORGN	773
Bourgin, M.	ENVR	113	Boydston, A.J.	INOR	685	Bradley, M.	PMSE	32
Bourgin, M.	ENVR	135	Boydston, A.J.	PMSE	321	Bradley, M.	PMSE	227
Bourguet, F.	BIOT	263	Boydston, A.J.	POLY	262	Bradley, M.	GEOC	156
Bourin, C.	MEDI	51	Boydston, A.J.	POLY	600	Bradley, P.	GEOC	171
Bourne, G.	CHED	539	Boye, K.	NUCL	26	Bradley, R.	COLL	569
Bourne, G.L.	INOR	392	Boye, S.	POLY	87	Bradley, S.B.	CHED	1487
Bournel, F.	COLL	77	Boyer, M.	BIOT	512	Bradley, S.L.	GEOC	349
Boustany, R.	MEDI	122	Boyer, T.H.	ENVR	561	Bradley, W.	POLY	327
Boutelle, M.G.	ANYL	34	Boyer, T.H.	ENVR	562	Bradley, W.	POLY	328
Boutelle, R.C.	PHYS	269	Boyer, T.H.	ENVR	564	Bradshaw, J.	ORGN	872
Boutureira, O.	CARB	80	Boyer, T.H.	ENVR	568	Bradshaw, J.C.	CHED	1859
Bouyanfif, A.	ANYL	450	Boyes, E.	CATL	641	Bradshaw, J.E.	BIOL	163
Bouving, T.	ENVR	153	Boyle, D.	COLL	263	Bradshaw, J.E.	CHED	721
Bowden, J.	CHED	810	Boyle, D.	COLL	362	Bradshaw, J.E.	CHED	1202
Bowen, D.E.	POLY	176	Boyle, D.	COLL	798	Bradshaw, J.E.	CHED	1203
Bowen, J.	PMSE	214	Boyle, J.	CINF	66	Bradshaw, J.L.	ENVR	178
Bowen, J.	ENVR	263	Boyle, J.	CINF	127	Bradshaw, K.	BIOL	105
Bowen, R.D.	ANYL	472	Boyle, J.	ORGN	252	Bradshaw, L.	CATL	198
Bowen, R.D.	ORGN	63	Boyle, M.A.	CHED	448	Bradshaw, T.	MEDI	56
Bowen, R.S.	CHED	1635	Boyle, N.R.	BIOT	516	Bradshaw, T.	MEDI	118
Bower, A.	BIOT	198	Boyle, R.W.	BIOL	280	Brady, A.	CHED	1382
Bower, A.	AGFD	163	Boyle, R.W.	ORGN	876	Brady, C.	CHED	105
Bowerman, C.J.	COLL	8	Boyle, T.J.	CHED	149	Brady, J.	COMP	91
Bowerman, C.J.	COLL	86	Boyle, T.J.	CHED	1048	Brady, K.	ANYL	329
Bowers, B.	CHED	1402	Boyle, T.J.	ENFL	31	Brady, K.	ANYL	330
Bowers, E.M.	CHED	196	Boyle, T.J.	GEOC	284	Brady, N.G.	CHED	760

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Brady, P.V.	ENVR	448	Braun, A.	INOR	92	Brereton, K.R.	COMP	245
Braga, R.C.	ENVR	1009	Braun, A.	INOR	1137	Breslauer, D.	POLY	622
Braganca, A.	COLL	477	Braun, A.	NUCL	39	Breslow, R.	ORGN	353
Braganca, A.	COLL	512	Braun, C.M.	CARB	54	Breslow, R.	ORGN	441
Braganza, J.F.	MEDI	350	Braun, E.	ENFL	442	Breslow, R.	ORGN	548
Bragg, A.E.	PHYS	50	Braun, K.L.	CHED	262	Bresnahan, M.	CHED	811
Bragg, A.E.	PHYS	160	Braun, K.L.	CHED	1968	Bretonneau, C.	AGFD	20
Bragg, A.E.	PHYS	381	Braun, L.	PMSE	479	Brettell, R.	ANYL	472
Bragg, A.E.	PHYS	496	Braun, L.	PMSE	551	Brettell-Adams, I.	ORGN	860
Bragg, J.	CARB	75	Braun, M.	INOR	609	Brettell-Adams, I.A.	INOR	1492
Braggin, G.	POLY	149	Braun, P.V.	PMSE	407	Bretz, R.L.	CHED	363
Brahmachari, U.	PHYS	118	Braun, P.V.	POLY	611	Bretz, R.L.	CHED	413
Brahmachari, U.	PHYS	352	Braun, T.	FLUO	11	Bretz, S.	CHED	151
Brahmbhatt, H.	POLY	627	Braunecker, W.A.	ORGN	866	Bretz, S.	CHED	153
Braide, O.H.	CHED	490	Braun-Sand, S.B.	CHED	283	Bretz, S.	CHED	154
Braje, W.M.	MEDI	11	Braunschweig, A.B.	CARB	95	Bretz, S.	CHED	175
Braje, W.M.	ORGN	498	Braunschweig, A.B.	COLL	719	Bretz, S.	CHED	268
Brake, H.	INOR	81	Braunstein, H.	ORGN	506	Bretz, S.	CHED	780
Braley, J.	NUCL	2	Bravaya, K.B.	PHYS	85	Breuer, R.	BIOT	105
Braley, J.	NUCL	48	Bravo, A.	MEDI	285	Breuning, C.	BIOT	285
Braley, J.	NUCL	75	Bravo, C.	MEDI	108	Breuning, C.	BIOT	343
Braley, J.	NUCL	137	Bravo, E.	CHED	1747	Breuning, C.	BIOT	370
Bramaz, N.	ENVR	113	Brawand, N.P.	COMP	470	Brewer, H.M.	BIOT	139
Brameld, K.A.	MEDI	352	Brawand, N.P.	ENFL	245	Brewer, S.M.	INOR	581
Brånalt, J.	MEDI	17	Brawand, N.P.	INOR	689	Brewer, T.F.	ORGN	19
Branch, A.	CHED	1885	Bray, S.L.	ORGN	632	Brezinski, W.	CATL	163
Branch, B.	CHED	1330	Brayton, C.	CHED	397	Brezny, A.	CATL	397
Brancourt, M.	CELL	58	Brazel, C.S.	INOR	1146	Brezny, A.	INOR	119
Brand, A.	GEOC	196	Brazel, C.S.	INOR	1580	Brezonik, P.L.	ENVR	266
Brand, A.	GEOC	283	Brazel, C.S.	PMSE	103	Brgoch, J.	INOR	1361
Brand, A.	GEOC	316	Brazil, O.	PMSE	531	Bria, C.R.	POLY	85
Brand, J.	CELL	202	Brazzotto, D.	INOR	628	Bric, A.	MEDI	366
Brandauer, J.	CHED	2098	Brea Fernández, R.J.	COLL	697	Bricker, W.	PHYS	498
Brandenburg, E.	CHED	398	Brearley, A.	GEOC	229	Bridges, C.A.	ENFL	413
Brander, S.	ENVR	915	Brearley, A.	GEOC	354	Bridges, N.	I&EC	87
Brandish, P.	MEDI	112	Bread, D.	CHED	1882	Bridges, S.M.	CHED	1424
Brandizzi, F.	CELL	234	Breaux, C.	CHED	1633	Briggs, L.J.	INOR	393
Brandner, D.	CATL	245	Breazeal, V.R.	ENVR	83	Brigham, M.E.	ENVR	125
Brando, B.	CHED	180	Brechbiel, M.W.	INOR	1148	Brigham, N.	POLY	457
Brando, B.	CHED	812	Brechbill, A.	CHED	1091	Brighenti, V.	AGFD	141
Brandon, C.	ENVR	805	Breckenridge, A.R.	CHED	1873	Bright, C.	COLL	741
Brandt, A.J.	CATL	20	Breckenridge, D.	MEDI	367	Bright, E.	INOR	389
Brandt, P.F.	CHED	2119	Bredas, J.E.	COLL	147	Brigmon, R.	ENVR	128
Brandt, T.A.	ORGN	451	Bredas, J.E.	COLL	406	Brikho, Y.M.	CHED	1510
Brangwynne, C.	COLL	415	Breden, L.	BIOL	345	Brill, J.L.	ENVR	934
Brannon, C.	ENVR	664	Bredenbeck, J.	PHYS	52	Brillouet, J.	AGFD	162
Brant, H.A.	ENVR	128	Bredeweg, T.A.	NUCL	2	Brinchmann, B.C.	ENVR	755
Brant, P.	PMSE	41	Bredeweg, T.A.	NUCL	3	Bringoff, R.	ENVR	430
Brant, P.	PMSE	219	Breeden, E.S.	CHED	486	Brinkerhoff, C.J.	ENVR	933
Brantley, J.N.	ORGN	196	Breen, J.J.	CHED	582	Brinkmann, A.	BIOT	638
Brantley, J.N.	ORGN	808	Breen, N.E.	AGFD	40	Brinkmeier, A.	INOR	275
Brantley, S.	GEOC	108	Breen, N.E.	CHED	409	Brintlinger, T.H.	ANYL	406
Brantley, S.	GEOC	166	Breffke, J.	IAC	18	Brisbois, J.	PROF	30
Brantley, S.	GEOC	202	Bregante, D.	CATL	645	Briseno, A.L.	PMSE	67
Brantley, S.	GEOC	203	Breher, F.	INOR	1182	Briskot, T.	BIOT	411
Brantley, S.	GEOC	336	Brehm, P.M.	CHED	813	Brisson, V.	ENVR	460
Brantley, S.L.	GEOC	107	Breider, F.	ENVR	279	Bristol, A.	POLY	459
Brantley, S.L.	GEOC	109	Breitzke, H.	COLL	171	Bristow, L.J.	MEDI	51
Brantley, S.L.	GEOC	168	Breizman, T.	PMSE	196	Bristow, L.J.	MEDI	52
Brantley, S.L.	GEOC	169	Brekalo, I.	INOR	1366	Brito, A.	ORGN	426
Brar, S.K.	ENVR	156	Breksa, A.P.	AGFD	56	Brito, A.	ORGN	893
Bras, J.	CELL	79	Breksa, A.P.	AGFD	115	Britt, R.	INOR	666
Bras, J.	CELL	120	Breksa, A.P.	ANYL	10	Britt, R.	INOR	1297
Bras, J.	CELL	131	Breksa, A.P.	BIOL	80	Britt, R.	ORGN	129
Bras, J.	CELL	155	Bremberg, U.	MEDI	291	Brittman, S.	ENFL	105
Bras, J.	CELL	201	Bren, K.	INOR	39	Britto, R.J.	CATL	263
Bras, J.	CELL	225	Bren, K.	INOR	178	Britto, R.J.	CATL	268
Bras, J.	CELL	238	Bren, K.	INOR	712	Britze, K.	ORGN	498
Bras, J.	CELL	341	Brendel, J.	PMSE	33	Brixner, T.	PHYS	255
Braselmann, S.	MEDI	478	Brenneman, M.K.	PHYS	76	Broad, A.J.	BIOL	64
Braselmann, S.	MEDI	479	Brennan, B.B.	BIOL	261	Broadbelt, L.J.	CELL	214
Brasoul, M.	CHED	89	Brennan, C.B.	CHED	430	Brock, A.	CHED	1801
Brashear, R.S.	HIST	27	Brennan, D.	MEDI	394	Brock, S.	ANYL	314
Brasier, K.	GEOC	108	Brennan, P.	MEDI	6	Brock, S.	COLL	209
Brath, U.	ORGN	686	Brennan, S.M.	CHED	453	Brock, S.	COLL	474
Brathwaite, A.D.	PHYS	518	Brennecka, G.	INOR	1116	Brock, S.	INOR	50
Bratis, A.	CATL	245	Brennessel, W.W.	CHED	1124	Brockway, L.	YCC	11
Bratton, M.	CHED	549	Brennessel, W.W.	INOR	1285	Broadbelt, J.	ANYL	372
Bratton, M.	MEDI	202	Brenny, B.	INOR	1572	Broadbelt, J.	ORGN	919
Bratton, M.	MEDI	413	Brenzovich, W.E.	CHED	188	Brodean, E.	BIOT	43



Broderick, J.B.	INOR	175	Brouwer, E.	AGFD	63	Brown, P.	PMSE	456
Broderick, J.B.	INOR	259	Browder, C.C.	ENFL	229	Brown, R.C.	CATL	404
Broderick, W.E.	INOR	175	Browder, C.C.	ENFL	370	Brown, R.C.	CELL	521
Brodhacker, K.	PMSE	15	Browder, C.C.	ORGN	525	Brown, R.C.	ENFL	287
Brodovskaya, A.	CHED	659	Browder, L.	CHED	1155	Brown, S.	CHED	47
Brodrecht, M.	COLL	171	Browder, L.	IAC	15	Brown, S.	CHED	595
Brodsky, B.	COMP	326	Brower, K.P.	BIOT	695	Brown, S.	COLL	593
Brodsky, C.	INOR	1236	Brower, M.	BIOT	121	Brown, S.A.	CHED	53
Brodts, S.	AGFD	190	Brown, A.	BIOT	492	Brown, S.P.	MEDI	354
Broeckling, C.	BIOT	402	Brown, A.	INOR	96	Brown, S.P.	CELL	270
Broekhuizen, K.	ANYL	330	Brown, A.	INOR	140	Brown, S.P.	CELL	364
Broering, E.	INOR	957	Brown, A.	CHED	1973	Brown, T.	NUCL	17
Bromberg, J.	PMSE	519	Brown, A.	COLL	511	Brown, T.	BIOT	665
Bromberg, L.	ENVR	1026	Brown, A.	BIOT	330	Brown, T.	COLL	248
Bromfield-Lee, D.C.	CHED	1543	Brown, B.	BIOL	186	Brown, T.	COLL	249
Bromfield-Lee, D.C.	CHED	2059	Brown, B.	ORGN	568	Brown, T.	COLL	497
Brommer, D.B.	GEOC	222	Brown, C.	CHED	463	Brown, T.	PMSE	418
Brongersma, M.	PHYS	564	Brown, C.	INOR	1288	Brown, T.T.	CHED	1270
Bronner, S.M.	ORGN	725	Brown, C.E.	BIOL	200	Brown, W.J.	BIOL	304
Bronson, J.J.	MEDI	51	Brown, C.E.	BIOL	207	Brown, Z.	ENVR	376
Bronstein, H.	CATL	392	Brown, C.E.	BIOL	265	Browne, W.R.	INOR	147
Bronstein, L.	CATL	80	Brown, C.E.	CHED	230	Browne, W.R.	INOR	216
Bronstein, L.	ENFL	335	Brown, C.E.	CHED	842	Browne, W.R.	INOR	278
Bronstein, N.D.	INOR	692	Brown, C.L.	POLY	231	Browne, W.R.	INOR	1239
Brooijmans, N.	MEDI	351	Brown, C.M.	INOR	710	Brownell, A.	MEDI	241
Brooijmans, N.	MEDI	365	Brown, C.M.	INOR	714	Brownell, S.	POLY	86
Brook, D.J.	CHED	1041	Brown, C.M.	INOR	1233	Brownholland, D.	CHED	1028
Brook, D.J.	CHED	1122	Brown, C.M.	INOR	1505	Brownholland, D.	CHED	1029
Brook, D.J.	CHED	1542	Brown, D.	CHED	1677	Brownholland, D.	CHED	1403
Brook, D.J.	CHED	1563	Brown, D.	CHED	1684	Browning, J.	ENFL	412
Brook, D.J.	ORGN	526	Brown, D.G.	MEDI	121	Browning, J.	PMSE	583
Brook, D.J.	ORGN	591	Brown, D.P.	BIOL	199	Browning, K.	COLL	700
Brook, D.J.	ORGN	863	Brown, E.	CHED	1214	Brownlow, J.	POLY	90
Brook, M.A.	CELL	242	Brown, E.	PMSE	337	Brown-McDonald, J.	CHED	1125
Brook, M.A.	I&EC	35	Brown, E.C.	BIOL	159	Brown-Xu, S.	PHYS	259
Brooker, S.	INOR	214	Brown, E.D.	MEDI	328	Brown-Xu, S.	PHYS	488
Brooker, S.	INOR	396	Brown, E.L.	CHED	223	Broyer, R.	CHED	1975
Brookhart, J.	CHED	1842	Brown, E.L.	CHED	227	Brozek, C.	INOR	673
Brookhart, M.	INOR	564	Brown, F.L.	COLL	531	Brozell, S.R.	COMP	212
Brookhart, M.	INOR	566	Brown, G.	COLL	257	Brubaker, C.	COLL	90
Brookins, R.C.	INOR	292	Brown, G.	MEDI	213	Bruce, B.	CHED	760
Brookins, R.C.	INOR	325	Brown, G.E.	ENVR	223	Bruce, C.	COMP	71
Brooks, A.F.	ORGN	232	Brown, G.E.	GEOC	1	Bruce, J.	CHED	348
Brooks, A.F.	ORGN	367	Brown, G.E.	GEOC	142	Bruce, J.	CHED	350
Brooks, B.	COMP	24	Brown, G.E.	NUCL	25	Bruce, R.C.	COLL	845
Brooks, B.	COMP	145	Brown, H.A.	PMSE	338	Brücher, J.	CELL	376
Brooks, B.	COMP	448	Brown, H.R.	POLY	169	Bruchet, A.L.	ENVR	16
Brooks, B.	COMP	529	Brown, J.	COLL	626	Bruckner, C.	CHED	903
Brooks, B.	COMP	551	Brown, J.	ENVR	496	Bruckner, C.	CHED	2146
Brooks, B.W.	ENVR	126	Brown, J.	ANYL	431	Bruckner, D.	BIOT	322
Brooks, B.W.	ENVR	572	Brown, J.	BIOL	54	Brückner, R.	INOR	1487
Brooks, B.W.	ENVR	994	Brown, J.E.	SCHB	6	Brucks, S.	PMSE	16
Brooks, C.J.	COLL	715	Brown, J.L.	ANYL	290	Brudvig, G.W.	COMP	567
Brooks, C.L.	COMP	75	Brown, K.	CELL	152	Brudvig, G.W.	INOR	125
Brooks, C.L.	COMP	312	Brown, K.	BIOT	481	Brudvig, G.W.	PHYS	16
Brooks, J.	ORGN	778	Brown, K.	COLL	172	Bruelckner, A.	COMP	284
Brooks, J.	ANYL	272	Brown, K.	ENVR	419	Bruefach, A.	CHED	738
Brooks, J.T.	COLL	56	Brown, K.	INOR	1548	Bruel, L.	PHYS	494
Brooks, K.	COLL	432	Brown, K.A.	CATL	216	Bruemmer, K.J.	ORGN	19
Brooks, K.	POLY	304	Brown, K.A.	PMSE	662	Bruening, M.	CHED	1643
Brooks, P.D.	ENVR	191	Brown, L.	ORGN	528	Bruening, M.A.	INOR	297
Brooks, S.	CHED	1243	Brown, L.	PHYS	74	Brugel, T.A.	CELL	315
Brooun, A.	MEDI	350	Brown, L.	IAC	17	Bruggeman, D.	INOR	1325
Brophy, J.	CHED	1737	Brown, L.	IAC	19	Bruggen, J.	INOR	965
Brorson, K.A.	BIOT	264	Brown, L.	IAC	20	Bruggen, J.	INOR	1254
Brorson, K.A.	BIOT	272	Brown, L.	IAC	23	Bruijn, I.I.	MEDI	333
Brorson, K.A.	BIOT	285	Brown, L.	PHYS	472	Bruijnincx, P.	CATL	203
Brorson, K.A.	BIOT	308	Brown, L.C.	CHED	1937	Brumaghim, J.L.	CHED	1075
Brorson, K.A.	BIOT	362	Brown, M.	BIOL	207	Brumaghim, J.L.	INOR	825
Bros, M.	PMSE	628	Brown, M.	BIOL	265	Brumberg, A.	PHYS	231
Brosmer, J.	INOR	395	Brown, M.	BIOT	264	Brummelhaus de Menezes, B.	INOR	1221
Brosmer, J.L.	CHED	1094	Brown, M.	BIOT	285	Brunauer, L.S.	CHED	1848
Brosmer, J.L.	INOR	592	Brown, M.	BIOT	362	Brune, N.	INOR	1175
Brosmer, J.L.	INOR	702	Brown, M.A.	ANYL	446	Brune, W.	ENVR	402
Brotero, P.P.	CHED	2133	Brown, M.A.	GEOC	113	Brunelle, E.	ANYL	187
Brothers, E.	CATL	392	Brown, M.F.	MEDI	316	Brunelle, E.	ANYL	188
Brothers, E.N.	INOR	1464	Brown, M.S.	CHED	37	Brunelli, N.A.	CATL	59
Brotherton, K.	CHED	959	Brown, N.	CINF	148	Bruner, A.	COMP	535
Brouard, Q.	POLY	550	Brown, P.	BIOL	320	Bruner, C.	INOR	1189
Broudy, B.	INOR	1	Brown, P.	MEDI	23	Bruneval, F.	COMP	511

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Brunk, E.C.	BIOT	86	Buchholz, B.A.	ANYL	23	Bulone, V.	CELL	186
Brunk, K.N.	CHED	1237	Buchhorn, S.	CHED	1690	Bulone, V.	CELL	190
Brunner, C.	FLUO	18	Buchko, G.	CATL	546	Bulone, V.	CELL	320
Brunner, F.	INOR	463	Buchler, D.	BIOT	727	Bulone, V.	CELL	404
Bruno, A.	CHED	1870	Buchman, C.	MEDI	221	Bulumulla, C.	ORGN	862
Bruno, B.A.	CHED	1152	Buchmeiser, M.	PMSE	303	Bumajdad, A.Y.	GEOC	220
Bruno, I.	CINF	138	Bucholtz, E.C.	PROF	39	Bumpus, J.A.	CHED	889
Bruno, J.	CATL	37	Buchwald, C.	GEOC	212	Bumrungsalee, S.	CATL	287
Bruns Scaglione, J.	CHED	654	Buchwald, S.L.	ORGN	36	Bunce, R.A.	ORGN	757
Bruns, C.J.	BIOT	234	Buchwald, S.L.	ORGN	422	Bunce, R.A.	ORGN	758
Bruns, M.M.	CHED	1862	Buchwalter, M.J.	ORGN	399	Bunck, D.N.	BIOT	219
Bruns, O.	ORGN	457	Bucio, E.	PMSE	405	Bundens, J.	CHED	1763
Brush, E.J.	CHED	80	Buck, E.	GEOC	210	Bundgaard, C.	MEDI	344
Brush, E.J.	CHED	221	Buck, E.	GEOC	281	Bundgaard, C.	MEDI	447
Brush, E.J.	CHED	286	Buck, E.	GEOC	312	Bunel, E.	INOR	505
Brush, E.J.	CHED	1017	Buck, E.	NUCL	102	Bunev, A.S.	FLUO	50
Brush, E.J.	CHED	1764	Buck, M.	COLL	535	Bunev, A.S.	FLUO	51
Brust, G.	POLY	506	Buck, R.C.	ENVR	881	Bunev, A.S.	MEDI	48
Brutchey, R.L.	ENFL	313	Buck, R.C.	ENVR	882	Bunev, A.S.	MEDI	49
Brutchey, R.L.	INOR	688	Buck, W.J.	CHED	1739	Bunev, A.S.	MEDI	456
Brutchey, R.L.	INOR	1424	Buckanovich, R.	MEDI	221	Bunin, B.A.	CINF	52
Brutchey, R.L.	INOR	1528	Buckholtz, G.A.	CHED	1955	Bunin, B.A.	CINF	164
Brutchey, R.L.	INOR	1559	Buckner, A.K.	CHED	643	Bunin, B.A.	COMP	69
Brutman, J.	CHED	1741	Buckner, B.	CHED	1213	Bunin, B.A.	MEDI	166
Brutman, J.P.	POLY	189	Buckner, C.R.	CHED	1023	Bunin, B.A.	MEDI	480
Bruton, T.	ENVR	619	Buckner, O.J.	INOR	839	Bunin, B.A.	SCHB	16
Bruton, T.	ENVR	962	Buckner, S.W.	CHED	1311	Bunmahotama, W.	ENVR	96
Bruzas, I.	COLL	824	Buckner, S.W.	INOR	1123	Bunnett, N.W.	POLY	54
Bryan, C.	NUCL	150	Buckner, S.W.	INOR	1130	Bunting, D.	ORGN	82
Bryan, M.C.	MEDI	24	Buckner, S.W.	INOR	1131	Bunting, P.	INOR	86
Bryant, C.	ANYL	180	Bucsai, A.	ORGN	366	Bunting, P.	INOR	1460
Bryant, C.	MEDI	142	Budas, G.	MEDI	367	Buntkowsky, G.	COLL	171
Bryant, J.L.	INOR	765	Budd, R.	ENVR	553	Bunye, C.	MEDI	207
Bryant, J.L.	INOR	768	Budd, R.	ENVR	877	Bunz, U.	ORGN	753
Bryant, J.L.	WCC	5	Budin, N.	CHED	1621	Bunz, U.	ORGN	776
Bryant, J.L.	WCC	13	Budjav, E.	CELL	250	Bunz, U.	ORGN	779
Bryant, M.	CHED	1319	Budtova, T.	CELL	172	Buonomo, J.	MEDI	216
Bryant, M.J.	CINF	145	Budtova, T.	CELL	264	Buonomo, J.	MEDI	450
Bryant, M.J.	CINF	169	Budtova, T.	CELL	339	Buonomo, J.	ORGN	377
Bryant, S.H.	CHED	228	Budy, B.	CHED	197	Buonora, P.T.	ORGN	126
Bryant, S.H.	CINF	57	Budy, B.	CHED	2120	Buonsanti, R.	COLL	142
Bryant, S.H.	CINF	146	Budy, S.M.	COLL	540	Bur, S.	CHED	2036
Bryant, S.H.	COMP	325	Budy, S.M.	POLY	401	Burata, O.E.	BIOL	307
Bryant, S.J.	POLY	193	Budzelaar, P.	INOR	1547	Burch, K.	CHED	1264
Bryantsev, S.	PHYS	549	Budzinski, K.	ENVR	444	Burch, M.A.	CARB	47
Bryantsev, V.	ORGN	408	Buehler, M.J.	COMP	184	Burch, P.	POLY	509
Bryce, D.	COLL	696	Buehler, M.J.	GEOC	222	Burchett, J.	CHED	622
Bryce, D.A.	BIOL	282	Buehne, K.L.	PMSE	100	Burckel, B.	COLL	137
Brydges, S.	CHED	1840	Buelke, C.J.	CELL	497	Burdette, J.E.	AGFD	156
Brydges, S.	CHED	2163	Buell, M.	CHED	785	Burdette, S.C.	ANYL	227
Bryndza, H.E.	POLY	174	Buendia, J.	POLY	307	Burdge, H.	CHED	1438
Bryson, K.	CHED	616	Buesing, B.	BIOT	210	Burdge, H.E.	ORGN	833
Brzonova, I.	CELL	497	Buesing, B.	BIOT	435	Burdick, D.	MEDI	24
Btonjic-Sehic, E.	BIOT	471	Buevich, A.	COMP	214	Burdick, J.	ENVR	543
Bu, J.	MEDI	123	Buffo, C.	CHED	1665	Burdynska, J.	COLL	670
Bu, L.	CELL	69	Buffon, M.	INOR	1080	Burford, N.	MEDI	41
Bu, L.	CELL	361	Buftia, G.	ENVR	678	Burford, N.	MEDI	42
Bu, L.	COMP	162	Buggele, W.	BIOT	412	Burg, J.	PMSE	494
Bu, X.	INOR	166	Buhlmann, P.	CHED	354	Burg, J.	POLY	134
Bu, X.	INOR	469	Buhro, W.E.	INOR	129	Burg, J.	BIOT	672
Bu, X.	INOR	473	Bui, L.	CATL	190	Burgard, D.A.	CHED	939
Bu, X.	INOR	474	Bui, T.	BIOT	74	Burgard, D.A.	CHED	940
Bu, X.	INOR	478	Bui, T.	CHED	926	Burgard, D.A.	ENVR	122
Bu, X.	INOR	479	Bukhtiyarova, M.	MEDI	449	Burger, M.	ANYL	396
Bu, X.	INOR	548	Bukowski, B.	INOR	568	Burger, P.	MEDI	65
Bubna, N.	BIOT	460	Bulavko, G.	PHYS	528	Burgert, I.	CELL	85
Bucak, S.	POLY	394	Bulbul, G.	COLL	574	Burgert, I.	CELL	203
Bucaro, M.	INOR	1039	Bulfield, D.	ORGN	272	Burgess, A.	AGFD	17
Bucci, A.	INOR	1278	Bulfield, D.	ORGN	409	Burgess, B.	ANYL	128
Buchanan, C.M.	CELL	254	Bull, J.A.	ORGN	707	Burgess, M.	ANYL	277
Buchanan, E.	PHYS	304	Bull, J.A.	ORGN	763	Burgess, M.	COLL	68
Buchanan, J.	POLY	507	Bull, R.	ANYL	256	Burgess, M.	PMSE	582
Buchanan, J.	INOR	447	Bull, T.	ANYL	362	Burgess, M.	POLY	236
Buchanan, J.	INOR	1375	Bullard, J.	GEOC	196	Burgess, S.A.	INOR	42
Buchanan, M.	BIOL	276	Bullard, J.	GEOC	292	Burgett, R.	POLY	473
Buchanan, N.	CELL	254	Bullard, J.W.	GEOC	283	Burggraf, L.W.	PHYS	243
Buchanan, R.M.	INOR	195	Bullard, J.W.	GEOC	316	Burghard, C.J.	CHED	1361
Buchanan, R.M.	INOR	338	Bullock, J.	INOR	415	Burghard, C.J.	CHED	1783
Buchanan, R.M.	INOR	1422	Bullock, R.	INOR	539	Burgos, W.D.	GEOC	55
Buchete, N.	COMP	448	Bullock, T.	POLY	90	Burgos, W.D.	GEOC	304

Burgos-Feliciano, C.N.	CHED	1249	Bursten, J.R.	CINF	117	Buzzeo, M.C.	INOR	928
Burgstaller, D.	BIOT	164	Burstyn, J.N.	BIOL	185	Byczynski, H.	CHED	600
Burgun, A.	ENFL	254	Burt, J.	ORGN	395	Bydalek, S.	BIOL	207
Buriak, J.M.	INOR	535	Burt, S.P.	CATL	580	Bydalek, S.	BIOL	216
Burk, L.	PMSE	17	Burtea, A.	ORGN	140	Bydalek, S.	BIOL	265
Burkart, M.D.	BIOL	85	Burtis, N.	GEOC	252	Byer, A.S.	INOR	175
Burkart, M.D.	BIOL	156	Burton, C.	ANYL	276	Byer, A.S.	INOR	259
Burkart, M.D.	BIOL	337	Burton, C.A.	SCHB	1	Byers, J.A.	INOR	394
Burkart, M.D.	POLY	546	Burton, C.L.	CHED	1124	Byers, J.A.	INOR	398
Burke, J.	MEDI	21	Burton, G.F.	CHED	539	Byers, J.A.	INOR	500
Burke, J.	MEDI	315	Burton, S.	PMSE	427	Byers, J.A.	INOR	563
Burke, K.	CHED	1629	Burton, S.D.	ENFL	182	Byers, J.A.	INOR	683
Burke, M.D.	BIOL	326	Burton-Freeman, B.	AGFD	205	Byers, J.A.	PMSE	113
Burke, M.D.	ORGN	291	Burt, D.G.	GEOC	281	Byers, J.A.	POLY	538
Burke, M.D.	ORGN	624	Buru, C.T.	INOR	1375	Bykov, A.	INOR	1039
Burke, M.D.	ORGN	625	Burwell, E.	PMSE	458	Bylaska, E.J.	ENFL	123
Burke, R.	BIOL	5	Busa, D.	PHYS	414	Bylaska, E.J.	INOR	1481
Burke, R.	MEDI	111	Busath, D.D.	INOR	743	Byrd, E.F.	COMP	195
Burke, S.	BIOT	217	Busby, K.N.	BIOL	63	Byrd, M.	AGFD	191
Burken, J.G.	ENVR	163	Buscaglia, J.	ANYL	358	Byrley, P.	PMSE	537
Burken, J.G.	ENVR	239	Busch, H.	POLY	375	Byrne, J.	GEOC	87
Burken, J.G.	ENVR	242	Busch, M.	ANYL	190	Byrne, J.	GEOC	99
Burke-Stevens, M.	ANYL	243	Buschle-Diller, G.	CELL	107	Byrne, N.	CHED	1113
Burket, B.	ENVR	126	Buschle-Diller, G.	CELL	379	Byrne, P.	COMP	155
Burket, S.	ENVR	572	Buschle-Diller, G.	CHED	1722	Byrnes, N.	AGFD	187
Burket, S.	ENVR	994	Buschmann, N.	MEDI	353	Bystol, K.	MEDI	346
Burkhard, A.	INOR	312	Bush, K.	ENFL	145	Byun, J.	ENVR	375
Burkhardt, A.	MEDI	395	Bush, K.	PMSE	300	Byun, Y.	MEDI	389
Burkhardt, N.	CELL	109	Bushby, A.	PMSE	530	Cabana, J.	ANYL	38
Burkholder, K.M.	CHED	1239	Busker, M.	ANYL	75	Cabana, J.	ANYL	401
Burks, D.B.	INOR	614	Buskohl, P.R.	POLY	610	Cabana, J.	CHED	1337
Burks, D.B.	INOR	1209	Bussell, M.E.	COLL	209	Cabana, J.	COLL	324
Burkus-Matesevac, A.	CHED	424	Bussell, M.E.	COLL	474	Cabana, J.	I&EC	75
Burley, G.A.	ORGN	220	Bussey, T.J.	CHED	26	Cabane, E.	CELL	85
Burley, G.A.	ORGN	427	Bussey, T.J.	CHED	1840	Cabane, E.	CELL	203
Burley, S.	BIOT	86	Bussiere, D.	ANYL	223	Cabanetos, C.	ORGN	675
Burley, S.	CINF	140	Busson, K.	BIOT	474	Cabeca, J.	CHAL	16
Burman, N.B.	CHED	1523	Bustamante, T.E.	INOR	423	Cabezas, G.	CHED	1518
Burn, A.G.	CHED	1009	Butaeva, E.	PHYS	417	Cabezas, J.E.	CATL	437
Burnatowska-Hledin, M.	INOR	931	Butala, M.	INOR	1529	Cabezas, M.	ANYL	417
Burnett, J.V.	INOR	985	Butch, E.	CHED	40	Cabezas, M.	PMSE	662
Burnett, M.E.	INOR	581	Butcher, T.W.	ORGN	216	Cable, M.L.	PHYS	567
Burnham, M.	BIOT	265	Buter, J.	CATL	415	Cabos, A.	INOR	1126
Burnham, M.	BIOT	362	Buter, J.	ORGN	165	Cabrera, C.R.	CHED	502
Burns, A.	CHED	769	Butera, V.	INOR	1370	Cabrera, C.R.	COLL	150
Burns, A.	CHED	161	Butkevich, A.N.	ORGN	17	Cabrera, C.R.	ENFL	210
Burns, A.B.	PMSE	615	Butkyavichene, I.	MEDI	83	Cabrera, G.	CHED	1356
Burns, A.C.	ORGN	461	Butler, A.	CHED	391	Cabrera, K.	INOR	134
Burns, D.	INOR	1088	Butler, C.R.	CHED	97	Cabrera, K.	INOR	381
Burns, K.T.	INOR	328	Butler, C.R.	ENVR	761	Cabrera, M.	ORGN	532
Burns, N.	AGFD	191	Butler, C.R.	ENVR	805	Cabrera, S.	INOR	345
Burns, N.G.	BIOL	162	Butler, E.C.	ENVR	892	Cabrera, S.	INOR	348
Burns, N.Z.	POLY	261	Butler, H.	CHED	158	Cabrini, S.	COLL	142
Burns, P.C.	CHED	968	Butler, I.S.	BIOL	11	Cacciatore, J.	BIOT	72
Burns, P.C.	COLL	463	Butler, J.	CHED	313	Cademartiri, L.	COLL	526
Burns, P.C.	INOR	1418	Butler, K.	MEDI	23	Cademartiri, L.	COLL	827
Burns, P.C.	NUCL	96	Butler, M.	BIOT	530	Cadena, B.	CHED	699
Burns, P.C.	NUCL	97	Butler, M.	MEDI	126	Cadiau, A.	ENFL	350
Burns, P.C.	NUCL	98	Butler, P.	COLL	83	Cadigan, C.A.	INOR	1581
Burns, P.C.	NUCL	118	Butler, P.	COLL	698	Cadirov, N.	COLL	502
Burns, P.C.	NUCL	120	Butler, S.	CELL	44	Cadirov, N.	POLY	508
Burns, P.C.	NUCL	128	Butler, S.	CATL	304	Cadusch, J.	COLL	449
Burns, P.C.	NUCL	167	Butler, S.C.	CHED	755	Caffrey, L.M.	POLY	62
Burns, R.	SOCED	7	Butler, T.W.	MEDI	361	Cafiero, M.L.	BIOL	230
Burnum-Johnson, K.	WCC	18	Butman, D.	ENVR	270	Cafiero, M.L.	COMP	249
Burr, A.	INOR	288	Butt, D.	CHED	1262	Cafiero, M.L.	COMP	250
Burree, P.	CHED	1508	Butt, H.	COLL	148	Cafiero, M.L.	COMP	252
Burrell, B.	INOR	256	Buttaro, B.	CHED	738	Cafiero, M.L.	COMP	319
Burris, D.	COLL	667	Buttaro, B.	CHED	859	Cafiero, M.L.	COMP	320
Burris, P.C.	PHYS	296	Button, A.	CINF	84	Cafiero, M.L.	COMP	322
Burris, T.P.	MEDI	167	Button, A.	ENVR	315	Cafiero, M.L.	COMP	324
Burroughs, J.	CHED	1446	Butts, S.B.	HIST	9	Cafiero, M.L.	COMP	337
Burrow, R.A.	INOR	1221	Buyanin, A.	COLL	193	Cafiero, M.L.	ORGN	522
Burrows, A.C.	CHED	910	Buynak, J.D.	MEDI	75	Cafiero, M.L.	ORGN	546
Burrows, C.J.	BIOL	51	Buynak, J.D.	MEDI	82	Cafolla, C.	PMSE	274
Burrows, C.J.	BIOL	90	Buyse, C.	CHED	928	Cagan, D.	CHED	1787
Burrows, C.J.	BIOL	177	Buyukozturk, O.	GEOC	220	Caggia, S.	MEDI	438
Burrows, C.J.	PROF	43	Buyukozturk, O.	GEOC	222	Cahard, D.	FLUO	37
Burrows, N.L.	CHED	2108	Buzhor, M.	PMSE	157	Cahill, C.L.	NUCL	115
Bursten, B.E.	NUCL	7	Buzzeo, M.C.	INOR	920	Cahill, D.	INOR	486



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Cahoon, J.	CINF	1	Calzolari, L.	COLL	828	Candler, J.	CATL	293
Cai, A.	CATL	621	Calzolari, D.	ANYL	286	Candy, L.	ENFL	338
Cai, C.	CELL	231	Camacho, C.	AGFD	107	Canelas, D.A.	CHED	276
Cai, I.C.	INOR	594	Camacho, C.J.	MEDI	90	Canizal, M.	MEDI	214
Cai, J.	COMP	476	Camacho-Bunquin, J.	CATL	197	Cannavo, A.	MEDI	10
Cai, J.	MEDI	242	Camacho-Bunquin, J.	CATL	573	Cannella, D.	CELL	279
Cai, J.	POLY	330	Camacho-Vanegas, O.	COLL	735	Canney, D.J.	MEDI	35
Cai, J.	MEDI	112	Camacho-Vanegas, O.	COLL	268	Canning, S.L.	POLY	220
Cai, K.	BIOL	135	Camaioni, D.M.	CATL	48	Canning, S.L.	POLY	489
Cai, K.	PMSE	339	Camaioni, D.M.	CATL	153	Cannon, A.S.	CHED	24
Cai, L.	CATL	206	Camaioni, D.M.	CATL	167	Cannon, C.E.	CHED	2125
Cai, M.	ENVR	573	Camaioni, D.M.	ENFL	270	Cannon, J.	INOR	418
Cai, S.	PMSE	160	Camaioni, D.M.	ENFL	271	Cannon, J.	ORGN	168
Cai, X.	ORGN	333	Camara, A.G.	ENVR	696	Cannon, J.	ORGN	169
Cai, X.	ORGN	405	Camarena-Diaz, J.P.	INOR	880	Cannon, J.	ORGN	846
Cai, X.	ENFL	403	Camarero-Espinosa, S.	CELL	31	Cannone, Z.	CHED	1549
Cai, Y.	COLL	59	Camarero-Espinosa, S.	POLY	227	Canonica, S.	ENVR	181
Cai, Y.	ENVR	482	Camarillo, A.	CHED	1878	Canonica, S.	ENVR	513
Cai, Y.	POLY	603	Camarillo, M.	ENVR	907	Canonica, S.	ENVR	527
Cai, Y.	COLL	540	Camden, J.	PHYS	207	Canonica, S.	ENVR	945
Cai, Z.	PMSE	224	Camden, J.P.	ORGN	872	Cantat, T.	INOR	102
Caill, J.	CPRC	16	Camera, K.	PMSE	9	Cantat, T.	INOR	590
Caillol, S.	CELL	178	Camerino, E.	ORGN	889	Cantrell, P.	CHED	1361
Caillol, S.	CELL	261	Cameron, C.	BIOT	542	Cantu, A.	ENVR	758
Cain, B.	BIOL	80	Cameron, D.	BIOL	234	Cantu, A.L.	CATL	634
Cain, G.	MEDI	342	Cameron, D.	ORGN	556	Cantu, D.	CATL	143
Cain, J.M.	INOR	1562	Cameron, J.	CHED	1168	Cantu, D.	ENFL	76
Cain, M.	CHED	1095	Cameron, K.	CHED	1868	Cantu, D.C.	ENFL	38
Cain, N.A.	INOR	1168	Cameron, S.	CHED	459	Cantu, D.C.	ENFL	77
Cairns, E.J.	ENFL	376	Cammarata, M.	PHYS	80	Cantu, D.C.	ENFL	78
Cairns, G.	ANYL	84	Cammarota, R.	INOR	530	Cantu, D.C.	ENFL	270
Cairo-Baza, G.	BIOL	10	Cammarota, R.	INOR	1497	Cantu, G.	ENVR	959
Çakir, S.	PMSE	60	Campagna, J.	BIOT	689	Cantu, J.	ENVR	796
Cakmak, A.	CHED	2117	Campagna, M.	MEDI	259	Canu, N.	BIOT	62
Cal, A.	PMSE	340	Campagna, S.R.	ANYL	132	Canzonieri, V.	COLL	277
Calabrese, V.	BIOT	423	Campagna, S.R.	ORGN	615	Cao, A.C.	BIOL	270
Calabrò, G.	COMP	268	Campana, D.	ENVR	555	Cao, B.	ENVR	529
Calcaterra, H.	CHED	107	Campanella, A.	AGFD	108	Cao, E.	COLL	617
Calcaterra, H.A.	INOR	697	Campbell, A.	GEOC	53	Cao, G.	ENFL	99
Calder, M.	ORGN	105	Campbell, C.	ENVR	659	Cao, G.	ENFL	158
Calderon, A.	CHED	1131	Campbell, C.	CPRC	3	Cao, H.	ENVR	46
Calderon, A.	CHED	1843	Campbell, C.T.	CATL	17	Cao, H.	COLL	132
Calderon, A.	CHED	1001	Campbell, C.T.	CATL	167	Cao, L.	PMSE	497
Calderon, B.	CELL	453	Campbell, C.T.	CATL	186	Cao, M.	INOR	556
Calderon, C.	CHED	856	Campbell, C.T.	COLL	637	Cao, M.	CHED	734
Calderon, M.	COLL	214	Campbell, C.T.	ENFL	270	Cao, M.	BIOT	26
Calderon, S.	COMP	314	Campbell, I.	CHED	277	Cao, M.	BIOT	154
Calderone, C.T.	CHED	714	Campbell, J.	CHED	720	Cao, M.	BIOT	547
Caldero-Rodriguez, N.E.	CHED	1166	Campbell, K.	CHED	1120	Cao, P.	POLY	79
Caldero-Rodriguez, N.E.	IAC	2	Campbell, K.	NUCL	83	Cao, P.	POLY	237
Caldwell, J.	CHED	908	Campbell, K.M.	ENVR	346	Cao, P.	POLY	446
Cale, T.	BIOL	265	Campbell, K.M.	GEOC	97	Cao, P.	POLY	640
Calewarts, D.	POLY	504	Campbell, K.M.	GEOC	240	Cao, Q.	INOR	1288
Calhoun, T.R.	ANYL	301	Campbell, M.	ENFL	260	Cao, Q.	INOR	1496
Calhoun, T.R.	PHYS	547	Campbell, P.	CHAL	10	Cao, S.	BIOT	723
Cali, A.	ORGN	399	Campbell, R.K.	CHED	277	Cao, S.	MEDI	59
Caliez, A.	MEDI	149	Campbell, T.	CHED	250	Cao, S.	ANYL	235
Caliste, D.	ENFL	373	Campiglia, A.D.	COMP	328	Cao, T.C.	INOR	843
Calixte, A.	CHED	48	Campora, J.	INOR	211	Cao, X.	ANYL	471
Calizo, I.G.	CATL	657	Campos, A.	POLY	425	Cao, X.	ENVR	597
Calkins, A.	CHED	317	Campos, A.R.	CHED	2054	Cao, X.	ENVR	697
Calkins, A.	COLL	3	Campos, B.	MEDI	497	Cao, X.	CATL	283
Calkins, D.L.	BIOL	214	Campos, L.	ORGN	680	Cao, X.	CATL	650
Call, A.	CATL	213	Campos, L.	ORGN	854	Cao, X.	INOR	873
Callaghan, M.	MEDI	241	Campos, L.	ORGN	857	Cao, X.	POLY	16
Callahan, B.	BIOT	20	Campos, L.	PMSE	16	Cao, X.	POLY	247
Callahan, K.M.	ENVR	602	Campos, L.	PMSE	188	Cao, X.	POLY	388
Callahan, M.P.	ENFL	177	Campos, L.	POLY	226	Cao, X.	POLY	398
Callahan, M.P.	PHYS	400	Campos, L.	PROF	3	Cao, X.	PMSE	29
Callahan, P.	INOR	1080	Campos, M.P.	INOR	31	Cao, X.	POLY	145
Callam, C.S.	CHED	1979	Camposeco-Solis, R.	CATL	464	Cao, X.	POLY	478
Callaway, C.P.	COMP	359	Campos-Olivas, R.	MEDI	496	Cao, Y.	ENFL	127
Callen, L.	AGFD	260	Campos-Teran, J.	CELL	90	Cao, Y.	POLY	150
Callmann, C.E.	PMSE	290	Campos-Teran, J.	CELL	426	Cao, Y.	POLY	218
Callus, J.	CHED	834	Can, E.	PMSE	591	Cao, Y.	POLY	269
Callus, J.	CHED	1871	Canady, T.	ORGN	550	Cao, Y.	PMSE	142
Calmant, S.	BIOL	186	Canakci, M.	POLY	371	Cao, Y.C.	COLL	712
Calvelo, K.	CHED	1664	Canary, J.W.	INOR	330	Capan, C.	NUCL	59
Calvez, S.	MEDI	83	Canas-Carrell, J.E.	ENVR	1042	Capanema, N.S.	CELL	384
Calvillo, G.N.	PHYS	525	Candelaria, S.	ENFL	364	Caparco, A.	PMSE	151

Capeling, M.	PMSE	601	Carlson, A.	MEDI	397	Carrera, D.E.	ORGN	84
Capelôa, L.	PMSE	479	Carlson, A.	CHED	1955	Carrera, D.E.	ORGN	701
Capomaccio, R.	COLL	828	Carlson, E.E.	BIOL	340	Carrera, J.	CELL	149
Caporaso, L.	INOR	865	Carlson, E.E.	WCC	17	Carrie, C.	CATL	235
Capozzi, B.	ORGN	680	Carlson, E.J.	MEDI	391	Carrillo, I.	CELL	161
Capponi, S.	COMP	354	Carlson, E.R.	INOR	426	Carrillo, J.	COLL	624
Capps, S.	GEOC	345	Carlson, J.	ANYL	348	Carrillo, M.J.	PHYS	510
Cappuccino, K.M.	CHED	1020	Carlson, J.C.	MEDI	458	Carrillo, M.J.	PHYS	521
Cappuccio, J.A.	CHED	677	Carlson, M.R.	INOR	191	Carroll, A.	CHED	759
Cappuccio, J.A.	CHED	1279	Carlson, P.J.	CHED	76	Carroll, C.	ANYL	329
Capra, N.	CHED	1474	Carlson, P.J.	CHED	144	Carroll, D.C.	MEDI	159
Capra, N.	INOR	135	Carlsson, F.	CELL	11	Carroll, M.K.	CHED	1152
Capron, I.	CELL	288	Carmalt, C.J.	INOR	1083	Carroll, M.K.	CHED	1709
Capron, I.	CELL	534	Carman, A.J.	ANYL	295	Carroll, P.	INOR	228
Captain, B.	INOR	364	Carmean, R.N.	POLY	320	Carroll, P.	INOR	234
Captain, I.	INOR	1136	Carmel, J.H.	CHED	2073	Carroll, P.	INOR	1208
Captain, I.	INOR	21	Carmichael, R.A.	ORGN	103	Carroll, P.	NUCL	47
Caputo, C.A.	INOR	44	Carmichael, R.A.	ORGN	147	Carroll, R.	GEOC	170
Caputo, C.A.	INOR	1315	Carmo, A.	BIOT	625	Carroll, S.	CHED	72
Capuzzi, S.	ENVR	1009	Carmona Monroy, P.	INOR	1061	Carroll, S.	MEDI	309
Caraballo, N.	CHED	1775	Carmona, A.V.	CHED	1501	Carroll, S.A.	ENFL	30
Caram, J.R.	ORGN	457	Carneiro Leao, I.	POLY	582	Carroll, S.A.	GEOC	47
Caram, J.R.	PHYS	42	Carneiro, J.	CATL	171	Carruthers, N.I.	MEDI	461
Caran, K.L.	CHED	42	Carneiro, L.M.	CATL	104	Carsella, J.	BIOL	268
Caran, K.L.	CHED	43	Carneiro, N.	COLL	373	Carsella, J.	INOR	226
Caran, K.L.	CHED	1232	Carnes, E.	COLL	534	Carslaw, K.	ENVR	319
Caran, K.L.	CHED	2144	Carnevale, V.	COMP	578	Carson, F.	ORGN	83
Caran, K.L.	ORGN	651	Caro, A.A.	CHED	569	Carta, G.	BIOT	10
Carandang, A.	POLY	456	Caro, A.A.	CHED	663	Carta, G.	BIOT	11
Caratzoulas, S.	CATL	202	Caro, A.A.	CHED	665	Carta, G.	BIOT	310
Carballeira, N.M.	ORGN	923	Caro, A.A.	CHED	690	Cartagena, A.	ENVR	739
Carbognani, J.	ENFL	357	Caro, A.A.	CHED	693	Carter, A.	INOR	838
Carbognani, L.A.	ENFL	154	Caro, A.A.	CHED	695	Carter, A.	INOR	840
Carbognani, L.A.	ENFL	357	Caro, A.A.	CHED	697	Carter, C.B.	COLL	137
Carbonneaux, S.	ENFL	1	Caro, V.	CHED	1143	Carter, D.A.	CHED	465
Carcamo, C.	CHAS	33	Caro-bretelle, A.	CELL	57	Carter, E.A.	ANYL	4
Card, M.	ENVR	243	Caro-Diaz, E.J.	MEDI	192	Carter, E.A.	CATL	73
Cardé, J.A.	CHED	329	Carof, A.	PHYS	132	Carter, E.A.	CATL	128
Cardenas, A.	ENVR	531	Caroline, B.	POLY	290	Carter, E.A.	PHYS	17
Cardenas, A.P.	INOR	539	Caron, J.	CHED	10	Carter, E.A.	PHYS	317
Cardenas, M.	COLL	701	Caron, K.	BIOL	37	Carter, J.	ENFL	92
Cárdenas, M.	COLL	700	Carone, D.	CHED	1127	Carter, J.K.	CHED	460
Cardenas, O.A.	ORGN	399	Carone, D.	CHED	1773	Carter, K.	NUCL	115
Cárdenas, V.	ANYL	218	Caroselli, C.	BIOT	275	Carter, K.N.	CHED	1437
Cardiff, G.	BIOL	68	Carosio, F.	CELL	283	Carter, K.R.	PMSE	243
Cardiff, G.	MEDI	201	Carothers, J.M.	BIOT	175	Carter, K.R.	POLY	107
Cardillo, A.	INOR	242	Carpenetti, D.W.	CHED	512	Carter, N.	POLY	128
Cardinal, S.	AGFD	5	Carpenetti, D.W.	CHED	2169	Carter, N.	POLY	573
Cardinale, S.	MEDI	126	Carpenter, A.	PHYS	295	Carter, P.H.	MEDI	21
Cardinali, S.M.	CELL	140	Carpenter, B.K.	CHED	890	Carter, P.H.	MEDI	25
Cardon, J.M.	PHYS	47	Carpenter, D.	ENFL	331	Carter, P.H.	MEDI	315
Cardona, A.	MEDI	430	Carpenter, J.	PMSE	436	Carter, P.H.	MEDI	339
Cardona, N.	CHED	1257	Carpenter, K.A.	CATL	173	Carter, R.G.	ORGN	102
Cardona, R.	POLY	506	Carpenter, N.E.	CHED	1511	Carter, R.G.	ORGN	285
Cardoso, F.S.	ORGN	31	Carpenter, R.	CHED	940	Carter, R.G.	ORGN	483
Carey, J.J.	CATL	137	Carpenter, S.A.	POLY	1	Carter, R.G.	ORGN	898
Carey, J.J.	CATL	301	Carpenter, T.	BIOT	263	Carter, R.G.	PROF	37
Carey, L.M.	INOR	63	Carpenter, T.	COMP	546	Carter, S.E.	CHED	1468
Carey, S.J.	CATL	17	Carpentier, J.	INOR	796	Cartier, C.	COLL	69
Carey, W.	GEOC	43	Carpick, R.	COLL	30	Cartier, C.	PMSE	81
Cargnello, M.	CATL	35	Carpick, R.	COLL	106	Carton, P.	CINF	31
Cargnello, M.	CATL	149	Carpick, R.	COLL	756	Cartron, M.	PHYS	563
Cargnello, M.	CATL	498	Carpino, P.A.	MEDI	340	Cartwright, G.	CHED	1326
Cargnello, M.	ENFL	110	Carpita, N.	CELL	192	Cartwright, M.	MEDI	346
Cargnello, M.	INOR	1352	Carpita, N.	CELL	231	Caruso, F.	COLL	674
Caricato, M.	CATL	13	Carr, A.	CHED	1255	Caruso, R.	CATL	495
Caricato, M.	PHYS	444	Carr, C.E.	INOR	24	Carvajal, J.	COLL	494
Caridade, S.	CELL	56	Carr, D.	MEDI	346	Carvalho do Prado, G.	ENFL	407
Carl, A.D.	ENFL	149	Carr, M.	POLY	506	Carvalho Morais, M.R.	CHED	351
Carlin, C.	COMP	433	Carr, M.C.	CHED	1851	Carvalho, A.J.	CELL	155
Carlini, A.	COLL	769	Carr, S.A.	ENVR	115	Carvalho, B.R.	INOR	690
Carlini, A.S.	BIOT	511	Carraher, C.E.	PMSE	342	Carvalho, E.	PMSE	254
Carlini, A.S.	PMSE	341	Carraher, C.E.	PMSE	343	Carvalho, T.	COLL	737
Carlini, A.S.	PMSE	477	Carraher, J.	CATL	205	Carvalho, Y.	CATL	359
Carlini, A.S.	PMSE	515	Carranza-Rosales, P.	ORGN	790	Carver, C.	ANYL	62
Carlmark, A.E.	CELL	248	Carraro, C.	GEOC	321	Casadevall, C.	CATL	213
Carlmark, A.E.	CELL	286	Carrascal, M.	MEDI	220	Casale, J.	ANYL	226
Carlmark, A.E.	CELL	341	Carrasco-Gonzalez, J.A.	AGFD	182	Casale, J.	ANYL	288
Carlo, J.P.	INOR	644	Carratt, S.A.	ANYL	23	Casale, J.	ANYL	293
Carloni, P.	COMP	566	Carre, M.	COLL	663	Casale, M.	CHED	1813

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Casalini, R.	COLL	237	Castillo, H.D.	COLL	558	Cavanaugh, M.A.	WCC	11
Casalino, L.	COMP	216	Castillo, H.D.	PROF	41	Cave, R.J.	ORGN	844
Casalino, L.	COMP	569	Castillo, J.	ENVR	206	Cave, R.J.	ORGN	935
Casandra, D.	MEDI	452	Castillo, S.	CHED	691	Cave-Ayland, C.	COMP	146
Casas, S.	POLY	486	Castillo, V.	COLL	586	Cave-Ayland, C.	MEDI	423
Casas-Flores, S.	CATL	464	Castillo-Bocanegra, R.	MEDI	44	Cavicchi, K.A.	PMSE	570
Cascio, D.	BIOT	282	Castillo-Bocanegra, R.	MEDI	45	Cavicchi, K.A.	POLY	91
Cascio, M.	CHED	587	Castillo-Bocanegra, R.	MEDI	289	Cavicchi, K.A.	POLY	93
Cascio, M.	CHED	696	Castillo-Bocanegra, R.	MEDI	443	Cavicchi, K.A.	POLY	283
Cascio, M.	CHED	718	Castillo-Bocanegra, R.	MEDI	493	Cavicchi, K.A.	POLY	302
Casdorff, K.	CELL	203	Castillo-Meza, L.	GEOC	304	Cavicchi, K.A.	POLY	382
Case, A.	BIOT	92	Castillon, S.	CARB	80	Cavinato, A.G.	ANYL	409
Case, B.	BIOT	56	Castillon, S.	CATL	362	Cavinato, A.G.	CHED	431
Case, W.	CHED	386	Castillon, S.	MEDI	430	Cavinato, A.G.	CHED	460
Case, W.	CHED	2190	Castillon, S.	ORGN	912	Cavinato, A.G.	CHED	1783
Casella, A.	NUCL	112	Castle, E.	BIOL	255	Cavusoglu, N.	COLL	236
Casellas-Cruzado, N.M.	CHED	973	Castle, S.L.	ORGN	100	Cawley, J.	AGFD	103
Caserio, M.c.	CINF	40	Castle, S.L.	ORGN	197	Cawley, J.	CHED	1201
Casey, G.R.	BIOL	32	Castle, S.L.	ORGN	603	Cawley, K.	ENVR	190
Casey, G.R.	BIOL	251	Castner, D.G.	COLL	397	Caydamlı, Y.	POLY	338
Casey, J.	ENFL	5	Castner, D.G.	PHYS	548	Cayton, R.	INOR	1096
Casey, S.M.	COLL	258	Castner, E.	PHYS	142	Cazeneuve, C.	COLL	157
Casey, S.M.	COLL	275	Castner, E.	PHYS	146	Cazeneuve, C.	COLL	673
Casey, S.R.	CHED	1636	Castonguay, A.	MEDI	428	Cazimir, C.	CHED	1836
Casey, W.H.	GEOC	237	Castonguay, L.	MEDI	367	Cazin, C.	ENVR	262
Casey, W.H.	GEOC	268	Castro Herazo, D.C.	AGFD	135	Ceballos, B.	INOR	161
Casey, W.H.	INOR	446	Castro Herazo, C.	CELL	41	Ceccarelli, C.	PHYS	237
Casey, W.H.	INOR	449	Castro Herazo, C.	CELL	80	Ceccarelli, C.	PHYS	524
Cash, K.	CHED	915	Castro Herazo, C.	CELL	159	Ceccarelli, M.	COMP	484
Cashion, A.T.	ENFL	31	Castro Herazo, C.	CELL	483	Ceccarelli, M.	COMP	500
Casillas, M.	INOR	440	Castro, C.	COLL	440	Ceccherini, S.	CELL	76
Casillas, M.	INOR	523	Castro, C.	ORGN	812	Cecchin, D.	PMSE	629
Casillas, M.	INOR	1143	Castro, G.G.	CHED	782	Cedano, M.	ORGN	652
Casimiro-Garcia, A.	MEDI	316	Castro, G.G.	ORGN	844	Ceder, G.	ENFL	67
Casique, H.	ENVR	658	Castro, H.F.	ANYL	132	Cederberg, J.	CHED	683
Casique, H.	ENVR	763	Castro, L.	NUCL	64	Cegelski, L.	CELL	67
Casitas Montero, A.	CATL	213	Caswell, B.	BIOL	229	Cegelski, L.	CELL	97
Casitas Montero, A.	ORGN	317	Catalan, J.	CELL	198	Celaje, J.	INOR	607
Caspary, K.	MEDI	63	Catalano, J.	GEOC	93	Celaje, J.	INOR	867
Caspi, D.D.	ORGN	277	Catalano, J.G.	GEOC	35	Celaje, J.	ORGN	319
Caspi, D.D.	ORGN	343	Catalano, J.G.	GEOC	82	Celebi-Olcum, N.	COMP	308
Cass, S.	CPRC	11	Catalano, J.G.	GEOC	88	Celebi-Olcum, N.	ORGN	928
Cassabaum, A.	PHYS	161	Catalano, J.G.	GEOC	177	Celia, N.	CHED	1112
Cassel, N.	CHED	1315	Catalano, S.	MEDI	35	Celia, N.	CHED	1679
Casselman, B.	CHED	235	Cataldo, A.	BIOT	164	Celik Cogal, G.	COLL	744
Cassidy, B.	PMSE	27	Cataldo, W.	BIOT	339	Celikbag, Y.	CELL	379
Cassidy, B.	POLY	114	Catarineu, N.R.	CHED	1098	Celle, C.	ENVR	494
Cassidy, B.	POLY	300	Catarineu, N.R.	INOR	1021	Celle, C.	ENVR	495
Cassidy, J.	ORGN	860	Catchmark, J.M.	CELL	75	Celle, C.	INOR	1126
Cassidy, S.	CHED	1865	Catchmark, J.M.	CELL	466	Gen, J.	CATL	34
Cassimeris, L.	INOR	945	Cate, J.	BIOL	176	Gen, J.	CATL	300
Cassingham, M.	CHED	998	Cates, E.L.	ENVR	927	Gen, J.	CATL	370
Castaldi, M.J.	CHED	835	Cath, T.Y.	ENVR	213	Gen, J.	CATL	373
Castaldi, M.J.	CHED	1556	Cathala, B.	CELL	126	Geniceros, A.	ENVR	795
Castaldi, M.J.	CHED	1981	Cathala, B.	CELL	288	Geniceros, A.	GEOC	258
Castan, A.	BIOT	283	Cathala, B.	CELL	296	Geniceros, A.	GEOC	263
Castan, A.	BIOT	331	Cathala, B.	CELL	423	Geniceros, A.	GEOC	308
Castan, A.	BIOT	557	Cathala, B.	CELL	440	Centore, J.	CHED	1773
Castaneda, C.	BIOL	95	Cathala, B.	CELL	534	Centrone, A.	PMSE	144
Castañeda, K.	INOR	1515	Catherman, K.	BIOT	132	Cerbón-Cervantes, M.A.	MEDI	44
Castano, I.	ORGN	812	Catlow, C.A.	CATL	599	Cerbone, R.	CHED	1080
Castano, J.	BIOT	340	Cato, M.	MEDI	10	Cerbone, R.	INOR	390
Castano, J.	BIOT	578	Catras, P.	AGFD	269	Cerda, J.	CHED	338
Castañon, C.	INOR	1515	Catras, P.	CHED	239	Cerda, J.	CHED	662
Castarlenas, R.	INOR	880	Cattani-Scholz, A.	COLL	642	Cerhan, A.	I&EC	134
Castele, E.	CHED	852	Caudill, E.	COLL	233	Cerjan, B.	PHYS	560
Castellani, M.P.	ORGN	765	Cauduro, A.	PMSE	684	Cerney, J.	CHED	1506
Castellano, E.	CHED	696	Caulton, K.G.	COLL	721	Cerniglia, C.	ENVR	667
Castellano, F.N.	INOR	1274	Causey, C.P.	INOR	721	Cerrato, J.M.	GEOC	229
Castellano, F.N.	PHYS	488	Cava, R.J.	COLL	62	Cerrato, J.M.	GEOC	310
Castellanos, A.	ANYL	222	Cavaco-Paulo, A.	INOR	1362	Cerrato, J.M.	GEOC	354
Castellanos, M.	BIOT	170	Cavaco-Paulo, A.	CELL	113	Cerron Mercado, F.	AGFD	114
Castellar, L.	CHED	338	Cavaco-Paulo, A.	POLY	585	Cerruti, M.	MPPG	3
Castilla, D.	PMSE	542	Cavalcanti, A.	CHED	858	Cersonsky, R.	POLY	92
Castillo, E.	ANYL	169	Cavali, A.	INOR	1153	Cerullo, G.	COMP	460
Castillo, H.D.	COLL	363	Cavalli, A.	INOR	1582	Cervantes, A.	ENVR	699
Castillo, H.D.	COLL	365	Cavallo, L.	BIOL	44	Cervantes, I.	INOR	354
Castillo, H.D.	COLL	401	Cavallo, L.	BIOL	67	Cervantes, L.	CHED	591
Castillo, H.D.	COLL	402	Cavallo, L.	CATL	545	Cervasio, D.	CHED	1535



Cervellino, A.	INOR	1505	Chakravarty, P.	MEDI	342	Chan, J.	COLL	8
César, V.	CHED	1066	Chakthranont, P.	CATL	268	Chan, J.	COLL	86
Cetnar, D.	BIOT	650	Chakthranont, P.	CATL	560	Chan, J.	INOR	983
Cevallos, S.	COMP	284	Chakthranont, P.	ENVR	144	Chan, J.	INOR	985
Cevirim, N.	NUCL	109	Chalifoux, W.	ORGN	103	Chan, J.M.	CHED	1183
Cha, H.J.	ANYL	113	Chalifoux, W.	ORGN	145	Chan, K.	CHED	1860
Cha, H.J.	ANYL	418	Chalifoux, W.	ORGN	146	Chan, K.	CATL	73
Cha, H.J.	BIOT	240	Chalifoux, W.	ORGN	147	Chan, K.	CATL	537
Cha, H.J.	BIOT	276	Chalifoux, W.	ORGN	437	Chan, K.	CATL	383
Cha, H.J.	BIOT	277	Chalifoux, W.	ORGN	674	Chan, K.	INOR	1023
Cha, H.J.	BIOT	306	Chalk, S.J.	CINF	54	Chan, L.	BIOT	245
Cha, H.J.	BIOT	501	Chalk, S.J.	CINF	55	Chan, L.	ENVR	922
Cha, H.J.	BIOT	529	Chalk, S.J.	CINF	56	Chan, M.	COLL	43
Cha, H.J.	COLL	650	Chalk, S.J.	CINF	69	Chan, M.	ENVR	1036
Cha, H.J.	POLY	417	Chalk, S.J.	CINF	130	Chan, M.	MEDI	401
Cha, J.	CATL	266	Chalk, S.J.	CINF	147	Chan, P.K.	BIOT	70
Cha, J.	INOR	1074	Chalk, S.J.	CINF	153	Chan, P.W.	ORGN	115
Cha, S.	CATL	428	Chalker, J.	PMSE	196	Chan, P.W.	ORGN	250
Cha, W.	NUCL	103	Chalker, J.M.	BIOL	14	Chan, P.W.	ORGN	252
Chaarawi, O.	CHED	638	Chalker, J.M.	PMSE	648	Chan, R.	ORGN	856
Chaarawi, O.	CHED	1724	Challa, J.	PMSE	449	Chan, T.	ENVR	244
Chabal, Y.J.	CATL	111	Chalmers, J.	BIOT	447	Chan, Y.	CATL	389
Chabal, Y.J.	INOR	444	Chalmers, J.	BIOT	493	Chance, E.A.	CHED	512
Chabal, Y.J.	INOR	445	Chamakuri, S.	ORGN	911	Chancellor, A.	MEDI	423
Chabal, Y.J.	INOR	1514	Chamas, A.	CATL	204	Chancellor, C.	ENVR	744
Chabanon, M.	COLL	784	Chamas, A.	ENFL	61	Chandler, B.	INOR	900
Chabbert, B.	ENFL	379	Chamberlain, A.L.	BIOT	21	Chandler, B.D.	CATL	530
Chabinyc, M.L.	INOR	711	Chamberlain, B.M.	CHED	1742	Chandler, B.D.	CATL	651
Chabinyc, M.L.	POLY	213	Chambers, A.L.	MEDI	156	Chandler, B.D.	ENFL	93
Chabrier Rodriguez, J.	CHED	1257	Chambers, M.	CHED	468	Chandler, B.D.	INOR	439
Chacko, J.V.	PHYS	123	Chambers, M.	CHED	1809	Chandler, B.D.	INOR	903
Chacko, S.	MEDI	18	Chambers, N.S.	INOR	227	Chandler, B.D.	CATL	37
Chacon, K.N.	INOR	661	Chambers, R.C.	CHED	1385	Chandler, B.D.	INOR	436
Chadeayne, D.	ORGN	775	Chambers, R.C.	CHED	1601	Chandler, C.	CHED	1785
Chadha, R.	MEDI	508	Chambers, S.	CATL	446	Chandler, D.	PHYS	101
Chadwick, A.F.	ANYL	41	Chambers, Z.	CATL	399	Chandler, L.	CHED	749
Chadwick, D.	CATL	38	Chambliss, K.	ENVR	126	Chandler, L.	CHED	1877
Chae, J.	INOR	832	Chambliss, K.	ENVR	572	Chandra, A.	BIOT	426
Chae, S.	COLL	309	Chambre, L.	POLY	379	Chandra, D.	BIOT	439
Chae, S.	ENFL	215	Chambreau, S.	PHYS	341	Chandra, R.	CHED	710
Chae, S.	PMSE	384	Chamely Wiik, D.	CHED	195	Chandra, T.	INOR	175
Chae, S.	ENVR	644	Chamorro, J.	INOR	1107	Chandrachud, P.P.	ORGN	906
Chafai-Fadela, K.	MEDI	394	Champagne, P.	CELL	420	Chandran, K.	ENVR	394
Chafin, A.P.	POLY	22	Champagne, P.	CELL	461	Chandran, K.	ENVR	910
Chafin, S.D.	CHED	1559	Champagne, P.	ORGN	26	Chaney, J.L.	MEDI	139
Chai, H.	AGFD	156	Champenois, J.	GEOC	320	Chang, A.	PMSE	243
Chai, H.	INOR	1496	Champion, J.	COLL	822	Chang, A.	POLY	241
Chai, Q.	BIOT	271	Champion, J.	PMSE	151	Chang, A.	POLY	397
Chai, R.	ANYL	158	Champness, E.	CINF	62	Chang, A.	POLY	535
Chai, Z.	NUCL	127	Champness, E.	CINF	70	Chang, A.H.	PHYS	418
Chaidez-Avila, A.	MEDI	227	Champness, E.	COMP	313	Chang, A.H.	PHYS	467
Chaigneau, M.	INOR	1583	Champness, N.R.	COLL	646	Chang, A.H.	PHYS	500
Chainet, F.	ENFL	1	Champsaur, A.	INOR	695	Chang, A.H.	PHYS	519
Chaisuwan, T.	COLL	177	Champsaur, A.	INOR	1462	Chang, B.	BIOT	312
Chaisuwan, T.	COLL	178	Chan, A.E	COMP	23	Chang, B.	I&EC	42
Chaisuwan, T.	COLL	291	Chan, B.C.	CHED	1813	Chang, B.	INOR	204
Chaisuwan, T.	COLL	345	Chan, B.C.	CHED	1972	Chang, B.	PMSE	106
Chaiyasit, P.	BIOL	214	Chan, B.C.	INOR	519	Chang, B.	POLY	229
Chaka, A.M.	GEOC	361	Chan, B.K.	MEDI	24	Chang, B.	POLY	482
Chakarawet, K.	INOR	86	Chan, C.	INOR	1551	Chang, C.	CINF	85
Chakma, P.	CHED	1701	Chan, C.	BIOL	74	Chang, C.	INOR	797
Chakrabarti, A.	CATL	519	Chan, C.	PMSE	349	Chang, C.	ENVR	1037
Chakrabarti, A.	ANYL	119	Chan, C.	COLL	325	Chang, C.	MEDI	21
Chakrabarti, A.	BIOT	327	Chan, C.	GEOC	104	Chang, C.	ENFL	203
Chakrabarti, K.R.	ANYL	310	Chan, C.	GEOC	184	Chang, C.	CARB	73
Chakraborty, A.	COMP	18	Chan, C.	ORGN	27	Chang, C.J.	BIOL	26
Chakraborty, A.	COMP	478	Chan, C.	MEDI	342	Chang, C.J.	INOR	58
Chakraborty, A.	PHYS	21	Chan, C.K.	ANYL	407	Chang, C.J.	INOR	544
Chakraborty, A.	PHYS	164	Chan, C.K.	ENVR	297	Chang, C.J.	INOR	1175
Chakraborty, A.	PHYS	488	Chan, E.	PMSE	278	Chang, C.J.	INOR	1269
Chakraborty, A.K.	I&EC	22	Chan, E.	CHED	1302	Chang, C.J.	ORGN	19
Chakraborty, H.	ENFL	247	Chan, E.	MEDI	24	Chang, C.J.	POLY	136
Chakraborty, I.	BIOT	458	Chan, E.	INOR	91	Chang, C.T.	ORGN	515
Chakraborty, I.	INOR	1253	Chan, G.	COMP	213	Chang, D.	CHED	926
Chakraborty, N.	BIOL	126	Chan, G.	COMP	230	Chang, D.	BIOT	46
Chakraborty, R.	COLL	444	Chan, G.	COMP	237	Chang, D.	BIOT	479
Chakraborty, S.	INOR	712	Chan, G.	MEDI	499	Chang, D.	PMSE	154
Chakraborty, S.	CATL	632	Chan, G.K.	COMP	14	Chang, D.T.	ENVR	1010
Chakraborty, S.	AGFD	263	Chan, H.	COLL	635	Chang, D.T.	ENVR	933
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Chang, H.	PHYS	443	Chapman, E.	ORGN	551	Chau, Q.	ENVR	558
Chang, H.	PHYS	511	Chapman, E.	POLY	550	Chaudhary, V.	ENFL	448
Chang, H.	CATL	507	Chapman, J.M.	MEDI	380	Chaudhry, A.	MEDI	189
Chang, J.	COMP	526	Chapman, J.M.	MEDI	385	Chaudhry, U.	CHED	549
Chang, J.	I&EC	41	Chapman, K.W.	ANYL	1	Chaudhuri, S.	PHYS	450
Chang, J.	ENVR	590	Chapman, K.W.	ANYL	346	Chaudhury, K.	PHYS	268
Chang, J.C.	COLL	673	Chapman, K.W.	CATL	148	Chaudret, B.	COLL	841
Chang, K.	BIOT	46	Chapman, K.W.	ENFL	271	Chaudret, B.	INOR	211
Chang, K.	MEDI	126	Chapman, K.W.	INOR	200	Chaudret, R.	CATL	14
Chang, M.	ENVR	848	Chapman, K.W.	INOR	1529	Chaudret, R.	CINF	25
Chang, N.	ORGN	148	Chapman, L.	CHED	1852	Chauhan, J.	MEDI	278
Chang, N.	INOR	1201	Chapman, N.	CHED	1768	Chauhan, P.	AGFD	218
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Chang, Q.	BIOT	244	Chapovetsky, A.	INOR	123	Chaunier, L.	CELL	181
Chang, Q.	ENVR	64	Chapp, T.W.	CHED	1103	Chaunsali, P.	CELL	425
Chang, Q.	ENVR	772	Chappaz, A.	GEOC	286	Chaurand, P.	ENVR	310
Chang, Q.	ENVR	858	Chapple, C.	CELL	20	Chauvet, M.	CELL	399
Chang, Q.	I&EC	98	Chapple, C.	CELL	24	Chauvet, O.	CELL	288
Chang, Q.	I&EC	107	Chaput, J.	BIOL	6	Chauvigne-Hines, L.	BIOL	276
Chang, S.	AGFD	230	Chaput, J.	BIOL	38	Chauvin, R.	CATL	312
Chang, S.	COLL	48	Chaput, J.	BIOL	55	Chavan, D.	BIOT	602
Chang, S.	MEDI	194	Char, K.	PMSE	24	Chavan, S.N.	ENFL	235
Chang, S.	MEDI	272	Char, K.	POLY	105	Chaves Claudino, D.	COMP	373
Chang, S.	CHED	1966	Char, K.	POLY	108	Chaves, B.M.	ENVR	114
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Chang, S.	GEOC	351	Charamut, E.C.	CHED	1200	Chavez, A.D.	COLL	147
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Chang, T.	ENVR	150	Charbonneau, A.A.	CHED	1283	Chavez, D.	CHED	1807
Chang, W.	BIOT	262	Chardon, A.	MEDI	246	Chávez, D.	INOR	878
Chang, W.	INOR	29	Chardon-Noblat, S.	CHED	1099	Chavez, J.	AGFD	90
Chang, W.	COLL	65	Chareonpanich, M.	CATL	287	Chawla, M.	BIOL	44
Chang, W.	ENVR	847	Chareonpanich, M.	CATL	462	Chawla, M.	BIOL	67
Chang, W.	ENFL	221	Charette, A.B.	ORGN	433	Chawla, N.	ANYL	398
Chang, X.	ENVR	672	Chari, J.	CHED	397	Chaytor, J.	CHED	158
Chang, X.	CATL	468	Chari, R.V.	MEDI	474	Chaytor, J.	CHED	1425
Chang, Y.	INOR	534	Charkoudian, L.K.	BIOL	114	Chaytor, J.	CHED	1441
Chang, Y.	ENVR	198	Charlaix, E.	COLL	577	Chaytor, J.	CHED	1500
Chang, Y.	ENVR	277	Charlebois, A.F.	WCC	2	Che, C.	INOR	320
Chang, Y.	ENVR	781	Charlebois, A.F.	WCC	10	Che, J.	PMSE	264
Chang, Y.	ENVR	782	Charles, N.	INOR	1114	Che, Y.	MEDI	316
Chang, Y.	ENVR	783	Charles-Philippe, L.	ENFL	1	Cheah, S.	CATL	568
Chang, Y.	ENVR	784	Charlesworth, A.	BIOT	405	Cheah, V.	ANYL	126
Chang, Y.	ENVR	886	Charlet, L.L.	ENVR	494	Chee, S.	INOR	696
Chang, Y.	ENVR	1035	Charlet, L.L.	ENVR	495	Cheek, G.T.	CHED	681
Chang, Y.	ENVR	886	Charlet, L.L.	GEOC	317	Cheek, P.R.	CHED	522
Chang, Y.	COLL	834	Charlot, A.	CELL	450	Cheek, T.	CHED	466
Chang, Y.	BIOT	207	Charlot, A.	CELL	496	Cheema, A.	BIOL	126
Chang, Y.	BIOT	337	Charlot, A.	POLY	503	Cheema, A.W.	CHED	1281
Chang, Y.	BIOT	416	Charoenpong, C.	GEOC	212	Cheema, H.	COLL	518
Chang, Y.	BIOT	457	Charov, K.	BIOL	85	Cheeseman, E.N.	CHAL	6
Chang, Y.	ENVR	781	Charron, C.	ORGN	689	Cheeseman, E.N.	CINF	168
Changala, B.	PHYS	222	Charron, G.	ENVR	665	Cheeseman, M.	BIOL	313
Changalvaie, B.	COLL	119	Chase, A.	CHED	29	Cheeseman, M.	MEDI	111
Changalvaie, B.	COLL	390	Chase, N.	BIOL	276	Cheeseright, T.	COMP	292
Changas, A.	INOR	838	Chass, G.	GEOC	228	Cheeseright, T.	COMP	497
Changas, A.	INOR	839	Chasteen, T.K.	CHED	784	Cheeseright, T.	COMP	579
Changas, A.	INOR	840	Chatain, S.	NUCL	114	Cheeseright, T.	MEDI	135
Changeux, J.	COMP	1	Chatchawanwirote, L.	PMSE	344	Chefetz-Menaker, I.	MEDI	221
Chant, A.	CHED	740	Chatha, C.	CHED	830	Chelikani, R.	BIOT	489
Chant, C.	CHED	740	Chattaraj, D.	COMP	556	Chelious, C.	BIOT	515
Chantarojsiri, T.	INOR	1205	Chatterjee, A.	MEDI	167	Chelliah, S.	MEDI	187
Chantawansri, T.	POLY	19	Chatterjee, A.	ORGN	531	Chelliah, S.	MEDI	199
Chan-Thaw, C.E.	CATL	278	Chatterjee, K.	PMSE	317	Chemey, A.T.	INOR	972
Chao, A.	POLY	374	Chatterjee, M.	CHED	1920	Chemfe, K.	BIOT	358
Chao, C.	BIOT	317	Chatterjee, P.	INOR	233	Chemin, M.	CELL	285
Chao, C.	PMSE	18	Chatterjee, P.	COLL	852	Chemler, S.R.	ORGN	464
Chao, C.	ENVR	64	Chatterjee, R.	COLL	541	Chemler, S.R.	ORGN	637
Chao, L.	BIOT	655	Chatterjee, S.	GEOC	210	Chemler, S.R.	ORGN	907
Chao, Z.	POLY	644	Chatterjee, S.	GEOC	281	Chemmailil, L.	BIOT	301
Chaparadza, A.	AGFD	236	Chatterjee, S.	INOR	1481	Chen, A.	BIOT	251
Chaparadza, A.	CATL	609	Chatterjee, S.	NUCL	102	Chen, A.	CHED	1553
Chaparadza, A.	PHYS	481	Chatterjee, S.	COLL	699	Chen, A.	AGFD	14
Chaparro, A.	COMP	301	Chatterjee, T.	CELL	313	Chen, A.A.	COMP	343
Chaparro, A.	INOR	995	Chattopadhyay, S.	BIOT	241	Chen, A.A.	CHED	893
Chaparro-Ruiz, S.	CHED	198	Chattopadhyay, S.	BIOT	685	Chen, B.	ENFL	393
Chapleski Jr, R.	POLY	245	Chatzidimitriou, A.	CATL	533	Chen, B.	INOR	171

Chen, B.	ENVR	81	Chen, H.	BIOT	602	Chen, L.X.	PHYS	488
Chen, B.	ENVR	542	Chen, H.	COLL	726	Chen, M.	ANYL	405
Chen, B.	ENVR	1005	Chen, H.	ENVR	410	Chen, M.	ANYL	128
Chen, B.	CHED	1250	Chen, H.	MEDI	15	Chen, M.	ANYL	308
Chen, B.	ORGN	445	Chen, J.	CATL	621	Chen, M.	BIOL	70
Chen, B.	BIOT	403	Chen, J.	INOR	147	Chen, M.	INOR	561
Chen, B.	BIOT	159	Chen, J.	INOR	882	Chen, M.	ENVR	245
Chen, C.	INOR	560	Chen, J.	BIOL	357	Chen, M.	ENVR	647
Chen, C.	INOR	561	Chen, J.	ENVR	978	Chen, M.	PMSE	583
Chen, C.	INOR	800	Chen, J.	COLL	372	Chen, N.	GEOC	241
Chen, C.	PMSE	282	Chen, J.	COLL	829	Chen, N.	GEOC	311
Chen, C.	CELL	527	Chen, J.	INOR	204	Chen, O.	COLL	462
Chen, C.	CELL	529	Chen, J.	PHYS	117	Chen, P.	CELL	61
Chen, C.	ENVR	339	Chen, J.	PMSE	106	Chen, P.	BIOT	243
Chen, C.	COLL	147	Chen, J.	POLY	229	Chen, P.	BIOT	294
Chen, C.	AGFD	79	Chen, J.	POLY	482	Chen, P.	COLL	398
Chen, C.	PMSE	153	Chen, J.	ORGN	587	Chen, P.	INOR	1070
Chen, C.	PMSE	43	Chen, J.	BIOT	352	Chen, P.	COLL	516
Chen, C.	BIOT	554	Chen, J.	BIOT	513	Chen, P.	PMSE	83
Chen, C.	COLL	7	Chen, J.	CINF	173	Chen, P.	PMSE	662
Chen, C.	MEDI	482	Chen, J.	INOR	1051	Chen, P.	ORGN	84
Chen, C.	MEDI	305	Chen, J.	I&EC	32	Chen, P.	ANYL	28
Chen, C.	MEDI	366	Chen, J.	COMP	206	Chen, P.	MEDI	51
Chen, C.	COLL	439	Chen, J.	AGFD	77	Chen, P.	PMSE	669
Chen, C.	INOR	721	Chen, J.	AGFD	160	Chen, P.	COLL	106
Chen, C.	ENVR	370	Chen, J.	MEDI	41	Chen, P.B.	ORGN	691
Chen, C.	COLL	364	Chen, J.	MEDI	42	Chen, Q.	MEDI	237
Chen, C.	GEOC	127	Chen, J.	CELL	141	Chen, Q.	MEDI	462
Chen, C.	MEDI	256	Chen, J.	CHED	2053	Chen, Q.	INOR	714
Chen, C.	ENVR	531	Chen, J.	COLL	16	Chen, Q.	INOR	1237
Chen, C.	BIOT	633	Chen, J.	COLL	675	Chen, Q.	PMSE	19
Chen, C.	MEDI	41	Chen, J.	ORGN	508	Chen, Q.	PMSE	345
Chen, C.	MEDI	42	Chen, J.	MEDI	475	Chen, Q.	PMSE	464
Chen, C.S.	ENVR	743	Chen, J.	INOR	278	Chen, Q.	ORGN	69
Chen, D.	ENVR	717	Chen, J.	INOR	1239	Chen, Q.	COMP	277
Chen, D.	BIOT	262	Chen, J.	CHAL	3	Chen, Q.	PMSE	97
Chen, D.	ANYL	370	Chen, J.	ANYL	419	Chen, Q.	BIOL	342
Chen, D.	CHAS	12	Chen, J.	CATL	383	Chen, R.	BIOT	508
Chen, D.	CATL	605	Chen, J.	BIOT	690	Chen, R.P.	BIOT	229
Chen, D.	COLL	347	Chen, J.	COLL	692	Chen, R.P.	BIOT	230
Chen, D.	ORGN	486	Chen, J.	ENVR	298	Chen, S.	COLL	502
Chen, D.	MEDI	464	Chen, J.	COLL	340	Chen, S.	COLL	503
Chen, D.A.	CATL	20	Chen, J.	INOR	103	Chen, S.	ENFL	109
Chen, E.	POLY	44	Chen, J.	MPPG	11	Chen, S.	ANYL	479
Chen, E.Y.	INOR	584	Chen, J.	PMSE	235	Chen, S.	BIOL	112
Chen, E.Y.	INOR	1173	Chen, J.	ANYL	141	Chen, S.	COMP	310
Chen, E.Y.	PMSE	280	Chen, J.	PMSE	669	Chen, S.	AGFD	168
Chen, F.	BIOT	569	Chen, J.	NUCL	130	Chen, S.	MEDI	248
Chen, F.	BIOT	660	Chen, J.G.	CATL	68	Chen, S.	MEDI	346
Chen, F.	COLL	664	Chen, J.G.	CATL	145	Chen, S.	BIOT	159
Chen, F.	AGFD	17	Chen, J.G.	ENFL	170	Chen, S.	CATL	166
Chen, G.	AGFD	46	Chen, J.G.	ENFL	426	Chen, S.	ENVR	144
Chen, G.	ORGN	75	Chen, K.	ENVR	637	Chen, S.	AGFD	119
Chen, G.	CARB	29	Chen, K.	ENVR	407	Chen, S.	ENVR	195
Chen, G.	CELL	108	Chen, K.	POLY	451	Chen, S.	GEOC	181
Chen, G.	PMSE	684	Chen, K.	CATL	98	Chen, S.	ENFL	415
Chen, G.	ENVR	608	Chen, K.	CATL	366	Chen, S.	PHYS	437
Chen, G.	ORGN	69	Chen, K.	CATL	433	Chen, S.	INOR	691
Chen, G.	INOR	1378	Chen, L.	ENFL	64	Chen, S.	PHYS	500
Chen, G.	POLY	322	Chen, L.	GEOC	196	Chen, T.	PMSE	298
Chen, H.	COMP	476	Chen, L.	MEDI	248	Chen, T.	CATL	360
Chen, H.	ANYL	131	Chen, L.	MEDI	346	Chen, T.	ORGN	212
Chen, H.	PMSE	669	Chen, L.	ENFL	314	Chen, T.	CATL	329
Chen, H.	BIOT	43	Chen, L.	PMSE	620	Chen, V.	BIOL	223
Chen, H.	ENFL	246	Chen, L.	MEDI	382	Chen, W.	BIOT	45
Chen, H.	ENFL	461	Chen, L.	CELL	38	Chen, W.	CATL	16
Chen, H.	INOR	1014	Chen, L.	CATL	98	Chen, W.	CATL	581
Chen, H.	BIOT	323	Chen, L.	CATL	366	Chen, W.	COLL	387
Chen, H.	BIOT	580	Chen, L.	MEDI	277	Chen, W.	ENFL	138
Chen, H.	ENFL	63	Chen, L.	ORGN	463	Chen, W.	ENVR	488
Chen, H.	PMSE	19	Chen, L.	MEDI	177	Chen, W.	CATL	164
Chen, H.	PMSE	345	Chen, L.	COLL	721	Chen, W.	CATL	526
Chen, H.	PMSE	461	Chen, L.	ORGN	399	Chen, W.	PMSE	129
Chen, H.	PMSE	464	Chen, L.	ENVR	174	Chen, W.	ENVR	370
Chen, H.	PHYS	47	Chen, L.	PMSE	342	Chen, W.	ENFL	391
Chen, H.	ORGN	501	Chen, L.D.	CATL	73	Chen, W.	PMSE	346
Chen, H.	COLL	215	Chen, L.X.	COMP	238	Chen, W.	AGFD	156
Chen, H.	ANYL	214	Chen, L.X.	INOR	671	Chen, W.	ENVR	822
Chen, H.	ANYL	306	Chen, L.X.	INOR	1236	Chen, W.	BIOT	110
Chen, H.	BIOT	300	Chen, L.X.	PHYS	259	Chen, W.	BIOT	112



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Chen, W.	BIOT	192	Chenard, E.	POLY	236	Cheong, H.	INOR	914
Chen, W.	BIOT	229	Chenault, A.	BIOL	30	Cheong, P.	COMP	284
Chen, W.	BIOT	230	Cheney, D.L.	COMP	445	Cheong, P.	ENVR	639
Chen, W.	BIOT	533	Cheney, J.	INOR	1230	Cheong, P.	ENVR	648
Chen, W.	BIOT	561	Cheng, A.C.	COMP	112	Cheong, P.	ENVR	1008
Chen, W.	BIOT	669	Cheng, C.	POLY	465	Cheong, P.	INOR	447
Chen, X.	BIOT	140	Cheng, C.	ENVR	188	Cheong, P.	INOR	448
Chen, X.	CELL	355	Cheng, C.	COMP	382	Cheong, P.	ORGN	285
Chen, X.	COLL	779	Cheng, C.	PMSE	601	Cheong, S.	ENFL	460
Chen, X.	ENVR	388	Cheng, C.Y.	MEDI	427	Cherem, A.	INOR	225
Chen, X.	INOR	940	Cheng, E.	POLY	332	Cherepakhin, V.	INOR	872
Chen, X.	INOR	1501	Cheng, G.	CATL	657	Cherf, G.M.	BIOT	129
Chen, X.	BIOT	579	Cheng, H.	CELL	176	Chergui, M.	PHYS	24
Chen, X.	CATL	127	Cheng, H.	CELL	514	Cherif, B.	BIOL	49
Chen, X.	ORGN	250	Cheng, H.	ENVR	89	Chern, J.	MEDI	130
Chen, X.	PMSE	205	Cheng, H.	ENVR	490	Chern, M.	COLL	292
Chen, X.	INOR	744	Cheng, H.	PMSE	270	Chern, M.	COLL	469
Chen, X.	CATL	500	Cheng, H.	MEDI	387	Chern, M.	INOR	285
Chen, X.	INOR	160	Cheng, H.	ANYL	230	Cherney, M.	CHED	1411
Chen, X.	BIOT	490	Cheng, H.	CELL	506	Chernomordik, B.	INOR	155
Chen, X.	INOR	75	Cheng, I.	CATL	281	Cherr, G.N.	ENVR	916
Chen, X.	MEDI	464	Cheng, I.	CATL	613	Cherrette, V.	CHED	830
Chen, X.	PHYS	177	Cheng, J.	BIOL	135	Cherrette, V.	CHED	1072
Chen, X.	BIOT	409	Cheng, J.	PMSE	13	Cherrette, V.	CHED	2057
Chen, X.	BIOT	452	Cheng, J.	PMSE	52	Cherry, J.	BIOT	180
Chen, X.	BIOT	488	Cheng, J.	PMSE	339	Cheruzel, L.E.	INOR	241
Chen, X.	INOR	474	Cheng, J.	PMSE	439	Cheruzel, L.E.	INOR	621
Chen, X.	INOR	973	Cheng, J.	PMSE	454	Cheruzel, L.E.	INOR	1320
Chen, X.	INOR	714	Cheng, J.	PMSE	476	Chervin, C.N.	ANYL	1
Chen, X.	INOR	1233	Cheng, J.	PMSE	521	Chervin, C.N.	ANYL	179
Chen, X.	INOR	1237	Cheng, J.	PMSE	576	Cheshire, M.	GEOC	43
Chen, Y.	PMSE	347	Cheng, J.	PMSE	656	Chesneau, C.	MEDI	149
Chen, Y.	PMSE	403	Cheng, J.	POLY	140	Chesniak, O.M.	PMSE	349
Chen, Y.	PMSE	532	Cheng, J.	POLY	270	Chesser, G.	CHED	1534
Chen, Y.	MEDI	401	Cheng, J.	POLY	293	Chesson, L.	ANYL	357
Chen, Y.	INOR	533	Cheng, J.	POLY	400	Chessum, N.E.	MEDI	111
Chen, Y.	BIOT	335	Cheng, J.	ENVR	922	Cheung, E.	COLL	8
Chen, Y.	CATL	402	Cheng, K.	CARB	18	Cheung, E.	COLL	86
Chen, Y.	INOR	1023	Cheng, L.	POLY	243	Cheung, J.	MEDI	10
Chen, Y.	ENVR	856	Cheng, L.	MEDI	21	Cheung, K.M.	COLL	215
Chen, Y.	AGFD	102	Cheng, L.	MEDI	315	Cheung, K.M.	COLL	435
Chen, Y.	CATL	570	Cheng, M.	BIOL	280	Cheung, M.	CHED	761
Chen, Y.	MEDI	305	Cheng, M.	INOR	1346	Cheung, M.S.	PHYS	346
Chen, Y.	BIOT	173	Cheng, M.H.	COMP	77	Cheung, P.	CATL	212
Chen, Y.	CELL	182	Cheng, P.	INOR	1245	Cheung, P.	INOR	946
Chen, Y.	GEOC	245	Cheng, P.	BIOT	364	Cheung, P.A.	INOR	625
Chen, Y.	CATL	281	Cheng, Q.	ANYL	407	Cheung, W.	COLL	278
Chen, Y.	CATL	613	Cheng, Q.	PMSE	539	Chevalier, N.J.	CHED	1269
Chen, Y.	POLY	439	Cheng, S.	PMSE	565	Cheynier, V.	AGFD	143
Chen, Y.	ORGN	305	Cheng, S.	POLY	446	Chhabra, N.	BIOT	239
Chen, Y.	ANYL	128	Cheng, S.	ENVR	922	Chhabra, N.	BIOT	445
Chen, Y.	MEDI	24	Cheng, S.Z.	PMSE	7	Chhe, K.	CHED	378
Chen, Y.	CHED	1542	Cheng, T.	CATL	231	Chhetri, M.	ENFL	247
Chen, Y.	INOR	1250	Cheng, T.	CINF	146	Chhibbar, A.	BIOT	77
Chen, Y.	CELL	438	Cheng, T.	CATL	621	Chhonker, Y.	MEDI	372
Chen, Y.	POLY	287	Cheng, W.	ENVR	414	Chhonker, Y.	MEDI	405
Chen, Y.	CHED	319	Cheng, W.	PMSE	601	Chhowalla, M.	ENFL	324
Chen, Y.	FLUO	15	Cheng, X.	BIOL	191	Chi, C.	BIOT	317
Chen, Y.Y.	BIOT	228	Cheng, X.	COLL	456	Chi, H.	ENFL	98
Chen, Y.Y.	BIOT	490	Cheng, X.	COLL	699	Chi, K.	CELL	75
Chen, Y.Y.	BIOT	700	Cheng, X.	FLUO	53	Chi, M.	CATL	339
Chen, Z.	CARB	89	Cheng, Y.	PHYS	496	Chi, M.	CATL	510
Chen, Z.	COLL	125	Cheng, Y.	COLL	823	Chi, M.	ENFL	277
Chen, Z.	COLL	378	Cheng, Y.	ANYL	128	Chi, W.	BIOT	403
Chen, Z.	COLL	399	Cheng, Y.	ENFL	272	Chia, H.E.	CHED	574
Chen, Z.	PMSE	99	Cheng, Y.	ENFL	413	Chia, H.E.	CHED	660
Chen, Z.	ENFL	345	Cheng, Y.	INOR	714	Chia, H.E.	CHED	734
Chen, Z.	MEDI	276	Cheng, Y.	INOR	1233	Chiang, C.	INOR	948
Chen, Z.	I&EC	41	Cheng, Y.	PHYS	389	Chiang, D.	ENVR	463
Chen, Z.	CATL	166	Cheng, Y.	ENVR	529	Chiang, D.	ENVR	731
Chen, Z.	ENVR	144	Chengcheng, L.C.	CARB	89	Chiang, L.	INOR	630
Chen, Z.	BIOT	9	Chennamsetty, N.	BIOT	9	Chiang, M.	INOR	1192
Chen, Z.	POLY	261	Chennamsetty, N.	BIOT	550	Chiang, M.H.	INOR	949
Chen, Z.	CATL	31	Chenoweth, D.M.	ORGN	7	Chiang, P.	ENVR	856
Chen, Z.	MEDI	305	Chenoweth, D.M.	ORGN	295	Chiang, W.	INOR	706
Chen, Z.	MEDI	265	Chenoweth, D.M.	ORGN	517	Chiang, W.	INOR	1468
Chen, Z.	MEDI	464	Chenoweth, D.M.	PHYS	470	Chiang, Y.	PHYS	409
Chen, Z.	CATL	475	Cheong, C.	ORGN	273	Chiappino Pepe, A.	BIOT	408
Chen, Z.	CATL	612	Cheong, C.	ORGN	428	Chiafone-Filho, O.	ENVR	696
Chen, Z.	INOR	564	Cheong, C.S.	MEDI	267	Chibale, K.	CINF	165

Chibwe, L.	ENVR	639	Chiu, H.	CATL	383	Choe, L.	BIOT	676
Chibwe, L.	ENVR	648	Chiu, H.	INOR	922	Choe, W.	ENVR	723
Chica, J.	MEDI	157	Chiu, H.	INOR	925	Choe, W.	ENVR	771
Chichester, K.	CHED	508	Chiu, H.	INOR	1023	Choe, Y.	INOR	1370
Chicoine, B.J.	CHED	397	Chiu, M.	CINF	140	Choe, Y.	COLL	272
Chief, K.	CHED	2001	Chiu, M.	GEOC	179	Choffnes, D.	CHED	335
Chiesa, M.	COLL	64	Chiu, M.	CHED	29	Chogii, I.	ORGN	728
Chikami, K.	ORGN	803	Chiu, S.	INOR	1014	Choi, B.	BIOT	306
Chikan, V.	COLL	88	Chiu, S.	ENVR	921	Choi, B.	POLY	417
Chikan, V.	COLL	777	Chiu, W.	CATL	306	Choi, B.	INOR	1462
Childers, E.P.	POLY	6	Chivukula, P.	BIOL	179	Choi, C.	ORGN	673
Childers, M.	ENFL	34	Chizhikov, V.	BIOT	264	Choi, C.	ORGN	707
Childers, M.	POLY	278	Chlebanowski, L.	MEDI	80	Choi, C.	ORGN	763
Childs, B.	NUCL	8	Chmelka, B.F.	INOR	702	Choi, D.	ENVR	371
Chile, L.	INOR	603	Chmielarz, P.	PMSE	50	Choi, E.	CATL	406
Chilkoti, A.	COLL	489	Chmielewski, J.A.	CHED	238	Choi, E.	PMSE	348
Chilkoti, A.	PMSE	100	Chng, S.	CHED	1163	Choi, E.	PMSE	375
Chilkoti, A.	PMSE	150	Chng, S.	IAC	14	Choi, E.	PMSE	417
Chillrud, S.N.	GEOC	163	Cho, C.	COLL	143	Choi, G.	ENFL	240
Chilom, G.	CHED	977	Cho, C.	COLL	190	Choi, G.	ORGN	176
Chilom, G.	CHED	978	Cho, C.G.	POLY	363	Choi, G.	NUCL	131
Chilom, G.	ENVR	710	Cho, D.	BIOT	656	Choi, H.	AGFD	11
Chimalakonda, A.	MEDI	315	Cho, D.	INOR	914	Choi, H.	AGFD	27
Chimnoi, N.	PMSE	355	Cho, E.	COMP	294	Choi, H.	I&EC	5
Chin, A.	ANYL	153	Cho, E.	POLY	650	Choi, H.	AGFD	62
Chin, D.	COMP	72	Cho, E.	ENVR	673	Choi, H.	ANYL	95
Chin, M.	MEDI	505	Cho, E.	ENVR	674	Choi, H.	ENFL	369
Chin, S.	GEOC	220	Cho, E.	ENVR	769	Choi, H.	PMSE	399
Chin, W.S.	CHED	1155	Cho, E.J.	MEDI	429	Choi, I.	INOR	1029
Chin, W.S.	IAC	15	Cho, G.	ENVR	557	Choi, I.	POLY	198
Chin, Y.	CATL	189	Cho, H.	ANYL	221	Choi, J.	ENFL	178
Chin, Y.	CATL	549	Cho, H.	INOR	829	Choi, J.	I&EC	125
Chin, Y.	ENVR	424	Cho, H.	NUCL	59	Choi, J.	ENFL	463
Chin, Y.	ENVR	427	Cho, H.	BIOT	482	Choi, J.	ANYL	46
Chin, Y.	ENVR	660	Cho, H.	CATL	144	Choi, J.	CHED	1368
Chin, Y.	ENVR	1014	Cho, H.	COLL	146	Choi, J.	COLL	309
Chinelatto, A.M.	CHED	2133	Cho, H.	INOR	1319	Choi, J.	PMSE	384
Chiney, M.	MEDI	315	Cho, H.	NUCL	103	Choi, J.	ENVR	1030
Ching Tai, Y.	INOR	925	Cho, H.	ORGN	309	Choi, J.	CELL	147
Ching, W.	INOR	279	Cho, J.	MEDI	60	Choi, J.	ENFL	388
Chinga-Carrasco, G.	CELL	330	Cho, J.	ENFL	241	Choi, J.	INOR	1370
Chinnappan, P.	COLL	483	Cho, J.	CATL	421	Choi, K.	ORGN	566
Chinnaswamy, K.	MEDI	243	Cho, J.	ENFL	420	Choi, K.	PMSE	334
Chinni, R.	CHED	427	Cho, J.	ENFL	422	Choi, K.	PMSE	350
Chintapalli, M.	PMSE	105	Cho, J.	ORGN	648	Choi, K.	AGFD	71
Chio, C.	BIOL	96	Cho, J.	COLL	327	Choi, K.	ORGN	243
Chiomento, A.	PMSE	458	Cho, K.	POLY	48	Choi, K.	CATL	133
Chiong, E.	PMSE	412	Cho, K.	ENFL	224	Choi, M.	ENFL	143
Chipangura, Y.E.	ENFL	230	Cho, K.	ENFL	226	Choi, M.	PHYS	533
Chipara, D.	POLY	486	Cho, K.	ENFL	236	Choi, M.	ENVR	371
Chipara, M.	POLY	486	Cho, K.	PMSE	25	Choi, M.	CATL	507
Chipman, D.	COMP	267	Cho, K.	COMP	519	Choi, O.	ENVR	680
Chipman, D.	PHYS	394	Cho, K.	ENVR	724	Choi, S.	ENVR	788
Chipot, C.	PHYS	478	Cho, K.	ENFL	234	Choi, S.	PMSE	351
Chippindale, K.T.	CHED	892	Cho, M.	CELL	60	Choi, S.	AGFD	104
Chirachanchai, S.	POLY	121	Cho, M.	INOR	916	Choi, S.	PMSE	390
Chirayil, S.	MEDI	87	Cho, S.	COLL	793	Choi, S.	AGFD	29
Chirdon, L.	BIOT	629	Cho, S.	ORGN	153	Choi, S.	PMSE	308
Chiriboga, M.	CHED	638	Cho, S.	PMSE	499	Choi, S.	COLL	130
Chirik, P.J.	INOR	605	Cho, S.	CHED	849	Choi, T.	POLY	126
Chirik, P.J.	INOR	1180	Cho, S.	PMSE	469	Choi, T.	POLY	198
Chirik, P.J.	ORGN	448	Cho, S.	CELL	186	Choi, T.	POLY	321
Chirinos, J.r.	ENFL	42	Cho, S.	CELL	189	Choi, U.	COLL	690
Chisholm, B.J.	POLY	558	Cho, S.	ENFL	225	Choi, U.	ENFL	144
Chisholm, C.	GEOC	46	Cho, S.	ENFL	228	Choi, U.	PMSE	47
Chisholm, C.F.	BIOT	608	Cho, T.	ENVR	544	Choi, U.	ENVR	369
Chisholm, J.	CHED	872	Cho, Y.	INOR	909	Choi, W.	ENFL	221
Chisholm, J.D.	MEDI	477	Cho, Y.	INOR	910	Choi, w.	PMSE	381
Chislock, M.	ENVR	958	Cho, Y.	INOR	911	Choi, W.	COLL	822
Chisner, D.	INOR	1277	Cho, Y.	INOR	914	Choi, W.	ENVR	477
Chisti, Y.	COLL	356	Cho, Y.	INOR	915	Choi, W.	MEDI	381
Chittigori, J.	COLL	267	Cho, Y.	BIOT	54	Choi, W.I.	ENFL	372
Chittoor, N.	BIOT	356	Chodera, J.D.	COMP	310	Choi, Y.	ENVR	152
Chiu, B.K.	GEOC	184	Chodera, J.D.	COMP	528	Choi, Y.	CATL	428
Chiu, C.	INOR	846	Choe, A.	COLL	229	Choi, Y.	ORGN	195
Chiu, C.	INOR	849	Choe, H.	ENFL	223	Choi, Y.	MEDI	208
Chiu, H.	INOR	602	Choe, J.	ENVR	38	Choi, Y.	ENVR	792
Chiu, H.	PMSE	222	Choe, J.	ENVR	280	Choi, Y.	POLY	650
Chiu, H.	ANYL	94	Choe, J.V.	CHED	147	Choi, Y.	AGFD	68
Chiu, H.	CATL	306	Choe, J.V.	CHED	206	Choi, Y.	AGFD	70

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Choi, Y.	BIOT	705	Christensen, S.B.	MEDI	374	Chui, A.	AGFD	99
Choi, Y.	ANYL	46	Christensen, S.B.	MEDI	425	Chui, M.A.	CATL	238
Choipang, C.	PMSE	353	Christensen, T.M.	CHED	1612	Chui, M.A.	ENFL	106
Chojnacka, M.	ORGN	298	Christian, A.H.	ORGN	809	Chulhai, D.	PHYS	251
Choksi, T.S.	COMP	122	Christiansen, D.	POLY	501	Chumanov, G.	POLY	222
Chollangi, S.	BIOT	79	Christianson, A.M.	INOR	135	Chun, D.	CHED	392
Chombo-Morales, P.M.	AGFD	175	Christianson, A.M.	INOR	1493	Chun, D.	POLY	149
Chon, A.C.	CHED	1197	Christie, A.E.	CHED	470	Chun, H.	CATL	227
Chon, A.C.	MEDI	125	Christie, A.E.	CHED	501	Chun, H.	COMP	84
Chon, K.H.	PMSE	437	Christie, S.	COLL	535	Chun, H.	AGFD	31
Chong, L.	COMP	386	Christison, T.	ANYL	78	Chun, J.	ENFL	34
Chong, P.	INOR	384	Christison, T.	ANYL	109	Chun, M.	ORGN	581
Chong, T.	INOR	1001	Christl, I.	ENVR	335	Chun, N.K.	ENVR	529
Choo, C.	AGFD	185	Christman, K.	BIOT	511	Chun, S.	AGFD	7
Choo, K.	ENVR	357	Christman, K.	PMSE	603	Chun, Y.	COLL	690
Choong, S.W.	COLL	56	Christman, L.	CHED	783	Chun, Y.	ENVR	369
Choong, S.W.	COLL	433	Christman, W.	INOR	1545	Chun, Y.P.	ANYL	127
Chordia, S.	BIOL	325	Christmann, M.	ORGN	829	Chun Cheng, Z.	ORGN	32
Chorghade, M.	CATL	408	Christoffersen, C.T.	MEDI	344	Chundawat, S.P.	CELL	99
Chorghade, M.	ENFL	390	Christoffersen, C.T.	MEDI	447	Chung, C.	BIOT	115
Chorghade, M.	ENVR	360	Christoffersen, E.	CHED	1626	Chung, D.	ANYL	46
Chorghade, M.	MEDI	81	Christoffersen, E.	INOR	977	Chung, E.	GEOC	306
Chorghade, M.	ORGN	76	Christoph, R.	CATL	384	Chung, F.	MEDI	366
Chorghade, M.	ORGN	350	Christoph, R.	CELL	168	Chung, H.	COLL	317
Chorghade, M.	ORGN	351	Christophe, T.	MEDI	347	Chung, H.	BIOT	237
Chorghade, M.	ORGN	915	Christopher, P.	CATL	493	Chung, H.	BIOT	360
Chorghade, M.	SCHB	1	Christopherson, L.	CINF	107	Chung, I.	INOR	1063
Chorghade, R.	CATL	408	Christou, G.	INOR	510	Chung, I.	INOR	1074
Chorghade, R.	ENVR	360	Christy, A.	CHED	1748	Chung, I.	INOR	1075
Chorghade, R.	ORGN	350	Chruma, J.J.	ORGN	497	Chung, I.	INOR	1355
Chorghade, R.	ORGN	351	Chruma, J.J.	ORGN	830	Chung, J.	POLY	187
Chorghade, R.	SCHB	1	Chrysler-Martinez, A.	CHED	1853	Chung, J.	PMSE	612
Chorkendorff, I.	CATL	24	Chrzanowski, M.J.	CHED	2075	Chung, K.	NUCL	131
Chorkendorff, I.	CATL	480	Chtcherbinine, M.	MEDI	221	Chung, K.	INOR	1571
Chorover, J.D.	GEOC	83	Chu, B.T.	CELL	39	Chung, K.	ENFL	220
Chorover, J.D.	GEOC	106	Chu, B.T.	CELL	196	Chung, K.	ENFL	221
Chotchatchawankul, S.	INOR	107	Chu, C.	ENVR	426	Chung, M.	BIOT	330
Chou, C.	MEDI	293	Chu, C.	ENVR	1019	Chung, R.	CATL	395
Chou, C.	ENVR	100	Chu, C.	POLY	397	Chung, R.	PROF	14
Chou, D.	BIOL	171	Chu, E.	PMSE	357	Chung, S.	ENVR	572
Chou, J.	INOR	920	Chu, H.	ORGN	13	Chung, S.	GEOC	247
Chou, K.	COLL	396	Chu, I.	ENFL	278	Chung, S.	ORGN	673
Chou, K.J.	BIOT	97	Chu, J.	INOR	217	Chung, S.	MEDI	208
Chou, L.	MEDI	478	Chu, K.	INOR	949	Chung, S.	BIOT	330
Chou, L.	MEDI	479	Chu, K.	INOR	1192	Chung, S.	COLL	161
Chou, S.	COLL	137	Chu, K.	BIOT	580	Chung, T.	ORGN	712
Choucair, I.	ANYL	135	Chu, K.	ENVR	827	Chung, T.	BIOT	547
Choudhry, H.	INOR	240	Chu, K.	PHYS	395	Chung, W.	BIOT	567
Choudhury, A.	BIOT	69	Chu, K.	PMSE	19	Chung, Y.	COLL	546
Chouikhi, D.	POLY	422	Chu, K.	PMSE	345	Chung, Y.	CINF	154
Chourey, S.	ORGN	14	Chu, K.	PMSE	461	Chung, Y.	MEDI	381
Chow, A.T.	GEOC	199	Chu, K.	PMSE	464	Chung, Y.	MEDI	383
Chow, C.	INOR	293	Chu, K.	ENVR	197	Chung, Y.K.	ORGN	150
Chow, C.	INOR	1265	Chu, K.	ENVR	461	Chunta, S.	POLY	59
Chow, C.S.	CHED	554	Chu, K.	ENVR	540	Chupas, P.	ENFL	275
Chow, C.S.	CHED	2162	Chu, K.	ENVR	621	Chupas, P.	INOR	1529
Chow, C.S.	BIOL	205	Chu, K.	ENVR	721	Chupik, R.B.	INOR	1325
Chow, K.	ENFL	161	Chu, L.	CATL	467	Chupik, R.B.	INOR	1321
Chow, S.	INOR	1151	Chu, L.	ENVR	930	Churas, C.	CINF	140
Chowdhury, A.	ENVR	306	Chu, L.	INOR	1573	Church, D.	POLY	262
Chowdhury, A.	ENVR	748	Chu, L.	PMSE	69	Church, P.	CINF	123
Chowdhury, I.	ENVR	1002	Chu, L.	PMSE	510	Church, P.	CINF	118
Chowdhury, M.	PMSE	531	Chu, L.	PMSE	644	Churchman, S.	CHED	997
Chowdhury, P.	CHED	1235	Chu, L.	POLY	75	Churchwell, J.	COLL	625
Chowdhury, R.	BIOT	350	Chu, P.	PMSE	167	Chuysinuan, P.	PMSE	353
Chowdhury, S.	ORGN	927	Chu, R.	INOR	693	Chuysinuan, P.	PMSE	355
Choy, C.	MEDI	141	Chu, T.H.	CHED	551	Chwatko, M.	PMSE	261
Choy, C.	MEDI	197	Chu, V.	BIOT	53	Chwatko, M.	POLY	139
Choy, C.J.	MEDI	275	Chu, V.	BIOT	186	Chwatko, M.	POLY	219
Choy, D.	BIOT	356	Chua, B.	ENVR	233	Ciallella, H.L.	CHED	482
Choy, S.J.	ENVR	125	Chua, B.	ENVR	859	Ciancetta, A.	COMP	389
Chrencik, J.	MEDI	316	Chua, K.	CARB	97	Ciancetta, A.	MEDI	249
Chretien, S.	ENFL	44	Chuang, S.	INOR	1418	Ciancetta, A.	MEDI	448
Christanti, S.	BIOT	386	Chuang, Y.	ENVR	169	Ciatti, J.L.	INOR	377
Christanti, S.	BIOT	591	Chuang, Y.	ENVR	331	Cicchini, A.	CHED	570
Christau, S.	COLL	830	Chueh, W.	ANYL	313	Cicerone, M.T.	PHYS	185
Christau, S.	PMSE	352	Chueh, W.	CATL	102	Cicha, C.L.	CHED	1728
Christe, K.O.	FLUO	8	Chueh, W.	CATL	226	Cichowicz, M.B.	SOCED	9
Christe, K.O.	INOR	847	Chueh, Y.	ENFL	315	Cicuto, T.	COLL	654
Christensen, J.M.	PMSE	582	Chuh, K.N.	BIOT	334	Cierpicki, T.	BIOL	190



Ciesielski, P.N.	CELL	20	Clark, R.	BIOT	155	Clingenpeel, A.C.	ENFL	405
Ciesielski, P.N.	CELL	72	Clark, R.A.	NUCL	149	Clites, M.	ENFL	300
Ciesielski, P.N.	CELL	132	Clark, S.	GEOC	208	Closser, K.D.	PHYS	362
Ciesielski, P.N.	CELL	414	Clark, S.	NUCL	112	Clot, E.	INOR	728
Ciesielski, P.N.	COMP	162	Clark, S.A.	ORGN	16	Cloteaux, A.	CATL	554
Cieslewski, G.	GEOC	284	Clarke, B.	ENVR	57	Clothier, M.	CHED	516
Cieszynski, M.	POLY	450	Clarke, D.D.	CHED	95	Clough, A.	PMSE	40
Ciferri, C.	BIOT	132	Clarke, M.J.	INOR	13	Clough, A.J.	INOR	504
Ciglenecki, I.	ENVR	222	Clarke, S.	INOR	755	Clouser, A.	CHED	551
Ciglenecki, I.	ENVR	736	Clarke, S.M.	INOR	132	Cluff, K.J.	INOR	1499
Cigler, A.	CHED	1047	Clarke, S.M.	INOR	1364	Clutterbuck, A.A.	ANYL	120
Cigler, P.	COLL	212	Claro-Martinez, B.	CHED	822	Co, A.	ANYL	344
Cihak, M.N.	COMP	327	Claros, M.	CATL	213	Co, A.	CATL	28
Cimerol, S.	INOR	245	Claros, M.	ORGN	317	Co, A.	CATL	114
Cimino, G.	ANYL	54	Clarson, S.	I&EC	33	Coakley, E.	INOR	1244
Cina, J.A.	PHYS	204	Clary, K.E.	INOR	879	Coasne, B.	PHYS	66
Cinar, G.	CELL	56	Class, M.	CHED	329	Coates, G.W.	INOR	264
Cinar, R.	MEDI	38	Clause, H.	CHED	1402	Coates, G.W.	POLY	69
Cinar, S.	INOR	204	Clausen, C.	ENVR	802	Coates, G.W.	POLY	278
Ciobotarescu, S.	COMP	332	Clausen, S.	MEDI	24	Coates, J.D.	ENFL	342
Ciogli, A.	ANYL	196	Claver, C.	CATL	362	Cobani, L.	BIOL	253
Ciolacu, D.	CELL	339	Claver, C.	INOR	1374	Cobb, A.	INOR	1361
Cirpan, A.	POLY	349	Clavijo Gutierrez, D.	COMP	301	Cobb, L.N.	PMSE	103
Cirri, A.	COLL	831	Clavijo, L.	ENVR	594	Coblentz, A.	CHED	677
Cirri, A.	INOR	1232	Clay, M.	ANYL	69	Cobos, S.	CELL	99
Cirri, A.	PHYS	209	Clay, M.M.	CHED	966	Cochran, E.	INOR	1413
Cisneros, G.A.	COMP	378	Clayborne, A.Z.	CATL	227	Cochran, E.W.	POLY	327
Cisneros, J.	MEDI	288	Clayborne, A.Z.	COMP	12	Cochran, E.W.	POLY	328
Cissell, K.	CHED	196	Clayborne, A.Z.	COMP	84	Cochran, J.R.	BIOT	129
Cissell, K.	CHED	957	Claycomb, E.	ENVR	721	Cochran, J.R.	BIOT	410
Ciston, J.	INOR	702	Claycomb, G.D.	CHED	1839	Cochran, J.R.	BIOT	603
Ciszewski, R.	COLL	126	Clayman, N.	INOR	1452	Cochran, K.H.	ENVR	517
Ciszewski, R.	PHYS	295	Clayton, C.R.	PMSE	649	Cochran, R.	ENVR	755
Citek, C.	INOR	630	Clayton, R.	ENVR	301	Cochran, W.	CATL	401
Citrak, S.	CATL	83	Clayton, T.W.	INOR	311	Cockram, A.A.	POLY	118
Citrak, S.	ENVR	854	Clearfield, A.	COLL	679	Codling, E.	ENVR	143
Ciulli, A.	BIOL	187	Cleary, B.	CELL	151	Cody, C.C.	INOR	19
Ciurli, S.L.	INOR	24	Cleary, E.E.	ORGN	136	Cody, J.A.	INOR	310
Ciurli, S.L.	INOR	61	Cleary, P.	CHED	1969	Cody, W.L.	CHED	1088
Cizmas, L.H.	ENVR	327	Clegg, S.M.	YCC	25	Coe, H.	ENVR	401
Cizmas, L.H.	ENVR	328	Cleland, G.	ENVR	131	Coe, J.W.	MEDI	316
Cladouhos, T.	ENFL	28	Cleland, W.E.	CHED	1656	Coelho, L.L.	ENVR	694
Clagg, K.B.	ORGN	736	Clem, C.M.	CHED	1222	Coello, Y.P.	CARB	48
Clancy, A.J.	COLL	856	Clemens, A.	ORGN	526	Coffey, P.	NUCL	157
Clancy, H.	CHED	29	Clemens, B.	CATL	25	Coffin, S.L.	ENVR	473
Clancy, T.	YCC	5	Clemens, B.	CATL	333	Coffman, J.L.	BIOT	4
Clar, J.G.	ENVR	313	Clemens, D.	MEDI	194	Cogal, S.	COLL	744
Claramunt, J.	CELL	64	Clemens, D.	MEDI	272	Cogdell, R.J.	PHYS	42
Claridge, S.A.	COLL	56	Clemens, G.	MEDI	479	Cogdell, R.J.	PHYS	258
Claridge, S.A.	COLL	135	Clemens, G.	MEDI	478	Coggan, T.	ENVR	57
Claridge, S.A.	COLL	433	Clement, B.A.	CHED	330	Coggio, W.D.	POLY	430
Claridge, S.A.	COLL	507	Clement, B.A.	CHED	331	Coha, I.	ENVR	222
Claridge, S.A.	COLL	806	Clement, C.C.	BIOL	197	Cohara, M.	INOR	825
Clark, A.	CINF	65	Clement, C.C.	MEDI	469	Cohen, A.	CATL	328
Clark, A.	MEDI	55	Clement, P.	ANYL	336	Cohen, A.	CHED	1380
Clark, A.E.	GEOC	208	Clement, P.	ENVR	378	Cohen, B.E.	INOR	91
Clark, A.E.	NUCL	91	Clement, T.	COLL	734	Cohen, B.E.	INOR	1122
Clark, A.L.	GEOC	310	Clement, T.	COLL	763	Cohen, E.	ORGN	499
Clark, B.	COLL	187	Clemente, C.	COLL	8	Cohen, E.	WCC	14
Clark, B.S.	CHAS	34	Clemente, C.	COLL	86	Cohen, J.	ENVR	986
Clark, C.D.	CHED	926	Clements, A.	CHED	736	Cohen, S.	PHYS	66
Clark, D.H.	BIOL	278	Clements, A.	GEOC	344	Cohen, S.	CHED	1104
Clark, D.L.	INOR	1099	Clements, H.	INOR	1570	Cohen, S.	ENFL	352
Clark, D.L.	NUCL	6	Clements, T.	INOR	1260	Cohen, S.	INOR	475
Clark, D.L.	NUCL	22	Clemmer, D.E.	CHED	1613	Cohen, Y.	CELL	325
Clark, D.L.	NUCL	71	Clemmer, D.E.	CHED	1627	Cohen, Y.	CINF	118
Clark, D.S.	BIOT	320	Clet, G.	CATL	269	Cohen, Y.	CINF	123
Clark, D.S.	BIOT	486	Cleveland, G.	INOR	1564	Cohen-Gadol, A.	ANYL	284
Clark, D.S.	BIOT	599	Cleymand, F.	CELL	55	Cohn, P.	CHED	1719
Clark, D.S.	BIOT	622	Cleymand, F.	CELL	459	Cohn, P.	CHED	1721
Clark, E.L.	INOR	1346	Click, S.	COLL	705	Cohu, C.	ENVR	239
Clark, G.	CHED	206	Click, S.M.	COLL	293	Coiado, R.	CELL	48
Clark, G.	CHED	310	Click, S.M.	INOR	299	Cojocariu, C.	ENVR	638
Clark, H.	ANYL	482	Cliff, J.B.	GEOC	37	Coker, D.	PHYS	309
Clark, J.	BIOT	156	Cliffel, D.E.	ANYL	180	Colacot, T.	ORGN	60
Clark, K.J.	CHED	1348	Clifford, A.	CHED	374	Colak Atan, S.	BIOT	562
Clark, K.M.	PMSE	221	Clift, M.D.	CHED	1374	Colant, N.	BIOT	5
Clark, L.	COLL	195	Clift, M.D.	ORGN	48	Colbert, A.	INOR	621
Clark, P.	POLY	117	Clift, M.D.	ORGN	375	Colburn, B.K.	ORGN	399
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Cole, B.W.	AGFD	120	Collins, N.	ORGN	796	Cong, R.	POLY	27
Cole, C.M.	COLL	697	Collins, N.	ORGN	797	Cong, X.	COLL	380
Cole, D.	GEOC	11	Collins, N.	ORGN	883	Cong, Y.	CATL	527
Cole, D.	GEOC	168	Collins, R.	ENVR	224	Conklin, E.B.	CHED	1658
Cole, D.	GEOC	343	Collins, R.	GEOC	40	Conklin, S.	ANYL	100
Cole, E.A.	I&EC	126	Collins, S.	MEDI	296	Conley, E.	INOR	1030
Cole, E.R.	CHED	1851	Collins, T.J.	ENVR	950	Conley, M.P.	PMSE	127
Cole, E.R.	INOR	1477	Collins, T.J.	ENVR	953	Conlon, I.L.	MEDI	277
Cole, H.	CHED	1402	Collins, T.J.	ENVR	954	Conlon, I.L.	MEDI	278
Cole, J.	POLY	286	Collins, T.S.	AGFD	148	Connell-Crowley, L.	BIOT	183
Cole, J.	POLY	313	Collopy, D.	PMSE	170	Connell-Crowley, L.	BIOT	436
Cole, K.P.	ORGN	395	Collum, D.B.	ORGN	342	Connolly, C.P.	COLL	654
Cole, K.P.	ORGN	882	Collum, D.B.	ORGN	449	Conner, A.	INOR	390
Cole, M.	CHED	1053	Colon Colon, W.	CHED	974	Conner, D.	POLY	618
Cole, M.	MEDI	216	Colon Morillo, R.	CHED	1776	Conner, D.A.	AGFD	215
Cole, M.	COMP	348	Colon Santiago, A.	CHED	974	Connerney, M.	BIOT	322
Cole, M.D.	PMSE	354	Colon, A.G.	CHED	198	Connolly, C.	ANYL	449
Cole, P.	CHED	994	Colon, J.L.	CATL	318	Connon, R.	ENVR	895
Cole, R.L.	ANYL	227	Colon, J.L.	COLL	679	Connor, E.K.	INOR	14
Cole, R.S.	CHED	68	Colón-Lorenzo, E.	ORGN	702	Connor, R.E.	BIOL	83
Cole, R.S.	CHED	204	Colón-Lorenzo, E.	PROF	26	Connor, R.E.	CHED	2041
Cole, R.S.	CHED	2077	Colquhoun, C.	PMSE	248	Connor, R.E.	ORGN	621
Cole, R.S.	CHED	2154	Colquhoun, C.	POLY	308	Connors, E.	CATL	34
Cole, S.	CHED	1659	Colt, T.	POLY	151	Conrad, J.	ANYL	306
Cole, S.	INOR	1443	Colt, T.	SOCED	2	Conrad, J.	BIOT	300
Cole, T.E.	ORGN	39	Coltrain, J.	NUCL	122	Conradi, M.S.	INOR	1118
Cole-Filipiak, N.C.	PHYS	64	Columbus, L.M.	CHED	2038	Conradson, S.	NUCL	12
Coleman Wasik, J.	GEOC	272	Columna, K.	BIOT	297	Conrath, K.	MEDI	347
Coleman, B.	ORGN	765	Colvin, J.	CHED	1771	Conroy, M.	GEOC	210
Coleman, C.	INOR	557	Colvin, J.D.	COLL	693	Conroy, M.	GEOC	281
Coleman, D.	CHED	561	Colvin, R.	CHED	2015	Conroy, M.	NUCL	102
Coleman, M.	BIOT	263	Colvin, V.	COLL	61	Conry, R.R.	ORGN	537
Coleman, M.	COLL	270	Colvin, V.	COLL	333	Constable, D.J.	ENVR	361
Coleman, S.	POLY	19	Colvin, V.	COLL	682	Constance, E.	COLL	651
Coleman, S.	ENVR	812	Colvin, V.	COLL	708	Constance, E.	COLL	734
Coletta, E.	PMSE	115	Colvin, V.	COLL	833	Contag, C.	POLY	420
Colford, B.	BIOT	502	Colvin, V.	COLL	861	Conte, E.D.	AGFD	67
Colinas, I.	ENVR	829	Colvin, V.	COLL	864	Conte, E.D.	CHED	432
Colineau, E.	NUCL	146	Colwell, J.	CPRC	5	Coticello, S.	CHED	739
Coll, R.	INOR	1195	Colyer, J.	ORGN	341	Coticello, V.P.	INOR	779
Colla, A.	CHED	727	Comanescu, C.C.	ORGN	496	Coticello, V.P.	PMSE	624
Colla, C.	CHED	1055	Combariza, M.Y.	ORGN	821	Continetti, R.E.	PHYS	193
Colla, C.	GEOC	268	Combi, M.	PHYS	192	Continetti, R.E.	PHYS	457
Colla, C.	INOR	446	Combrink, K.	CHED	1186	Contini, C.	PMSE	181
Colla, C.	INOR	449	Combrink, K.	CHED	1206	Contractor, A.A.	BIOL	285
Collard, D.M.	PMSE	265	Combrink, K.	CHED	1209	Contreras, L.M.	BIOT	732
Collard, D.M.	POLY	333	Combrink, K.D.	MEDI	172	Converse, G.	HIST	29
Collard, D.M.	POLY	373	Combrink, K.D.	MEDI	182	Conway, B.	PHYS	144
Collazo Maldonado, K.M.	CHED	1776	Combs, J.	CELL	269	Conway, G.E.	CHED	371
Collazo, M.	BIOT	282	Combs, M.	ENVR	59	Conway, H.	CHED	549
Collazo-Flores, M.Á.	INOR	878	Comerci, C.J.	BIOL	9	Conway, J.	BIOL	150
Collett, J.L.	GEOC	344	Comert, F.	COLL	113	Coody, S.	CHED	1543
Collett, J.L.	GEOC	345	Comert, F.	COLL	158	Cook, A.	INOR	1522
Colley, M.	ANYL	112	Comiskey, M.	ANYL	182	Cook, A.	PHYS	288
Colley, M.	ANYL	127	Comito, R.	INOR	673	Cook, A.W.	INOR	1255
Collick, S.	PROF	57	Comito, R.J.	ORGN	900	Cook, B.J.	COLL	721
Collier, J.	PMSE	621	Commins, I.R.	CHED	328	Cook, B.J.	INOR	721
Colling, C.	PMSE	533	Commins, P.	ORGN	677	Cook, C.D.	ORGN	332
Collingwood, N.	BIOL	159	Commisso, A.	PMSE	601	Cook, E.	CHED	163
Collins, B.	PROF	11	Compagnon, I.	CELL	434	Cook, E.C.	BIOL	72
Collins, B.A.	CHED	871	Compain, J.	CHED	1099	Cook, J.	ANYL	342
Collins, C.H.	BIOT	106	Company, A.	INOR	143	Cook, J.B.	ENFL	250
Collins, C.H.	BIOT	198	Company, A.	INOR	151	Cook, J.B.	ENFL	294
Collins, C.J.	POLY	580	Company, A.	INOR	276	Cook, J.M.	MEDI	19
Collins, C.R.	CINF	7	Compton, J.	CHED	1835	Cook, J.M.	MEDI	99
Collins, D.C.	CHED	369	Comtat, M.	ANYL	220	Cook, J.M.	ORGN	654
Collins, D.C.	CHED	370	Conant, S.	CHED	1966	Cook, J.M.	BIOT	405
Collins, D.C.	CHED	395	Conaway, C.	ENVR	26	Cook, J.M.	CHED	94
Collins, E.	INOR	141	Conaway, C.	ENVR	268	Cook, L.B.	BIOL	263
Collins, E.	INOR	383	Conboy, I.	BIOL	180	Cook, M.T.	NUCL	49
Collins, E.M.	INOR	858	Conboy, M.	BIOL	180	Cook, R.F.	PMSE	275
Collins, G.E.	CHED	612	Concepcion, B.	CHED	758	Cook, R.L.	GEOC	23
Collins, I.	BIOL	5	Concepcion, J.J.	INOR	546	Cook, S.	COLL	379
Collins, K.	CHED	781	Conde, J.	BIOT	186	Cook, S.	CHED	441
Collins, L.	ENVR	53	Conde, J.P.	BIOT	53	Cook, S.	CHED	1831
Collins, M.	BIOT	125	Conde, S.	MEDI	140	Cook, T.M.	INOR	224
Collins, M.	BIOT	712	Condon, B.D.	AGFD	227	Cooke, V.	MEDI	366
Collins, M.R.	MEDI	350	Condon, B.D.	AGFD	230	Cooks, R.G.	ANYL	284

Cooks, R.G.	ANYL	373	Cordero DaSilva, D.	ENVR	682	Cort, J.R.	ANYL	361
Coolbaugh, M.	BIOT	695	Cordero, A.	ENVR	699	Cortes Bula, C.G.	CHED	1886
Coolbaugh, M.J.	BIOT	483	Cordero, D.	CHED	1034	Cortes, A.J.	CHED	1350
Cooley, J.	INOR	55	Cordero, D.	CHED	1817	Cortez, R.	CHED	239
Cooley, J.	INOR	1354	Cordero, R.	PMSE	356	Cortez, R.	AGFD	211
Cooley, N.P.	ORGN	468	Cordero, S.	CHED	1719	Cortez, S.	CHED	907
Cools, C.	ENVR	909	Cordero, T.	CATL	40	Cory, R.M.	ENVR	263
Coon, S.	CHED	1660	Cordes, D.B.	CHED	145	Coscia, K.	CHED	1882
Coonrod, C.	CATL	535	Cordes, D.B.	CHED	794	Cosco, E.D.	ORGN	457
Cooper, A.	CHED	1198	Cordes, D.B.	CHED	1494	Cosenza, S.C.	MEDI	254
Cooper, A.	CHED	923	Cordes, N.	ANYL	398	Cosenza, S.C.	MEDI	255
Cooper, A.D.	ORGN	399	Cordier, M.	ANYL	479	Coseri, S.	CELL	4
Cooper, A.I.	CATL	262	Cordon, M.J.	CATL	82	Cosford, N.D.	MEDI	321
Cooper, B.	POLY	2	Cordova Villegas, L.G	ENVR	857	Cosgrove, D.	CELL	18
Cooper, C.	ANYL	74	Córdova, S.	CHED	281	Cosgrove, D.	CELL	21
Cooper, C.	BIOT	67	Cordova-Figueroa, U.M.	PMSE	28	Cosgrove, D.	CELL	438
Cooper, C.B.	COMP	225	Corella, D.	INOR	1016	Cosgrove, D.	CELL	522
Cooper, C.H.	CHED	1031	Corey, D.	CHED	885	Cosgrove, D.	CINF	44
Cooper, E.	CHED	696	Corey, D.	CHED	1788	Cosgrove, D.	CINF	80
Cooper, G.	PHYS	324	Corey, D.	PHYS	471	Cosio, M.N.	CHED	827
Cooper, J.	GEOC	252	Corilo, Y.	ENFL	151	Coskun, A.	ENFL	396
Cooper, J.K.	CATL	502	Corilo, Y.	ENFL	405	Cosman, J.	BIOL	225
Cooper, J.K.	CATL	505	Corilo, Y.	ENVR	652	Cosme Silva, J.	CHED	1776
Cooper, K.	I&EC	119	Corke, H.	AGFD	127	Cosme-Silva, J.	CHED	1392
Cooper, M.	CHED	63	Corkey, B.	MEDI	367	Cossairt, B.	INOR	687
Cooper, M.	CHED	71	Corkum, P.	PHYS	27	Cossairt, B.	INOR	1342
Cooper, M.	CHED	236	Corless, V.	ORGN	396	Cossette, C.	ORGN	14
Cooper, M.	CHED	265	Corlett, S.A.	CHED	1519	Cossey, K.	CHED	449
Cooper, M.	CHED	2015	Corlett, S.A.	CHED	1978	Cossio, f.	POLY	541
Cooper, M.	CHED	2073	Corley, C.	CINF	128	Cossio, M.	GEOC	157
Cooper, M.	BIOT	52	Corley, M.	POLY	478	Cossio, M.	GEOC	311
Cooper, N.J.	ANYL	292	Corn, J.	BIOL	180	Cossio, M.	GEOC	348
Cooper, P.D.	PHYS	571	Cornelissen, J.J.	PMSE	152	Cossio, O.	CHED	1770
Cooper, S.	CHED	848	Cornelissen, J.J.	POLY	523	Cossio, O.	MEDI	496
Cooper, W.J.	ENVR	255	Cornelius, C.J.	ENFL	113	Cossu, A.	AGFD	157
Cooper, W.T.	ENVR	103	Cornelius, C.J.	ENFL	116	Costa, C.	CELL	11
Coopersmith Lawrence, K.	INOR	1525	Cornelius, C.J.	ENFL	459	Costa, D.	ENVR	41
Coopersmith, K.J.	COLL	240	Cornelius, C.J.	ENFL	462	Costa, P.	PHYS	325
Cooper-White, J.	POLY	227	Cornelius, C.J.	INOR	1421	Costache, A.D.	CHED	222
Cooperwood, J.S.	MEDI	184	Cornelius, C.J.	PMSE	77	Costantini, G.	COLL	556
Cope, B.	BIOT	520	Cornelius, C.J.	PMSE	88	Costanzo, J.A.	BIOT	710
Copeland, J.	CATL	529	Cornelius, C.J.	PMSE	262	Costanzo, P.J.	POLY	34
Copeland, R.	MEDI	306	Cornelius, C.J.	PMSE	378	Costanzo, P.J.	POLY	151
Copeland, R.	MEDI	356	Cornelius, C.J.	PMSE	409	Costanzo, P.J.	POLY	154
Copeland, W.B.	ENFL	167	Cornelius, C.J.	PMSE	596	Costanzo, P.J.	POLY	204
Coperet, C.	INOR	611	Cornelius, G.	MEDI	339	Costanzo, P.J.	POLY	461
Coperet, C.	INOR	1536	Cornell, K.	CATL	561	Costanzo, P.J.	POLY	467
Coperet, C.	PMSE	223	Cornell, K.	CHED	333	Costanzo, P.J.	POLY	469
Copet, B.T.	CHED	332	Cornell, K.	CHED	592	Costanzo, P.J.	POLY	502
Coplan, C.	COLL	231	Cornell, K.	CHED	651	Costanzo, P.J.	SOCED	2
Coplan, C.D.	CHED	1655	Cornell, K.	CHED	1241	Costard, R.	PHYS	119
Copp, S.M.	INOR	940	Cornell, K.	MEDI	152	Costas Feliciano, J.	CHED	1825
Copp, S.M.	PHYS	577	Cornell, K.	MEDI	270	Costas, M.	INOR	143
Corban, C.Q.	CHED	470	Cornell, S.	INOR	296	Costas, M.	INOR	276
Corbeil, C.R.	BIOT	172	Cornella, J.	ORGN	212	Costello, D.	BIOT	630
Corbett, D.	BIOT	165	Cornish, V.W.	BIOL	25	Costello, K.	BIOT	222
Corbett, D.	COLL	656	Cornish, V.W.	PROF	30	Costley, A.	CHED	1634
Corbett, J.	INOR	705	Cornwall, P.	MEDI	17	Cote, C.D.	ENVR	605
Corbett, P.	CINF	66	Corona, B.	COMP	253	Cote, L.E.	CHED	194
Corbett, P.	CINF	127	Corona, G.	COLL	277	Cote, L.E.	CHED	2068
Corbey, J.F.	INOR	1384	Corona, T.	INOR	151	Cote, R.J.	ANYL	309
Corbin, D.A.	INOR	707	Corona-Gonzalez, R.I.	CELL	8	Côté-Raiche, A.	ORGN	725
Corbin, J.	BIOT	7	Corr, M.J.	ORGN	65	Cottrell, B.A.	ENVR	255
Corbin, J.	BIOT	469	Corr, M.J.	ORGN	229	Cotts, B.	ANYL	300
Corbin, P.S.	CHED	133	Corral Valero, M.	CATL	8	Couch, K.D.	ENVR	118
Corbin, P.S.	CHED	1706	Corral Valero, M.	CATL	585	Couch, K.D.	ENVR	707
Corbin, W.C.	ENFL	31	Corral, A.	CHED	408	Couch, K.D.	ENVR	940
Corbin, W.C.	GEOC	284	Corral, E.	CHED	1552	Couchon, C.	COLL	776
Corbin, W.C.	INOR	1143	Corral, G.	CHED	2066	Coudret, C.	CHED	1750
Corbitt, E.S.	ENVR	478	Corrales, S.A.	INOR	1562	Coughlin, B.	POLY	336
Corbucci, I.	INOR	1278	Correa Velez, M.	CELL	348	Coughlin, E.J.	NUCL	81
Corcelli, S.	PHYS	143	Correa, A.A.	COMP	536	Coulter, D.	MEDI	405
Corcelli, S.	PHYS	145	Corrêa, I.V.	ENVR	703	Coulthard, R.	ENVR	157
Corcelli, S.	PHYS	201	Corrêa, I.V.	ENVR	676	Coulther, T.	BIOL	226
Corcoran, A.	ENVR	879	Correia, T.	ORGN	235	Coulther, T.A.	COMP	306
Corcoran, E.B.	ORGN	155	Corrigan, T.	MEDI	204	Coulther, T.A.	COMP	367
Cordeiro, L.	INOR	958	Corriveau, S.	AGFD	2	Counter, K.	CHED	628
Cordeiro, M.	COLL	542	Corro, M.	MEDI	430	Coupy, D.	CINF	4
Cordeiro, R.C.	CELL	63	Corry, D.B.	COLL	757	Couradeau, E.	GEOC	95
Cordero DaSilva, D.	CHED	1863	Corson, E.	CATL	177	Couret, L.	CELL	296



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Cournia, Z.	COMP	200	Cramer, C.J.	INOR	286	Crespo Rosado, N.E.	CHED	1863
Courouble, V.V.	BIOL	114	Cramer, C.J.	INOR	677	Crespo Rosado, N.E.	MEDI	115
Courtade, G.	CELL	171	Cramer, C.J.	INOR	684	Crespo-Hernandez, C.E.	PHYS	46
Courtois, A.	CHED	1783	Cramer, C.J.	INOR	738	Cress, B.	BIOT	392
Couser, K.	CHED	1336	Cramer, C.J.	INOR	810	Cress, B.F.	BIOT	25
Cousins, D.	POLY	562	Cramer, C.J.	INOR	1191	Cressy, D.	INOR	1158
Cousins, K.R.	CHED	275	Cramer, C.J.	INOR	1465	Crews, C.M.	ORGN	627
Cousins, K.R.	CHED	2000	Cramer, C.J.	ORGN	562	Crews, J.	CHED	1590
Cousins, K.R.	COMP	303	Cramer, C.J.	ORGN	890	Cribbs, M.M.	CHED	1144
Cousins, K.R.	COMP	437	Cramer, J.A.	CHED	98	Crich, D.	CARB	1
Cousins, M.E.	ORGN	713	Cramer, J.T.	BIOL	198	Crich, D.	CARB	14
Coutsias, E.	COMP	26	Cramer, S.M.	BIOT	12	Crick, D.C.	BIOL	68
Coutsias, E.	COMP	381	Cramer, S.M.	BIOT	250	Crick, D.C.	BIOL	140
Couture, R.M.	GEOC	153	Cramer, S.M.	BIOT	253	Crick, D.C.	MEDI	201
Covarrubias Zambrano, O.	INOR	1147	Cramer, S.M.	BIOT	257	Crick, D.C.	MEDI	203
Covarrubias Zambrano, O.	MEDI	80	Cramer, S.M.	BIOT	259	Crick, D.C.	ORGN	543
Covarrubias, J.	INOR	1526	Cramer, S.M.	BIOT	260	Crickmore, C.	CHED	816
Covarrubias, J.	MEDI	80	Cramer, S.M.	BIOT	352	Crickmore, C.	CHED	1847
Coveney, P.V.	CINF	8	Cramer, S.M.	BIOT	439	Criddle, M.P.	COMP	444
Coveney, P.V.	CINF	81	Cramer, S.M.	BIOT	510	Crider, A.M.	MEDI	40
Coveney, P.V.	COMP	68	Cramer, S.M.	BIOT	567	Crider, A.M.	MEDI	498
Coveney, P.V.	GEOC	30	Cramer, S.P.	INOR	777	Crimmins, B.S.	ENVR	72
Covington, M.	POLY	84	Crampton, A.S.	CATL	206	Criscenti, L.J.	GEOC	134
Covington, M.	CHED	1423	Cran, M.J.	CELL	504	Criscenti, L.J.	GEOC	167
Covino, R.	COMP	429	Crandall, L.A.	INOR	334	Criscenti, L.J.	GEOC	198
Cowan, A.J.	ORGN	466	Crane, J.	CHED	1711	Criswell, B.A.	CHED	2109
Cowan, J.	CHED	1262	Crane, J.	MEDI	448	Crockett, B.	COLL	182
Cowden, S.	ENVR	19	Crans, D.C.	ANYL	227	Crockett, B.	COLL	342
Cowell, B.	INOR	764	Crans, D.C.	BIOL	68	Croft, R.A.	ORGN	707
Cowell, B.	INOR	765	Crans, D.C.	BIOL	140	Croft, R.A.	ORGN	763
Cowell, B.	INOR	768	Crans, D.C.	BIOL	214	Crofton, K.	CINF	109
Cowen, J.	CHED	1670	Crans, D.C.	INOR	226	Crofton, K.	ENVR	937
Cowen, S.	MEDI	121	Crans, D.C.	INOR	233	Crommie, M.	COLL	147
Cox, E.	ENVR	464	Crans, D.C.	INOR	968	Crompton, N.M.	GEOC	82
Cox, L.	POLY	351	Crans, D.C.	INOR	1210	Crompton, N.M.	GEOC	357
Cox, M.	MEDI	75	Crans, D.C.	INOR	1323	Cronin, L.	ENFL	457
Cox, N.	INOR	769	Crans, D.C.	MEDI	78	Cronin, L.	INOR	206
Cox, R.	CHED	1156	Crans, D.C.	MEDI	201	Cronin, L.	INOR	708
Cox, S.	CINF	107	Crans, D.C.	MEDI	203	Cronin, L.	INOR	1128
Cox, V.	BIOL	344	Crans, D.C.	ORGN	543	Cronin, L.	INOR	1455
Cox, V.	BIOT	328	Cranston, E.D.	CELL	88	Cronin, L.	PHYS	241
Coy, A.	CHED	30	Cranston, E.D.	CELL	144	Cronk, S.S.	GEOC	26
Coyle, D.J.	ORGN	399	Cranston, E.D.	CELL	153	Crooke, S.	MEDI	324
Cozzolino, A.F.	INOR	1230	Cranston, E.D.	CELL	204	Crookes-Goodson, W.J.	PMSE	146
Cozzolino, A.F.	INOR	1308	Cranston, E.D.	CELL	248	Crosby, J.	ENVR	384
Cozzolino, A.F.	INOR	1340	Cranston, E.D.	CELL	291	Crosby, K.	MEDI	233
Cozzolino, A.F.	ORGN	474	Cranston, E.D.	CELL	477	Crosio, S.	CHED	1353
Crabb, B.	CHED	1120	Cranston, E.D.	CELL	519	Cross Lopez, W.	INOR	385
Crabb, E.	PMSE	214	Cranswick, M.A.	INOR	953	Cross Lopez, W.	INOR	386
Crabb, E.	PMSE	274	Cravatt, B.F.	BIOL	196	Cross Lopez, W.	INOR	387
Crabtree, R.H.	CHED	104	Cravatt, B.F.	INOR	232	Cross, B.	COLL	577
Crabtree, R.H.	INOR	125	Craver, V.	ENVR	153	Cross, E.	POLY	308
Craft, K.	CARB	71	Cravillion, T.	ORGN	22	Cross, G.L.	PMSE	531
Craggs, T.	COLL	414	Cravillion, T.	ORGN	449	Cross, J.N.	NUCL	13
Crago, J.	ENVR	127	Cravillion, T.	ORGN	503	Cross, Z.	CHED	1185
Crago, J.	ENVR	497	Cravillion, T.	ORGN	504	Crosley, L.	GEOC	231
Craig, A.F.	CHED	1248	Crawford, A.	CHED	1254	Croteau, J.	CHED	1262
Craig, A.M.	ORGN	824	Crawford, A.	CHED	1763	Crouch, A.L.	PMSE	146
Craig, C.	CINF	93	Crawford, B.A.	ENVR	744	Crousilles, A.	MEDI	266
Craig, K.	CHED	1028	Crawford, J.J.	MEDI	342	Crowe, A.	ENFL	418
Craig, K.	CHED	1218	Crawford, J.J.	ORGN	21	Crowe, C.	COLL	276
Craig, R.	ORGN	723	Crawford, M.B.	CHED	1899	Crowe, J.	ENFL	395
Craig, S.	POLY	231	Crawford, M.J.	CHED	618	Crowe, M.	CHED	2143
Craik, C.	BIOL	141	Crawford, S.	GEOC	266	Crowe, S.	GEOC	122
Craik, C.	BIOT	91	Crawford, S.	GEOC	270	Crowell, L.	BIOT	78
Crain, C.A.	CATL	564	Crawford, W.	CHED	1320	Crowhurst, J.C.	NUCL	155
Crain, E.	MEDI	18	Crawshaw, B.	POLY	83	Crowley, M.	ENVR	452
Cramail, H.	CELL	285	Creamer, T.P.	BIOL	72	Crowley, M.F.	CELL	20
Cramer, A.	INOR	1500	Creasy, A.	BIOT	310	Crowley, M.F.	CELL	69
Cramer, C.J.	COLL	100	Creator, M.	COLL	587	Crowley, M.F.	CELL	72
Cramer, C.J.	COLL	588	Credgington, D.	INOR	700	Crowley, M.F.	CELL	216
Cramer, C.J.	COMP	243	Crech, O.	CHED	1296	Crowley, M.F.	CELL	361
Cramer, C.J.	COMP	537	Creel, E.	CATL	177	Crowley, M.F.	CELL	414
Cramer, C.J.	ENFL	271	Cremer, P.S.	COLL	59	Crowley, M.F.	COMP	390
Cramer, C.J.	INOR	64	Cremer, P.S.	COLL	380	Crowther, A.	PHYS	298
Cramer, C.J.	INOR	264	Cremer, P.S.	COLL	395	Crowther, A.	PHYS	406
Cramer, C.J.	INOR	266	Cremer, B.	MEDI	149	Crowther, A.	PHYS	411
Cramer, C.J.	INOR	268	Crenshaw, E.	POLY	151	Crowther, D.J.	PMSE	618
Cramer, C.J.	INOR	272	Crepeau, L.	BIOL	37	Croy, J.	I&EC	56
Cramer, C.J.	INOR	273	Crespi, V.H.	INOR	690	Crozier, A.	AGFD	200

Crozier, A.	AGFD	221	Culbertson, C.T.	CHED	441	Curtis, E.J.	CHED	318
Crozier, P.A.	CATL	508	Culbertson, C.T.	INOR	1147	Curtis, J.E.	BIOT	23
Crudden, C.M.	ENVR	471	Cullen, D.	CHED	60	Curtis, J.E.	BIOT	170
Cruikshank, D.	PHYS	191	Cullen, D.A.	I&EC	32	Curtis, R.	BIOT	165
Crum, M.	BIOT	602	Cullinan, D.B.	ANYL	296	Curtis, R.	BIOT	443
Crumlin, E.J.	ENFL	283	Culp, J.	CHED	1865	Curtis, R.	COLL	656
Crundwell, G.A.	CHED	1340	Culpepper, J.D.	ENVR	79	Curtiss, L.A.	CATL	170
Crundwell, G.A.	CHED	2146	Culpepper, J.D.	GEOC	58	Curtiss, L.A.	COMP	203
Cruise, C.	CHED	432	Culver, J.N.	BIOT	492	Curtiss, L.A.	ENFL	168
Cruz - Rodriguez, O.	MEDI	10	Cumberbatch, H.	PHYS	328	Curto, J.	ORGN	33
Cruz Reyes, M.	CHED	1040	Cumming, J.	MEDI	128	Curvelo, A.A.	CELL	71
Cruz Reyes, Y.	CHED	1802	Cummings, C.	CHED	500	Cushen, J.	PMSE	102
Cruz Tato, P.E.	PMSE	20	Cummings, L.	CHED	150	Cushing, S.	CATL	104
Cruz, A.	CHED	1863	Cummings, M.	CHED	948	Cushing, S.	PHYS	252
Cruz, A.	COMP	21	Cummings, M.	CHED	1521	Cushing, S.	PHYS	443
Cruz, M.	CHED	547	Cummings, M.R.	I&EC	38	Cushing, S.	PHYS	511
Cruz, M.	ENVR	507	Cummings, P.T.	ENFL	159	Cushman, M.	MEDI	231
Cruz-Aponte, M.	PHYS	534	Cummings, S.	ORGN	426	Cusick, R.	ENVR	528
Cruz-Diaz, G.	CHED	316	Cummings, S.	ORGN	893	Cusick, R.	ENVR	582
Cruz-Diaz, G.	PHYS	288	Cummins, D.C.	INOR	629	Cusick, R.	ENVR	981
Cruzeiro, V.D.	COMP	564	Cummins, D.C.	INOR	1258	Cusinato, L.	COLL	841
Cruz-Lebron, J.	BIOT	581	Cun, T.	ENVR	628	Cussó, O.	INOR	143
Cruz-Montanez, A.	ORGN	908	Cundari, T.R.	MPPG	11	Costelcean, R.	ORGN	408
Cruz-Velasquez, G.	CHED	1831	Cundari, T.R.	CATL	27	Costelcean, R.	ORGN	470
Cryder, Z.	ENVR	900	Cundari, T.R.	COMP	245	Costelcean, R.	ORGN	576
Crystal, D.T.	PMSE	341	Cundari, T.R.	INOR	103	Costelcean, R.	ORGN	577
Csernak, J.	ORGN	366	Cundari, T.R.	INOR	881	Cusumano, J.	CELL	274
Csik, I.	BIOL	159	Cundari, T.R.	INOR	1214	Cuthbertson, A.A.	ENVR	98
Csiki, R.	COLL	642	Cundari, T.R.	INOR	1220	Cuyler, J.	CHED	756
Csordas, A.	BIOL	241	Cundari, T.R.	ORGN	418	Cvijic, M.	MEDI	42
Csuhai, E.	CHED	1172	Cundy, J.	BIOT	159	Cvijic, M.	MEDI	339
Cuan, Q.	COLL	727	Cunnginham, S.	AGFD	57	Cvijic, M.E.	MEDI	41
Cuahtemoc Lopez, I.	ENVR	516	Cunnginham, S.	AGFD	51	Cwiertny, D.M.	CHED	987
Cubero-Sesin, J.M.	ENVR	612	Cunnginham, S.	CHED	1769	Cwiertny, D.M.	CHED	988
Cubuk, J.	CHED	1721	Cuningham, D.	INOR	161	Cwiertny, D.M.	GEOC	58
Cuddeback, S.E.	CHED	531	Cuningham, D.	INOR	1097	Cybulskis, V.	INOR	568
Cudic, M.	CHED	195	Cuningham, D.	INOR	1390	Cyr, P.	ORGN	725
Cuenca, J.	BIOT	77	Cuningham, J.	ENVR	90	Cyrille, C.	INOR	164
Cuendet, M.A.	COMP	2	Cuningham, J.A.	ENVR	909	Czaja, W.	CELL	316
Cuendet, M.A.	PHYS	6	Cuningham, M.F.	CELL	420	Czaplyski, W.	ORGN	46
Cuenya, B.R.	CATL	100	Cuningham, M.F.	CELL	461	Czaun, M.	ENFL	242
Cuevas, W.	ENVR	739	Cuningham, R.	INOR	579	Czaun, M.	ORGN	143
Cui, C.	INOR	179	Cuny, G.	MEDI	257	Czech, K.	ANYL	24
Cui, C.	ENFL	436	Cuny, G.	MEDI	312	Czerw, R.	ENFL	161
Cui, D.	CHED	925	Cuomo, D.	CHED	1740	Czerwinski, K.	INOR	615
Cui, D.	ENVR	510	Cuomo, F.	CELL	400	Czerwinski, K.	INOR	1102
Cui, D.	INOR	803	Curchod, B.	COMP	90	Czerwinski, K.	NUCL	8
Cui, F.	ENVR	483	Curfman, V.	CHED	83	Czerwinski, K.	NUCL	35
Cui, F.	INOR	1124	Curfman, V.	CHED	117	Czerwinski, K.	NUCL	83
Cui, H.	ENFL	323	Curfman, V.	CHED	1806	Czerwinski, K.	NUCL	84
Cui, H.	ANYL	203	Curiac, C.	CHED	338	Czerwinski, R.	MEDI	316
Cui, H.	PMSE	204	Curini, M.	ORGN	192	Czimczik, C.	ANYL	20
Cui, H.	PMSE	481	Curl, E.F.	CHED	866	Czirok, J.B.	ORGN	366
Cui, H.	POLY	520	Curley, J.	INOR	398	Czubatka-Bienkowska, A.	MEDI	173
Cui, H.	INOR	714	Curran, M.	CATL	611	Czubatka-Bienkowska, A.	MEDI	174
Cui, H.	INOR	1233	Curran, C.D.	CATL	85	Czworkowski, J.	CHED	2130
Cui, H.	INOR	1237	Curran, D.	ORGN	559	d'Almeida e Silva, M.L.	CHED	2133
Cui, J.	ORGN	680	Curran, S.	BIOL	258	da Fonseca Rezende e Mello, J.	MEDI	206
Cui, J.	ENVR	244	Curran, T.P.	INOR	236	da Luz Rodrigues, W.	CHED	351
Cui, J.	COLL	674	Curran, T.P.	INOR	624	da Silva Filho, D.A.	INOR	297
Cui, P.	INOR	1208	Currano, J.N.	CINF	90	Da Silva Perez, D.	CELL	215
Cui, Q.	COMP	415	Curreli, D.	NUCL	155	Da Silva Perez, D.	CELL	285
Cui, Q.	COMP	431	Current, K.	ENVR	815	Da Silva Perez, D.	CELL	511
Cui, S.	CATL	299	Current, K.	ENVR	816	Da Silva, D.	ENVR	716
Cui, S.	INOR	885	Currie, L.	INOR	720	Da Silva, N.A.	BIOT	266
Cui, W.	POLY	371	Curry, A.L.	CHED	2171	Da Silva, N.A.	BIOT	543
Cui, W.	ANYL	108	Curry, J.	COLL	748	da Silveira, E.	PHYS	288
Cui, X.	COLL	499	Curry, L.A.	CHED	421	Dabbawala, A.	CATL	315
Cui, Y.	COMP	122	Curry, M.L.	CELL	12	Dabbawala, A.	CATL	316
Cui, Y.	CHED	314	Curry, M.L.	CELL	164	Dabell, R.S.	CHED	853
Cui, Y.	CELL	474	Curry, M.L.	CELL	165	Dabell, R.S.	CHED	856
Cui, Y.	ENFL	421	Curry, M.L.	CHED	2171	Dabke, R.	CHED	2084
Cui, Y.	PRES	3	Curry, M.L.	COLL	220	Dabney-Smith, C.	BIOL	227
Cui, Z.	POLY	603	Curry, S.	MEDI	346	Dabney-Smith, C.	CHED	613
Cui, Z.	COMP	465	Curry, T.	INOR	1521	Dabos, L.	COMP	582
Cuk, T.	CATL	499	Curtarolo, S.	CATL	622	Dabrazhynetskaya, A.	BIOT	264
Cuk, T.	CATL	500	Curtin, K.	CHED	1067	Dabrowski, J.A.	CHED	1091
Cuk, T.	INOR	160	Curtin, K.	INOR	432	Dabrowski, J.A.	ORGN	432
Culakova, Z.	INOR	728	Curtis, B.	ENVR	497	D'Acchioli, J.S.	INOR	308
Culbertson, C.T.	ANYL	12	Curtis, B.	ENVR	675	D'Acchioli, J.S.	INOR	1097

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Dacres, D.F.	COMP	266	Dalby, S.	ORGN	357	Dao, T.N.	CHEd	1607
Dadabay, C.	AGFD	86	Dalchand, E.	ORGN	801	Daodu, O.	COLL	832
Dadabay, C.	AGFD	87	Daleke, D.L.	COLL	379	Darabi, A.	CELL	461
Dadakis, J.	ENVR	258	Dalesandro, B.E.	CHEd	136	Darago, L.E.	INOR	1038
D'Addio, S.M.	PMSE	673	Daley, D.	CHEd	516	Darago, L.E.	INOR	1224
Dadgar, A.	CATL	598	Daley, D.	CHEd	517	Darago, L.E.	INOR	1402
Dadmun, M.D.	POLY	587	Daley, D.D.	CHEd	1774	Darago, L.E.	INOR	1404
Dadras, J.	CATL	601	Daley, L.	CHEd	1003	Darago, L.E.	INOR	1474
Daemen, L.	ENFL	272	Daley, L.	CHEd	1518	Darago, L.E.	PHYS	245
Daemen, L.L.	INOR	714	Daley, L.	CHEd	1520	Darby, E.	INOR	210
Daemen, L.L.	INOR	1233	Daley, R.	ORGN	227	Darby, M.	CATL	619
Daeron-Courté, K.	MEDI	149	Dalieh, S.	CATL	336	Darcy, J.	INOR	526
Daga, P.	COMP	545	Dallakoti, B.	ENVR	697	Darensbourg, D.J.	INOR	583
Daggag, D.	COMP	562	Dallman, J.	ORGN	851	Darensbourg, D.J.	INOR	1185
Daggag, D.A.	COMP	358	Dalton, B.N.	ANYL	92	Darensbourg, M.Y.	INOR	494
D'Agostino, T.	COMP	500	Daly, C.I.	INOR	293	Darensbourg, M.Y.	INOR	1321
D'Agosto, F.	CELL	286	Daly, C.I.	INOR	1265	Darensbourg, M.Y.	INOR	1324
Dahal-Busfield, T.	BIOT	695	Daly, M.H.	CHEd	860	Darensbourg, M.Y.	INOR	1325
Dahanayake, V.	INOR	1524	Daly, S.R.	INOR	343	D'Arienzo, C.J.	MEDI	21
Daher, C.	BIOL	274	Daly, S.R.	INOR	959	D'Arienzo, C.J.	MEDI	339
Daher, C.F.	INOR	934	Daly, S.R.	NUCL	38	D'Arienzo, C.J.	MEDI	349
Dahiya, P.	ENFL	69	Daly, S.R.	PROF	8	Darkazalli, A.	CHEd	744
Dahl, A.	CHEd	1526	Daly, W.	CATL	544	Darko, A.	INOR	1158
Dahl, A.J.	ORGN	110	Dalziel, M.E.	ORGN	84	Darko, L.	INOR	19
Dahl, J.A.	BIOL	262	Damanesco Borges, D.	ENFL	249	Darling, S.B.	COLL	592
Dahl, J.R.	ORGN	399	Damatov, D.	INOR	1	Darling, S.B.	PMSE	21
Dahlberg, P.D.	ANYL	302	Damatov, D.	INOR	503	Darmadi, S.	BIOT	660
Dahlberg, P.D.	CATL	391	D'Ambrosio, E.	BIOL	291	Darmon, J.M.	INOR	19
Dahlberg, P.D.	PHYS	390	D'Amelia, R.P.	CHEd	1356	Darnall, S.	ORGN	874
Dahlhaus, H.	ENVR	236	Damen, E.	MEDI	378	Darnall, S.M.	POLY	297
Dahlin, J.L.	BIOL	320	Damera, K.	MEDI	500	DaRos, J.	ORGN	526
Dahlström, C.	CELL	11	Damha, M.J.	BIOL	166	Darreh-Shori, T.	MEDI	64
Dahm, G.	CHEd	1066	D'Amore, L.	INOR	275	Darrow, W.T.	CHEd	1870
Dahms, F.	PHYS	119	Damrauer, N.H.	CATL	221	Darrow, W.T.	ORGN	751
Dai, C.	MEDI	248	Dan, D.	NUCL	135	Darsey, J.A.	CHEd	1770
Dai, C.	PMSE	347	Danby, A.M.	CATL	199	Darvas, F.	YCC	14
Dai, C.	PMSE	403	Danda, C.	BIOT	683	Darvin, J.R.	ANYL	60
Dai, C.	PMSE	532	Danda, V.	PMSE	613	Darwiche, A.	ENFL	115
Dai, F.	INOR	629	Dandu, V.	MEDI	254	Darwish, I.S.	MEDI	478
Dai, H.	COLL	454	Dandu, V.	MEDI	255	Darwish, I.S.	MEDI	479
Dai, H.	COLL	537	Dandy, D.S.	BIOT	586	Darwish, S.	MEDI	162
Dai, H.	ENVR	604	Dane, A.J.	ENVR	212	Darwish, S.	MEDI	506
Dai, H.	INOR	729	Danelius, E.R.	ORGN	686	Darwish, S.	ORGN	618
Dai, J.	MEDI	21	Danesh, C.D.	POLY	149	Daryae, F.	BIOL	88
Dai, Q.	ORGN	905	Daneshkhah, A.	ANYL	271	Daryae, F.	MEDI	136
Dai, R.	INOR	403	Daneshkhah, A.	BIOT	232	Daryae, F.	MEDI	310
Dai, S.	CATL	339	Dang, A.	COLL	270	Daryaei, I.	MEDI	40
Dai, S.	CATL	456	Dang, C.V.	ANYL	229	Darzi, G.	ORGN	647
Dai, S.	ENFL	222	Dang, D.	CHEd	1835	Das, A.	INOR	1120
Dai, S.	ENFL	394	Dang, D.	COMP	323	Das, A.K.	ENFL	164
Dai, S.	ENFL	423	Dang, L.	INOR	1051	Das, D.	COMP	503
Dai, S.	I&EC	12	Dang, L.X.	PHYS	34	Das, J.	ORGN	553
Dai, S.	I&EC	17	Dang, P.	CHEd	1725	Das, K.K.	ENVR	726
Dai, S.	I&EC	112	Dang, S.	ENFL	137	Das, K.K.	ENVR	972
Dai, S.	INOR	169	Dang, X.	INOR	487	Das, K.K.	ENVR	1037
Dai, S.	INOR	1133	Dani, K.	CHEd	1250	Das, K.K.	GEOC	21
Dai, S.	PMSE	471	Danias, J.	BIOT	624	Das, K.K.	GEOC	50
Dai, S.	BIOL	113	Daniel, M.	INOR	1060	Das, P.	CHEd	937
Dai, S.	INOR	560	Daniel, M.	INOR	1148	Das, P.	CHEd	990
Dai, W.	BIOT	8	Daniel, W.F.	PMSE	258	Das, P.	ORGN	728
Dai, W.	BIOT	448	Daniel, Y.	POLY	474	Das, P.	BIOT	341
Dai, Y.	PHYS	399	Daniels, G.C.	ORGN	889	Das, S.	ENFL	322
Dai, Y.	PHYS	358	Daniels, G.C.	POLY	43	Das, S.	GEOC	282
Dai, Y.	BIOL	336	Daniels, P.	CHEd	1243	Das, S.	PMSE	132
Dai, Y.	ORGN	438	Danielsdottir, A.	BIOT	86	Das, S.	PHYS	382
Dai, Y.	POLY	130	Daniliuc, C.	MEDI	406	Das, S.	PHYS	470
Dai, Z.	COLL	866	Daniliuc, C.	MEDI	73	Das, S.	COLL	503
Daigle, F.	PMSE	186	Danish, M.	BIOL	301	Das, S.	COLL	501
Daigle, P.	ENFL	432	Danisman, M.	COLL	370	Das, S.K.	COLL	720
Dailey, H.	CHEd	830	Danisman, M.	COLL	615	Das, U.K.	CHEd	1137
Daillant, J.	COLL	429	Dankers, P.Y.	POLY	527	Dasari, A.	BIOL	8
Daily, S.	POLY	563	D'Anna, V.	COMP	164	Dasgupta, A.	CATL	574
Dain, J.	AGFD	4	D'Anna, V.	COMP	557	Dasgupta, G.	CHEd	294
Dain, J.	AGFD	19	Danner, E.	PMSE	549	Dasgupta, G.	CINF	78
Daisuke, N.	MEDI	133	Dano, E.A.	CHEd	553	Dasgupta, N.P.	ANYL	41
Dalafu, H.A.	INOR	1565	Dansby-Sparks, R.N.	CHEd	391	Dasgupta, S.	ORGN	308
Dalai, A.	ENFL	451	Dantus, M.	PHYS	62	Dasgupta, S.	ORGN	933
Dalai, A.K.	ENFL	108	Dao, A.	CHEd	1873	Dasgupta, S.	PHYS	431
Dalby, K.N.	MEDI	429	Dao, T.	MEDI	425	Dasgupta, S.	PHYS	483
Dalby, L.	ANYL	79	Dao, T.	MEDI	374	DasGupta, S.	PHYS	431

Dash, R.	BIOT	445	Davila, J.	PROF	26	Davy, N.C.	COMP	436
Dash, S.	BIOT	589	Davis Mcgibony, M.	CHED	603	Davydovich, O.	PMSE	357
Dash, S.	MEDI	194	Davis Mcgibony, M.	CHED	2061	Dawadi, S.	CHED	1187
Dash, S.	MEDI	272	Davis, A.	ENFL	341	Dawlaty, J.	PHYS	163
DaSilva, N.	AGFD	19	Davis, A.	MEDI	365	Dawlaty, J.	PHYS	247
DaSilva, N.	AGFD	23	Davis, A.	MEDI	197	Dawlaty, J.	PROF	46
Daskalova, S.M.	BIOL	34	Davis, A.H.	INOR	293	Dawood, F.	INOR	485
Dassama, L.M.	INOR	737	Davis, A.H.	INOR	1265	Dawood, F.	INOR	486
Dassanayake, R.	CELL	389	Davis, A.M.	CELL	123	Daws, B.	ENVR	701
Dassetty, S.	BIOT	87	Davis, A.M.	CELL	121	Dawson, D.	ORGN	141
Dastmalchi, K.	AGFD	246	Davis, B.	PMSE	72	Dawson, P.	COLL	573
Datar, R.	ANYL	309	Davis, B.	POLY	152	Day, B.M.	CHED	618
Datta, A.	MEDI	194	Davis, B.	COLL	729	Day, B.M.	CHED	1838
Datta, A.	MEDI	272	Davis, B.	PMSE	448	Day, D.	GEOC	345
Datta, S.	PMSE	212	Davis, B.A.	CHED	189	Day, D.P.	ORGN	250
Daturi, M.	CATL	269	Davis, B.A.	CHED	667	Day, E.	CHED	53
Daturi, M.	CATL	593	Davis, B.G.	BIOL	19	Day, E.	CHED	160
Daubenmire, P.L.	CHED	5	Davis, B.G.	BIOL	361	Day, J.	ORGN	458
Daud, N.	ENVR	158	Davis, B.J.	CHED	639	Day, R.	MEDI	388
Dauenhauer, P.J.	CATL	202	Davis, C.A.	ENVR	652	Day, R.	CINF	99
Daugherty, P.	BIOT	60	Davis, C.M.	CHED	1049	Day, T.	COMP	451
Daugherty, P.	BIOT	193	Davis, C.S.	PMSE	322	Day, V.W.	INOR	1339
Daugherty, P.	BIOT	254	Davis, E.	CHED	640	Dayal, B.	AGFD	218
Daugherty, R.	CINF	78	Davis, E.L.	ENVR	747	Dayal, B.	ENVR	63
Daug, E.	COLL	823	Davis, H.	ANYL	302	Dayal, B.	ENVR	808
Daugulis, O.	INOR	564	Davis, H.	PHYS	390	Dayal, N.	ORGN	209
Daugulis, O.	INOR	566	Davis, H.J.	ORGN	671	Daykin, K.	ORGN	294
Daum, J.K.	NUCL	51	Davis, J.	ENVR	217	Dayneko, S.	ORGN	675
Daumit, K.	ENVR	428	Davis, J.	INOR	50	Dayneko, S.	ORGN	858
Daus, K.A.	CHED	1012	Davis, J.	GEOC	313	Dayton, J.	INOR	1431
Dauskardt, R.	ENFL	57	Davis, J.A.	GEOC	19	Dazas, B.	GEOC	16
Dauskardt, R.	ENFL	145	Davis, J.A.	ENVR	991	Dazas, B.	GEOC	42
Dauskardt, R.	ENFL	267	Davis, J.A.	ENVR	996	de Almeida, J.M.	CATL	359
Dauskardt, R.	PMSE	46	Davis, J.D.	INOR	1359	De Andrade, V.	GEOC	332
Dauskardt, R.	PMSE	300	Davis, J.G.	CHED	271	de Barros, A.	PHYS	288
Dauskardt, R.	PMSE	494	Davis, J.H.	CHED	1042	de Beer, D.	GEOC	123
Dauskardt, R.	PMSE	588	Davis, J.H.	CHED	1050	De Bettencourt Dias, A.	HIST	17
Dauskardt, R.	PMSE	640	Davis, L.	CHED	695	De Bettencourt Dias, A.	INOR	88
Dauskardt, R.	POLY	134	Davis, M.	CELL	110	De Bettencourt Dias, A.	INOR	93
Dauskardt, R.	PMSE	48	Davis, M.A.	CHED	590	De Bettencourt Dias, A.	INOR	703
Dauriche, C.	BIOT	624	Davis, M.C.	ENFL	66	De Bettencourt Dias, A.	INOR	1094
Dauzères, A.	GEOC	221	Davis, M.C.	POLY	22	De Bettencourt Dias, A.	INOR	1478
Davey, C.	COMP	520	Davis, M.E.	CHED	159	De Billy, E.	MEDI	111
Davey, C.	COMP	543	Davis, M.E.	POLY	65	de Boer, C.	ENVR	306
Davey, R.	MEDI	198	Davis, N.	CHED	1882	de Bruijn, A.	BIOL	206
Davick, S.	ORGN	227	Davis, P.J.	BIOT	407	De Bruyn, W.J.	CHED	926
David, B.	I&EC	74	Davis, P.J.	COLL	656	De Coen, R.	CARB	86
David, K.	POLY	2	Davis, R.	BIOT	180	De Coen, R.	PMSE	631
David, L.	COLL	670	Davis, R.	CATL	195	De Fabritiis, G.	COMP	102
David, L.	MEDI	143	Davis, R.	ORGN	315	De Fabritiis, G.	COMP	137
David, S.	BIOT	379	Davis, R.A.	ENVR	970	De Fabritiis, G.	COMP	149
David, S.S.	BIOL	47	Davis, R.J.	INOR	103	De Feyter, S.	COLL	409
David, S.S.	BIOL	51	Davis, R.W.	BIOT	95	De Feyter, S.	COLL	477
David, S.S.	BIOL	58	Davis, R.W.	BIOT	299	De Feyter, S.	COLL	478
David, S.S.	BIOL	62	Davis, R.W.	ENFL	183	De Feyter, S.	COLL	508
David, S.S.	INOR	25	Davis, R.W.	ENFL	438	De Feyter, S.	COLL	511
David, S.S.	AGFD	257	Davis, S.	COMP	294	De Feyter, S.	COLL	512
Davidovits, P.	ENVR	398	Davis, S.R.	CHED	1647	De Feyter, S.	COLL	559
Davidov-Pardo, G.	CHED	341	Davis, T.	PMSE	304	De Feyter, S.	COLL	645
Davidson, A.	MEDI	462	Davis, T.	POLY	54	De Feyter, S.	COLL	755
Davidson, C.	CHED	933	Davis, T.	POLY	55	De Feyter, S.	COLL	813
Davidson, H.	INOR	214	Davis, T.	POLY	419	de Garidel-Thoron, C.	CHAS	40
Davidson, H.	INOR	396	Davis, T.	POLY	604	De Geest, B.	CARB	22
Davidson, L.	GEOC	276	Davis, T.A.	ORGN	177	De Geest, B.	CARB	86
Davidson, L.M.	INOR	624	Davis, T.A.	ANYL	335	De Geest, B.	COLL	14
Davidson, M.	GEOC	80	Davis, T.C.	COLL	56	De Geest, B.	PMSE	211
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Davies, A.T.	ORGN	33	Davis, T.S.	CHED	397	De Geest, B.	PMSE	512
Davies, B.	CHED	1511	Davis-Gilbert, Z.W.	INOR	602	De Geest, B.	PMSE	526
Davies, B.W.	BIOT	152	Davis-Gilbert, Z.W.	INOR	632	De Geest, B.	PMSE	631
Davies, G.J.	BIOL	361	Davis-Gun, J.	INOR	345	De Geest, B.	PMSE	636
Davies, H.	MEDI	395	Davis-Gunn, J.	INOR	348	De Gendt, S.	COLL	511
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Davies, H.M.	ORGN	360	Davison, B.H.	CELL	520	de Goede, M.	INOR	1576
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Delle Chiaie, K.R.	INOR	683	Deng, Z.	MEDI	305	Dermota, T.E.	CHED	799
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Desrochers, P.	INOR	1260	Dhandhukia, J.	PMSE	198	Díaz Lopez, C.	INOR	797
Desrosiers, M.	ENVR	538	Dhanwada, K.	CHED	533	Díaz, A.	ENVR	679
Desrosiers, M.	ENVR	957	Dhar, D.	INOR	64	Díaz, A.	ENVR	1003
Dessoy, M.	MEDI	134	Dhar, D.	INOR	85	Díaz, D.	MEDI	342
DeStefano, N.	ENVR	995	Dhar, D.	INOR	260	Díaz, F.	ENVR	350
Destino, J.F.	COLL	837	Dhar, M.	MEDI	339	Díaz, f.	COLL	494
Destouches, N.	COLL	639	Dhar, P.	CATL	453	Díaz, G.	CHED	1434
Desyaterik, Y.	GEOC	344	Dhar, P.	CHED	1244	Díaz, J.	ENVR	419
Detering, C.	CINF	60	Dhar, P.	CHED	1521	Díaz, J.L.	BIOL	121
Detering, C.	COMP	104	Dhar, S.	BIOL	287	Díaz, N.	CHED	1818
Detering, C.	MEDI	407	Dhar, S.	MEDI	86	Díaz, R.	INOR	899
Determan, L.	BIOT	159	Dhara, A.	ORGN	644	Díaz, R.L.	GEOC	100
Detmer, A.	CHED	1842	Dhawan, S.	BIOT	685	Díaz, Y.	MEDI	430
Detsi, E.	ENFL	250	Dhayal, S.	PMSE	149	Díaz, Y.	ORGN	912
Detty, M.R.	MEDI	223	Dhinojwala, A.N.	COLL	626	Díaz, Y.J.	ORGN	681
Detty, M.R.	MEDI	402	Dhinojwala, A.N.	PMSE	260	Díaz-Martinez, L.	CHED	2066
Detwiler, M.	POLY	452	Dhinojwala, A.N.	POLY	564	Díaz-Moreno, S.	CELL	186
Deuermeyer, H.	INOR	480	Dhinojwala, A.N.	POLY	565	Díaz-Urrutia, C.	CATL	248
Deuss, P.J.	CATL	200	Dhinojwala, A.N.	POLY	566	Dibble, D.J.	PMSE	294
Deutch, S.	ENFL	289	Dhopatkar, N.	COLL	626	DiCairano, M.	ORGN	528
Deutsch, D.	MEDI	218	Dhopatkar, N.	POLY	564	Dicesare, J.C.	CHED	609
Deutsch, D.J.	SCHB	1	Dhopkatkar, N.	POLY	565	Dicesare, J.C.	CHED	647
Deutsch, T.	ENFL	373	Dhuguru, J.	MEDI	150	Dicesare, J.C.	MEDI	238
Deutsch, T.G.	CATL	263	Dhuguru, J.	MEDI	416	Dichtel, W.R.	CHED	1747
Deutsch, T.G.	CATL	557	Dhuiege, B.	CELL	202	Dichtel, W.R.	COLL	147
Deutsch, T.G.	INOR	1343	Dhull, P.	INOR	1172	Dichtel, W.R.	COLL	629
Deutzmann, J.	ENFL	174	Dhungana, R.K.	ORGN	170	Dichtel, W.R.	ENVR	503
Devaney, J.	BIOT	542	Di Bari, L.	INOR	324	Dichtel, W.R.	ORGN	859
Devaraj, N.K.	BIOL	28	Di Giusto, Z.B.	CHED	1294	Dichtel, W.R.	POLY	189
Devaraj, N.K.	BIOL	48	Di Iorio, J.R.	CATL	276	Dichtel, W.R.	POLY	190
Devaraj, N.K.	BIOL	63	di Mare, L.	COLL	579	Dick, A.	POLY	114
Devaraj, N.K.	BIOL	153	di Mare, L.	COLL	109	Dick, A.	POLY	300
Devaraj, N.K.	BIOL	232	Di Pietro, S.	GEOC	52	Dick, A.R.	CHED	292
Devaraj, N.K.	BIOT	289	Di Tommaso, D.	GEOC	228	Dick, G.J.	GEOC	123
Devaraj, N.K.	BIOT	548	Di Valentin, C.	PHYS	550	Dick, M.	CHED	856
Devaraj, N.K.	COLL	528	Di, C.	PMSE	189	Dick, S.	ENVR	705
Devaraj, N.K.	COLL	532	Di, D.	INOR	700	Dickenson, E.	ENVR	48
Devaraj, N.K.	COLL	697	Dia, V.P.	AGFD	16	Dickenson, E.	ENVR	52
Devaraj, N.K.	ORGN	11	Dia, V.P.	AGFD	158	Dickenson, E.	ENVR	98
DeVaul, R.	I&EC	119	Dia, V.P.	AGFD	159	Dickenson, E.	ENVR	102
DeVault, M.P.	PHYS	426	Diaconescu, P.	CHED	1094	Dickenson, E.	ENVR	111
Devaoutour-Vinot, S.	ENFL	249	Diaconescu, P.	INOR	395	Dickenson, E.	INOR	261
Deveau, A.M.	CHED	1239	Diaconescu, P.	INOR	397	Dickenson, E.	ENVR	284
Devery, J.	ORGN	894	Diaconescu, P.	INOR	399	Dickerson, A.	CHED	1991
Devery, J.	ORGN	927	Diaconescu, P.	INOR	400	Dickerson, J.	BIOT	173
Devery, J.J.	ORGN	495	Diaconescu, P.	INOR	401	Dickerson, K.A.	CHED	1613
Devi, A.	INOR	1086	Diaconescu, P.	INOR	402	Dickerson, K.A.	CHED	1627
Devi, N.	MEDI	500	Diaconescu, P.	INOR	403	Dickie, C.	INOR	312
Devivo, M.	COMP	566	Diaconescu, P.	INOR	405	Dickie, D.A.	CHED	1074
Devlin, T.	INOR	253	Diaconescu, P.	INOR	406	Dickinson, P.S.	CHED	470
Devol, T.A.	POLY	605	Diaconescu, P.	INOR	558	Dickinson, P.S.	CHED	501
DeVore, C.	GEOC	229	Diaconescu, P.	INOR	559	Dickman, M.	INOR	1112
Devore, D.	CHED	878	Diaconescu, P.	INOR	589	Dickovick, J.	CHED	1631
DeVore-Wedding, B.	CHED	2123	Diaconescu, P.	INOR	592	Dicks, J.	INOR	29
Devries, R.	PMSE	610	Diaconescu, P.	INOR	606	Dickson, A.	COMP	289
Dewar, A.	CHED	2109	Diaconescu, P.	INOR	798	Dickson, A.	COMP	396
Dewar, A.J.	COMP	319	Diaconescu, P.	INOR	1442	Dickson, A.	MEDI	297
Dewar, E.	CHED	751	Diaconescu, P.	INOR	1448	Dickson, A.	PHYS	8
DeWeerd, N.J.	FLUO	16	Diaconescu, P.	INOR	1448	Dickson, A.	PHYS	8
Dewey, W.L.	MEDI	117	Diaconescu, P.	NUCL	77	Dickson, C.	COMP	483
DeWilde, D.	CHED	921	Diallo, S.O.	INOR	714	Dickson, K.	ORGN	773
DeWilde, L.	HIST	38	Diallo, S.O.	INOR	1233	Dickson, P.	CHED	725
Dewitt, M.	BIOL	180	Diamanti, M.	ENVR	435	Dickson, R.	PHYS	578
Dey, J.	COLL	695	Diamond, M.L.	ENVR	73	DiCosimo, R.	CELL	357
Dey, R.	CATL	570	Diamond, M.L.	ENVR	78	Dideriksen, K.	GEOC	188
Dey, S.	CATL	392	Diamond, S.	BIOL	293	Dideriksen, K.	GEOC	334
Deyett, A.	CHED	1158	Dianati, V.	MEDI	388	DiDinato, N.	ENVR	947
Deyett, A.	IAC	12	Dianovsky, M.T.	CHED	7	Didonato, J.	ANYL	135
Deyonker, N.J.	COMP	490	Dianovsky, M.T.	CHED	206	Didziulis, S.V.	COLL	108
Deyonker, N.J.	INOR	812	Diao, H.	CATL	455	Didziulis, S.V.	COLL	749
DeYoung, J.	CHED	400	Diao, Y.	PMSE	191	Diebold, U.	CATL	614
DeYoung, J.	CHED	964	Diao, Y.	PMSE	556	Diederich, F.N.	PHYS	507
DeYoung, J.	CHED	1880	Diao, Y.	PMSE	560	Diefenbach, S.P.	PMSE	176
Dezotti, M.W.	ENVR	114	Diao, Y.	POLY	197	Diefenbach, X.	ANYL	145
Dezotti, M.W.	ENVR	515	Diao, Z.	ENVR	691	Diefenthal, G.	ENVR	1018
DeZwart, D.	ENVR	934	Dias, L.C.	MEDI	134	Diehl, K.	ORGN	919
Dhakal, B.	CARB	1	Dias, R.F.	ENFL	433	Diehl, W.	MEDI	350
			Dias, R.P.	CHED	963	Dielmann, F.	INOR	109

Diemoz, K.	ORGN	53	Ding, F.	POLY	419	Dittmar, J.	CATL	80
Dienwiebel, M.	COLL	29	Ding, I.	COLL	271	Dittmar, T.	ENVR	31
Dieppa Matos, D.	CHED	1479	Ding, J.	PMSE	187	Dittrich, T.	NUCL	113
Diercks, C.S.	POLY	596	Ding, K.	MEDI	104	Dittrich, T.M.	GEOC	191
Diercks, C.S.	POLY	136	Ding, K.	MEDI	260	Diulus, J.T.	CATL	61
Dierolf, B.A.	CHED	1020	Ding, K.	CHED	1797	Diulus, J.T.	INOR	453
Dieterle, M.	BIOT	124	Ding, K.	INOR	115	Diulus, J.T.	INOR	454
Diethrich, T.	CHED	648	Ding, K.	GEOC	57	Diulus, J.T.	INOR	455
Dietrich, J.	ORGN	498	Ding, K.	ENVR	823	Diverdi, J.	PHYS	339
Dietz, J.E.	CHED	29	Ding, M.	INOR	1145	Divisconti, F.	CHED	1803
Dietz, M.L.	CHED	487	Ding, R.	MEDI	478	DiVittorio, M.	ORGN	609
Dietz, M.L.	I&EC	9	Ding, R.	MEDI	479	Dixit, M.	ENVR	393
Dietz, M.L.	I&EC	15	Ding, S.	MEDI	132	Dixit, S.	COLL	2
Dietzek, B.	COLL	720	Ding, S.	INOR	1321	Dixit, S.	ENVR	831
Dietzek, B.	INOR	1242	Ding, S.	INOR	1324	Dixit, S.S.	ANYL	309
Dietzek, B.	PHYS	340	Ding, S.	CELL	232	Dixit, V.	PHYS	456
Diez-Gonzalez, S.	INOR	1156	Ding, S.	ANYL	459	Dixon, A.	CHED	454
Diez-Lebrato, V.	CHED	1355	Ding, S.	CATL	653	Dixon, D.	MEDI	6
Diez-Poza, C.	CHED	1355	Ding, S.	MEDI	392	Dixon, D.A.	CATL	9
Diez-Varga, A.	CHED	1355	Ding, W.	COLL	597	Dixon, D.A.	ENFL	167
DiFrancesco, A.G.	CHED	500	Ding, W.	INOR	38	Dixon, D.A.	FLUO	8
Digal, L.	CHED	1452	Ding, W.	PHYS	176	Dixon, D.A.	NUCL	85
Digan, K.L.	CHED	1102	Ding, X.	POLY	285	Dixon, D.A.	NUCL	87
Digby, Z.	CHED	1701	Ding, X.	ORGN	119	Dixon, D.A.	ORGN	860
Digby, Z.	POLY	460	Ding, Y.	POLY	603	Dixon, E.	ANYL	370
DiGennaro, F.	BIOT	270	Ding, Y.	PMSE	46	Dixon, M.	INOR	936
DiGiulio, D.	GEOC	335	Ding, Y.	PMSE	48	Dixon, P.K.	CHED	2000
Digles, D.	CINF	163	Ding, Y.	ENVR	751	Dixon, R.A.	CELL	216
Dilip, S.	CHED	231	Ding, Y.	PMSE	451	Dixon, S.L.	COMP	357
Dill, K.	COMP	29	Ding, Y.	BIOL	177	Dixon, T.	PHYS	330
Dillard, D.A.	I&EC	37	Ding, Z.	MEDI	387	Diz, X.	ORGN	496
Dillenburger, J.	COLL	287	Dingledine, R.	MEDI	154	Djambazova, K.	CHED	735
Diller, D.J.	COMP	305	Dingledine, R.	MEDI	468	Djaout, K.	MEDI	455
Diller, D.J.	COMP	364	Dingreville, R.	INOR	520	Djeutedjeu, H.	INOR	1412
Diller, K.	COMP	305	Dings, R.	COLL	675	Djinovic, P.	ENVR	194
Dilling, W.L.	ORGN	780	Dinh, C.	INOR	1423	Djinovic, P.	ENVR	700
Dillingham, M.	CHED	912	Dinh, D.	MEDI	350	Djoubou Feunang, Y.	CHAS	41
Dillingham, M.	BIOT	255	Dinh, H.N.	CHED	520	Djoubou Feunang, Y.	ENVR	938
Dillon, E.	I&EC	53	Dinh, L.	ANYL	84	Djurovich, P.I.	INOR	1537
Dillon, E.	PMSE	147	Dinh, L.	PMSE	323	Dllott, D.D.	PMSE	582
Dilmeghani Seran, M.	ORGN	341	Dinh, P.	AGFD	49	Dlugosz, M.	PHYS	497
Dilmore, R.	GEOC	49	Dini, D.	COLL	107	Dmoschowski, I.	BIOT	581
Diloreto, K.	MEDI	251	Diniz, L.	ENVR	683	Do, C.	I&EC	12
Dils, D.	CHED	764	Diniz, L.	ENVR	693	Do, C.H.	AGFD	7
DiMaggio, S.	CHED	1704	Dinoi, C.	INOR	1317	Do, D.	POLY	462
DiMaggio, S.	CHED	1738	Dionisio, K.	CHAS	39	Do, H.	CHED	434
DiMaggio, S.	CHED	1743	Dionne, J.	COLL	612	Do, J.	INOR	1201
Dimaggio, S.C.	CHED	1731	Dionne, J.	PHYS	264	Do, J.	ENVR	746
DiMagno, S.G.	FLUO	48	Dionne, J.	PMSE	161	Do, L.	INOR	499
DiMagno, S.G.	ORGN	186	Dionysiou, D.D.	ENVR	8	Do, L.	PMSE	224
Dimakis, N.	CATL	169	Dionysiou, D.D.	ENVR	249	Do, M.	ENVR	558
DiMarzio, D.	COLL	542	Dionysiou, D.D.	ENVR	517	Do, S.	CARB	52
Dimas, D.	CARB	69	Diop, C.	CHED	713	Do, S.	CARB	53
DiMeglio, G.	CHED	383	Dipietro, L.V.	MEDI	351	Do, S.	MEDI	15
Dimic-Misic, K.	CELL	76	Dipietro, L.V.	MEDI	365	Do, T.	ENFL	144
Dimitriadis, E.K.	BIOL	266	Dirks, L.	CHED	1857	Do, T.	PMSE	47
Dimitrievska, M.	ENFL	410	Dirmyer, M.	NUCL	83	Do, T.	COLL	690
Dimock, C.	CHAS	44	Diroll, B.	CATL	149	Do, T.	ENVR	369
Dimov, N.	COLL	357	DiSapio, J.	CHED	1340	Do, V.	MEDI	109
Dinadayalane, T.	COMP	358	Discekici, E.	PMSE	429	Doa, M.	CHAL	17
Dinadayalane, T.	COMP	562	Discenza, L.N.	MEDI	21	Doan, J.H.	CHED	1707
Dinca, M.	ENFL	260	Discher, D.E.	COLL	760	Doan, M.	CHED	681
Dinca, M.	INOR	673	Dishuck, C.	COMP	319	Doan, M.	BIOL	65
Dinca, M.	PHYS	72	Disney, M.D.	MEDI	335	Doan, T.	POLY	611
Dinca, S.	PHYS	385	Disrud, B.	PHYS	305	Doan-Nguyen, V.	INOR	522
Dinda, G.	COLL	352	Disrud, B.	PHYS	448	Doan-Nguyen, V.	INOR	1529
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Diner, C.	ORGN	807	Dissanayake, K.	INOR	1119	Dobariya, V.	AGFD	218
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Ding, B.	PMSE	34	Dissanayake, N.M.	ENVR	815	Dobereiner, G.	INOR	120
Ding, B.	PMSE	35	Dissanayake, N.M.	ENVR	816	Doble, K.	ENVR	662
Ding, B.	PMSE	87	Distefano, M.D.	BIOL	37	Doblin, M.	CELL	233
Ding, B.	PMSE	92	Distefano, M.D.	BIOL	294	Dobretsov, M.	CHED	1235
Ding, B.	PMSE	497	Distefano, M.D.	ORGN	344	Dobrynin, A.	PMSE	258
Ding, B.	PMSE	501	Ditcham, T.	ANYL	362	Dobrynin, A.	POLY	6
Ding, B.	PMSE	506	Ditri, T.B.	INOR	1445	Dobscha, J.	COLL	363
Ding, B.	PMSE	507	Ditri, T.B.	ORGN	875	Dobscha, J.	COLL	365
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Dobscha, J.	COLL	558	Dominguez, R.	GEOC	258	Dordick, J.S.	BIOT	322
Dobscha, J.	ORGN	642	Dominguez, R.	GEOC	308	Dordick, J.S.	BIOT	392
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Doh, W.	CATL	321	Dong, H.	POLY	19	Dornan, L.M.	INOR	1496
Doh, W.	CATL	520	Dong, J.	I&EC	3	Dornan, L.M.	INOR	1503
Doherty, B.	CHED	1118	Dong, P.	MEDI	342	Dornblaser, S.	CHED	859
Doherty, S.	ORGN	430	Dong, S.	ENFL	267	Dornisch, E.	CHED	362
Dohlman, H.G.	CHED	720	Dong, S.	PMSE	46	Dorr, B.	ANYL	81
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Dohnalek, Z.	CATL	615	Dong, W.	CATL	302	Dorresteyn, P.C.	MEDI	463
Dohner, E.	INOR	705	Dong, W.	GEOC	170	Dorris, M.R.	PROF	25
Doi, A.	CHED	38	Dong, X.	ORGN	929	Dorsey, B.	MEDI	428
Doiron, C.	PHYS	560	Dong, X.	BIOT	288	Dorsey, C.L.	INOR	258
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Dolganova, I.	I&EC	102	Donnelly, J.	INOR	954	Doss, H.R.	BIOT	301
Dolgonos, A.	INOR	753	Donnelly, J.	CHED	2100	Dossett, H.	CHED	1241
Dolgos, M.	CHED	2139	Donnelly, J.	CHED	2128	Dossetter, A.	CINF	161
Dolgos, M.	INOR	443	Donnelly, S.A.	CHED	1097	Dossetter, A.	COMP	504
Dolgos, M.	INOR	767	Donner, M.	GEOC	157	Dossetter, A.	MEDI	72
Dolgos, M.	INOR	768	Donohoe, B.S.	CELL	20	Dosso, M.	CHED	1447
Dolgos, M.	INOR	1117	Donohoe, B.S.	CELL	414	Dostal, J.	PHYS	18
Dolgos, M.	PROF	37	Donohoe, T.J.	ORGN	273	Dostert, C.	ORGN	455
Dolinski, N.	PMSE	429	Donohoe, T.J.	ORGN	325	Dostert, T.	CHED	1883
Dolinski, N.	POLY	214	Donohoe, T.J.	ORGN	428	Dostert-Azzarello, T.A.	CHED	1412
Doll, C.	ENFL	377	Donohoe, T.J.	ORGN	705	Dotan, H.	ENFL	58
Doll, E.	CHED	447	Donohoe, T.J.	ORGN	834	Do-Thanh, C.	I&EC	112
Doll, E.	CHED	462	Donovan, B.	COLL	616	Dotson, A.	ENVR	189
Doll, N.	ANYL	329	Donovan, D.C.	NUCL	49	Dotson, J.	MEDI	24
Doll, P.	POLY	618	Donovan, D.C.	NUCL	142	Dotson, J.	ORGN	853
Dolles, D.	MEDI	31	Donovan, W.J.	CHED	190	Dottino, P.R.	COLL	268
Doluda, V.	ENFL	94	Donovan, W.J.	INOR	127	Dottino, P.R.	COLL	735
Dolyniuk, J.	INOR	1073	Donphai, W.	CATL	287	Doty, S.L.	ENVR	239
Dolyniuk, J.	INOR	1356	Doolan, K.M.	BIOT	290	Dou, L.	INOR	694
Domagalski, J.	ENVR	977	Dooley, K.	CHED	1764	Dou, L.	INOR	1124
Domaille, D.	CATL	266	Dooley, K.S.	CHED	964	Dou, M.	CATL	295
Domalaon, K.	ANYL	213	Dooley, M.R.	PHYS	430	Dou, M.	CATL	307
Dombroski, C.A.	CHED	683	Doonan, C.J.	ENFL	254	Dou, M.	CATL	313
Dombrowski, G.W.	POLY	618	Doong, R.	ENVR	250	Dou, M.	CATL	365
Dombrowski, J.P.	INOR	1270	Dopke, J.A.	INOR	850	Dou, M.	ENFL	181
Dombrowski, J.P.	INOR	1563	Dopke, J.A.	INOR	851	Dou, Q.	CHED	642
Domen, K.	CATL	559	Dopke, N.C.	AGFD	50	Dou, W.	COMP	49
Domenek, S.	CATL	157	Dorado, T.E.	ORGN	594	Dou, Y.	PMSE	81
Domilongo Bope, C.D.	ENVR	529	Dorau, K.	GEOC	133	Douaisi, M.	CARB	88
Domine, M.	CATL	154	Dorazzo Gonzalez, A.	MEDI	94	Douberly, G.E.	PHYS	226
Dominguez Gonzalez, T.M.	CHED	1776	Dorca, Y.	POLY	307	Doubleday, C.	COMP	221

Doubleday, C.	ORGN	296	Draksharapu, A.	INOR	1239	Du, P.	COMP	344
Douce, L.	I&EC	13	Draksharapu, A.	INOR	147	Du, P.	PHYS	447
Doucet, G.	CHED	1837	Draksharapu, A.	INOR	151	Du, S.	COLL	726
Doucet, M.	ENFL	412	Dramstad, T.	ENFL	17	Du, W.	MEDI	268
Doucette, G.	ANYL	264	Drance, M.J.	INOR	1555	Du, W.	MEDI	269
Doucette, K.	BIOL	214	Draney, A.	BIOL	354	Du, W.	BIOL	80
Doucette, K.	INOR	968	Draper, D.	CHED	576	Du, X.	ANYL	453
Doud, R.	ORGN	260	Draper, E.	ORGN	466	Du, X.	BIOL	328
Doudna, J.	BIOL	23	Draper, E.	PMSE	248	Du, Y.	MEDI	259
Doudna, J.	BIOL	180	Draper, E.	POLY	308	Du, Y.	CATL	446
Doudna, J.	MPPG	21	Draper, E.	POLY	578	Du, Y.	CELL	346
Doufas, A.K.	PMSE	216	Dravid, V.P.	COLL	216	Du, Z.	PHYS	222
Doughan, S.	ANYL	173	Dravid, V.P.	COLL	335	Duan, L.	INOR	1369
Dougherty, M.J.	BIOT	225	Dravid, V.P.	INOR	1417	Duan, L.	ENVR	488
Dougherty, R.	CHED	294	Dravid, V.P.	COLL	836	Duan, P.	PMSE	98
Dougherty, W.G.	CHED	1065	Dravid, V.P.	PMSE	553	Duan, X.	INOR	702
Doughramaji, N.	ENVR	388	Dreger, N.Z.	CHED	1699	Duan, X.	INOR	1145
Doughty, B.	PHYS	382	Dreher, S.	ORGN	328	Duan, X.	INOR	330
Doughty, B.	PHYS	547	Dreier, R.	ANYL	23	Duan, X.	INOR	393
Doughty, B.	PHYS	549	Dreiss, C.	PMSE	289	Duan, X.F.	PHYS	243
Doughty, D.	BIOT	611	Drennan, D.	GEOC	77	Duan, Y.	ANYL	334
Doughty, S.	AGFD	174	Drennen, B.	MEDI	274	Duan, Y.	COMP	558
Douglas, B.	COMP	518	Drennen, B.	MEDI	277	Duarte Ramos Matos, G.	COMP	268
Douglas, C.J.	ORGN	258	Drew, D.	CHED	1662	Duarte, J.	CINF	71
Douglas, C.J.	ORGN	562	Drew-Ford, B.	ENVR	33	Duay, J.	INOR	1531
Douglas, S.P.	INOR	1450	Drexler, G.	CELL	422	Duazo, M.	CHAS	15
Douglas, T.	CHED	575	Drezek, R.	CHED	51	Dub, P.	INOR	1391
Douglas, T.	COLL	289	Driemeier, C.	CELL	71	Dub, P.A.	INOR	806
Douglass, E.	ANYL	478	Driemeier, C.	CELL	155	Dubay, G.R.	CHED	376
Dounay, A.B.	CHED	2099	Driemeier, C.	CELL	270	Dube, D.H.	CARB	39
Douskey, M.C.	CHED	22	Driscoll, J.N.	ANYL	14	Dube, D.H.	CARB	40
Douskey, M.C.	CHED	844	Drisdell, W.	CATL	195	Dube, P.	AGFD	153
Douskey, M.C.	CHED	1963	Drisdell, W.	INOR	1270	Dubiak, K.	ANYL	248
Douskey, M.C.	CHED	2072	Drisko, C.R.	CHED	1341	Dubin, P.L.	COLL	113
Douskey, M.C.	ENVR	292	Driver, S.	ENVR	28	Dubin, P.L.	COLL	158
Douvis, C.	ANYL	88	Driver, S.	ENVR	259	Dubin, P.L.	COLL	295
Dove, A.P.	POLY	166	Driver, T.	ORGN	764	Dublet, G.	NUCL	25
Dovichi, N.J.	ANYL	248	Drobnick, J.	MEDI	342	Duboc, C.	ENVR	436
Dowda, K.	CHED	853	Drogkaris, V.	POLY	365	Duboc, C.	INOR	628
Dowding, C.	GEOC	290	Drolet, M.P.	ORGN	436	Dubois, C.	CHED	1848
Dowling, J.	ORGN	699	Drollette, B.	GEOC	298	Dubois, G.	PMSE	640
Downer, L.	CHED	426	Drory, M.	COMP	474	Dubois, M.	NUCL	114
Downes, C.A.	INOR	72	Drozda, S.E.	ORGN	673	Dubois, M.	NUCL	116
Downes, C.A.	INOR	504	Druelinger, M.L.	CHED	1496	Dubois, P.	CELL	394
Downes, N.L.	CHED	1103	Druelinger, M.L.	YCC	4	Dubois, P.	PMSE	60
Downing, C.	CHED	1681	Druhan, J.	GEOC	262	Dubois, P.	PMSE	488
Downs, T.J.	ENVR	421	Drumm, J.	CHED	436	Dubois, P.	POLY	488
Dowty, M.E.	MEDI	316	Drury, J.L.	I&EC	89	Dubreuil, B.	ANYL	220
Doyle, A.G.	FLUO	45	Druschel, G.K.	GEOC	119	Duca, J.	COMP	72
Doyle, A.G.	ORGN	339	Drvodelic, N.	ENFL	41	Duca, J.	COMP	483
Doyle, A.G.	ORGN	388	D'Souza, F.	CHED	1482	Ducati, L.	NUCL	115
Doyle, B.	INOR	434	D'Souza, M.J.	CHED	396	DuChene, J.	CATL	175
Doyle, J.J.	PHYS	83	D'Souza, M.J.	CHED	398	Duckworth, O.	GEOC	96
Doyle, L.	MEDI	341	D'Souza, M.J.	CHED	581	Duckworth, O.	GEOC	98
Doyle, M.	MEDI	341	D'Souza, M.J.	CHED	911	Duckworth, O.	GEOC	171
Doyle, M.P.	MEDI	298	D'Souza, M.J.	CHED	918	Duckworth, O.W.	GEOC	100
Doyle, S.J.	PHYS	412	D'Souza, M.J.	CHED	1889	Duckworth, O.W.	GEOC	256
Draeger, A.	BIOT	86	Du Bois, D.R.	MEDI	390	Ducoat, R.	BIOT	425
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Dragulska, S.	COLL	735	Du Prez, F.E.	PMSE	60	Dudas, C.	CARB	77
Dragulska, S.A.	COLL	268	Du, B.	ENVR	217	Dudchenko, A.V.	ENVR	531
Dragulska, S.A.	COLL	281	Du, C.	BIOT	90	Dudchenko, A.V.	ENVR	584
Draguta, S.	COLL	541	Du, C.	BIOT	119	Duddu, S.s.	ORGN	909
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Drain, C.M.	ORGN	13	Du, F.	MEDI	251	Dudek, J.B.	PHYS	392
Drain, C.M.	ORGN	397	Du, H.	PHYS	466	Dudekula, D.	BIOL	159
Drain, C.M.	PHYS	449	Du, H.	COMP	294	Dudley, G.B.	CHAL	28
Drain, C.M.	PHYS	531	Du, H.	ORGN	518	Dudley, G.B.	ORGN	93
Drake, P.	MEDI	397	Du, J.	ORGN	862	Dudley, G.B.	ORGN	382
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Draksharapu, A.	INOR	268	Du, J.	CELL	189	Dudley, K.	ORGN	47
Draksharapu, A.	INOR	269	Du, J.S.	COLL	836	Dudley, L.	ENVR	536
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Dunbar, K.R.	INOR	1195	Durnal, E.	ANYL	330	Earnest, K.G.	PROF	27
Dunbar, K.R.	INOR	1262	Durndell, L.J.	CATL	466	Easdon, J.C.	CHED	1427
Dunbar, K.R.	INOR	610	Durndell, L.J.	CATL	486	Eason, D.	PHYS	526
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Dungan, S.R.	COLL	658	Dutta Majumdar, R.	BIOL	219	Eaton, T.	CATL	245
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Dunlap, K.	CHED	78	Dutta, M.	ENFL	43	Ebeler, S.E.	AGFD	97
Dunlap, N.K.	ORGN	831	Dutta, P.	INOR	698	Ebeler, S.E.	AGFD	112
Dunlap, T.	CHED	610	Dutta, P.K.	ENFL	86	Ebeler, S.E.	AGFD	113
Dunlap, T.	CHED	741	Dutta, S.	CATL	112	Ebeler, S.E.	AGFD	145
Dunlap, T.	CHED	745	Dutta, S.	CATL	135	Ebeler, S.E.	ANYL	100
Dunlap, V.K.	CHED	601	Dutta, S.	BIOL	170	Ebeling, D.	GEOC	146
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Dunn, B.	ENFL	157	Duyar, M.S.	CATL	243	Eberlin, L.	ANYL	229
Dunn, B.	ENFL	294	Dvorak, M.T.	ENVR	351	Eberly, S.	POLY	1
Dunn, B.	INOR	1529	Dvorski, S.	GEOC	119	Eberly, S.	POLY	618
Dunn, B.	INOR	1532	Dwarica, N.S.	CATL	37	Ebisuya, K.	CHED	1183
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Ecker, G.F.	COMP	139	Eghtesadi, S.	COLL	643	El Asmar, R.	ENVR	677
Ecker, G.F.	MEDI	436	Eghtesadi, S.	PHYS	454	El Hage, R.	CELL	57
Ecker, M.	PMSE	613	Egidi, F.	COMP	539	El Hayek, E.	GEOC	310
Ecker, M.	POLY	462	Egle, T.	CATL	239	El Hayek, E.	GEOC	229
Eckermann, A.L.	INOR	931	Egler, C.	CHED	784	El Khatib, M.	CATL	256
Eckert, M.	MEDI	492	Egli, C.	ENVR	1020	El Roz, K.	INOR	1274
Eckhart, K.	POLY	154	Egli, M.	BIOL	168	El Seoud, O.	CELL	218
Eckhart, K.	POLY	461	Egolf, D.S.	CHED	480	El Seoud, O.	CHED	2133
Eckhart, R.	CELL	525	Egolf, R.A.	CINF	39	El Soda, M.	CATL	619
Eckstein, J.N.	INOR	1357	Ehamparanathan, V.	BIOT	428	Elam, J.	COLL	592
Eclevia, M.	CHED	926	Ehle, A.R.	ORGN	761	Elam, J.	INOR	1414
Edafiogho, I.	MEDI	150	Ehler, M.	ENVR	311	Elam, J.	PMSE	21
Edamana, P.	I&EC	103	Ehleringer, J.	ANYL	357	El-Awady, R.	ANYL	117
Eddaoudi, M.	ENFL	33	Ehlers, G.	PHYS	384	El-Baba, T.J.	CHED	1613
Eddaoudi, M.	ENFL	350	Ehlert, J.	MEDI	378	El-Baba, T.J.	CHED	1627
Eddy, C.	PMSE	338	Ehlert, M.	CHED	335	Elbakhshwan, M.	ENFL	34
Eddy, J.	INOR	1089	Ehrenreich, P.	POLY	357	Elbaradei, A.	ORGN	595
Eddy, M.A.	NUCL	76	Ehret, J.	BIOT	427	Elbassal, E.	BIOL	169
Eddy, N.	CHED	1808	Ehret, J.	COLL	173	Elbaz, G.	PHYS	386
Ede, C.	BIOT	228	Ehrhardt, D.W.	CELL	229	Elbert, K.C.	INOR	35
Ede, C.	BIOT	490	Ehrmann, R.	CHED	2117	Elce, E.	PMSE	247
Edelmann, B.	BIOT	451	Eibinger, K.	CELL	526	Eldabagh, N.	CHED	1292
Eden, A.B.	CHED	1689	Eibl, D.	BIOT	283	Eldabagh, N.	CHED	1696
Edenro, G.	MEDI	363	Eibl, R.	BIOT	283	El-Dalatony, M.M.	GEOC	351
Ederer, M.	CHED	2136	Eiblmaier, J.	CINF	129	Elder, E.	CHED	1215
Edgar, K.J.	CELL	3	Eichhorn, B.W.	COLL	235	Elder, R.M.	CINF	22
Edgar, K.J.	CELL	300	Eichhorn, B.W.	ENFL	283	Elder, T.J.	CELL	216
Edgar, K.J.	CELL	306	Eichhorn, J.	CATL	505	Elder, T.J.	ENFL	337
Edgar, K.J.	CELL	437	Eichhorn, S.J.	CELL	324	Eldred, T.	COLL	350
Edgar, K.J.	POLY	144	Eichler, J.F.	INOR	932	Eldredge, A.	BIOT	539
Edgar, K.J.	POLY	282	Eichman, C.C.	ORGN	421	Eldridge, G.T.	ENFL	6
Edgar, K.J.	POLY	494	Eichman, C.C.	ORGN	495	Eldridge, G.T.	ENFL	7
Edgecomb, J.M.	CHED	1475	Eiden, C.	ORGN	377	Eleburuike, N.A.	CATL	484
Edington, S.	ANYL	65	Eigenbrot, C.	MEDI	24	Elenewski, J.	COMP	476
Ediriweera, D.	ANYL	12	Eijssink, V.G.	CELL	171	Eley, C.	NUCL	142
Edirveerasingam, V.	ENVR	726	Eike, D.M.	COLL	808	Elfsmark, L.	ANYL	255
Edlund, H.	CELL	11	Eiken, M.	INOR	518	El-Gamal, M.I.	MEDI	258
Edlund, H.	CELL	464	Eilks, I.	CHED	210	Elghoul, Y.K.	CHED	642
Edlund, U.M.	CELL	89	Einkauf, J.	INOR	87	Elghoul, Y.K.	CHED	1873
Edman, K.	MEDI	17	Einkauf, J.	INOR	980	Elgland, M.	MEDI	403
Edman, K.	MEDI	363	Einkauf, J.	PMSE	342	Elgland, M.	MEDI	409
Edmiston, P.	ENVR	454	Einrem, R.F.	INOR	938	Elgrishi, N.	INOR	540
Edmiston, P.	ENVR	776	Einrem, R.F.	INOR	1240	El-Haty, I.	MEDI	71
Edmiston, P.	ENVR	780	Eiroa Lledo, C.	NUCL	147	Elias, N.	CHED	1171
Edmiston, P.	ENVR	804	Eiros Zamora, J.	MEDI	189	Elias, R.	ENFL	428
Edmondson, J.	CHED	1508	Eis, E.J.	COLL	625	Elich, T.	BIOT	82
Edobor, A.	CHED	699	Eisemann, M.	I&EC	119	Elimelech, M.	ENVR	868
Edstrom, K.	I&EC	64	Eisen, M.S.	INOR	186	Elinski, M.B.	CHED	1300
Eduful, B.J.	MEDI	505	Eisen, M.S.	PMSE	175	Elinski, M.B.	COLL	26
Edupuganti, R.	MEDI	429	Eisenach, S.K.	CHED	251	Elinski, M.B.	COLL	754
Edvenson, G.M.	CHED	1135	Eisenbeis, S.A.	MEDI	361	Elioff, M.	CHED	1615
Edwards, A.	COLL	287	Eisenberg, R.	INOR	12	Elizabeth, R.	CHED	1232
Edwards, A.C.	I&EC	91	Eisenberg, R.	INOR	197	Elizondo, K.	MEDI	172
Edwards, C.	ENVR	35	Eisenberg, R.	INOR	733	Elizondo, K.N.	CHED	1209
Edwards, G.A.	ORGN	346	Eisenberg, R.	PHYS	49	Elizondo, K.N.	MEDI	182
Edwards, J.	CHAS	39	Eisenreich, F.	POLY	214	Elk, M.	ENVR	785
Edwards, J.	ENVR	651	Eisenstein, O.G.	INOR	611	El-Kady, M.F.	INOR	702
Edwards, J.T.	ORGN	212	Eisenstein, O.G.	INOR	728	Elkahoui, S.	AGFD	202
Edwards, K.	CELL	479	Eising, S.	ORGN	552	Elkamel, A.	ENFL	437
Edwards, M.	ENVR	419	Eisler, S.	ORGN	556	Elkhalifa, M.	CATL	457
Edwards, M.	ANYL	376	Eisler, S.	ORGN	557	Elkins, J.	COLL	699
Edwards, M.P.	MEDI	350	Eitel, E.	GEOC	183	Elkouz, M.	ENVR	111
Edwards, N.	CHED	134	Eitheim, E.	CHED	1053	Elks, P.M.	MEDI	417
Edwards, N.	ORGN	592	Eitheim, E.	INOR	446	Ellefson, J.	BIOT	349
Edwards, T.	CHED	1016	Eitheim, E.	INOR	1264	Eller, J.	COLL	341
Edwards, V.	CELL	260	Eivazihollagh, A.	CELL	11	Eller, M.	CHED	388
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Elles, C.G.	PHYS	487	Elzinga, P.A.	MEDI	315	Ennis, A.F.	CHED	1718
Elling, B.R.	POLY	242	Emala, C.W.	MEDI	19	Ennis, M.	CHED	1872
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Ellington, A.D.	BIOT	349	Emanuelson, C.	ORGN	550	Enoch, S.J.	COMP	498
Ellington, A.D.	PMSE	27	Embry, M.	ENVR	934	Enoksson, P.	CELL	206
Ellington, M.	ANYL	335	Emerson, H.	GEOC	52	Enomoto, K.	CATL	101
Ellington, T.L.	CHED	1697	Emerson, J.	CATL	403	Enright, H.A.	COLL	683
Ellington, T.L.	PHYS	514	Emery, F.D.	CHED	323	Enright, M.	INOR	687
Ellinwood, D.	CHED	1429	Emery, F.D.	MEDI	282	Enright, M.	CHED	116
Elliott, D.K.	PHYS	400	Emery, J.	PHYS	14	Enright, M.	CHED	1759
Elliott, G.	ORGN	39	Emin, M.	CELL	502	Enright, M.C.	CHED	779
Elliott, J.	PMSE	186	Emmerling, C.L.	CHED	1689	Enright, M.C.	POLY	94
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Elliott, J.T.	ENVR	544	Emmett, S.N.	POLY	118	Enriquez, E.	ANYL	451
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Elliott, K.	CHED	1806	Emory, S.R.	ANYL	478	Ensel, S.M.	CHED	1432
Elliott, L.	ENVR	546	Emory, S.R.	CHED	1847	Ensing, B.	CATL	120
Elliott, R.	MEDI	24	Emre, A.E.	BIOT	326	Ensminger, M.	ENVR	557
Elliott, S.	INOR	1001	Emre, A.E.	PMSE	364	Ensminger, M.	ENVR	869
Elliott, S.M.	ENVR	125	Emrich, T.	BIOT	614	Ensminger, M.	ENVR	877
Ellis, B.	ENFL	322	Emrick, T.	PMSE	354	Entract, G.M.	ORGN	876
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Ellis, D.J.	CHED	2032	Encerrado, A.M.	CHED	373	Epley, C.C.	POLY	177
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Ellis, M.	CHED	1659	Enders, A.	COLL	723	Eppinger, J.	BIOT	406
Ellis, R.J.	ORGN	470	Enders, M.	CATL	578	Eppinger, J.	BIOT	438
Ellison, C.J.	PMSE	679	Endo, M.	BIOT	427	Eppinger, J.	BIOT	496
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Elmes, M.	MEDI	218	Eng, P.J.	ENVR	221	Epps, T.H.	POLY	440
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El-Naggar, A.	GEOC	248	Eng, P.J.	GEOC	68	Erastova, V.	GEOC	30
Elnicki, R.	BIOL	263	Eng, P.J.	GEOC	162	Erbing, E.	ORGN	83
Eloge, J.	BIOL	143	Eng, P.J.	GEOC	193	Erbing, E.	ORGN	672
Eloi, J.	COLL	355	Engdahl, T.	CHED	725	Ercek, D.T.	BIOL	308
Eloi, J.	COLL	358	Engel, G.S.	ANYL	26	Ercek, D.T.	BIOL	360
Elokely, K.M.	COMP	406	Engel, G.S.	ANYL	302	Ercius, P.	COLL	465
Elowsky, C.	BIOL	347	Engel, G.S.	PHYS	42	Erck, A.R.	PHYS	305
Elpitiya, G.	INOR	595	Engel, G.S.	PHYS	203	Ercole, F.	POLY	55
Elpitiya, G.	INOR	1500	Engel, G.S.	PHYS	253	Erdelyi, M.	ORGN	686
Elpitiya, G.	ORGN	906	Engel, G.S.	PHYS	257	Erdmann, J.	CELL	310
Elsaesser, T.	PHYS	119	Engel, G.S.	PHYS	258	Erdosy, D.	INOR	366
El-Sagheer, A.	COLL	248	Engel, G.S.	PHYS	332	Eren, B.	CATL	518
El-Sagheer, A.	COLL	249	Engel, G.S.	PHYS	390	Eren, E.	COLL	301
El-Sagheer, A.	COLL	497	Engel, G.S.	PHYS	440	Eren, T.	POLY	394
ElSayed, M.	ENVR	66	Engel, M.	ANYL	356	Erhard, T.	MEDI	11
El-Sayed, M.A.	BIOL	306	Engel, R.	BIOT	149	Ericksen, C.A.	ENVR	343
El-Sayed, M.A.	COLL	594	Engel, T.	CHED	2009	Erickson, J.	CHED	375
El-Sayed, M.A.	COLL	598	Engelberg, D.	NUCL	157	Erickson, J.	BIOT	651
El-Sayed, M.A.	PHYS	572	Engelis, N.	PMSE	304	Erickson, J.	BIOT	537
Elsayed, M.S.	MEDI	231	Engelis, N.	POLY	14	Erickson, K.	INOR	95
Elsbury, D.	ENVR	725	Engelkes, A.	CHED	456	Erickson, K.	INOR	1391
Elschner, T.	CELL	217	Engelund Thybring, E.	CELL	332	Erickson, K.M.	CARB	50
Elschner, T.	CELL	428	Engen, P.	BIOL	127	Erickson, N.R.	CHED	1115
Elschner, T.	CELL	454	Engl, P.	INOR	1536	Erickson, N.R.	INOR	841
Elschner, T.	CELL	481	England, J.P.	BIOL	133	Erickson, N.R.	INOR	842
ElSibai, M.	BIOL	274	England, K.R.	INOR	1331	Erickson, P.R.	ENVR	25
ElSibai, M.	INOR	934	Engle, J.W.	INOR	1213	Erickson, P.R.	ENVR	943
Elsiddieg, S.O.	INOR	1041	Engle, J.W.	NUCL	13	Erickson, P.R.	ENVR	944
Elsner, M.	GEOC	298	Engle, K.	CATL	634	Erickson, P.R.	ENVR	1019
Elstner, M.	PHYS	135	Engle, K.	CELL	175	Erickson, S.	CHED	316
Elston, H.J.	CHAS	7	Engle, M.	ENVR	110	Erickson, S.	PHYS	288
Elupula, R.	POLY	299	Engler, A.	PMSE	245	Erickson-Beltran, M.L.	AGFD	234
Elwell, C.	INOR	261	Englert, H.	BIOL	56	Erickson-Beltran, M.L.	ANYL	438
Elwood Madden, A.	GEOC	205	Engles, C.A.	ORGN	632	Erickson-Beltran, M.L.	BIOL	208
Ely, F.	INOR	701	Engström, J.	CELL	286	Ericsson, H.	MEDI	17
El-Zaatari, B.	INOR	1443	Engström, J.	CELL	341	Ericston Jogsten, I.	ENVR	131
El-Zaatari, B.	POLY	100	Enicks, D.G.	INOR	458	Eriksson, L.	ORGN	24

Eriksson, L.	ORGN	321	Esser-Kahn, A.	BIOL	130	Evans, B.	CELL	520
Erlandsson, F.	MEDI	17	Esser-Kahn, A.	BIOL	215	Evans, B.	CHED	552
Erlandsson, J.	CELL	239	Esser-Kahn, A.	BIOL	218	Evans, B.	CHED	1276
Erlandsson, J.	CELL	369	Esser-Kahn, A.	BIOT	400	Evans, B.	BIOT	315
Erlandsson, J.	CELL	370	Esser-Kahn, A.	COLL	310	Evans, C.	ENVR	925
Erlandsson, J.	CELL	492	Esser-Kahn, A.	MEDI	125	Evans, D.	INOR	1000
Ernst, B.	ORGN	527	Esser-Kahn, A.	PMSE	693	Evans, D.H.	CATL	163
Ernst, J.B.	CATL	478	Esser-Kahn, A.P.	BIOL	236	Evans, D.H.	INOR	879
Ernst, M.	MEDI	99	Esser-Kahn, A.P.	CHED	1197	Evans, E.	CHED	1265
Eroy-Reveles, A.A.	CHED	2089	Esser-Kahn, A.P.	MEDI	395	Evans, E.	CHED	1725
Erstad, P.	CHED	1241	Esser-Kahn, A.P.	ORGN	529	Evans, E.	MEDI	365
Erstad, P.	CHED	651	Esser-Kahn, A.P.	PMSE	4	Evans, H.	INOR	711
Erten Ela, S.	COLL	744	Esser-Kahn, A.P.	POLY	295	Evans, J.	BIOT	137
Ertl, T.	ORGN	373	Essex, J.W.	COMP	95	Evans, K.	PMSE	365
Esan, S.	CHED	1872	Essex, J.W.	COMP	146	Evans, K.R.	CHED	1805
Esbenshade, J.	CHED	1027	Essex, J.W.	COMP	171	Evans, K.R.	CHED	1830
Escalante, A.	CELL	8	Essex, J.W.	COMP	444	Evans, K.R.	CHED	1966
Escalante, A.	CELL	156	Essex, J.W.	MEDI	423	Evans, K.R.	ENVR	288
Escalante, A.	CELL	158	Esslinger, C.	CHED	342	Evans, K.R.	ENVR	289
Escalante, A.	CELL	163	Esson, J.M.	CHED	428	Evans, L.E.	MEDI	111
Escalante, A.	CELL	298	Esson, J.M.	CHED	970	Evans, L.T.	CHED	1793
Escalante, M.A.	CELL	43	Esson, J.M.	CHED	1781	Evans, N.	POLY	415
Escalante-Buendia, Y.	BIOT	400	Estala, L.	COLL	568	Evans, P.	ORGN	420
Escalera, G.	COLL	861	Estarellas San Miguel, J.C.	CHED	1879	Evans, P.	ORGN	486
Escarpa, A.	ANYL	421	Estarellas-San Miguel, N.I.	CHED	1879	Evans, R.	COMP	252
Escher, B.	CHED	2115	Esteb, J.J.	CHED	1922	Evans, R.J.	ENFL	290
Escher, B.	ENVR	113	Esteb, J.J.	CHED	1977	Evans, S.E.	CHED	138
Eschweiler, J.D.	ANYL	283	Estell, W.	BIOT	669	Evans, S.E.	CHED	621
Escobar, C.	BIOT	623	Estenoz, D.	CELL	122	Evans, W.	CHED	1110
Escobar, J.G.	CHED	1206	Estep, A.	AGFD	197	Evans, W.	CHED	1533
Escobar, J.G.	CHED	1231	Estepa Bernabeu, B.	CHED	1146	Evans, W.	BIOT	327
Escobar, J.G.	MEDI	466	Esterlen, B.	ANYL	195	Evans, W.J.	INOR	94
Escobar, R.A.	PROF	10	Esterlen, B.	CHED	1767	Evans, W.J.	INOR	1213
Escobedo, F.	COLL	461	Estes, D.W.	CHED	722	Evans, W.J.	INOR	1218
Escopy, S.	CARB	44	Estes, S.L.	NUCL	28	Evans, W.J.	INOR	1378
Escuder Gil, B.	PMSE	251	Estes, V.	ORGN	801	Evans, W.J.	INOR	1379
Escudero, E.J.	CHED	1755	Esteves, H.	ORGN	705	Evans, W.J.	INOR	1382
Escudero-Adán, E.	ORGN	318	Esteves, M.F.	COLL	373	Evans, W.J.	NUCL	9
Escudero-Casao, M.	MEDI	430	Estevez Davila, A.	CHED	1189	Evans, W.J.	NUCL	79
Escudero-Escribano, M.	CATL	24	Estevez, A.	BIOT	132	Evans, Z.	CHED	944
Escudero-Escribano, M.	CATL	126	Estevez, L.	ENFL	398	Evans, Z.	CHED	852
Esdaille, S.S.	CHED	1285	Esther, L.M.	CHED	129	Evans, Z.	CHED	869
Eseonu, D.	CHED	953	Esther, L.M.	MEDI	487	Evans, Z.	CHED	1392
Esfandiarpour, S.	COLL	617	Esther, L.M.	MEDI	488	Evans, Z.	CHED	1955
Eshet, H.	COLL	284	Estiarte, M.	MEDI	194	Even, R.	POLY	29
Eshet, H.	PHYS	175	Estiarte, M.	MEDI	272	Everest, M.A.	CHED	469
Eskandari, S.	CATL	32	Estillore, A.	CHED	938	Everest, M.A.	CHED	1674
Eskandarian, M.	ENVR	438	Estrada, A.A.	MEDI	15	Everett, A.	CHED	1026
Eskandarian, M.	ENVR	684	Estrada, D.	CHED	1748	Everett, A.	CHED	1193
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Eslamimanesh, A.	GEOC	62	Estrada, M.	CHED	2089	Everitt, H.	CATL	369
Eslamimehr, S.	MEDI	498	Estrella, A.S.	ENVR	694	Everlof, G.	MEDI	349
Esmati, N.	AGFD	193	Estring, K.	CHED	360	Everson, N.	MEDI	146
Espah Borujeni, A.	BIOT	485	Etchegaray, J.	MEDI	132	Evie, H.	CHED	1106
Esparza, K.	CHED	113	Etezadi, F.	INOR	364	Evilia, C.M.	BIOL	89
Espinal, R.	COLL	210	Ethier, F.	AGFD	2	Evilia, C.M.	BIOL	253
Espino, O.	ORGN	617	Ethridge, A.	COLL	220	Evilia, C.M.	CHED	1866
Espinosa Duran, J.M.	COLL	363	Etienne, M.	INOR	1317	Evon, P.	CELL	447
Espinosa Duran, J.M.	COLL	402	Etminan, N.	ANYL	23	Evrard, E.	MEDI	361
Espinosa Duran, J.M.	COMP	352	Eubank, J.F.	CHED	1229	Ewald, J.	ENVR	459
Espinosa, J.	AGFD	136	Eubank, J.F.	CHED	1885	Ewart, S.	PMSE	338
Espinosa-Duran, J.M.	COLL	365	Eubanks, A.	BIOL	303	Ewe, D.	BIOT	302
Espinosa-Duran, J.M.	COLL	401	Eubanks, T.M.	ENFL	87	Ewen, J.	COLL	107
Espinosa-Duran, J.M.	COLL	485	Eubanks, T.M.	ENVR	758	Ewing, J.	CHED	1733
Espinosa-Duran, J.M.	COLL	558	Euler, D.	MEDI	309	Ewing, R.	NUCL	27
Espinosa-Marzal, R.M.	COLL	578	Eun Park, S.	ORGN	613	Ewoldt, R.	COLL	68
Espinosa-Marzal, R.M.	COLL	586	Eustis, S.N.	COMP	346	Exley, J.	INOR	1446
Espinoza, J.	CHED	1872	Eustis, S.N.	ENVR	526	Exline, M.	CHED	550
Esposito, A.	COLL	8	Eustis, S.N.	PHYS	475	Exposito, M.	CHED	1836
Esposito, A.	COLL	86	Evangelista, F.A.	COMP	89	Exton, D.H.	CHED	82
Esposito, D.	ANYL	433	Evangelisti, B.	CHED	1497	Eyrich, V.	COMP	147
Esposito, E.X.	COMP	276	Evanoff, M.	ORGN	538	Ezra, G.S.	CHED	890
Espy, M.A.	ANYL	360	Evanoski-Cole, A.	GEOC	345	Faber, P.	CHED	518
Espy, S.	CHED	935	Evans, A.	ORGN	792	Fabian, D.	PHYS	307
Esquer, H.	MEDI	105	Evans, A.	ORGN	794	Fabini, D.H.	INOR	1108
Esquivel, E.	CHED	524	Evans, A.C.	ORGN	793	Fabini, D.H.	INOR	1109
Esquivel, E.	BIOT	429	Evans, A.C.	ORGN	878	Fabio, P.	MEDI	23
Ess, D.	INOR	1293	Evans, A.C.	ORGN	885	Fabry, E.A.	BIOL	69
Essandoh, M.	ENVR	446	Evans, B.	CELL	19	Fabry, E.A.	BIOL	75

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Fabry, E.A.	BIOL	117	Fan, L.	BIOT	452	Fanta, G.	CELL	405
Facchetti, A.	ANYL	237	Fan, M.	ENFL	65	Fanta, J.W.	INOR	256
Facchetti, A.	INOR	668	Fan, R.	ANYL	272	Fantin, M.	PMSE	50
Facchetti, A.	PMSE	61	Fan, R.	BIOT	715	Fantin, M.	PMSE	71
Fach, M.	PMSE	424	Fan, R.	INOR	29	Fantin, V.R.	MEDI	350
Fach, M.	PMSE	457	Fan, R.	INOR	268	Fantini, J.L.	CHED	1567
Fach, M.	POLY	183	Fan, R.	INOR	276	Fantini, J.L.	ORGN	767
Fackler, S.	CATL	195	Fan, S.	CHED	1331	Fantle, M.	GEOC	128
Fader, L.D.	MEDI	459	Fan, S.	ENFL	310	Fanucci, G.	BIOL	220
Fadler, R.E.	PROF	41	Fan, S.	CATL	302	Farag, R.	CELL	152
Fadness, R.	ENVR	570	Fan, S.	INOR	1004	Farah, U.	CHED	1554
Faeder, J.R.	COMP	77	Fan, S.	INOR	1008	Farahanchi, A.	CELL	453
Faenza, N.	ANYL	245	Fan, T.	COLL	144	Farahbakhsh, N.	CELL	180
Faez, R.	POLY	425	Fan, T.	INOR	1127	Farahbakhsh, N.	CELL	349
Faez, R.	POLY	426	Fan, W.	CATL	202	Faraji, S.	COMP	169
Fagan, J.	GEOC	72	Fan, W.	PROF	13	Farajidzaji, B.	ORGN	599
Fagan, W.P.	ENVR	681	Fan, W.	GEOC	295	Farand, J.	MEDI	367
Fages, J.	CELL	399	Fan, X.	ENFL	62	Farantos, S.	CHED	890
Faghihnejad, A.	COLL	499	Fan, X.	PMSE	37	Farasat, R.	POLY	361
Faginas-Lago, N.	PHYS	524	Fan, X.	AGFD	118	Farber, L.	CHED	1597
Fagiolari, L.	INOR	1278	Fan, Y.	ANYL	198	Farber, L.	CHED	1803
Fahey, P.J.	CHED	1009	Fan, Y.	ANYL	202	Farber, P.	COLL	414
Fahie, M.A.	BIOL	70	Fan, Y.	BIOT	52	Farberow, C.	CATL	633
Fahlman, B.D.	CINF	75	Fan, Y.	BIOT	483	Farberow, C.A.	CATL	568
Fahmy, N.	BIOL	255	Fan, Y.	BIOL	249	Fardim, P.E.	CELL	6
Fahrenkrug, E.	ENFL	418	Fan, Y.	BIOL	349	Fardim, P.E.	CELL	282
Fair, J.	ENVR	664	Fan, Y.	ORGN	588	Fardim, P.E.	CELL	415
Fair, M.C.	CHED	854	Fan, Y.	AGFD	140	Fardim, P.E.	CELL	478
Fair, R.	COMP	350	Fan, Z.	ENFL	251	Farghli, A.	CHED	689
Fairbrother, H.	COLL	153	Fan, Z.	INOR	1578	Farha, O.K.	COLL	100
Fairbrother, H.	COLL	548	Fan, Z.	PMSE	270	Farha, O.K.	ENFL	271
Fairbrother, H.	ENVR	1030	Fan, Z.	INOR	1002	Farha, O.K.	ENFL	306
Fairbrother, H.	INOR	1521	Fang, C.	COLL	163	Farha, O.K.	ENFL	346
Fairbrother, H.	INOR	1560	Fang, C.	COLL	509	Farha, O.K.	INOR	677
Fairbrother, H.	POLY	132	Fang, C.	COLL	647	Farha, O.K.	INOR	1375
Fairhurst, R.A.	MEDI	353	Fang, C.	INOR	460	Farha, O.K.	INOR	1409
Fairman, R.	BIOL	114	Fang, C.	PHYS	121	Farha, O.K.	CATL	569
Faivre, J.	COLL	670	Fang, E.	ANYL	223	Farha, O.K.	INOR	200
Fajerwerg, K.	ANYL	220	Fang, E.	MEDI	341	Farha, O.K.	PHYS	244
Fakayode, S.O.	CHED	1958	Fang, G.	ENVR	591	Farhadi, N.	AGFD	217
Fakayode, S.O.	CHED	2132	Fang, H.	COLL	537	Farhadi, N.	ENVR	825
Fakayode, S.O.	CHED	2167	Fang, J.	ENVR	116	Farhat, A.	ENVR	204
Fakouri Baygi, S.	ENVR	72	Fang, J.	ENVR	170	Farias de Moura, A.	COLL	630
Falabella S. Aguiar, E.	CATL	359	Fang, J.	ENVR	171	Farias, P.	BIOL	86
Falaise, C.	NUCL	117	Fang, J.	ENVR	172	Farid, S.	BIOT	637
Falaise, C.	NUCL	136	Fang, J.	ENVR	175	Farid, S.	BIOT	645
Falcetta, M.F.	CHED	854	Fang, J.	CELL	354	Farid, S.	BIOT	646
Falcinelli, S.	PHYS	524	Fang, L.	ORGN	783	Farid, S.	BIOT	648
Falcoz-Vigne, L.	CELL	240	Fang, L.	PMSE	12	Farid, S.S.	BIOT	80
Falero-Gil, M.	CHED	1874	Fang, L.	PMSE	162	Faries, D.	ANYL	16
Fales, B.	COMP	90	Fang, L.	PMSE	297	Farimani, A.B.	PMSE	240
Fales, B.	PHYS	306	Fang, L.	PMSE	299	Faris, A.	PHYS	577
Falinski, M.	ENVR	862	Fang, L.	PMSE	495	Faris, G.W.	ANYL	309
Falivene, L.	INOR	865	Fang, L.	PMSE	689	Faris, G.W.	COLL	2
Falke, A.M.	CHED	2077	Fang, L.	POLY	323	Faris, G.W.	ORGN	796
Falkenhagen, J.	POLY	30	Fang, L.	CELL	271	Faris, G.W.	ORGN	797
Fall, A.	CELL	237	Fang, M.	CATL	427	Faris, J.	INOR	241
Fallah, H.	COMP	245	Fang, S.	ENVR	377	Farkas, M.E.	BIOL	172
Fallan, C.	ORGN	932	Fang, S.	ORGN	508	Farley, C.	MEDI	252
Faller, R.	COMP	196	Fang, S.	CELL	327	Farley, C.	PHYS	449
Fallik, E.	ORGN	926	Fang, X.	POLY	338	Farley, C.	PHYS	531
Fallon, J.	POLY	181	Fang, Y.	INOR	172	Farmand, M.	CATL	195
Fallot, L.	CHED	2049	Fang, Y.	ENFL	311	Farman, L.	ENVR	297
Falsig, H.	CATL	593	Fang, Y.	CHED	412	Farmer, P.J.	INOR	582
Falsig, H.	COMP	161	Fang, Y.	CHED	415	Farmer, T.J.	CATL	155
Falvey, D.	PHYS	300	Fang, Y.	CHED	488	Farnaby, J.H.	INOR	1480
Fan, C.	BIOT	312	Fang, Y.	CHED	896	Farney, E.	PROF	12
Fan, C.	BIOT	313	Fang, Y.	ENVR	40	Farnsworth, A.	PHYS	485
Fan, C.	COLL	740	Fang, Y.	ORGN	879	Farokhzad, O.C.	PMSE	208
Fan, C.	MEDI	350	Fang, Y.	PMSE	473	Farone, A.L.	ORGN	67
Fan, D.	ENVR	303	Fang, Y.	INOR	746	Farouk, B.	ENVR	185
Fan, J.	MEDI	366	Fang, Y.	CATL	475	Farquharson, A.	BIOL	104
Fan, J.	ENVR	534	Fang, Y.	CELL	516	Farr, B.A.	ENVR	934
Fan, J.	ENFL	297	Fang, Y.	PMSE	594	Farr, E.	PHYS	71
Fan, J.	POLY	263	Fang, Z.	ENFL	339	Farr, E.P.	PHYS	428
Fan, J.	PMSE	663	Fang, Z.	CATL	9	Farr, J.	BIOL	142
Fan, J.	COMP	133	Fanghanel, S.	PHYS	392	Farrell, J.R.	INOR	334
Fan, L.	BIOT	45	Fangyuan, J.	CHED	917	Farrell, T.	INOR	52
Fan, L.	BIOT	409	Fangzhu, W.	CATL	382	Farrell, W.	POLY	608
Fan, L.	BIOT	414	Fanning, S.	MEDI	338	Farshi, J.	CHED	399

Fasan, R.	PROF	28	Feiner, N.	PMSE	292	Feng, W.	CELL	327
Fasiang, H.	CHED	1810	Feinman, M.	CHED	1128	Feng, X.	GEOC	235
Fasoli, E.	BIOT	291	Feinstein, J.	CHED	705	Feng, Y.	INOR	1027
Fasoli, E.	BIOT	314	Feitosa, K.	ORGN	651	Feng, Y.	PMSE	404
Fasoli, E.	BIOT	342	Feixas, F.	COMP	565	Feng, Y.	ENFL	316
Fasoli, E.	BIOT	581	Fejfar, O.	COLL	509	Feng, Y.	AGFD	52
Fass, J.	COMP	528	Fekkes, P.	MEDI	305	Feng, Y.	CATL	88
Fast, A.	PHYS	371	Fekl, U.W.	INOR	1118	Feng, Y.	MEDI	464
Fast, D.	INOR	443	Felby, C.	CELL	279	Feng, Y.	NUCL	141
Fastnacht, K.	PMSE	112	Feldman, H.J.	MEDI	89	Feng, Z.	BIOL	328
Fasulo, F.A.	CHED	1048	Felgner, P.	MEDI	395	Feng, Z.	CATL	99
Fasulo, F.A.	INOR	440	Felhofer, M.	CELL	463	Fennell, C.J.	BIOT	169
Fasulo, F.A.	INOR	1459	Feliciano, A.	INOR	421	Fennell, C.J.	COMP	58
Fata, J.	PMSE	317	Feliu, J.M.	ENFL	210	Fennell, J.	ORGN	395
Fataftah, M.	INOR	78	Feliu, N.	COLL	419	Fenner, K.	ENVR	112
Fataftah, M.	INOR	1176	Feliu, N.	COLL	422	Fenner, K.	ENVR	286
Fatayer, S.	PHYS	116	Felix Beckers, F.	GEOC	347	Fenniri, H.	COMP	449
Fateeva, A.	INOR	1227	Felix, C.	MEDI	180	Fenniri, H.	ORGN	588
Fateeva, A.	INOR	709	Felix, L.	CHED	1105	Fenniri, H.	POLY	421
Fathi, Y.	PHYS	329	Félix, O.	COLL	606	Fenselau, C.C.	ANYL	370
Fathi, Y.	PHYS	460	Felkel, P.	PHYS	304	Fenter, P.	CATL	97
Fatila, E.	ORGN	410	Felker, F.C.	CELL	405	Fenter, P.	GEOC	145
Fatila, E.	ORGN	417	Feller, K.	INOR	1254	Fenter, P.	GEOC	193
Fatino, A.J.	ORGN	720	Feller, K.D.	INOR	964	Fenter, P.	GEOC	332
Fatona, A.	CELL	242	Fellhauer, D.	NUCL	111	Ferdinando, P.	CHED	915
Fau, P.	ANYL	220	Fellows, M.D.	CHED	881	Ferdousi, S.	CARB	56
Faucard, P.	CELL	356	Fellows, M.D.	CHED	1671	Ferdousi, S.	CATL	441
Faure, F.	CELL	181	Felmy, A.R.	ENFL	123	Ferdousi, S.	COLL	360
Fausey, C.	ENVR	533	Felmy, A.R.	GEOC	208	Ferguson, A.	POLY	293
Faust, J.	PMSE	647	Felsher, D.	ANYL	229	Ferguson, G.A.	CATL	242
Fautch, J.M.	CHED	357	Felton, D.	CHED	2136	Ferguson, H.	COLL	834
Fautch, J.M.	CHED	1128	Felts, J.	COLL	26	Ferguson, J.R.	NUCL	122
Fautch, J.M.	CHED	1132	Felty, M.	ORGN	399	Ferguson, L.	ENVR	133
Favela, A.	MEDI	288	Femia, R.A.	CHAL	30	Ferguson, L.	ENVR	995
Favela, D.	ORGN	200	Fenard, D.	PMSE	316	Ferguson, R.	BIOT	46
Favor, D.	MEDI	342	Fendler, N.	CHED	251	Ferguson, S.A.	PHYS	518
Favre, D.T.	CHED	1269	Fendorf, S.E.	ENVR	258	Feringa, B.	CATL	415
Favre, E.S.	COLL	191	Fendorf, S.E.	GEOC	18	Feringa, B.	CATL	602
Favre, E.S.	COLL	766	Fendorf, S.E.	NUCL	25	Feringa, B.	ORGN	165
Faye, S.	NUCL	16	Fendrick, C.M.	CHED	2193	Feringa, B.	ORGN	563
Fayer, M.D.	ANYL	59	Feng Baez, J.	ANYL	218	Feringa, B.	ORGN	587
Fayer, M.D.	INOR	1010	Feng Baez, J.	CHED	198	Feringa, B.	ORGN	678
Fayer, M.D.	PHYS	147	Feng, C.	INOR	970	Feris, K.	ENFL	177
Fayer, M.D.	PHYS	294	Feng, C.	INOR	1390	Ferko, G.	INOR	427
Fazal, A.	CHED	1282	Feng, D.	COLL	850	Ferlin, F.	ORGN	86
Fazal, A.	CHED	1283	Feng, D.	ENFL	330	Fernandez-Solano, B.	CHED	299
Fazio, G.	PHYS	550	Feng, D.	INOR	1091	Fernandes, A.	PHYS	533
Fazli, M.	ENVR	684	Feng, D.	INOR	1231	Fernandes, C.	ENVR	799
Fearon, A.D.	COLL	247	Feng, D.	AGFD	60	Fernandes, M.	COLL	373
Fears, K.P.	POLY	569	Feng, D.	AGFD	61	Fernandes, M.	COLL	160
Fears, T.M.	COLL	693	Feng, H.	POLY	305	Fernandes, M.	COLL	373
Feaster, J.	CATL	195	Feng, J.	COMP	67	Fernandes, P.	BIOT	186
Feaster, K.	INOR	576	Feng, J.	MEDI	290	Fernandes, S.C.	CELL	404
Featherstone, R.E.	CHED	10	Feng, J.	ENVR	148	Fernandez, C.	ENFL	34
Featherstone, R.E.	CHED	264	Feng, J.	ENFL	130	Fernandez, D.	CHED	588
Feder, J.	CHED	1089	Feng, J.	ENFL	199	Fernandez, F.M.	ANYL	375
Federico Perez, R.A.	AGFD	235	Feng, J.	CATL	88	Fernandez, F.M.	PHYS	570
Fedie, J.	ORGN	535	Feng, K.	MEDI	346	Fernandez, F.M.	POLY	141
Fedin, I.	COLL	525	Feng, L.	ENVR	15	Fernandez, G.	POLY	571
Fedor, J.	ORGN	122	Feng, M.	AGFD	47	Fernandez, I.	INOR	1466
Fedorov, A.	INOR	1536	Feng, M.	ENVR	91	Fernandez, I.	PHYS	212
Fedorov, D.	COMP	128	Feng, P.	GEOC	196	Fernandez, J.	MEDI	220
Fedorov, D.	PHYS	90	Feng, P.	GEOC	283	Fernandez, K.	CHED	679
Fedorov, D.G.	COMP	454	Feng, P.	GEOC	292	Fernandez, L.C.	CHED	334
Fedorov, R.	BIOL	198	Feng, P.	GEOC	316	Fernandez, L.C.	CHED	338
Feeder, N.	CINF	145	Feng, P.	INOR	470	Fernandez, S.	CATL	629
Feeder, N.	CINF	169	Feng, P.	INOR	471	Fernandez, W.R.	CHED	1222
Feeney, W.	ANYL	222	Feng, P.	INOR	473	Fernandez-Alos, V.	COLL	296
Fegley, M.	CHED	1965	Feng, P.	INOR	474	Fernandez-Alos, V.	COLL	302
Fehl, C.	BIOL	361	Feng, P.	INOR	495	Fernandez-Alos, V.	ENVR	143
Fei, F.	INOR	714	Feng, S.	ANYL	405	Fernandez-Alos, V.	ENVR	682
Fei, F.	INOR	1233	Feng, V.	ANYL	336	Fernandez-Alos, V.	ENVR	774
Fei, F.	INOR	1237	Feng, V.	CHED	2129	Fernandez-Alos, V.	MEDI	246
Fei, W.	PMSE	81	Feng, V.	COLL	233	Fernandez-Arroyo, A.	CATL	154
Fei, X.	COLL	726	Feng, V.	COLL	234	Fernandez-Bravo, A.	INOR	91
Feifang, Z.	ANYL	215	Feng, V.	ENVR	497	Fernandez-Cestau, J.	INOR	720
Feig, A.L.	CHED	1966	Feng, V.	ENVR	498	Fernandez-Cestau, J.	INOR	1547
Feig, A.L.	CHED	2162	Feng, W.	PMSE	504	Fernandez-Lima, F.	ANYL	222
Feige, M.	BIOT	406	Feng, W.	CHED	107	Fernandez-Martinez, A.	GEOC	74
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Fernandez-Martinez, A.	GEOC	333	Fies, W.	BIOT	600	Finnerty, C.	ENVR	532
Fernandez-Reyes, B.	ENVR	729	Fieser, M.	INOR	264	Finnerty, C.	ENVR	925
Fernandez-Salas, E.	MEDI	265	Fieser, M.	INOR	1213	Finney, A.R.	GEOC	327
Fernando, A.	COMP	12	Fieser, M.E.	INOR	1275	Finney, E.	INOR	295
Fernando, K.R.	CHED	1292	Fieser, M.E.	INOR	1382	Finney, E.	ORGN	259
Fernando, K.R.	CHED	1696	Fiethe, B.	PHYS	192	Finney, E.	ORGN	260
Fernando, S.	ENVR	72	Fife, J.	CHED	1865	Finney, J.	INOR	295
Fernando-Rinaldi, J.	AGFD	124	Figg, C.A.	POLY	320	Finzel, K.	CHED	2163
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Ferranco, A.	INOR	339	Figueiredo, F.M.	CELL	476	Fiorani, G.	ORGN	318
Ferrandon, M.	CATL	573	Figueiredo, J.	ENVR	487	Fioravanti, L.C.	POLY	1
Ferrario, V.	POLY	61	Figueroa, A.	CHED	334	Fiorin, G.	COMP	355
Ferraris, D.	MEDI	473	Figueroa, A.	CHED	338	Firestone, S.M.	CHED	869
Ferraro, N.	CHED	587	Figueroa, A.	CHED	1328	Firestone, B.	MEDI	305
Ferraz, N.	CELL	105	Figueroa, A.	CHED	1858	Firestone, G.	AGFD	65
Ferreira, G.	BIOT	167	Figueroa, B.	BIOT	632	Firestone, M.A.	INOR	1279
Ferreira, G.	BIOT	528	Figueroa, E.E.	MEDI	245	Firica, T.	CHED	592
Ferreira, L.	MEDI	134	Figueroa, J.	POLY	149	Firincieli, S.	CINF	107
Ferreira, R.	MEDI	134	Figueroa, J.S.	INOR	202	Firsova, N.	CATL	80
Ferreira, T.A.	ENVR	696	Figueroa, J.S.	INOR	414	Fischedick, J.T.	CHAS	14
Ferrell, C.E.	AGFD	87	Figueroa, J.S.	INOR	1396	Fischedick, J.T.	SCHB	21
Ferrer Cabrera, S.	ORGN	492	Figueroa, J.S.	INOR	1551	Fischel, J.	GEOC	355
Ferrer Torres, E.	CHED	198	Figueroa, J.S.	INOR	1555	Fischel, M.	GEOC	290
Ferrer Torres, E.	CHED	1257	Figueroa, L.	GEOC	77	Fischer, A.A.	INOR	150
Ferrer Torres, E.	CHED	1266	Figueroa, W.	ENVR	739	Fischer, A.E.	CHED	1008
Ferrer Torres, E.	CHED	1327	Figueroa-Cruz, M.	AGFD	107	Fischer, C.	BIOT	180
Ferrer Torres, E.	CHED	1328	Figula, B.C.	MEDI	101	Fischer, F.R.	CATL	77
Ferrer Torres, E.	CHED	1786	Fik, C.	POLY	512	Fischer, H.	POLY	480
Ferrer Torres, E.	CHED	1802	Fike, D.	GEOC	119	Fischer, M.	COMP	21
Ferrer Torres, E.	CHED	1825	Filatov, M.A.	MEDI	414	Fischer, N.O.	COLL	683
Ferrer Torres, E.	CHED	1886	Filatov, M.A.	ORGN	682	Fischer, P.J.	INOR	139
Ferrer, A.	CELL	429	Filevich, J.	COLL	589	Fischer, P.J.	INOR	370
Ferrer, I.	ENVR	54	Filiaggi, M.	COLL	487	Fischer, P.J.	INOR	371
Ferrer, I.	ENVR	212	Filip, J.	ENVR	307	Fischer, S.	CHED	1507
Ferrer, I.	ENVR	281	Filipe, C.	BIOT	568	Fischer, S.	COMP	537
Ferrer, I.	ENVR	338	Filipek, Ii, G.T.	PHYS	238	Fischer, S.	INOR	1419
Ferrer, I.	ENVR	633	Filipov, P.	CHED	602	Fischer, T.	ENFL	321
Ferrer, I.	GEOC	299	Filippi, C.	COMP	235	Fischer, W.	CELL	422
Ferrer, I.	GEOC	300	Filja, M.	CHED	1597	Fischer, W.	CELL	525
Ferrer, I.	GEOC	301	Filja, M.	CHED	1803	Fischeder, H.	BIOT	220
Ferrer, I.	GEOC	341	Filling, A.	CHED	1621	Fischione, R.	ENVR	550
Ferrer, J.	CELL	8	Fillman, K.L.	INOR	1195	Fischmann, T.	MEDI	112
Ferrer, M.	CINF	64	Fillon, Y.	BIOT	594	Fish, C.	CHED	2077
Ferrer, R.	CHED	1304	Filoux, C.	CHED	1917	Fish, D.	CHED	1178
Ferrer, R.	CHED	1319	Filocamo, S.	BIOT	58	Fish, D.	CHED	1181
Ferrier, M.G.	INOR	1213	Filocamo, S.	COLL	796	Fish, D.	CHED	1773
Ferrier, M.G.	NUCL	13	Filonenko, G.	INOR	725	Fish, J.	CHED	28
Ferrier, R.C.	PMSE	319	Filot, I.	CATL	581	Fish, M.	POLY	42
Ferrighi, L.	PHYS	550	Filot, I.	COMP	45	Fisher, A.	INOR	705
Ferriol-Alonso, A.J.	CHED	1174	Filpponen, E.	CELL	327	Fisher, A.	BIOT	287
Ferris, H.	ORGN	137	Filpponen, E.	CELL	329	Fisher, A.J.	BIOL	46
Ferry, A.J.	I&EC	117	Filpponen, I.	CELL	245	Fisher, F.	PMSE	187
Ferry, C.E.	PHYS	461	Filpponen, I.	CELL	251	Fisher, G.H.	CHED	1817
Ferry, V.E.	PHYS	559	Filpponen, I.	CELL	524	Fisher, H.	CHED	604
Fetcenko, M.A.	I&EC	57	Finan, J.	CHED	1692	Fisher, J.M.	ORGN	400
Fetisov, E.	COMP	217	Finbloom, J.	BIOT	234	Fisher, K.	INOR	125
Fetisov, E.	GEOC	328	Finch, B.	ENVR	555	Fisher, M.A.	CHED	189
Fetisov, E.	GEOC	329	Fincher, C.	PMSE	366	Fisher, M.A.	CHED	458
Fettinger, J.C.	INOR	1297	Findlater, M.	CHED	101	Fisher, M.A.	CHED	570
Fettinger, J.C.	INOR	1315	Findlater, M.	INOR	16	Fisher, M.A.	CHED	646
Fevre, M.	CARB	30	Findlater, M.	INOR	837	Fisher, M.A.	CHED	678
Fevre, M.	POLY	285	Findlay, M.R.	ENVR	669	Fisher, M.J.	BIOL	214
Fey, N.	INOR	798	Findlay, N.	CHED	1168	Fisher, S.	PMSE	637
Feyfant, E.	COMP	30	Findley, B.	CHED	2177	Fisher, S.	I&EC	111
Ficara, E.	ENVR	343	Fingerhut, B.	PHYS	119	Fisher, S.L.	MEDI	310
Ficarra, S.	AGFD	179	Fink, L.	COLL	4	Fisher, V.	CHED	177
Fichana, D.	BIOT	550	Finkbeiner, M.	BIOL	99	Fisher, V.	CHED	2079
Fick, C.	CHED	521	Finkbeiner, M.	CHED	674	Fishkin, N.	MEDI	474
Fidler, A.F.	INOR	483	Finkbeiner, M.	CHED	685	Fishman, D.	PHYS	371
Fiedler, A.T.	INOR	150	Finkbeiner, S.	MEDI	337	Fister, T.T.	CATL	97
Fiege, B.	ORGN	527	Finkelstein, I.	BIOT	349	Fitch, R.W.	MEDI	299
Field, E.K.	GEOC	184	Finkenstaedt-Quinn, S.A.	CHED	200	Fitts, J.P.	GEOC	296
Field, J.A.	ENVR	961	Finkenstaedt-Quinn, S.A.	CHED	1982	Fittschen, A.	ANYL	90
Field, P.	NUCL	158	Finkenstaedt-Quinn, S.A.	CHED	1990	Fittschen, A.	ANYL	102
Field, R.	PHYS	222	Finko, M.	NUCL	155	Fittschen, A.	ANYL	402
Field, T.	ANYL	70	Finlay, J.C.	ENVR	266	Fittschen, U.E.	ANYL	75
Fielding, A.J.	INOR	176	Finlayson Pitts, B.J.	PHYS	270	Fittschen, U.E.	ANYL	90
Fields, C.	GEOC	268	Finlayson Pitts, B.J.	PHYS	271	Fittschen, U.E.	ANYL	102
Fields, C.R.	INOR	449	Finley, E.	INOR	1361	Fittschen, U.E.	ANYL	402
Fields, S.	COMP	322	Finn, M.	POLY	395	Fitzgerald, D.	CHED	1260

Fitzgerald, J.P.	CHED	1063	Flood, M.	ANYL	182	Fong, E.C.	INOR	457
Fitzpatrick, J.	CHAS	39	Flora, S.	BIOL	265	Fong, F.	BIOT	688
Fitzpatrick, J.	ENVR	651	Florea, B.	CHED	1777	Fong, P.P.	CHED	1288
FitzPatrick, J.R.	NUCL	167	Florek, J.	ANYL	154	Fong, P.P.	CHED	1306
Fitzsimons, R.T.	BIOT	562	Flores, J.	CHED	326	Fonseca, M.	BIOT	211
Fivizzani, K.P.	CHAS	5	Flores, J.A.	PMSE	156	Font Molins, M.	ORGN	51
Fjeldsted, J.	ANYL	283	Flores, K.	ENVR	758	Fontaine, J.	COLL	30
Fjeldsted, J.	GEOC	301	Flores, K.	ENVR	798	Fontaine, J.	COLL	756
Fjellstad, E.	CHED	328	Flores, L.	CHED	1858	Fontana, M.T.	ENFL	318
Flagg, D.	COLL	800	Flores, L.	ENFL	167	Fontenot, K.R.	AGFD	227
Flaherty, B.S.	CHED	1313	Flores, V.	BIOL	110	Fontenot, K.R.	CELL	260
Flaherty, D.	CATL	228	Flores, Y.	CHED	1186	Fontes, F.	BIOL	68
Flaherty, D.	CATL	244	Flores-Betancourt, A.	CATL	337	Fontes, F.	MEDI	201
Flaherty, D.	CATL	535	Florescu, O.	BIOT	148	Fontes, F.	MEDI	203
Flaherty, D.	CATL	645	Flores-Morales, R.	AGFD	107	Foo, G.	CATL	201
Flaherty, D.	I&EC	43	Flores-Morales, R.	CHED	1775	Foo, G.	CATL	529
Flanagan, J.	ANYL	65	Florian, J.	BIOL	143	Foote, A.	BIOT	171
Flanagan, J.J.	INOR	1456	Floryance, L.	CHED	1126	Foote, A.	BIOT	477
Flanagan, L.	BIOT	663	Flotka, D.	ORGN	780	Forbes, T.	CHED	1053
Flanery, C.	CHED	1868	Floudas, G.	COLL	148	Forbes, T.	CHED	1126
Flannigan, D.J.	PHYS	559	Flourat, A.	ORGN	302	Forbes, T.	INOR	446
Flatt, R.J.	GEOC	224	Flowers, G.	ORGN	67	Forbes, T.	INOR	634
Flatt, R.J.	GEOC	225	Flowers, R.A.	ORGN	265	Forbes, T.	INOR	1140
Flauzino Neto, W.	CELL	311	Floyd, C.	AGFD	189	Forbes, T.	INOR	1264
Flaxbart, D.W.	CINF	155	Floyd, J.	BIOT	18	Forbes, T.	INOR	1477
Fleck, J.A.	ENVR	768	Floyd, T.	AGFD	228	Forbes, T.	INOR	1568
Fleck, J.A.	ENVR	770	Flum, J.	CHED	1701	Forbes, T.	PHYS	316
Fleetwood, M.	ORGN	596	Flynn, A.B.	CHED	10	Forbes-Pentecost, S.	CHED	1173
Fleetwood, S.	MEDI	155	Flynn, A.B.	CHED	164	Forbey, J.	AGFD	86
Fleischmann, D.	CHED	457	Flynn, A.B.	CHED	182	Forbey, J.	AGFD	87
Fleming, A.	BIOL	177	Flynn, A.B.	CHED	264	Ford, A.	CHED	478
Fleming, A.M.	BIOL	51	Flynn, A.B.	CHED	2048	Ford, K.	CELL	233
Fleming, A.M.	BIOL	90	Flynn, A.B.	CHED	2050	Ford, L.	COMP	226
Fleming, A.M.	PROF	43	Flynn, B.	CHED	993	Ford, M.D.	POLY	22
Fleming, C.	CHED	1041	Flynn, C.	INOR	907	Ford, M.D.	POLY	404
Fleming, C.D.	CHED	1796	Flynn, C.	INOR	918	Ford, M.E.	CATL	567
Fleming, G.R.	ANYL	27	Flynn, E.	GEOC	88	Ford, M.E.	CATL	592
Fleming, R.	BIOT	86	Flynn, E.	GEOC	177	Ford, P.C.	CATL	152
Fleming, S.C.	AGFD	117	Flynn, J.D.	ANYL	474	Ford, P.C.	CATL	238
Fleming, W.	ENVR	363	Flynn, N.O.	BIOT	556	Ford, P.C.	CATL	251
Flesch, M.	CHED	452	Flynn, N.T.	CHED	1281	Ford, P.C.	ENFL	106
Flesch, M.	CHED	483	Flynn, S.	GEOC	302	Ford, P.C.	INOR	487
Flesch, M.	CHED	489	Flynn, S.	GEOC	340	Ford, P.C.	INOR	1188
Flesch, M.	CHED	506	Flynn, S.	GEOC	348	Ford, P.C.	INOR	1252
Flesch, M.	CHED	1821	Flynn, S.C.	CHED	1965	Ford, R.	CHED	914
Fleshman, A.M.	CHED	509	Flynn, T.	GEOC	182	Forde, A.	PHYS	305
Fleshman, A.M.	CHED	1683	Flynn, T.	GEOC	239	Forderhase, A.	CHED	543
Fleshman, A.M.	CHED	1685	Flytzani-Stephanopoulos, M.	CATL	239	Foreman, W.T.	ENVR	49
Fleshman, A.M.	CHED	2150	Fodor, M.	MEDI	305	Foresman, J.B.	COMP	321
Fletcher, J.	CHED	430	Foeldi, C.	GEOC	352	Forest, K.T.	PHYS	86
Fletcher, S.	MEDI	274	Foettinger, K.	CATL	223	Forester, D.	ANYL	336
Fletcher, S.	MEDI	277	Foettinger, K.	COLL	21	Forester, S.M.	AGFD	209
Fletcher, S.	MEDI	278	Fogarty, K.	CHED	504	Forkuo, G.S.	MEDI	19
Fletcher, S.	MEDI	415	Fogarty, K.	CHED	1934	Forman, H.J.	GEOC	3
Fleurat-Lessard, P.	CATL	248	Fogelström, L.	CELL	376	Forman, H.J.	GEOC	204
Fleurat-Lessard, P.	COMP	532	Fokin, V.	CHED	1564	Forman, J.E.	ANYL	252
Fleurat-Lessard, P.	INOR	1290	Fokwa, B.	INOR	643	Forman, M.A.	CHED	1538
Fleury, E.	CELL	450	Fokwa, B.	INOR	923	Forman-Kay, J.	COLL	414
Fleury, E.	CELL	496	Fokwa, B.	INOR	986	Formanuik, A.	NUCL	64
Fleury, E.	POLY	484	Fokwa, B.	INOR	991	Fornasiero, P.	CATL	234
Fleury, E.	POLY	491	Folden, C.M.	NUCL	5	Forrester, M.	POLY	327
Flinn, B.	PMSE	585	Folden, C.M.	NUCL	161	Forrester, M.	POLY	328
Flipo, M.	MEDI	455	Foley, A.	BIOL	170	Fors, B.P.	INOR	587
Flipponen, I.	CELL	111	Foley, B.J.	INOR	875	Fors, B.P.	PMSE	56
Flis, V.	CELL	419	Foley, B.J.	INOR	1160	Fors, B.P.	POLY	260
Fliss, I.	AGFD	22	Foley, C.	ORGN	524	Forse, A.	ANYL	37
Flood, A.H.	BIOL	92	Foley, C.J.	CHED	77	Forse, A.	INOR	1360
Flood, A.H.	COLL	363	Foley, C.J.	CHED	1999	Forsgren, N.	MEDI	396
Flood, A.H.	COLL	365	Foley, C.N.	ORGN	348	Forsling, J.	CELL	286
Flood, A.H.	COLL	401	Foley, J.J.	CHED	1292	Forslund, R.	ANYL	241
Flood, A.H.	COLL	402	Foley, J.J.	CHED	1696	Forst, S.	CHED	1411
Flood, A.H.	COLL	485	Foley, J.J.	COMP	573	Forster, P.	NUCL	8
Flood, A.H.	COLL	558	Foley, M.	AGFD	151	Forsyth, C.J.	ORGN	837
Flood, A.H.	ORGN	18	Folkerts, E.	GEOC	302	Forsyth, T.	COLL	85
Flood, A.H.	ORGN	410	Follmann, H.D.	CARB	32	Forsyth, T.	COLL	701
Flood, A.H.	ORGN	417	Folska, A.	CHED	1715	Forsythe, J.G.	ANYL	375
Flood, A.H.	ORGN	642	Folsom, J.	BIOL	265	Forsythe, J.G.	PHYS	570
Flood, A.H.	PHYS	115	Fomchenko, K.M.	BIOL	132	Fort, E.H.	CHED	1379
Flood, A.H.	PROF	41	Fomchenko, K.M.	CHED	1813	Fort, R.	AGFD	120
Flood, C.	CHED	194	Fong, A.	PMSE	220	Forte, L.	POLY	152

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Fortenberry, R.C.	CHED	1652	Foy, G.P.	CHED	492	Franz, J.L.	CHED	961
Fortenberry, R.C.	CHED	1676	Foy, G.P.	CHED	495	Franz, K.J.	PMSE	51
Fortenberry, R.C.	PHYS	238	Foy, G.P.	CHED	497	Franz, R.	CHAL	2
Fortenberry, R.C.	PROF	51	Foy, G.P.	CHED	1924	Franzen, A.	CHED	375
Fortin, L.	BIOT	418	Foy, G.P.	CHED	1925	Franzreb, M.	BIOT	123
Fortin, P.	MEDI	305	Foy, G.P.	CHED	1926	Fraser, C.	INOR	1002
Fortin, P.	ENVR	539	Foy, G.P.	CHED	1927	Fraser, O.A.	CATL	328
Fortman, D.J.	POLY	189	Foy, G.P.	CHED	1929	Fraser, O.A.	CHED	1380
Fortman, D.J.	POLY	190	Foy, G.P.	CHED	1930	Fras-Zemljic, L.	CELL	480
Fortner, J.	ENVR	367	Foy, G.P.	CHED	1931	Frater, G.E.	ORGN	366
Foscue, C.M.	CHED	1437	Foy, G.P.	ENVR	466	Frattini, L.	ENVR	140
Fosnacht, K.G.	CHED	1475	Foy, N.	ORGN	168	Frauenheim, T.	COMP	191
Foster, A.	CHED	51	Fozo, E.	ANYL	132	Frayne, S.H.	POLY	408
Foster, A.	CHED	1243	Fraczkiewicz, R.	MEDI	399	Frazer, L.	COLL	714
Foster, J.	POLY	245	Fraga, C.	ANYL	257	Frazier, C.E.	CELL	62
Foster, J.	POLY	319	Fraga, C.	ANYL	295	Frazier, C.E.	CELL	183
Foster, J.	POLY	599	Fraire, C.	PHYS	533	Freakley, S.	ENFL	92
Foster, J.	ANYL	454	Fraley, M.E.	MEDI	345	Frech, C.	BIOT	640
Foster, J.	CELL	31	Frame, M.	CHED	1505	Frech, C.B.	CHED	1796
Foster, J.	CELL	225	Frampton, A.	BIOL	276	Frech, M.	MEDI	308
Foster, J.	CELL	228	Frampton, A.K.	INOR	362	Frecker, T.	COLL	90
Foster, J.	POLY	181	Frampton, E.	CHED	1707	Fredenborg, L.	CHED	1062
Foster, K.	ENVR	525	França, D.	POLY	426	Fredenwall, M.	MEDI	12
Foster, L.	POLY	92	Françavilla, C.	ORGN	194	Frederick, B.G.	CHED	510
Foster, L.	POLY	511	France, S.A.	ORGN	734	Frederick, B.G.	ENFL	387
Foster, N.	COMP	313	Franceschini-Silva, E.	CHED	1775	Frederick, B.G.	INOR	998
Foster, R.	I&EC	91	Francesko, A.	COLL	160	Frederick, J.	CHED	246
Foster, R.	ORGN	402	Francesko, A.	COLL	373	Frederick, R.T.	CATL	615
Foster-Spence, C.	CHED	1631	Franchini, S.	GEOC	14	Frederick, R.T.	INOR	453
Foston, M.	CATL	204	Francik, R.	AGFD	121	Frederick, R.T.	INOR	454
Foston, M.	CATL	429	Francis, A.J.	ORGN	540	Frederick, R.T.	INOR	455
Foston, M.	I&EC	29	Francis, D.	INOR	345	Frederickson, C.K.	CHED	1405
Foston, M.B.	CATL	152	Francis, D.	INOR	348	Fredrikson, G.N.	COLL	700
Foston, M.B.	ENFL	61	Francis, D.	BIOL	54	Fredrikson, G.N.	COLL	701
Foston, M.B.	ENFL	336	Francis, M.B.	BIOL	281	Free, B.	MEDI	148
Foston, M.B.	POLY	557	Francis, M.B.	BIOL	308	Freedman, D.E.	COMP	458
Fostvedt, J.I.	INOR	1485	Francis, M.B.	BIOT	218	Freedman, D.E.	INOR	78
Fosu, S.C.	ORGN	50	Francis, M.B.	BIOT	234	Freedman, D.E.	INOR	132
Fosu, S.C.	ORGN	202	Francis, M.B.	BIOT	338	Freedman, D.E.	INOR	1176
Fosu, S.C.	ORGN	208	Francis, R.	CHED	1705	Freedman, D.E.	INOR	1234
Fothergill, J.	CHED	1339	Francis, R.	COLL	353	Freedman, D.E.	INOR	1364
Foudazi, R.	CHED	1721	Francke, R.	INOR	541	Freedman, D.E.	INOR	1432
Fought, E.	COMP	495	Franco, O.	COLL	37	Freel Meyers, C.L.	MEDI	330
Fourches, D.	CINF	50	Françon, H.S.	CELL	370	Freeman, J.	ENVR	239
Fourches, D.	CINF	120	Frank, B.P.	INOR	1521	Freeman, J.	CHED	1502
Fourches, D.	CINF	150	Frank, B.P.	POLY	132	Freeman, J.D.	CHED	1739
Fourches, D.	ENVR	935	Frank, C.	PMSE	493	Freeman, M.	INOR	1567
Fourches, D.	ENVR	1009	Frank, C.W.	PMSE	115	Freeman, S.	BIOT	183
Fourches, D.	MEDI	195	Frank, D.J.	CHED	795	Freeman, S.	BIOT	436
Fourches, D.	MEDI	451	Frank, H.A.	PHYS	260	Freeman, S.	ANYL	17
Fourkas, J.T.	PHYS	66	Frank, H.A.	PHYS	414	Freese, G.B.	CHED	763
Fourkas, J.T.	PHYS	300	Frank, J.	PMSE	343	Freese, G.B.	CHED	772
Fourmond, V.	INOR	39	Frank, J.	PMSE	342	Freeze, J.	INOR	738
Fournier, A.	CATL	149	Frank, J.O.	AGFD	255	Frei, H.M.	CATL	501
Foust, R.D.	CHED	913	Franke, J.	ORGN	355	Frei, H.M.	CATL	506
Fouz, B.	ORGN	538	Frankenfield, K.	CHED	662	Frei, H.M.	ENFL	186
Fouzia, M.	ORGN	47	Frankiewicz, C.	COLL	829	Freiderich, J.	NUCL	32
Fowler, C.	CHED	1453	Frankiewicz, C.	I&EC	42	Freim, J.	ENVR	889
Fowler, J.W.	BIOT	482	Franklin, J.	BIOT	209	Freire, C.	CELL	443
Fowler, J.W.	CATL	144	Franklin, K.	CHED	842	Freire, C.	COLL	737
Fowler, J.W.	COLL	146	Franklin, L.M.	AGFD	187	Freire, C.	POLY	607
Fowler, J.W.	INOR	1319	Franklin, N.I.	CINF	87	Freire, C.S.	CELL	476
Fowler, M.M.	NUCL	3	Franklin, R.D.	BIOT	563	Freire, G.A.	CELL	512
Fox, A.	CHED	1422	Fransen, P.	POLY	527	Freitas, D.N.	ENVR	669
Fox, B.R.	CHED	1984	Frantom, P.A.	CHED	557	Freitas, F.	CELL	484
Fox, D.	CHED	1193	Frantz, A.	CHED	1103	Freitas, T.T.	CELL	48
Fox, D.	PMSE	320	Frantz, D.K.	ORGN	766	Freites, J.A.	COMP	353
Fox, D.	POLY	132	Frantz, D.K.	ORGN	768	French, A.D.	CELL	169
Fox, D.J.	CHED	869	Frantz, P.P.	COLL	108	French, A.D.	CELL	260
Fox, K.M.	INOR	945	Frantz, P.P.	COLL	749	French, A.D.	CELL	410
Fox, P.	GEOC	19	Frantz, S.	CHED	1238	French, A.D.	CELL	489
Fox, R.F.	ORGN	399	Franz, A.	CARB	52	French, L.G.	CHED	825
Fox, S.	CHED	349	Franz, A.	CARB	53	French, R.J.	CATL	242
Fox, Z.	ANYL	61	Franz, A.K.	CHAS	48	French, R.J.	ENFL	331
Foxley, M.	BIOL	277	Franz, A.K.	CHED	1381	Frenkel, A.	CATL	1
Foxley, M.	BIOL	316	Franz, A.K.	CHED	1505	Frenkel, A.	CATL	49
Foxley, M.	MEDI	69	Franz, A.K.	ORGN	53	Frenkel, A.	CATL	52
Foxley, M.	MEDI	434	Franz, A.K.	ORGN	129	Frenkel, A.	CATL	145
Foy, G.P.	CHED	450	Franz, A.K.	ORGN	215	Frenkel, A.	INOR	1408
Foy, G.P.	CHED	476	Franz, A.K.	ORGN	217	Frenning, G.	COLL	318

Fresco, N.	CHED	634	Frohn, M.	MEDI	127	Fujimori, D.G.	MEDI	124
Freudenberg, J.	ORGN	753	Frolova, L.A.	ANYL	6	Fujimoto, C.	POLY	119
Freudenberg, J.	ORGN	754	Frolova, L.V.	MEDI	421	Fujino, D.	CHED	993
Freudenberg, J.	ORGN	776	Fromen, C.	POLY	42	Fujioka, T.	ENVR	232
Freudensprung, I.	CATL	577	Frommer, J.	I&EC	46	Fujisawa, K.	INOR	690
Freudensprung, I.	PMSE	309	Frommer, K.	INOR	928	Fujita, E.	INOR	1181
Freund, H.	CATL	18	Fronczek, F.R.	INOR	1041	Fujitani, H.	COMP	531
Freund, H.	CATL	56	Frontiera, R.R.	PHYS	161	Fujiwara, N.	CARB	94
Freund, H.	CATL	90	Frost, J.	ORGN	273	Fukagawa, N.K.	ENFL	340
Freund, H.	PRES	5	Frost, J.	ORGN	428	Fukagawa, N.K.	ENVR	764
Frew, H.	ANYL	336	Frost, J.	CHED	33	Fukaya, N.	INOR	1370
Frew, J.	ENVR	555	Frost, S.	AGFD	145	Fukuda, J.Y.	CELL	28
Frew, J.	ENVR	896	Frühbeißer, S.	POLY	576	Fukui, K.	BIOL	76
Frew, J.	ENVR	976	Frunz, L.	GEOC	225	Fukumoto, K.	COLL	623
Frey, B.L.	CHED	1544	Frush, E.	CINF	83	Fukushima, K.	AGFD	161
Frey, H.	PMSE	549	Frutos, L.	COMP	131	Fukushima, K.	CELL	462
Frey, H.	POLY	124	Fry, J.	CHED	1795	Fukushima, K.	POLY	165
Frey, H.	POLY	368	Fry, O.P.	CHED	1051	Fukushima, S.	BIOT	536
Frey, H.	POLY	383	Frye, C.	BIOT	2	Fukuto, J.	INOR	251
Frey, H.	POLY	386	Frye, L.	COMP	19	Fukuzawa, S.	ORGN	158
Frey, H.	POLY	389	Frye, S.V.	CHED	1189	Fulcrand, H.	AGFD	162
Frey, H.	POLY	390	Frysali, M.A.	POLY	168	Fullana-Girod, S.	CELL	46
Frey, J.G.	COMP	95	Fu, A.	ENFL	105	Fullenkamp, C.	ORGN	841
Frey, J.R.	CHED	790	Fu, B.	PHYS	573	Fuller, A.	CHED	319
Frey, K.	CATL	46	Fu, C.	ORGN	135	Fuller, A.A.	CHED	317
Frey, K.	CATL	191	Fu, F.	ORGN	143	Fuller, A.A.	CHED	530
Frey, T.	POLY	437	Fu, G.	CATL	187	Fuller, A.A.	CHED	1371
Freyaldenhoven, S.	CHED	1235	Fu, G.	INOR	466	Fuller, A.A.	CHED	1398
Freyaldenhoven, S.G.	CHED	776	Fu, G.	CELL	108	Fuller, A.A.	CHED	1399
Freyer, J.	PMSE	670	Fu, G.C.	ORGN	1	Fuller, A.A.	CHED	2099
Frias Rodríguez, M.	ORGN	73	Fu, H.	PMSE	476	Fuller, A.A.	COLL	3
Fribley, A.	MEDI	241	Fu, H.	PMSE	576	Fuller, A.A.	ORGN	472
Frick, K.	MEDI	103	Fu, H.	POLY	140	Fuller, C.	ENVR	346
Fridrich, C.	MEDI	305	Fu, J.	CELL	113	Fuller, J.	ANYL	223
Fried, L.E.	PHYS	136	Fu, J.	CHED	1812	Fuller, M.	AGFD	42
Fried, W.	CELL	49	Fu, J.	CATL	31	Fuller, M.	CHED	1187
Friederich, W.	CHED	1517	Fu, J.	COLL	166	Fuller, T.	POLY	455
Friedler, S.	CATL	627	Fu, J.	ENFL	385	Fuller, T.	POLY	515
Friedman, M.	AGFD	202	Fu, J.	COMP	295	Fuller, W.R.	INOR	19
Friedman, R.	PHYS	128	Fu, L.	CELL	13	Fullerton, E.	COLL	660
Friedman, S.H.	BIOL	239	Fu, L.	CELL	137	Fullerton, K.	POLY	518
Friedrich, H.	GEOC	327	Fu, Q.	INOR	884	Fullington, C.	AGFD	67
Friedrich, L.	CINF	84	Fu, Q.	INOR	1504	Fullington, C.	CHED	432
Frielinghaus, H.	COLL	79	Fu, Q.	ENVR	47	Fullmer, L.B.	INOR	441
Frielle, T.	CHED	555	Fu, R.	COMP	525	Fullmer, L.B.	INOR	446
Friemann, R.	COMP	440	Fu, T.	ORGN	152	Fullmer, L.B.	INOR	448
Friend, A.	ENFL	287	Fu, X.	ANYL	468	Fulmer, M.	CHED	358
Friend, C.M.	CATL	16	Fu, X.	ENFL	430	Fulton, B.	CHED	1055
Friend, C.M.	CATL	92	Fu, X.	BIOT	509	Fulton, B.	INOR	446
Friend, C.M.	CATL	206	Fu, X.	INOR	647	Fulton, B.	INOR	447
Friend, C.M.	CATL	239	Fu, X.	BIOT	465	Fulton, B.	INOR	1264
Friend, C.M.	COLL	96	Fu, Y.	INOR	36	Fulton, J.	CATL	48
Friend, C.M.	COLL	610	Fu, Y.	INOR	788	Fulton, J.	COMP	98
Friera, A.	MEDI	478	Fu, Y.	INOR	1051	Fulton, J.	ENFL	270
Friera, A.	MEDI	479	Fu, Y.	INOR	1054	Fulton, J.	ENFL	271
Friesen, V.	GEOC	85	Fuchs, A.	INOR	703	Fulton, J.	PHYS	387
Friesen, V.	GEOC	214	Fuchs, J.	ORGN	202	Fulton, J.	AGFD	190
Friesner, R.	COMP	19	Fuchs, J.	ORGN	139	Fulton, L.	INOR	1150
Friesner, R.	PHYS	96	Fudalla, S.M.	CHED	1805	Fumagalli, M.	CELL	494
Friis, S.D.	ORGN	36	Fudalla, S.M.	CHED	1830	Funada, R.	CELL	322
Frimmel, F.	ENVR	30	Fuentes, C.	AGFD	265	Funakoshi, N.	ENVR	811
Frisch, H.	PMSE	571	Fuentes, E.	CATL	111	Funane, S.	ORGN	305
Frisch, M.J.	COMP	539	Fuentes, E.	INOR	1514	Fundueanu, G.	CELL	4
Frisch, M.J.	PHYS	366	Fuentes-Cobas, L.E.	INOR	815	Fung, S.	MEDI	130
Frischknecht, A.L.	POLY	119	Fuentes-Rivera, J.J.	COLL	150	Fung, V.	COMP	126
Frischknecht, A.L.	POLY	280	Fuertes, J.	ENFL	35	Funk, A.L.	ORGN	344
Frisch, T.	INOR	1366	Fuglsang, A.T.	MEDI	425	Funk, S.P.	GEOC	337
Frisch, T.	ORGN	476	Fuglsang, A.T.	MEDI	374	Funk, T.W.	CHED	2098
Frizman, J.	CHED	1791	Fuhrer, T.J.	CHED	815	Funk, T.W.	ORGN	91
Frita, R.	MEDI	455	Fuhrer, T.J.	HIST	35	Fura, A.	MEDI	25
Frith, M.	GEOC	357	Fuhrer, T.J.	PHYS	539	Fura, A.	MEDI	21
Fritsch, J.M.	CHED	891	Führing, J.I.	BIOL	198	Fura, J.	BIOT	418
Fritsch, J.M.	INOR	314	Fujii, S.	ORGN	625	Furche, F.U.	COMP	463
Fritz, J.	CHED	1445	Fujii, S.	COLL	359	Furche, F.U.	INOR	1378
Fritza, A.d.	COLL	300	Fujii, S.	COLL	815	Furdui, C.M.	INOR	751
Fritzensmeier, T.	ORGN	779	Fujikawa, N.	MEDI	110	Furdui, C.M.	INOR	935
Frka-Peticic, B.	CELL	235	Fujimori, D.G.	BIOL	7	Furdui, C.M.	MEDI	77
Froedge, T.	ENFL	70	Fujimori, D.G.	BIOL	96	Furdui, V.I.	ENVR	347
Froehlich, J.	INOR	38	Fujimori, D.G.	BIOL	188	Furet, P.	MEDI	353
Frogue, K.	BIOT	279	Fujimori, D.G.	COMP	549	Furgione, M.E.	CHED	888



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Furgurson, M.	CHED	368	Gagnon, N.L.	INOR	85	Gallo, A.	CATL	55
Furlong, E.T.	ENVR	49	Gagnon, N.L.	INOR	260	Gallo, A.	COLL	636
Furlong, E.T.	ENVR	120	Gagnon, N.L.	INOR	265	Gallou, A.	CELL	16
Furman, O.S.	GEOC	120	Gagnon, V.	ENVR	315	Gallou, F.	ORGN	320
Furneaux, A.	INOR	380	Gahleitner, M.	PMSE	281	Galloway, K.R.	CHED	264
Furo, I.	CELL	516	Gai, F.	BIOL	254	Galloway, K.R.	CHED	780
Furst, A.L.	BIOL	281	Gai, F.	COLL	383	Galloway, K.R.	CHED	2050
Furst, E.M.	BIOT	22	Gai, P.	CATL	641	Galloway, M.	CHED	950
Furst, K.E.	ENVR	773	Gaich, T.	ORGN	724	Galloway, M.	CHED	984
Furtado, R.	CELL	154	Gaigeot, M.P.	GEOC	111	Galloway, M.	ENVR	661
Furtado, R.	CELL	176	Gaigeot, M.P.	PHYS	250	Gällstedt, M.	CELL	449
Furtado, R.	CELL	512	Gaikwad, R.	CATL	309	Gallucci, E.	GEOC	225
Furtado, R.	CELL	513	Gaikwad, R.	CATL	542	Galmiche, B.	COLL	579
Furton, K.	ENVR	510	Gaillard, N.	ENFL	206	Galtieri, A.	AGFD	179
Furukawa, K.	COLL	376	Gaines, M.	COLL	568	Galush, W.J.	BIOT	22
Fusaro, A.	CHED	1966	Gaines, T.W.	POLY	15	Galvan, V.	ANYL	213
Fuselier, S.	PHYS	192	Gaines, T.W.	POLY	396	Galvez, R.	ENVR	154
Fushimi, R.	COLL	640	Gair, J.	INOR	723	Galvin, C.	INOR	418
Fushman, D.	ANYL	370	Gaiss, S.	ANYL	104	Galy, A.	PMSE	316
Fusi, S.	CHED	1153	Gaitor, J.	I&EC	7	Gamache, R.	FLUO	52
Fusi, S.	IAC	3	Gaitzsch, J.	PMSE	490	Gamagedara, S.	AGFD	49
Fuson, M.M.	CHED	1672	Gaitzsch, J.	PMSE	629	Gamagedara, S.	CHED	438
Fussell, E.	CHED	1576	Gajewski, P.	ORGN	356	Gamagedara, S.	CHED	2165
Futatsugi, K.	MEDI	294	Gakhar, S.	COLL	453	Gamalski, A.	CATL	145
Futatsugi, K.	MEDI	371	Gal, N.	COLL	349	Gambhir, S.S.	MEDI	165
Fyrner, T.	MEDI	403	Galaktionova, D.	COMP	467	Gamboia da Costa, G.	CHED	372
Gaarde, M.	COMP	535	Galardi, J.	BIOL	263	Gamboia, A.	BIOT	242
Gabbai, F.	INOR	1483	Galarreta, B.C.	CHED	281	Gamboia, D.	ENVR	343
Gabbai, F.P.	CHED	103	Galasiti Kankanamalage, A.	MEDI	126	Gamboia, O.	ORGN	799
Gabbai, F.P.	INOR	130	Galazka, J.M.	BIOT	225	Gamez, A.	CHED	842
Gabbai, F.P.	INOR	135	Galella, M.A.	MEDI	21	Gammon, J.	BIOT	470
Gabbai, F.P.	INOR	577	Galella, M.A.	MEDI	25	Gamrat, J.M.	MEDI	101
Gabbai, F.P.	INOR	1493	Galhenage, T.P.	POLY	473	Gan, J.	ENVR	473
Gabelich, C.J.	ENVR	100	Galib, M.	COMP	98	Gan, J.	ENVR	556
Gable, D.	CHED	1872	Galib, M.	PHYS	387	Gan, J.	ENVR	900
Gable, J.	BIOL	141	Galimberti, D.R.	PHYS	348	Gan, L.	MEDI	132
Gabor, R.S.	ENVR	191	Galipeau, K.	BIOT	125	Gan, Q.	MEDI	218
Gabor, R.S.	ENVR	192	Galipeau, K.	BIOT	712	Gan, R.	AGFD	127
Gabriel, L.	CELL	217	Gall, K.	PMSE	665	Gan, W.	POLY	247
Gabriel, L.	CELL	478	Gall, K.	POLY	415	Gan, W.	POLY	398
Gabriel, T.	MEDI	353	Gallagher, A.	INOR	1234	Ganachaud, F.	POLY	484
Gabriele, S.	PMSE	60	Gallagher, A.	INOR	1406	Gañán, P.	CELL	41
Gabryelczyk, B.	COLL	413	Gallagher, C.	ENVR	716	Gañán, P.	CELL	159
Gade, L.H.	COLL	480	Gallagher, C.	ENVR	855	Gañán, P.	CELL	483
Gadelrab, K.R.	POLY	243	Gallagher, C.	GEOC	269	Ganas, A.S.	INOR	145
Gadhi, T.	ENVR	593	Gallagher, E.	ENVR	718	Gancarczyk, V.M.	MEDI	416
Gadikota, G.	GEOC	16	Gallagher, J.	POLY	2	Gandarias, I.	CATL	487
Gadikota, G.	GEOC	61	Gallagher, J.R.	CATL	568	Gandhi, R.B.	BIOT	292
Gaffney, K.	BIOT	482	Gallagher, J.R.	INOR	568	Gandhi, R.B.	BIOT	550
Gaffney, K.	PHYS	69	Gallagher, K.R.	CHED	739	Ganduglia-Pirovano, V.	CATL	358
Gaffney, K.J.	CATL	144	Gallagher, M.J.	INOR	646	Ganem Rondero, F.	COLL	303
Gaffney, K.J.	COLL	146	Gallagher, M.J.	INOR	1521	Ganesan, V.	COLL	812
Gaffney, K.J.	INOR	1319	Gallagher, M.J.	POLY	132	Ganesh, A.	BIOL	329
Gaffney, K.J.	MEDI	177	Gallagher, R.	ANYL	472	Ganesh, A.	COLL	731
Gage, E.	PHYS	266	Gallagher, R.	ORGN	63	Ganesh, P.	ENFL	413
Gage, M.J.	AGFD	217	Gallagher, S.	MEDI	262	Ganesh, T.	MEDI	154
Gagliardi, L.	COLL	100	Gallant, A.	CHED	701	Ganesh, T.	MEDI	468
Gagliardi, L.	COMP	17	Gallant, B.	ENFL	295	Ganeva, M.	COLL	79
Gagliardi, L.	COMP	379	Gallazzi, F.	NUCL	141	Ganewatta, M.S.	POLY	143
Gagliardi, L.	COMP	458	Gallego, D.	INOR	417	Gang, O.	COLL	536
Gagliardi, L.	COMP	459	Gallego, G.	ORGN	451	Gang, O.	COLL	542
Gagliardi, L.	ENFL	271	Gallegos, D.	CHED	1684	Gang, W.	INOR	1252
Gagliardi, L.	INOR	95	Gallei, M.	COLL	464	Gangoda, M.E.	CATL	320
Gagliardi, L.	INOR	200	Gallei, M.	PMSE	450	Gangopadhyay, S.	INOR	1354
Gagliardi, L.	INOR	530	Galler, D.	ORGN	105	Gangula, S.	CELL	170
Gagliardi, L.	INOR	677	Gallet, J.	COLL	77	Ganguly, A.	ORGN	658
Gagliardi, L.	NUCL	70	Galley, S.S.	NUCL	105	Gani, T.Z.	COMP	8
Gagliardi, L.	NUCL	148	Galley, S.S.	NUCL	106	Gani, T.Z.	COMP	507
Gagliardi, L.	ORGN	562	Galley, S.S.	NUCL	132	Gann, J.	CHED	962
Gagliardi, L.	PHYS	36	Galley, S.S.	PROF	7	Ganner, T.	CELL	471
Gagliardi, S.	ANYL	413	Galley, S.S.	INOR	972	Gannon, S.A.	ENVR	881
Gaglio, A.	CHED	1809	Galli, G.A.	CATL	180	Gansaeuer, A.R.	CATL	411
Gagne, K.R.	ENVR	264	Galli, G.A.	COMP	99	Gansäuer, A.	ORGN	159
Gagne, M.R.	CATL	250	Galli, G.A.	COMP	434	Gansäuer, A.	ORGN	263
Gagne, M.R.	INOR	184	Galli, G.A.	COMP	470	Gansäuer, A.	ORGN	265
Gagne, M.R.	ORGN	432	Galli, G.A.	ENFL	121	Gansäuer, A.	ORGN	743
Gagnon, A.	ANYL	22	Galli, G.A.	ENFL	245	Gansäuer, A.	ORGN	840
Gagnon, G.	ENVR	514	Galli, G.A.	INOR	689	Ganske, J.A.	CHED	791
Gagnon, K.J.	INOR	1223	Gallin, C.	CHED	1835	Ganske, K.	CELL	217
Gagnon, K.T.	BIOL	10	Gallington, L.C.	INOR	200	Ganster, J.	CELL	310

Gantier, R.	BIOT	499	Garcés, A.	MEDI	118	Garg, A.	PMSE	132
Ganzel, H.	CHED	1716	Garcés, Á.A.	CHED	51	Garg, N.	GEOC	60
Gao, B.	ENVR	405	García Bonete, M.	PHYS	128	Garg, N.	GEOC	223
Gao, B.	BIOT	482	García Bosch, I.	ORGN	825	Garg, N.K.	ORGN	281
Gao, B.	CATL	144	García Fortanet, J.	MEDI	305	Garg, N.K.	ORGN	491
Gao, B.	COLL	146	García Herrera, Y.	CHED	1010	Garg, N.K.	ORGN	660
Gao, B.	INOR	1319	García Sánchez, J.	COLL	303	Garg, N.K.	ORGN	716
Gao, B.	AGFD	36	García Villalta, N.	INOR	419	Garg, N.K.	ORGN	931
Gao, C.	ENVR	86	García Villalta, N.	INOR	420	Garg, S.	ENVR	831
Gao, D.	BIOT	226	García, A.	ENFL	398	Garg, S.	ENVR	316
Gao, F.	CATL	50	García, A.	CHED	1581	Garg, S.	ENVR	425
Gao, F.	CATL	107	García, A.	POLY	333	Garg, S.	ENVR	1023
Gao, F.	ENVR	649	García, A.	GEOC	200	Gargava, A.	COLL	367
Gao, G.	CINF	126	García, A.	CELL	225	Gargava, A.	PMSE	231
Gao, H.	POLY	8	García, C.	BIOT	50	Gargava, A.	POLY	497
Gao, H.	POLY	16	García, C.	CHED	1845	Garibay, V.	CATL	285
Gao, H.	POLY	247	García, C.	BIOL	82	Garica, M.	CHED	1297
Gao, H.	POLY	388	García, C.	CHED	1844	Garlisi, C.	MEDI	112
Gao, H.	POLY	398	García, C.	ORGN	299	Garlow, A.	CHED	598
Gao, H.	COLL	726	García, E.	ENVR	925	Garmo, L.	BIOL	205
Gao, H.	INOR	1004	García, F.	POLY	258	Garner, A.	BIOL	203
Gao, H.	INOR	1008	García, I.	BIOL	56	Garner, A.J.	ENVR	74
Gao, H.	CATL	302	García, J.	CHED	467	Garner, C.M.	ANYL	13
Gao, H.	CELL	116	García, J.	CHED	1302	Garner, G.	PMSE	366
Gao, H.	CELL	134	García, J.	CHED	1494	Garner, K.	ENVR	725
Gao, J.	ORGN	643	García, J.	CHED	54	Garner, K.	ENVR	1038
Gao, J.	ENVR	326	García, J.J.	INOR	866	Garner, K.F.	ENVR	821
Gao, L.	CATL	398	García, M.	BIOT	135	Garner, L.E.	INOR	1343
Gao, L.	CHED	1888	García, N.	COMP	190	Garner, L.E.	ORGN	866
Gao, M.	BIOT	154	García, R.	INOR	565	Garner, M.	INOR	1139
Gao, M.	BIOT	426	García, R.A.	ENVR	446	Garner, R.N.	INOR	242
Gao, M.	CHED	1663	García, Z.	INOR	1515	Garnero, M.	INOR	1562
Gao, M.	ENFL	32	García-Borras, M.	COMP	553	Garnett, E.	INOR	1048
Gao, M.	MEDI	163	García-Borras, M.	COMP	565	Garnett, E.	INOR	1153
Gao, M.	MEDI	164	García-Borras, M.	INOR	1326	Garnett, E.	INOR	1572
Gao, N.	CHED	479	García-Diaz, M.	COMP	381	Garnett, E.	INOR	1576
Gao, P.	POLY	603	García-Espana, E.V.	INOR	276	Garnett, E.	INOR	1577
Gao, P.	CATL	364	García-Gallego, S.	POLY	416	Garnett, E.	INOR	1582
Gao, P.	ENFL	137	García-Garibay, M.A.	ORGN	712	Garnier, G.	CELL	457
Gao, P.	ORGN	157	García-Garibay, M.A.	ORGN	810	Garno, J.C.	PROF	32
Gao, R.	MEDI	35	García-aguirre, D.	AGFD	178	Garofalo, A.	MEDI	397
Gao, S.	ANYL	384	García-Ojeda, M.	COLL	384	Garofalo, P.S.	ANYL	396
Gao, W.	ANYL	465	García-Pichel, F.	GEOC	95	Garoff, S.	COLL	424
Gao, W.	ANYL	485	García-Rojas, D.	COLL	861	Garon, A.	COMP	140
Gao, W.	POLY	29	García-Ruiz, J.M.	BIOT	224	Garr, E.	BIOT	44
Gao, W.	POLY	82	García-Valdez, O.	CELL	420	Garr, E.	BIOT	316
Gao, W.	POLY	83	García-Valdez, O.	CELL	461	Garr, E.	BIOT	365
Gao, W.	POLY	86	García-Vallve, S.	MEDI	430	Garr, E.	BIOT	387
Gao, W.	POLY	429	Gard, J.	BIOT	482	Garrabrant, K.A.	ORGN	470
Gao, X.	ORGN	653	Gard, J.	CATL	144	Garretson, S.	COLL	252
Gao, X.	MEDI	112	Gard, J.	COLL	146	Garrett, B.	INOR	547
Gao, Y.	MEDI	112	Gard, J.	INOR	1319	Garrett, B.	INOR	1434
Gao, Y.	COMP	256	Garde, S.	BIOT	55	Garrett, B.O.	ORGN	31
Gao, Y.	ENFL	5	Garde, S.	BIOT	89	Garrett, M.	PHYS	502
Gao, Y.	CATL	152	Garde, S.	BIOT	260	Garrett, W.	CHED	862
Gao, Y.	CATL	429	Gardea-Torresdey, J.L.	CHED	982	Garrett, W.	CHED	1856
Gao, Y.	COLL	228	Gardea-Torresdey, J.L.	ENVR	5	Garritano, J.R.	CINF	158
Gao, Y.	ENFL	251	Gardea-Torresdey, J.L.	ENVR	666	Garrity, A.L.	ORGN	100
Gao, Y.	ENVR	490	Gardea-Torresdey, J.L.	ENVR	966	Garrity, A.L.	ORGN	197
Gao, Y.	COLL	463	Gardea-Torresdey, J.L.	ENVR	968	Garrou, P.	PMSE	610
Gao, Y.	INOR	1418	Gardel, M.	COLL	411	Garshott, D.	MEDI	241
Gao, Y.	NUCL	128	Gardella, J.A.	ENVR	550	Garst, A.	BIOT	63
Gao, Y.	PHYS	454	Gardinali, P.R.	ENVR	754	Gartner, Z.	BIOT	194
Gao, Z.	BIOL	333	Gardiner, A.T.	PHYS	42	Garvey, E.P.	MEDI	343
Gao, Z.	MEDI	448	Gardiner, A.T.	PHYS	258	Garvey, G.	ANYL	306
Gao, Z.	AGFD	52	Gardiner, J.	GEOC	44	Garvey, G.	BIOT	300
Gao, Z.	AGFD	37	Gardiner, K.	CHED	393	Garvin, C.	BIOT	644
Gaona, X.	NUCL	108	Gardino, A.	MEDI	365	Garwood, M.	FLUO	43
Gaona, X.	NUCL	109	Gardner, D.	MEDI	315	Gary, J.B.	INOR	103
Gaona, X.	NUCL	111	Gardner, D.W.	CATL	404	Gary, J.B.	MPPG	11
Gappa-Fahlenkamp, H.	BIOT	169	Gardner, J.	BIOT	516	Gary, J.B.	INOR	630
Garabato, B.	INOR	195	Gardner, T.A.	ANYL	271	Garza-Guajardo, I.	AGFD	136
Garagozzo, A.	MEDI	477	Gardner, T.H.	CATL	439	Gasbarre, M.E.	CHED	789
Garajova, S.	CELL	126	Gardossi, L.	POLY	61	Gasc, S.	PHYS	192
garanger, E.	PMSE	155	Garfunkel, E.L.	INOR	442	Gascon, J.	ENFL	9
Garashchuk, S.	PHYS	56	Garfunkel, E.L.	INOR	453	Gascon, J.	ENFL	136
Garavelli, M.	COMP	460	Garfunkel, E.L.	INOR	454	Gascon, J.	ENFL	201
Garbarini, L.	ANYL	483	Garfunkel, E.L.	INOR	455	Gascon, J.	CHED	903
Garber, L.A.	CHED	1751	Garfunkel, E.L.	INOR	651	Gascon, J.	CHED	2146
Garcés, A.	MEDI	56	Garg, A.	COLL	69	Gascon, J.	COMP	533

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Gasnault, O.	YCC	25	Gaynor, A.	CHED	1473	Gentry, N.	INOR	1015
Gaspar, A.	ENVR	30	Gaynor, A.	BIOT	192	Genzer, J.	COLL	830
Gaspriunaite, V.	BIOT	212	Gaynor, J.D.	ANYL	61	Genzink, M.	CHED	1057
Gasparrini, F.	ANYL	196	Gazica, K.E.	CHED	711	Geoghegan, M.	POLY	220
Gasparyan, I.	CHED	1297	Gazzard, L.J.	MEDI	342	Georg, G.I.	MEDI	391
Gasper, P.	COMP	343	Ge, L.	INOR	465	George Parsons, K.S.	CHED	598
Gasperini, A.	ENFL	100	Ge, N.	ANYL	29	George Parsons, K.S.	CHED	1227
Gassner, G.T.	BIOL	121	Ge, R.	ENFL	138	George, A.	ENFL	183
Gast, K.S.	MEDI	402	Ge, S.	ANYL	461	George, A.	ENFL	438
Gasteiger, H.	I&EC	59	Ge, X.	POLY	419	George, C.	CARB	51
Gaston, C.	ENVR	479	Ge, Y.	ORGN	172	George, E.	ENVR	56
Gastreich, M.	COMP	66	Ge, Y.	COLL	618	George, E.	ENVR	630
Gastreich, M.	COMP	104	Ge, Y.	COLL	622	George, K.W.	BIOT	176
Gastreich, M.	MEDI	407	Ge, Z.	ENVR	391	George, M.	BIOT	77
Gately, M.	CHED	250	Gearhart, J.	CHED	1849	George, M.	BIOT	635
Gatenholm, P.	CELL	84	Geary, G.C.	FLUO	29	George, S.M.	ANYL	246
Gatenholm, P.	CELL	156	Geary, L.	INOR	1304	George, S.M.	COLL	591
Gatenholm, P.	CELL	158	Gebauer, D.	GEOC	358	George, S.P.	CHED	1003
Gatenholm, P.	CELL	160	Gebeyehu, Z.	CHED	2084	George, S.P.	ENVR	814
Gatenholm, P.	CELL	163	Gebhart, K.A.	GEOC	345	George, T.	CHED	1620
Gatenholm, P.	CELL	206	Geckeis, H.	NUCL	108	Georgiades, G.	COLL	51
Gatenholm, P.	CELL	298	Gedalinga, P.	ENVR	463	Georgiades, R.M.	ANYL	413
Gatenholm, P.	CELL	532	Gederaas, O.A.	INOR	938	Georgiou, G.	BIOT	57
Gates, B.C.	CATL	81	Gee, A.	CHED	517	Georgopoulou, A.	CARB	19
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Gates, B.C.	COLL	636	Gefell, D.J.	ENVR	125	Geraci, T.S.	POLY	191
Gates, B.C.	INOR	677	Gego, C.	ORGN	366	Geragotelis, A.D.	COMP	353
Gates, I.	ENVR	276	Gehman, C.A.	CHED	99	Geraldo, V.	BIOT	269
Gates, J.M.	NUCL	124	Gehman, C.A.	ORGN	198	Gerard, J.	CHED	887
Gates, K.S.	BIOL	60	Gehrke, L.	COLL	663	Gerardin, F.	CATL	554
Gathiaka, S.M.	CINF	140	Geibel, T.	ORGN	685	Gérardy, R.	ORGN	881
Gathiaka, S.M.	COMP	411	Geier, G.R.	ORGN	400	Gerardy-Schahn, R.	BIOL	198
Gatmaitan, A.	CHED	962	Geier, S.J.	ORGN	430	Gerasimchuk, N.	INOR	1544
Gattinoni, C.	COLL	107	Geiger, F.	CHED	111	Gerasimova, Y.	CHED	611
Gattuso, G.	AGFD	179	Geiger, M.	INOR	1016	Gerasopoulos, K.	POLY	513
Gaubert, G.	ANYL	17	Geiger, W.	ENFL	3	Gerbec, J.	POLY	508
Gaucher, E.	BIOL	344	Geis-Asteggiante, L.	ANYL	370	Gerbec, J.A.	INOR	1529
Gaucher, E.	BIOT	328	Geiss, M.	BIOT	570	Gerber, E.	ENFL	418
Gaudette, A.	INOR	77	Geissinger, P.	CHED	177	Gerber, I.	PHYS	353
Gaul, M.D.	MEDI	251	Geissinger, P.	CHED	2079	Gerber, R.B.	PHYS	271
Gaulke, E.	ENVR	761	Geissler, M.	ANYL	435	Gerbig, Y.	PMSE	275
Gaunt, A.	NUCL	21	Geissler, P.	PHYS	515	Gercke, J.C.	BIOT	386
Gaunt, A.	NUCL	79	Geissler, P.L.	COLL	269	Gerdon, A.E.	ANYL	154
Gaunt, M.	ORGN	668	Geist, A.	I&EC	90	Gerdon, A.E.	ANYL	200
Gaunt, M.	ORGN	670	Geitel, K.	CELL	478	Gerdon, A.E.	COLL	654
Gaur, K.	BIOL	245	Geitmann, M.	MEDI	291	Gerecht, S.	BIOT	625
Gaur, K.	ENFL	173	Geitner, N.	ENVR	6	Gerhard, J.	ENVR	748
Gaur, K.	INOR	748	Geitner, N.	ENVR	42	Gerhinger, R.	ANYL	70
Gaurav, S.	CINF	128	Geitner, N.	ENVR	159	Geri, J.B.	INOR	377
Gautam, A.	BIOL	126	Gelb, J.	ANYL	400	Geri, J.B.	ORGN	204
Gautam, C.	BIOT	388	Gellman, A.J.	CATL	135	Geri, J.B.	ORGN	379
Gautam, M.K.	MEDI	508	Gellman, A.J.	CATL	142	Gericke, M.	CELL	217
Gautam, R.	INOR	365	Gellman, A.J.	COLL	475	Gericke, M.	CELL	472
Gautam, R.	INOR	1458	Gellman, A.J.	INOR	1518	Gericke, M.	CELL	478
Gauthier, C.V.	MPPG	15	Gellman, S.H.	BIOL	257	Gericke, M.	CELL	495
Gautier, T.	CHED	1648	Gelman, M.	MEDI	478	Gerlach, D.L.	INOR	614
Gauvin, R.	CATL	55	Gelman, M.	MEDI	479	German, M.	ENVR	138
Gauvin, R.	CATL	57	Gembicky, M.	INOR	1382	German, M.	ENVR	162
Gauvin, R.	INOR	1243	Gemmel, P.	ORGN	258	German, S.	ANYL	376
Gavai, A.V.	MEDI	349	General, I.	COMP	255	Germek, I.F.	CHED	1519
Gaveau, M.	PHYS	494	General, I.	COMP	552	Germek, I.F.	CHED	1978
Gavin, A.L.	COMP	521	Genest, A.	CATL	522	Gernat, D.	AGFD	63
Gavin, A.L.	INOR	1019	Genest, A.	INOR	811	Gerner-Smidt, C.	CHED	44
Gavin, A.L.	INOR	1533	Genest, A.	POLY	484	Gerringer, F.	ENVR	100
Gaviria, M.	CHED	1154	Genest, B.T.	PHYS	571	Gerringer, F.	POLY	505
Gaviria, M.	IAC	8	Geneste, H.	COMP	248	Gerstner, N.J.	CHED	1456
Gavrilenko, A.	ENFL	111	Geng, G.	GEOC	321	Geruntho, J.J.	MEDI	275
Gavvalapalli, N.	COLL	68	Geng, J.	PMSE	32	Gervasi, C.F.	INOR	1059
Gavvalapalli, N.	POLY	236	Geng, J.	PMSE	227	Gervasio, F.	COMP	172
Gawalt, E.S.	CHED	525	Geng, L.	CELL	196	Gervasio, F.	COMP	472
Gawalt, E.S.	CHED	1955	Geng, Z.	CATL	353	Gervasio, F.	PMSE	490
Gawalt, E.S.	COLL	195	Genis, S.	ORGN	766	Gerwick, W.H.	MEDI	192
Gawel, R.J.	CHED	1306	Genna, V.	COMP	566	Gerwick, W.H.	MEDI	463
Gawlitzek, M.	BIOT	564	Gennari, C.	ORGN	356	Gesinski, M.R.	ORGN	268
Gawlitzek, M.	BIOT	629	Gennari, M.	INOR	628	Gessel, M.	CHED	362
Gawrisch, K.	COLL	530	Gennaro, A.	PMSE	71	Gessel, M.	CHED	624
Gay, B.L.	AGFD	41	Gent, D.	ENVR	464	Gessel, M.	CHED	680
Gay, B.L.	CHED	1881	Gentes, M.	BIOT	486	Gest, A.	CHED	1354

Gestranius, M.	CELL	205	Ghosh, P.	INOR	1321	Gibson, M.I.	POLY	547
Gestranius, M.	CELL	417	Ghosh, P.	INOR	1324	Gibson, M.I.	POLY	628
Gethin, D.	PMSE	584	Ghosh, P.	INOR	355	Gibson, N.	INOR	694
Getman, R.	CATL	338	Ghosh, P.	COMP	556	Gibson, N.	PHYS	459
Getman, R.	CATL	532	Ghosh, P.	INOR	1166	Gibson, Y.	CHED	841
Getsoian, A.B.	CATL	197	Ghosh, P.	PHYS	483	Gicquel, E.	CELL	238
Gette, G.D.	CHED	1465	Ghosh, R.	BIOT	120	Gicquel, E.	CELL	341
Gettel, D.	COLL	780	Ghosh, R.	BIOT	568	Giddings, J.	ENVR	555
Gettel, D.	COLL	784	Ghosh, S.	ORGN	562	Giddings, J.	ENVR	896
Gettinger, J.A.	PMSE	103	Ghosh, S.	PHYS	260	Giddings, J.	ENVR	976
Gettridge, C.	CHED	1233	Ghoshal, S.	ANYL	282	Giddings, L.	CHED	1769
Gettridge, C.	MEDI	202	Ghoshal, S.	ENVR	220	Giddings, L.D.	AGFD	51
Getzinger, G.J.	ENVR	133	Ghoshal, S.	ENVR	620	Giddings, L.D.	AGFD	57
Getzinger, G.J.	GEOC	343	Ghoshal, S.	ENVR	894	Giddings, L.D.	ANYL	79
Getzoff, E.	ANYL	219	Ghousifam, N.	BIOT	169	Giddings, L.D.	ANYL	86
Geva, E.	PHYS	53	Ghulam, A.	ENVR	163	Giddings, L.D.	ANYL	87
Geva, E.	PHYS	122	Ghuman, J.	CHED	993	Giddings, L.D.	ANYL	178
Geva, E.	PHYS	388	Giagnorio, M.	POLY	74	Giddings, L.D.	CHED	172
Geva, E.	PHYS	490	Giammar, D.	ENVR	367	Giddings, L.D.	CHED	774
Geva, E.	PHYS	499	Giammar, D.	GEOC	82	Giddings, L.D.	CHED	809
Gewirth, A.A.	ANYL	311	Giammar, D.	GEOC	93	Giddings, L.D.	CHED	981
Gezahagne, H.F.	CHED	1228	Giammar, D.	GEOC	118	Giddings, L.D.	CHED	992
Ghadban, C.E.	BIOT	190	Giammar, D.	GEOC	129	Gidofalvi, G.	COMP	212
Ghadiri, M.	ORGN	691	Gianatassi, R.	ORGN	212	Giebel, S.	CHED	1491
Ghafar, A.	CELL	304	Gianatassio, R.	ORGN	451	Giebink, A.K.	ORGN	759
Ghanadpour, M.	CELL	283	Giang, A.	ENVR	478	Gielen, F.	MEDI	296
Ghanem, B.	PMSE	367	Gianino, J.	ORGN	95	Gierada, M.	CATL	10
Gharibyan, N.	NUCL	16	Giannakis, S.	ENVR	272	Gierke, W.	ENVR	463
Gharibyan, N.	NUCL	17	Giannakis, S.	ENVR	685	Gierlinger, N.	CELL	463
Ghauch, A.	ENVR	588	Giannelis, E.P.	ENVR	378	Gies, A.	PMSE	173
Ghauch, A.	ENVR	677	Gianneschi, N.C.	BIOT	511	Gifford, L.S.	CHED	1178
Gheewala, C.	PROF	11	Gianneschi, N.C.	COLL	629	Gifford, M.	ENVR	261
Gherman, B.F.	CHED	860	Gianneschi, N.C.	COLL	769	Giinther, R.	CHED	1624
Gherman, B.F.	CHED	1350	Gianneschi, N.C.	COLL	865	Gil da Barbara, L.	ENVR	703
Gherman, B.F.	CHED	1351	Gianneschi, N.C.	INOR	1445	Gil da Barbara, L.	ENVR	676
Gherman, B.F.	CHED	1352	Gianneschi, N.C.	ORGN	873	Gil, M.	PMSE	226
Gherman, B.F.	CHED	1413	Gianneschi, N.C.	ORGN	875	Gilardone, M.	MEDI	16
Gherman, B.F.	CHED	1808	Gianneschi, N.C.	PMSE	201	Gilbert, A.M.	MEDI	316
Gherman, B.F.	COMP	244	Gianneschi, N.C.	PMSE	260	Gilbert, B.	ENVR	494
Gherman, B.F.	COMP	327	Gianneschi, N.C.	PMSE	290	Gilbert, B.	ENVR	495
Gherman, B.F.	ORGN	709	Gianneschi, N.C.	PMSE	341	Gilbert, B.	ENVR	628
Ghezzi, C.	COMP	440	Gianneschi, N.C.	PMSE	477	Gilbert, B.	GEOC	2
Ghiano, B.	ORGN	235	Gianneschi, N.C.	PMSE	484	Gilbert, B.	GEOC	6
Ghiassi, K.	INOR	1333	Gianneschi, N.C.	PMSE	498	Gilbert, B.	GEOC	114
Ghiassi, K.	POLY	22	Gianneschi, N.C.	PMSE	515	Gilbert, B.D.	CHED	1267
Ghiassi, K.	POLY	543	Gianneschi, N.C.	PMSE	603	Gilbert, B.D.	CHED	1273
Ghiassi, K.B.	INOR	374	Gianneschi, N.C.	POLY	546	Gilbert, B.D.	CHED	1618
Ghiassi, K.B.	INOR	1256	Giannetti, C.	CHED	1557	Gilbert, B.D.	CHED	1644
Ghiassi, K.B.	INOR	1331	Gianola, D.	INOR	1080	Gilbert, J.	AGFD	216
Ghiladi, R.	INOR	623	Gianti, E.	COMP	355	Gilbert, K.E.	CHED	1142
Ghiladi, R.A.	INOR	63	Gianti, E.	COMP	578	Gilbert, L.	BIOL	21
Ghim, D.	ENVR	583	Giardino, G.	CHED	1558	Gilbert, P.	BIOT	521
Ghimire, A.	BIOL	317	Giarios, D.G.	CHED	915	Gilbertson, J.D.	INOR	328
Ghimire, A.	BIOL	318	Giarios, D.G.	CHED	1061	Gilbertson, J.D.	INOR	625
Ghimire, P.	CATL	320	Giarrusso, J.V.	MEDI	452	Gilbertson, J.D.	INOR	946
Ghiotto, F.	PMSE	123	Giasson, S.	COLL	285	Gilbertson, J.D.	INOR	951
Ghiringhelli, L.M.	COMP	523	Giasson, B.	COLL	583	Gilbertson, L.M.	ENVR	862
Ghiviriga, I.	POLY	142	Gibb, B.C.	ORGN	593	Gilbertson, R.D.	ORGN	352
Ghobadi, S.	CELL	299	Gibbons, B.	CATL	25	Gileadi, C.	COMP	549
Gholami, H.	ORGN	581	Gibbons, B.	CATL	333	Giles, D.	BIOL	116
Gholizadeh, A.	GEOC	319	Gibbons, P.A.	CINF	47	Giles, E.M.	CHED	1718
Ghoneim, O.M.	MEDI	150	Gibbons, P.A.	COMP	22	Giles, G.A.	CHED	607
Ghoneim, O.M.	MEDI	416	Gibbons, R.	CHED	176	Giles, S.L.	COLL	835
Ghoneim, O.M.	MEDI	418	Gibbons, R.	CHED	2012	Giles, S.L.	PMSE	649
Ghorbani, M.	CELL	250	Gibson, C.	INOR	852	Giles, S.L.	POLY	43
Ghose, D.	MEDI	261	Gibson, C.	INOR	853	Gilkes, A.	MEDI	395
Ghose, S.	BIOT	3	Gibson, C.	ORGN	615	Gill, C.	AGFD	200
Ghose, S.	BIOT	574	Gibson, G.N.	PHYS	414	Gill, I.	CHED	1774
Ghosh, A.	INOR	938	Gibson, H.W.	POLY	18	Gill, J.	AGFD	240
Ghosh, A.	INOR	1240	Gibson, J.K.	NUCL	21	Gill, P.	MEDI	349
Ghosh, A.	ORGN	483	Gibson, J.K.	NUCL	42	Gill, R.T.	BIOT	63
Ghosh, A.	ORGN	898	Gibson, J.K.	NUCL	74	Gill, R.T.	BIOT	69
Ghosh, A.K.	BIOL	324	Gibson, J.K.	NUCL	85	Gill, S.	ENFL	34
Ghosh, A.K.	MEDI	379	Gibson, J.K.	NUCL	143	Gillan, E.G.	CATL	445
Ghosh, D.	AGFD	223	Gibson, J.K.	NUCL	144	Gillan, E.G.	INOR	1037
Ghosh, G.	COMP	366	Gibson, K.	PHYS	150	Gillan, E.G.	INOR	1425
Ghosh, G.	MEDI	499	Gibson, M.	PHYS	406	Gillan, M.	COMP	234
Ghosh, K.	INOR	635	Gibson, M.I.	CARB	28	Gillard, K.	CHED	1219
Ghosh, K.	POLY	589	Gibson, M.I.	COLL	575	Gilleland, G.	ENFL	40
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Gillespie, R.	BIOT	183	Girones, J.	CELL	58	Glezakou, V.	ENFL	34
Gillespie, S.	CHED	367	Gisewhite, D.	INOR	249	Glezakou, V.	ENFL	38
Gillespie, S.D.	CHED	384	Gisewhite, D.R.	INOR	952	Glezakou, V.	ENFL	76
Gillet, F.	BIOT	84	Gislason, N.	AGFD	132	Glezakou, V.	ENFL	77
Gillet, V.J.	CINF	44	Gisselbrecht, J.	PHYS	507	Glezakou, V.	ENFL	78
Gillet, V.J.	CINF	80	Gitelman, L.	CHED	1964	Glick, M.	AGFD	260
Gillett, D.	ENVR	571	Gitipour, A.	ENVR	312	Glick, M.	CINF	85
Gilley, R.	ORGN	502	Gittins, J.	CHED	196	Gliemann, B.	PHYS	377
Gilliard, R.J.	INOR	596	Gitz, P.	CHED	665	Glinkerman, C.M.	ORGN	726
Gilliard, R.J.	INOR	1311	Gitzinger, M.	MEDI	369	Glitscher, E.A.	COLL	214
Gilliland, D.	COLL	828	Giulianotti, J.	BIOT	132	Gloag, L.	ENFL	460
Gillis, E.	ORGN	625	Giunta, C.J.	CINF	37	Glodowski, L.	CHED	1845
Gillis, K.	ORGN	293	Givens, R.S.	CHED	1669	Glorio, P.	AGFD	90
Gillis, S.K.	CHED	1532	Givskov, M.	MEDI	425	Glorio-Paulet, P.	AGFD	114
Gillispie, E.	GEOC	94	Gizzie, E.A.	ANYL	180	Glorius, F.	CATL	478
Gillispie, E.	GEOC	171	Gjoka, X.	BIOT	499	Glotzer, S.C.	COLL	447
Gillooly, K.	MEDI	21	Gladden, J.M.	BIOT	138	Glotzer, S.C.	PMSE	177
Gillooly, K.	MEDI	25	Gladden, J.M.	BIOT	299	Glover, A.L.	PMSE	103
Gillooly, K.	MEDI	315	Gladden, J.M.	ENFL	183	Glover, C.	GEOC	40
Gillott, B.N.	CHED	1020	Gladden, J.M.	ENFL	438	Glover, C.	HIST	32
Gillow, J.	GEOC	81	Gladding, M.	CHED	1267	Glover, D.J.	BIOT	599
Gilman, J.	PMSE	320	Gladfelder, J.J.	CHED	1418	Glover, J.D.	CHED	112
Gilman-Sachs, A.	MEDI	155	Gladfelder, J.J.	MEDI	439	Glover, J.D.	CHED	924
Gilmore, G.	COLL	535	Gladfelter, W.L.	COLL	588	Glover, W.J.	PHYS	71
Gilmore, J.	CINF	110	Gladman, S.	CELL	83	Glover, W.J.	PHYS	428
Gilmore, J.L.	MEDI	339	Gladysz, J.A.	ORGN	864	Glukhov, E.	MEDI	463
Gilmore, K.M.	INOR	391	Glaesemann, K.R.	ENVR	648	Glusac, K.	CATL	217
Gilmore, S.	BIOT	139	Glagovich, N.M.	CHED	1340	Gmernicki, K.R.	POLY	78
Gilmore, S.	BIOT	177	Glantschnig, H.	MEDI	309	Gnanasekaran, K.	ORGN	758
Gilmore, S.F.	COLL	683	Glanzer, A.	CHED	1592	Go, E.	ORGN	482
Gilmore, T.	CHED	584	Glaser, A.	ENVR	880	Go, R.C.	ENVR	231
Gilson, M.K.	CINF	140	Glasgow, J.	BIOT	603	Go, Y.	PMSE	288
Gilson, M.K.	COMP	21	Glass, A.	MEDI	63	Gobburi, A.	ANYL	115
Gilson, M.K.	COMP	25	Glass, A.	ORGN	554	Gobeaux, F.	COLL	429
Gilson, M.K.	COMP	411	Glass, A.E.	CHED	1613	Gober, C.	INOR	624
Gilson, M.K.	COMP	528	Glass, A.E.	CHED	1627	Goberna-Ferron, S.	INOR	443
Gilson, M.K.	COMP	534	Glass, D.	PROF	24	Goby, J.	BIOT	4
Gilson, M.K.	COMP	555	Glass, G.L.	PMSE	221	Gochenour, K.	PHYS	400
Gim, S.	ENVR	890	Glass, J.T.	ENFL	316	Gochez, R.F.	INOR	1569
Gimba, E.	CATL	491	Glass, K.	CHED	259	Godara, A.	BIOT	307
Gimenez, I.	ORGN	912	Glass, R.S.	CATL	163	Godard, C.	CATL	362
Gimferrer, M.	COMP	565	Glass, R.S.	INOR	879	Godard, C.	INOR	1374
Gimondi, I.	ENFL	39	Glass, R.S.	POLY	555	Godbout, S.	ENVR	149
Ginder-Vogel, M.A.	GEOC	51	Glass, T.E.	ORGN	293	Goddard, W.A.	CATL	231
Ginder-Vogel, M.A.	GEOC	89	Glass, T.E.	ORGN	468	Goddard, W.A.	COMP	41
Ginder-Vogel, M.A.	GEOC	131	Glassey, J.	BIOT	618	Godd��ris, Y.	GEOC	202
Gindulyte, A.	CINF	32	Glassmeyer, S.T.	ENVR	120	Goddetti, K.	CATL	176
Gindulyte, A.	CINF	173	Glater, E.	CHED	366	Godin, A.	INOR	408
Gineau, E.	CELL	58	Glatz, B.	COMP	424	Godin, A.	INOR	567
Giner Tovar, R.	CELL	525	Glazener, R.	CHED	2182	Godinez, G.	MEDI	478
Ginestra, C.	POLY	219	Glazener, W.	PMSE	27	Godinez, G.	MEDI	479
Ginger, D.S.	PHYS	554	Glazer, N.	CHED	87	Godinez, J.	CHED	1860
Ginn, B.	GEOC	127	Glazer, P.C.	INOR	745	Godinho, J.	ANYL	247
Ginovska, B.	CATL	546	Glazer, P.C.	INOR	750	Godman, N.P.	PMSE	587
Ginovska, B.	INOR	193	Glazer, Y.	CHED	87	Godman, N.P.	POLY	116
Ginsberg, N.S.	ANYL	300	Glazier, S.	CHED	17	Godman, N.P.	POLY	392
Ginzburg, V.	PMSE	620	Glazier, S.	CHED	318	Godshaw, J.	AGFD	97
Giordan, J.C.	CHED	2139	Glazier, S.	CHED	1692	Godula, K.	PMSE	55
Giordan, J.C.	HIST	8	Glazier, S.	CHED	1695	Godwin, W.	MEDI	178
Giordan, J.C.	INOR	759	Gleason, J.	ORGN	99	Godwin, W.	MEDI	489
Giordan, J.C.	INOR	765	Gleason, J.	ENVR	39	Goebel, M.	BIOT	84
Giordan, J.C.	INOR	766	Gleason, J.	ENVR	200	Goel, A.	BIOT	424
Giordan, J.C.	INOR	767	Gleason, J.	ENVR	203	Goel, G.	COLL	771
Giordan, J.C.	INOR	768	Gleason, J.	ENVR	206	Goel, M.	ANYL	228
Giordan, J.C.	PROF	37	Gleason, J.	ORGN	480	Goeltl, F.	CATL	280
Giordan, J.C.	SCHB	2	Gleason, S.	CHED	1622	Goeltz, J.C.	CHED	408
Giordano, L.	ANYL	231	Gleason, Z.	ENVR	838	Goeltz, J.C.	CHED	1062
Giordano, L.	ANYL	405	Gledhill, J.	CHAL	14	Goeltz, J.C.	CHED	1623
Giorgio, K.	CHED	1782	Gledhill, J.	CHAL	15	Goeltz, J.C.	CHED	1992
Giraldes, J.	MEDI	464	Gleede, T.	POLY	493	Goeltz, J.C.	INOR	1345
Giralt, E.	MEDI	3	Glendening, E.D.	CHED	874	Goeltz, J.C.	PHYS	439
Giraudy, K.	ORGN	698	Glendening, E.D.	CHED	883	Goemann, H.	CHED	1789
Giri, R.	ORGN	170	Glenn, A.G.	CHED	2103	Goeppert, A.	CATL	291
Giri, R.	ORGN	663	Glenn, A.G.	CHED	2143	Goeppert, A.	ENFL	242
Girijavallabhan, V.	MEDI	248	Glenn, G.M.	CELL	401	Goerl, D.	POLY	443
Giroir-Fendler, A.	ENVR	149	Glenn, J.	CHED	1144	Goethe, O.	BIOL	315
Girolami, G.S.	HIST	13	Glenn, M.R.	CHED	1150	Goetsch, H.	ENVR	569
Girolami, G.S.	INOR	1201	Glenny, J.	CHED	1836	Goettker Genannt, I.	INOR	408

Goettker Genannt, I.	INOR	410	Goldsmith, R.H.	CATL	525	Gonzales, A.	ORGN	588
Goettker Genannt, I.	INOR	411	Goldsmith, R.H.	COLL	795	Gonzales, J.	ORGN	13
Goettker Genannt, I.	INOR	412	Goldsmith, R.H.	INOR	817	Gonzales, P.	CHED	281
Goettker Genannt, I.	POLY	485	Goldsmith, R.H.	PMSE	672	González Álvarez, H.	MEDI	285
Goetz, A.	ORGN	931	Goldstein, A.	ENFL	342	González Chávez, J.	GEOC	258
Goetz, A.W.	COMP	532	Goldstein, H.	GEOC	238	González García, A.	INOR	349
Goetzinger, A.C.	ORGN	419	Goldstein, J.L.	CHED	37	Gonzalez Garcia, G.	INOR	349
Goff, D.	MEDI	159	Goll, J.G.	CPRC	12	Gonzalez Lopez, A.	CHED	1776
Goff, G.	NUCL	57	Gollihar, J.	BIOT	349	Gonzalez, A.	CHED	1585
Goforth, S.K.	CHED	1402	Golling, F.	ORGN	754	Gonzalez, A.	COLL	568
Gogarty, K.	MEDI	310	Golonka, A.	ORGN	631	Gonzalez, A.M.	AGFD	107
Gogonea, V.	ANYL	135	Golosov, A.	COMP	65	Gonzalez, A.M.	CHED	1775
Gogotsi, N.	INOR	35	Goloverda, G.Z.	CHED	434	Gonzalez, B.	COMP	333
Gogotsi, Y.	COLL	850	Goltz, J.D.	CHED	1814	Gonzalez, C.	BIOL	166
Gogotsi, Y.	ENFL	326	Golunski, S.	ENFL	92	Gonzalez, C.	MEDI	70
Goh, E.	MEDI	427	Gombeda, J.Z.	CHED	1751	Gonzalez, C.	ORGN	532
Goh, K.S.	ENVR	870	Gombosi, T.	PHYS	192	Gonzalez, D.F.	ENFL	87
Goh, K.S.	ENVR	872	Gomes de Oliveira Júnior, N.	COLL	37	Gonzalez, D.F.	ENVR	798
Goh, K.S.	ENVR	874	Gomes Vital Fujii, D.	MEDI	206	Gonzalez, D.F.	ENFL	197
Goh, K.S.	ENVR	973	Gomes, G.	COMP	380	Gonzalez, D.F.	ENVR	758
Goh, K.S.	ENVR	975	Gomes, J.	BIOT	559	Gonzalez, F.	BIOT	196
Goh, K.S.	ENVR	979	Gomes, R.A.	MEDI	424	Gonzalez, G.	BIOT	86
Goh, K.S.	ENVR	869	Gomez Hoyos, C.	CELL	80	González, I.	MEDI	44
Goh, K.S.	ENVR	873	Gómez Hoyos, C.	CELL	159	Gonzalez, J.	BIOL	197
Goh, T.	CATL	170	Gomez, B.I.	CHED	1381	González, J.	MEDI	469
Goh, T.	CATL	606	Gomez, B.I.	ORGN	217	Gonzalez, J.	BIOL	273
Gohdes, J.W.	CHED	1109	Gomez, C.	ANYL	475	Gonzalez, J.	CHED	520
Gohdes, J.W.	CHED	1118	Gomez, C.F.	ORGN	412	Gonzalez, J.	CHED	627
Gohdes, J.W.	CHED	1121	Gomez, E.	PMSE	554	Gonzalez, J.	CHED	592
Gohdes, J.W.	INOR	378	Gomez, E.	POLY	221	Gonzalez, J.	ENFL	42
Goin, P.	HIST	17	Gomez, F.A.	ANYL	213	González, J.	ENFL	454
Goings, J.J.	COMP	129	Gomez, F.A.	CHED	2097	Gonzalez, J.	COLL	679
Goings, J.J.	PHYS	360	Gomez, F.A.	COLL	568	Gonzalez, J.J.	ANYL	397
Goins, C.M.	CHED	708	Gomez, I.	POLY	433	González, K.	POLY	427
Goins, C.M.	MEDI	400	Gómez, L.	ENVR	593	González, L.	CATL	285
Goker, S.	POLY	349	Gomez, M.	ORGN	251	Gonzalez, M.	ENVR	758
Goker, S.	POLY	360	Gómez, R.	POLY	307	González, M.	ANYL	213
Gokhale, V.	COMP	544	Gómez-Hernández, N.	CATL	464	Gonzalez, M.	CHED	1619
Goklen, K.E.	BIOT	48	Gómez-Maldonado, D.	CELL	426	Gonzalez, M.I.	ENFL	82
Goklen, K.E.	BIOT	641	Gomez-Marquez, J.	COLL	663	Gonzalez, M.I.	INOR	1038
Goklen, K.E.	BIOT	643	Gómez-Palacio, M.	MEDI	288	Gonzalez, M.I.	INOR	1223
Goklen, K.E.	BIOT	719	Gomez-Rodriguez, L.	BIOL	136	Gonzalez, M.I.	INOR	1224
Goklen, K.E.	BIOT	731	Gomez-Suarez, E.C.	MEDI	284	Gonzalez, M.I.	INOR	1505
Gokturk, H.	COMP	527	Gomez-Torres, J.	AGFD	107	Gonzalez, M.I.	PHYS	245
Gokturk, H.	ENVR	885	Gonzalez, K.E.	CHED	252	Gonzalez-Abra delo, D.	INOR	939
Gokturk, H.	GEOC	346	Gonçalves, A.	ENVR	487	González-Gaitano, G.	PMSE	289
Gokturk, H.	INOR	905	Gonçalves, R.	CATL	70	González-Gil, G.	CHED	1355
Gold, A.	ENVR	53	Goncharov, T.	MEDI	247	González-González, M.	BIOT	161
Gold, B.	MEDI	386	Goncharov, V.G.	CELL	114	Gonzalez-Ramos, K.M.	ENVR	729
Goldbach, V.	BIOT	302	Goncher, G.M.	INOR	1000	González-Valdez, J.	BIOT	161
Goldbach, V.	INOR	865	Gonella, M.P.	CHED	469	González-Valdez, J.	BIOT	531
Goldberg, D.P.	INOR	1093	Gong, A.	POLY	2	Good, A.R.	ENFL	177
Goldberg, J.M.	INOR	124	Gong, A.	POLY	86	Good, C.	ENVR	804
Goldberg, K.I.	INOR	124	Gong, B.	COLL	595	Good, M.R.	BIOT	412
Goldberg, K.I.	INOR	138	Gong, H.	ANYL	44	Gooden, M.	NUCL	3
Goldberg, K.I.	INOR	728	Gong, H.	MEDI	21	Goodenough, J.B.	I&EC	60
Goldberg, K.I.	INOR	881	Gong, J.	ENFL	452	Gooding, J.	ENFL	460
Goldberg, K.I.	INOR	1220	Gong, J.	CATL	488	Goodman, E.D.	CATL	35
Goldberg, S.R.	GEOC	149	Gong, J.	CATL	604	Goodman, E.D.	ENFL	110
Goldblum, B.L.	NUCL	18	Gong, J.	I&EC	40	Goodnough, J.A.	CHED	800
Golder, M.	POLY	64	Gong, J.	I&EC	45	Goodrich, E.M.	BIOT	82
Goldey, M.B.	COMP	434	Gong, J.	PHYS	358	Goodrich, E.M.	BIOT	162
Goldey, M.B.	COMP	470	Gong, J.P.	POLY	158	Goodrich, E.M.	BIOT	681
Goldfarb, J.L.	ENVR	155	Gong, K.	PHYS	159	GoodSmith, M.	GEOC	360
Goldfarb, L.	ENFL	31	Gong, L.	CATL	122	Goodson, H.	CHED	923
Goldfarb, L.	GEOC	284	Gong, M.	CATL	541	Goodwill, J.	ENVR	90
Goldfine, E.	INOR	536	Gong, Q.	INOR	1407	Goodwin, A.P.	BIOL	43
Goldman, M.	MEDI	321	Gong, X.	COLL	727	Goodwin, A.P.	CATL	266
Goldman, N.	COMP	193	Gong, Y.	CATL	343	Goodwin, D.G.	ENVR	309
Goldman, N.	PHYS	136	Gong, Y.	CATL	352	Goodwin, J.	PMSE	153
Goldman, N.	PHYS	194	Gong, Y.	CATL	353	Goodwin, T.	BIOL	276
Goldman, N.	PHYS	216	Gong, Y.	ENVR	374	Goodwin, T.E.	CHED	569
Goldmann, D.	CINF	163	Gong, Y.	INOR	973	Goodwin, T.E.	CHED	1423
Goldrick, S.	BIOT	637	Gong, Y.	NUCL	153	Goodwin, T.E.	CHED	1457
Goldrick, S.	BIOT	645	Gong, Z.	COLL	772	Goodwin, T.E.	CHED	1458
Goldsberry, S.	CHED	797	Gonsior, M.	ENVR	109	Goodwin, T.E.	CHED	1484
Goldschmid, S.	INOR	542	Gonthier, J.F.	PHYS	352	Goodwin, T.E.	CHED	1487
Goldsmith, M.R.	ENVR	1010	Gonthier, J.F.	COMP	574	Goodwin, T.E.	CHED	1490
Goldsmith, R.H.	BIOT	171	Gonthier, J.F.	PHYS	39	Goodwin, T.E.	CHED	1495
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Goodwine, C.	BIOT	510	Gosselin, F.	ORGN	737	Graff, R.	POLY	388
Goonsekere, N.	CHED	533	Goswami, S.	PHYS	244	Graffeo, M.	PMSE	671
Goor, O.	POLY	527	Gothong, M.	GEOC	253	Graham, A.	CHED	1000
Goosherst, K.J.	INOR	314	Gotluru, C.	CHED	915	Graham, A.	GEOC	261
Gopal, C.	CATL	102	Goto, E.	POLY	117	Graham, A.	GEOC	265
Gopal, C.	CATL	226	Gotz, M.G.	CHED	1195	Graham, D.	CHED	1161
Gopalakrishnan, S.	BIOT	437	Gual, L.	COLL	50	Graham, D.	COLL	44
Gopalan, A.S.	ORGN	200	Goual, L.	ENFL	404	Graham, D.	ENVR	624
Gopalan, A.S.	ORGN	332	Goudar, C.	BIOT	70	Graham, H.	BIOT	512
Gopalan, G.P.	COLL	353	Goudar, C.	BIOT	346	Graham, M.	INOR	1176
Gopalan, P.	COLL	437	Gould, C.	PHYS	245	Graham, M.	INOR	1432
Gopinadhan, M.	POLY	149	Gould, C.A.	INOR	1386	Graham, M.J.	CHED	246
Gopinadhan, M.	POLY	339	Gould, G.	CHED	1150	Graham, P.M.	INOR	393
Gopu, C.	ENVR	155	Gould, I.R.	AGFD	98	Graham, S.	ORGN	244
Goralski, S.T.	CHED	1396	Gould, I.R.	AGFD	105	Graham, S.M.	PROF	34
Gorb, L.	ENVR	1007	Gould, I.R.	MEDI	189	Grames, E.M.	INOR	826
Gorbe, T.	BIOT	368	Gould, I.R.	MEDI	66	Grames, E.M.	INOR	827
Gorden, A.E.	NUCL	76	Gould, T.	MEDI	250	Gramlich, W.	CATL	432
Gordhan, H.	MEDI	292	Goulet, P.	COLL	633	Grams, R.	MEDI	96
Gordon, B.	CHED	1673	Gouliouk, V.	INOR	445	Grams, R.	MEDI	97
Gordon, B.	PHYS	337	Gouliouk, V.	INOR	458	Granados Focil, S.	CATL	108
Gordon, C.	BIOL	241	Gounder, R.	CATL	82	Granados Focil, S.	PMSE	98
Gordon, G.	BIOT	721	Gounder, R.	CATL	276	Granberg, H.	CELL	370
Gordon, G.V.	I&EC	37	Gounder, R.	CATL	575	Granberg, H.	CELL	492
Gordon, J.C.	INOR	806	Goupil, P.	ENVR	656	Granberg, K.L.	MEDI	17
Gordon, J.C.	MEDI	35	Gourdon, O.	ENFL	413	Granchak, V.	PHYS	538
Gordon, J.C.	NUCL	10	Gouré, E.	CHED	1099	Grandbois, M.	ENVR	939
Gordon, J.C.	NUCL	10	Gouré, E.	CHED	1935	Grandbois, M.	PROF	57
Gordon, M.J.	COLL	152	Gourley, B.L.	YCC	3	Grandbois, M.	PROF	58
Gordon, M.J.	CATL	294	Gourley, B.L.	YCC	8	Grandbois, M.	CELL	484
Gordon, M.J.	ENFL	125	Gournis, D.	COLL	842	Grandfils, C.	CELL	484
Gordon, M.S.	COMP	408	Gout, D.	ENFL	413	Grand-Guillaume-Perrenoud, A.	ANYL	322
Gordon, M.S.	COMP	576	Gouverneur, V.	FLUO	32	Grandits, M.	MEDI	436
Gordon, M.S.	PHYS	354	Gouw, A.	ANYL	229	Grandjean, F.	INOR	77
Gordon, M.S.	PHYS	302	Goux, H.	ANYL	229	Grandjean, F.	INOR	1222
Gordon, N.A.	INOR	743	Goverapet Srinivasan, S.	PHYS	549	Grandner, J.M.	COMP	485
Gordon, R.A.	ENVR	103	Govind, N.	CATL	48	Grandner, J.M.	ORGN	539
Gordon, R.A.	CATL	12	Govind, N.	COMP	243	Grandner, J.M.	ORGN	929
Gordon, W.O.	CATL	60	Govind, N.	COMP	537	Grandon, M.L.	CHED	1300
Gordon, W.O.	COLL	835	Govind, N.	ENFL	270	Grangeon, S.	GEOC	317
Gordon, W.O.	INOR	1367	Govind, N.	PHYS	387	Granger, A.	MEDI	459
Gorelsky, S.	CATL	248	Govindarajan, N.	CATL	120	Granger, C.O.	CHED	473
Gorfe, A.	COMP	404	Govindasamy, A.	CATL	522	Granger, R.M.	CHED	1079
Gorfe, A.	COMP	516	Govoni, M.	COMP	99	Grannas, A.M.	ENVR	654
Gorfe, A.	COMP	519	Govor, E.V.	INOR	969	Granqvist, N.	COLL	843
Gorgoglione, A.	ENVR	554	Govor, E.V.	INOR	1138	Granskog, V.	POLY	416
Gorham, J.M.	ENVR	625	Gowda, G.	AGFD	167	Grant, B.	COMP	6
Gorham, J.M.	PMSE	451	Gowers, S.	ANYL	34	Grant, D.	MEDI	321
Gorick, C.M.	INOR	1002	Goyal, D.	ORGN	508	Grant, J.	CHED	307
Görl, D.	POLY	641	Goyal, K.	MEDI	71	Grant, J.	PMSE	654
Gorman, A.J.	COLL	261	Goyco, P.	CHED	1863	Grant, L.	INOR	234
Gorman-Lewis, D.	GEOC	241	Goyke, E.	INOR	428	Grant, L.	INOR	598
Gorodetsky, A.A.	ANYL	219	Goyola, J.	CHED	1799	Grant, M.L.	ORGN	573
Gorodetsky, A.A.	BIOT	663	Gozem, S.	ORGN	640	Grant, O.C.	CARB	84
Gorodetsky, A.A.	PMSE	31	Graanberg, A.	BIOT	217	Grant, P.	NUCL	16
Gorodetsky, A.A.	PMSE	294	Grabb, K.C.	GEOC	212	Grant, R.	POLY	454
Goroff, N.S.	CHED	2158	Grabe, M.	COMP	354	Grantham, J.B.	CATL	327
Gorrie, E.A.	GEOC	270	Grabe, M.	COMP	440	Granvogl, M.	AGFD	256
Gorske, B.C.	ORGN	537	Grabias, K.A.	CHED	1719	Grapperhaus, C.A.	INOR	195
Gorski, C.	GEOC	26	Grabow, L.	CATL	185	Grapperhaus, C.A.	INOR	338
Gorski, C.	GEOC	128	Grabow, L.	CATL	588	Grasser, V.H.	CHED	938
Gorski, C.	GEOC	259	Grabow, L.	COMP	159	Grassian, V.H.	ENVR	1033
Gorte, R.J.	CATL	234	Grabowska, A.	COLL	55	Grasso, K.	ENFL	28
Gorunmez, Z.	COLL	824	Grace, S.	BIOT	361	Gratacos, M.A.	MEDI	211
Gorzás, A.	GEOC	311	Graceffa, R.	MEDI	50	Grate, R.	CHED	1589
Gorsens, R.	POLY	306	Graceffa, R.	ORGN	207	Grathoff, S.S.	CHED	220
Gospodarek, A.	BIOT	121	Gracia-Colón, R.	CHED	1879	Grathoff, S.S.	CHED	1788
Goss, G.	GEOC	302	Gracia-Nava, M.A.	INOR	88	Gratton, E.	BIOL	59
Goss, G.	GEOC	340	Graciani, J.	CATL	211	Grau, B.	BIOT	425
Goss, R.	ORGN	65	Gracias, D.H.	COLL	400	Graupe, M.	MEDI	367
Goss, R.	ORGN	229	Gradišnik, L.	CELL	419	Graus-Porta, D.	MEDI	353
Gosselin, E.	CHED	737	Gradišnik, L.	CELL	481	Grave, D.	ENFL	58
Gosselin, F.	ORGN	20	Graedler, U.	MEDI	16	Gravel, M.	ORGN	899
Gosselin, F.	ORGN	22	Graetzel, M.	CATL	430	Gravel, S.	ORGN	14
Gosselin, F.	ORGN	84	Graetzel, M.	INOR	1246	Gravelle, S.J.	CHED	491
Gosselin, F.	ORGN	225	Graf, F.	I&EC	11	Gravely, E.C.	CHED	2191
Gosselin, F.	ORGN	449	Gräf, M.	ENVR	311	Graves, A.	INOR	891
Gosselin, F.	ORGN	481	Graff, E.	ORGN	559	Graves, A.P.	COMP	34
Gosselin, F.	ORGN	488	Graff, G.	ENFL	415	Graves, B.	ORGN	244
Gosselin, F.	ORGN	503						

Graves, C.	CATL	102	Greenblatt, J.	CATL	556	Griffett, K.	MEDI	167
Graves, D.E.	BIOL	52	Greene, A.F.	POLY	572	Griffin, A.	CHED	1878
Graves, D.E.	BIOT	690	Greene, D.G.	BIOT	676	Griffin, A.T.	CHED	224
Gray, A.	CHED	1284	Greene, G.	MEDI	338	Griffin, C.G.	ENVR	266
Gray, B.	CHED	593	Greenfield, J.T.	INOR	1256	Griffin, G.	CHED	698
Gray, C.	CATL	219	Greenfield, J.T.	INOR	1363	Griffin, J.M.	INOR	1360
Gray, C.	ENVR	328	Greenhalgh, M.	ORGN	932	Griffin, K.K.	CHED	2084
Gray, D.	CHED	899	Greenlee, L.F.	ENFL	364	Griffin, K.R.	CHED	494
Gray, D.G.	CELL	258	Greenstein, K.	ENVR	48	Griffin, M.	CATL	242
Gray, D.L.	MEDI	364	Greenwell, C.	GEOC	30	Griffin, R.	INOR	238
Gray, E.	ENVR	219	Greenwood, J.	COMP	19	Griffin, R.	INOR	252
Gray, H.B.	INOR	6	Greenwood, J.	COLL	409	Griffin, R.	COLL	675
Gray, H.B.	INOR	8	Greenwood, J.	COLL	477	Griffin, R.G.	POLY	255
Gray, H.B.	INOR	71	Greer, J.R.	POLY	413	Griffin, S.	CHED	1357
Gray, H.B.	INOR	194	Greer, S.C.	WCC	7	Griffin, S.A.	PHYS	207
Gray, H.B.	INOR	384	Greeson, E.M.	CHED	941	Griffith, D.	ORGN	781
Gray, H.B.	INOR	608	Greeson, E.M.	CHED	2102	Griffith, E.	PHYS	228
Gray, H.N.	CHED	755	Greger, I.	PHYS	9	Griffith, K.	CHED	504
Gray, J.	ENVR	428	Gregg, A.	ENVR	462	Griffith, K.J.	ANYL	37
Gray, J.	INOR	227	Gregg, B.A.	INOR	1347	Griffith, K.J.	INOR	1360
Gray, J.	AGFD	193	Gregg, H.	ANYL	253	Griffith, L.	CHED	13
Gray, K.A.	COLL	803	Gregg, Z.	CHED	1460	Griffiths, R.	ORGN	220
Gray, T.	INOR	1303	Gregg, Z.J.	CHED	838	Grigoriev, I.V.	BIOT	139
Graybill, T.	CHED	1057	Gregoire, J.	CATL	260	Grigoriev, M.	CATL	80
Grayson, J.	MEDI	77	Gregoire, J.	CATL	261	Grigsby, C.	POLY	518
Grayson, M.N.	ORGN	358	Gregoire, J.	CATL	558	Grigsby, S.M.	CHED	548
Grayson, S.M.	POLY	299	Gregoratti, L.	CATL	225	Grillaud, M.	POLY	527
Grayson, S.M.	POLY	495	Gregori-Puigjané, E.	COMP	549	Grillo, M.J.	ORGN	188
Graziani, M.	CHED	1811	Gregory, C.	POLY	204	Grills, D.C.	INOR	43
Graziani, M.E.	INOR	393	Gregory, C.	SOCED	2	Grim, S.	GEOC	123
Graziano, B.J.	INOR	141	Gregory, D.	CHED	1668	Grimaud, F.	CELL	356
Graziano, B.J.	INOR	383	Gregory, K.	CINF	52	Grimes, C.L.	BIOL	194
Graziano, B.J.	POLY	364	Gregory, K.	MEDI	166	Grimes, C.L.	BIOL	291
Graziano, M.	PHYS	197	Gregson, M.	NUCL	78	Grimes, C.L.	CARB	4
Grazier, K.	CPRC	7	Grekov, D.	INOR	1243	Grimes, R.	ENFL	361
Grazioli, G.	CHED	1914	grelier, S.	POLY	633	Grimes, R.	ENFL	404
Grbic, J.J.	CPRC	14	Grelier, S.	CELL	285	Grimes, T.S.	I&EC	85
Greaney, M.	ORGN	49	Grembecka, J.E.	BIOL	190	Grimley, E.B.	ANYL	106
Greaney, M.	ORGN	82	Gremillion, A.J.	INOR	258	Grimm, B.L.	ANYL	358
Greaney, M.J.	ENFL	313	Gremillion, A.J.	INOR	1327	Grimm, H.M.	INOR	667
Greaney, P.	ENFL	414	Grenier, D.	AGFD	5	Grimm, R.	ENFL	60
Greathouse, J.A.	INOR	1248	Grenier, V.	BIOL	343	Grimm, R.	ENFL	149
Greatrex, B.	ORGN	302	Gretarsdottir, J.	INOR	1368	Grimme, S.	COMP	342
Grebe, V.	ANYL	169	Grethe, J.	CINF	140	Grimme, S.	ORGN	265
Gredenkemper, J.	INOR	1365	Grether, R.	CELL	143	Grimmett, C.	ENVR	993
Greber, T.	COLL	755	Grewal, N.	INOR	55	Grimminger, M.L.	CHED	148
Greciano, E.	POLY	307	Grey, C.P.	ANYL	37	Grinstead, J.	CHED	904
Greco, C.T.	POLY	147	Grey, C.P.	I&EC	78	Grinstead, J.	CHED	1215
Greco, J.A.	PHYS	437	Grey, C.P.	INOR	1360	Grinstead, J.	COMP	368
Greco, N.J.	CHED	656	Grey, C.P.	PRES	9	Grinter, D.	ENFL	45
Greco, N.J.	CHED	657	Grey, J.	BIOT	332	Grisewood, M.J.	BIOT	201
Greeley, J.	CATL	227	Greybush, N.J.	COLL	524	Grisham, C.	ANYL	330
Greeley, J.	COMP	122	Greybush, N.J.	INOR	35	Grodén, K.	CATL	50
Greeley, J.P.	COMP	84	Greytak, A.	PHYS	361	Grodzyuk, G.	PHYS	538
Greeley, J.P.	INOR	568	Greytak, A.B.	INOR	537	Groehn, F.	POLY	576
Greeley, K.	CHED	514	Griebenow, K.	BIOL	103	Groen, D.	CINF	8
Green, A.	ORGN	101	Griebenow, K.	BIOT	494	Groen, J.	COLL	410
Green, A.R.	CHED	898	Griebenow, K.	BIOT	532	Groenenboom, M.	INOR	1348
Green, A.T.	MEDI	139	Griebenow, K.	ENFL	173	Groenevelt, J.	CARB	67
Green, C.	CHED	1172	Griebenow, K.	ENVR	662	Groenevelt, J.	CHED	1871
Green, D.B.	ANYL	110	Grieco, C.	ANYL	264	Groening, O.	COLL	755
Green, D.B.	ANYL	133	Grieco, W.	ENVR	387	Grogan, K.	MEDI	434
Green, J.	CHED	810	Grieman, F.J.	CHED	1670	Groh, A.	POLY	357
Green, J.C.	INOR	2	Grieman, F.J.	CHED	1690	Grohens, Y.	CELL	440
Green, J.C.	NUCL	73	Griep, M.	BIOL	154	Grolman, J.M.	PMSE	641
Green, J.D.	INOR	1327	Griep, M.A.	CHED	2123	Gronbeck, H.	COMP	42
Green, K.N.	CHED	1795	Griep, M.A.	CHED	2141	Grönberg, A.	BIOT	560
Green, K.N.	INOR	581	Griep, M.A.	CPRC	13	Groninger, A.	BIOL	68
Green, M.	POLY	120	Gries, T.J.	CHED	35	Groninger, A.	MEDI	201
Green, M.	INOR	658	Gries, T.J.	CHED	327	Groninger, A.S.	MEDI	203
Green, M.E.	MEDI	361	Griesbach, J.	BIOT	13	Gronke, R.S.	BIOT	574
Green, N.	ORGN	508	Griesbach, J.	BIOT	395	Gronke, R.S.	BIOT	594
Green, P.F.	MPPG	6	Griesbach, J.	BIOT	696	Grönqvist, S.	CELL	76
Green, P.G.	ENVR	101	Griesemer, M.	BIOT	305	Groom, R.A.	INOR	54
Green, P.G.	ENVR	970	Griesgraber, G.	BIOT	562	Groot, I.	CATL	512
Greenbaum, N.L.	ORGN	13	Grieshaber, R.V.	COLL	632	Groot, L.	CINF	4
Greenberg, A.R.	ENVR	751	Griesser, T.	CELL	255	Groot, U.	PHYS	84
Greenberg, L.	ENVR	900	Griffen, E.J.	CINF	161	Grošelj, M.	ORGN	106
Greenberg, S.	ENFL	242	Griffen, E.J.	COMP	504	Groshens, T.J.	POLY	22
Greenberg, Z.	PMSE	371	Griffen, E.J.	MEDI	72	Groso, E.	ORGN	631



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Gross, E.	COLL	638	Grützmacher, H.	INOR	596	Guduru, S.	ORGN	322
Gross, E.	CHED	780	Grützmacher, H.	INOR	598	Guebitz, G.M.	CELL	294
Gross, L.	PHYS	116	Grützmacher, H.	INOR	1311	Guebitz, G.M.	CELL	526
Grossarth, S.	CHED	1058	Gryczynski, I.	CHED	472	Guebitz, G.M.	POLY	61
Grossfield, A.	PHYS	10	Grzegorzewicz, A.	MEDI	400	Guedes Coelho Marinho, L.C.	CHED	351
Grosshans, S.	BIOT	188	Gschaedler, A.	AGFD	152	Guenoun, P.M.	COLL	429
Grosslight, S.	ORGN	823	Gschaedler, A.C.	AGFD	149	Guenther, R.H.	AGFD	191
Grossman, J.	ENVR	599	Gschwend, P.M.	ENVR	993	Guenther, A.J.	POLY	22
Grossmann, M.	CHED	1217	Gu, B.	GEOC	179	Guenther, A.J.	POLY	404
Grote, J.	ORGN	98	Gu, B.	GEOC	218	Guenther, A.J.	POLY	543
Grote, R.	INOR	1577	Gu, C.	MEDI	136	Guenza, M.	PHYS	107
Grote, R.	CHED	1781	Gu, F.	CELL	269	Guerard, J.J.	ENVR	32
Grote, R.E.	CHED	1471	Gu, F.	PHYS	89	Guerard, J.J.	ENVR	264
Grotjahn, D.B.	INOR	230	Gu, G.	CATL	275	Guerard, J.J.	ENVR	290
Grotjahn, D.B.	INOR	422	Gu, G.	COMP	125	Guerard, J.J.	GEOC	242
Grotjahn, D.B.	INOR	614	Gu, H.	COLL	334	Guerard, J.J.	GEOC	260
Grotjahn, D.B.	INOR	843	Gu, J.	BIOT	163	Guerard, J.J.	MEDI	84
Grotjahn, D.B.	INOR	874	Gu, J.	CATL	562	Guéraud, F.	AGFD	219
Grotjahn, D.B.	INOR	878	Gu, J.	INOR	689	Guerin, L.	NUCL	146
Grotjahn, D.B.	INOR	880	Gu, J.	INOR	1343	Guernon, J.	MEDI	51
Grotjahn, D.B.	INOR	1207	Gu, K.L.	PMSE	240	Guernon, J.M.	MEDI	52
Grotjahn, D.B.	ORGN	246	Gu, L.	INOR	1578	Guerra, J.G.	ORGN	819
Grotli, M.	MEDI	398	Gu, M.	ANYL	138	Guerreiro, A.	POLY	627
Grötzing, S.	BIOT	438	Gu, M.	ANYL	221	Guerrero, J.	MEDI	367
Grötzing, S.	BIOT	496	Gu, M.	BIOL	148	Guerrero-Perez, M.	CATL	40
Groutas, W.	MEDI	126	Gu, M.	COLL	184	Guerrero-Perez, M.	CATL	517
Grove, A.	ANYL	42	Gu, M.	ENVR	986	Guessasma, S.	CELL	181
Grove, V.	CHED	641	Gu, Q.	BIOT	677	Guest, J.	ENVR	981
Grover, M.	ANYL	375	Gu, W.	ENFL	68	Guevara-Vela, J.M.	INOR	332
Grover, M.	PMSE	153	Gu, X.	CATL	171	Guevarra, D.	CATL	261
Grover, M.	POLY	141	Gu, X.	GEOC	166	Guevarra, D.	CATL	558
Grover, S.	CHED	370	Gu, X.	GEOC	168	Guffey, S.	ENVR	958
Groves, J.T.	INOR	527	Gu, X.	GEOC	169	Gug, J.	CELL	453
Groves, M.	PHYS	474	Gu, X.	GEOC	202	Guggenheim, S.	POLY	504
Groysman, S.	INOR	1259	Gu, X.	ORGN	872	Guglielmo, E.	MEDI	207
Groysman, S.	INOR	1294	Gu, X.	ORGN	562	Guglielmo, R.	CHED	1481
Grozdev, L.	BIOT	525	Gu, Y.	ENVR	226	Guglielmo, R.	CHED	563
Grubb, J.	POLY	153	Gu, Y.	CELL	230	Guha, K.	COLL	582
Grubbs, R.H.	COLL	417	Gu, Z.	PMSE	580	Guha, R.	CINF	21
Grubbs, R.H.	INOR	114	Gu, Z.	PMSE	632	Guha, R.	CINF	68
Grubbs, R.H.	INOR	418	Guadalupe Quinones, A.R.	PROF	26	Guiadeen, D.	MEDI	112
Grubbs, R.H.	INOR	506	Guadalupe-Quinones, A.R.	CHED	498	Guida, B.S.	GEOC	95
Grubbs, R.H.	ORGN	6	Guadalupe-Quinones, A.R.	ORGN	702	Guidetti, G.	CELL	235
Grubbs, R.H.	POLY	241	Guagliardi, A.	INOR	1505	Guido, J.	ANYL	105
Grubbs, R.H.	POLY	281	Guan, H.	INOR	726	Guiglion, P.	COMP	11
Grubbs, R.H.	POLY	397	Guan, H.	INOR	729	Guihurt, G.	ENVR	662
Grubbs, R.H.	POLY	407	Guan, H.	INOR	1292	Guilarducci, A.	CELL	143
Grubbs, R.H.	POLY	413	Guan, H.	INOR	1301	Guilbaud, J.	INOR	1290
Grubbs, R.H.	POLY	535	Guan, H.	INOR	1388	Guillarme, D.	ANYL	322
Grubbs, W.T.	CHED	1609	Guan, H.	MEDI	387	Guillaume, S.M.	INOR	796
Gruber, D.	CHED	775	Guan, W.	CHED	1542	Guillaumont, D.	NUCL	104
Gruber, D.	BIOT	637	Guan, X.	ENVR	87	Guillaumont, D.	NUCL	146
Gruebele, M.	PHYS	60	Guan, Y.	CELL	134	Guillen, A.	ANYL	129
Gruebele, M.	PHYS	78	Guan, Y.	ENVR	173	Guillen, A.	ANYL	349
Grulke, C.	ANYL	76	Guan, Z.	BIOT	539	Guillen, J.	ENVR	134
Grulke, C.	CHAS	39	Guan, Z.	ENFL	148	Guillen, K.	ORGN	163
Grulke, C.	CINF	49	Guan, Z.	PMSE	101	Guillot, S.L.	ENFL	374
Grulke, C.	CINF	172	Guan, Z.	POLY	187	Guillou, N.	INOR	709
Grulke, C.	ENVR	651	Guan, Z.	CATL	102	Guin, T.	PMSE	89
Grulke, C.	ENVR	932	Guan, Z.	CATL	226	Guin, T.	POLY	131
Grulke, C.	ENVR	936	Guard, L.M.	INOR	124	Guiney, L.	ENVR	672
Grulke, C.	ENVR	1013	Guard, L.M.	INOR	1552	Guiney, L.	ENVR	1002
Grundler, J.	INOR	425	Guardani, R.	ENVR	683	Guino-o, M.A.	CHED	1046
Grundy, J.	COLL	294	Guardani, R.	ENVR	693	Guirette, M.	BIOL	255
Grundy, W.	PHYS	191	Guariglia, S.R.	PMSE	421	Guirette, M.	CHED	1841
Grune, E.	POLY	124	Guarr, T.F.	ENFL	118	Guiton, B.	INOR	534
Grunenfelder, D.	MEDI	305	Guarracino, D.	CHED	1939	Guiton, B.S.	INOR	1412
Grunert Kowalske, M.G.	CHED	1892	Guasch, J.	ORGN	912	Guizzetti, S.	MEDI	149
Grunlan, J.C.	AGFD	229	Guay, K.A.	CHED	467	Gujarati, N.	MEDI	276
Grunlan, J.C.	CELL	265	Guayaquil, F.	CATL	435	Gukasyan, H.J.	MEDI	350
Grunlan, J.C.	COLL	143	Guberman-Pfeffer, M.	CHED	903	Gukowsky, J.C.	CHED	343
Grunlan, J.C.	COLL	190	Guchhait, S.K.	MEDI	61	Gul, S.	INOR	210
Grunlan, J.C.	PMSE	438	Guda, B.	MEDI	178	Gulacar, O.	CHED	178
Grunlan, J.C.	POLY	131	Gudbrandson, A.	POLY	155	Gulacar, O.	CHED	2045
Grunlan, J.C.	POLY	303	Gudhka, R.B.	BIOT	250	Guldberg, R.E.	PMSE	665
Grunlan, J.C.	POLY	505	Gudihal, R.	BIOT	35	Guldberg, R.E.	POLY	415
Grunlan, M.	POLY	98	Gudipati, M.S.	PHYS	285	Gulder, T.	FLUO	18
Grushin, V.	CARB	80	Gudipati, M.S.	PHYS	325	Guldi, D.	PHYS	507
Grushow, A.	CHED	1945	Gudipati, M.S.	PHYS	453	Gule, N.P.	PMSE	74

Guler, M.	ORGN	869	Guo, W.	ENVR	590	Gustafson, M.Z.	CHED	1691
Guler, M.O.	CELL	56	Guo, W.	POLY	273	Gustafson, R.	CHED	1121
Guler, U.	PHYS	268	Guo, W.	INOR	1408	Gustafsson, J.	CELL	6
Gulias Costa, M.	ORGN	496	Guo, X.	CATL	252	Gustafsson, S.	BIOT	544
Gulley, M.	CHED	1376	Guo, X.	BIOT	132	Gustin, L.	ENVR	697
Gullickson, H.	COMP	583	Guo, X.	MEDI	107	Gut, J.	MEDI	457
Gulliver, D.	GEOC	339	Guo, X.	ENVR	334	Gutberlet, T.	COLL	5
Gulotty, E.	CHED	1453	Guo, X.	ORGN	643	Gutheil, W.G.	MEDI	175
Gumbart, J.	COMP	403	Guo, X.	COLL	862	Guthrie, J.	BIOT	324
Gumpf, J.	CHED	707	Guo, Y.	CATL	107	Guthrie, M.	CHED	810
Gumus, C.	AGFD	33	Guo, Y.	CATL	326	Guthrie, M.	ANYL	148
Gumyusenge, A.	PMSE	136	Guo, Y.	CATL	344	Guthrie, M.	MEDI	19
Gumyusenge, A.	PMSE	555	Guo, Y.	CATL	456	Guthrie, R.	CHED	1050
Gumz, H.	POLY	87	Guo, Y.	CATL	547	Gutierrez Razo, S.	PHYS	300
Gunasekara, T.N.	INOR	1394	Guo, Y.	CATL	642	Gutierrez Ruiz, M.E.	ENVR	795
Gunasekara, T.N.	PMSE	368	Guo, Y.	PMSE	234	Gutierrez Ruiz, M.E.	GEOC	258
Gunathilake, C.	CATL	320	Guo, Y.	GEOC	350	Gutierrez Ruiz, M.E.	GEOC	263
Gunathilake, S.S.	POLY	221	Guo, Y.	CATL	496	Gutierrez Ruiz, M.E.	GEOC	308
Gunawardana, M.	MEDI	83	Guo, Y.	INOR	29	gutierrez, A.M.	ENVR	379
Gunawardana, M.	MEDI	428	Guo, Y.	INOR	268	Gutierrez, C.	ANYL	250
Gunawardhana, R.	ORGN	862	Guo, Y.	INOR	276	Gutierrez, C.G.	CHED	1954
Gunbas, G.E.	ORGN	588	Guo, Y.	INOR	39	Gutierrez, D.	ORGN	178
Gunbas, G.E.	PMSE	301	Guo, Y.	INOR	106	Gutierrez, D.	POLY	468
Gunbas, G.E.	PMSE	335	Guo, Y.	CATL	326	Gutierrez, D.A.	ORGN	226
Gunbas, G.E.	POLY	360	Guo, Y.	CATL	344	Gutierrez, D.A.	ORGN	237
Gund, E.	INOR	238	Guo, Y.	CATL	456	Gutiérrez, O.	CATL	167
Gundlach-Graham, A.	ANYL	396	Guo, Y.	CATL	547	Gutierrez, R.	CHED	1817
Gundlach-Graham, A.	ENVR	308	Guo, Y.	CATL	642	Gutierrez, R.X.	CELL	229
Gung, B.W.	ORGN	249	Guo, Y.	PMSE	238	Gutiérrez-Castañeda, J.	CELL	90
Gungor, A.	PMSE	414	Guo, Y.	COLL	109	Gutierrez-Urbe, J.	AGFD	182
Gunlycke, D.	CATL	12	Guo, Z.	PHYS	118	Gutierrez-Higgins, M.T.	INOR	445
Gunn, B.	CATL	193	Guo, Z.	PHYS	334	Gutknecht, J.L.	GEOC	120
Gunn, B.	ENFL	20	Guo, Z.	AGFD	43	Gutman, E.	ORGN	28
Gunnoe, T.	MPPG	11	Guo, Z.	AGFD	242	Gutmann, T.	COLL	171
Gunnoe, T.B.	INOR	103	Guo, Z.	COLL	348	Guy, M.P.	CHED	622
Gunsch, C.K.	ENVR	458	Guo, Z.	BIOT	174	Guy, M.P.	CHED	653
Günther, D.	ANYL	396	Guo, Z.	CARB	2	Guymon, A.	PMSE	485
Günther, D.	ENVR	308	Guo, Z.	CARB	35	Guymon, A.	POLY	35
Guo, B.	ANYL	309	Guo, Z.	MEDI	248	Guymon, A.	POLY	45
Guo, B.	COLL	2	Guo, Z.	PMSE	689	Guymon, A.	POLY	332
Guo, C.	ENVR	6	Guoqiang, S.	CATL	472	Guzei, I.A.	INOR	376
Guo, C.	COMP	118	Gupta, A.	COMP	435	Guzei, I.A.	INOR	898
Guo, F.	ORGN	244	Gupta, A.	BIOT	419	Guzi, T.	MEDI	351
Guo, H.	ENVR	148	Gupta, A.	BIOT	578	Guzi, T.	MEDI	365
Guo, H.	COLL	97	Gupta, A.	BIOT	681	Guzman Blas, R.	CHED	1010
Guo, H.	ENVR	971	Gupta, A.K.	PROF	58	Guzman, I.	CATL	40
Guo, H.	ENVR	1037	Gupta, B.	COLL	758	Guzman, J.J.	GEOC	24
Guo, H.	FLUO	53	Gupta, B.M.	BIOT	43	Guzman, L.	BIOL	100
Guo, J.	INOR	702	Gupta, N.	COLL	692	Guzman, S.	MEDI	225
Guo, J.	CHED	1393	Gupta, P.	COMP	177	Guzman-Morales, E.	CELL	254
Guo, J.	CELL	327	Gupta, R.	CATL	293	Gwag, E.	CATL	176
Guo, J.	CELL	329	Gupta, R.	ENFL	217	Gwarada, L.	CHED	1509
Guo, J.	ENVR	530	Gupta, R.	ENFL	219	Gwilt, K.	CHED	1124
Guo, J.	MEDI	290	Gupta, R.	CINF	86	Gwinn, E.	INOR	940
Guo, J.	INOR	1297	Gupta, R.K.	CATL	485	Gwinn, E.	PHYS	577
Guo, J.	AGFD	34	Gupta, S.	COLL	771	Gwon, G.	BIOT	329
Guo, J.	COMP	118	Gupta, S.	CATL	416	Gyanwali, G.	CHED	2091
Guo, J.	MEDI	25	Gupta, S.	CATL	458	Gyedu, A.	PMSE	84
Guo, J.	MEDI	259	Gupta, S.	PHYS	435	Gyobu, T.	PMSE	257
Guo, K.	ENVR	412	Gupta, S.	BIOT	346	Ha, H.	CATL	282
Guo, K.	GEOC	244	Gupta, S.	CHED	1812	Ha, H.	CATL	288
Guo, K.	I&EC	121	Gupta, T.	CHED	2004	Ha, H.	CATL	323
Guo, K.	I&EC	127	Gupta, T.	CHED	2086	Ha, J.	I&EC	125
Guo, K.	ENVR	116	Gupta, U.	CATL	86	Ha, K.	CHED	550
Guo, K.	ENVR	171	Gupton, F.	ORGN	761	Ha, K.	PMSE	392
Guo, K.	ENVR	172	Gupton, F.	YCC	15	Ha, K.	PMSE	465
Guo, K.	POLY	644	Gupton, J.T.	MEDI	437	Ha, M.	CATL	601
Guo, L.	POLY	436	Guram, A.	ORGN	341	Ha, M.	CATL	643
Guo, L.	ANYL	27	Gurarslan, R.	POLY	224	Ha, M.	COMP	204
Guo, L.	INOR	1051	Gurjar, P.N.	MEDI	129	Ha, M.	ENFL	240
Guo, L.	COLL	761	Gurnani, P.	POLY	625	Ha, P.T.	BIOL	77
Guo, M.	INOR	714	Gurney, R.W.	CHED	1038	Ha, S.	ENFL	227
Guo, M.	INOR	1233	Gurudayal, M.	CATL	430	Ha, S.	INOR	895
Guo, M.	INOR	1237	Gurunathan, P.	PHYS	44	Ha, S.N.	COMP	29
Guo, M.	BIOT	606	Gurung, A.	INOR	1519	Haack, R.A.	BIOL	267
Guo, R.	AGFD	43	Gurung, L.	ORGN	96	Haacke, S.	PHYS	213
Guo, R.	MEDI	366	Gurung, L.	ORGN	143	Haaf, M.	CHED	1724
Guo, S.	MEDI	413	Gurung, L.	ORGN	144	Haaf, M.	CHED	1747
Guo, S.	COLL	7	Gurung, L.	CHED	889	Haagensen, J.	ANYL	126
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Haam, S.	BIOT	472	Hager, K.	CHED	1744	Haldane, D.	CELL	260
Haam, S.	BIOT	577	Hagerman, M.E.	COLL	207	Haldar, K.	POLY	580
Haam, S.	BIOT	705	Hagerman, M.E.	ENVR	828	Halden, R.U.	ENVR	997
Haam, S.	COLL	728	Hagerman, M.E.	INOR	489	Halder, D.	COLL	352
Haas Freeman, D.	ENVR	711	Hagerman, M.E.	INOR	1056	Halder, M.	ENVR	934
Haas, C.N.	ENVR	185	Hägg, D.	CELL	160	Hale, L.V.	INOR	500
Haas, J.	BIOT	164	Hägg, D.	CELL	206	Hale, L.V.	INOR	563
Haataja, J.S.	CELL	249	Haggett, J.G.	CHED	1028	Hales, D.A.	CHED	1613
Habboush, D.A.	CHED	419	Hagman, N.	ORGN	99	Hales, D.A.	CHED	1627
Habel-Rodriguez, D.	INOR	1102	Haghani, A.	ENVR	336	Haley, H.	ORGN	291
Haber, J.	CATL	558	Hagner Mcwhirter, Å.	BIOT	363	Haley, M.M.	CHED	1405
Haber, L.H.	PHYS	575	Hagstrom, A.	ANYL	306	Haley, M.M.	INOR	579
Haberstroh, J.	COLL	269	Hagstrom, A.	BIOT	300	Halfen, D.T.	PHYS	112
Habibian, M.	BIOL	166	Hagstrom, A.	BIOT	692	Halfen, D.T.	PHYS	195
Habraken, W.J.	GEOC	327	Hahn, J.	COLL	438	Hall, A.	POLY	297
Habtemichael, A.	CHED	613	Hahn, A.	GEOC	122	Hall, A.T.	COMP	281
Habtemichael, A.G.	BIOL	227	Hahn, A.	PHYS	393	Hall, D.	MEDI	411
Habteyes, T.G.	CATL	504	Hahn, C.	HIST	3	Hall, D.R.	COMP	473
Hacaloglu, J.	POLY	344	Hahn, C.	CATL	25	Hall, E.	ANYL	309
Hacaloglu, J.	POLY	366	Hahn, C.	CATL	69	Hall, G.B.	INOR	1481
Hachat, K.	CHED	261	Hahn, C.	CATL	263	Hall, G.B.	NUCL	102
Hachmann, J.	CATL	624	Hahn, C.	CATL	268	Hall, H.	CHED	769
Hachmann, J.	CINF	3	Hahn, C.	CATL	330	Hall, H.L.	NUCL	49
Hachmann, J.	COMP	382	Hahn, C.	CATL	375	Hall, H.L.	NUCL	53
Hackbusch, S.	CARB	52	Hahn, C.	CATL	560	Hall, J.	CATL	82
Hackel, B.	BIOT	56	Hahn, C.	ENFL	185	Hall, J.	ANYL	130
Hacker, A.	ORGN	766	Hahn, C.	ENFL	196	Hall, J.D.	CHED	1797
Hacker, C.A.	COLL	845	Hahn, C.	ENVR	144	Hall, K.	PMSE	51
Hackett, I.	ORGN	162	Hahn, E.F.	INOR	1306	Hall, M.	BIOT	474
Hackl, S.	BIOT	344	Hahn, E.F.	INOR	1549	Hall, M.B.	INOR	1321
Hackleman, J.	CHED	812	Hahn, E.F.	INOR	1550	Hall, M.B.	INOR	192
Hackley, V.A.	ENVR	544	Hahn, K.M.	BIOL	228	Hall, M.B.	INOR	1100
Hackley, V.A.	ENVR	625	Hahn, N.	ENFL	283	Hall, M.B.	INOR	1324
Hadad, C.M.	INOR	1434	Hahn, T.	BIOT	100	Hall, M.D.	CINF	63
Hadad, C.M.	MEDI	204	Hahn, T.	BIOT	411	Hall, P.	PHYS	502
Hadad, C.M.	ORGN	471	Hahn, T.	BIOT	522	Hall, P.H.	CELL	521
Hadadi, N.	BIOT	178	Haider, M.	CATL	41	Hall, P.W.	ENVR	737
Hadadi, N.	BIOT	200	Haider, M.	CATL	416	Hall, R.J.	COMP	101
Hadadi, N.	BIOT	304	Haider, M.	CATL	426	Hall, R.J.	POLY	92
Hadadi, N.	BIOT	408	Haider, M.	CATL	440	Hall, S.J.	GEOC	22
Hadar, I.	PHYS	175	Haider, M.	CATL	458	Hall, T.	CHED	1194
Haddad, A.Z.	INOR	195	Haig, S.	ENVR	474	Hallam, S.	GEOC	122
Haddad, N.	CHED	1680	Haiges, R.M.	FLUO	8	Hallberg, M.	MEDI	232
Haddad, S.	ENVR	126	Haiges, R.M.	INOR	847	Hallberg, M.	CHED	1334
Haddad, S.	ENVR	994	Haigler, C.H.	CELL	188	Haller, G.L.	PHYS	176
Haddad, T.S.	POLY	543	Haigler, C.H.	CELL	191	Haller, K.J.	INOR	879
Haddad, T.S.	POLY	404	Hailes, H.	ORGN	402	Halligan, K.M.	CHED	1493
Haddadin, O.M.	BIOT	687	Haines, B.E.	COMP	242	Halligan, K.M.	CHED	1497
Haddleton, D.M.	PMSE	287	Haines, D.R.	CHED	1170	Halligan, T.	CHED	1734
Haddleton, D.M.	PMSE	304	Haines, D.R.	CHED	1469	Halling, M.D.	CHED	971
Haddleton, D.M.	POLY	14	Haines, D.R.	CHED	1489	Halling, M.D.	CHED	979
Haddleton, D.M.	POLY	268	Hait, D.	PHYS	58	Hall-Osberg, P.	CHED	1284
Haddleton, D.M.	POLY	355	Haitjema, C.H.	BIOT	139	Halls, M.	POLY	55
Haddleton, D.M.	POLY	604	Hajdin, C.	COMP	72	Halmi, T.	CHED	121
Haddock, T.N.	COMP	12	Hajdu, J.	BIOL	221	Halper, S.	BIOT	650
Hadjidemetriou, M.	ANYL	233	Hajduk, P.	CINF	86	Halperin, C.	GEOC	246
Hadjidemetriou, M.	ANYL	270	Hajihassani, O.	CHED	929	Halpern, A.	CHED	459
Hadjidemetriou, M.	BIOT	233	Hajimorad, M.	POLY	240	Halpern, J.B.	CHED	2142
Hadjidemetriou, M.	COLL	122	Hajjo, R.	BIOT	461	Halpern, J.B.	CINF	79
Hadla, M.	COLL	277	Hajos-Korcsok, E.	MEDI	361	Halter, D.P.	INOR	1382
Hadnott, B.	ENVR	992	Hajy, E.	ORGN	768	Halterman, R.	CHED	191
Hadt, R.	PHYS	259	Hakala, A.	GEOC	44	Halvorson, R.	ANYL	475
Hadt, R.G.	INOR	1236	Hakala, A.	GEOC	294	Ham, H.	ENFL	194
Hadziioannou, G.	POLY	47	Hakala, U.	ANYL	254	Ham, J.	GEOC	344
Haefner, S.C.	CHED	1107	Hakalahti, M.	CELL	421	Ham, M.	ENFL	234
Haefner, S.C.	INOR	363	Hakim Mouilly, E.	INOR	1151	Ham, M.	INOR	696
Haeming, M.	ANYL	377	Hakim, M.H.	CHED	836	Hama, T.	PHYS	110
Haertlein, M.	COLL	701	Hakuta, Y.	INOR	1040	Hamachi, I.	BIOL	327
Haes, A.J.	ANYL	333	Haky, J.E.	CHED	195	Hamachi, L.	INOR	1564
Haes, A.J.	PHYS	316	Halamek, J.	ANYL	187	Hamad, W.Y.	CELL	193
Haeussler, M.	POLY	391	Halamek, J.	ANYL	188	Hamada, H.	CELL	317
Hafenstine, G.	CATL	266	Halámková, L.	ANYL	187	Hamada, N.	POLY	563
Hafner, D.	CELL	303	Halámková, L.	ANYL	188	Hamada, T.	BIOL	251
Hafner, J.	BIOT	200	Halas, N.J.	CHED	314	Hamadani, K.M.	BIOL	176
Hafner, J.	BIOT	304	Halas, N.J.	COLL	187	Hamadani, K.M.	CHED	326
Hafner, K.	CHED	1223	Halas, N.J.	PHYS	558	Hamad-Schifferli, K.	COLL	663
Haga, Y.	POLY	165	Halas, N.J.	PHYS	560	Hamaker, C.	INOR	323
Hagel, M.	MEDI	351	Halas, P.V.	CHED	754	Hamaker, C.	INOR	337

Hamaker, K.	BIOT	386	Hammock, B.D.	MEDI	68	Hanai, J.	MEDI	53
Hamal, K.	ORGN	674	Hammock, B.D.	MEDI	297	Hanan, E.J.	MEDI	24
Hamann, C.	CHED	99	Hammond, C.	GEOC	106	Hancock, J.	COMP	519
Hamann, C.	ORGN	198	Hammond, G.	ENVR	819	Hand, J.	GEOC	345
Hamaway, S.	INOR	945	Hammond, G.B.	FLUO	3	Hand, S.	ENVR	528
Hambira, C.M.	ORGN	50	Hammond, P.T.	PMSE	8	Hand, S.	ENVR	582
Hambira, C.M.	ORGN	202	Hammond, P.T.	PMSE	528	Handa, S.	ORGN	320
Hambourger, M.S.	PMSE	458	Hammond, P.T.	PMSE	573	Handali, J.	PHYS	202
Hamby, H.	CATL	216	Hammond, P.T.	POLY	157	Handali, P.R.	INOR	624
Hamby, H.	CHED	2047	Hamo, H.	COLL	538	Handley, H.	PMSE	186
Hamby, T.	INOR	979	Hamon, J.	PHYS	242	Handlogten, M.	BIOT	547
Hamed, M.	AGFD	64	Hamon, P.	PHYS	242	Handy, S.T.	ORGN	12
Hamed, S.	COMP	511	Hamood, A.	CELL	389	Handy, S.T.	ORGN	67
Hamed, S.	INOR	1222	Hampton, J.	CHED	1355	Handy, S.T.	ORGN	545
Hamed, M.	CELL	493	Hamry, S.R.	BIOL	173	Handy, S.T.	ORGN	789
Hamers, R.J.	ANYL	336	Hamza, I.L.	ORGN	606	Handzlik, J.	CATL	10
Hamers, R.J.	CATL	160	Han, B.	INOR	378	Hang, M.	ANYL	336
Hamers, R.J.	CATL	259	Han, B.	ENFL	259	Hang, M.	ENVR	497
Hamers, R.J.	CHED	111	Han, C.	INOR	465	Hang, M.	ENVR	498
Hamers, R.J.	CHED	943	Han, C.	ENVR	791	Hang, M.	ENVR	670
Hamers, R.J.	COLL	234	Han, C.	ORGN	449	Hang, M.	ENVR	675
Hamers, R.J.	ENFL	374	Han, C.	ORGN	503	Hang, M.N.	CHED	111
Hamers, R.J.	ENVR	497	Han, F.X.	ENVR	412	Hanger, W.	COMP	424
Hamers, R.J.	ENVR	498	Han, F.X.	GEOC	244	Hanigan, D.	ENVR	189
Hamers, R.J.	ENVR	670	Han, H.	CELL	130	Hanigan, D.	ENVR	281
Hamers, R.J.	ENVR	675	Han, H.	CATL	232	Hanigan, D.	ENVR	338
Hamers, R.J.	INOR	1521	Han, H.	ANYL	138	Hankard, M.K.	CHED	987
Hames, B.	CHED	218	Han, I.	ORGN	39	Hanks, T.W.	IAC	21
Hames, B.	CHED	2135	Han, J.	CATL	543	Hanley, T.	ANYL	99
Hames, B.	CHED	2140	Han, J.	INOR	896	Hanley, T.	ANYL	120
Hamieh, A.	CATL	570	Han, J.	COLL	706	Hanlon, A.	POLY	286
Hamilton, A.	BIOL	297	Han, J.	ENVR	80	Hanna, D.	COLL	527
Hamilton, D.	COLL	540	Han, K.	ENFL	35	Hanna, E.	CHED	1125
Hamilton, D.G.	CHED	1468	Han, K.	CINF	128	Hanna, K.	ENVR	41
Hamilton, D.G.	CHED	1522	Han, L.	INOR	805	Hanna, K.	ENVR	890
Hamilton, D.S.	INOR	424	Han, L.	COLL	764	Hanna, K.	ENVR	919
Hamilton, H.	ANYL	170	Han, M.	COLL	578	Hanna, S.K.	ENVR	544
Hamilton, H.S.	POLY	430	Han, M.	ENVR	949	Hanna, S.K.	ENVR	546
Hamilton, R.	BIOT	691	Han, M.	COLL	834	Hanna, S.K.	ENVR	625
Hamilton, S.K.	CHED	826	Han, N.	AGFD	10	Hannah, L.G.	MEDI	477
Hamilton, S.K.	CHED	1722	Han, P.	ENVR	286	Hannigan, B.T.	COMP	108
Hamilton, S.K.	CHED	1878	Han, Q.	CELL	130	Hannon, K.P.	COMP	89
Hamilton, S.K.	PMSE	418	Han, R.	INOR	1412	Hanover, J.	BIOL	321
Hamilton, T.	GEOC	124	Han, S.	PMSE	390	Hanrath, T.	COLL	461
Hamilton, T.D.	CHED	1013	Han, S.	BIOT	472	Hansel, C.	GEOC	181
Hamilton, T.D.	CHED	1034	Han, S.	BIOT	577	Hansel, C.	GEOC	212
Hamilton, T.D.	CHED	1043	Han, S.	COLL	728	Hansen, C.	CHED	767
Hamilton, T.D.	CHED	1598	Han, S.	BIOT	128	Hansen, C.	BIOL	207
Hamilton, T.D.	CHED	1817	Han, S.	COLL	115	Hansen, C.	BIOL	265
Hamiton, A.	CHED	1202	Han, S.	INOR	1108	Hansen, H.A.	COMP	202
Hamlett, B.L.	POLY	395	Han, S.	ENVR	746	Hansen, J.	CELL	506
Hamm, P.	PHYS	41	Han, S.	ENFL	369	Hansen, J.C.	CHED	853
Hammack, R.	GEOC	339	Han, S.	BIOT	705	Hansen, J.C.	CHED	856
Hamm-Alvarez, S.	PMSE	198	Han, T.	COLL	186	Hansen, K.	PHYS	192
Hammami, R.	AGFD	22	Han, T.	BIOT	52	Hansen, M.R.	POLY	45
Hammamieh, R.	BIOL	126	Han, W.	BIOT	244	Hansen, M.R.	POLY	332
Hammann, B.A.	INOR	442	Han, W.	BIOT	382	Hansen, S.J.	CHED	57
Hammann, B.A.	INOR	655	Han, W.	ENVR	64	Hansen, S.J.	CHED	304
Hammarskjold, M.	BIOL	336	Han, W.	ENVR	690	Hansen, T.W.	CATL	404
Hammarstrom, L.	INOR	162	Han, W.	I&EC	104	Hansen, T.W.	CATL	111
Hammarstrom, L.	INOR	1238	Han, W.	INOR	203	Hansmann, B.	BIOT	709
Hammer, B.	COMP	9	Han, W.	INOR	1031	Hansmann, M.M.	INOR	108
Hammer, N.	CHED	1632	Han, W.	MEDI	349	Hanson, A.	GEOC	338
Hammer, N.	CHED	1639	Han, X.	ANYL	466	Hanson, C.	ORGN	927
Hammer, N.	CHED	1647	Han, X.	POLY	351	Hanson, C.	COLL	705
Hammer, N.	CHED	1656	Han, Y.	ENVR	304	Hanson, C.	CHED	452
Hammer, N.	CHED	1697	Han, Y.	ENVR	672	Hanson, C.	CHED	483
Hammer, N.	COLL	446	Han, Y.	ENVR	887	Hanson, C.	CHED	489
Hammer, N.	COLL	518	Han, Y.	BIOT	514	Hanson, C.	CHED	506
Hammer, N.	ORGN	860	Han, Y.	COLL	765	Hanson, D.	PROF	36
Hammer, N.	PHYS	456	Han, Y.	INOR	1151	Hanson, J.E.	CHED	692
Hammer, N.	PHYS	514	Han, Y.	ENFL	340	Hanson, M.	CHED	960
Hammer, N.	PROF	50	Han, Y.	ENVR	764	Hanson, M.G.	ORGN	224
Hammer, P.	ENVR	695	Han, Y.	CATL	363	Hanson, M.P.	ORGN	679
Hammes-Schiffer, S.	CATL	214	Han, Y.	ENVR	883	Hanson, P.R.	CHED	1451
Hammes-Schiffer, S.	COMP	127	Han, Y.	PHYS	305	Hanson, P.R.	CHED	1833
Hammes-Schiffer, S.	PHYS	37	Han, Y.	PHYS	446	Hanson, P.R.	ORGN	657
Hammes-Schiffer, S.	PHYS	248	Han, Y.J.	COLL	706	Hanson, P.R.	ORGN	658
Hammes-Schiffer, S.	PROF	1	Han, Z.	PMSE	52	Hanson, R.L.	ORGN	27
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Hansson, J.U.	BIOT	523	Harper, D.P.	CATL	152	Hartfield, P.J.	ORGN	110
Hansupalak, N.	COLL	356	Harper, D.P.	CELL	500	Hartgerink, J.D.	PMSE	623
Hantho, J.	PROF	29	Harper, J.K.	CHED	385	Harth, E.	POLY	112
Hantman, I.	CHAL	17	Harper, J.K.	COMP	328	Hartke, B.	PHYS	54
Hanusa, T.P.	INOR	600	Harper, J.K.	MEDI	509	Hartlaub, S.	INOR	380
Hanusa, T.P.	INOR	1488	Harper, S.	CINF	121	Hartleib, J.	MEDI	17
Hanzly, L.E.	BIOT	535	Harper, S.	INOR	456	Hartley, A.C.	CHED	924
Hanzly, L.E.	CELL	121	Harper, T.	MEDI	18	Hartley, C.	CHED	1360
Hanzly, L.E.	CELL	123	Harper-Leatherman, A.S.	CHED	105	Hartley, C.	CHED	1384
Hanzly, L.E.	CELL	227	Harr, E.	COLL	389	Hartley, C.	CHED	1386
Hanzly, L.E.	PMSE	53	Harrell, M.L.	ENVR	813	Hartley, J.A.	MEDI	169
Hao, C.	COLL	413	Harrell, M.L.	POLY	427	Hartline, L.	CHED	1243
Hao, C.	ENVR	732	Harrelson, J.	CHED	1183	Hartman, C.K.	INOR	966
Hao, J.	MEDI	346	Harriman, G.	COMP	19	Hartman, E.	BIOL	308
Hao, J.	CHED	1713	Harrington, J.M.	GEOC	98	Hartmann, M.	ORGN	718
Hao, J.	CHED	1714	Harris, A.	AGFD	177	Hartmann, T.	NUCL	83
Hao, W.	GEOC	157	Harris, A.	CHED	460	Hartneck, T.	BIOT	13
Hao, W.	GEOC	348	Harris, A.	MEDI	364	Harts, D.	ENFL	17
Hao, W.	CHED	1966	Harris, A.	ANYL	88	Harts, D.	ENFL	204
Hao, X.	INOR	106	Harris, A.R.	CATL	266	Hartsock, R.	PHYS	69
Hao, X.	INOR	731	Harris, B.	BIOL	116	Hartwig, J.F.	BIOT	454
Hao, X.	INOR	873	Harris, C.M.	CHED	1307	Hartwig, J.F.	FLUO	13
Hapeman, C.J.	ENVR	903	Harris, D.	INOR	77	Hartwig, J.F.	INOR	1289
Haq, I.	PMSE	410	Harris, D.	INOR	1234	Hartwig, J.F.	MEDI	98
Haque, E.	GEOC	276	Harris, D.	INOR	1406	Hartwig, J.F.	ORGN	87
Haque, L.	MEDI	25	Harris, D.	CATL	216	Hartwig, J.F.	ORGN	314
Haque, R.	MEDI	406	Harris, D.L.	COMP	502	Hartwig, J.F.	ORGN	418
Hara, H.	ORGN	677	Harris, E.N.	CARB	87	Hartwig, J.F.	ORGN	425
Hara, K.	INOR	1409	Harris, J.D.	CHED	1259	Hartwig, W.T.	ORGN	650
Harabagiu, V.	CELL	4	Harris, J.D.	CHED	1262	Hartzell, E.	BIOT	561
Harada, A.	POLY	530	Harris, J.D.	CHED	1748	Hartzell, E.	BIOT	669
Haraguchi, R.	ORGN	158	Harris, J.M.	ANYL	149	Hartzell, P.	CHED	2136
Harak, E.W.	COLL	347	Harris, J.M.	BIOL	282	Hartzler, D.A.	PHYS	303
Harale, A.	INOR	1507	Harris, J.M.	COLL	696	Harun, R.	ENFL	384
Harb, H.	COMP	215	Harris, J.W.	CATL	82	Harvey, B.G.	ENFL	66
Harcum, S.W.	BIOT	367	Harris, K.	COLL	54	Harvey, B.G.	POLY	22
Hardage, S.M.	CHED	1222	Harris, K.	PMSE	13	Harvey, C.J.	BIOT	180
Hardelin, L.	CELL	381	Harris, K.	PMSE	439	Harvey, J.	ENVR	889
Hardick, O.	BIOT	102	Harris, K.	PMSE	567	Harvey, J.A.	PHYS	296
Hardie, J.	BIOL	172	Harris, K.	PHYS	406	Harvey, M.	COMP	149
Hardin, D.S.	BIOT	232	Harris, L.	MEDI	474	Harwell, J.H.	COLL	500
Hardin, W.	ANYL	241	Harris, M.T.	COLL	282	Harwood, C.J.	CHED	28
Harding, R.	ORGN	631	Harris, P.A.	MEDI	313	Harwood, K.R.	BIOL	321
Hardy, E.E.	NUCL	76	Harris, R.	BIOT	614	Harwood, L.M.	I&EC	91
Hardy, G.	COLL	620	Harris, S.	CHED	952	Hasan, F.	ANYL	42
Hardy, J.	POLY	420	Harris, S.	BIOT	515	Hasan, M.	BIOT	382
Hardy, K.	CHED	971	Harris, S.	BIOT	585	Hasan, M.	CARB	56
Harel, E.	ANYL	299	Harris, T.	CHED	1546	Hasan, M.	CATL	374
Hargis, A.T.	CHED	1397	Harris, T.V.	CHED	866	Hasan, M.	CATL	441
Hargreaves, J.	CATL	599	Harris, V.	CHED	1035	Hasan, M.	COLL	266
Haridas, V.	BIOT	685	Harris, W.	ANYL	400	Hasan, M.	COLL	360
Harikrishnan, L.S.	MEDI	349	Harrison, D.	BIOT	365	Hasan, P.	MEDI	73
Hariono, M.	COMP	548	Harrison, D.J.	INOR	44	Hasan, T.	PMSE	516
Hariwongsanupab, N.	CELL	177	Harrison, D.P.	INOR	901	Hasane, A.	ENVR	1000
Harkins, R.P.	COLL	588	Harrison, D.P.	INOR	1277	Hascakir, B.	ENFL	358
Harkness, B.S.	CHED	196	Harrison, E.	COMP	337	Hascakir, B.	ENFL	408
Harkness, J.S.	GEOC	163	Harrison, G.	CATL	497	Hascakir, B.	ENFL	455
Harlan, J.	INOR	1169	Harrison, J.A.	CHED	1691	Haseeb, H.	PMSE	435
Harlan, J.	PMSE	126	Harrison, J.A.	COLL	106	Hasenbein, S.	ENVR	895
Harlang, T.	PHYS	69	Harrison, J.P.	ENVR	807	Hasenmueller, E.	GEOC	203
Harlin, A.	CELL	207	Harrison, K.W.	ENFL	66	Hasford, J.J.	CHAL	4
Harlin, A.	CELL	374	Harrison, O.O.	CHED	931	Hasford, S.P.	SCHB	7
Harm, S.P.	INOR	787	Harrison, O.O.	ENVR	778	Hashemi, P.	ANYL	67
Harman, R.	BIOL	79	Harrison, R.G.	INOR	743	Hashemzadeh, M.	MEDI	262
Harmata, M.	ORGN	72	Harrison, R.J.	INOR	1383	Hasib, M.	PMSE	90
Harmata, M.	ORGN	134	Harrold, Z.	GEOC	200	Haslböck, M.A.	CELL	106
Harmata, M.	ORGN	135	Harrop, T.C.	INOR	947	Haslinger, S.	CELL	42
Harmon, C.	ORGN	831	Harrop, T.C.	INOR	957	Haslinger, S.	CELL	293
Harmon, T.	PMSE	630	Harrop, T.C.	INOR	1322	Haslp, B.	CHED	1135
Harms, J.C.	INOR	826	Harshman, J.	CHED	2080	Haso, F.	PHYS	454
Harms, J.C.	INOR	827	Harshman, J.	CHED	2106	Hass, C.	CATL	249
Harms, P.	BIOT	629	Hart, C.H.	ORGN	605	Hassan, A.	CHED	1795
Harned, A.M.	ORGN	659	Hart, D.	CHED	1949	Hassan, A.	PHYS	77
Harnoy, A.J.	PMSE	157	Hart, H.	CHED	1188	Hassan, F.	CATL	31
Haro, H.	ENVR	343	Hart, J.	MEDI	370	Hassan, M.K.	POLY	188
Harper, A.	ENVR	797	Hart, M.D.	CHED	1115	Hastings, T.T.	COLL	617
Harper, B.	CINF	121	Hart, M.D.	INOR	1544	Hatch, C.D.	CHED	962
Harper, B.	INOR	456	Hart, M.E.	CHED	1600	Hatch, C.D.	CHED	996

Hatch, C.D.	CHED	998	Hawker, C.J.	POLY	492	Hazari, N.	INOR	1206
Hatch, H.W.	BIOT	23	Hawker, C.J.	POLY	508	Hazari, N.	INOR	1389
Hatch, K.A.	ORGN	921	Hawkins, C.	I&EC	9	Hazen, S.	ANYL	135
Hatcher, M.	CHED	661	Hawkins, C.	I&EC	117	Hazlett, I.	AGFD	109
Hatcher, M.E.	CHED	49	Hawkins, C.A.	CHED	487	He, B.	ENFL	212
Hatcher, P.G.	ENVR	107	Hawkins, C.A.	I&EC	15	He, B.	PMSE	160
Hatcher, P.G.	ENVR	947	Hawkins, H.	I&EC	10	He, B.	PMSE	298
Hatcher, P.G.	ENVR	1014	Hawkins, J.	I&EC	19	He, B.B.	ANYL	480
Hatcher, P.G.	GEOC	197	Hawkins, J.	MEDI	340	He, C.	ENFL	339
Hatfield, B.	CHED	1417	Hawkins, L.	CHED	980	He, C.	ORGN	670
Hatfield, B.	CHED	1654	Hawkins, M.	CHED	437	He, C.	ENVR	246
Hatfield, B.	CHED	1883	Hawkins, M.	CHED	446	He, C.	ORGN	123
Hati, S.	BIOL	262	Hawkins, P.C.	COMP	71	He, D.	CATL	308
Hati, S.	BIOL	334	Hawkins, P.C.	COMP	501	He, D.	ENVR	93
Hatsukade, T.	CATL	69	Hawkins, S.	INOR	246	He, D.	ENVR	1028
Hatsukade, T.	CATL	330	Hawkinson, A.	BIOL	265	He, D.	PMSE	46
Hattab, E.	ANYL	284	Hawkinson, J.E.	MEDI	391	He, D.	PMSE	48
Hattar, K.	INOR	520	Hawks, S.A.	PMSE	432	He, D.	CATL	365
Hattendorf, B.	ANYL	396	Hawrelak, E.	CHED	1051	He, E.	POLY	630
Hatton, F.	CELL	248	Haxton, S.	CHED	2070	He, F.	PMSE	510
Hatton, F.	CELL	286	Hay, D.	CHED	1276	He, F.	ENVR	88
Hatton, F.	COLL	817	Hay, M.	GEOC	81	He, F.	ENVR	226
Hatton, T.	ENFL	120	Hay, M.	GEOC	240	He, F.	POLY	234
Hatton, T.	ENVR	389	Hay, W.T.	CELL	405	He, H.	COLL	778
Hatton, T.	ENVR	1026	Hayama, K.	ORGN	118	He, H.	CATL	574
Hattori, S.	COMP	503	Hayama, K.	ORGN	236	He, H.	CATL	457
Hatzell, K.	ENVR	393	Hayashi, F.	COLL	533	He, H.	CHED	115
Hatzell, M.	ENVR	393	Hayashi, H.	COMP	503	He, H.	INOR	89
Hatzikiriakos, S.	INOR	603	Hayashi, K.	BIOT	536	He, J.	COLL	509
Hatzikiriakos, S.	PMSE	361	Hayashi, M.	PHYS	129	He, J.	COLL	647
Hatzimanikatis, V.	BIOT	178	Hayashi, S.	PHYS	214	He, J.	POLY	557
Hatzimanikatis, V.	BIOT	200	Hayashi, T.	ORGN	41	He, J.	PMSE	536
Hatzimanikatis, V.	BIOT	304	Hayat, A.	COLL	574	He, J.	PHYS	151
Hatzimanikatis, V.	BIOT	408	Hayati, S.	ANYL	462	He, J.	ENVR	906
Hatzimanikatis, V.	BIOT	431	Hayden, T.	CHED	1035	He, J.	INOR	205
Hauble, A.	CATL	298	Hayden, T.	CHED	1765	He, K.	ENVR	119
Haudrechy, A.	ORGN	302	Hayden, T.R.	CHED	1015	He, K.	ENVR	124
Haufe, G.	FLUO	35	Hayden, T.R.	CHED	1016	He, K.	ENVR	719
Haufe, G.	FLUO	40	Hayen, A.	MEDI	17	He, K.	I&EC	97
Haug, K.	PHYS	462	Ha-Yeon Cheong, P.	ENVR	650	He, K.	INOR	1031
Haugen, A.	ORGN	784	Ha-Yeon Cheong, P.	ORGN	932	He, L.	ANYL	174
Haugstad, G.D.	COLL	668	Hayes, A.	ORGN	772	He, L.	ANYL	304
Haugstad, G.D.	PMSE	533	Hayes, A.	MEDI	111	He, L.	CHED	343
Haun, G.	ORGN	149	Hayes, C.E.	INOR	305	He, L.	ENVR	971
Haupt, A.	MEDI	11	Hayes, C.J.	CHED	789	He, M.	PMSE	62
Haupt, A.	FLUO	44	Hayes, D.	CHED	1751	He, M.	PMSE	413
Hauritz, H.	ANYL	86	Hayes, D.	INOR	1236	He, N.	ANYL	174
Hauser, A.J.	INOR	1367	Hayes, D.	PHYS	259	He, N.	ANYL	214
Hauser, J.	INOR	1030	Hayes, K.F.	ENVR	299	He, N.	ANYL	304
Hauser, K.	COMP	381	Hayes, K.F.	GEOC	295	He, N.	BIOT	549
Haushalter, J.P.	ORGN	796	Hayes, M.	MEDI	12	He, N.	COLL	761
Haushalter, J.P.	ORGN	797	Hayes, R.	CATL	516	He, P.	COLL	364
Haushalter, K.A.	CHED	675	Hayes, S.E.	INOR	442	He, S.	ENFL	348
Haushalter, R.	BIOL	259	Hayes, S.E.	INOR	655	He, S.	ENFL	402
Hausinger, R.P.	COMP	378	Hayes, S.M.	ENVR	290	He, S.	GEOC	51
Hausler, R.	ENFL	32	Hayes, S.M.	GEOC	242	He, S.	CATL	61
Hausman, M.	CHED	287	Hayes, S.M.	GEOC	260	He, S.	CINF	173
hausmann, M.	CELL	83	Hayes, T.	ENVR	744	He, T.	INOR	1127
Hausrath, E.	GEOC	200	Hayes, T.	COLL	56	He, T.	ENVR	921
Hauß, T.	COLL	621	Hayes, T.E.	BIOL	163	He, W.	ORGN	172
Haussener, S.	CATL	553	Hayes, T.E.	CHED	721	He, X.	PHYS	66
Havemann, J.	BIOL	335	Hayik, S.E.	CHED	136	He, X.	AGFD	137
Havens, A.	ORGN	101	Haynes, C.L.	ANYL	336	He, X.	AGFD	234
Haverhals, L.	ENVR	1030	Haynes, C.L.	CHED	2054	He, X.	ORGN	653
Haverkort, J.	INOR	1153	Haynes, C.L.	CHED	2129	He, X.	COLL	560
Haverkort, J.	INOR	1582	Haynes, C.L.	COLL	233	He, X.	COLL	546
Havig, J.	GEOC	124	Haynes, C.L.	ENVR	497	He, X.	COLL	662
Havlas, Z.	PHYS	304	Haynes, C.L.	INOR	1521	He, X.	ENVR	111
Hawer, W.	AGFD	66	Haynes, D.	ENFL	133	He, X.	POLY	263
Hawer, W.	AGFD	69	Haynes, K.M.	MEDI	139	He, X.	PMSE	510
Hawker, C.J.	BIOL	241	Haynes, K.M.	MEDI	408	He, Y.	CATL	450
Hawker, C.J.	BIOT	688	Hayoz, P.	POLY	197	He, Y.	CATL	531
Hawker, C.J.	ORGN	681	Hayton, T.W.	INOR	1255	He, Y.	GEOC	174
Hawker, C.J.	PMSE	54	Hayton, T.W.	NUCL	80	He, Y.	PMSE	180
Hawker, C.J.	PMSE	143	Hayward, M.M.	MEDI	316	He, Y.	GEOC	302
Hawker, C.J.	PMSE	429	Hayward, R.C.	PMSE	93	He, Z.	COMP	363
Hawker, C.J.	POLY	71	Hazari, N.	INOR	492	He, Z.	PHYS	442
Hawker, C.J.	POLY	117	Hazari, N.	INOR	727	He, Z.	ANYL	107
Hawker, C.J.	POLY	213	Hazari, N.	INOR	1162	Heacox, H.N.	CHED	1235
Hawker, C.J.	POLY	214	Hazari, N.	INOR	1163	Head, A.R.	COLL	235

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Head, A.R.	GEOC	115	Heggset, E.	CELL	391	Helminen, J.K.	CELL	245
Head, A.R.	CATL	647	Heglund, J.D.	CHED	1021	Helminen, J.K.	CELL	519
Head, N.	ENVR	748	Heidarizad, M.	ENVR	753	Helmrich, S.	GEOC	164
Head-Gordon, M.P.	CATL	292	HeidbrinkThompson, J.	BIOT	567	Helms, B.	COLL	465
Head-Gordon, M.P.	COMP	7	Heide, A.	CHED	108	Helms, B.	INOR	536
Head-Gordon, M.P.	COMP	87	Heideman, H.	ORGN	563	Helms, B.	ORGN	874
Head-Gordon, M.P.	COMP	220	Heideman, H.	ORGN	678	Helms, B.	POLY	179
Head-Gordon, M.P.	COMP	492	Heiden, Z.M.	INOR	1484	Helquist, P.	COMP	242
Head-Gordon, M.P.	COMP	541	Heiden, Z.M.	INOR	1546	Helquist, P.	ORGN	511
Head-Gordon, M.P.	COMP	571	Heiger-Bernays, W.	ENVR	992	Helquist, P.	ORGN	512
Head-Gordon, M.P.	COMP	572	Heijnen, D.	CATL	415	Helt, J.M.	COLL	584
Head-Gordon, M.P.	COMP	574	Heijnen, D.	CATL	602	Helt, J.M.	COLL	749
Head-Gordon, M.P.	INOR	1346	Heijnen, D.	ORGN	165	Hemberger, P.	PHYS	460
Head-Gordon, M.P.	PHYS	234	Heikkinen, S.	CELL	245	Hemmer, J.R.	ORGN	681
Head-Gordon, M.P.	PHYS	235	Heikkinen, S.	CELL	519	Hemmi, A.	CATL	614
Head-Gordon, T.L.	COMP	52	Heili, M.K.	INOR	308	Hemmi, A.	COLL	755
Head-Gordon, T.L.	COMP	220	Heili, M.K.	INOR	1097	Hemminger, J.C.	CATL	113
Head-Gordon, T.L.	PHYS	168	Heiling, C.J.	CHED	986	Hemminger, J.C.	PHYS	276
Headrick, K.	ORGN	549	Heilweil, E.J.	INOR	1471	Hemmingson, S.L.	PROF	55
Heald, R.	MEDI	24	Heimann, J.	INOR	1389	Hemphill, T.	CHED	1259
Healy, E.	CHED	591	Heimann, P.	PMSE	408	Hemström, P.	ANYL	255
Healy, K.	POLY	509	Heimrich, E.	MEDI	21	Henao, J.	INOR	995
Healy, O.	GEOC	91	Hein, J.	CATL	395	Henchey, L.	CHED	1823
Heaney, C.	CHED	1629	Hein, J.	PROF	14	Henderson, A.N.	CHED	1926
Heaney, P.	GEOC	162	Heine, C.	CATL	65	Henderson, A.R.	BIOL	305
Heaney, P.J.	GEOC	105	Heine, T.	PHYS	355	Henderson, B.L.	PHYS	285
Heard, G.L.	CHED	121	Heine, T.	CINF	4	Henderson, C.	ANYL	392
Heard, G.L.	CHED	2062	Heinekey, D.M.	INOR	124	Henderson, D.P.	CINF	14
Heard, G.L.	COMP	275	Heinekey, D.M.	INOR	1552	Henderson, D.P.	CINF	35
Heard, G.L.	INOR	804	Heinen-Kreuzig, A.	BIOT	456	Henderson, K.	ANYL	398
Heard, G.L.	PHYS	413	Heinisch, T.	INOR	1190	Henderson, M.	ENVR	672
Hearn, J.	CHED	223	Heinke, L.	PHYS	375	Henderson, P.T.	ANYL	54
Heath, C.E.	GEOC	256	Heinrich, B.	I&EC	13	Hendley, P.	ENVR	976
Heath, J.	BIOT	541	Heinrich, S.	INOR	1073	Hendon, C.	AGFD	131
Heath, J.R.	BIOT	219	Heinz, H.	COMP	185	Hendon, C.	PHYS	72
Heath, J.R.	BIOT	541	Heinz, H.	GEOC	224	Hendon, C.	INOR	673
Heath, T.	MEDI	235	Heinz, O.	ENVR	751	Hendren, C.	CINF	121
Heath, T.	MEDI	264	Heinze, T.J.	CELL	217	Hendren, Z.	ENVR	377
Hebbi, V.	BIOT	83	Heinze, T.J.	CELL	282	Hendrich, J.	INOR	979
Hebditch, M.	BIOT	165	Heinze, T.J.	CELL	428	Hendrich, M.P.	INOR	1190
Heber, J.	CINF	10	Heinze, T.J.	CELL	472	Hendricks, A.	BIOL	99
Heberer, N.	ORGN	119	Heinze, T.J.	CELL	478	Hendricks, R.	CELL	157
Heberle, F.	COLL	458	Heinze, T.J.	CELL	495	Hendrickson, H.P.	COMP	518
Heberling, F.	GEOC	193	Heinze, T.J.	CELL	230	Hendrickson, H.P.	PHYS	450
Hecht PhD, S.	PHYS	48	Heise, C.E.	MEDI	342	Hendrickx, R.	MEDI	363
Hecht PhD, S.	POLY	214	Heiskanen, J.P.	CELL	352	Hendriksen, W.	POLY	574
Hecht, S.	BIOL	34	Heist, C.	ANYL	456	Hendrix, N.	CHED	1321
Hecht, S.	BIOL	112	Heitz, A.	ENVR	449	Hendsbee, A.	CATL	350
Heck, B.	CELL	319	Hekmat, D.	BIOT	16	Hendsbee, A.	ORGN	855
Heckrodt, T.	MEDI	401	Helal, C.J.	MEDI	361	Henebry, J.	INOR	1250
Hecobian, A.	GEOC	344	Helbing, D.E.	ENVR	286	Heng, J.	BIOT	433
Hedberg, M.	FLUO	46	Heldebrant, D.J.	ENFL	38	Heng, J.	BIOT	495
Hedberg, M.	ORGN	257	Heldebrant, D.J.	ENFL	76	Heng, J.	CELL	289
Hedenqvist, M.S.	CELL	449	Heldebrant, D.J.	ENFL	77	Hengl, N.	CELL	238
Hedrick, J.	CARB	30	Heldebrant, D.J.	ENFL	78	Henkelman, G.	COLL	97
Hedrick, J.	POLY	46	Helgert, T.R.	INOR	591	Henkelman, G.A.	COMP	253
Hedrick, J.	POLY	173	Helgert, T.R.	INOR	599	Henley, A.T.	MEDI	111
Hedrick, J.	POLY	285	Helgeson, M.E.	COLL	426	Hennigan, J.	BIOT	552
Hedrick, J.	COLL	688	Helgeson, M.E.	POLY	508	Henniges, U.	CELL	37
Hedrick, J.	PMSE	76	Helix, M.	CHED	194	Henning, R.	BIOT	541
Hedrick, J.	PMSE	83	Helix, M.R.	CHED	181	Henning, T.K.	PHYS	148
Hedrick, J.	PMSE	492	Helix, M.R.	CHED	2068	Henri, P.A.	GEOC	104
Hedrick, J.	PMSE	662	Hell, S.W.	ORGN	17	Henriksen, H.	INOR	422
Hedström, S.	PHYS	450	Heller, N.W.	PMSE	649	Henriksen, N.M.	COMP	534
Hee Taik, K.	COLL	858	Heller, S.	ORGN	152	Henriksson, G.	CELL	530
Hee Taik, K.	PMSE	538	Hellgren, N.	CHED	1694	Henry, A.	COLL	41
Heeley, E.L.	PMSE	214	Hellier, P.	CATL	118	Henry, C.	CHED	1384
Heeley, E.L.	PMSE	274	Hellman, A.	COMP	124	Henry, G.	ORGN	513
Heemstra, J.M.	CHED	545	Hellsten, S.	CELL	293	Henry, M.	CINF	128
Heemstra, J.M.	CHED	2037	Hellsten, S.	CELL	334	Henry, R.M.	ENVR	805
Heeney, M.J.	CATL	392	Hellstern, T.	CATL	184	Henry, V.J.	CHED	1862
Hees, T.	PMSE	370	Hellstern, T.	CATL	268	Henry, Z.	INOR	821
Heffner, K.M.	BIOT	584	Hellstern, T.	CATL	375	Henschen, J.	CELL	369
Heffron, T.P.	MEDI	24	Hellstern, T.	ENFL	206	Henschen, J.	CELL	527
Hegedus, C.	ORGN	366	Helm, M.	PMSE	628	Hensel, J.	PHYS	295
Hegedus, E.	CHED	624	Helm, M.	INOR	42	Hensen, E.	CATL	7
Hegemann, P.	PHYS	84	Helm, P.A.	ENVR	68	Hensen, E.	CATL	534
Hegen, M.	MEDI	316	Helm, P.A.	ENVR	69	Hensen, E.	CATL	581
Heger, D.	ENVR	527	Helm, P.A.	ENVR	73	Hensen, E.	CATL	649
Heggset, E.	CELL	330	Helmin, A.	CHED	1101	Hensen, E.	COMP	45

Hensen, E.	ENFL	9	Hernandez, A.J.	INOR	1446	Herrington, J.	MEDI	52
Hensen, E.	ENFL	50	Hernandez, A.V.	CHED	1841	Herrmann, A.	ORGN	825
Hensen, E.	INOR	725	Hernandez, B.	MEDI	220	Herrmann, F.	BIOT	132
Hensiek, S.	CHED	28	Hernandez, D.B.	CHED	1867	Herrmann, H.	ENVR	524
Henske, J.	BIOT	98	Hernandez, E.	MEDI	470	Herrmann, S.J.	INOR	226
Henske, J.	BIOT	139	Hernandez, E.T.	ORGN	687	Herrmann-Westendorf, F.	COLL	720
Henske, J.	BIOT	177	Hernandez, E.T.	ORGN	692	Herron, J.R.	ORGN	319
Hensley, D.	CATL	78	Hernandez, E.T.	ORGN	918	Hersam, M.	ENVR	672
Hensley, J.	CATL	568	Hernandez, E.T.	PMSE	483	Hersam, M.	ENVR	1002
Hensley, J.	CATL	633	Hernandez, F.	CHED	2100	Hersam, M.	INOR	670
Hensley, L.	CHED	1184	Hernandez, F.	CHED	2128	Hertz, C.D.	ENVR	340
Hensley, L.	CHED	1216	Hernandez, G.	COLL	150	Herve, A.	INOR	92
Henton, D.R.	ENFL	118	Hernandez, H.H.	AGFD	83	Herve, A.	NUCL	39
Henton, D.R.	CELL	406	Hernández, I.	CATL	285	Hervy, M.	CELL	10
Hentschel, M.	PHYS	263	Hernandez, J.	CELL	43	Hervy, M.	CELL	312
Heo, A.	POLY	363	Hernandez, J.	POLY	617	Hervy, M.	CELL	372
Heo, G.	PMSE	598	Hernandez, J.	MEDI	430	Herwig, C.	POLY	181
Heo, H.	ANYL	113	Hernandez, J.A.	CHED	982	Herzberg, M.	COLL	371
Heo, H.	ANYL	418	Hernandez, J.A.	ENVR	968	Herzberger, J.	POLY	383
Heo, J.	INOR	459	Hernandez, K.	CHED	562	Heske, C.	ANYL	377
Heo, T.	INOR	1530	Hernandez, K.	CHED	1176	Hess, H.	BIOT	601
Heo, T.	INOR	1535	Hernandez, L.	CHED	1234	Hess, K.L.	BIOT	235
Hepel, M.R.	ANYL	160	Hernandez, N.	POLY	327	Hess, L.	CATL	505
Hepel, M.R.	ANYL	161	Hernandez, N.	POLY	328	Hess, N.	CHED	970
Hepel, M.R.	COLL	210	Hernandez, N.	BIOT	201	Hess, R.F.	ENFL	31
Hepel, M.R.	COLL	211	Hernandez, R.	PHYS	102	Hess, R.F.	GEOC	284
Hepel, M.R.	COLL	259	Hernandez, R.	PROF	52	Hess, R.F.	INOR	520
Hepel, M.R.	COLL	611	Hernandez, R.	PROF	53	Hess, S.	BIOT	302
Hepp, L.L.	CHED	1706	Hernandez, S.	CHED	1595	Hess, S.	BIOT	467
Hepworth, D.	MEDI	340	Hernandez, T.S.	ENFL	89	Hesse, S.A.	PMSE	486
Herath, A.K.	ORGN	656	Hernandez-Burgos, K.	COLL	68	Hessel, V.	YCC	20
Herbaut, M.	ENFL	380	Hernandez-Burgos, K.	COLL	312	Hesslein, A.	BIOT	207
Herbert, E.	ENFL	277	Hernandez-Burgos, K.	POLY	236	Hesslein, A.	BIOT	284
Herbert, R.	GEOC	85	Hernandez-Cira, M.	ENVR	343	Hesslein, A.	BIOT	337
Herbst, E.	PHYS	108	Hernández-Gordillo, A.	ENVR	593	Hesslein, A.	BIOT	416
Herbst, E.	PHYS	513	Hernández-Gordillo, A.	ENVR	201	Hesslein, A.	BIOT	457
Herder, J.	CHED	1057	Hernández-Guerrero, M.	CELL	90	Hestand, N.	INOR	704
Herdtwack, E.	ORGN	409	Hernández-Luis, F.	MEDI	46	Hester, B.	INOR	1110
Hering-Junghans, C.	INOR	1312	Hernandez-Sanchez, B.A.	CHED	149	Hester, G.	POLY	396
Herkert, N.	ENVR	75	Hernandez-Sanchez, B.A.	CHED	1074	Hesterberg, D.	GEOC	171
Herkert, N.	ENVR	992	Hernandez-Sanchez, B.A.	INOR	440	Hetcher, W.J.	CHED	1685
Herkommer, D.	ORGN	354	Hernandez-Sanchez, B.A.	INOR	523	Heth, N.	ORGN	177
Herlihy, D.	INOR	160	Hernandez-Sanchez, B.A.	INOR	794	Hetrick, W.	ANYL	153
Herman, E.K.	GEOC	349	Hernandez-Sanchez, B.A.	INOR	1143	Hettegger, H.	CELL	27
Herman, G.S.	ANYL	453	Hernandez-Sanchez, B.A.	INOR	1149	Hettegger, H.	CELL	259
Herman, G.S.	CATL	61	Hernandez-Sosa, G.	COLL	551	Hetts, S.	COLL	417
Herman, G.S.	CATL	615	Hernandez-Soto, H.K.	CHED	863	Hetts, S.	POLY	281
Herman, G.S.	INOR	453	Hernandez-Soto, H.K.	CHED	880	Heuberger, A.	BIOT	402
Herman, G.S.	INOR	454	Hernandez-Soto, H.K.	CHED	881	Heuer, A.M.	CHED	1569
Herman, G.S.	INOR	455	Hernandez-Soto, H.K.	CHED	1671	Heuer-Jungemann, A.	COLL	249
Herman, M.	ANYL	398	Hernández-Vargas, G.	BIOT	161	Heuer-Jungemann, A.	COLL	497
Herman, R.	CARB	39	Herndon, E.	GEOC	233	Heupel, K.N.	INOR	437
Hermans, I.	CATL	110	Héroguez, V.	CELL	202	Heupel, K.N.	INOR	517
Hermans, I.	CATL	280	Heroux, D.S.	CHED	132	Heux, L.	CELL	240
Hermans, I.	CATL	580	Heroux, D.S.	CHED	955	Heux, L.	CELL	241
Hermans, P.	BIOT	597	Heroux, D.S.	CHED	1258	Heux, L.	CELL	494
Hermanson, M.H.	ENVR	740	Herr, J.	PHYS	482	Hewer, T.	ENVR	683
Hermansson, M.	MEDI	17	Herrboldt, J.	GEOC	9	Hewer, T.	ENVR	693
Hermelinda, A.	ENVR	738	Herrea, A.	ENVR	349	Hewett, M.	CHED	1885
Hermosilla, D.	ENVR	431	Herrera Pérez, G.	INOR	815	Hexel, C.R.	NUCL	158
Hermesen, M.	INOR	213	Herrera, A.	CHED	1563	Heyden, A.	CATL	277
Hernandez Campos, A.	MEDI	44	Herrera, D.	ORGN	534	Heyden, A.	CATL	637
Hernandez Campos, A.	MEDI	45	Herrera, J.	ENVR	45	Heyden, M.	PHYS	40
Hernandez Campos, A.	MEDI	227	Herrera, N.	CELL	396	Heyduk, A.F.	INOR	1098
Hernandez Campos, A.	MEDI	240	Herrera, X.	CHED	1435	Heyduk, A.F.	INOR	1457
Hernandez Campos, A.	MEDI	288	Herrera-Alonso, M.	POLY	68	Heyes, C.D.	COLL	189
Hernandez Campos, A.	MEDI	443	Herrero Acero, E.	POLY	61	Heyes, C.D.	COLL	519
Hernandez Campos, A.	MEDI	493	Herrero Nogareda, L.	COLL	349	Heyes, C.D.	PHYS	503
Hernandez Molina, A.	CHED	982	Herrick, D.	POLY	83	Heymann, H.	AGFD	145
Hernandez Sanchez, R.	INOR	366	Herrick, D.	CHED	465	Heyneman, A.	COMP	311
Hernandez Sanchez, R.	INOR	1462	Herrick, D.	CHED	1778	Hiaki, T.	ENVR	864
Hernandez, A.	COLL	191	Herrick, D.	CHED	1816	Hiaki, T.	GEOC	247
Hernandez, A.	COLL	766	Herring, A.M.	ENFL	363	Hibbitts, D.	CATL	111
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Hernández, A.	CELL	168	Herrington, D.G.	CHED	9	Hickey, E.	CHED	1566
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Hoberg, J.O.	CHED	1737	Hogan, J.A.	INOR	1446	Hollender, J.	ENVR	135
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Hochuli, J.	COMP	290	Hoh, E.	ENVR	570	Hollingsworth, J.A.	COLL	631
Hock, A.	CATL	197	Hoh, E.	ENVR	639	Hollingsworth, J.A.	COLL	705
Hock, A.	PMSE	221	Hoh, E.	ENVR	659	Hollingsworth, J.A.	INOR	152
Hock, K.J.	ORGN	877	Hohenstein, E.	COMP	90	Hollingsworth, R.	INOR	1294
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Hodgson, R.	CINF	147	Hohloch, S.	INOR	1482	Hollis, T.K.	INOR	591
Hodous, B.L.	MEDI	351	Hohman, B.T.	INOR	431	Hollis, T.K.	INOR	599
Hodous, B.L.	MEDI	365	Hohman, J.	COLL	138	Hollis, T.K.	PHYS	456
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Hoeflich, K.	MEDI	351	Hok, S.	ANYL	258	Holm, J.E.	CELL	140
Hoehler, A.	GEOC	173	Hok, S.	ANYL	359	Holm, J.E.	CELL	212
Hoehner, R.	ANYL	102	Hok, S.	CHED	926	Holman, K.R.	CHED	1508
Hoehner, R.	ANYL	402	Hok, S.	GEOC	252	Holman, K.T.	INOR	1366
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Hoerner, P.	PHYS	368	Holanda, R.	GEOC	78	Holme, T.	CHED	267
Hofele, R.	BIOT	567	Holbrook, D.	ENVR	546	Holme, T.	CHED	1893
Hofele, R.	BIOT	615	Holbrook, H.	ENVR	463	Holme, T.	CHED	1951
Hofer, G.	COLL	551	Holbrook, T.	POLY	463	Holmen, A.	COLL	471
Hofer, K.	CELL	294	Holcomb, A.	CHED	1224	Holmen, B.	ENFL	340
Hofer, K.	CELL	526	Holcomb, R.	AGFD	51	Holmen, B.	ENVR	764
Hofer, W.	COLL	405	Holcomb, R.	AGFD	57	Holmes, A.E.	CHED	2137
Hofer, W.	COLL	726	Holcomb, R.	ANYL	79	Holmes, A.L.	INOR	468
Hoff, T.C.	CATL	404	Holcomb, R.	ANYL	86	Holmes, B.E.	CHED	2062
Hoffland, L.	ANYL	261	Holcomb, R.	ANYL	87	Holmes, B.E.	COMP	275
Hoffman, A.	CHED	1024	Holcomb, R.	ANYL	178	Holmes, B.E.	PHYS	413
Hoffman, A.	CHED	1247	Holcomb, R.	CHED	172	Holmes, C.	PMSE	371
Hoffman, A.	MEDI	176	Holcomb, R.	CHED	774	Holmes, C.M.	ENVR	976
Hoffman, A.J.	ENVR	465	Holcomb, R.	CHED	809	Holmes, J.	MEDI	500
Hoffman, A.S.	COLL	636	Holcomb, R.	CHED	981	Holmes, J.L.	CINF	73
Hoffman, B.M.	ENFL	172	Holcomb, R.	CHED	992	Holmes, N.	CARB	59
Hoffman, B.M.	INOR	175	Holcomb, R.	CHED	1769	Holmes, N.	CARB	60
Hoffman, B.M.	INOR	182	Holdaway, J.	COLL	79	Holmes, S.	CHED	1651
Hoffman, J.	PHYS	552	Holdaway, J.A.	MEDI	270	Holmes, W.	BIOT	645
Hoffman, J.B.	COLL	805	Holden, M.R.	BIOT	171	Holmqvist, A.	BIOT	540
Hoffman, M.Z.	CHED	120	Holden, M.R.	BIOT	477	Holmqvist, J.	CELL	376
Hoffman, M.Z.	IAC	25	Holden, P.	ENVR	666	Holness, H.	ENVR	510
Hoffmann, C.	MEDI	214	Holden, P.	ENVR	752	Holsen, T.	ENVR	72
Hoffmann, C.M.	INOR	714	Holden, P.	ENVR	968	Holst, H.	CHED	910
Hoffmann, C.M.	INOR	1233	Holden, S.	MEDI	394	Holst, M.	CINF	53
Hoffmann, E.	CHED	222	Holden, W.	CATL	198	Holt, B.	PMSE	230
Hoffmann, F.	PHYS	51	Holder, A.	COMP	524	Holt, B.	PMSE	697
Hoffmann, J.	CHED	1244	Holder, A.	INOR	1116	Holt, E.	PMSE	256
Hoffmann, M.J.	CATL	42	Holder, A.M.	ANYL	246	Holten-Andersen, N.	POLY	294
Hoffmann, W.	AGFD	270	Holder, K.	CELL	292	Holtman, K.M.	CELL	401
Hofmann, F.	MEDI	353	Holderer, O.	COLL	79	Holton, A.	CHED	85
Hofmann, J.	CATL	649	Holding, A.J.	CELL	519	Holton, K.	CHED	1271
Hofmann, T.	ENVR	308	Holewinski, A.	CATL	168	Holycross, D.R.	ORGN	828
Hofmann, T.	ENVR	311	Holger, H.	MEDI	378	Holz, R.C.	MEDI	264
Hofmann, T.	AGFD	254	Holian, A.	ENVR	491	Holzgrave, U.	MEDI	214
Hofmann, T.	AGFD	255	Holinstat, M.	POLY	42	Hom, T.F.	CHED	1542
Hofmeister, G.E.	ORGN	113	Holland, A.	CHED	729	Hom, W.	PMSE	372
Hofmeister, G.E.	ORGN	125	Holland, A.W.	INOR	438	Hom, W.	POLY	414
Hofstad, B.A.	ENFL	182	Holland, L.A.	ANYL	335	Homan, K.	MEDI	10
Hofstetter, H.	MEDI	261	Holland, M.	INOR	1114	Homan, N.	ENVR	101
Hofstetter, T.B.	ENVR	3	Holland, P.L.	INOR	243	Homan, S.	PHYS	4
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Honda, H.	I&EC	114	Hoover, C.	CINF	33	Hossain, M.	CHED	1568
Honda, H.	INOR	926	Hoover, G.	ENVR	958	Hossain, M.	AGFD	116
Honda, H.	INOR	999	Hoover, J.	CHED	646	Hossain, M.	CATL	386
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Honda, H.	ORGN	180	Hopkins, B.M.	CHED	797	Hossler, P.	BIOT	358
Honda, H.	ORGN	182	Hopkins, C.R.	MEDI	245	Hot, I.	ORGN	838
Honda, H.	ORGN	262	Hopkins, J.	CHED	1145	Hotchandani, R.	CINF	142
Honda, H.	PHYS	530	Hopkins, M.D.	CHED	1364	Hotza, D.	ENVR	694
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Hong, J.	PHYS	259	Hore, M.J.	POLY	411	Houben, K.	CATL	582
Hong, J.I.	ORGN	584	Horecka, J.	BIOT	180	Houchen, E.	CHED	1190
Hong, K.	POLY	356	Horenstein, N.	MEDI	67	Houde, J.	AGFD	2
Hong, M.	CELL	21	Horenstein, N.	MEDI	410	Houferak, C.	PHYS	360
Hong, M.	CELL	438	Horgan, C.L.	CHED	1038	Hough, J.B.	BIOL	68
Hong, M.	CELL	517	Horitani, M.	INOR	175	Hough, J.B.	MEDI	201
Hong, S.	CATL	523	Horkay, F.	BIOL	266	Hough, J.B.	MEDI	203
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Hong, S.	ENFL	160	Horkayne-Szakaly, I.	BIOL	266	Houghton, M.	ORGN	342
Hong, S.	COLL	780	Horn, J.	MEDI	212	Hougland, J.	MEDI	477
Hong, S.	COLL	784	Horn, J.R.	MEDI	261	Houk, A.L.	CHED	1669
Hong, S.	ENVR	832	Horn, W.F.	AGFD	209	Houk, K.N.	COMP	221
Hong, S.	PMSE	581	Hornak, V.	COMP	483	Houk, K.N.	COMP	485
Hong, S.	CATL	406	Hornat, C.C.	POLY	17	Houk, K.N.	INOR	1326
Hong, S.	PMSE	348	Hornat, C.C.	POLY	200	Houk, K.N.	ORGN	26
Hong, S.	PMSE	375	Hornbuckle, K.C.	ANYL	441	Houk, K.N.	ORGN	123
Hong, S.	PMSE	417	Hornbuckle, K.C.	ENVR	75	Houk, K.N.	ORGN	278
Hong, S.	ENFL	246	Hornbuckle, K.C.	ENVR	824	Houk, K.N.	ORGN	288
Hong, S.	BIOT	353	Hornbuckle, K.C.	ENVR	992	Houk, K.N.	ORGN	296
Hong, S.	BIOT	354	Horne, A.G.	CHED	112	Houk, K.N.	ORGN	358
Hong, S.	ORGN	151	Horne, G.P.	I&EC	85	Houk, K.N.	ORGN	539
Hong, S.	ORGN	154	Horne, W.S.	INOR	667	Houk, K.N.	ORGN	688
Hong, S.	ORGN	176	Hornekaer, L.	PHYS	287	Houk, K.N.	ORGN	816
Hong, S.	ORGN	245	Horner, G.	COLL	267	Houk, K.N.	ORGN	817
Hong, S.	ORGN	261	Horness, R.	ANYL	64	Houk, K.N.	ORGN	929
Hong, S.	INOR	185	Hornillos, V.	CATL	415	Houk, K.N.	ORGN	931
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Houston, A.	CHED	1765	Hsieh, C.	PMSE	532	Hu, R.	PMSE	461
Houston, J.R.	INOR	84	Hsieh, C.	INOR	1321	Hu, R.	PMSE	464
Houston, J.R.	INOR	292	Hsieh, H.	AGFD	51	Hu, S.	CATL	471
Houston, J.R.	INOR	325	Hsieh, H.	AGFD	57	Hu, T.	INOR	69
Houtz, E.	ENVR	55	Hsieh, H.	ANYL	87	Hu, T.	INOR	705
Houtz, E.	ENVR	543	Hsieh, H.	CHED	1769	Hu, W.	BIOT	105
Houtz, E.	ENVR	960	Hsieh, H.	MEDI	482	Hu, W.	BIOT	488
Houy, S.	ANYL	112	Hsieh, H.	ORGN	185	Hu, W.	BIOT	583
Hovenkotter, K.	ORGN	505	Hsieh, H.	ORGN	516	Hu, W.	BIOT	590
Hoverman, J.	ENVR	958	Hsieh, M.	PMSE	153	Hu, W.	BIOT	621
Howa, J.	ANYL	357	Hsieh, S.	CHAS	44	Hu, W.	CATL	283
Howard, A.	BIOL	263	Hsieh, Y.	CELL	390	Hu, W.	CATL	650
Howard, B.H.	ENFL	128	Hsieh, Y.	CELL	403	Hu, W.	MEDI	350
Howard, E.	INOR	993	Hsieh, Y.	CELL	408	Hu, X.	PMSE	258
Howard, E.M.	CHED	90	Hsieh, Y.	CELL	482	Hu, X.	COLL	105
Howard, L.	ORGN	850	Hsiow, C.	CATL	175	Hu, X.	PMSE	259
Howard, M.	INOR	1024	Hsu, C.	BIOT	308	Hu, X.	CINF	63
Howarth, A.	INOR	1375	Hsu, C.	CHED	779	Hu, X.	CINF	64
Howe, D.	ENFL	331	Hsu, C.S.	ENFL	435	Hu, Y.	GEOC	74
Howe, J.	PMSE	594	Hsu, E.	BIOL	294	Hu, Y.	CELL	101
Howe, J.	CHED	326	Hsu, H.	MEDI	218	Hu, Y.	CELL	200
Howell, A.B.	AGFD	184	Hsu, H.	GEOC	262	Hu, Y.	CELL	337
Howell, B.	POLY	155	Hsu, J.	AGFD	102	Hu, Y.	PMSE	170
Howell, B.	POLY	474	Hsu, J.	AGFD	102	Hu, Y.	POLY	238
Howell, B.A.	POLY	38	Hsu, J.	MEDI	482	Hu, Y.	CATL	219
Howell, D.K.	CHED	1839	Hsu, J.Y.	ENVR	628	Hu, Y.	COLL	572
Howell, W.	POLY	1	Hsu, K.	MEDI	256	Hu, Y.	COLL	682
Howett, S.	NUCL	112	Hsu, K.	MEDI	382	Hu, Y.	COLL	833
Howington, M.	INOR	1042	Hsu, L.	CATL	164	Hu, Y.	I&EC	133
Howitz, W.J.	BIOL	130	Hsu, L.	COLL	597	Hu, Y.	CHED	1439
Howlader, A.	ORGN	731	Hsu, M.	ENVR	342	Hu, Y.	ENVR	924
Hoye, T.R.	ORGN	740	Hsu, M.	ENVR	429	Hu, Y.	ENVR	928
Hoyer, C.	COMP	379	Hsu, Y.	ENFL	246	Hu, Y.	PMSE	676
Hoyland, B.	CHED	1792	Hsueh, H.	PMSE	419	Hu, Y.H.	ENFL	25
Hoyle, J.	ENVR	373	Hsueh, H.	PMSE	589	Hu, Y.H.	ENFL	102
Hoyo, J.	COLL	160	Hsu-Kim, H.	ENVR	300	Hu, Z.	CELL	144
Hoyo, J.	COLL	339	Hsu-Kim, H.	ENVR	344	Hu, Z.	CELL	291
Hoyt, D.W.	CATL	204	Htoon, H.	COLL	293	Hu, Z.	GEOC	62
Hoyt, H.M.	INOR	19	Htoon, H.	COLL	600	Hu, Z.	INOR	1407
Hoyt, H.M.	INOR	299	Htoon, H.	COLL	631	Hu, Z.	CHED	1165
Hozalski, R.M.	ENVR	95	Htoon, H.	COLL	705	Hu, Z.	COLL	631
Hozalski, R.M.	ENVR	266	Hu, B.	FLUO	48	Hu, Z.	COLL	705
Hozumi, A.	COLL	131	Hu, B.	MEDI	346	Hu, Z.	SOCED	3
Hrahsheh, F.	PHYS	187	Hu, B.	CATL	172	Hu, Z.	PHYS	251
Hrahsheh, F.	PHYS	403	Hu, C.	ENVR	419	Hu, Z.	PMSE	260
Hratchian, H.P.	CHED	877	Hu, C.	COLL	164	Hua, B.	CHED	1096
Hratchian, H.P.	COMP	215	Hu, E.	ENVR	88	Hua, B.	INOR	1241
Hratchian, H.P.	COMP	314	Hu, F.	PMSE	16	Hua, F.	COLL	569
Hratchian, H.P.	COMP	462	Hu, H.	NUCL	89	Hua, I.	CHED	2171
Hratchian, H.P.	COMP	468	Hu, H.	NUCL	67	Hua, J.	INOR	240
Hratchian, H.P.	ORGN	934	Hu, H.	COLL	606	Hua, S.T.	AGFD	245
Hratchian, H.P.	PHYS	370	Hu, H.	ENVR	806	Hua, Y.	COLL	418
Hribar Lee, B.	PHYS	527	Hu, H.	ENVR	905	Hua, Z.M.	AGFD	15
Hribernik, S.	CELL	157	Hu, H.	INOR	814	Hua, Z.M.	AGFD	35
Hribernik, S.	CELL	454	Hu, H.	COLL	709	Huan, S.	CELL	531
Hribernik, S.	CELL	473	Hu, H.Q.	INOR	24	Huan, S.	CELL	249
Hribernik, S.	CELL	510	Hu, J.	MEDI	265	Huang, B.	PHYS	358
Hribersek, M.	ORGN	264	Hu, J.	CATL	153	Huang, B.	ENVR	314
Hribersek, M.	ORGN	312	Hu, J.	GEOC	208	Huang, B.	MEDI	350
Hristova, S.	MEDI	407	Hu, J.	INOR	1573	Huang, B.	ANYL	238
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Hsiao, B.S.	CELL	196	Hu, M.	MEDI	248	Huang, C.	BIOT	684
Hsiao, B.S.	ENVR	390	Hu, M.	ENFL	434	Huang, C.	COLL	846
Hsiao, B.S.	PMSE	216	Hu, M.	MEDI	384	Huang, C.	ENVR	46
Hsiao, M.	BIOT	372	Hu, P.	CATL	283	Huang, C.	MEDI	26
Hsiao, M.	BIOT	376	Hu, P.	CATL	612	Huang, C.	MEDI	349
Hsiao, M.	COMP	258	Hu, P.	CATL	650	Huang, C.	BIOT	70
Hsiao, M.	I&EC	105	Hu, Q.	BIOT	245	Huang, C.	BIOL	77
Hsiao, M.	I&EC	114	Hu, R.	BIOT	323	Huang, C.	ENVR	240
Hsiao, M.	INOR	1022	Hu, R.	BIOT	580	Huang, C.	ENFL	440
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Huang, F.	PMSE	262	Huang, X.	BIOT	94	Huddle, B.	MEDI	221
Huang, F.	PMSE	378	Huang, X.	INOR	554	Huddleston, M.	BIOT	610
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Huang, F.	PMSE	596	Huang, X.	CARB	8	Hudnall, T.W.	INOR	1313
Huang, F.	POLY	324	Huang, X.	COMP	242	Hudnall, T.W.	ORGN	181
Huang, F.	PMSE	100	Huang, X.	MEDI	57	Hudson, A.	CHED	1832
Huang, G.	ENVR	160	Huang, X.W.	ENVR	866	Hudson, B.S.	PHYS	372
Huang, G.	AGFD	187	Huang, X.W.	INOR	52	Hudson, B.S.	PHYS	385
Huang, H.	ORGN	518	Huang, Y.	ENVR	246	Hudson, B.S.	PHYS	389
Huang, H.	INOR	24	Huang, Y.	ANYL	131	Hudson, C.	ENFL	438
Huang, H.	INOR	280	Huang, Y.	ENFL	59	Hudson, J.	ENVR	427
Huang, H.	BIOL	87	Huang, Y.	ENVR	174	Hudson, J.S.	BIOL	52
Huang, J.	BIOT	114	Huang, Y.	ENVR	517	Hudson, K.	PHYS	438
Huang, J.	PMSE	620	Huang, Y.	PMSE	439	Hudson, M.	INOR	981
Huang, J.	CATL	398	Huang, Y.	CELL	208	Hudson, M.R.	INOR	710
Huang, J.	COMP	145	Huang, Y.	CELL	338	Hudson, M.R.	INOR	1505
Huang, J.	COMP	529	Huang, Y.	CELL	456	Hudson, P.K.	ANYL	74
Huang, J.	CATL	106	Huang, Y.	ANYL	22	Hudson, P.S.	COMP	236
Huang, J.	COLL	499	Huang, Y.	INOR	442	Hudson, R.L.	PHYS	326
Huang, J.	PMSE	441	Huang, Y.	INOR	1145	Hudson, S.D.	PMSE	276
Huang, K.	MEDI	382	Huang, Y.	PMSE	660	Hudson, W.	ENVR	735
Huang, K.S.	CHED	1341	Huang, Y.	POLY	10	Hudson, W.	ENVR	799
Huang, K.S.	CHED	1357	Huang, Y.	COLL	242	Hudson-Smith, N.	ANYL	336
Huang, K.W.	CHED	1299	Huang, Y.	CATL	74	Hue, R.J.	PMSE	222
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Huang, L.	ORGN	693	Huang, Y.	BIOT	119	Huebner-Keese, B.	CELL	314
Huang, L.	PMSE	266	Huang, Y.	MEDI	382	Huebner-Keese, B.	PMSE	614
Huang, L.	INOR	555	Huang, Y.	COLL	865	Hueckel, T.	COLL	772
Huang, L.	PMSE	318	Huang, Y.	INOR	1445	Hueckel, T.	COLL	774
Huang, L.	ANYL	118	Huang, Y.	PMSE	498	Huehn, J.	COLL	419
Huang, L.	ORGN	574	Huang, Y.	COLL	652	Huerta, N.	ENFL	30
Huang, L.	ORGN	575	Huang, Y.	ENVR	579	Huerta, N.	ENFL	34
Huang, L.	PMSE	536	Huang, Y.	ENVR	636	Huertos, M.A.	INOR	1398
Huang, L.	CHED	355	Huang, Y.	BIOL	77	Huesmann, D.	PMSE	479
Huang, L.	CHED	468	Huang, Y.	CATL	376	Huesmann, D.	PMSE	551
Huang, L.	CHED	1356	Huang, Z.	I&EC	40	Huestis, M.	ORGN	34
Huang, L.	PMSE	506	Huang, Z.	COLL	141	Huey, M.	CHED	1180
Huang, L.	ANYL	126	Huang, Z.	COLL	314	Huffman, S.	CHED	1870
Huang, L.	INOR	1070	Huang, Z.	PHYS	371	Hug, S.J.	ENVR	84
Huang, L.	MEDI	236	Huang, Z.	PHYS	492	Hugerat, M.	CHED	79
Huang, L.	MEDI	243	Huang, Z.	CHED	393	Hugerat, M.	CHED	211
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Huang, P.	BIOT	40	Huang, Z.	CHED	336	Huggler, K.S.	CHED	1607
Huang, P.	INOR	487	Huang, Z.	CELL	457	Hughes, D.	CHED	962
Huang, Q.	AGFD	32	Hubaud, A.A.	CATL	97	Hughes, D.	PMSE	214
Huang, Q.	AGFD	34	Hubbard, J.	CHED	4	Hughes, D.	PMSE	274
Huang, Q.	COLL	490	Hubbard, S.	CHED	199	Hughes, J.	COMP	36
Huang, R.	GEOC	21	Hubbard, S.	CHED	451	Hughes, J.	ORGN	480
Huang, R.	GEOC	50	Hubbard, S.	CHED	456	Hughes, J.	BIOT	362
Huang, R.	GEOC	54	Hubbe, M.	COLL	183	Hughes, L.	CHED	384
Huang, R.	GEOC	235	Hubbich, J.	BIOT	100	Hughes, N.	CHED	517
Huang, R.	MEDI	222	Hubbich, J.	BIOT	188	Hughes, N.L.	INOR	1288
Huang, R.	BIOT	549	Hubbich, J.	BIOT	213	Hughes, R.A.	CATL	652
Huang, R.	BIOT	575	Hubbich, J.	BIOT	411	Hughes, R.M.	MEDI	392
Huang, S.	CELL	522	Hubbich, J.	BIOT	522	Hughes, S.	CHED	945
Huang, S.	CATL	638	Hubbich, J.	BIOT	727	Hughes, S.	CHED	1252
Huang, S.	ENFL	97	Huber, A.J.	PMSE	148	Hughes, S.	CHED	1253
Huang, S.	POLY	351	Huber, D.	COLL	711	Hughes, S.	COLL	197
Huang, S.	CHED	1322	Huber, D.	COLL	840	Hughes, S.	COLL	198
Huang, T.	POLY	27	Huber, D.	POLY	280	Hughes, S.J.	MEDI	277
Huang, T.	ENVR	333	Huber, J.	CHED	1398	Hughes, S.J.	MEDI	274
Huang, T.	PMSE	37	Huber, L.	COMP	333	Hughes-Phelan, S.	CHED	1989
Huang, V.	ORGN	270	Huber, P.	ANYL	248	Huh, D.N.	INOR	94
Huang, W.	MEDI	256	Huber, R.	ENFL	318	Huh, J.	PMSE	308
Huang, W.	MEDI	382	Huber, R.	ENVR	388	Huh, J.	PMSE	642
Huang, W.	ENVR	893	Huber, S.	ORGN	272	Huh, Y.	BIOT	472
Huang, W.	MEDI	36	Huber, S.	ORGN	409	Huh, Y.	BIOT	577
Huang, W.	MEDI	237	Huber, S.	POLY	346	Huh, Y.	BIOT	705
Huang, W.	GEOC	22	Huck, W.	COLL	410	Hui, A.O.	CHED	1670
Huang, W.	INOR	592	Huckaba, A.	CHED	1639	Hui, C.	BIOL	208
Huang, W.	ENVR	257	Hucul, D.A.	CELL	406	Hui, G.	CELL	115
Huang, W.	CATL	170	Hud, N.V.	ANYL	375	Hui, J.	ANYL	277
Huang, W.	CATL	606	Hud, N.V.	POLY	141	Hui, W.	BIOT	428
Huang, W.	COLL	99	Huda, M.	ENFL	60	Hui, Y.	GEOC	359
Huang, W.	ENFL	441	Hudak, B.M.	INOR	534	Hui, Z.	INOR	1027

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Hulangamuwa, W.	ORGN	717	Hunter, Z.	CHED	1872	Huston, A.	COLL	573
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Hull, K.	CHED	913	Huntington, S.L.	POLY	563	Hutcherson, C.	CHED	1069
Hull, N.	GEOC	342	Huntington, T.	ENVR	269	Hutcherson, C.	CHED	2057
Hull, R.	ENVR	268	Huntley, C.J.	CELL	12	Hutchings, G.	CATL	86
Hull, T.	PHYS	386	Huntley, C.J.	CELL	164	Hutchings, G.	CATL	105
Hulley, E.B.	INOR	313	Huntley, C.J.	CELL	165	Hutchings, G.	CATL	159
Hulley, E.B.	INOR	1545	Hunyadi Murph, S.	COLL	240	Hutchings, G.	ENFL	92
Hum, N.	ANYL	23	Hunyadi Murph, S.	INOR	1416	Hutchings, M.E.	COMP	205
Humiston, K.	SCHB	22	Hunyadi Murph, S.	INOR	1525	Hutchinson, J.S.	CHED	1890
Humke, J.	ORGN	370	Huo, P.	COMP	51	Hutchinson, M.	BIOT	157
Hummel, M.	CELL	42	Huo, P.	PHYS	172	Hutchinson, M.	BIOT	351
Hummel, M.	CELL	293	Huo, P.	PHYS	309	Hutchinson, M.R.	CHED	1351
Hummel, M.	CELL	334	Huo, S.	INOR	1287	Hutchinson, R.	CHED	1159
Hummer, G.	COMP	429	Huo, S.	COMP	133	Hutchinson, R.	IAC	1
Hummer, G.	PHYS	99	Huo, X.	ENVR	82	Hutchinson-Anderson, K.M.	CHED	86
Humood, M.	POLY	505	Huo, Z.	ENVR	905	Hutchinson-Anderson, K.M.	CHED	184
Humphrey, G.R.	ORGN	305	Huong, C.V.	ENVR	782	Hutchison, D.	INOR	450
Humphrey, J.M.	MEDI	361	Hupfer, M.L.	COLL	720	Hutchison, D.	INOR	451
Humphrey, S.M.	COLL	97	Hupp, A.M.	ANYL	182	Hutchison, G.	COMP	348
Humphrey, S.M.	INOR	205	Hupp, A.M.	CHED	374	Hutchison, G.	INOR	667
Humphries, M.	INOR	876	Hupp, A.M.	CHED	463	Hutchison, J.E.	COLL	182
Humphry, T.	CHED	1852	Hupp, A.M.	CHED	798	Hutchison, J.E.	COLL	194
Humphry, T.A.	CHED	319	Hupp, J.T.	CATL	569	Hutchison, J.E.	COLL	342
Hung, A.	MEDI	422	Hupp, J.T.	COLL	100	Hutchison, J.E.	INOR	1018
Hung, C.	ORGN	55	Hupp, J.T.	ENFL	271	Hutchison, R.	CHED	1770
Hung, C.	PMSE	146	Hupp, J.T.	ENFL	346	Hutchison, R.	MEDI	37
Hung, H.	ORGN	174	Hupp, J.T.	INOR	200	Hutchison, R.U.	INOR	175
Hung, J.	BIOT	88	Hupp, J.T.	INOR	677	Huth, S.E.	CHED	1377
Hung, J.	COMP	392	Hupp, J.T.	INOR	1375	Huther, A.	INOR	439
Hung, L.	INOR	1064	Hupp, J.T.	INOR	1409	Huthwelker, T.	CATL	48
Hung, L.	INOR	1070	Hupp, J.T.	PHYS	244	Hutson, W.	ANYL	299
Hung, V.	ENVR	363	Huq, A.	ENFL	365	Hutter, J.	PMSE	534
Hung, W.	ENVR	96	Huq, A.	INOR	988	Hutton, C.	ORGN	611
Hung, Y.	INOR	629	Huq, A.	INOR	1010	Hutton, C.	ORGN	614
Hunnicut, S.S.	CHED	1945	Huq, R.	COLL	239	Hutton, C.	ORGN	689
Hunnicut, W.	GEOC	324	Huq, R.	COLL	757	Huuk, T.	BIOT	100
Hunns, J.A.	CATL	236	Hura, N.	MEDI	61	Huuk, T.	BIOT	522
Hunns, J.A.	CATL	240	Hureau, C.	INOR	1323	Huvé, M.	INOR	1561
Hunsicker Wang, L.M.	INOR	253	Hurlburt, T.	BIOT	218	Huynh, C.	ANYL	187
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Hunston, D.L.	PMSE	589	Hurley, M.	BIOT	440	Huynh, T.	COLL	478
Hunt, B.	INOR	360	Hurley, T.	MEDI	221	Huynh, T.	MEDI	349
Hunt, B.	INOR	902	Hurov, K.	MEDI	464	Huynh, U.G.	PMSE	379
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Hunt, D.A.	ORGN	738	Hurst, J.	ENVR	543	Hwang, C.	BIOT	573
Hunt, D.F.	ANYL	287	Hurst, M.P.	ENVR	712	Hwang, D.	BIOT	277
Hunt, J.R.	PROF	46	Hurst, M.P.	ENVR	762	Hwang, E.	ENFL	224
Hunt, J.R.	PHYS	461	Hurst, M.R.	ORGN	234	Hwang, E.	ENFL	226
Hunt, J.T.	MEDI	349	Hurst, O.	BIOL	262	Hwang, H.	PMSE	295
Hunt, M.A.	ANYL	194	Hurst, P.J.	ORGN	484	Hwang, H.	BIOT	446
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Hunt, P.	CINF	70	Hurst, S.K.	INOR	386	Hwang, I.	ENFL	269
Hunt, P.	CINF	165	Hurst, S.K.	INOR	387	Hwang, I.	ENVR	381
Hunt, P.	COMP	218	Hurt, M.	ENFL	189	Hwang, I.	ENVR	424
Hunt, P.	COMP	313	Hurt, R.	ENVR	219	Hwang, I.	ENVR	589
Hunt, R.	CHED	471	Hurt, R.	ENVR	507	Hwang, J.	INOR	702
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Hunter, A.K.	BIOT	10	Husnain, S.	ENVR	781	Hwang, K.	COLL	265
Hunter, A.K.	BIOT	211	Husremovic, S.	INOR	998	Hwang, K.	PMSE	380
Hunter, B.M.	INOR	384	Hussain, A.	BIOT	459	Hwang, K.	PMSE	381
Hunter, C.	COLL	104	Hussain, A.	CHED	544	Hwang, K.	PMSE	295
Hunter, C.	ORGN	407	Hussain, J.	COMP	80	Hwang, K.	ENFL	187
Hunter, C.	PHYS	563	Hussain, M.	BIOT	421	Hwang, K.	ENVR	381
Hunter, C.A.	ORGN	586	Hussain, M.	BIOT	642	Hwang, N.	MEDI	259
Hunter, H.A.	GEOC	296	Hussain, S.	CELL	347	Hwang, R.	CATL	340
Hunter, I.L.	INOR	392	Hussain, T.	ENVR	235	Hwang, R.	CATL	341
Hunter, K.	CHED	868	Hussain, T.	PMSE	410	Hwang, S.	CATL	22
Hunter, K.	COMP	317	Hussain, T.	PMSE	682	Hwang, S.	CATL	646
Hunter, K.W.	ANYL	118	Hussein, N.H.	CHED	1510	Hwang, S.	INOR	830
Hunter, K.W.	ORGN	574	Hussey, D.	ENFL	362	Hwang, S.	MEDI	68
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Iisa, K.	CELL	211	Iingram, J.C.	ANYL	92	Iisbill, S.	CATL	95
Iisa, K.	ENFL	289	Iingram, J.C.	ANYL	212	Iisborn, C.	COMP	251

Isborn, C.	COMP	270	Ivancich, A.	INOR	659	Jackson, T.A.	INOR	288
Isborn, C.	COMP	425	Ivanov, A.	ORGN	408	Jackson, T.A.	INOR	289
Isborn, C.	PHYS	501	Ivanov, I.	ORGN	760	Jacob, E.	POLY	188
Isebrands, J.	ENVR	239	Ivanov, S.	COLL	12	Jacob, K.	PMSE	414
Isenko, L.	CINF	129	Ivanova, A.	COLL	230	Jacob, L.M.	ANYL	336
Isern, S.	I&EC	7	Ivanova, K.	COLL	160	Jacob, N.	MEDI	370
Isgor, O.	COLL	316	Ivanova, K.	COLL	230	Jacob, S.D.	ORGN	271
Ishchenko, A.A.	PHYS	528	Ivanova, K.	COLL	245	Jacobo, S.A.	MEDI	165
Ishida, K.P.	ENVR	39	Ivanova, K.	COLL	339	Jacobs, A.	INOR	245
Ishida, K.P.	ENVR	117	Ivanova, K.	COLL	343	Jacobs, A.	INOR	247
Ishida, K.P.	ENVR	200	Ivanovich, C.C.	GEOC	246	Jacobs, B.	INOR	1214
Ishida, K.P.	ENVR	203	Ivanovsky, N.	CHED	1017	Jacobs, D.	COLL	6
Ishida, K.P.	ENVR	206	Ivarsson, I.	MEDI	17	Jacobs, D.	MEDI	153
Ishida, K.P.	ENVR	258	Ivasenko, O.	COLL	477	Jacobs, D.	ENVR	309
Ishida, K.P.	ENVR	281	Ivasenko, O.	COLL	478	Jacobs, D.	PMSE	589
Ishiguro, N.	CATL	96	Ivashkina, E.	I&EC	102	Jacobs, H.K.	ORGN	200
Ishiguro, N.	CATL	101	Iverson, B.	BIOT	57	Jacobs, H.K.	ORGN	332
Ishii, S.	INOR	1170	Iverson, B.	BIOT	378	Jacobs, J.D.	CHED	1408
Ishikawa, T.	COLL	512	Iverson, B.L.	BIOL	59	Jacobson, D.L.	ENFL	362
Ishikawa, T.	CELL	271	Ivy, J.	INOR	1043	Jacobson, D.L.	ENFL	366
Isikel Sanli, L.	CELL	299	Iwamoto, H.	ORGN	118	Jacobson, J.	INOR	392
Isikel Sanli, L.	PMSE	683	Iwamoto, H.	ORGN	236	Jacobson, K.A.	BIOL	333
Iski, E.V.	CHED	1255	Iwasa, E.	COMP	549	Jacobson, K.A.	COMP	389
Iski, E.V.	CHED	1256	Iwasaki, Y.	COLL	533	Jacobson, K.A.	MEDI	249
Iski, E.V.	CHED	1272	Iwasawa, T.	CHED	1452	Jacobson, K.A.	MEDI	326
Islam, A.	BIOT	427	Iwasawa, Y.	CATL	515	Jacobson, K.A.	MEDI	448
Islam, A.	COLL	173	Iyemperumal, S.	ENFL	149	Jacobson, M.P.	COMP	64
Islam, I.	MEDI	168	Iyer, J.	ENFL	30	Jacobson, M.P.	COMP	116
Islam, J.M.	ORGN	399	Iyer, J.	GEOC	47	Jacobson, M.P.	COMP	440
Islam, M.	PHYS	373	Iyer, K.A.	CELL	226	Jacome Ottati, I.	CHED	1463
Islam, M.	ORGN	523	Iyer, M.R.	MEDI	38	Jacques, J.	AGFD	38
Islam, R.	POLY	73	Iyer, S.	INOR	274	Jacques, J.	AGFD	40
Islam, S.	INOR	1529	Iyer, S.	PROF	52	Jadhav, A.	ENVR	835
Island, B.	ORGN	614	Iyer, S.	PROF	53	Jadhav, V.	COLL	762
Island, B.	ORGN	689	Iyoda, Y.	MEDI	449	Jae Sung, L.	BIOT	256
Isley, W.C.	NUCL	102	Izor, S.	COLL	840	Jaeger, H.	COLL	635
Isley, W.C.	INOR	1481	Izumi, Y.	CATL	103	Jaeger, W.	PHYS	510
Ismail, I.	CATL	315	Izvekov, S.	COMP	195	Jaeger, W.	PHYS	521
Ismail, I.	CATL	316	Izvekov, S.	PMSE	595	Jaensch, D.	ORGN	753
Ismail, M.	CHED	324	Izzo, N.J.	MEDI	35	Jaensch, D.	ORGN	754
Ismail, M.	CHED	549	Izzo, R.M.	CHAS	4	Jaensch, D.	ORGN	760
Ismail, M.	MEDI	445	Izzo, R.M.	CHAS	43	Jaffe, A.	INOR	1106
Ismail, N.	CHED	1308	Jaafar, Z.	CELL	534	Jaffe, A.	INOR	1174
Ismail, O.H.	ANYL	196	Jaaskelainen, A.	CELL	344	Jaffe, R.	ENVR	257
Isogai, A.	CELL	136	Jabara, J.	ANYL	475	Jaffredo, C.	INOR	796
Isogai, A.	CELL	199	Jabbari, V.	ENVR	368	Jafvert, C.T.	ENVR	245
Isogai, A.	CELL	281	Jabbur, J.	BIOL	255	Jafvert, C.T.	ENVR	647
Isogai, A.	CELL	301	Jablonksi, L.M.	ANYL	110	Jagannadham, M.	ANYL	437
Isogai, A.	CELL	350	Jacinto, S.	COMP	303	Jagdale, P.	ENVR	593
Isogai, A.	CELL	375	Jackman, M.	ORGN	100	Jager, M.F.	PHYS	252
Isogai, A.	CELL	468	Jackman, M.	ORGN	197	Jager, M.F.	PHYS	511
Ison, E.A.	CHED	1071	Jackman, T.A.	COMP	331	Jagger, B.R.	COMP	309
Ison, E.A.	INOR	105	Jackson, A.	ANYL	184	Jagger, B.R.	COMP	311
Isovitsch, R.A.	MEDI	481	Jackson, B.	CELL	152	Jagger, B.R.	INOR	955
Isovitsch, R.A.	ORGN	803	Jackson, D.	INOR	489	Jagiello, L.A.	CELL	525
Isovitsch, R.A.	ORGN	804	Jackson, D.	CHED	248	Jagtap, N.	ENVR	566
Israelachvili, J.N.	COLL	502	Jackson, D.	CHED	1462	Jahan, I.	ORGN	120
Israelachvili, J.N.	COLL	503	Jackson, D.	CHED	1913	Jahan, R.	MEDI	19
Israelachvili, J.N.	COLL	576	Jackson, E.D.	INOR	640	Jahangiri, S.	PMSE	683
Israelachvili, J.N.	POLY	508	Jackson, G.P.	ANYL	356	Jahn, C.	BIOT	402
Issa, E.	AGFD	117	Jackson, J.	CHED	1704	Jahncke, C.	CHED	1679
Isterfi, M.	BIOT	390	Jackson, J.	CHED	1731	Jahnke, A.	PMSE	156
Ito, H.	INOR	1065	Jackson, J.	CHED	1738	Jahnke, J.	BIOT	440
Ito, H.	ORGN	118	Jackson, J.	CHED	1743	Jahovic, I.	CHED	1712
Ito, H.	ORGN	236	Jackson, K.M.	CHED	2160	Jahrman, E.	CATL	198
Ito, H.	ORGN	242	Jackson, K.T.	CHED	953	Jaime, C.	COMP	293
Ito, K.	POLY	529	Jackson, K.T.	CHED	1336	Jain, A.	PHYS	200
Ito, K.	POLY	531	Jackson, L.	AGFD	133	Jain, A.	MEDI	395
Ito, L.	CHED	1372	Jackson, L.E.	CHED	1256	Jain, A.	CATL	625
Ito, S.	PHYS	404	Jackson, L.E.	CHED	1272	Jain, A.	INOR	1169
Ito, S.	PHYS	432	Jackson, M.	MEDI	400	Jain, A.	PMSE	126
Ito, T.	ANYL	367	Jackson, M.	ANYL	13	Jain, D.	CATL	28
Ito, Y.	ANYL	103	Jackson, M.	ANYL	123	Jain, N.	BIOL	53
Itoh, T.	ORGN	77	Jackson, P.	MEDI	24	Jain, R.	BIOT	565
Itoh, T.	ORGN	305	Jackson, R.B.	GEOC	335	Jain, S.	PMSE	32
Iuliucci, R.	CHED	1651	Jackson, T.	CHED	2132	Jain, S.	PMSE	227
Iuliucci, R.	MEDI	509	Jackson, T.A.	INOR	148	Jain, V.	CATL	279
Ivan, D.	CHED	1807	Jackson, T.A.	INOR	282	Jain, V.	CATL	447
Ivan, D.	INOR	617	Jackson, T.A.	INOR	283	Jaipersaud, C.	CHED	703
Ivan, D.	INOR	1327	Jackson, T.A.	INOR	287	Jaishankar, P.	BIOL	141



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Jaishankar, P.	MEDI	142	Jang, E.	BIOT	472	Jaramillo, T.F.	CATL	290
Jaisi, D.	ENVR	202	Jang, E.	BIOT	577	Jaramillo, T.F.	CATL	318
Jaisi, D.	GEOC	236	Jang, E.	BIOT	705	Jaramillo, T.F.	CATL	330
Jakob, R.P.	ORGN	527	Jang, H.	INOR	696	Jaramillo, T.F.	CATL	333
Jakober, C.A.	CHAS	46	Jang, H.	INOR	832	Jaramillo, T.F.	CATL	375
Jakobowski, K.	CHED	1147	Jang, J.	ENFL	234	Jaramillo, T.F.	CATL	560
Jakobson, C.	BIOL	308	Jang, J.	GEOC	251	Jaramillo, T.F.	ENFL	174
Jakobson, C.	BIOL	360	Jang, J.	COLL	327	Jaramillo, T.F.	ENFL	185
Jakubiak, D.	MEDI	342	Jang, J.	BIOT	656	Jaramillo, T.F.	ENFL	196
Jakubikova, E.	CINF	24	Jang, K.	ENFL	234	Jaramillo, T.F.	ENFL	206
Jakubowski, H.V.	CHED	1182	Jang, M.	ENVR	784	Jaramillo, T.F.	ENVR	144
Jalali, E.	ORGN	47	Jang, S.	ENFL	143	Jaramillo, T.F.	INOR	924
Jalan, A.	ORGN	603	Jang, S.	PMSE	585	Jaramillo, T.F.	INOR	1352
Jalan, A.	ORGN	620	Jang, S.	ENVR	673	Jaramillo, V.I.	CHED	1787
Jalan, B.	COLL	588	Jang, S.	ENVR	861	Jarboe, L.R.	BIOT	173
Jalarvo, N.	ENFL	413	Jang, S.	COMP	349	Jarho, E.	MEDI	446
Jali, A.	MEDI	117	Jang, S.	COMP	359	Jarman, A.N.	CHED	964
Jalid, F.	CATL	41	Jang, S.	PMSE	371	Jarman, K.	ANYL	324
Jalilov, A.S.	COLL	239	Jang, S.	PMSE	394	Jarman, S.	ANYL	96
Jalilov, A.S.	ORGN	871	Jang, S.	BIOT	66	Jarman, S.	ANYL	97
Jallow, O.	MEDI	505	Jang, S.S.	COMP	278	Jarmusch, A.	ANYL	284
Jamadagni, S.N.	COLL	808	Jang, S.S.	COMP	280	Jarnot, A.W.	CHED	128
Jamal, R.	ENVR	835	Jang, S.S.	COMP	294	Jarnot, A.W.	CHED	945
James, B.	CHED	46	Jang, S.S.	ENFL	416	Jaroniec, M.	CATL	320
James, B.R.	GEOC	213	Jang, W.	PHYS	424	Jarrold, C.	PHYS	565
James, C.	INOR	1369	Jang, Y.	COLL	822	Jarry, A.	ANYL	278
James, E.	COMP	285	Jani, M.	CHED	1721	Jarusiewicz, J.A.	MEDI	177
James, I.C.	ANYL	103	Janicek, B.	PHYS	406	Jarusophon, S.	AGFD	259
James, J.	ENVR	384	Janik, I.	PHYS	394	Jarv, J.	MEDI	66
James, N.	CHED	1167	Janik, M.J.	CATL	574	Jarvi, A.	INOR	741
James, N.	IAC	10	Janik, M.J.	NUCL	88	Jarvinen, G.	NUCL	57
James, S.	ENVR	126	Janish, M.T.	COLL	137	Jarvis, E.	INOR	44
James, T.	BIOT	430	Janjetovic, Z.	MEDI	427	Jarvis, E.A.	CHED	868
James, T.	COLL	449	Janjua, M.	COMP	370	Jarvis, E.A.	CHED	1664
Jameson, A.	CHED	1718	Janjua, M.	PHYS	491	Jarvis, E.A.	COMP	316
Jamhawi, A.	PHYS	369	Jankauskas, K.	BIOT	648	Jarvis, E.A.	COMP	317
Jamieson, C.	ORGN	220	Jannik, T.	ENVR	128	Jarvis, J.	ORGN	520
Jamieson, C.	ORGN	402	Janoschek, L.	BIOT	525	Jarvis, M.	ENFL	288
Jamieson, E.R.	CHED	245	Janot, N.	NUCL	26	Jarvis, M.	ENFL	289
Jamieson, E.R.	INOR	221	Janoušek, Z.	FLUO	5	Jarvis, M.	ENFL	424
Jamieson, J.	GEOC	250	Jans, M.	MEDI	347	Jarvis, T.	ORGN	473
Jamison, C.R.	ORGN	900	Jansen, J.M.	COMP	180	Jarvo, E.R.	ORGN	141
Jamison, S.	ENVR	789	Jansen, J.M.	COMP	247	Jarvoll, P.	ORGN	686
Jamison, T.F.	ENVR	389	Jansen, W.	ANYL	75	Jarwan, S.	CHED	1176
Jamison, T.F.	ENVR	1026	Jansma, A.L.	CHED	671	Jary, D.	POLY	583
Jammerneegg, K.	CELL	471	Jansone-Popova, S.	ORGN	577	Jarzecki, A.	COLL	268
Jamsheer, A.	GEOC	220	Jansons, A.	COLL	182	Jarzecki, A.	COLL	735
Jamshidi, S.	COMP	409	Jansons, A.W.	COLL	194	Jasensky, J.	PMSE	99
Jan, D.	BIOT	386	Jansons, A.W.	COLL	342	Jasim, D.	BIOT	464
Jan, D.L.	INOR	1446	Janssen, E.	ENVR	1020	Jasim, D.	BIOT	507
Jana, N.	ORGN	764	Jansson Löfmark, R.	MEDI	17	Jasim, D.	COLL	745
Jana, S.	ORGN	841	Jansson, D.	ANYL	294	Jasim, D.	ORGN	867
Jana, S.	BIOL	166	Jansson, D.	BIOT	413	Jasim, T.H.	INOR	318
Jana, S.	ORGN	162	Jansson, D.	BIOT	523	Jasinski, J.	INOR	20
Jana, S.C.	POLY	620	Jansson, E.	ANYL	143	Jasinski, J.	INOR	303
Janakiraman, A.	AGFD	246	Jansuziewicz, R.	PMSE	263	Jasniewski, A.	INOR	22
Janakiraman, V.	BIOT	72	Jansuziewicz, R.	PMSE	550	Jasperse, C.P.	CHED	1394
Janaky, C.	ENFL	16	Jantunen, L.	ENVR	73	Jassby, D.	ENVR	531
Janaky, C.	ENFL	21	Janvelyan, N.	CATL	239	Jassby, D.	ENVR	584
Janaky, C.	ENVR	141	Janvier, M.	POLY	439	Jastrow, J.	ENVR	103
Janaky, C.	IAC	19	Janvier, M.	ORGN	914	Jatko, J.T.	CHED	1797
Janaky, C.	YCC	22	Janzen, D.	ORGN	230	Jaufurally, S.	POLY	439
Janaswamy, S.	CELL	130	Janzen, D.E.	INOR	291	Jauregui, J.	CHED	691
Janc, T.	PHYS	484	Janzen, D.E.	INOR	297	Javanbakht, G.	ENFL	404
Jančić, U.	CELL	454	Jaque, I.	GEOC	84	Javed, E.	INOR	1287
Janczak, C.	ANYL	420	Jara, E.	CHED	1332	Javed, S.	ORGN	658
Janda, K.D.	MEDI	323	Jaramillo, E.	COMP	301	Javey, A.	ANYL	465
Janda, K.D.	MEDI	370	Jaramillo, M.	ENVR	522	Javey, A.	ANYL	485
Janeira, E.	CHED	1160	Jaramillo, T.F.	ANYL	315	Javey, A.	ENFL	103
Janeira, E.	IAC	7	Jaramillo, T.F.	CATL	24	Javner, C.	POLY	95
Janek, J.	I&EC	79	Jaramillo, T.F.	CATL	25	Javornik, A.R.	CHED	404
Janesko, B.G.	CHED	1795	Jaramillo, T.F.	CATL	36	Jawaid, A.	PMSE	264
Janesko, B.G.	COMP	210	Jaramillo, T.F.	CATL	69	Jawale, H.A.	ORGN	436
Janesko, B.G.	COMP	410	Jaramillo, T.F.	CATL	126	Jawor, M.L.	ORGN	913
Janesko, B.G.	INOR	1464	Jaramillo, T.F.	CATL	166	Jaxel, J.	CELL	264
Janet, J.P.	COMP	8	Jaramillo, T.F.	CATL	184	Jay, J.A.	ENVR	343
Janezic, D.	COMP	141	Jaramillo, T.F.	CATL	195	Jayant, S.	AGFD	64
Janezic, D.	COMP	142	Jaramillo, T.F.	CATL	243	Jayaprakasha, G.K.	AGFD	123
Jang, B.	ENVR	371	Jaramillo, T.F.	CATL	263	Jayaprakasha, G.K.	AGFD	146
Jang, D.	COLL	238	Jaramillo, T.F.	CATL	268	Jayaprakasha, G.K.	AGFD	165

Jayasinghe, A.S.	INOR	1140	Jenny, S.E.	INOR	1444	Jewett, M.C.	BIOT	633
Jayasinghe, A.S.	INOR	1568	Jensen, A.	CHED	674	Jewett, M.C.	BIOT	634
Jayasundara, C.R.	ORGN	424	Jensen, A.	CHED	685	Jha, V.	MEDI	202
Jayathilaka, N.	MEDI	177	Jensen, A.W.	ORGN	780	Jha, V.	ORGN	199
Jaye, J.	CHED	1379	Jensen, B.	ENFL	387	Jhamba, E.	CHED	581
Jaykus, L.	COLL	659	Jensen, C.R.	CHED	1801	Jhoo, J.	AGFD	71
Jayne, J.T.	ENVR	397	Jensen, D.	BIOL	69	Jhoo, J.	AGFD	72
Jazayeri, J.	BIOT	721	Jensen, E.A.	CHED	1801	Jhoo, J.	AGFD	84
Jazzar, R.	INOR	108	Jensen, J.	CELL	130	Ji, B.	CELL	460
Jazzar, R.	ORGN	434	Jensen, K.F.	I&EC	26	Ji, C.	BIOT	524
Jeakle, M.	MEDI	185	Jensen, K.H.	ORGN	234	Ji, D.	BIOL	3
Jean, B.	COMP	376	Jensen, L.	PHYS	251	Ji, H.	INOR	351
Jean, B.	CELL	341	Jensen, M.P.	I&EC	92	Ji, J.	CATL	295
Jean, B.R.	CELL	238	Jensen, O.	BIOT	238	Ji, J.	CATL	313
Jean, B.R.	CELL	241	Jensen, O.	BIOT	255	Ji, L.	CELL	60
Jean, P.	CHED	1843	Jensen, O.	ORGN	649	Ji, P.	INOR	1229
Jean, P.	INOR	360	Jensen, S.J.	PHYS	305	Ji, T.	MEDI	346
Jean, P.	INOR	902	Jenson, J.A.	CHED	173	Ji, W.	INOR	624
Jeanbourquin, X.	ENFL	100	Jensvold, Z.D.	GEOC	182	Ji, X.	PMSE	299
Jean-Claude, B.	MEDI	47	Jentsch, A.	PMSE	72	Ji, X.	COLL	40
Jecs, E.	MEDI	41	Jeon, B.	GEOC	251	Ji, X.	ENFL	414
Jecs, E.	MEDI	42	Jeon, B.	GEOC	254	Ji, Y.	ENVR	168
Jecs, E.	MEDI	43	Jeon, B.	GEOC	351	Ji, Y.	ENVR	176
Jedidi, A.	CATL	545	Jeon, B.	BIOT	656	Ji, Y.	CELL	497
Jedrszczyk, E.	AGFD	121	Jeon, C.	CHED	636	Ji, Z.	INOR	1036
Jee, S.	COMP	294	Jeon, D.	AGFD	192	Jia, A.	ENVR	22
Jeerage, K.	ENVR	622	Jeon, D.	AGFD	194	Jia, B.	ENVR	89
Jeffcoat, D.	CATL	58	Jeon, D.	AGFD	195	Jia, D.	CATL	302
Jefferies, L.	INOR	300	Jeon, H.	ORGN	309	Jia, D.	INOR	1008
Jefferys, A.	CHED	1220	Jeon, I.	INOR	77	Jia, F.	COLL	736
Jeffrey, W.H.	ENVR	652	Jeon, I.	ENVR	986	Jia, F.	PMSE	29
Jeffrey, W.H.	ENVR	664	Jeon, J.	ENVR	371	Jia, F.	PMSE	511
Jeffries-El, M.	MPPG	10	Jeon, S.	COLL	273	Jia, F.	POLY	145
Jehng, J.	CATL	567	Jeon, Y.	ENVR	680	Jia, H.	CHED	1803
Jelinek, S.	COMP	324	Jeon, Y.	ENVR	830	Jia, K.	COMP	430
Jelliss, P.A.	CHED	1311	Jeong, B.	ENVR	152	Jia, L.	COLL	764
Jelliss, P.A.	INOR	1123	Jeong, C.	PMSE	500	Jia, Q.	POLY	185
Jelliss, P.A.	INOR	1130	Jeong, D.	CELL	387	Jia, Q.	ANYL	282
Jelliss, P.A.	INOR	1131	Jeong, D.	POLY	442	Jia, Q.	COLL	628
Jelowicki, A.	MEDI	207	Jeong, D.	COLL	238	Jia, X.	COLL	328
Jemas, A.W.	MEDI	153	Jeong, E.	CELL	135	Jia, X.	ENVR	15
Jen, A.K.	PMSE	585	Jeong, H.	INOR	831	Jia, X.	BIOT	658
Jena, K.	PMSE	541	Jeong, H.	PMSE	399	Jia, X.	PMSE	680
Jena, R.K.	INOR	100	Jeong, H.	INOR	1036	Jia, X.	POLY	629
Jenekhe, S.A.	ENFL	318	Jeong, I.	ENFL	215	JIA, Z.	PMSE	69
Jenekhe, S.A.	PMSE	232	Jeong, J.	BIOT	397	Jian, J.	NUCL	143
Jeng, Y.	COLL	106	Jeong, J.	ENFL	143	Jian, J.	NUCL	144
Jenkins, A.	NUCL	157	Jeong, J.	ENFL	216	Jian, N.	ORGN	653
Jenkins, D.M.	INOR	595	Jeong, K.	BIOT	234	Jian, S.	PMSE	650
Jenkins, D.M.	INOR	1500	Jeong, K.	MEDI	267	Jian, X.	MEDI	16
Jenkins, D.M.	ORGN	872	Jeong, S.	ENFL	398	Jian, Z.	ENFL	414
Jenkins, D.M.	INOR	1383	Jeong, S.	AGFD	27	Jiang, B.	PHYS	560
Jenkins, D.M.	ORGN	906	Jeong, W.	INOR	1267	Jiang, C.	BIOT	726
Jenkins, J.L.	CHED	90	Jeong, W.	INOR	1507	Jiang, C.	CATL	502
Jenkins, J.L.	CHED	2178	Jeong, Y.	ORGN	500	Jiang, C.	COLL	91
Jenkins, J.L.	INOR	437	Jeong, Y.	PMSE	383	Jiang, C.	COLL	607
Jenkins, J.L.	INOR	517	Jeong, Y.	ANYL	138	Jiang, C.	ENVR	344
Jenkins, K.	CHED	1827	Jepson, J.	CHED	692	Jiang, D.	COMP	126
Jenkins, R.	CATL	86	Jeremiason, J.	ENVR	193	Jiang, D.	ENFL	159
Jenkins, S.	CHED	1782	Jeremiason, J.D.	ENVR	351	Jiang, D.	I&EC	112
Jenkins, S.D.	CHED	331	Jermaks, J.	ORGN	342	Jiang, D.	POLY	79
Jenkins, S.V.	COLL	675	Jernakoff, P.	AGFD	215	Jiang, D.	POLY	305
Jenkins, T.	INOR	1562	Jernigan, C.	CHED	376	Jiang, D.	ENFL	317
Jenkins, W.	CHED	677	Jernigan, F.E.	MEDI	53	Jiang, F.	BIOL	180
Jenkins, W.W.	ANYL	194	Jernigan, R.L.	COMP	430	Jiang, F.	FLUO	26
Jenkins, Y.	MEDI	159	Jérôme, F.	CATL	247	Jiang, F.	CELL	390
Jenks, J.	ENFL	309	Jerz, G.	ENVR	855	Jiang, H.	ENVR	409
Jenks, W.S.	ORGN	895	Jessop, P.G.	CELL	420	Jiang, H.	COMP	242
Jen-La Plante, I.	INOR	1564	Jett, M.	BIOL	126	Jiang, H.	ENVR	545
Jeness, G.	CATL	275	Jewel, Y.	BIOT	465	Jiang, J.	CATL	88
Jennings, A.R.	POLY	466	Jewell, C.	ANYL	310	Jiang, J.	BIOL	362
Jennings, A.R.	POLY	472	Jewell, C.	BIOT	235	Jiang, J.	ENVR	14
Jennings, G.	COLL	90	Jewell, C.	BIOT	470	Jiang, J.	ENVR	89
Jennings, J.	CHED	1381	Jewell, C.	BIOT	606	Jiang, J.	ENVR	170
Jennings, J.	CHED	1505	Jewell, C.	PMSE	268	Jiang, J.	ENVR	490
Jennings, J.	ORGN	217	Jewell, C.	PMSE	519	Jiang, J.	PHYS	222
Jennings, M.C.	POLY	406	Jewett, J.C.	BIOL	100	Jiang, J.	CATL	87
Jennings, P.C.	CATL	539	Jewett, J.C.	BIOL	250	Jiang, J.	INOR	1010
Jennings, P.C.	COMP	202	Jewett, J.C.	ORGN	189	Jiang, J.	MEDI	58
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Jiang, M.	CHED	1938	Jin, S.	INOR	1054	Johnson, B.J.	INOR	18
Jiang, P.	PMSE	618	Jin, S.	SCHB	15	Johnson, B.J.	INOR	428
Jiang, Q.	ENVR	9	Jin, X.	PMSE	359	Johnson, C.	ENVR	207
Jiang, Q.	ENVR	883	Jin, Y.	COMP	271	Johnson, C.E.	ENVR	163
Jiang, Q.	INOR	409	Jin, Y.	AGFD	68	Johnson, C.K.	CHED	1667
Jiang, Q.	ENVR	583	Jin, Y.	AGFD	70	Johnson, C.R.	MEDI	492
Jiang, Q.	ORGN	418	Jin, Z.	ORGN	463	Johnson, C.R.	GEOC	239
Jiang, R.	BIOT	43	Jinata, S.	CHED	1808	Johnson, C.S.	ENFL	72
Jiang, R.	ENVR	809	Jindra, S.	GEOC	195	Johnson, C.S.	ENFL	327
Jiang, W.	COMP	144	Jinek, M.	BIOL	2	Johnson, C.S.	I&EC	58
Jiang, W.	COMP	476	Jinek, M.	COMP	176	Johnson, D.R.	ENVR	286
Jiang, W.	COMP	554	Jing, B.	CELL	271	Johnson, D.S.	ORGN	628
Jiang, W.	BIOT	28	Jing, S.M.	ORGN	735	Johnson, D.W.	CHED	1055
Jiang, W.	ENFL	452	Jing, Y.	INOR	1047	Johnson, D.W.	CHED	1907
Jiang, X.	CHED	256	Jinge, L.	CATL	334	Johnson, D.W.	INOR	446
Jiang, Y.	POLY	146	Jingwen, Z.	CATL	490	Johnson, D.W.	INOR	447
Jiang, Y.	ENVR	90	Jinnouchi, R.	CATL	208	Johnson, D.W.	INOR	449
Jiang, Y.	COLL	434	Jinxing, Y.	ORGN	32	Johnson, D.W.	INOR	655
Jiang, Y.	AGFD	32	Jishkariani, D.	INOR	35	Johnson, D.W.	INOR	657
Jiang, Y.	COLL	789	Jisun, K.	BIOT	472	Johnson, D.W.	INOR	1018
Jiang, Y.	MEDI	59	Jo, J.	INOR	1571	Johnson, D.W.	INOR	1413
Jiang, Y.	POLY	521	Jo, K.	PMSE	384	Johnson, G.	ANYL	178
Jiang, Z.	COLL	394	Jo, Y.	BIOT	306	Johnson, G.E.	COLL	156
Jiang, Z.	COLL	635	Jo, Y.	BIOT	501	Johnson, H.E.	INOR	810
Jiang, Z.	INOR	1113	Joaquin, F.M.	BIOT	532	Johnson, J.	CATL	215
Jiang, Z.	CELL	152	Joaquin, F.M.	ENVR	662	Johnson, J.	INOR	1042
Jiang, Z.	ORGN	643	Joaquin-Castaneda, D.	CHED	1562	Johnson, J.	COLL	440
Jianshu, L.	POLY	41	Jobic, H.	ENFL	249	Johnson, J.A.	ANYL	405
Jiao, F.	COLL	364	Jocas, G.F.	CHED	1630	Johnson, J.A.	COLL	802
Jiao, F.	CATL	68	Jochum, J.	CHED	1727	Johnson, J.A.	MPPG	20
Jiao, S.	ENVR	878	Joe, Y.I.	BIOT	482	Johnson, J.A.	POLY	64
Jiao, Y.	ORGN	190	Joe, Y.I.	CATL	144	Johnson, J.A.	POLY	243
Jiao, Y.	GEOC	160	Joe, Y.I.	COLL	146	Johnson, J.A.	POLY	255
Jiao, Y.	GEOC	187	Joe, Y.I.	INOR	1319	Johnson, J.C.	POLY	600
Jilek, M.R.	ORGN	234	Joe-Wong, C.	GEOC	199	Johnson, J.C.	INOR	483
Jimenez Alvarado, E.	CHED	299	Jogiraju, H.	ANYL	115	Johnson, K.	MEDI	233
Jimenez Alvarado, E.	CHED	2071	Johann, T.	POLY	386	Johnson, K.	COLL	153
Jimenez Sanchez, L.J.	MEDI	286	Johann, T.	POLY	389	Johnson, K.	COMP	318
Jimenez, A.	CHED	870	Johannes, M.	INOR	1359	Johnson, K.	CHED	993
Jimenez, A.	ENFL	217	Johannesson, S.	CELL	206	Johnson, K.	COLL	233
Jimenez, J.	INOR	1253	Johannsen, J.	CHED	1667	Johnson, K.E.	COLL	453
Jimenez, J.	ENVR	403	Johansen, A.M.	CHED	244	Johnson, K.E.	CHED	892
Jimenez, M.	PROF	30	Johansen, A.M.	CHED	1964	Johnson, K.G.	COMP	316
Jimenez, S.	CHED	640	Johansen, A.M.	ENVR	658	Johnson, L.	CHED	1804
Jimenez, T.	MEDI	398	Johansen, A.M.	ENVR	763	Johnson, L.	CHED	1361
Jimenez-Alvarado, E.N.	CHED	302	Johansson, A.	MEDI	12	Johnson, L.	COLL	390
Jimenez-Alvarado, E.N.	INOR	359	Johansson, E.	CELL	449	Johnson, M.	BIOT	539
Jimenez-Flores, R.	AGFD	45	Johansson, H.J.	BIOT	521	Johnson, M.	INOR	433
Jimenez-Izal, E.	CATL	601	Johansson, J.R.	ORGN	371	Johnson, M.	INOR	266
Jimenez-Izal, E.	CATL	643	Johansson, L.	CELL	329	Johnson, M.	INOR	738
Jimenez-Izal, E.	COMP	204	Johansson, L.	CELL	409	Johnson, M.	INOR	18
Jimenez-Oses, G.	INOR	1326	Johansson, M.J.	ORGN	23	Johnson, M.	ENVR	544
Jimenez-Oses, G.	ORGN	688	Johansson, M.J.	ORGN	83	Johnson, M.	ENVR	546
Jimenez-Ruiz, M.	GEOC	333	Johansson, M.J.	ORGN	672	Johnson, M.A.	ANYL	70
Jiménez-Saelices, C.	CELL	440	Johansson, N.	INOR	809	Johnson, M.A.	CHED	368
Jimmy, C.	PHYS	468	Johansson, P.K.	PHYS	548	Johnson, M.D.	INOR	225
Jin Goo, K.	COLL	297	Johansson, U.	MEDI	17	Johnson, M.D.	INOR	1210
Jin, D.	INOR	122	Johlin, E.	INOR	1048	Johnson, M.G.	ENVR	548
Jin, G.	INOR	170	Johlin, E.	INOR	1576	Johnson, N.	PMSE	42
Jin, H.	COLL	364	Johll, M.E.	CHED	442	Johnson, N.	COLL	591
Jin, J.	MEDI	23	Johll, M.E.	CHED	1824	Johnson, N.	INOR	351
Jin, J.	ORGN	115	John, A.	INOR	810	Johnson, N.A.	INOR	357
Jin, J.	ORGN	252	John, A.	INOR	883	Johnson, N.A.	INOR	1441
Jin, J.	INOR	469	John, A.	INOR	1275	Johnson, N.H.	CHED	266
Jin, K.	POLY	184	John, N.	MEDI	32	Johnson, N.O.	COLL	129
Jin, K.	POLY	249	John, V.	BIOT	689	Johnson, N.W.	GEOC	272
Jin, L.	GEOC	202	Johns, A.	INOR	418	Johnson, R.C.	INOR	24
Jin, L.	GEOC	203	Johns, A.	CELL	479	Johnson, R.E.	ORGN	718
Jin, M.	BIOT	509	Johns, R.T.	COLL	430	Johnson, R.E.	PHYS	342
Jin, M.	INOR	1065	Johns, R.W.	PHYS	561	Johnson, R.J.	ORGN	194
Jin, R.	ENVR	635	Johns, R.W.	PROF	5	Johnson, S.	BIOT	285
Jin, R.	COLL	673	Johnson, A.	ORGN	918	Johnson, S.	BIOT	362
Jin, R.	COLL	758	Johnson, A.C.	ANYL	45	Johnson, S.	AGFD	19
Jin, S.	AGFD	34	Johnson, A.R.	CHED	245	Johnson, S.	CHED	1580
Jin, S.	PMSE	423	Johnson, A.R.	INOR	220	Johnson, S.A.	COMP	107
Jin, S.	BIOL	48	Johnson, A.R.	INOR	221	Johnson, S.L.	CHED	2067
Jin, S.	CHED	1250	Johnson, A.R.	INOR	294	Johnson, S.R.	CHED	1383
Jin, S.	INOR	36	Johnson, B.	GEOC	78	Johnson, T.	CHED	670

Johnson, T.	MEDI	16	Jones, J.	INOR	433	Josan, J.S.	MEDI	96
Johnson, T.	CHED	1782	Jones, J.A.	BIOT	670	Josan, J.S.	MEDI	97
Johnson, T.	CHED	1708	Jones, J.A.	CHED	748	Jose, A.	I&EC	119
Johnson, T.	ENVR	927	Jones, J.A.	CHED	2040	José, H.J.	ENVR	694
Johnson, T.W.	CHED	737	Jones, J.P.	COLL	112	Joseph, A.S.	PMSE	490
Johnson-Salyard, T.L.	CHED	1635	Jones, K.	CHED	545	Joseph, A.S.	PMSE	514
Johnston, A.C.	ENVR	546	Jones, K.	BIOL	313	Joseph, C.	ENVR	98
Johnston, A.P.	PMSE	520	Jones, K.	MEDI	111	Joseph, F.	MEDI	445
Johnston, C.	GEOC	69	Jones, K.	CHED	1650	Joseph, J.	CHED	510
Johnston, C.	GEOC	206	Jones, K.A.	BIOL	256	Joseph, J.	ENFL	387
Johnston, C.T.	ENVR	649	Jones, L.	AGFD	16	Joseph, L.	CHED	1280
Johnston, H.M.	INOR	581	Jones, M.	CHED	994	Joseph, L.	CHED	1318
Johnston, J.	CHED	878	Jones, M.	PMSE	272	Josephson, L.	BIOT	22
Johnston, J.	CHED	893	Jones, M.	CATL	635	Joshi, A.	INOR	1279
Johnston, K.	BIOL	246	Jones, M.C.	GEOC	94	Joshi, K.	POLY	86
Johnston, K.P.	ANYL	241	Jones, M.R.	PHYS	263	Joshi, P.	GEOC	128
Johnston, K.P.	BIOT	88	Jones, M.W.	CHED	1777	Joshi, P.	GEOC	259
Johnston, K.P.	COLL	119	Jones, M.W.	INOR	367	Joshi, P.	CELL	145
Johnston, K.P.	COLL	390	Jones, M.W.	INOR	368	Joshi, R.	BIOT	594
Johnston, P.	CELL	521	Jones, N.B.	INOR	804	Joshi, R.	CATL	575
Johnston, R.C.	ENFL	337	Jones, O.G.	AGFD	216	Joshi, R.	CATL	59
Johnston, R.F.	CHED	1148	Jones, P.	BIOT	632	Joshi, T.	COLL	147
Johnstone, B.	CHED	566	Jones, R.	GEOC	167	Joshi, V.	BIOT	216
Johnstone, E.	INOR	615	Jones, R.M.	CHED	88	Josse, P.	ORGN	675
Johnstone, E.	INOR	1102	Jones, R.M.	CHED	2023	Joubert, F.	PMSE	599
Johnstone, J.	CHED	1666	Jones, R.M.	CHED	2063	Jouffret, L.	NUCL	114
Johnstone, J.E.	INOR	372	Jones, R.V.	YCC	14	Jouffret, L.	NUCL	116
Johnston-Peck, A.C.	CATL	498	Jones, S.	POLY	581	Jourabchian, N.	INOR	367
Johnston-Peck, A.C.	ENVR	625	Jones, S.	BIOT	151	Jovanovic, M.	ORGN	444
Johnstrom, P.	MEDI	12	Jones, S.J.	COLL	322	Joy, A.	CHED	1733
Johs, A.	GEOC	117	Jones, S.J.	COLL	767	Joy, A.	POLY	566
Jokerst, J.	BIOT	554	Jones, T.A.	POLY	563	Joy, E.	CELL	144
Jokerst, J.V.	BIOT	569	Jones, T.R.	CHED	1524	Joy, J.K.	MEDI	422
Jokerst, J.V.	BIOT	660	Jones, W.	CHED	1882	Joy, N.	CHED	1705
Jokerst, J.V.	COLL	664	Jones, W.D.	INOR	305	Joyce, J.G.	BIOT	293
Jokinen, A.	COLL	843	Jones, W.D.	INOR	730	Joyce, J.G.	BIOT	591
Jolibois, F.	CHED	300	Jones, W.D.	INOR	1285	Jradi, F.	ORGN	544
Jolibois, F.	PHYS	353	Jones, Z.	CHED	1319	Ju, G.	PHYS	266
Jolit, A.	ORGN	498	Jones, Z.	CATL	251	Ju, J.	COLL	273
Joll, C.A.	ENVR	449	Jones, Z.R.	CATL	536	Ju, M.	ORGN	275
Jolly, B.	INOR	257	Jones, Z.R.	ENFL	61	Ju, X.	CATL	467
Jonah, T.M.	INOR	1440	Jones-Lepp, T.	ENVR	120	Ju, X.	ENVR	930
Jonas, A.M.	POLY	49	Jonker, S.	ORGN	24	Ju, X.	INOR	1573
Jonas, B.	ANYL	54	Jonker, S.	ORGN	807	Ju, X.	PMSE	69
Jonas, D.M.	ANYL	25	Jonsson, C.M.	GEOC	280	Ju, X.	PMSE	510
Jonas, D.M.	ANYL	303	Jonsson, H.	COMP	80	Ju, X.	PMSE	644
Jonas, D.M.	PHYS	205	Jonsson-Niedziolka, M.	ANYL	159	Ju, X.	POLY	75
Jones, A.	GEOC	40	Jonuleit, H.	PMSE	628	Ju, Y.	COLL	674
Jones, A.	CHED	526	Joo, G.	ENVR	152	Ju, Y.	PMSE	399
Jones, A.	CHED	1872	Joo, J.	PMSE	620	Juang, Y.	CARB	74
Jones, A.C.	ORGN	723	Joo, S.	CATL	420	Juan-Guadarrama, D.	MEDI	286
Jones, A.C.	ORGN	892	Joo, S.	CELL	387	Juarez Diaz, E.	CHED	1301
Jones, A.C.	PHYS	208	Joo, S.	POLY	442	Juarez, R.	CHED	170
Jones, A.K.	CATL	401	Joo, W.	POLY	114	Juba, B.	MEDI	316
Jones, B.	CARB	43	Joo, W.	POLY	300	Jubb, A.M.	GEOC	179
Jones, C.	PHYS	465	Jorand-Lebrun, C.	MEDI	16	Judge, E.	NUCL	83
Jones, D.	ENVR	799	Jorczyk, C.L.	CHED	1175	Judson, R.	CINF	49
Jones, D.	GEOC	154	Jordan, A.	CHED	1596	Judson, R.	ENVR	1013
Jones, D.	GEOC	155	Jordan, A.A.J.	INOR	859	Juenger, M.	GEOC	243
Jones, D.	GEOC	272	Jordan, A.M.	MEDI	291	Juergensen, N.	COLL	551
Jones, D.	CHED	1623	Jordan, B.	MEDI	187	Juette, E.	CHED	1435
Jones, D.G.	INOR	1345	Jordan, B.	MEDI	199	Jufer, H.B.	CHED	403
Jones, D.S.	INOR	1567	Jordan, J.	ANYL	288	Jugovic, E.	CHED	1870
Jones, E.	CHED	383	Jordan, J.T.	ENVR	1042	Jugovic, E.	INOR	323
Jones, E.	CHED	405	Jordan, R.	CHED	1415	Juhasz, M.A.	CHED	1087
Jones, E.	AGFD	45	Jordan, R.	ORGN	601	Juhl, K.	MEDI	344
Jones, E.	BIOL	124	Jordan, R.	ORGN	868	Jui, N.	ORGN	324
Jones, E.	BIOL	205	Jordan, R.F.	PMSE	285	Juilland, P.	GEOC	225
Jones, G.	CHED	1244	Jordan, T.	CHED	75	Julga, B.J.	CHED	704
Jones, G.	CHED	1171	Jorge, M.Z.	CHED	1407	Julian, d.	CELL	451
Jones, G.H.	CHED	1272	Jørgensen, J.H.	PHYS	287	Julian, L.	PMSE	637
Jones, G.R.	POLY	268	Jørgensen, K.R.	CHED	870	Julian, M.	BIOT	55
Jones, H.	CHED	2187	Jørgensen, K.R.	COMP	315	Julian, M.	BIOT	89
Jones, I.	CHED	817	Jørgensen, K.R.	FLUO	47	Juliano, E.	ANYL	91
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Jones, I.	CHED	1316	Jørgenson, J.W.	ANYL	247	Julien, J.	AGFD	103
Jones, I.	CHED	1317	Jørgenson, Z.G.	ENVR	125	Julien, J.	CHED	1201
Jones, I.	CHED	1332	Jorn, R.	COMP	338	Julien, O.	BIOL	330
Jones, I.	CHED	1334	Jorn, R.	PHYS	68	Julius, A.	BIOT	198
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Jun, G.	HIST	30	Jung, W.	INOR	1377	Kagan, C.R.	MPPG	17
Jun, G.	HIST	32	Jung, W.	CATL	428	Kagan, C.R.	PHYS	386
Jun, J.V.	ORGN	295	Jung, W.	CATL	648	Kagey, J.	CHED	1966
Jun, R.	CELL	115	Jung, W.	INOR	896	Kagiri, L.N.	ORGN	405
Jun, R.	CELL	116	Jung, Y.	ENFL	463	Kahan, T.F.	ENVR	599
Jun, S.	POLY	417	Jung, Y.	INOR	1026	Kahl, A.	ENVR	733
Jun, S.	INOR	1092	Jung, Y.	CATL	321	Kahlscheuer, M.	BIOT	101
Jun, W.	ENVR	81	Jung, Y.	CATL	520	Kahn, D.S.	BIOT	710
Jun, Y.	ENVR	512	Jung, Y.	ENFL	160	Kahn, M.	ANYL	220
Jun, Y.	ENVR	583	Jung, Y.	COLL	161	Kahne, D.E.	CARB	27
Jun, Y.	ENVR	929	Jungbauer, A.	BIOT	164	Kahol, P.K.	CATL	293
Jun, Y.	ENVR	986	Jungbauer, A.	BIOT	596	Kahol, P.K.	ENFL	217
Jun, Y.	GEOC	13	Jungbauer, S.H.	ORGN	409	Kahol, P.K.	ENFL	219
Jun, Y.	GEOC	15	Jungbluth, S.	GEOC	216	Kahrs, C.	BIOT	709
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Jun, Y.	GEOC	90	Jungwirth, P.	PHYS	280	Kaiser, K.A.	CHED	157
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Jun, Y.	GEOC	139	Junko, Y.	BIOT	138	Kaiser, R.	PHYS	467
Jun, Y.	GEOC	192	Juntunen, H.	ENVR	920	Kaiser, R.	PHYS	569
Jun, Y.	GEOC	297	Jur, J.	CELL	180	Kaiser, T.	MEDI	65
Jun, Y.	GEOC	330	Jur, J.	CELL	349	Kajanus, J.	MEDI	17
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Jung, B.	PMSE	385	Jurisson, S.S.	NUCL	140	Kal, S.	INOR	274
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Jung, C.	COLL	432	Jurisson, S.S.	NUCL	162	Kalainoff, M.Z.	CHED	2049
Jung, C.	PMSE	27	Jurow, M.J.	COLL	193	Kalaj, M.	NUCL	115
Jung, D.	INOR	702	Jusino, M.	CHED	1775	Kalala, M.	ANYL	91
Jung, D.	INOR	1151	Jussif, J.	MEDI	316	Kalayci, K.	PMSE	387
Jung, D.	INOR	1537	Just, B.R.	GEOC	246	Kalb, E.M.	CHED	673
Jung, E.	COLL	299	Just, C.L.	ENVR	165	Kalbfleisch, J.	CHED	1418
Jung, E.	MEDI	279	Just, M.	COMP	12	Kalcic, C.K.	CHED	1640
Jung, E.	PMSE	288	Justice, R.	INOR	838	Kaldeus, T.	CELL	430
Jung, E.	NUCL	103	Jystad, A.	CATL	13	Kaldre, D.	ORGN	99
Jung, G.	COMP	184	Ka, J.	POLY	352	Kale, A.	INOR	427
Jung, G.	BIOT	66	Kaar, J.	BIOT	58	Kale, M.	CELL	402
Jung, G.	BIOT	417	Kaar, J.	BIOT	69	Kaleas, K.	BIOT	351
Jung, H.	ENVR	512	Kääriäinen, P.	CELL	207	Kalelkar, P.	PMSE	265
Jung, H.	GEOC	64	Kabanov, A.	CINF	124	Kalelkar, P.	POLY	333
Jung, H.	GEOC	90	Kabb, C.P.	POLY	130	Kalelkar, P.	POLY	373
Jung, H.	GEOC	116	Kabb, C.P.	POLY	320	Kalgutkar, A.S.	MEDI	27
Jung, H.	GEOC	359	Kabbour, H.	INOR	1561	Kali, G.	POLY	532
Jung, H.	CATL	115	Kabeer, F.	CATL	16	Kali, G.	POLY	648
Jung, H.	ENFL	220	Kabengi, N.	GEOC	110	Kaliakin, D.	COLL	275
Jung, H.	POLY	352	Kabengi, N.	GEOC	149	Kaliakin, D.S.	COMP	454
Jung, J.	INOR	833	Kachole, M.	BIOT	459	Kalidindi, S.	CATL	331
Jung, J.	MEDI	208	Kaczmarek, D.	POLY	584	Kaliff, R.	ENVR	925
Jung, J.	ORGN	195	Kaczocha, M.	MEDI	218	Kaligotla, H.	BIOT	345
Jung, J.	PHYS	405	Kadambi, V.J.	MEDI	351	Kalijunen, T.	CELL	324
Jung, J.	PMSE	184	Kadambi, V.J.	MEDI	365	Kalika, D.S.	POLY	52
Jung, J.	PMSE	653	Kadasala, N.	MEDI	178	Kaliner, M.	ORGN	453
Jung, J.H.	POLY	639	Kadekaro, A.L.	PROF	27	Kalinichev, A.G.	GEOC	143
Jung, K.	PHYS	450	Kaden, P.	I&EC	90	Kalita, D.	POLY	558
Jung, K.	PHYS	213	Kadhun, M.	COLL	500	Kalita, D.	AGFD	64
Jung, K.W.	INOR	882	Kading, J.	ORGN	792	Kaliva, M.	CARB	19
Jung, K.W.	ORGN	549	Kadmi, Y.	ENVR	686	Kalkan, K.	ANYL	332
Jung, M.	CHED	1038	Kadokawa, J.	CELL	102	Kalkman, E.D.	PMSE	222
Jung, M.	CELL	501	Kadokawa, J.	CELL	103	Kallu, J.	PMSE	459
Jung, M.	AGFD	192	Kadokawa, J.	CELL	104	Kalman, R.K.	CHED	118
Jung, M.	AGFD	194	Kadokawa, J.	CELL	117	Kalman, R.K.	CHED	1882
Jung, M.	AGFD	195	Kadokawa, J.	CELL	358	Kalmykov, S.	CINF	170
Jung, M.	AGFD	196	Kadossov, E.	SCHB	11	Kalow, J.	COLL	662
Jung, M.E.	ORGN	530	Kaduk, J.	CHED	1047	Kalson, N.H.	COLL	371
Jung, M.E.	ORGN	849	Kady, I.	BIOL	260	Kaltsoyannis, N.	NUCL	44
Jung, O.	INOR	960	Kady, I.	MEDI	92	Kaltsoyannis, N.	NUCL	89
Jung, S.	BIOT	397	Kaegi, R.	ENVR	84	Kalubowilage, M.	INOR	1147
Jung, S.	CELL	387	Kaehr, B.	COLL	137	Kaluz, S.	MEDI	500
Jung, S.	POLY	442	Kaehr, B.	COLL	616	Kalyanaraman, C.	COMP	440
Jung, S.	POLY	650	Kaenket, S.	INOR	346	Kalyani, D.	ORGN	223
Jung, S.	ORGN	475	Kærsgaard, P.	BIOT	238	Kalyani, D.	ORGN	224

Kalyani, D.	ORGN	227	Kaner, R.B.	INOR	702	Kanno, M.	CHED	759
Kam, L.	INOR	1371	Kaner, R.B.	INOR	1071	Kano, F.	CELL	536
Kam, L.	ORGN	319	Kaner, R.B.	INOR	1078	Kanodia, A.	BIOT	695
Kämäräinen, T.	CELL	249	Kaner, R.B.	ORGN	868	Kansara, M.	CINF	85
Kämäräinen, T.	CELL	295	Kaner, R.B.	POLY	432	Kantak, A.	SCHB	1
Kamat, P.V.	CATL	494	Kang, A.	BIOT	62	Kanu, A.	ANYL	385
Kamat, P.V.	COLL	805	Kang, B.	BIOT	577	Kanwar, A.	MEDI	209
Kamat, P.V.	PHYS	552	Kang, B.	COLL	728	Kanwar, L.	BIOT	14
Kamat, P.V.	PHYS	562	Kang, B.	ORGN	154	Kanwar, L.	BIOT	307
Kamath, D.	ENVR	36	Kang, B.	ORGN	261	Kanwar, L.	BIOT	538
Kamath, G.	COLL	635	Kang, C.	PMSE	288	Kanzelberger, M.	CHED	1392
Kamath, V.	GEOC	31	Kang, C.	MEDI	422	Kanzler, C.	CHED	1000
Kamau, G.N.	ANYL	155	Kang, D.	ANYL	452	Kao, C.	BIOT	623
Kamau, M.	MEDI	349	Kang, D.	MEDI	505	Kao, K.C.	BIOT	68
Kamdar, J.M.	INOR	230	Kang, D.	ENFL	140	Kapelewski, M.	INOR	1405
Kamdar, J.M.	INOR	874	Kang, D.	ENFL	200	Kapelewski, M.	INOR	1223
Kamerlin, S.	BIOL	143	Kang, D.	ENVR	769	Kapelewski, M.	INOR	1510
Kamga, M.	BIOT	6	Kang, E.	CARB	97	Kapeller, R.	COMP	19
Kamili, N.	CHED	44	Kang, E.	PMSE	412	Kaphan, D.M.	INOR	59
Kamin, D.	ORGN	17	Kang, E.	BIOT	347	Kapil, S.	MEDI	400
Kaminski, G.	MEDI	296	Kang, F.	GEOC	56	Kaplan, A.	ORGN	136
Kaminsky, W.	PMSE	121	Kang, G.	COMP	335	Kaplan, C.	PHYS	252
Kaminsky, W.	INOR	284	Kang, H.	CELL	338	Kaplan, C.	PHYS	443
Kamitakahara, H.	CELL	302	Kang, H.	CELL	456	Kaplan, C.	PHYS	511
Kamiuchi, N.	CATL	272	Kang, H.	ORGN	839	Kaplan, D.	ENVR	128
Kamiya, N.	COMP	531	Kang, H.	COLL	105	Kaplan, D.L.	ANYL	483
Kamiyama, M.	AGFD	266	Kang, H.	COLL	389	Kaplan, P.T.	FLUO	34
Kamm, G.	ANYL	183	Kang, J.	AGFD	27	Kaplan, P.T.	ORGN	256
Kamm, G.	ANYL	316	Kang, J.	ENVR	834	Kaplan, S.	ANYL	70
Kamm, J.	COLL	481	Kang, J.	INOR	831	Kaplan-Ashiri, I.	ORGN	499
Kammeraad, J.A.	COMP	167	Kang, J.	ENFL	143	Kapoor, V.	ENVR	785
Kammerdiener, K.	CHED	55	Kang, J.	ENFL	216	Kappler, A.	GEOC	87
Kammert, J.D.	INOR	103	Kang, J.	COLL	193	Kappler, A.	GEOC	99
Kammeyer, J.K.	BIOT	511	Kang, M.	INOR	921	Kapteijn, F.	ENFL	136
Kammeyer, J.K.	PMSE	484	Kang, M.	INOR	1527	Kapteijn, F.	ENFL	201
Kampert, F.	INOR	1306	Kang, M.	GEOC	335	Kapur, A.K.	COLL	40
Kampf, J.W.	INOR	293	Kang, M.	PMSE	295	Kapustin, E.A.	INOR	207
Kampf, J.W.	INOR	1265	Kang, M.	NUCL	131	Kar, S.	CATL	291
Kamranikia, M.	CHED	758	Kang, N.	POLY	9	Kar, T.	ENFL	358
Kan, C.	ENVR	231	Kang, Q.	COLL	714	Karaaslan, M.	CELL	60
Kan, Y.	COLL	679	Kang, S.	PMSE	499	Karabin, N.	PMSE	206
Kanagy, L.K.	ENVR	49	Kang, S.	PMSE	388	Karabiyik Acar, Ö.	COLL	116
Kanai, Y.	PHYS	93	Kang, S.	ENFL	430	Karabiyikoglu, S.	ORGN	266
Kanakaraj, J.	BIOT	424	Kang, S.	INOR	1535	Karabulut, E.	CELL	84
Kanal, I.	COMP	348	Kang, S.	BIOT	70	Karabulut, E.	CELL	206
Kanan, M.	INOR	678	Kang, S.	BIOT	551	Karadeniz, E.	ORGN	747
Kananenka, A.	PHYS	490	Kang, S.O.	INOR	909	Karadi, K.	CATL	393
Kanaras, A.	COLL	248	Kang, S.O.	INOR	910	Karagiannis, T.	INOR	1276
Kanaras, A.	COLL	249	Kang, S.O.	INOR	911	Karagoez, F.	PMSE	309
Kanaras, A.	COLL	497	Kang, S.O.	INOR	912	Karagoez, F.	PMSE	602
Kanatzidis, M.G.	INOR	48	Kang, S.O.	INOR	913	Karagoz, B.	CATL	135
Kanatzidis, M.G.	INOR	778	Kang, S.O.	INOR	914	Karahan, S.	ORGN	117
Kanatzidis, M.G.	INOR	1105	Kang, S.O.	INOR	915	Karak, M.	ORGN	641
Kanatzidis, M.G.	INOR	1108	Kang, S.O.	INOR	916	Karakalos, S.	CATL	16
Kanatzidis, M.G.	INOR	1109	Kang, S.O.	INOR	1377	Karakashov, B.	CELL	79
Kanatzidis, M.G.	INOR	1529	Kang, S.R.	INOR	310	Karakocak, B.B.	INOR	1142
Kanda, R.	ENVR	951	Kang, T.	COLL	273	Karakoti, A.	COLL	759
Kandel, P.	BIOL	270	Kang, Y.	ENVR	783	Karam, T.E.	PHYS	575
Kandel, S.	PHYS	2	Kang, Y.	ENVR	784	Karamsetty, M.	POLY	99
Kandel, S.	INOR	1440	Kang, Y.	BIOT	237	Karan, C.K.	INOR	994
Kandemir, B.	INOR	39	Kang, Y.	ENFL	372	Karan, N.S.	INOR	533
Kandemir, B.	INOR	178	Kang, Y.	CHED	515	Karan, R.	BIOT	438
Kandemir, B.	INOR	712	Kang, Z.	MEDI	305	Karande, P.	BIOL	311
Kandori, H.	PHYS	211	Kang, Z.	MPPG	18	Karande, P.	BIOT	189
Kandori, H.	PHYS	213	Kangarlou, B.	COLL	8	Karande, P.	BIOT	439
Kandori, H.	PHYS	404	Kangarlou, B.	COLL	86	Karanicolas, J.	PHYS	8
Kandori, H.	PHYS	432	Kangas, H.	CELL	198	Karanikola, V.	ENVR	983
Kane, A.	CHED	367	Kang-Heng, C.	PHYS	467	Karatay, A.	ORGN	869
Kane, E.	BIOT	439	Kania, R.	MEDI	350	Karathanou, K.	COMP	200
Kane, R.S.	BIOT	401	Kaniewska, K.	COLL	562	Karayaylali, P.	ANYL	231
Kane, R.S.	BIOT	404	Kanipe, K.	INOR	1529	Karbarz, M.	COLL	562
Kane, R.S.	CARB	88	Kanipes-Spinks, M.	CHED	1958	Karch, J.	CHED	54
Kane, T.	GEOC	240	Kanipes-Spinks, M.	INOR	1548	Karcher, S.	CINF	121
Kaneko, T.	PMSE	540	Kanitkar, S.	ENFL	133	Kardash, C.	CHED	2044
Kaneko, T.	POLY	77	Kanitkar, S.	ENFL	135	Kardon, J.	BIOL	186
Kaneko, T.	POLY	133	Kanjanaboos, P.	COLL	635	Kareh, A.	INOR	1034
Kanel, S.R.	ENVR	641	Kanjilal, B.	CATL	235	Karels, B.	COLL	300
Kanel, S.R.	ENVR	863	Kanjilal, B.	I&EC	10	Kargl, R.	CELL	52
Kaner, R.B.	ENVR	866	Kann, N.	ORGN	371	Kargl, R.	CELL	255
Kaner, R.B.	INOR	52	Kannigadu, C.	ORGN	114	Kargl, R.	CELL	419

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Kargl, R.	CELL	428	Kasemwong, K.	COLL	354	Katsuragawa, T.	CELL	86
Kargl, R.	CELL	454	Kasher, M.J.	INOR	319	Kattanguru, P.	ORGN	160
Kargl, R.	CELL	480	Kashfi, R.	ANYL	98	Kattel, S.	ENFL	170
Kargl, R.	CELL	481	Kashfipour, M.	COLL	643	Katz, A.R.	MEDI	38
Karim, A.	PMSE	36	Kashfipour, M.	PMSE	389	Katz, A.S.	CATL	81
Karim, A.M.	CATL	140	Kashtanova, A.	MEDI	147	Katz, D.A.	CHED	18
Karim, A.M.	CATL	524	Kasi, A.	INOR	1147	Katz, D.A.	CHED	2126
Karim, A.M.	COLL	12	Kasi, R.	BIOL	296	Katz, D.A.	CHED	2188
Karim, A.M.	COLL	792	Kasi, R.	BIOL	317	Katz, H.E.	INOR	669
Karim, K.	ANYL	416	Kasi, R.	BIOL	318	Katz, H.E.	PMSE	120
Karim, M.R.	ORGN	523	Kasi, R.	POLY	339	Katz, J.S.	PMSE	13
Karimi, A.	COLL	561	Kasinski, A.	COMP	264	Katz, J.S.	PMSE	439
Karimov, R.	MEDI	98	Kasinski, A.	PHYS	434	Katz, L.	CHED	1920
Karimova, N.	COMP	481	Kasiraju, S.	CATL	588	Katz, L.	BIOL	258
Kariofillis, S.	CHED	1082	Kaskel, S.	COMP	526	Katz, L.	BIOT	336
Kariofillis, S.	INOR	142	Kasko, A.M.	POLY	318	Katz, L.E.	COLL	294
Kariofillis, S.	INOR	390	Kašlík, J.	ENVR	307	Katz, L.E.	ENVR	80
Karis, T.E.	COLL	585	Kasmi, S.	PMSE	512	Katz, L.E.	ENVR	350
Kariyawasam, N.	MEDI	420	Kasper, K.	MEDI	204	Katz, L.E.	GEOC	9
Karki, R.	MEDI	305	Kasprzak, C.R.	POLY	475	Katz, L.E.	GEOC	243
Karl, D.M.	GEOC	247	Kasprzak, C.R.	POLY	616	Katz, L.E.	GEOC	313
Karla, A.R.	CHED	1373	Kassel, W.S.	CHED	1065	Katzenberg, F.	PMSE	425
Karlberg, M.	BIOT	618	Kassel, W.S.	INOR	319	Katzenberg, F.	POLY	612
Karlin, K.D.	INOR	524	Kassel, W.S.	INOR	361	Katzenberg, F.	POLY	614
Karlin, K.D.	INOR	713	Kassel, W.S.	INOR	362	Katzman, B.	MEDI	41
Karlsson, A.J.	BIOT	59	Kassel, W.S.	INOR	380	Katzman, B.M.	MEDI	42
Karlsson, U.	MEDI	17	Kassel, W.S.	INOR	836	Kauffman, D.	CATL	71
Karman, M.	POLY	548	Kassel, W.S.	INOR	1444	Kauffman, D.	CATL	119
Karna, S.P.	COMP	561	Kasson, P.	COLL	381	Kauffman, D.	INOR	790
Karnes, J.J.	PHYS	229	Kassu, M.	MEDI	96	Kauffman, G.W.	MEDI	361
Karney, W.L.	ORGN	812	Kassu, M.	MEDI	97	Kaufman, Y.	COLL	502
Karnitz, S.	I&EC	119	Kast, M.	INOR	655	Kaufman, Y.	COLL	503
Karolewski, J.	GEOC	212	Kast, M.	INOR	1413	Kaufmann, M.	COLL	720
Karouta, C.	BIOT	88	Kaster, M.A.	INOR	749	Kauk, M.	MEDI	214
Karp, E.	CATL	245	Kaster, M.A.	INOR	937	Kaul, I.	COMP	556
Karp, L.	ORGN	729	Kaster, M.A.	INOR	961	Kauppinen, E.I.	CELL	249
Karpenko, A.	INOR	940	Kaster, S.	ORGN	121	Kaur, A.	INOR	500
Karplus, P.	BIOL	304	Kastlunger, G.	CATL	256	Kaur, A.	CHED	625
Karplus, V.J.	ENVR	478	Kastner, E.	COLL	357	Kaur, H.	ANYL	60
Karpovich, D.S.	CHED	196	Kasumba, J.	ENFL	340	Kaur, K.	POLY	524
Karpovich, D.S.	CHED	934	Kasumba, J.	ENVR	764	Kaur, M.	INOR	1121
Karpovich, D.S.	CHED	941	Katahira, R.	BIOT	140	Kaur, M.	CHED	951
Karppinen, M.	CELL	417	Katalenich, J.	NUCL	133	Kaur, M.	CHED	1809
Karpudewan, M.	CHED	297	Kataoka, K.	BIOT	536	Kaur, R.	COMP	132
Karr, D.	AGFD	129	Kataoka, K.	POLY	156	Kaur, R.	PHYS	420
Karra, V.	COMP	386	Katara, G.	MEDI	155	Kaur, R.	ENVR	603
Karslioglu, O.	CATL	647	Kateja, N.	BIOT	83	Kaur, S.	BIOT	282
Karslioglu, O.	COLL	235	Kateja, N.	BIOT	303	Kaur, S.	COLL	758
Karslioglu, O.	GEOC	115	Kateja, N.	BIOT	711	Kaur, S.	POLY	566
Karten, J.	PHYS	406	Kathalikkattil, A.C.	CATL	284	Kaushik, R.	BIOT	20
Karthikeyan, M.	CINF	167	Kathaperumal, M.	ENFL	218	Kaushik, R.	BIOT	723
Karthikeyan, M.	CINF	175	Katherine, P.	CHED	1238	Kautz, R.	ANYL	219
Kartje, Z.J.	BIOL	10	Kathmann, S.	GEOC	328	Kautz, R.	BIOT	663
Kartsiotis, M.	INOR	1276	Kathmann, S.	GEOC	329	Kauzlarich, S.	INOR	32
Karty, J.A.	ORGN	410	Kathmann, S.	GEOC	362	Kauzlarich, S.	INOR	55
Karty, J.A.	ORGN	417	Kathmann, S.	INOR	1481	Kauzlarich, S.	INOR	128
Karukstis, K.K.	CHED	2064	Kathmann, S.	NUCL	102	Kauzlarich, S.	INOR	468
Karukstis, K.K.	COLL	260	Katke, A.	CHED	726	Kauzlarich, S.	INOR	757
Karunadasa, H.	INOR	69	Katner, A.L.	ENVR	419	Kauzlarich, S.	INOR	1049
Karunadasa, H.	INOR	705	Kato, K.	POLY	531	Kauzlarich, S.	INOR	1058
Karunadasa, H.	INOR	1106	Kato, M.	INOR	241	Kauzlarich, S.	INOR	1354
Karunadasa, H.	INOR	1174	Kato, M.	INOR	621	Kauzlarich, S.	INOR	1559
Karunadasa, H.I.	INOR	710	Kato, M.	MEDI	305	Kauzlarich, S.	PROF	44
Karunanayake, A.G.	ENVR	452	Kato, M.	MEDI	366	Kavallaris, M.	POLY	55
Karunaratne, K.U.	BIOL	309	Kato, S.	ENFL	334	Kavallieratos, K.	INOR	969
Karunaratne, N.	ENVR	628	Kato, S.	GEOC	184	Kavallieratos, K.	INOR	1138
Karuppanan, K.	BIOT	7	Kato, Y.	PHYS	404	Kavallieratos, K.	INOR	1440
Karuppanan, K.	BIOT	469	Katona, G.	PHYS	128	Kavallieratos, K.	NUCL	138
Karuppasamy, G.	COMP	261	Katsaras, J.	COLL	458	Kavanagh, K.	MEDI	406
Karwacki, C.J.	CATL	12	Katsaras, J.	COLL	530	Kavanagh, K.	MEDI	73
Karwacki, C.J.	CATL	60	Katsaras, J.	COLL	624	Kavran, J.	COMP	155
Karwacki, C.J.	CATL	494	Katsaras, J.	COLL	699	Kavran, K.	COMP	430
Kas, J.	CATL	322	Katsaras, J.	PHYS	384	Kavunja, H.W.	CARB	59
Kasai, Y.	ENVR	811	Katsenovich, Y.	GEOC	52	Kavunja, H.W.	CARB	60
Kasamechonchung, P.	COLL	601	Katsiev, H.	CATL	497	Kavunja, H.W.	CARB	68
Kasaraneni, V.	ENVR	153	Katsoukis, G.	CATL	506	Kavvada, O.	ENVR	565
Kaschel, J.	ORGN	498	Katsoulis, D.E.	CELL	451	Kawai, S.	COLL	480
Kasemwong, K.	AGFD	259	Katsura, H.	GEOC	232	Kawamoto, K.	ENVR	383
Kasemwong, K.	CARB	82	Katsura, H.	GEOC	247	Kawamoto, K.	MPPG	20
Kasemwong, K.	CELL	345	Katsura, H.	NUCL	129	Kawamoto, K.	POLY	243

Kawamoto, T.	ANYL	89	Keen, N.	MEDI	305	Kelly, J.	MEDI	112
Kawamoto, T.	INOR	1040	Keenan, D.	CHAS	15	Kelly, J.T.	CHED	1647
Kawamura, K.	CELL	378	Keenan, E.	INOR	786	Kelly, J.T.	PROF	49
Kawamura, S.	CATL	103	Keene, E.	PMSE	422	Kelly, K.	BIOT	695
Kawamura, S.	ORGN	212	Keene, E.	PMSE	567	Kelly, M.	BIOL	251
Kawasaki, Y.	ORGN	515	Keene, J.D.	CHED	1294	Kelly, M.	INOR	1531
Kawase, K.	ENFL	231	Kefela, T.	ENVR	752	Kelly, M.	BIOL	96
Kawase, K.	ENFL	232	Kegerreis, J.S.	CHED	1645	Kelly, M.	MEDI	449
Kawase, K.	ENFL	233	Kehl, J.A.	INOR	398	Kelly, M.A.	PMSE	559
Kawase, K.	ENFL	237	Kehl, J.A.	INOR	500	Kelly, M.J.	CATL	576
Kaxiras, E.	CATL	16	Kehl, J.A.	INOR	563	Kelly, R.	BIOT	654
Kaxiras, E.	CATL	206	Kehl, J.A.	INOR	683	Kelly, R.M.	CHED	303
Kay, H.E.	CHED	964	Kehlbeck, J.D.	AGFD	41	Kelly, R.M.	CHED	2002
Kay, P.	NUCL	164	Kehlbeck, J.D.	AGFD	269	Kelly, Z.	INOR	646
Kaya, C.	COMP	77	Kehlbeck, J.D.	CHED	239	Kelly-Rowley, A.M.	INOR	1570
Kaya, S.	COLL	146	Kehlbeck, J.D.	INOR	489	Kelsey, J.	PMSE	40
Kaydanovsky, E.	ORGN	927	Kehlbeck, J.D.	INOR	1056	Kelsey, L.	CHED	1194
Kaye, J.	GEOC	203	Kehler, J.	MEDI	344	Kelts, J.	CHED	652
Kayitmazer, A.	COLL	116	Kehler, J.	MEDI	447	Kelty, M.	INOR	1406
Kaymaz, A.	POLY	394	Kehoe, H.	BIOT	700	Kemble, N.	ENVR	898
Kaysar, A.	CHED	1117	Kehoe, H.P.	BIOT	190	Kemell, M.	CELL	245
Kazachkov, M.	ENVR	30	Kehoe, Z.	CHED	1459	Kemner, K.M.	ENVR	103
Kazal, R.	CHED	357	Keil, E.J.	CHED	1569	Kemner, K.M.	GEOC	132
Kazez, A.H.	PHYS	493	Keiluweit, M.	GEOC	18	Kemner, K.M.	GEOC	182
Kazez, A.H.	PROF	19	Keim, N.L.	AGFD	209	Kemner, K.M.	GEOC	239
Kazmierczak, M.	CHED	1387	Keimowitz, A.	GEOC	163	Kemner, K.M.	GEOC	291
Kaznessis, Y.	BIOT	130	Keinan, S.	CINF	83	Kemp, M.T.	COMP	240
Kazyak, E.	ANYL	41	Keipert, K.	COMP	576	Kemp, R.A.	CHED	1048
Ke, C.	POLY	533	Keire, D.	ANYL	147	Kemp, R.A.	INOR	1341
Ke, C.	POLY	642	Keirstead, A.E.	CHED	1819	Kemp, R.A.	CHED	1074
Ke, P.	POLY	419	Keita, H.	CHED	1137	Kemp, R.A.	INOR	1248
Ke, T.	FLUO	53	Keith, J.A.	INOR	1348	Kempe, K.	POLY	604
Ke, Y.	PMSE	360	Keitz, B.	INOR	1513	Kemper, B.	PMSE	478
Ke, Y.	PMSE	466	Kekessie, I.	MEDI	247	Kemper, B.	POLY	314
Ke, Y.	POLY	447	Kelgokmen, Y.	ORGN	748	Kemper, J.	BIOT	116
Ke, Y.	MEDI	482	Kelgtermans, H.	MEDI	347	Kempf, D.J.	COMP	222
Ke, Y.	AGFD	213	Kelinske, M.	ENFL	4	Kempf, D.J.	COMP	226
Keable, S.	CATL	216	Kellam, B.	MEDI	56	Kempinska, K.	BIOL	190
Kealey, J.	BIOT	655	Kelleghan, A.	COLL	298	Kempisty, D.	ENVR	641
Kean, K.	BIOL	304	Kellen-Yuen, C.J.	CHED	1808	Kempisty, D.	ENVR	959
Kearney, P.C.	SCHB	1	Keller, A.A.	ENVR	302	Kempson, J.	MEDI	25
Kearns, A.	CELL	180	Keller, A.A.	ENVR	636	Kenaga, H.	CHED	2162
Kearns, F.L.	COMP	236	Keller, A.A.	ENVR	725	Kenanakis, G.	POLY	168
Kearns, F.L.	COMP	240	Keller, A.A.	ENVR	1038	Kenane, N.	INOR	452
Kearns, K.	PMSE	143	Keller, C.	INOR	1500	Kendall, A.	AGFD	190
Kearns, N.M.	PHYS	208	Keller, L.	MEDI	463	Kendhammer, L.K.	CHED	53
Keasler, S.J.	CHED	975	Keller, L.C.	ORGN	906	Kendrick, S.D.	CHED	1232
Keasler, S.J.	COMP	96	Keller, R.J.	NUCL	76	Kendrick, S.D.	ORGN	651
Keasling, J.D.	BIOL	258	Keller, S.	ORGN	409	Kenefake, D.	INOR	899
Keasling, J.D.	BIOL	259	Keller, T.H.	MEDI	422	Kennedy, J.L.	CHAL	18
Keasling, J.D.	BIOL	357	Keller, W.	AGFD	166	Kennedy, J.L.	CHAL	19
Keasling, J.D.	BIOT	62	Kelley, A.	CHED	1901	Kennedy, K.	CHED	165
Keasling, J.D.	BIOT	176	Kelley, A.	ANYL	112	Kennedy, L.	ENVR	132
Keasling, J.D.	BIOT	179	Kelley, A.	ANYL	122	Kennedy, M.	CHED	1223
Keasling, J.D.	BIOT	245	Kelley, A.	CHED	1525	Kennedy, M.	MEDI	128
Keasling, J.D.	BIOT	336	Kelley, A.M.	PHYS	159	Kennedy, M.	CHED	1304
Keating, C.D.	COLL	33	Kelley, B.A.	CHED	1797	Kennedy, M.A.	CHED	534
Keating, C.D.	COLL	276	Kelley, B.D.	BIOT	134	Kennedy, M.A.	CHED	536
Keating, C.D.	COLL	319	Kelley, B.D.	BIOT	582	Kennedy, M.K.	ORGN	110
Keating, C.D.	COLL	657	Kelley, B.D.	BIOT	613	Kennedy, R.	ANYL	31
Keating, C.D.	COLL	729	Kelley, D.F.	PHYS	159	Kennedy, R.	ANYL	251
Keating, C.E.	CHED	1420	Kelley, E.G.	COLL	83	Kennedy, S.	CHED	290
Kebede, B.A.	COLL	88	Kelley, E.G.	COLL	698	Kennedy, S.	CHED	724
Keck, T.M.	MEDI	148	Kelley, E.G.	COLL	703	Kennedy, S.M.	CHED	1472
Kecsenovity, E.	ENFL	16	Kelley, K.	ENVR	873	Kennedy, S.M.	CHED	1532
Kedam, T.	BIOL	125	Kelley, M.	PHYS	259	Kennedy, S.M.	CHED	1544
Kedzie, E.	INOR	867	Kelley, M.	NUCL	75	Kennedy, W.J.	COLL	863
Kedzie, E.A.	INOR	607	Kelley, M.D.	CHED	583	Kennemur, J.G.	POLY	113
Kedzior, S.A.	CELL	144	Kelley, R.B.	CHED	1408	Kennerly, W.	CHED	876
Kedzior, S.A.	CELL	153	Kelley, R.B.	CHED	1361	Kennerly, W.	CHED	887
Kedzior, S.A.	CELL	204	Kelley, S.	AGFD	228	Kenney, C.	BIOT	482
Kedzior, S.A.	CELL	248	Kelley, S.O.	ANYL	337	Kenney, C.	CATL	144
Kedzior, S.A.	CELL	519	Kelley, S.O.	PMSE	199	Kenney, C.	COLL	146
Kedziora, G.S.	PMSE	196	Kellogg, G.E.	MEDI	437	Kenney, C.	INOR	1319
Keefe, K.	CHED	1308	Kellogg, K.	BIOL	265	Kenney, E.	CHED	1865
Keefe, M.H.	COLL	54	Kelly, A.	ORGN	53	Kenney, G.E.	INOR	737
Keefer, D.	PHYS	45	Kelly, A.	ORGN	184	Kenney, J.	GEOC	311
Keegstra, K.	CELL	234	Kelly, B.A.	BIOT	315	Kenney, M.J.	CHED	2092
Keel, T.	CHED	860	Kelly, C.	BIOL	276	Kenney, M.J.	CHED	2184
Keeler, E.G.	POLY	255	Kelly, G.	CATL	332	Kennington, L.	INOR	931



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Kennis, J.	PHYS	84	Keszler, D.A.	INOR	443	Khan, S.	MEDI	438
Kennis, J.	PHYS	396	Keszler, D.A.	INOR	445	Khan, S.	PHYS	502
Kenny, S.	ANYL	144	Keszler, D.A.	INOR	446	Khan, S.A.	AGFD	191
Kensy, T.	INOR	685	Keszler, D.A.	INOR	447	Khan, S.A.	CELL	429
Kensy, T.	POLY	600	Keszler, D.A.	INOR	451	Khan, S.A.	CELL	441
Kensy, V.K.	ORGN	400	Keszler, D.A.	INOR	452	Khan, S.A.	PMSE	85
Kent, D.B.	ENVR	268	Keszler, D.A.	INOR	453	Khan, S.A.	PMSE	328
Kent, I.A.	CATL	115	Keszler, D.A.	INOR	454	Khan, T.S.	CATL	41
Kent, P.	COMP	510	Keszler, D.A.	INOR	455	Khan, T.S.	CATL	416
Kent, P.	COMP	559	Keszler, D.A.	INOR	456	Khan, T.S.	CATL	426
Kent, T.A.	COLL	239	Keszler, D.A.	INOR	457	Khan, T.S.	CATL	440
Kent, T.A.	ORGN	871	Keszler, D.A.	INOR	458	Khan, T.S.	CATL	458
Kentgens, A.	GEOC	364	Keszler, D.A.	INOR	459	Khan, W.	ENFL	116
Kenton, N.	ORGN	837	Keszler, D.A.	INOR	460	Khan, Y.	CHED	143
Kenttamaa, H.I.	ANYL	374	Keszler, D.A.	INOR	497	Khanal, A.	ORGN	600
Kenyon, L.E.	COLL	377	Keszler, D.A.	INOR	649	Khanal, O.	BIOT	714
Kenyon, M.N.	CHED	626	Keszler, D.A.	INOR	655	Khani, S.K.	INOR	103
Kenyon, P.	INOR	408	Keszler, D.A.	INOR	760	Khani, S.K.	MPPG	11
Kenyon, P.	INOR	567	Keszler, D.A.	INOR	765	Khanjani, P.	CELL	222
Keown, W.	INOR	630	Keszler, D.A.	INOR	768	Khanna, T.	AGFD	105
Kepeniene, V.	ENFL	198	Keszler, D.A.	INOR	1264	Khanoyan, R.	PMSE	18
Kephart, S.	MEDI	350	Keszler, D.A.	INOR	1413	Kharade, S.V.	MEDI	245
Keplinger, T.	CELL	85	Ketelaar, K.J.	CELL	273	Kharas, G.B.	POLY	450
Keränen, J.	CELL	331	Keten, S.	CELL	224	Khare, K.S.	POLY	20
Kerber, C.	CHED	573	Keten, S.	ORGN	874	Khare, R.	POLY	73
Kerby, M.B.	BIOT	506	Ketring, A.	NUCL	141	Kharel, P.	INOR	486
Keren, R.	ENVR	460	Kett, P.J.	CHED	1637	Kharel, S.	ORGN	864
Kerfeld, C.	PHYS	13	Kett, W.	BIOT	473	Kharlampieva, E.P.	BIOT	690
Kerfoot, J.	COLL	646	Ketterer, M.	CHED	921	Kharlampieva, E.P.	COLL	692
Kerins, G.	INOR	334	Keum, J.K.	I&EC	32	Khasawneh, M.	MEDI	71
Kerins, H.	CHED	447	Keutsch, F.	ENVR	325	Khatib, O.	PMSE	193
Kerins, H.	CHED	462	Keutzer, S.	MEDI	194	Khatib, R.M.	INOR	932
Kerisit, S.N.	ENFL	123	Keutzer, S.	MEDI	272	Khatiawada, B.K.	POLY	296
Kerisit, S.N.	GEOC	148	Kevil, C.	CHED	670	Khatri, P.	BIOT	145
Kerisit, S.N.	GEOC	211	Key, R.E.	ENFL	392	Khattab, R.	CHED	567
Kerisit, S.N.	GEOC	331	Keyes, A.	CHED	676	Khattab, R.	CHED	649
Kerlin, W.M.	NUCL	83	Keyes, D.	CHED	2132	Khatua, B.B.	ENFL	163
Kermasha, S.	AGFD	240	Keyser, S.	BIOL	242	Khawaja, S.	POLY	359
Kern, D.	COMP	153	Keyser, S.	CHED	560	Khawaji, M.M.	CATL	38
Kern, J.	INOR	801	Keyvani-Someh, E.	POLY	421	Khayyo, S.N.	CHED	563
Kern, J.	INOR	1500	Khade, R.	INOR	1193	Khayyo, S.N.	CHED	1481
Kern, J.	ORGN	906	Khade, R.L.	INOR	67	Khayyo, V.	CHED	563
Kern, J.	PHYS	199	Khadka, N.	CATL	216	Khelashvili, G.	COMP	2
Kern, S.	ANYL	99	Khadtare, N.S.	MEDI	234	Khelashvili, G.	PHYS	6
Kerns, P.	CHED	737	Khairy, M.	ENVR	68	Khelfallah, N.S.	POLY	597
Kerr, J.	ANYL	219	Khairy, M.	ENVR	573	Khera, E.	BIOT	604
Kerr, J.	BIOT	663	Khakalo, A.	CELL	524	Khetrapal, N.	CATL	215
Kerridge, A.	NUCL	44	Khalaf, M.	ENVR	66	Khim, M.S.	ORGN	786
Kerridge, A.	NUCL	64	Khalaf, M.	ENVR	710	Khirich, G.	BIOT	571
Kerrigan, N.	ORGN	121	Khaleel, M.	CATL	315	Khlaychan, P.	PMSE	355
Kerrigan, P.K.	CHED	563	Khaleel, M.	CATL	316	Khlebnikova, E.	I&EC	102
Kerrigan, P.K.	CHED	1481	Khalfin, R.	CELL	325	Khnayzer, R.S.	INOR	934
Kerrigan, P.K.	CHED	1792	Khalil, A.	MEDI	416	Khnayzer, R.S.	INOR	1274
Kerry, T.	I&EC	91	Khalil, C.	CHED	614	Khodakovskaya, M.	ENVR	1039
Kerste, E.	ORGN	25	Khalil, M.H.	ANYL	61	Khodayari, A.	BIOT	589
Kerstiens, G.	CHED	22	Khalil, M.H.	PHYS	63	Khoder, Z.	ORGN	637
Kerstiens, G.	CHED	844	Khalil, M.H.	PHYS	113	Khojandi, N.	INOR	367
Kerstiens, G.	CHED	1963	Khalil, T.	PMSE	327	Khojasteh, C.	MEDI	28
Kerstiens, G.	CHED	2072	Khalily, M.	ORGN	869	Khol, P.	CHED	197
Kerstiens, G.	ENVR	292	Khalilullin, R.	ORGN	476	Kholmicheva, N.N.	COLL	89
Kersting, A.	COLL	866	Khalsa, R.	CHED	340	Khon, D.	COLL	180
Kersting, A.	GEOC	158	Khambhati, D.	ORGN	697	Khon, D.	COLL	213
Kersting, A.	GEOC	160	Khan, A.	PMSE	642	Khoo, R.	INOR	982
Kersting, A.	GEOC	187	Khan, A.	CHED	1218	Khor, D.	ANYL	78
Kersting, A.	GEOC	230	Khan, A.	BIOL	79	Khosla, C.	BIOL	352
Kerwin, B.	BIOT	18	Khan, A.	PMSE	308	Khosla, C.	BIOT	268
Kesharwani, T.	ORGN	698	Khan, A.	PMSE	363	Khosravi, A.	BIOT	467
Kesharwani, T.	ORGN	772	Khan, A.	BIOT	423	Khosravi, S.D.	PHYS	414
Keshavarz, A.	ORGN	333	Khan, A.	MEDI	97	Khoury, R.A.	PHYS	575
Keshavarz, A.	ORGN	405	Khan, E.	GEOC	339	Khouryieh, H.	CHED	494
Keshavarz, A.	ORGN	595	Khan, I.	ORGN	487	Khrustalev, V.N.	MEDI	131
Keshishian, A.	CHED	1552	Khan, J.	MEDI	25	Khurana, I.	CATL	276
Keshvardoost, M.	BIOT	390	Khan, M.	CELL	26	Khuri, J.	CHED	1114
Kessler, J.	CHED	2	Khan, M.	CHED	1540	Khusnutdinova, D.	CATL	218
Kessler, M.	COLL	198	Khan, N.	CHED	1943	Ki, C.	PMSE	395
Kessler, V.	COLL	605	Khan, S.	CHED	1415	Ki, C.	PMSE	444
Kestell, J.	INOR	1085	Khan, S.	INOR	384	Ki, J.	BIOT	577
Keszler, D.A.	CHED	2139	Khan, S.	ORGN	601	Ki, J.	BIOT	705
Keszler, D.A.	INOR	441	Khan, S.	ORGN	868	Ki, J.	COLL	728
Keszler, D.A.	INOR	442	Khan, S.	MEDI	123	Ki, S.	INOR	998

Kiakos, K.	MEDI	169	Kim, C.	INOR	831	Kim, H.	COLL	273
Kibblewhite, R.	BIOT	247	Kim, C.	INOR	832	Kim, H.	BIOL	323
Kibsgaard, J.	INOR	1352	Kim, C.	INOR	833	Kim, H.	PMSE	93
Kidd, R.	CINF	13	Kim, C.	ENVR	381	Kim, H.	INOR	434
Kidder, M.	ORGN	576	Kim, C.	ENVR	424	Kim, H.	COLL	708
Kidley, N.	AGFD	98	Kim, C.	ENVR	589	Kim, H.	BIOT	276
Kieber-Emmons, M.T.	INOR	927	Kim, C.	GEOC	252	Kim, H.	POLY	417
Kieber-Emmons, M.T.	INOR	1376	Kim, C.	GEOC	253	Kim, H.	GEOC	166
Kieffer, I.A.	INOR	1484	Kim, C.	PMSE	391	Kim, H.	COLL	309
Kiel, G.R.	INOR	1447	Kim, C.	INOR	909	Kim, H.	COLL	315
Kiel, G.R.	ORGN	646	Kim, C.	INOR	910	Kim, H.	ENFL	215
Kielbasa, O.	CHED	753	Kim, C.	INOR	911	Kim, H.	PMSE	384
Kieltyka, R.	POLY	252	Kim, C.	INOR	914	Kim, H.	ENFL	240
Kiely, C.	CATL	105	Kim, C.	INOR	915	Kim, H.	ENFL	146
Kiely, C.J.	CATL	85	KIM, C.	COLL	337	Kim, H.	NUCL	131
Kiely, C.J.	ENFL	92	Kim, C.S.	GEOC	7	Kim, H.	PMSE	395
Kiely, C.J.	INOR	693	Kim, D.	ORGN	261	Kim, H.	ENVR	890
Kiemle, S.	CELL	21	Kim, D.	BIOT	256	Kim, H.	CELL	192
Kiemle, S.	CELL	522	Kim, D.	ENFL	214	Kim, H.	AGFD	58
Kienzler, A.	ENVR	934	Kim, D.	COLL	297	Kim, H.	ANYL	342
Kieser, J.	INOR	596	Kim, D.	AGFD	181	Kim, H.	POLY	290
Kiesewetter, A.	BIOT	456	Kim, D.	BIOT	278	Kim, H.	CATL	150
Kiesewetter, E.	PMSE	112	Kim, D.	ANYL	5	Kim, H.	ORGN	369
Kiesewetter, M.K.	PMSE	112	Kim, D.	COLL	660	Kim, H.	CATL	282
Kiessling, R.	POLY	201	Kim, D.	INOR	1029	Kim, H.	CATL	288
Kifer, I.	COMP	474	Kim, D.	BIOT	501	Kim, H.	CATL	323
Kiffe, M.	MEDI	353	Kim, D.	ENVR	769	Kim, H.	COMP	83
Kightlinger, W.	BIOT	634	Kim, D.	ENFL	220	Kim, H.W.	PHYS	374
Kihara, D.	CELL	192	Kim, D.	BIOT	501	Kim, I.	ORGN	648
Kihlstrom, K.	INOR	988	Kim, D.	ENFL	372	Kim, I.	INOR	200
Kiick, K.L.	POLY	70	Kim, D.	PMSE	295	Kim, I.	PHYS	14
Kikuchi, N.	BIOT	432	Kim, D.	AGFD	153	Kim, I.	CATL	424
Kilaru, P.	ORGN	423	Kim, D.	ENVR	986	Kim, I.	INOR	76
Kilbey, M.	POLY	487	Kim, D.	GEOC	13	Kim, J.	BIOT	280
Kildishev, A.	PHYS	268	Kim, D.	GEOC	363	Kim, J.	ENVR	10
Kildyshova, L.	CELL	114	Kim, D.	COLL	554	Kim, J.	PHYS	463
Kilin, D.	PHYS	305	KIM, D.	BIOL	73	Kim, J.	MEDI	346
Kilin, D.	PHYS	343	KIM, D.	INOR	895	Kim, J.	ENVR	784
Kilin, D.	PHYS	345	Kim, E.	ANYL	54	Kim, J.	ENVR	1035
Kilin, D.	PHYS	446	Kim, E.	ENVR	40	Kim, J.	PMSE	419
Kilin, D.	PHYS	448	Kim, E.	MEDI	128	Kim, J.	PMSE	589
Killelea, D.R.	PHYS	150	Kim, E.	ENVR	746	Kim, J.	PMSE	384
Killgore, J.	CELL	72	Kim, E.	AGFD	192	Kim, J.	MEDI	32
Killgore, J.	PMSE	451	Kim, E.	AGFD	194	Kim, J.	MEDI	103
Kilos, B.A.	INOR	1570	Kim, E.	AGFD	195	Kim, J.	MEDI	75
Kilos, B.A.	WCC	16	Kim, E.	AGFD	196	Kim, J.	MEDI	82
Kilpeläinen, I.	CELL	245	Kim, E.	NUCL	84	Kim, J.	ORGN	549
Kilpeläinen, I.	CELL	519	Kim, E.	ENVR	782	Kim, J.	CHED	998
Kilpeläinen, P.	CELL	287	Kim, E.	ENVR	783	Kim, J.	AGFD	192
Kilyanek, S.M.	INOR	894	Kim, E.	POLY	352	Kim, J.	AGFD	194
Kilyanek, S.M.	INOR	1395	Kim, E.H.	ANYL	482	Kim, J.	AGFD	195
Kim, A.	INOR	832	Kim, G.	AGFD	29	Kim, J.	AGFD	196
Kim, A.	PHYS	377	Kim, G.	ENVR	876	Kim, J.	ENVR	177
Kim, A.	CHED	1812	Kim, G.	POLY	195	Kim, J.	CELL	24
Kim, B.	BIOT	278	Kim, G.	PMSE	399	Kim, J.	CATL	321
Kim, B.	PMSE	390	Kim, G.	AGFD	71	Kim, J.	CATL	520
Kim, B.	COLL	282	Kim, G.	AGFD	72	Kim, J.	ENVR	760
Kim, B.	ENFL	180	Kim, G.	AGFD	84	Kim, J.	ENVR	788
Kim, B.	ENFL	429	Kim, H.	INOR	921	Kim, J.	INOR	1267
Kim, B.	BIOT	501	Kim, H.	INOR	1527	Kim, J.	INOR	1507
Kim, B.	PMSE	93	Kim, H.	ENFL	463	Kim, J.	ENFL	143
Kim, B.	PMSE	107	Kim, H.	ENFL	68	Kim, J.	ENFL	216
Kim, B.	PMSE	597	Kim, H.	BIOL	180	Kim, J.	INOR	223
Kim, B.	COLL	184	Kim, H.	COLL	842	Kim, j.	AGFD	181
Kim, B.S.	CATL	483	Kim, H.	AGFD	71	Kim, J.	INOR	68
Kim, C.	AGFD	228	Kim, H.	AGFD	72	Kim, J.	INOR	910
Kim, C.	BIOT	329	Kim, H.	PMSE	392	Kim, J.	INOR	915
Kim, C.	CATL	406	Kim, H.	PMSE	465	Kim, J.	POLY	195
Kim, C.	PMSE	348	Kim, H.	BIOT	572	Kim, J.	PMSE	93
Kim, C.	PMSE	375	Kim, H.	BIOT	561	Kim, J.	CATL	324
Kim, C.	PMSE	417	Kim, H.	AGFD	196	Kim, J.	CATL	325
Kim, C.	PMSE	399	Kim, H.	PMSE	393	Kim, J.	ENFL	178
Kim, C.	ANYL	113	Kim, H.	ENVR	381	Kim, J.	ENFL	179
Kim, C.	BIOT	240	Kim, H.	GEOC	254	Kim, J.	POLY	352
Kim, C.	BIOT	306	Kim, H.	POLY	597	Kim, J.	AGFD	29
Kim, C.	ANYL	418	Kim, H.	COLL	510	Kim, J.	ANYL	306
Kim, C.	AGFD	27	Kim, H.	NUCL	158	Kim, J.	BIOT	300
Kim, C.	INOR	277	Kim, H.	POLY	650	Kim, J.	COLL	327
Kim, C.	INOR	829	Kim, H.	ENFL	160	Kim, J.	PMSE	26
Kim, C.	INOR	830	Kim, H.	CATL	311	Kim, J.	PMSE	351

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Kim, J.	PMSE	390	KIM, M.	ORGN	131	Kim, S.H.	CELL	490
Kim, J.	PMSE	398	Kim, M.	COLL	742	Kim, S.H.	CELL	522
Kim, J.	PMSE	433	Kim, M.B.	MEDI	41	Kim, S.H.	COLL	32
Kim, J.	BIOT	472	Kim, M.B.	MEDI	42	Kim, S.H.	COLL	550
Kim, J.	AGFD	196	Kim, N.	ENVR	839	Kim, S.J.	POLY	620
Kim, J.	ENVR	1025	Kim, N.	ENVR	840	Kim, S.O.	CATL	428
Kim, J.	COLL	834	Kim, N.	ENFL	422	Kim, S.S.	POLY	518
Kim, J.	INOR	697	Kim, N.	BIOT	389	Kim, S.Y.	POLY	110
Kim, J.	CATL	311	Kim, N.	ENFL	269	Kim, S.Y.	BIOL	299
Kim, J.	COLL	273	Kim, P.	INOR	833	Kim, T.	ORGN	155
Kim, J.	ENFL	214	Kim, P.	CHED	768	Kim, T.	BIOT	397
Kim, J.	INOR	1026	Kim, P.	PHYS	87	Kim, T.	MEDI	427
Kim, J.	ENVR	760	Kim, P.	PHYS	386	Kim, T.	ENVR	278
Kim, J.	INOR	1026	Kim, P.	PHYS	259	Kim, T.	ENVR	278
Kim, J.	ANYL	217	Kim, P.	PHYS	488	Kim, T.	ENVR	723
Kim, J.	BIOT	138	Kim, Q.	COLL	836	Kim, T.	ENVR	771
Kim, J.	BIOT	176	Kim, R.	CHED	1552	Kim, T.	COLL	253
Kim, J.	MEDI	351	Kim, R.	MEDI	112	Kim, T.	INOR	1046
Kim, J.	MEDI	365	Kim, S.	AGFD	26	Kim, T.D.	CHED	278
Kim, J.	ENFL	412	Kim, S.	ANYL	225	Kim, T.D.	CHED	192
Kim, J.	COMP	280	Kim, S.	PMSE	537	Kim, T.D.	CHED	193
Kim, J.	COMP	349	Kim, S.	ORGN	309	Kim, T.D.	CHED	306
Kim, J.	ENFL	215	Kim, S.	ORGN	648	Kim, T.D.	CHED	2033
Kim, J.	INOR	1017	Kim, S.	ANYL	221	Kim, T.D.	CHED	2095
Kim, J.	PMSE	590	Kim, S.	COLL	272	Kim, T.R.	CATL	166
Kim, J.	COLL	221	Kim, S.	CELL	234	Kim, W.	BIOT	174
Kim, J.	MEDI	32	Kim, S.	CATL	424	Kim, W.	ENVR	673
Kim, J.	ORGN	151	Kim, S.	ENFL	241	Kim, W.	NUCL	131
Kim, J.	BIOT	541	Kim, S.	PROF	12	Kim, Y.	COLL	315
Kim, J.	ORGN	716	Kim, S.	MEDI	464	Kim, Y.	INOR	118
Kim, J.H.	ORGN	813	Kim, S.	PMSE	363	Kim, Y.	INOR	223
Kim, J.K.	COLL	238	Kim, S.	AGFD	68	Kim, Y.	INOR	329
Kim, J.R.	COMP	280	Kim, S.	AGFD	70	Kim, Y.	INOR	835
Kim, J.R.	COMP	349	Kim, S.	CATL	568	Kim, Y.	ENVR	724
Kim, J.W.	BIOT	410	Kim, S.	CELL	216	Kim, Y.	BIOT	329
Kim, K.	GEOC	251	Kim, S.	COMP	162	Kim, Y.	BIOT	347
Kim, K.	MEDI	381	Kim, S.	BIOT	66	Kim, Y.	BIOT	389
Kim, K.	ENVR	152	Kim, S.	MEDI	248	Kim, Y.	BIOT	572
Kim, K.	COMP	278	Kim, S.	ENVR	667	Kim, Y.	BIOT	656
Kim, K.	ENFL	416	Kim, S.	CATL	310	Kim, Y.	BIOT	626
Kim, K.	PMSE	371	Kim, S.	BIOL	215	Kim, Y.	BIOT	661
Kim, K.	AGFD	69	Kim, S.	ENVR	914	Kim, Y.	INOR	227
Kim, K.	ANYL	168	Kim, S.	PROF	4	Kim, Y.	GEOC	13
Kim, K.	PHYS	18	Kim, S.	ORGN	176	Kim, Y.	COLL	221
Kim, K.	INOR	340	Kim, S.	PMSE	134	Kim, Y.	COLL	265
Kim, K.	ORGN	245	Kim, S.	CATL	324	Kim, Y.	CELL	167
Kim, K.	ORGN	841	Kim, S.	CATL	325	Kim, Y.	COLL	199
Kim, K.	COLL	327	Kim, S.	ENFL	178	Kim, Y.	COLL	244
Kim, K.	INOR	896	Kim, S.	ENFL	179	Kim, Y.	PMSE	184
Kim, K.	MEDI	267	Kim, S.	CHED	735	Kim, Y.	PMSE	653
Kim, K.	PHYS	463	Kim, S.	PMSE	642	Kim, Y.	ENVR	760
Kim, K.	MEDI	208	Kim, S.	ENFL	88	Kim, Y.	ENVR	787
Kim, K.	AGFD	29	Kim, S.	INOR	1026	Kim, Y.	ENVR	788
Kim, K.	PMSE	394	Kim, S.	COLL	363	Kim, Y.	ANYL	486
Kim, L.	ORGN	482	Kim, S.	INOR	68	Kim, Y.	PMSE	498
Kim, L.	ORGN	844	Kim, S.	PMSE	485	Kim, Y.	PMSE	93
Kim, M.	COLL	273	Kim, S.	INOR	909	Kim, Y.	AGFD	25
Kim, M.	MEDI	43	Kim, S.	INOR	914	Kim, Y.	CATL	177
Kim, M.	PMSE	395	Kim, S.	INOR	915	Kim, Y.	ENFL	214
Kim, M.	PMSE	444	Kim, S.	AGFD	68	Kim, Y.	AGFD	26
Kim, M.	INOR	921	Kim, S.	AGFD	70	Kim, Y.	CELL	167
Kim, M.	PMSE	663	Kim, S.	ANYL	150	Kim, Y.	CELL	431
Kim, M.	ORGN	195	Kim, S.	INOR	1026	Kim, Y.	FLUO	49
Kim, M.	CATL	64	Kim, S.	CHED	228	Kim, Y.	PHYS	401
Kim, M.	INOR	829	Kim, S.	CINF	57	Kim, Y.	POLY	352
Kim, M.	ENVR	1017	Kim, S.	CINF	146	Kim, Y.	MEDI	126
Kim, M.	COLL	229	Kim, S.	CATL	422	Kim, Y.	PMSE	295
Kim, M.	ANYL	221	Kim, S.	ANYL	466	Kim, Y.S.	ANYL	455
Kim, M.	INOR	1571	Kim, S.	INOR	1507	Kimaru, I.	CHED	433
Kim, M.	COLL	846	Kim, S.	INOR	1571	Kimberlin, A.	NUCL	145
Kim, M.	ENVR	278	Kim, S.	CHED	577	Kimble Hill, A.C.	COLL	200
Kim, M.	ENVR	771	Kim, S.	CHED	1809	Kimbrough, E.	CHED	545
Kim, M.	BIOT	278	Kim, S.	AGFD	101	Kimmel, E.	ORGN	399
Kim, M.	BIOT	330	Kim, S.	MPPG	15	Kimrey, J.T.	CHED	1480
Kim, M.	COLL	179	Kim, S.	PMSE	590	Kimura, F.	CELL	411
Kim, M.	COLL	223	KIM, S.	ENFL	227	Kimura, S.	CELL	411
Kim, M.	COLL	224	KIM, S.	INOR	895	Kimura, S.Y.	ENVR	98
Kim, M.	COLL	728	Kim, S.H.	CELL	22	Kimura, T.	CELL	411
Kim, M.	INOR	1063	Kim, S.H.	CELL	275	Kinaci, E.	PMSE	591
Kim, M.	ENVR	540	Kim, S.H.	CELL	278	Kinarivala, N.	MEDI	122

Kinauer, M.	INOR	1454	Kirisits, M.	COLL	294	Klatt, J.M.	GEOC	123
Kincaid, K.	CHED	1890	Kirk, B.	ANYL	366	Klausen, R.S.	PMSE	57
Kind, J.	POLY	560	Kirk, C.	NUCL	163	Klebanoff, L.E.	INOR	1530
Kindon, N.	MEDI	56	Kirk, J.S.	CHED	11	Klee, J.	ORGN	498
Kindon, N.	MEDI	118	Kirk, K.	COLL	561	Kleeb, A.	BIOT	730
Kindra, D.	NUCL	10	Kirk, M.L.	INOR	1102	Kleespies, S.T.	INOR	948
King, A.	CELL	245	Kirkbride, P.	ANYL	362	Kleespies, S.T.	INOR	268
King, A.	CELL	326	Kirkconnell, P.M.	ANYL	170	Kleij, A.W.	ORGN	318
King, A.	CELL	519	Kirkeby, E.	ORGN	163	Kleiman, V.D.	PHYS	254
King, B.	CHED	1478	Kirkegaard, M.C.	NUCL	34	Klein, A.	ORGN	39
King, B.T.	COLL	552	Kirkevoid, T.	CHED	768	Klein, B.	CHED	335
King, B.T.	ORGN	502	Kirkham, C.	PMSE	196	Klein, B.	AGFD	176
King, C.	CHED	1244	Kirkland, M.	CHED	417	Klein, E.	CHED	675
King, C.D.	CHED	286	Kirkpatrick, J.	GEOC	143	Klein, I.	CATL	587
King, C.D.	CHED	514	Kirkton, S.	CHED	239	Klein, J.	INOR	268
King, D.B.	CHED	169	Kirlikovali, K.	INOR	1537	Klein, J.	INOR	272
King, D.E.	ANYL	10	Kirmizialtin, S.	COMP	318	Klein, J.	INOR	273
King, E.	AGFD	187	Kirsch, J.	CHED	831	Klein, J.	INOR	286
King, E.K.	GEOC	201	Kirschning, A.	CHED	1158	Klein, J.	INOR	1191
King, J.	CHED	247	Kirshenbaum, K.	CARB	5	Klein, K.	CHED	435
King, K.E.	ANYL	170	Kirss, R.U.	COMP	323	Klein, L.	CHED	1318
King, K.E.	CHED	1686	Kirz, J.	ANYL	479	Klein, M.L.	COLL	714
King, L.	CATL	184	Kiselev, E.	MEDI	231	Klein, M.L.	COMP	355
King, L.	CATL	268	Kishani, S.	CELL	163	Klein, M.L.	COMP	406
King, M.	CHED	505	Kishimoto, K.	PMSE	209	Klein, M.L.	COMP	578
King, M.	CHED	851	Kishishita, A.	COLL	286	Klein, M.M.	CHED	1839
King, M.	CHED	1175	Kisley, L.	BIOT	381	Klein, R.	COMP	446
King, M.E.	CATL	115	Kisley, L.	PMSE	407	Klein, R.	MEDI	22
King, M.J.	ENVR	828	Kislitsyn, D.A.	INOR	1059	Klein, S.	PHYS	525
King, P.W.	CATL	216	Kislitza, O.	ENFL	335	Kleine, T.	SOCED	2
King, S.	CINF	114	Kiss, A.	COLL	486	Kleinfehn, A.	POLY	287
Kinge, A.	CHED	1719	Kiss, R.D.	BIOT	113	Kleingardner, J.	BIOL	33
Kinge, S.	COLL	805	Kissling, R.M.	CHED	1916	Kleingardner, J.	CHED	733
Kinghorn, A.	AGFD	166	Kissling, R.M.	CHED	1921	Kleingardner, J.	INOR	178
Kinghorn, A.D.	AGFD	156	Kisslinger, K.	CATL	322	Kleingesinds, E.K.	CELL	91
Kingsley, K.	CELL	34	Kisslinger, K.	CATL	373	Kleinjans, A.	BIOT	351
Kingsley, K.	PMSE	396	Kistler Langston, M.	ANYL	412	Kleinjans, A.	BIOT	694
Kinlen, P.J.	PMSE	184	Kita, D.	MEDI	194	Kleinrichert, K.	CHED	337
Kinlen, P.J.	PMSE	653	Kita, D.	MEDI	272	Kleinsasser, J.	INOR	1341
Kinman, A.	AGFD	93	Kita, Y.	ENVR	65	Kleinstreuer, N.	ENVR	1009
Kinnan, M.	CINF	153	Kita, Y.	ENVR	811	Kleist, E.	PHYS	372
Kinnear, C.	COLL	449	Kitagawa, K.	CELL	32	Klemes, M.	CHED	1747
Kinnison, K.L.	COLL	203	Kitaoka, M.	CELL	411	Klemm, D.O.	CELL	49
Kinoshita, A.	MEDI	449	Kitchens, C.L.	CATL	632	Klemm, E.	GEOC	178
Kinsella, T.	MEDI	159	Kitchens, C.L.	INOR	1569	Klemow, K.	CHED	478
Kinsella, T.	MEDI	478	Kitchin, J.R.	CATL	47	Klepper, R.R.	CHED	242
Kinsella, T.	MEDI	479	Kitt, J.P.	BIOL	282	Klepper, R.R.	CHED	1909
Kinsey, S.	BIOL	107	Kitt, J.P.	COLL	696	Klepper, S.	CATL	58
Kintzing, J.	BIOT	129	Kittikhunnatham, P.	PHYS	361	Klet, R.	INOR	1284
Kinyamu-Akunda, J.	MEDI	353	Kittilstved, K.R.	INOR	154	Klevit, R.	CHED	551
Kinzlmaier, D.	BIOT	162	Kittle, J.	PMSE	397	Klevorn, C.M.	AGFD	173
Kinzlmaier, D.	BIOT	681	Kittleman, W.	CHED	683	Kliger, D.S.	PHYS	210
Kioko, B.	COLL	202	Kittredge, K.W.	CHED	763	Klijn, M.	BIOT	24
Kioko, B.	COLL	734	Kittredge, K.W.	CHED	772	Klimov, V.I.	INOR	483
Kiplinger, J.L.	INOR	95	Kityakarn, S.	CATL	96	Kline, P.C.	BIOL	217
Kiplinger, J.L.	INOR	612	Kivala, M.	COLL	553	Kline, R.	CHED	383
Kiplinger, J.L.	INOR	971	Kivala, M.	PHYS	377	Kling, A.	MEDI	11
Kiplinger, J.L.	INOR	1215	Kiyonami, R.	ANYL	109	Klingaman, C.A.	CHED	540
Kiplinger, J.L.	INOR	1391	Kizhedath, A.	BIOT	618	Klingberg, M.	CHED	1865
Kiplinger, J.L.	NUCL	15	Kjaer, K.	PHYS	69	Klinge, M.	CINF	69
Kipp, D.	COLL	812	Kjoller, K.	PMSE	147	Klingler, R.J.	ENFL	321
Kippenhan, E.P.	CHED	125	Klaassen, A.	GEOC	147	Klinker, K.	PMSE	479
Kippenhan, E.P.	CHED	1865	Klaassen, N.	BIOT	626	Klinker, K.	PMSE	551
Kipper, M.	BIOT	104	Klaehn, J.R.	INOR	1494	Klivansky, L.	PMSE	298
Kipper, M.	CELL	53	Klamcheun, A.	COLL	601	Klok, H.A.	CELL	328
Kipper, M.	PMSE	440	Klamm, B.	ENFL	31	Klok, H.A.	PMSE	572
Kirberger, S.	FLUO	43	Klamm, B.	GEOC	284	Klok, H.A.	POLY	67
Kirby, D.A.	CPRC	9	Klamm, B.	INOR	520	Klopper, R.	CHED	129
Kirby, M.	CELL	292	Klan, P.	ENVR	527	Klose, A.	NUCL	37
Kirby, N.	POLY	378	Klapars, A.	ORGN	916	Klosin, J.	INOR	1167
Kirby, N.	POLY	550	Klaper, R.	ENVR	127	Klosin, J.	PMSE	122
Kirchhofer, P.L.	ORGN	135	Klaper, R.	ENVR	497	Klosinski, M.	INOR	882
Kirchhoff, M.M.	CHED	84	Klaper, R.	ENVR	670	Klosinski, M.	ORGN	549
Kirchhoff, P.	MEDI	10	Klaper, R.	ENVR	675	Klossowski, S.	BIOL	190
Kirchmayr, M.	AGFD	149	Klapper, M.	CATL	577	Kloster, A.	POLY	460
Kirchner, A.	CHED	620	Klapper, M.	PMSE	309	Klotz, D.	ENFL	58
Kirchner, K.	INOR	369	Klapper, M.	PMSE	602	Kloxin, A.M.	BIOT	659
Kireev, D.	COMP	441	Klare, S.	ORGN	265	Kloxin, A.M.	PMSE	2
Kirianchuk, V.	CELL	33	Klasen, S.	ORGN	138	Kloxin, C.J.	INOR	1443
Kirianchuk, V.	PMSE	358	Klastic, B.	CHED	1434	Kloxin, C.J.	ORGN	933



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Kloxin, C.J.	PMSE	325	Ko, H.	PMSE	499	Koelewijn, S.	CATL	591
Kloxin, C.J.	POLY	100	Ko, J.	CARB	17	Koellner, S.	BIOT	423
Kloxin, C.J.	POLY	483	Ko, J.	POLY	372	Koenig, G.	COMP	145
Kloxin, C.J.	POLY	542	Ko, J.	ANYL	179	Koenig, G.	COMP	529
Klucher, J.	ANYL	142	Ko, J.	ENFL	294	Koenig, P.H.	COLL	808
Kluck, B.	BIOT	50	Ko, J.	INOR	462	Koenig, S.	ENVR	879
Kluender, E.J.	PMSE	83	Ko, J.	INOR	1009	Koenig, S.G.	I&EC	71
Kluender, E.J.	PMSE	662	Ko, M.	ANYL	487	Koenig, S.G.	ORGN	736
Kluherz, K.	INOR	854	Ko, M.	BIOT	366	Koenig, S.G.	ORGN	880
Kluherz, K.	NUCL	137	Ko, M.	BIOT	527	Koenigs, R.M.	ORGN	669
Kmak, K.	NUCL	16	Ko, W.	CATL	422	Koenigs, R.M.	ORGN	877
Kmetz, K.T.	POLY	98	Ko, Y.	ANYL	349	Koepke, S.J.	INOR	927
Knopic, S.D.	CHED	623	Ko, Y.	COLL	690	Koepke, S.J.	INOR	1376
Knapp, C.E.	INOR	1450	Ko, Y.	ENFL	144	Koeris, M.	AGFD	251
Knapp, J.	CHED	1246	Ko, Y.	ENVR	369	Koerner, A.	INOR	242
Knapp, J.	INOR	861	Ko, Y.	NUCL	131	Koerner, S.K.	MEDI	53
Knapp, M.	BIOL	286	Ko, Y.	PMSE	47	Koert, U.	ORGN	25
Knapp, M.	INOR	60	Ko, Y.	BIOL	148	Koes, D.	COMP	100
Knapp, S.	CATL	397	Koback, M.	POLY	429	Koes, D.	COMP	150
Knappe, D.	ENVR	97	Kobaslija, S.L.	CATL	629	Koes, D.	COMP	290
Knappe, D.	ENVR	98	Kobayashi, K.	CELL	411	Koes, D.	COMP	416
Knappe, D.	ENVR	536	Kobayashi, S.	YCC	24	Koffas, M.	BIOT	25
Knappe, D.	ENVR	614	Kobayashi, T.	CATL	54	Koffas, M.	BIOT	670
Knappenberger, K.L.	COLL	514	Kobayashi, T.	PMSE	39	Köfing, J.	COMP	429
Knasmüller, B.	MEDI	436	Kobayashi, T.	ORGN	305	Kogej, K.	CELL	480
Knauer, K.M.	POLY	506	Kobayashi, Y.	ENFL	231	Kogler, L.M.	ANYL	377
Knauss, D.M.	POLY	364	Kobayashi, Y.	ENFL	232	Koh, A.	ANYL	452
Kneafsey, T.	GEOC	11	Kobayashi, Y.	ENFL	233	Koh, C.A.	CHED	1308
Knecht, M.R.	ENVR	606	Kober, E.	INOR	863	Koh, M.	ENFL	372
Knemeyer, I.	MEDI	112	Kobilka, B.K.	MEDI	39	Kohen, A.	BIOL	309
Knerr, L.	ORGN	23	Kobori, S.	BIOL	40	Kohen, A.	BIOL	324
Knezovich, N.	MEDI	35	Kobori, S.	BIOL	57	Kohgo, S.	COMP	503
Knically, B.	CHED	1772	Koc, M.A.	COLL	193	Kohl, F.	PHYS	525
Kniep, F.	ORGN	409	Koc, M.A.	INOR	816	Kohl, N.	MEDI	351
Knight, A.	ORGN	681	Koc, U.	COLL	159	Kohl, N.	MEDI	365
Knight, A.	POLY	492	Koc, U.	COLL	849	Kohl, P.	PMSE	245
Knight, C.	COMP	217	Kocerha, J.	MEDI	93	Kohl, P.	PMSE	247
Knight, D.	CATL	86	Koch, G.	MEDI	147	Köhler Van Alstine, K.	BIOT	81
Knight, J.	MEDI	24	Koch, I.	ENVR	539	Kohler, B.	PHYS	124
Knight, J.	BIOT	482	Koch, K.	MEDI	367	Kohler, H.E.	ENVR	3
Knight, J.	CATL	144	Koch, S.A.	INOR	222	Kohn, K.P.	CHED	236
Knight, J.	COLL	146	Koch, W.	MEDI	10	Kohn, T.	ENVR	567
Knight, J.	INOR	1319	Kochambilli, R.	ANYL	86	Kohnke, P.	BIOL	278
Knight, R.	MEDI	428	Kochambilli, R.	CHED	809	Kohnno, H.	MEDI	449
Knightes, C.	ENVR	672	Kochanek, S.E.	COMP	365	Kohnno, Y.	ORGN	519
Knippenberg, T.	CHED	906	Kochar, T.	ANYL	72	Koh-Stenta, X.	MEDI	422
Knob, R.	ANYL	47	Kochar, T.	ANYL	80	Kohut, A.	PMSE	474
Knoepfel, T.	MEDI	353	Kochugaeva, M.	PHYS	416	Kohut, A.	POLY	409
Knoerdel, A.	CHED	1651	Kociolek, M.G.	COMSCI	2	Koike, T.	MEDI	449
Knoll, A.	I&EC	50	Kociolek, M.G.	ORGN	700	Koirala, B.	BIOL	173
Knoot, C.J.	INOR	22	Kocun, M.	PMSE	592	Koishi, A.	GEOC	74
Knop, D.	BIOT	393	Kocur, C.	ENVR	306	Koishi, A.	GEOC	333
Knop-Gericke, A.	ENFL	95	Koczur, K.	COLL	347	Koizumi, K.	ENVR	864
Knorpp, A.J.	ENFL	10	Kodadek, T.J.	CHED	725	Koizumi, K.	GEOC	247
Knorr, D.	CINF	22	Kodaimati, M.	PHYS	4	Kokkinis, D.	CELL	83
Knorr, D.	POLY	600	Kodali, G.	PHYS	563	Kokkoli, E.	PMSE	200
Knorr, F.J.	CATL	454	Kodali, R.	MEDI	19	Koklukaya, O.	CELL	283
Knostman, N.	CHED	1842	Kodama, K.	CATL	208	Kokona, B.	BIOL	114
Knott, B.	COMP	162	Kodamatani, H.	ENVR	232	Kol, M.	INOR	262
Knouse, K.W.	ORGN	212	Kodani, S.D.	MEDI	68	Kol, M.	INOR	1465
Knowlden, S.	ORGN	216	Koebel, M.R.	CHED	1198	Kolaczkowski, M.	ENFL	212
Knowles, B.	COLL	821	Koebel, M.R.	COMP	298	Kolaczkowski, M.	PMSE	298
Knowles, M.K.	COLL	540	Koebke, K.	INOR	131	Kolasinski, J.	CHED	599
Knowlton, E.D.	POLY	132	Koech, P.K.	ENFL	34	Kolattoor, J.	ORGN	895
Knox, C.	CATL	60	Koech, P.K.	ENFL	38	Kolb, B.	POLY	181
Knox, R.J.	MEDI	51	Koech, P.K.	ENFL	76	Kolell, H.	POLY	459
Knox, R.J.	MEDI	52	Koech, P.K.	ENFL	77	Kolesnichenko, I.	ORGN	687
Knudsen, J.	CHED	492	Koech, P.K.	ENFL	78	Kolesnichenko, I.	ORGN	692
Knudsen, T.	CINF	109	Koegerler, P.	NUCL	93	Kolesnichenko, I.	ORGN	919
Knudsen, T.	ENVR	937	Koehl, M.	NUCL	2	Kolesnichenko, I.	PMSE	483
Knudson, S.E.	MEDI	400	Koehler, A.N.	BIOL	305	Kolesnichenko, I.	POLY	219
Knutson, C.	CHED	2054	Koehler, R.	COLL	830	Kolesnichenko, V.L.	CHED	434
Knutson, C.	POLY	95	Koehn, A.	CHED	807	Kolesnikov, A.	MEDI	15
Knutson, T.R.	CHED	2054	Koehn, J.T.	BIOL	68	Koleva, B.	BIOL	150
Knyazeva, D.	ORGN	189	Koehn, J.T.	BIOL	140	Koley, A.	INOR	632
knystautas, E.J.	ENVR	156	Koehn, J.T.	INOR	233	Koley, A.	PROF	4
Ko, A.	CHED	1882	Koehn, J.T.	ORGN	543	Kolka, R.K.	GEOC	120
Ko, D.	ORGN	769	Koel, B.E.	CHED	1961	Kolling, D.	CHED	729
Ko, F.K.	CELL	60	Koel, B.E.	COLL	27	Kolling, W.M.	MEDI	40
Ko, H.	COLL	229	Koel, B.E.	COLL	713	Kolluri, R.S.	ORGN	211

Kolluri, R.S.	ORGN	922	Konow, C.	CHED	1477	Kornfield, J.A.	MEDI	106
Kolmakov, K.	ORGN	17	Konrad, S.	BIOT	344	Kornfield, J.A.	PMSE	593
Kolmar, S.	INOR	526	Konradsson, P.	MEDI	403	Kornfield, J.A.	PROF	23
Kolodziej, E.P.	ENVR	217	Konstantinov, A.	ENVR	30	Kornienko, N.	ENFL	105
Kolomeisky, A.	PHYS	416	Konstantinov, K.	BIOT	593	Kornienko, N.	POLY	136
Kolomitsyn, I.V.	CELL	114	Konteatis, Z.	MEDI	449	Kornman, C.	ORGN	772
Kolotilov, S.	INOR	335	Kontos, R.	CHED	1538	Korobkov, I.	CATL	248
Kolpak, A.	ANYL	242	Kontos, R.	CHED	1811	Koroglu, B.	NUCL	155
Kolpak, A.	CATL	267	Kontoyianni, M.	MEDI	40	Korolokov, V.	COLL	646
Kolpak, A.	COMP	508	Kontturi, E.	CELL	73	Koroni, C.A.	CHED	1136
Kolpak, F.J.	CELL	315	Kontturi, E.	CELL	205	Korosh, T.	BIOT	155
Kolpin, D.W.	ENVR	120	Kontturi, E.	CELL	289	Korotcov, A.	CINF	67
Komaki, Y.	ENVR	38	Kontturi, E.	CELL	326	Korpela, A.	CELL	374
Komaki, Y.	ENVR	280	Kontturi, E.	CELL	368	Kortemme, T.	COMP	115
Komaki-Nishikawa, R.	MEDI	449	Kontturi, E.	CELL	417	Korter, T.M.	PHYS	81
Komati, R.	CHED	324	Kontturi, E.	CELL	421	Kortyna, A.	PHYS	541
Komati, R.	CHED	549	Kontturi, E.	CELL	422	Korwar, S.	ORGN	761
Komati, R.	CHED	1208	Kontturi, K.S.	CELL	289	Kos, T.	CELL	157
Komati, R.	MEDI	444	Konya, Z.	CATL	393	Kos, T.	CELL	473
Komati, R.	MEDI	445	Konya, Z.	COLL	718	Kosak, C.	POLY	3
Komine, M.	COLL	174	Koo, B.	CHED	294	Kosaka, Y.R.	CATL	356
Komives, C.F.	BIOT	202	Koo, B.	CINF	78	Kosanovich, A.J.	INOR	724
Komives, C.F.	BIOT	669	Koo, B.	COLL	327	Kosanovich, A.J.	INOR	722
Komiyama, M.	ORGN	77	Koo, B.	POLY	194	Kosanovich, A.J.	INOR	860
Komiyama, M.	ORGN	78	Koo, J.	COLL	297	Kosciuszek, N.	CHED	105
Komiyama, M.	ORGN	306	Koo, S.	CHED	703	Kose, G.	COLL	116
Komor, A.J.	INOR	22	Koodali, R.T.	ENFL	17	Koshari, S.H.	BIOT	133
Komoto, K.	COMP	190	Koodali, R.T.	ENFL	312	Koshari, S.H.	BIOT	553
Komperda, R.	CHED	13	Kook, J.	COLL	221	Koshigan, K.	COLL	30
Konc, J.	COMP	141	Kook, J.	COLL	265	Koshigan, K.	COLL	756
Konc, J.	COMP	142	Kool, E.T.	BIOL	3	Koshkin, S.	I&EC	102
Konda, S.	POLY	80	Kool, E.T.	BIOL	24	Koshland, C.P.	ENVR	384
Konda, S.	ORGN	111	Kool, E.T.	ORGN	16	Koshut, W.	POLY	37
Kondaveeti, S.	CELL	15	Koonath, P.	ANYL	156	Kosinov, N.	ENFL	50
Kondo, M.	INOR	1170	Koopmann, A.	CHED	1411	Kosinski, A.	MEDI	248
Kondo, T.	CATL	356	Koorbanally, N.	ORGN	114	Kosinski, M.	BIOT	293
Kondo, T.	CELL	77	Kopach, M.E.	ENVR	440	Kosiol, P.	BIOT	398
Kondo, T.	CELL	160	Kopacic, S.	CELL	294	Kosiol, P.	BIOT	709
Kondo, T.	CELL	219	Kopacic, S.	CELL	526	Koskela, K.M.	COLL	182
Kondo, T.	CELL	362	Kopec, A.	AGFD	121	Koskela, K.M.	COLL	194
Kondo, T.	CELL	531	Kopecek, J.	PMSE	473	Koskela, K.M.	COLL	342
Kondrat, S.	CATL	105	Kopeci Fjetland, M.	CHED	1807	Koski, K.J.	INOR	532
Kondru, R.K.	COMP	32	Koper, G.	POLY	574	Koski, K.J.	INOR	1055
Konev, M.O.	ORGN	632	Koperna, S.E.	ORGN	399	Koski, K.J.	PHYS	476
Kong, D.	BIOL	151	Kopitzke, R.W.	CHED	1401	Kosmidis, D.	NUCL	163
Kong, F.	ORGN	90	Kopitzke, R.W.	CHED	1593	Kossenjans, M.	MEDI	17
Kong, J.	COMP	283	Kopitzke, R.W.	CHED	1708	Kost, E.	INOR	979
Kong, J.	COMP	469	Koppang, M.D.	CHED	1891	Kostarelos, K.	ANYL	233
Kong, K.	MEDI	127	Koppejan, V.	BIOT	528	Kostarelos, K.	ANYL	270
Kong, K.	ENVR	746	Koppel, N.	BIOL	358	Kostarelos, K.	BIOT	233
Kong, K.	GEOC	162	Kopper, R.A.	CHED	698	Kostarelos, K.	BIOT	464
Kong, K.	GEOC	105	Kopper, R.A.	CHED	700	Kostarelos, K.	BIOT	507
Kong, L.	PMSE	517	Kopper, R.A.	CHED	726	Kostarelos, K.	COLL	122
Kong, L.	PHYS	358	Koppisch, A.T.	CHED	1026	Kostarelos, K.	COLL	745
Kong, Q.	ENFL	105	Koppisch, A.T.	CHED	1193	Kostarelos, K.	ORGN	867
Kong, R.	ENVR	921	Koppisch, A.T.	I&EC	16	Kostecka, K.	CHED	2127
Kong, X.	ENVR	170	Kopyeva, I.	CARB	18	Kostecki, R.	ANYL	278
Kongpatpanich, K.	INOR	341	Kopyeva, I.	CHED	322	Kostecki, R.	CATL	177
Kongpatpanich, K.	INOR	342	Korak, J.A.	ENVR	25	Kostiainen, O.	ANYL	254
Kongpatpanich, K.	INOR	346	Korak, J.A.	ENVR	183	Kostic, S.	CELL	85
Kongpatpanich, K.	INOR	347	Korala, L.	INOR	609	Kostic, S.	CELL	203
Konhauser, K.	GEOC	157	Korczynska, M.	COMP	549	Kostiuk, P.	IAC	18
Konhauser, K.	GEOC	241	Korczynska, M.	MEDI	124	Kostiuk, P.	IAC	21
Konhauser, K.	GEOC	311	Kordsiemon, K.	CHED	1796	Kostiuk, P.	IAC	22
Konhauser, K.	GEOC	348	Korendovych, I.V.	BIOT	286	Kostiuk, P.	IAC	24
Koniarczyk, L.	ORGN	699	Korendovych, I.V.	INOR	1090	Kothandaraman, J.	CATL	291
Konietzko, J.	BIOT	293	Korgel, B.A.	COLL	87	Kothandaraman, J.	ENFL	242
Konietzko, J.	BIOT	591	Korich, A.L.	CHED	1426	Kotlarz, N.	ENVR	474
Konkle, M.	CHED	1997	Korich, A.L.	CHED	1428	Kotov, N.	BIOT	326
Konkol, K.L.	ORGN	564	Korich, A.L.	CHED	1430	Kotov, N.	CHED	107
Konkolewicz, D.	BIOT	220	Korir, A.K.	CHED	475	Kotov, N.	COLL	65
Konkolewicz, D.	CHED	757	Korlewitz, R.J.	CHED	1674	Kotov, N.	COLL	92
Konkolewicz, D.	CHED	1248	Korley, L.T.	PMSE	333	Kotov, N.	COLL	609
Konkolewicz, D.	CHED	1701	Korley, L.T.	POLY	326	Kotov, N.	COLL	630
Konkolewicz, D.	CHED	1915	Korlipara, V.L.	MEDI	234	Kotov, N.	COLL	834
Konkolewicz, D.	POLY	460	Korlipara, V.L.	MEDI	276	Kotov, N.	ENFL	329
Konnerth, J.	CELL	37	Kormanyos, A.	ENFL	16	Kotov, N.	INOR	697
Konnerth, J.	CELL	250	Kormanyos, A.	ENFL	21	Kotov, N.	PMSE	364
Konno, M.	PHYS	404	Kornev, A.	COMP	154	Kotov, N.	PMSE	448
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Kotsampasakou, E.	MEDI	436	Kozlov, M.	BIOT	339	Krauss, T.	INOR	712
Kotsikourou, E.	MEDI	433	Kozlovskaya, V.A.	BIOT	690	Krauter, C.M.	CATL	73
Kottke, C.M.	CHED	863	Kozlovskaya, V.A.	COLL	692	Krauthammer, J.	CHED	993
Kotula, A.	PMSE	277	Kozlowski, J.A.	MEDI	112	Krautkramer, E.A.	BIOL	294
Kotula, A.	PMSE	320	Kozlowski, J.A.	MEDI	248	Krautwald, S.	INOR	605
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Kotyk, C.	INOR	1250	Kozlowski, M.	ORGN	282	Kravchuk, D.V.	CHED	506
Kou, X.	AGFD	213	Kozlowski, M.	ORGN	839	Krayev, A.	INOR	1583
Kouchi, A.	PHYS	110	Kozlowski, P.	CHED	1553	Krazier, D.	CARB	18
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Kouhi, A.	PMSE	198	Kozlowski, R.	ORGN	142	Krebs, C.	INOR	774
Kouko, J.	CELL	524	Kozlyuk, N.	BIOL	238	Kreft, J.	CELL	246
Kourentzi, K.	ANYL	306	Kozma, K.	CHED	1113	Kreidler, E.	COLL	715
Kourentzi, K.	BIOT	300	Kozma, K.	INOR	1235	Kreke, P.J.	CHED	513
Kourentzi, K.	BIOT	381	Kozma, K.	NUCL	117	Kremer, A.	INOR	603
Kourentzi, K.	BIOT	602	Kozma, K.	NUCL	136	Kremer, K.	COMP	134
Kourkoutis, L.	COLL	461	Kozubal, J.	CHED	1638	Krempel, M.	CHED	494
Koury, D.J.	NUCL	35	Kozubal, J.	PHYS	392	Krempner, C.	INOR	899
Kouznetsova, T.B.	POLY	231	Kozuch, D.	COMP	277	Krempner, C.	INOR	1486
Kovac, J.	ENVR	194	Kozyc, L.M.	POLY	213	Kren, V.	MEDI	189
Kovac, P.A.	PHYS	204	Kraatz, H.	BIOL	219	Krepper, W.	BIOT	164
Kovacevic, D.	BIOT	443	Kraatz, H.	INOR	339	Kress, R.	CHED	1161
Kovacs, D.G.	CHED	21	Kraatz, H.	INOR	1187	Kress, R.	IAC	6
Kovacs, D.G.	CHED	315	Kraatz, H.	INOR	1426	Kresse, K.	COLL	384
Kovacs, D.G.	CHED	1546	Krabbenhoft, D.P.	ENVR	31	Kretzschmar, I.	PMSE	81
Kovacs, D.G.	CHED	1626	Kracke, F.	ENFL	174	Kretzschmar, R.	GEOC	126
Kovacs, J.	INOR	145	Kraemer, S.	INOR	702	Kreutzer, A.	ORGN	605
Kovacs, J.	INOR	284	Kraft, B.M.	CHED	1124	Kreutzer, A.	ORGN	606
Kovacs, J.	INOR	619	Kraft, M.L.	COLL	455	Kreutzer, A.	ORGN	690
Koval, A.M.	INOR	955	Krahn, A.	CHED	1431	Kreutzer, A.	ORGN	695
Koval, J.C.	GEOC	182	Kraj, P.	CHED	1610	Krevor, S.	GEOC	14
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Kovaleski, C.R.	CHED	1200	Kral, P.	BIOL	115	Krick, B.	COLL	748
Kovalsky, P.	ENVR	1028	Kral, P.	BIOT	514	Krieger, A.	POLY	576
Kovar, D.	COLL	411	Kral, P.	COLL	120	Krieger, A.	INOR	235
Kovarik, L.	CATL	524	Kral, P.	COLL	730	Krieger, J.	PHYS	9
Kovarik, L.	ENFL	14	Kral, P.	COLL	765	Krieger, J.L.	CINF	95
Kovarik, L.	GEOC	148	Kral, P.	COLL	790	Kriem, L.	ENVR	139
Kovarik, M.L.	ANYL	415	Kral, P.	INOR	1151	Krikke, J.J.	CHED	1546
Kovarik, M.L.	CHED	1957	Kralik, C.	CHED	113	Krikorian, A.	MEDI	112
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Kovnir, K.	INOR	752	Kramer, J.	BIOL	348	Krim, J.S.	CHED	150
Kovnir, K.	INOR	1066	Kramer, J.	PMSE	634	Krim, L.	PHYS	109
Kovnir, K.	INOR	1073	Kramer, J.	PMSE	143	Krings, L.	CHED	335
Kovnir, K.	INOR	1356	Kramer, N.	ORGN	382	Krings, L.	CHED	1028
Kovnir, K.	INOR	1358	Kramer, Z.C.	CHED	890	Krini, R.	PMSE	628
Kovnir, K.	INOR	1363	Krammer, F.	BIOT	401	Krisanda, E.	CHED	1260
Kowal, M.	ENVR	866	Krane, S.	CINF	21	Krische, M.J.	ORGN	354
Kowalczyk, T.	COMP	190	Kraschitzer, T.	CELL	526	Krische, M.J.	ORGN	355
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Kowalczyk, T.	COMP	286	Krasner, S.W.	ENVR	22	Krishna, R.	BIOL	259
Kowalczyk, T.	INOR	392	Kratochvil, H.T.	PHYS	11	Krishnamurthy, R.	ANYL	375
Kowaleff, M.	PROF	47	Kraus, G.A.	ORGN	120	Krishnamurthy, R.	CHED	250
Kowalewski, T.	POLY	325	Kraus, G.A.	ORGN	175	Krishnamurthy, R.	POLY	141
Kowalkowski, N.	CHED	45	Kraus, G.A.	ORGN	917	Krishnamurthy, R.	ENFL	32
Kowalski, B.	PMSE	89	Kraus, G.A.	POLY	327	Krishnan, H.	AGFD	16
Kowalski, B.A.	POLY	554	Kraus, G.A.	POLY	328	Krishnan, H.	AGFD	158
Kowalski, E.M.	CHED	2049	Kraus, M.	MEDI	350	Krishnan, K.V.	ORGN	819
Kowalski, S.	MEDI	433	Kraus, P.	PHYS	252	Krishnan, R.	BIOT	50
Koyuncu, I.	POLY	223	Kraus, P.	PHYS	443	Krishnan, S.	AGFD	209
Kozak, C.	POLY	1	Kraus, P.	PHYS	511	Kristiansen, K.	COLL	502
Kozak, R.	MEDI	364	Krause, H.	INOR	439	Kristiansson, S.	BIOT	331
Kozakov, D.	COMP	473	Krause, J.A.	INOR	726	Kristofco, L.	ENVR	126
Kozakov, D.	COMP	517	Krause, J.A.	INOR	729	Kristoffersen, H.H.	ENFL	44
Kozemzak, B.	CHED	867	Krause, J.A.	INOR	1292	Kristoffersen, H.H.	ENFL	125
Koziej, D.	CATL	309	Krause, J.A.	INOR	1301	Kristopeit, A.	BIOT	591
Kozik, M.M.	CHED	1130	Krause, J.A.	INOR	1388	Krivacic, C.	MEDI	350
Kozikowski, A.P.	MEDI	319	Krause, K.	CHED	412	Krivoshain, A.V.	MEDI	131
Kozimor, S.A.	CATL	198	Krause, K.	CHED	415	Krizman, I.	ENVR	631
Kozimor, S.A.	INOR	1213	Krause, L.M.	COMP	339	Kroeker Sachs, R.	ORGN	161
Kozimor, S.A.	NUCL	13	Krause, M.	ENVR	137	Kroes, G.	COMP	505
Kozimor, S.A.	NUCL	21	Krause, M.	CHED	2129	Krogel, J.	COMP	559
Kozimor, S.A.	NUCL	22	Krause, M.	CHED	2140	Krojer, T.	COMP	549
Kozimor, S.A.	NUCL	71	Krause, M.E.	BIOT	292	Krokidis, X.	CINF	2
Kozimor, S.A.	NUCL	79	Krause, M.E.	BIOT	550	Krol, A.M.	CHED	1129
Kozliak, E.I.	CELL	246	Krause, P.	PHYS	368	Krol, A.M.	CHED	1814

Krolick, K.	CHED	529	Kubbutat, M.	MEDI	378	Kulprathipanja, S.	ENFL	190
Krolkowski, P.	ANYL	348	Kubiak, C.P.	CATL	76	Kulsharova, G.	BIOT	441
Kroll, A.	GEOC	102	Kubiak, C.P.	CATL	212	Kulshrestha, A.	MEDI	155
Kroll, E.	CHED	645	Kubiak, C.P.	COLL	139	Kum, S.	AGFD	26
Kroll, E.	CHED	702	Kubiak, C.P.	INOR	38	Kumacheva, E.	COLL	450
Kroll, E.	CHED	743	Kubiak, C.P.	INOR	463	Kumacheva, E.	COLL	793
Kroll, J.A.	CHED	233	Kubiak, C.P.	INOR	1439	Kumal, R.R.	PHYS	575
Kroll, J.A.	PHYS	367	Kubicki, J.D.	PHYS	75	Kumar Basu, J.	COLL	459
Kroll, J.H.	ENVR	324	Kubicki, J.D.	CELL	21	Kumar Nadar, S.	ENVR	146
Kroll, T.	BIOT	482	Kubicki, J.D.	CELL	23	Kumar Sarangi, N.	COLL	459
Kroll, T.	CATL	144	Kubicki, J.D.	CELL	517	Kumar, A.	ANYL	228
Kroll, T.	COLL	146	Kubicki, J.D.	GEOC	66	Kumar, A.	MEDI	394
Kroll, T.	COLL	636	Kubicki, J.D.	GEOC	136	Kumar, B.	MEDI	199
Kroll, T.	INOR	1319	Kubo, T.	POLY	320	Kumar, C.V.	BIOL	296
Kron, K.J.	ORGN	482	Kubota, K.	ORGN	118	Kumar, C.V.	BIOL	317
Kron, K.J.	ORGN	844	Kubow, C.	CHED	43	Kumar, C.V.	BIOL	318
Kron, K.J.	ORGN	935	Kubu, P.	CHAL	24	Kumar, C.V.	CHED	1654
Krone, A.	CHED	1637	Kucera, G.L.	INOR	751	Kumar, D.	BIOT	295
Krone-Davis, P.	ENVR	874	Kucheyev, S.O.	COLL	693	Kumar, D.	BIOT	369
Kronik, L.	COMP	513	Kuchibhotla, S.	CINF	50	Kumar, D.	BIOT	558
Kroning, K.	CHED	490	Kucukoz, B.	ORGN	869	Kumar, D.	BIOT	559
Kroonblawd, M.	PHYS	216	Kudirka, R.	MEDI	397	Kumar, D.	BIOT	616
Krooswyk, J.D.	CATL	91	Kudo, K.	CELL	322	Kumar, G.	PHYS	417
Kropf, A.J.	INOR	568	Kudryavtsev, A.V.	ENVR	30	Kumar, G.	CATL	574
Kros, A.	COLL	81	Kuebler, S.M.	CHED	1869	Kumar, J.	BIOT	515
Kros, A.	PMSE	312	Kuechel, A.	CELL	503	Kumar, K.	BIOT	669
Kroth, P.	BIOT	302	Kueltz, L.	BIOT	21	Kumar, K.K.	MEDI	39
Kroupa, D.	INOR	155	Kuenemann, M.A.	CINF	50	Kumar, L.	BIOT	479
Kroupa, D.	INOR	689	Kuenemann, M.A.	MEDI	195	Kumar, M.	CELL	189
Kroutil, O.	GEOC	279	Kuenzinger, W.L.	CHED	1798	Kumar, M.	ENVR	500
Kroutil, O.	GEOC	280	Kueppers, S.	ENVR	236	Kumar, M.	CELL	186
Krska, S.W.	ORGN	305	Kuether, J.	CHED	2129	Kumar, M.	CELL	272
Krueger, S.	BIOT	170	Kuether, J.	COLL	234	Kumar, M.	PMSE	480
Kruger, B.	PHYS	575	Kuga, S.	CELL	208	Kumar, M.	INOR	582
Krugler, P.	COLL	289	Kuhl, T.	COLL	270	Kumar, M.	BIOT	546
Kruk, M.	CATL	320	Kuhlman, P.L.	CHED	594	Kumar, N.	COMP	556
Krull, U.J.	ANYL	172	Kuhlman, R.L.	PMSE	173	Kumar, N.	CHED	1423
Krull, U.J.	ANYL	173	Kuhlmeier, J.	BIOL	253	Kumar, N.	ENVR	223
Krull, U.J.	ANYL	175	Kuhn, A.E.	INOR	319	Kumar, N.	CATL	27
Krull, U.J.	COLL	222	Kuhn, E.	ANYL	23	Kumar, N.	INOR	159
Krumhansl, J.	ENVR	448	Kuhn, E.M.	BIOT	140	Kumar, N.	ENFL	133
Krumm, C.	PMSE	431	Kuhn, M.L.	BIOL	269	Kumar, N.	ENFL	173
Krummel, A.T.	ANYL	62	Kuhn, S.E.	CHED	1222	Kumar, P.	BIOL	106
Krummel, A.T.	PHYS	279	Kuhn, S.P.	ANYL	443	Kumar, P.	MEDI	199
Krummel, A.T.	PHYS	505	Kuhn, S.P.	CINF	125	Kumar, P.	ORGN	819
Krumova, M.	INOR	408	Kuhns, T.	CHED	480	Kumar, R.	COLL	153
Krupa, R.	CHED	425	Kuhnt, T.	CELL	31	Kumar, R.	GEOC	251
Krupa, R.	CHED	916	Kuhs, C.T.	PHYS	505	Kumar, R.	PMSE	583
Krupa, R.	CHED	1779	Kuiper, M.	BIOT	645	Kumar, R.	POLY	590
Krupp, A.	GEOC	120	Kuipers, V.	CHED	1426	Kumar, R.	MEDI	64
Kruppe, C.M.	CATL	91	Kuk, S.	INOR	462	Kumar, R.	CARB	18
Kruse, N.	COLL	472	Kuk, S.	MEDI	66	Kumar, R.	CHED	322
Kruse, S.	INOR	385	Kukla, M.	CATL	647	Kumar, R.	COMP	344
Kruse, S.	INOR	386	Kuklja, M.M.	COLL	235	Kumar, R.	PHYS	68
Kruse, S.	INOR	387	Kukovecz, A.	CATL	393	Kumar, R.	PHYS	447
Kruus, K.	CELL	359	Kukovecz, A.	COLL	718	Kumar, R.	ENFL	166
Kruzic, A.	ENVR	282	Kukowski, J.	ORGN	179	Kumar, S.	ENFL	243
Krylov, A.	COMP	169	Kukowski, K.	ENVR	755	Kumar, S.	POLY	50
Krylov, A.	ORGN	640	Kukowski, K.	I&EC	111	Kumar, S.	BIOT	55
Kryman, M.W.	MEDI	223	Kukoyi, A.	INOR	89	Kumar, S.	BIOT	166
Krzemien, K.M.	COLL	434	Kukoyi, Z.	COLL	832	Kumar, S.	BIOT	311
Krzyaniak, M.D.	ORGN	567	Kuktaite, R.	CELL	449	Kumar, S.	ENFL	382
Ku, A.	ORGN	795	Kukura, P.	PHYS	212	Kumar, S.	ENFL	383
Ku, J.	ORGN	849	Kukura, P.	PHYS	256	Kumar, S.	ENFL	443
Ku, K.	PMSE	597	Kulanthavelu, U.	MEDI	34	Kumar, S.	ENFL	147
Ku, T.T.	BIOT	673	Kularatne, R.	POLY	279	Kumar, S.	CELL	223
Kua, J.	CHED	846	Kularatne, R.N.	CHED	1745	Kumar, S.	POLY	21
Kua, J.	ORGN	710	Kularatne, R.N.	POLY	148	Kumar, S.	BIOL	297
Kuang, B.	BIOT	703	Kulaszewska, J.	NUCL	163	Kumar, S.	MEDI	14
Kuang, J.	POLY	186	Kuleck, G.	CHED	1966	Kumar, S.	ANYL	216
Kuang-Nguyen, J.	CHED	1770	Kulik, H.J.	COMP	8	Kumar, V.	COLL	277
Kub, A.	CHED	922	Kulik, H.J.	COMP	507	Kumar, V.	COMP	482
Kub, A.	CHED	1857	Kulikov, E.	ENFL	41	Kumar, V.	BIOT	307
Kubachka, K.	ANYL	99	Kulikov, O.V.	POLY	275	Kumar, V.	MEDI	165
Kubachka, K.	ANYL	100	Kulinski, K.A.	CATL	193	Kumarasamy, E.	POLY	226
Kubasik, M.A.	CHED	1631	Kulkarni, A.S.	ORGN	436	Kumarasamy, E.	PROF	3
Kubatova, A.	CELL	246	Kulkarni, H.V.	ENVR	349	Kumarasinghe, R.	ANYL	367
Kubatova, A.	CHED	240	Kulkarni, R.	BIOL	290	Kumari, B.	COLL	171
Kubatova, A.	ENVR	755	Kulkarni, S.	MEDI	16	Kumari, V.	MEDI	7
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Kummel, A.	BIOT	384	Kurris, P.	CHED	1022	Kwong, K.	ORGN	811
Kummel, A.	COLL	351	Kurris, P.	CHED	1764	Kwong, K.	INOR	434
Kummel, A.	COLL	846	Kurt Polat, P.	ENFL	184	Kwong, M.	INOR	757
Kümmerer, N.	ORGN	832	Kurt Yilmaz, N.	COMP	442	Kyaw Zin, P.	CINF	50
Kumpf, R.A.	MEDI	350	Kurtzman, T.P.	COMP	21	Kyinn, M.	CHED	49
Kunal, P.	COLL	97	Kurtzman, T.P.	COMP	421	Kyle, D.	MEDI	74
Kuncova-Kallio, J.	COLL	843	Kurulugama, R.T.	ANYL	283	Kyle, D.	MEDI	209
Kunder, C.	ANYL	272	Kurzatkowska, K.	ANYL	160	Kyle, D.	MEDI	452
Kundu, J.	CATL	452	Kusakabe, K.	COLL	681	Kynaston, E.	PMSE	594
Kundu, N.	COLL	785	Kusakabe, K.	PMSE	503	Kyriakou, G.	CATL	486
Kundu, S.	COLL	743	Kusumadjaja, T.E.	ANYL	181	Kyriakou, G.	ENVR	140
Kundu, S.	PMSE	470	Kusumi, R.	CELL	411	Kyritsis, P.	INOR	1428
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Kundu, S.	INOR	954	Kutchko, B.	ENFL	30	Kyud, D.Y.	COMP	268
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Kundys, M.	ANYL	159	Kutkan, S.	POLY	349	La Salvia, N.	CATL	154
Kunert, R.	BIOT	557	Kutter, M.	FLUO	44	La Scala, J.J.	CELL	268
Kung, B.	CHED	178	Kutus, B.	CARB	77	La Scala, J.J.	PMSE	591
Kung, B.	CHED	2045	Kutus, B.	CARB	78	La Scala, J.J.	PMSE	652
Kung, H.	COLL	473	Kutz, A.	POLY	576	La Scala, J.J.	POLY	556
Kung, M.C.	COLL	473	Kutzner, R.	CHED	947	La Val, T.	MEDI	428
Kung, P.	MEDI	350	Kutzner, R.M.	CHED	1845	La, H.	MEDI	24
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Kuniyoshi, C.Y.	CHED	2158	Kuusisto, J.	CELL	76	La, S.	ANYL	57
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Kunnari, V.	CELL	374	Kuwata, K.T.	PHYS	540	Laaguidi, I.	COLL	766
Kuno, M.K.	CATL	372	Kuykendall, O.	INOR	356	Laaksonen, T.	CELL	245
Kuno, M.K.	COLL	541	Kuykendall, O.	INOR	838	Laaksonen, T.	CELL	519
Kunos, G.	MEDI	38	Kuzmenko, V.	CELL	206	Laane, J.	PHYS	359
Kuntz, J.D.	COLL	706	Kuzyk, M.G.	PMSE	593	Labban, N.	CHED	447
Kunz Wille, E.L.	INOR	55	Kvasnovsky, S.	CHED	495	Labban, N.	CHED	462
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Kunz, H.	ANYL	102	Kwak, D.	CHED	889	Labby, K.J.	CHED	1211
Kunz, H.	ANYL	402	Kwak, J.H.	CARB	88	LaBelle, J.L.	PMSE	202
Kunz, M.	COLL	11	Kwan, A.	CHED	341	Labello, N.P.	COMP	35
Kunze, L.	POLY	384	Kwan, J.	ENVR	64	Laberty, C.	ANYL	380
Kuo, A.	BIOT	139	Kwan, J.	ENVR	772	Labinger, J.A.	CINF	41
Kuo, A.	BIOT	5	Kwan, J.	ENVR	858	Labinger, J.A.	INOR	7
Kuo, A.	BIOT	156	Kwan, J.	I&EC	107	Labinger, J.A.	INOR	604
Kuo, C.	ENVR	743	Kwan, T.	CHED	1302	Labinger, J.A.	INOR	1449
Kuo, C.	CATL	140	Kwan, T.A.	ENFL	381	Labinger, J.A.	PMSE	279
Kuo, D.T.	ENVR	904	Kwang, S.	PHYS	161	Labonte, L.	MEDI	305
Kuo, D.T.	GEOC	353	Kwasny, M.	POLY	539	Laborie, M.	CELL	27
Kuo, H.	ANYL	433	Kwek, P.Z.	MEDI	422	Laborie, M.	CELL	133
Kuo, H.	BIOT	450	Kweon, K.	INOR	1534	Laborie, M.	CELL	259
Kuo, I.W.	COMP	217	Kweon, O.	ENVR	667	Laborie, M.G.	CELL	319
Kuo, K.	MEDI	41	Kwiatkowska, A.	MEDI	388	Laboy, S.	ANYL	199
Kuo, K.	MEDI	42	Kwiatkowski, J.	MEDI	422	Labram, J.	INOR	711
Kuo, L.Y.	INOR	136	Kwiatkowski, K.L.	CHED	941	Labuda, A.	PMSE	592
Kuo, L.Y.	INOR	388	Kwiatkowski, K.L.	CHED	957	Labute, P.	COMP	362
Kuo, L.Y.	INOR	389	Kwok, L.	MEDI	116	LaButti, K.	BIOT	139
Kuperman, A.	CATL	81	Kwok, W.	INOR	988	Lachance, R.P.	CHED	29
Kuperman, N.	INOR	1000	Kwon, B.	ENVR	864	Lacher, S.	CELL	332
Kuppannan, K.	POLY	84	Kwon, D.	INOR	1293	Lachkov, P.	CATL	549
Kuptsow, A.E.	CHED	380	Kwon, D.	MEDI	60	Lackie, P.	COLL	497
Kupwade-Patil, K.	GEOC	220	Kwon, G.	PHYS	14	Lackner, K.	COLL	854
Kupwade-Patil, K.	GEOC	222	Kwon, H.	INOR	176	Lackner, K.	COLL	855
Kurade, M.B.	GEOC	351	Kwon, H.	ENVR	787	Lackner, R.M.	ORGN	104
Kurakake, R.	PMSE	294	Kwon, H.	MEDI	788	Lacks, M.	GEOC	243
Kuralay, F.	COLL	159	Kwon, H.	MEDI	389	Lacoste, J.	ANYL	134
Kuralay, F.	COLL	744	Kwon, H.	ENVR	583	LaCount, D.	MEDI	198
Kuralay, F.	COLL	849	Kwon, H.	PMSE	334	LaCroix, A.D.	COLL	283
Kurata, H.	MEDI	245	Kwon, J.	ORGN	566	LaCrue, A.	MEDI	452
Kuravangi, C.	BIOT	424	Kwon, J.	PMSE	350	Lacy, D.C.	INOR	1554
Kurecic, M.	CELL	473	Kwon, K.	GEOC	101	Lacy, H.E.	INOR	1053
Kurečić, M.	CELL	157	Kwon, M.	AGFD	58	Lacy, T.	COLL	743
Kurečić, M.	CELL	510	Kwon, O.	PMSE	399	Ladanyi, B.M.	PHYS	106
Kureha, T.	COLL	694	Kwon, S.	COLL	753	Ladderud, J.	GEOC	77
Kuribayashi, T.	CELL	70	Kwon, S.	CARB	88	Laddha, G.	ENFL	135
Kuriyan, J.	COMP	152	Kwon, S.Y.	ENVR	478	Ladipo, F.T.	CATL	482
Kurji, Z.	PMSE	593	Kwon, Y.	ENFL	208	Ladiwala, A.	BIOT	132
Kurji, Z.	POLY	206	Kwon, Y.	PHYS	405	Ladj, R.	CELL	264
Kuroda, D.G.	PHYS	68	Kwon, Y.	BIOT	329	Ladner, D.	ENVR	927
Kuroda, K.	CELL	462	Kwon, Y.	ENFL	224	Laduca, R.L.	INOR	17
Kuroda, K.	POLY	511	Kwon, Y.	ENFL	226	Ladwig, J.	BIOT	158
Kurogi, T.	INOR	228	Kwon, Y.	ANYL	221	Laengert, S.	I&EC	35
Kurogi, T.	INOR	593	Kwon, Y.M.	INOR	951	LaFehr, D.	CATL	263

Lafferty, T.	INOR	425	Lakshmi, K.V.	INOR	1296	Landa Fitzgerald, I.	CHED	281
Lafferty, T.	MEDI	460	Lakshmi, N.	COLL	264	Landero, J.	ANYL	120
Lafi, A.	INOR	435	Lal, B.	ANYL	216	Landers, A.	CATL	195
LaFleur, G.	CHED	1865	Lal, B.	ENFL	243	Landers, A.	CATL	330
LaFon, J.	COMP	71	Lalaoui, N.	INOR	191	Landers, A.	CATL	375
Lafond, P.G.	PMSE	595	Lalisse, R.F.	CHED	903	Landers, E.P.	CHED	749
LaFontaine, J.	CHED	977	Lalli, P.M.	ENFL	151	Landers, E.P.	CHED	1877
LaFountain, A.M.	PHYS	260	Lalli, P.M.	ENFL	405	Landers, J.	BIOL	81
LaFountain, A.M.	PHYS	414	Lam, A.	CHED	926	Landes, C.F.	BIOT	381
Laga, E.	CHED	176	Lam, A.	MEDI	434	Landes, C.F.	COLL	493
Laga, E.	CHED	2012	Lam, C.	PMSE	154	Landis, C.R.	CATL	397
Laga, R.	PMSE	633	Lam, J.	ORGN	270	Landis, C.R.	INOR	107
Laga, S.	INOR	1	Lam, J.	CARB	25	Landis, C.R.	INOR	119
Laga, S.	INOR	503	Lam, J.C.	ENVR	577	Landis, E.C.	CHED	445
Lagace, L.	AGFD	2	Lam, K.	CHED	549	Landis, E.C.	CHED	1269
Lagacé, R.	ENVR	149	Lam, L.	CHED	1719	Landrot, G.	GEOC	11
Lagalante, A.F.	ORGN	399	Lam, M.H.	ENVR	921	Landry, J.	ENVR	714
Lagana, G.	AGFD	179	Lam, N.	BIOL	122	Landry, K.	ENVR	564
Lagarias, J.	PHYS	87	Lam, N.	BIOL	159	Landry, M.	CATL	448
Lagerblom, K.	CATL	385	Lam, P.	BIOT	720	Landry, M.P.	COLL	420
Lagerspets, E.	CATL	385	Lam, P.K.	ENVR	577	Landry, M.R.	COLL	3
Laggner, C.	MEDI	492	Lam, P.K.	ENVR	806	Lane, A.	PMSE	679
Laha, J.	ORGN	209	Lam, P.K.	ENVR	921	Lane, A.	POLY	114
Lahann, J.	CARB	18	Lam, P.K.	ENVR	922	Lane, A.	POLY	199
Lahann, J.	CHED	322	Lam, P.Y.	MEDI	18	Lane, A.	POLY	300
Lahann, J.	PMSE	352	Lam, V.H.	COLL	263	Lane, D.	CHAS	16
Lahcini, M.	POLY	188	Lam, V.H.	COLL	362	Lane, D.	POLY	289
Lahiri, G.K.	INOR	355	Lam, V.H.	COLL	798	Lane, J.M.	COLL	786
Lahiry, A.	BIOT	52	Lam, Y.	BIOT	466	Lane, K.T.	COMP	583
Lahiry, A.	BIOT	203	Lama, S.M.	CATL	492	Laney, B.	CHED	91
Lahmeyer, S.	MEDI	428	Lamagna, C.	MEDI	478	Laney, K.	CHED	91
Lahr, C.	ANYL	475	Lamagna, C.	MEDI	479	Lang, A.	NUCL	157
Lahser, F.	MEDI	346	LaManna, J.	ENFL	362	Lang, A.	POLY	617
Lahti, R.	CHED	361	Lamar, A.A.	CHED	1364	Lang, G.M.	INOR	591
Lahtinen, P.	CELL	372	Lamar, A.A.	CHED	1365	Lang, G.M.	INOR	599
Lai, A.	ENVR	62	Lamar, A.A.	CHED	1366	Lang, K.	BIOT	406
Lai, A.	INOR	400	Lamar, A.A.	CHED	1420	Lang, L.	ORGN	718
Lai, A.	INOR	1118	LaMarche, M.J.	MEDI	305	Lang, M.	NUCL	49
Lai, C.	INOR	1417	LaMarche, M.J.	MEDI	366	Lang, W.	MEDI	478
Lai, C.	COLL	64	Lamark, K.M.	CHED	1208	Lang, W.	MEDI	479
Lai, C.	CHED	2090	Lamark, K.M.	MEDI	444	Lang, W.	CHED	1792
Lai, C.	INOR	1532	Lamb, A.C.	INOR	224	Langan, P.	CELL	19
Lai, H.W.	POLY	76	Lamb, B.	GEOC	252	Langan, P.	CELL	188
Lai, M.	MEDI	309	Lamb, B.	GEOC	253	Langan, P.	CELL	520
Lai, M.C.	BIOT	99	Lamb, H.	CATL	4	Lange, B.	COLL	510
Lai, P.	GEOC	14	Lamb, J.	POLY	543	Lange, G.	COMP	446
Lai, Q.	ENFL	65	Lamb, R.	CHED	1421	Lange, G.	MEDI	22
Lai, R.	BIOL	347	Lamberg, P.	INOR	712	Lange, J.	ENVR	378
Lai, R.Y.	CHED	2137	Lambert, A.	CHED	815	Lange, R.	COLL	551
Lai, R.Y.	CHED	2138	Lambert, H.	I&EC	91	Lange, R.	COLL	552
Lai, S.	POLY	611	Lambert, J.B.	CHED	1529	Langer, J.	COLL	673
Lai, S.	POLY	305	Lambert, K.M.	ORGN	782	Langer, R.S.	PMSE	522
Lai, Y.	COLL	652	Lambert, T.H.	PROF	11	Langer, T.	CINF	51
Lai, Y.	ENFL	453	Lambert, T.N.	CHED	1074	Langer, T.	COMP	140
Lai, Y.	ENVR	632	Lambert, T.N.	INOR	521	Langereis, M.	CHED	1395
Lai, Y.	ENVR	64	Lambert, T.N.	INOR	1149	Langerman, N.R.	CHAS	7
Lai, Y.H.	CATL	178	Lambert, T.N.	INOR	1531	Langevin, S.A.	ORGN	746
LaiHing, K.	CHED	1263	Lamberts, J.	BIOT	267	Langevine, C.M.	MEDI	21
LaiHing, K.	CHED	1278	Lambeth, R.H.	POLY	256	Langford, J.	NUCL	34
LaiHing, K.	CHED	1286	Lambic, N.	CHED	1071	Langford, M.H.	I&EC	90
LaiHing, K.	CHED	1287	Lamerz, A.	BIOL	198	Langford, V.S.	ANYL	469
LaiHing, K.	CHED	1289	Lami, S.	COLL	617	Langford, V.S.	ENVR	757
Laikijrjung, D.	BIOT	262	Lamison, K.	POLY	22	Langford, V.S.	POLY	362
Lainchbury, M.	MEDI	24	L'Amoreaux, W.	PMSE	421	Langgard, M.	MEDI	344
Laine, C.	CELL	37	Lampa-Pastirk, S.	CHED	1277	Langgard, M.	MEDI	447
Laing, S.	CHED	1325	Lampropoulos, C.	INOR	1562	Langham, J.	CINF	151
Laitar, D.S.	PMSE	143	Lampugnani, E.R.	CELL	233	Langille, J.	MEDI	316
Laitar, D.S.	POLY	117	Lamuela-Raventos, R.	AGFD	124	Langland, A.	BIOT	710
Lajiness, J.	COMP	36	Lamuela-Raventos, R.	AGFD	143	Langley, J.J.	ANYL	319
Lajiness, M.	COMP	36	Lamunu, C.G.	CHED	1606	Langlois, G.	PHYS	150
LaJoie, D.	MEDI	213	Lan, E.I.	BIOT	99	Langston, P.K.	MEDI	77
Lake, P.T.	COMP	53	Lan, E.I.	BIOT	444	Langton-Webster, B.	MEDI	275
Lake, P.T.	PHYS	281	Lan, E.I.	BIOT	673	Lanier, M.	ORGN	904
Lakhi, K.	COLL	742	Lan, X.	PHYS	422	Lanigan, B.	CHED	1005
Lakics, V.	MEDI	11	Lan, Y.	ENVR	303	Lanigan, K.C.	CHED	1966
Lakina, N.	ENFL	94	Lan, Y.	ENVR	892	Lanigan, K.C.	ENVR	289
Lakkis, H.	CHED	768	Lan, Y.	GEOC	156	Lankes, C.	ORGN	43
Lakkis, Y.	CHED	768	Lanari, D.	ORGN	192	Lanning, M.E.	MEDI	274
Lakkyreddy, J.	BIOT	564	Lancaster, C.A.	CHED	1310	Lanning, M.E.	MEDI	277
Lakshmi, K.V.	INOR	1270	Land, J.A.	CHED	964	Lanning, M.E.	MEDI	415

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Lansakara, A.I.	ORGN	717	Larsen, S.D.	MEDI	10	Lau, R.	POLY	99
Lansakara, A.I.	ORGN	720	Larsen, A.M.	CHED	1228	Lau, S.	ANYL	479
Lansakara, A.I.	ORGN	851	Larson, B.W.	ORGN	866	Lauber, M.	CELL	433
Lansalot, M.	CELL	286	Larson, D.	CATL	505	Laubscher, A.	AGFD	45
Lansdon, E.	MEDI	367	Larson, E.G.	ENVR	1030	Lauchner, A.	CHED	314
Lanshan, Y.	CATL	382	Larson, G.W.	CHED	1498	Lauer, M.K.	CHED	43
Lansiquot, C.	COLL	202	Larson, G.W.	ORGN	727	Lauer, M.K.	ORGN	651
Lansiquot, C.	COLL	734	Larson, J.E.	CHED	375	Laufer, I.	CHED	1528
Lanson, B.	GEOC	59	Larson, M.	INOR	718	Laugero, K.D.	AGFD	209
Lant, H.	INOR	125	Larson, P.	INOR	1230	Laughlin, A.	CHED	1094
Lantz, J.	CHED	2077	Larson, R.G.	PMSE	28	Laughlin, A.	INOR	401
Lantz, L.	MEDI	205	Larson, S.A.	CHED	1565	Laughlin, S.	BIOL	131
Lantz, O.	PMSE	633	Larsson, A.	ANYL	255	Laughlin, S.	BIOL	142
Lanum, L.	CHED	335	Larsson, A.	ANYL	259	Laughlin, S.T.	BIOL	106
Lany, S.	COMP	524	Larsson, A.	CELL	118	Lauringer, S.M.	COLL	602
Lany, S.	INOR	1116	Larsson, A.	CELL	381	Laureano, A.A.	MEDI	100
Lanzirrotti, A.	GEOC	296	Larsson, E.	CELL	248	Lauricella, N.	INOR	380
Lanzirrotti, A.	INOR	522	Larsson, H.	PHYS	54	Laurita-Plankis, G.	INOR	1108
Lao, D.	ORGN	225	Larsson, J.	POLY	492	Laurita-Plankis, G.	INOR	1109
Lao, D.	ORGN	481	Larsson, K.	COLL	642	Lauro, M.L.	BIOL	291
Lao, D.	ORGN	737	Larsson, K.	I&EC	84	Lauro, P.C.	SCHB	1
Lao, W.	ENVR	556	Larsson, P.A.	CELL	527	Laursen, S.	CATL	181
Lao, W.	ENVR	876	Larsson, P.A.	CELL	369	Laursen, S.	CATL	431
Laorenza, D.W.	INOR	1433	Larsson, P.A.	CELL	290	Laursen, S.	CATL	450
Lapanje, A.	CELL	510	Larsson, T.	CELL	194	Laursen, S.	CATL	531
LaPara, T.	CHED	580	Larsson, T.	CELL	239	Laury, M.L.	COMP	417
Laperriere, L.	CHED	755	Larsson, T.	CELL	323	Lauterbach, J.H.	AGFD	261
López-Quintela, M.	COLL	352	LaRussa, C.M.	CHED	607	Lauterbach, J.H.	ANYL	430
Lapi, S.E.	NUCL	124	Lasalde-Ramirez, J.	CHED	1752	Lavall, R.	ENFL	160
Lapierre, C.	CELL	58	Lasalde-Ramirez, J.	ENFL	101	Lavallée-Adam, M.	ANYL	286
Lapierre, J.	MEDI	300	Lash, T.D.	CHED	1342	Lavallo, V.	INOR	111
Lapinte, C.	PHYS	242	Lash, T.D.	CHED	1400	Lavallo, V.	INOR	1341
LaPointe, A.M.	INOR	1275	Lash, T.D.	ORGN	749	Lavassani, E.	MEDI	207
LaPorte, A.J.	ORGN	802	Lash, T.D.	ORGN	750	Laven, J.	GEOC	327
LaPorte, N.	INOR	780	Lash, T.D.	ORGN	751	Laverman, L.	CHED	1875
Lappalainen, T.	CELL	251	Lash, T.D.	ORGN	752	Lavery, L.	ANYL	400
Laramee, B.	CHED	1835	Lasio, J.	COLL	325	Lavine, B.K.	ANYL	332
Laramy, C.	INOR	1417	Laskar, S.	ORGN	616	Lavoie, G.G.	INOR	99
Lares, M.	AGFD	99	Laskar, S.	ORGN	617	Lavrad, H.	ORGN	633
Larese, J.Z.	CATL	564	Laskin, J.	COLL	156	Lavric, S.	POLY	217
Larese, J.Z.	COLL	484	Lassenberger, A.	COLL	349	Law, G.	NUCL	157
Large, N.	PHYS	315	Lasser, J.	POLY	146	Law, J.	I&EC	83
Largier, T.D.	ENFL	113	Lassiter, C.	CHED	615	Law, M.	ENFL	148
Largier, T.D.	ENFL	116	Last, B.	CHED	2117	Law, R.	CHED	1620
Largier, T.D.	ENFL	462	Laster, C.	BIOL	265	Law, R.P.	ORGN	220
Largier, T.D.	PMSE	77	Laszakovits, J.R.	ENVR	521	Lawler, D.	ENVR	161
Largier, T.D.	PMSE	88	Laszakovits, J.R.	ENVR	660	Lawler, D.	ENVR	350
Largier, T.D.	PMSE	409	Laszlo, P.	HIST	21	Lawler, D.	GEOC	9
Largier, T.D.	PMSE	596	Latch, D.E.	ENVR	25	Lawler, K.V.	NUCL	8
Largier, T.D.	ENFL	459	Latch, D.E.	ENVR	293	Lawler, M.K.	ORGN	399
Larhed, M.	MEDI	232	Latch, D.E.	ENVR	351	Lawlor, H.A.	CINF	153
Larkin, J.	COMP	219	Latch, D.E.	ENVR	428	Lawlor, H.A.	HIST	11
Larkin, J.	COMP	240	Latch, D.E.	ENVR	525	Lawrence, A.P.	INOR	624
Larkin, J.D.	COMP	106	Latch, D.E.	ENVR	942	Lawrence, C.	GEOC	262
Larkins, M.B.	CHED	266	Latham, A.N.	CHED	1342	Lawrence, C.M.	CHED	1464
Larnaud, F.	ORGN	99	Latham, A.N.	CHED	1870	Lawrence, C.M.	CHED	1774
Laroche, J.	CHED	10	Lathrop, K.	CHED	970	Lawrence, D.	CHED	558
LaRochelle, J.R.	BIOL	353	Latimer, C.	AGFD	200	Lawrence, D.	CHED	571
LaRock, A.	CHED	939	Latimer, R.	CHED	1833	Lawrence, D.S.	MEDI	392
LaRock, A.	CHED	940	Lato, A.	BIOL	262	Lawrence, J.	ORGN	112
Larocque, T.G.	INOR	99	Latoche, J.	MEDI	275	Lawrence, J.	POLY	117
Laroudie, N.	BIOT	255	Latour, R.A.	COMP	136	Lawson, J.	ENVR	387
LaRowe, D.	GEOC	216	Latta, A.	CHED	1259	Lawson, K.L.	CHED	1054
Larrañeta, E.	CELL	344	Latta, D.	ENVR	79	Lawson, T.	BIOT	662
Larrimore, J.F.	CHED	618	Latta, D.	GEOC	58	Lawter, A.	ENVR	301
Larrosa, I.	ORGN	51	Latta, D.	GEOC	132	Lawther, R.	AGFD	200
Larrow, J.	MEDI	305	Latta, D.	GEOC	285	Lawton, C.	I&EC	132
Larsen, D.S.	CHED	293	Latta, D.	GEOC	289	Lawton, L.	ENVR	35
Larsen, D.S.	CHED	294	Latterini, L.	CHED	1164	Lawton, S.S.	POLY	355
Larsen, D.S.	CHED	312	Latterini, L.	IAC	4	Lawton, T.	COLL	741
Larsen, D.S.	CINF	78	Latturmer, S.E.	INOR	54	Lawton, T.	COLL	796
Larsen, D.S.	CINF	79	Latturmer, S.E.	INOR	1072	Lawton, T.J.	BIOT	58
Larsen, D.S.	CINF	96	Latturmer, S.E.	INOR	1112	Lawton, Z.E.	CHED	1870
Larsen, D.S.	PHYS	87	Latulippe, D.R.	BIOT	595	Lazar, G.	ENVR	678
Larsen, G.	COLL	240	Lau, D.	MEDI	159	Lazar, I.	ENVR	437
Larsen, G.	INOR	1525	Lau, D.	MEDI	401	Lazare, J.	COMP	358
Larsen, K.L.	POLY	649	Lau, D.	MEDI	476	Lazare, J.	COMP	562
Larsen, R.K.	ENFL	6	Lau, D.	MEDI	478	Lazaro, H.	MEDI	147
Larsen, R.K.	ENFL	7	Lau, D.	MEDI	479	Lazaro, R.	AGFD	90

Lazenby, R.	ANYL	423	LeBlanc, G.	CHED	1264	Lee, C.	INOR	922
Lazernik, M.	CHED	994	LeBlanc, G.	CHED	1275	Lee, C.C.	AGFD	153
Lazo, G.	CELL	48	Leblanc, R.M.	ANYL	466	Lee, C.Y.	AGFD	153
Lazowski, Z.	MEDI	261	Lebon Tailhades, E.	ANYL	220	Lee, C.Y.	PMSE	379
Lazzareschi, K.	BIOT	134	Lebrilla, C.B.	BIOL	58	Lee, D.	INOR	1527
Le Bahers, T.	COMP	466	Lebrilla, C.B.	BIOT	7	Lee, D.	I&EC	2
Le Bihan, Y.	BIOL	5	Lebrilla, C.B.	BIOT	469	Lee, D.	PMSE	129
Le Bihan, Y.	BIOL	313	Lecaptain, D.J.	ANYL	383	Lee, D.	INOR	685
Le Bihan, Y.	BIOL	314	Lecaptain, D.J.	CHED	196	Lee, D.	POLY	27
Le Cras, S.	ENVR	740	Leccese, E.	MEDI	112	Lee, D.	COLL	168
Le Drezen, H.	CELL	131	Lechak, C.	CHED	590	Lee, D.	PHYS	549
Le Duc, A.	CELL	57	Lechak, C.	CHED	862	Lee, D.	ORGN	584
Le Guennic, B.	INOR	1473	Lechner, A.	ENVR	702	Lee, D.	COLL	363
Le Guillouzer, C.	CATL	269	Leclerc, M.K.	ENVR	441	Lee, D.	COLL	299
Le Moigne, N.	CELL	57	Leclerc, M.K.	I&EC	126	Lee, D.	MEDI	279
Le Moigne, N.	CELL	399	Leclerc, N.	COMP	281	Lee, D.	PMSE	288
Le Pape, Y.	GEOC	324	Leclerc, N.	ENFL	280	Lee, D.	COLL	503
Le Sueur, A.	ANYL	64	Lecommandoux, S.	COLL	323	Lee, D.	POLY	508
Le, A.	CHED	2059	Lecommandoux, S.	PMSE	155	Lee, D.	PMSE	226
Le, A.K.	PHYS	158	Lecommandoux, S.	POLY	129	Lee, D.R.	ORGN	135
Le, A.M.	ANYL	188	Lecommandoux, S.	POLY	624	Lee, E.	ENFL	400
Le, D.	ORGN	449	LeCompte, C.R.	CHED	823	Lee, E.	COLL	706
Le, D.	MEDI	82	Leconte, A.	CHED	1967	Lee, E.	ENFL	72
Le, D.D.	COMP	549	Leconte, A.M.	CHED	521	Lee, E.	ENVR	233
Le, E.	BIOT	114	Leconte, A.M.	CHED	574	Lee, E.	AGFD	54
Le, K.	COMP	286	Leconte, A.M.	CHED	660	Lee, E.	INOR	340
Le, N.	CHED	1831	Leconte, A.M.	CHED	734	Lee, E.	INOR	848
Le, N.	ANYL	153	Leconte, A.M.	CHED	858	Lee, E.	INOR	869
Le, N.	CHED	953	Leddin, E.M.	CHED	900	Lee, E.	INOR	1307
Le, N.	CHED	1336	Lederer, A.	POLY	87	Lee, E.	INOR	1309
Le, Q.	BIOT	572	Lederman, A.	CHAS	38	Lee, F.	MEDI	349
Le, S.	CHED	142	Ledesma Alonso, S.	ORGN	615	Lee, F.L.	PMSE	240
Le, T.	ORGN	426	Ledesma, E.B.	CHED	1036	Lee, G.	ENFL	187
Le, T.	ORGN	893	Ledoux, G.	INOR	709	Lee, G.	CATL	424
Le, T.	CHED	142	Ledray, A.	COLL	486	Lee, G.	COLL	139
Le, T.	BIOT	488	Lee, A.	ANYL	370	Lee, G.	BIOL	73
Le, T.	BIOT	590	Lee, A.	ORGN	369	Lee, G.	ENFL	227
Le, T.	BIOT	621	Lee, A.	BIOT	517	Lee, H.	INOR	960
Le, T.T.	ENVR	782	Lee, A.F.	CATL	236	Lee, H.	PMSE	326
Le, T.T.	ENVR	1035	Lee, A.F.	CATL	240	Lee, H.	PMSE	374
Le, V.Q.	BIOL	275	Lee, A.F.	CATL	466	Lee, H.	PMSE	500
Le, X.	COLL	491	Lee, A.F.	CATL	486	Lee, H.	PMSE	643
Lea, M.A.	AGFD	218	Lee, A.F.	ENFL	147	Lee, H.	BIOT	360
Leach, A.G.	CINF	46	Lee, A.F.	ENVR	140	Lee, H.	ENVR	926
Leach, A.G.	CINF	161	Lee, A.F.	ENVR	704	Lee, H.	ANYL	57
Leach, A.G.	COMP	498	Lee, A.F.	INOR	1129	Lee, H.	ENVR	1017
Leach, A.G.	COMP	504	Lee, B.	ANYL	138	Lee, H.	PHYS	549
Leach, A.G.	MEDI	72	Lee, B.	BIOL	148	Lee, H.	CHED	1448
Leach, E.G.	INOR	976	Lee, B.	ORGN	252	Lee, H.	CHED	1883
Leach, J.B.	BIOT	131	Lee, B.	COLL	811	Lee, H.	ENVR	1017
Lead, J.	ENVR	547	Lee, B.	GEOC	363	Lee, H.	ANYL	150
Lead, J.	ENVR	623	Lee, B.	COLL	224	Lee, H.	ANYL	462
Leahy, C.	ORGN	125	Lee, B.	MEDI	381	Lee, H.	CATL	311
Leahy, D.	COMP	155	Lee, B.	MEDI	383	Lee, H.	CELL	474
Leahy, D.K.	ENVR	363	Lee, B.	ENFL	369	Lee, H.	AGFD	196
Leahy, D.K.	ORGN	27	Lee, C.	INOR	804	Lee, H.	CATL	422
Leahy, J.	MEDI	74	Lee, C.	ENVR	1017	Lee, H.	CATL	378
Leahy, J.	MEDI	209	Lee, C.	INOR	1046	Lee, H.	CATL	380
Leahy, J.	MEDI	505	Lee, C.	PMSE	198	Lee, H.	PMSE	469
Leahy, J.	ORGN	835	Lee, C.	POLY	262	Lee, H.	INOR	1063
Leahy, K.	CHAS	37	Lee, C.	BIOT	247	Lee, H.	COLL	315
Leal Cervantes, C.	INOR	710	Lee, C.	PMSE	340	Lee, H.	INOR	1571
Leal, A.	ANYL	385	Lee, C.	PHYS	162	Lee, H.	AGFD	68
Leal, J.H.	ENFL	87	Lee, C.	INOR	690	Lee, H.	AGFD	70
Lear, B.J.	COLL	831	Lee, C.	ENVR	22	Lee, H.	INOR	340
Lear, J.	CHED	1869	Lee, C.	INOR	320	Lee, H.	PMSE	590
Lear, J.	ORGN	203	Lee, C.	ANYL	94	Lee, H.	COLL	753
Lear, J.	ORGN	435	Lee, C.	CATL	306	Lee, I.	GEOC	77
Leary, D.	POLY	569	Lee, C.	CATL	383	Lee, I.	BIOT	397
Lease, M.M.	CHED	1408	Lee, C.	INOR	925	Lee, I.	COLL	168
Lease, R.A.	BIOT	203	Lee, C.	INOR	1023	Lee, I.	COLL	297
Leavitt, J.D.	COLL	654	Lee, C.	COMP	253	Lee, I.	COLL	496
Leavitt, W.D.	GEOC	121	Lee, C.	CINF	53	Lee, I.	CATL	270
Lebedev, M.	GEOC	48	Lee, C.	COMP	309	Lee, I.	CATL	644
Lebel, H.	ORGN	799	Lee, C.	ORGN	243	Lee, J.	ANYL	440
Leblanc, C.	MEDI	353	Lee, C.	ENVR	886	Lee, J.	BIOL	42
LeBlanc, C.	CHED	1850	Lee, C.	INOR	724	Lee, J.	BIOT	195
LeBlanc, D.R.	ENVR	268	Lee, C.	BIOL	225	Lee, J.	COLL	238
LeBlanc, G.	CHED	604	Lee, C.	BIOL	73	Lee, J.	POLY	382
LeBlanc, G.	CHED	1095	Lee, C.	ENFL	227	Lee, J.	AGFD	54



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Lee, J.	I&EC	99	Lee, K.	ENFL	269	Lee, S.	ENVR	861
Lee, J.	I&EC	100	Lee, K.	CATL	516	Lee, S.	INOR	1319
Lee, J.	I&EC	101	Lee, K.	BIOT	39	Lee, S.	AGFD	26
Lee, J.	I&EC	108	Lee, K.	BIOT	118	Lee, S.	ENFL	88
Lee, J.	I&EC	109	Lee, K.	BIOT	676	Lee, S.	CATL	97
Lee, J.	I&EC	110	Lee, K.	BIOT	707	Lee, S.	GEOC	145
Lee, J.	I&EC	122	Lee, K.	POLY	630	Lee, S.	GEOC	193
Lee, J.	POLY	639	Lee, K.	I&EC	1	Lee, S.	GEOC	332
Lee, J.	AGFD	192	Lee, K.	BIOT	628	Lee, S.	CHED	1822
Lee, J.	AGFD	194	Lee, K.	PHYS	4	Lee, S.	INOR	111
Lee, J.	AGFD	195	Lee, K.	AGFD	153	Lee, S.	INOR	1341
Lee, J.	ENFL	220	Lee, K.	CELL	10	Lee, S.	ENFL	241
Lee, J.	PMSE	245	Lee, K.	CELL	289	Lee, S.	ENVR	1011
Lee, J.	I&EC	109	Lee, K.	CELL	312	Lee, S.	PMSE	582
Lee, J.	I&EC	110	Lee, K.	CELL	372	Lee, S.	ORGN	309
Lee, J.	CINF	142	Lee, K.	ORGN	185	Lee, S.	INOR	277
Lee, J.	INOR	935	Lee, K.	BIOL	180	Lee, S.	ENVR	392
Lee, J.	MEDI	77	Lee, K.	INOR	959	Lee, S.	AGFD	28
Lee, J.	BIOT	329	Lee, K.	PMSE	500	Lee, S.	INOR	207
Lee, J.	PMSE	398	Lee, K.	AGFD	26	Lee, S.	NUCL	142
Lee, J.	PMSE	433	Lee, K.	MEDI	258	Lee, S.	GEOC	131
Lee, J.	ENVR	674	Lee, K.B.	CARB	88	Lee, S.	COLL	273
Lee, J.	ENVR	769	Lee, K.G.	AGFD	13	Lee, S.	MPPG	18
Lee, J.	ORGN	769	Lee, K.L.	ORGN	673	Lee, S.	ENVR	765
Lee, J.	PHYS	9	Lee, K.S.	MEDI	68	Lee, S.	ENVR	884
Lee, J.	ORGN	783	Lee, K.S.	MEDI	297	Lee, S.	ORGN	421
Lee, J.	PMSE	297	Lee, L.	GEOC	77	Lee, S.	ORGN	495
Lee, J.	PMSE	495	Lee, L.K.	CHED	499	Lee, S.	CATL	428
Lee, J.	BIOL	323	Lee, L.S.	ENVR	618	Lee, S.	CATL	648
Lee, J.	BIOT	256	Lee, L.S.	ENVR	958	Lee, S.	CATL	378
Lee, J.	BIOT	513	Lee, M.	COMP	182	Lee, S.	CATL	520
Lee, J.	AGFD	8	Lee, M.	BIOT	530	Lee, S.	PMSE	444
Lee, J.	AGFD	192	Lee, M.	PMSE	170	Lee, S.	INOR	1062
Lee, J.	AGFD	194	Lee, M.	COLL	686	Lee, S.	INOR	58
Lee, J.	AGFD	195	Lee, M.	ENVR	889	Lee, S.	INOR	1175
Lee, J.	AGFD	196	Lee, M.	PHYS	309	Lee, S.	ENFL	319
Lee, J.	INOR	912	Lee, M.	MEDI	60	Lee, S.	ENFL	319
Lee, J.	INOR	913	Lee, M.	COLL	105	Lee, S.	ENFL	321
Lee, J.	INOR	1377	Lee, M.	PMSE	295	Lee, S.	ENVR	837
Lee, J.	INOR	882	Lee, M.	CATL	422	Lee, S.	ENVR	841
Lee, J.	ORGN	549	Lee, M.	ENFL	208	Lee, S.	ENVR	842
Lee, J.	COMP	87	Lee, M.	COMP	294	Lee, S.	MEDI	180
Lee, J.	COLL	327	Lee, M.	ENVR	112	Lee, S.Y.	ORGN	314
Lee, J.	CARB	17	Lee, M.	ENVR	513	Lee, T.	ORGN	87
Lee, J.	POLY	407	Lee, M.	MEDI	169	Lee, T.	ENVR	926
Lee, J.	ENVR	723	Lee, M.	ENFL	216	Lee, T.	BIOT	62
Lee, J.	ENVR	771	Lee, M.	INOR	1075	Lee, T.	BIOT	176
Lee, J.	AGFD	192	Lee, M.	PHYS	461	Lee, T.	BIOT	245
Lee, J.	AGFD	194	Lee, M.	BIOL	257	Lee, T.	COMP	143
Lee, J.	AGFD	195	Lee, M.E.	CHED	528	Lee, T.J.	PHYS	235
Lee, J.	AGFD	196	Lee, M.E.	CHED	773	Lee, T.J.	PHYS	238
Lee, J.	MEDI	279	Lee, M.P.	BIOT	617	Lee, V.	PMSE	80
Lee, J.	PMSE	393	Lee, M.V.	CHED	113	Lee, V.	CHED	1585
Lee, J.	ENFL	68	Lee, M.V.	CHED	493	Lee, W.	ORGN	226
Lee, J.	ANYL	221	Lee, M.V.	CHED	2134	Lee, W.	ORGN	237
Lee, J.	CATL	422	Lee, M.W.	INOR	1579	Lee, W.	NUCL	131
Lee, J.	PMSE	597	Lee, N.	ORGN	811	Lee, W.	INOR	627
Lee, J.	CATL	62	Lee, N.C.	ANYL	413	Lee, W.	INOR	948
Lee, J.	NUCL	111	Lee, N.E.	CHED	1038	Lee, W.	MEDI	342
Lee, J.	COLL	221	Lee, O.	BIOT	389	Lee, W.	CHED	373
Lee, J.	COLL	265	Lee, P.	BIOT	683	Lee, W.	POLY	421
Lee, J.	PMSE	380	Lee, P.	CELL	308	Lee, W.	CHED	2097
Lee, J.	PMSE	381	Lee, P.	POLY	411	Lee, W.	ENFL	240
Lee, J.	INOR	29	Lee, P.	CHED	699	Lee, Y.	COLL	167
Lee, J.	AGFD	58	Lee, P.	CHED	1297	Lee, Y.	PMSE	363
Lee, J.	COMP	145	Lee, P.	CHED	562	Lee, Y.	INOR	882
Lee, J.	ORGN	769	Lee, P.	MEDI	142	Lee, Y.	ENFL	224
Lee, J.	AGFD	26	Lee, P.	CATL	310	Lee, Y.	COLL	272
Lee, J.	BIOT	329	Lee, P.S.	COMP	180	Lee, Y.	COLL	205
Lee, J.C.	ANYL	474	Lee, P.S.	COMP	295	Lee, Y.	INOR	1029
Lee, J.H.	MEDI	253	Lee, R.	ENFL	423	Lee, Y.	ORGN	839
Lee, J.K.	ORGN	443	Lee, S.	COLL	315	Lee, Y.	COLL	591
Lee, J.P.	POLY	292	Lee, S.	ENVR	233	Lee, Y.	BIOL	73
Lee, J.R.	ORGN	466	Lee, S.	AGFD	101	Lee, Y.	INOR	895
Lee, J.R.	COLL	706	Lee, S.	AGFD	104	Lee, Y.	ENVR	723
Lee, J.W.	ENFL	140	Lee, S.	AGFD	153	Lee, Y.	PMSE	554
Lee, J.W.	ENFL	180	Lee, S.	BIOT	482	Lee, Y.	ENVR	771
Lee, J.W.	ENFL	200	Lee, S.	CATL	144	Lee, Y.	PHYS	470
Lee, J.W.	ENFL	429	Lee, S.	COLL	146	Lee, Y.	ENVR	332

Lee, Y.	INOR	62	LeMelle, E.	CHED	549	Leonhardt, N.	CHED	1999
Lee, Y.	INOR	118	Lemen, D.	CHED	1185	Leontyev, A.	CHED	542
Lee, Y.	INOR	223	Lemetti, L.	CELL	245	Leopold, H.J.	CELL	114
Lee, Y.	INOR	329	Lemke, T.	GEOC	356	Leopold, M.C.	CHED	105
Lee, Y.	INOR	835	Lemler, P.	PHYS	444	Leopold, M.C.	CHED	367
Lee, Y.	INOR	1295	Lemmen, C.	COMP	104	Leopold, M.C.	CHED	371
Lee, Y.	BIOL	73	Lemmer, U.	COLL	551	Leopold, M.C.	CHED	384
Lee, Y.	ENFL	227	Lemmon, C.E.	CHED	1565	Leopold, M.C.	CHED	386
Lee, Y.	INOR	895	Lemmon, T.	ENFL	182	Leopold, M.C.	CHED	447
Lee, Z.	NUCL	87	Lemmouchi, Y.	CELL	394	Leopold, M.C.	CHED	462
Lee, Z.	BIOT	583	Lemoine, H.	MEDI	16	Lepird, H.H.	BIOL	292
Leed, N.A.	CHED	448	Lemon, J.	ENVR	960	Lepistö, M.	MEDI	363
Leeding, C.	COMP	313	Lemos Matassoli, F.	POLY	582	Lepore, C.	CHED	1170
Lee-Goldman, A.	BIOT	4	Lemus, C.	CHED	923	Leppert, H.	CHED	1782
Leek, T.	ANYL	323	Len, A.A.	COLL	766	Leppert, V.	GEOC	3
Leenheer, J.	ENVR	24	Len, A.A.	COLL	212	Leppert, V.	GEOC	204
Leenig, A.	CHED	1686	Len, C.	CATL	451	Lepri, S.	MEDI	111
Lees, K.V.	BIOL	361	Len, C.	ENVR	58	Lequeux, F.	PMSE	114
Lees, W.J.	BIOT	422	Len, C.	ORGN	56	Lercher, J.A.	CATL	48
Lees, W.J.	CHED	541	Lendero, N.	BIOT	596	Lercher, J.A.	CATL	153
LeFebvre, M.	BIOL	309	Lenehan, C.	ANYL	362	Lercher, J.A.	CATL	167
Lefevre, T.	CHED	655	Lenehan, C.	NUCL	123	Lercher, J.A.	ENFL	8
Lefferts, L.	COMP	163	Leng, W.	COLL	43	Lercher, J.A.	ENFL	270
Lefort, L.	INOR	725	Leng, W.	ENVR	83	Lercher, J.A.	PRES	15
Lefort, L.	ORGN	356	Leng, W.	ENVR	237	Lerdwiryayanupap, T.	INOR	341
Lefurgy, S.T.	CHED	577	Leng, W.	ENVR	888	Leresche, F.	ENVR	527
Lefurgy, S.T.	CHED	659	Leng, W.	ENVR	1036	Lerman, Z.M.	IAC	25
Legarra Arizaleta, M.	ENFL	292	Leng, X.	POLY	385	Lermer, C.	INOR	787
Leger, J.	POLY	515	Lengaigne, J.	COLL	756	Lerner, K.T.	CHED	1288
Legere, J.	COLL	227	Lengauer, C.	MEDI	351	Leroux, F.R.	FLUO	33
Legere, J.	COLL	347	Lengauer, C.	MEDI	365	Lesel, B.	ENFL	294
Legesse, B.	COMP	449	Lengqvist, J.	MEDI	446	Lesel, B.	INOR	490
Legg, B.	GEOC	73	Lengyel, G.	ORGN	685	Lesiak, L.	BIOL	111
Leggans, E.K.	CHED	1440	Lengyel, G.A.	CHED	1465	Leske, J.	INOR	790
Leggett, G.J.	COLL	104	Lenhart, J.	POLY	526	Leskinen, T.	CELL	333
Leggett, G.J.	COLL	669	Lenhart, J.	POLY	556	Leskinen, T.	CELL	373
Leggett, G.J.	PHYS	563	Lenhart, J.J.	ENVR	749	Lesko, M.	CHED	1493
LeGrady, D.	CHED	717	Lenhoff, A.M.	BIOT	133	Leslie, M.T.	POLY	326
Leguy, J.	CELL	241	Lenhoff, A.M.	BIOT	553	Leslie, R.	COLL	280
Lehman-Andino, I.	NUCL	138	Lenhoff, A.M.	BIOT	676	Lesmeister, T.	CHED	1210
Lehman-McKeeman, L.	MEDI	339	Lenhoff, A.M.	BIOT	714	Lesslie, M.	PHYS	358
Lehmann, C.	ORGN	409	Lenka, M.	I&EC	120	Lester, M.I.	PHYS	223
Lehmann, J.	GEOC	24	Lenoir, F.	MEDI	305	Lestini, E.	POLY	516
Lehmann, J.W.	ORGN	625	Lense, S.	INOR	898	Lestrangle, P.J.	COMP	238
Lehmann, S.	ENVR	494	Lent, C.	PHYS	157	Leszczynska, D.	ENVR	1007
Lehmann, S.	ENVR	495	Lent, C.	PHYS	293	Leszczynski, J.R.	ENVR	1007
Lehner, A.	INOR	711	Lentz, D.	FLUO	44	Leth, R.	COMP	218
Lehr, C.	CHED	392	Lentz, D.	ORGN	741	Leti, L.	ANYL	83
Lehtonen, M.	CELL	287	Leon, A.D.	POLY	348	Lette, A.	CHED	1838
Lei, J.	POLY	63	Leon, B.	CHED	1011	Letteri, R.	POLY	263
Lei, J.	COMP	242	Léon, J.	INOR	939	Leu, Y.	PMSE	681
Lei, T.	ENFL	330	Leon, L.	COLL	733	Leung, A.	COLL	856
Lei, T.	PMSE	137	Leon, L.	POLY	592	Leung, C.	BIOT	316
Lei, T.	PMSE	563	Leon, M.	CHED	198	Leung, C.H.	INOR	936
Lei, Y.	BIOL	151	Leon, M.	CHED	1846	Leung, E.	ANYL	219
Lei, Y.	ENFL	273	Leonard, B.M.	INOR	515	Leung, E.	PMSE	31
Lei, Z.	ORGN	471	Leonard, B.M.	INOR	1427	Leung, H.	ENVR	64
Leibler, L.	POLY	159	Leonard, B.M.	INOR	1429	Leung, H.	ENVR	858
Leicht, H.	POLY	485	Leonard, J.	PHYS	213	Leung, H.	I&EC	98
Leichtfuss, A.	CATL	399	Leonard, J.	INOR	362	Leung, I.K.	MEDI	373
Leidner, F.	COMP	442	Leonard, K.	NUCL	150	Leung, L.	MEDI	316
Leigh, B.	POLY	45	Leonard, M.S.	CHED	1492	Leung, M.W.	CHED	2050
Leigh, B.	POLY	332	Leonardi, A.	PMSE	9	Lauthner, B.	MEDI	16
Leinen, L.	ENVR	920	Leonardo, A.S.	MEDI	230	LeValley, N.	CHED	1587
Leinweber, R.	POLY	31	Leone, A.	POLY	298	Levandowski, B.	ORGN	816
Leisak, L.	BIOL	347	Leone, G.	CHED	1855	Levantino, M.	PHYS	80
Leiske, D.	BIOT	436	Leone, S.R.	CATL	104	Levard, C.	CELL	423
Leiske, D.	BIOT	22	Leone, S.R.	INOR	694	Levard, C.	ENVR	221
Leiske, D.	BIOT	503	Leone, S.R.	PHYS	26	Levard, C.	ENVR	310
Leiske, M.	CHED	1162	Leone, S.R.	PHYS	227	Levard, C.	ENVR	493
Leiske, M.	IAC	9	Leone, S.R.	PHYS	252	Levard, C.	ENVR	549
Leitch, M.	ENVR	580	Leone, S.R.	PHYS	341	Levard, C.	ENVR	665
Leitenstorfer, A.	POLY	346	Leone, S.R.	PHYS	443	Levenson, R.	CHED	758
Leith, M.	BIOT	251	Leone, S.R.	PHYS	511	Leverett, B.	CHED	448
Lekich, T.	INOR	124	Leonet, O.	POLY	433	Levesque, P.	MEDI	339
Lemaire, P.	INOR	1081	Leong, A.	ANYL	34	Levi, S.	CHED	689
Lemaire, V.	COLL	606	Leong, D.	ENFL	2	Levin, C.	AGFD	202
Leman, L.J.	ORGN	691	Leong, D.	ENFL	155	Levin, E.	INOR	1079
Lemas, J.M.	CELL	140	Leonhardt, E.	POLY	645	Levin, E.	INOR	1080
Lembo, J.	BIOT	51	Leonhardt, N.	CHED	77	Levin, E.	INOR	1365

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Levin, I.	CATL	498	Lhermitte, J.	COLL	542	Li, H.	CINF	7
Levin, M.	ORGN	247	Lhota, R.	PROF	23	Li, H.	ORGN	78
Levin, M.H.	MEDI	180	Li Pi Shan, C.	POLY	27	Li, H.	ENFL	52
Levine, A.M.	ENFL	423	Li Puma, G.	ENVR	37	Li, H.	CATL	239
Levine, B.G.	COMP	47	Li Puma, G.	ENVR	353	Li, H.	COLL	97
Levine, B.G.	COMP	423	Li, A.	CHED	791	Li, H.	INOR	1509
Levine, B.G.	PHYS	306	Li, A.	INOR	1004	Li, H.	POLY	6
Levine, D.S.	COMP	492	Li, A.	PHYS	447	Li, H.	BIOT	357
Levine, D.S.	INOR	1392	Li, B.	ENFL	255	Li, H.	COLL	147
Levine, G.	COMP	367	Li, B.	POLY	644	Li, H.	POLY	15
LeVine, M.V.	COMP	2	Li, B.	ENFL	252	Li, H.	CATL	589
LeVine, M.V.	PHYS	6	Li, B.	ENFL	419	Li, H.	BIOL	345
Levine, R.M.	PMSE	200	Li, B.	ORGN	449	Li, H.	COMP	30
Levinger, N.E.	ANYL	227	Li, B.	POLY	79	Li, H.	BIOL	347
Levinger, N.E.	PHYS	70	Li, B.	POLY	237	Li, H.	CATL	50
Levit, A.	COMP	584	Li, B.	CATL	455	Li, H.	CATL	276
Levkin, P.	CELL	327	Li, B.	ANYL	174	Li, H.	COMP	160
Levkin, P.	CELL	329	Li, B.	ANYL	304	Li, H.	ENVR	202
Levy, A.	GEOC	104	Li, B.	PMSE	59	Li, H.	ENVR	649
Levy, I.J.	CHED	122	Li, B.	POLY	348	Li, H.	MEDI	401
Levy, I.J.	CHED	208	Li, B.	POLY	437	Li, H.	COLL	147
Levy, I.J.	CHED	328	Li, C.	CATL	125	Li, H.	MEDI	218
Levy, I.J.	CHED	1006	Li, C.	CATL	327	Li, J.	COLL	341
Levy, I.J.	CHED	1007	Li, C.	ORGN	874	Li, J.	ENVR	252
Levy, I.J.	CHED	1806	Li, C.	ORGN	212	Li, J.	ENVR	244
Levy, K.	COMP	117	Li, C.	ORGN	639	Li, J.	BIOT	449
Levy, L.	CHED	722	Li, C.	POLY	195	Li, J.	MEDI	349
Levy, R.	BIOL	79	Li, C.	CATL	488	Li, J.	GEOC	321
Levy, R.M.	COMP	78	Li, C.	MEDI	7	Li, J.	CATL	352
Levy, R.M.	PHYS	97	Li, C.	MEDI	244	Li, J.	COLL	219
Levy, Y.	ENFL	58	Li, C.	CATL	383	Li, J.	CATL	417
Lew, J.	ENVR	48	Li, C.	COMP	89	Li, J.	COMP	318
Lewandowska, A.	CELL	324	Li, C.	ENVR	478	Li, J.	GEOC	340
Lewandowski, A.T.	BIOT	428	Li, C.	ENVR	370	Li, J.	MEDI	293
Lewis, A.	INOR	945	Li, C.	MEDI	36	Li, J.	AGFD	166
Lewis, C.	CHED	422	Li, C.	ORGN	921	Li, J.	MEDI	376
Lewis, C.	CHED	896	Li, C.	POLY	63	Li, J.	PMSE	249
Lewis, C.G.	ENVR	802	Li, C.	ENVR	92	Li, J.	CELL	179
Lewis, D.	CHED	1794	Li, C.C.	CATL	70	Li, J.	CELL	530
Lewis, D.	CHED	2093	Li, C.C.	PHYS	473	Li, J.	COLL	60
Lewis, D.E.	CHED	1467	Li, C.Q.	COMP	244	Li, J.	INOR	29
Lewis, D.E.	CHED	1531	Li, C.Q.	ORGN	709	Li, J.	MEDI	56
Lewis, D.E.	HIST	2	Li, D.	ANYL	314	Li, J.	ENFL	255
Lewis, D.E.	HIST	34	Li, D.	BIOT	482	Li, J.	INOR	172
Lewis, D.E.	ORGN	110	Li, D.	CATL	144	Li, J.	INOR	1407
Lewis, D.E.	ORGN	759	Li, D.	COLL	146	Li, J.	INOR	1514
Lewis, E.	CHED	574	Li, D.	INOR	1319	Li, J.	ENVR	922
Lewis, E.	CHED	800	Li, D.	BIOT	54	Li, J.	ANYL	151
Lewis, E.L.	CHED	734	Li, D.	ENVR	893	Li, J.	ANYL	152
Lewis, E.M.	COMP	266	Li, D.	MEDI	248	Li, J.	ANYL	282
Lewis, E.M.	COMP	339	Li, D.	PHYS	454	Li, J.	ENVR	160
Lewis, J.	CELL	83	Li, D.	COLL	652	Li, J.	ORGN	483
Lewis, J.	COLL	68	Li, F.	ANYL	151	Li, J.	ORGN	898
Lewis, J.	CHED	1263	Li, F.	ENFL	23	Li, J.	ENVR	138
Lewis, J.C.	BIOT	142	Li, F.	ENFL	119	Li, J.	ENFL	98
Lewis, J.E.	CHED	308	Li, F.	CHED	1052	Li, J.	ENFL	367
Lewis, J.E.	CHED	1947	Li, F.	INOR	30	Li, J.	ENVR	225
Lewis, J.E.	CHED	2078	Li, F.	INOR	57	Li, J.	GEOC	144
Lewis, J.E.	PROF	33	Li, F.	INOR	302	Li, J.	MEDI	268
Lewis, K.A.	GEOC	205	Li, F.	INOR	950	Li, J.	NUCL	45
Lewis, K.M.	HIST	10	Li, F.	GEOC	2	Li, J.	NUCL	67
Lewis, L.	ORGN	513	Li, F.	ORGN	274	Li, J.	POLY	97
Lewis, M.	ENVR	540	Li, F.	PMSE	399	Li, J.	COLL	341
Lewis, M.A.	MEDI	212	Li, F.	MEDI	23	Li, J.	ORGN	625
Lewis, N.E.	BIOT	588	Li, G.	MEDI	350	Li, J.J.	ORGN	226
Lewis, N.S.	CATL	552	Li, G.	CHED	684	Li, J.J.	ORGN	237
Lewis, R.	NUCL	54	Li, G.	MEDI	19	Li, K.	ENVR	545
Lewis, R.	BIOT	1	Li, G.	MEDI	99	Li, K.	PMSE	27
Lewis, R.	INOR	56	Li, G.	CATL	534	Li, K.	CATL	493
Lewis, R.L.	CHED	129	Li, G.	ENFL	9	Li, L.	ANYL	146
Lewis, R.L.	MEDI	487	Li, G.	ENVR	9	Li, L.	ANYL	176
Lewis, R.L.	MEDI	488	Li, G.	ENVR	275	Li, L.	INOR	20
Lewis, S.	CHED	1442	Li, G.	CATL	261	Li, L.	ENFL	30
Lewis, S.	ANYL	479	Li, G.	CATL	558	Li, L.	BIOT	55
Lewis, S.E.	CHED	70	Li, G.	INOR	197	Li, L.	BIOT	89
Lewis, S.E.	CHED	1991	Li, G.	PHYS	207	Li, L.	CHED	1136
Lewis, S.M.	CHED	1851	Li, G.	CATL	528	Li, L.	INOR	333
Lexa, K.W.	COMP	181	Li, G.	ENFL	343	Li, L.	BIOT	74
Leyba, J.D.	CHED	959	Li, G.	ENFL	431	Li, L.	CATL	56
Leyba, J.D.	CHED	1018	Li, G.Y.	INOR	1281	Li, L.	GEOC	32

Li, L.	MEDI	339	Li, S.	CATL	276	Li, X.	CATL	369
Li, L.	ANYL	68	Li, S.	COMP	160	Li, X.	MEDI	17
Li, L.	POLY	184	Li, S.	AGFD	46	Li, X.	POLY	572
Li, L.	POLY	249	Li, S.	BIOL	106	Li, X.	ENVR	930
Li, L.	ORGN	887	Li, S.	CELL	247	Li, X.	PMSE	69
Li, L.	BIOT	244	Li, T.	CATL	64	Li, Y.	MEDI	422
Li, L.	ENVR	690	Li, T.	COLL	392	Li, Y.	MPPG	19
Li, M.	ENVR	297	Li, T.	ENFL	348	Li, Y.	CATL	559
Li, M.	PMSE	27	Li, T.	BIOT	350	Li, Y.	ENFL	63
Li, M.	PMSE	400	Li, W.	ANYL	144	Li, Y.	PMSE	507
Li, M.	PMSE	472	Li, W.	CATL	326	Li, Y.	PMSE	508
Li, M.	POLY	353	Li, W.	CATL	344	Li, Y.	ENVR	646
Li, M.	INOR	453	Li, W.	CATL	456	Li, Y.	COMP	221
Li, M.	INOR	454	Li, W.	CATL	547	Li, Y.	ORGN	296
Li, M.	INOR	455	Li, W.	CATL	642	Li, Y.	ORGN	929
Li, M.	CARB	97	Li, W.	NUCL	67	Li, Y.	CATL	454
Li, M.	PMSE	412	Li, W.	ENVR	11	Li, Y.	ENFL	15
Li, M.	ANYL	439	Li, W.	ENVR	118	Li, Y.	ENFL	114
Li, M.	PHYS	423	Li, W.	ENVR	457	Li, Y.	ENFL	162
Li, M.	PHYS	506	Li, W.	ENVR	541	Li, Y.	CATL	23
Li, M.	COMP	133	Li, W.	MEDI	128	Li, Y.	CATL	475
Li, M.	ENVR	478	Li, W.	MEDI	271	Li, Y.	BIOT	317
Li, M.	PMSE	557	Li, W.	MEDI	427	Li, Y.	CINF	131
Li, M.	ORGN	497	Li, W.	MEDI	478	Li, Y.	ENVR	37
Li, M.	ORGN	516	Li, W.	MEDI	479	Li, Y.	GEOC	345
Li, M.	PMSE	510	Li, W.	ORGN	817	Li, Y.	PMSE	481
Li, N.	COMP	362	Li, W.	COLL	602	Li, Y.	ENFL	460
Li, N.	MEDI	47	Li, W.	CATL	471	Li, Y.	FLUO	19
Li, N.	CELL	150	Li, W.	COMP	44	Li, Y.	INOR	1423
Li, N.	CELL	507	Li, W.	PHYS	368	Li, Y.	CATL	30
Li, N.	COLL	241	Li, W.	POLY	499	Li, Y.	COLL	739
Li, N.K.	CINF	27	Li, W.	POLY	553	Li, Y.	BIOL	1
Li, P.	ANYL	445	Li, W.	POLY	646	Li, Y.	BIOT	713
Li, P.	ENVR	329	Li, W.	MEDI	387	Li, Y.	CATL	638
Li, P.	MEDI	21	Li, W.	COLL	12	Li, Y.	COLL	267
Li, P.	MEDI	349	Li, W.	COLL	792	Li, Y.	ENFL	97
Li, P.	PMSE	270	Li, W.	CELL	214	Li, Y.	PHYS	543
Li, P.	ORGN	580	Li, W.	POLY	611	Li, Y.	PHYS	556
Li, P.	CELL	456	Li, W.	ENVR	367	Li, Y.	MEDI	159
Li, Q.	ENFL	59	Li, W.	PHYS	150	Li, Y.	INOR	726
Li, Q.	ENVR	196	Li, W.	ENFL	130	Li, Y.	PMSE	243
Li, Q.	ENFL	445	Li, W.	ENFL	199	Li, Y.	COLL	865
Li, Q.	INOR	199	Li, W.	I&EC	128	Li, Y.	INOR	1445
Li, Q.	PMSE	258	Li, W.	I&EC	129	Li, Y.	PMSE	260
Li, Q.	MEDI	36	Li, X.	ENVR	604	Li, Y.	CATL	354
Li, Q.	ANYL	231	Li, X.	ENVR	244	Li, Y.	CATL	360
Li, Q.	INOR	973	Li, X.	ENVR	728	Li, Y.	CATL	436
Li, Q.	NUCL	153	Li, X.	ANYL	165	Li, Y.	CATL	438
Li, Q.	ENVR	248	Li, X.	PHYS	379	Li, Y.	CATL	442
Li, Q.	GEOC	45	Li, X.	ORGN	488	Li, Y.	ENFL	24
Li, Q.	GEOC	192	Li, X.	I&EC	14	Li, Y.	ENFL	63
Li, Q.	GEOC	330	Li, X.	ENFL	344	Li, Y.	PMSE	422
Li, Q.	ENFL	415	Li, X.	ENFL	398	Li, Y.	POLY	82
Li, Q.W.	CELL	115	Li, X.	ORGN	411	Li, Y.	POLY	84
Li, Q.W.	CELL	116	Li, X.	COLL	626	Li, Y.	ENFL	339
Li, R.	INOR	52	Li, X.	COMP	129	Li, Y.	ENFL	295
Li, R.	POLY	432	Li, X.	COMP	168	Li, Y.	ENVR	899
Li, R.	BIOL	213	Li, X.	COMP	238	Li, Y.	CATL	1
Li, R.	PMSE	598	Li, X.	COMP	539	Li, Y.	CATL	145
Li, R.	POLY	598	Li, X.	PHYS	360	Li, Y.	PMSE	401
Li, R.	INOR	326	Li, X.	INOR	1004	Li, Y.	ANYL	436
Li, R.	MEDI	497	Li, X.	ENVR	912	Li, Y.	PHYS	221
Li, R.	MEDI	372	Li, X.	POLY	431	Li, Y.	BIOT	619
Li, R.	MEDI	405	Li, X.	COLL	141	Li, Y.	ENFL	423
Li, R.	ENVR	948	Li, X.	COLL	314	Li, Y.	COLL	793
Li, R.	COLL	462	Li, X.	INOR	229	Li, Y.	PMSE	234
Li, S.	PMSE	68	Li, X.	INOR	424	Li, Y.	ENFL	421
Li, S.	PMSE	659	Li, X.	ORGN	102	Li, Y.	ENVR	64
Li, S.	ENVR	506	Li, X.	ORGN	594	Li, Y.	I&EC	104
Li, S.	ENVR	240	Li, X.	PHYS	371	Li, Z.	BIOL	35
Li, S.	ANYL	219	Li, X.	PHYS	447	Li, Z.	BIOT	1
Li, S.	COLL	685	Li, X.	ENVR	160	Li, Z.	BIOT	9
Li, S.	INOR	983	Li, X.	CATL	606	Li, Z.	BIOT	119
Li, S.	INOR	985	Li, X.	ENFL	441	Li, Z.	BIOT	160
Li, S.	ENVR	339	Li, X.	ORGN	827	Li, Z.	BIOT	428
Li, S.	PMSE	667	Li, X.	CATL	460	Li, Z.	BIOT	513
Li, S.	CATL	475	Li, X.	ENVR	354	Li, Z.	BIOT	676
Li, S.	ORGN	599	Li, X.	ANYL	391	Li, Z.	BIOT	678
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Li, Z.	INOR	200	Libelo, E.L.	ENVR	123	Lim, S.	BIOT	599
Li, Z.	INOR	677	Libelo, E.L.	ENVR	243	Lim, S.	BIOT	653
Li, Z.	ENVR	295	Libera, J.	COLL	592	Lim, S.	CELL	276
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Li, Z.	ENFL	83	Liddle, J.	MEDI	8	Lin, C.	INOR	488
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Liang, G.	INOR	599	Liebner, F.	CELL	470	Lin, H.	ENVR	998
Liang, G.	INOR	614	Lien, H.	CATL	98	Lin, H.	POLY	80
Liang, G.	INOR	1369	Lien, M.	COLL	834	Lin, H.	MEDI	357
Liang, G.	MEDI	366	Lien, N.R.	CHED	960	Lin, H.	BIOT	4
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Liang, H.	POLY	521	Lien, Y.	POLY	418	Lin, H.	BIOT	77
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Liang, W.	ANYL	146	Lijuan, D.	AGFD	231	Lin, J.	PMSE	324
Liang, W.	CHED	1030	Liles, J.	MEDI	367	Lin, J.	PMSE	645
Liang, Y.	ENVR	459	Lilga, M.A.	CATL	303	Lin, J.	PMSE	681
Liang, Y.	MEDI	251	Liljestrand, H.	GEOC	313	Lin, J.	CELL	199
Liang, Y.	ORGN	299	Lillard, S.	COLL	643	Lin, J.	CATL	195
Liang, Y.	ENVR	92	Lillethorup, M.	COLL	614	Lin, J.	ENFL	185
Liang, Y.	PMSE	233	Lillethorup, M.	INOR	1517	Lin, J.C.	BIOT	571
Liang, Y.	COMP	83	Lillie, L.M.	POLY	25	Lin, J.C.	INOR	1352
Liang, Z.	CATL	64	Lim, A.	ENFL	143	Lin, J.Y.	I&EC	6
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Liao, C.	CATL	526	Lim, C.	BIOL	62	Lin, K.	MEDI	194
Liao, I.	COLL	673	Lim, C.	BIOT	277	Lin, K.	MEDI	272
Liao, J.	BIOL	38	Lim, C.	CATL	220	Lin, K.	BIOT	132
Liao, J.	BIOL	55	Lim, C.	CATL	221	Lin, L.	PHYS	467
Liao, J.C.	BIOT	97	Lim, D.	INOR	1507	Lin, L.	BIOL	299
Liao, K.	ORGN	360	Lim, D.	ENFL	195	Lin, L.	BIOT	392
Liao, P.	AGFD	102	Lim, E.	BIOL	361	Lin, L.	BIOT	634
Liao, Q.	PHYS	368	Lim, H.	ENVR	233	Lin, L.	CHED	656
Liao, S.	COLL	192	Lim, H.	ENFL	140	Lin, M.	MEDI	265
Liao, S.	BIOT	182	Lim, H.	ENFL	200	Lin, M.	BIOT	490
Liao, T.	INOR	1014	Lim, J.	ORGN	796	Lin, M.	BIOT	700
Liao, W.	ENVR	12	Lim, J.	ORGN	797	Lin, M.	BIOT	579
Liao, W.	COLL	58	Lim, J.	PHYS	256	Lin, N.	MEDI	401
Liao, W.	COLL	132	Lim, K.	PMSE	465	Lin, O.	COMP	351
Liao, X.	ENVR	339	Lim, M.	COLL	195	Lin, P.	CHED	705
Liao, Y.	CELL	444	Lim, N.	COMP	353	Lin, P.	BIOT	97
Liao, Y.	PMSE	327	Lim, N.	ORGN	22	Lin, P.	PMSE	434
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Lin, S.	ORGN	842	Linder, R.	POLY	514	Lionetti, D.	CHED	1145
Lin, S.	ENVR	406	Lindert, S.	COMP	174	Lionti, K.	PMSE	640
Lin, S.	ENVR	579	Lindgren, C.	MEDI	396	Liosi, M.	CINF	2
Lin, S.	ORGN	328	Lindgren, H.	MEDI	344	Liotta, D.	MEDI	41
Lin, S.	MEDI	315	Lindgren, P.	CATL	256	Liotta, D.	MEDI	42
Lin, S.	MEDI	459	Lindman, B.	CELL	11	Liotta, D.	MEDI	43
Lin, S.	POLY	136	Lindman, B.	CELL	400	Liotta, D.	MEDI	65
Lin, T.	ENVR	96	Lindman, B.	CELL	464	Liotta, L.J.	CHED	1557
Lin, T.	MEDI	316	Lindman, B.	CELL	516	Liou, H.	CATL	366
Lin, T.	POLY	535	Lindmark, B.	MEDI	17	Lipchock, J.	COMP	518
Lin, T.C.	ENFL	250	Lindner, T.	ORGN	498	Lipke, E.A.	BIOT	620
Lin, V.	ENVR	939	Lindquist, G.	CHED	1673	Lipniskis, A.	CHED	458
Lin, W.	ENVR	809	Lindquist, G.	PHYS	337	Lipomi, D.J.	PMSE	66
Lin, W.	PHYS	510	Lindquist-Kleissler, B.	ORGN	775	Lipomi, D.J.	PMSE	607
Lin, W.	PHYS	521	Lindsay, H.A.	ORGN	101	Lipp, J.	GEOC	338
Lin, W.	PHYS	522	Lindsay, M.	CATL	34	Lippard, S.J.	INOR	9
Lin, W.	CATL	383	Lindsay, M.	CATL	300	Lippard, S.J.	INOR	531
Lin, W.	ANYL	131	Lindsey, J.S.	ORGN	398	Lippert, A.R.	ORGN	920
Lin, W.	INOR	315	Lindsey, J.S.	ORGN	561	Lippy, J.	MEDI	25
Lin, W.	ENFL	257	Lindsey, J.S.	PHYS	466	Lipscomb, J.D.	INOR	22
Lin, W.	INOR	165	Lindsey, M.	CHED	1251	Lipscomb, J.D.	INOR	277
Lin, W.	INOR	574	Lindsey, R.	PHYS	136	Lipshultz, J.	ORGN	900
Lin, W.	INOR	1228	Lindsey, R.K.	COLL	808	Lipshutz, B.H.	CHED	1
Lin, W.	INOR	1229	Lindsley, C.W.	MEDI	245	Lipshutz, B.H.	ORGN	61
Lin, W.	MEDI	482	Lindstrom, A.	MEDI	198	Lipshutz, B.H.	ORGN	320
Lin, X.	ORGN	508	Lindstrom, A.	ENVR	536	Liptak, M.D.	INOR	772
Lin, X.	COLL	94	Lindström, M.E.	CELL	530	Liptak, M.D.	ORGN	713
Lin, X.	COLL	635	Lindström, T.	CELL	239	Lipton-Duffin, J.	COLL	408
Lin, X.	COMP	404	Lindstrom, T.D.	CHED	78	LiPuma, J.	ENVR	474
Lin, X.	CELL	150	Lindt, D.	CHED	1726	Lipus, D.	GEOC	339
Lin, Y.	CHED	130	Lindvall, M.	MEDI	341	Lira-Rocha, A.	MEDI	158
Lin, Y.	GEOC	53	Lineberger, W.C.	PHYS	28	Lischka, H.	COMP	166
Lin, Y.	CATL	164	Linehan, J.C.	INOR	42	Lisensky, G.	CHED	2051
Lin, Y.	PMSE	476	Linenberger Cortes, K.J.	CHED	55	Lishchynsky, A.	CARB	80
Lin, Y.	PMSE	576	Linenberger Cortes, K.J.	CHED	1895	Lisic, E.C.	CHED	256
Lin, Y.	POLY	140	Lines, A.	NUCL	112	Lisic, E.C.	CHED	643
Lin, Y.	ENVR	668	Lines, A.C.	ANYL	178	Lisic, E.C.	CHED	1054
Lin, Y.	PHYS	418	Lines, E.	CHED	592	Lisic, E.C.	CHED	1058
Lin, Y.	CARB	74	Ling, F.T.	GEOC	105	Lisic, E.C.	CHED	1480
Lin, Y.	INOR	1106	Ling, F.T.	GEOC	162	Lisic, E.C.	CHED	1551
Lin, Y.	INOR	1174	Ling, F.T.	GEOC	296	Lisic, E.C.	CHED	1605
Lin, Y.	ENFL	311	Ling, K.	ORGN	376	Lisic, E.C.	CHED	2060
Lin, Y.	ENFL	251	Ling, T.	INOR	812	Lisic, E.C.	ENVR	786
Lin, Y.	BIOT	334	Ling, W.	BIOT	412	Lisnik, G.	MEDI	456
Lin, Y.	COMP	27	Ling, X.	MEDI	275	Lisse, C.H.	CHED	352
Lin, Y.	COMP	326	Ling, X.	COLL	42	Lisse, C.H.	CHED	353
Lin, Y.	COMP	377	Ling, Y.	MEDI	290	Lisse, C.H.	CHED	481
Lin, Y.	COMP	450	Ling, Y.	INOR	1020	Lisse, C.H.	CHED	1138
Lin, Z.	INOR	1228	Lingayat, A.	ENVR	546	Lisse, C.H.	CHED	1732
Lin, Z.	INOR	1229	Lingel, A.	ANYL	223	Lissens, G.	BIOT	212
Lin, Z.	COLL	468	Lingel, A.	COMP	295	Lissoos, J.B.	BIOT	190
Lin, Z.	PMSE	91	Lingerak, R.	COLL	535	Lister, A.R.	AGFD	232
Lin, Z.	POLY	329	Lingerfelt, D.B.	COMP	129	Lister, M.	CHED	461
Lin, Z.	POLY	528	Lingerfelt, D.B.	COMP	238	Litin, A.C.	AGFD	212
Lin, Z.	INOR	690	Linghu, X.	ORGN	20	Litman, A.	COLL	654
Lin, Z.	MEDI	427	Lingwood, M.D.	COLL	288	Litman, J.M.	COMP	393
Lincoln, S.	BIOT	585	Linhardt, J.G.	MPPG	7	Litster, S.	COMP	72
Lincoln, S.	BIOT	515	Linhardt, R.J.	BIOL	299	Litt, D.B.	PHYS	263
Lincoln, Z.S.	INOR	850	Linhardt, R.J.	BIOT	25	Little, J.	CHED	1184
Lind, T.	COLL	700	Linhardt, R.J.	BIOT	392	Little, T.	BIOT	322
Lind, T.	COLL	701	Linhardt, R.J.	CARB	88	Litz, J.	CHED	508
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Lindeman, S.V.	INOR	150	Link, K.	CHED	1777	Liu, B.	MEDI	449
Lindeman, S.V.	MEDI	131	Link, S.	COLL	65	Liu, B.	ENVR	188
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Lindemuth, J.	PMSE	449	Linker, O.	POLY	389	Liu, B.	PMSE	221
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Linden, K.	ENVR	212	Linn, J.	AGFD	246	Liu, C.	MEDI	256
Linden, K.	GEOC	299	Linn, T.	ENVR	498	Liu, C.	FLUO	15
Linden, K.	GEOC	300	Linnolahti, M.	INOR	700	Liu, C.	PHYS	409
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Liu, C.	ENFL	347	Liu, H.C.	POLY	21	Liu, M.	CATL	373
Liu, C.	MEDI	462	Liu, J.	COMP	294	Liu, M.	COLL	542
Liu, C.	MEDI	315	Liu, J.	ORGN	30	Liu, M.	CHED	521
Liu, C.	I&EC	121	Liu, J.	ORGN	304	Liu, M.	CHED	734
Liu, C.	I&EC	127	Liu, J.	BIOT	94	Liu, P.	ENVR	411
Liu, C.	I&EC	135	Liu, J.	ENVR	853	Liu, P.	INOR	466
Liu, C.	COLL	568	Liu, J.	GEOC	37	Liu, P.	CATL	138
Liu, C.	INOR	106	Liu, J.	GEOC	174	Liu, P.	CATL	211
Liu, C.	CATL	170	Liu, J.	MEDI	58	Liu, P.	COMP	83
Liu, C.	CATL	573	Liu, J.	PMSE	612	Liu, P.	ENFL	170
Liu, C.	ENFL	168	Liu, J.	BIOT	94	Liu, P.	CATL	583
Liu, C.	GEOC	172	Liu, J.	MEDI	33	Liu, Q.	ORGN	903
Liu, C.	ENVR	591	Liu, J.	CARB	8	Liu, Q.	BIOT	497
Liu, C.	ENVR	649	Liu, J.	CATL	610	Liu, Q.	POLY	566
Liu, C.	BIOL	77	Liu, J.	CATL	655	Liu, Q.	ANYL	376
Liu, C.	COMP	203	Liu, J.	CATL	656	Liu, Q.	FLUO	26
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Liu, D.	POLY	300	Liu, J.	CHED	1302	Liu, Q.	CATL	32
Liu, D.	ENFL	447	Liu, J.	MEDI	413	Liu, R.	INOR	464
Liu, D.	MEDI	17	Liu, J.	CATL	369	Liu, R.	PMSE	80
Liu, D.K.	CHAL	17	Liu, J.	COMP	430	Liu, R.	BIOT	545
Liu, E.	BIOT	590	Liu, J.	CATL	239	Liu, R.	CINF	118
Liu, F.	BIOT	95	Liu, J.	CELL	24	Liu, R.	CINF	123
Liu, F.	CATL	335	Liu, J.	BIOT	465	Liu, R.	MEDI	346
Liu, F.	PMSE	664	Liu, J.	BIOL	157	Liu, R.	CATL	343
Liu, F.	COLL	317	Liu, J.	BIOL	158	Liu, R.	ORGN	561
Liu, F.	GEOC	147	Liu, J.	INOR	616	Liu, R.	CELL	338
Liu, F.	COMP	283	Liu, J.	CELL	141	Liu, R.	CELL	456
Liu, F.	INOR	535	Liu, J.	NUCL	64	Liu, R.	CELL	509
Liu, F.	ANYL	289	Liu, J.	PHYS	369	Liu, S.	BIOL	35
Liu, F.	CATL	235	Liu, J.	PHYS	553	Liu, S.	CELL	9
Liu, F.	COLL	144	Liu, J.	ENVR	538	Liu, S.	CELL	137
Liu, F.	ORGN	592	Liu, J.	ENVR	541	Liu, S.	PMSE	185
Liu, G.	ANYL	146	Liu, J.	ENVR	620	Liu, S.	MEDI	112
Liu, G.	ANYL	236	Liu, J.	ENVR	957	Liu, S.	CATL	138
Liu, G.	MEDI	305	Liu, J.	COMP	44	Liu, S.	COMP	83
Liu, G.	PHYS	358	Liu, J.	COMP	45	Liu, S.	CELL	437
Liu, G.	ANYL	364	Liu, J.	ENVR	949	Liu, S.	POLY	144
Liu, G.	CELL	74	Liu, J.	ORGN	308	Liu, S.	CINF	140
Liu, G.	CHED	2118	Liu, J.	CHED	895	Liu, S.	COMP	411
Liu, G.	CINF	122	Liu, J.	BIOT	671	Liu, S.	PMSE	402
Liu, G.	COLL	527	Liu, J.	BIOL	342	Liu, S.	MEDI	305
Liu, G.	I&EC	49	Liu, J.	ENFL	415	Liu, S.	CATL	658
Liu, G.	GEOC	245	Liu, J.	PRES	7	Liu, S.	COLL	570
Liu, G.	CATL	558	Liu, J.L.	BIOL	87	Liu, T.	CHED	1591
Liu, G.	MEDI	97	Liu, J.L.	CATL	355	Liu, T.	COLL	463
Liu, G.	GEOC	215	Liu, J.L.	COLL	565	Liu, T.	COLL	643
Liu, G.	ENVR	635	Liu, K.	CELL	196	Liu, T.	INOR	1418
Liu, G.	COLL	431	Liu, K.	ENVR	390	Liu, T.	NUCL	128
Liu, G.	CATL	528	Liu, K.	MEDI	132	Liu, T.	PHYS	454
Liu, G.	ENFL	343	Liu, K.	CATL	252	Liu, T.	ENFL	114
Liu, G.	ENFL	431	Liu, K.	PMSE	401	Liu, T.	ENFL	162
Liu, G.	ENFL	444	Liu, K.	ENVR	583	Liu, T.	COLL	164
Liu, H.	PHYS	127	Liu, K.	ENVR	929	Liu, W.	ENVR	493
Liu, H.	PMSE	269	Liu, K.	PMSE	84	Liu, W.	INOR	172
Liu, H.	CHED	2110	Liu, K.	POLY	499	Liu, W.	MEDI	350
Liu, H.	COLL	436	Liu, K.	POLY	553	Liu, W.	ORGN	74
Liu, H.	ENFL	165	Liu, K.	POLY	646	Liu, W.	INOR	846
Liu, H.	ENVR	483	Liu, K.	ENVR	59	Liu, W.	INOR	564
Liu, H.	BIOT	449	Liu, K.	ENVR	211	Liu, W.	PHYS	121
Liu, H.	CATL	289	Liu, L.	CINF	63	Liu, W.	COLL	421
Liu, H.	CATL	455	Liu, L.	ENVR	990	Liu, W.	POLY	376
Liu, H.	CATL	621	Liu, L.	PMSE	35	Liu, W.	COLL	225
Liu, H.	BIOL	169	Liu, L.	PMSE	508	Liu, W.	AGFD	4
Liu, H.	ANYL	461	Liu, L.	ENVR	680	Liu, W.	AGFD	19
Liu, H.	ENVR	118	Liu, L.	BIOL	162	Liu, W.	CATL	336
Liu, H.	ENVR	167	Liu, L.	ENVR	196	Liu, W.	ENFL	49
Liu, H.	ENVR	457	Liu, L.	COLL	241	Liu, W.	CELL	263
Liu, H.	ENVR	608	Liu, L.	COMP	369	Liu, W.	POLY	23
Liu, H.	COMP	133	Liu, L.	MEDI	377	Liu, W.	ORGN	412
Liu, H.	CINF	118	Liu, L.	COLL	726	Liu, W.	ORGN	473
Liu, H.	BIOT	132	Liu, L.	CARB	21	Liu, W.	BIOL	31
Liu, H.	BIOT	288	Liu, L.	CHED	1456	Liu, W.	BIOL	61
Liu, H.	GEOC	93	Liu, L.	PMSE	5	Liu, X.	ANYL	481
Liu, H.	PMSE	35	Liu, L.	CATL	467	Liu, X.	ORGN	643
Liu, H.	I&EC	124	Liu, M.	PMSE	537	Liu, X.	PMSE	475

Liu, X.	COLL	736	Liu, Y.	PMSE	403	Lo, Y.	BIOT	376
Liu, X.	CATL	339	Liu, Y.	PMSE	532	Lo, Y.	BIOT	377
Liu, X.	ENVR	252	Liu, Y.	ANYL	376	Lo, Y.	COMP	258
Liu, X.	ENFL	114	Liu, Y.	POLY	445	Lo, Y.	COMP	259
Liu, X.	CELL	14	Liu, Y.	COLL	94	Lo, Y.	COMP	282
Liu, X.	ORGN	293	Liu, Y.	ENFL	327	Lo, Y.	COMP	340
Liu, X.	CELL	482	Liu, Z.	ENFL	403	Lo, Y.	ENVR	765
Liu, X.	CHED	1591	Liu, Z.	BIOL	220	Lo, Y.	ENVR	766
Liu, X.	ENVR	490	Liu, Z.	CATL	363	Lo, Y.	ENVR	767
Liu, X.	CATL	346	Liu, Z.	ENFL	437	Lo, Y.	I&EC	106
Liu, X.	CHED	1599	Liu, Z.	COMP	513	Lo, Y.	INOR	999
Liu, X.	FLUO	2	Liu, Z.	COLL	632	Lo, Y.	INOR	1022
Liu, X.	BIOL	299	Liu, Z.	INOR	533	Lo, Y.	MEDI	170
Liu, X.	PHYS	560	Liu, Z.	CATL	11	Lo, Y.	MEDI	171
Liu, X.	COLL	144	Liu, Z.	COMP	577	Lo, Y.	MEDI	483
Liu, X.	BIOT	8	Liu, Z.	COMP	388	Lo, Y.	MEDI	484
Liu, X.	BIOT	414	Liu, Z.	COMP	447	Lo, Y.	MEDI	485
Liu, X.	BIOT	448	Liu, Z.	ENVR	928	Lo, Y.	ORGN	180
Liu, X.M.	POLY	83	Liu, Z.	PMSE	523	Lo, Y.	ORGN	182
Liu, Y.	ANYL	82	Liu, Z.	CHED	1300	Lo, Y.	ORGN	262
Liu, Y.	ANYL	197	Liu, Z.	COLL	754	Lo, Y.	PHYS	530
Liu, Y.	CHED	454	Liu, Z.	ORGN	916	Lobeck, H.L.	CHED	968
Liu, Y.	MEDI	405	Liu, Z.	ENFL	45	Lobeck, H.L.	NUCL	97
Liu, Y.	MEDI	372	Liu, Z.	CATL	467	Lobeck, H.L.	NUCL	167
Liu, Y.	CARB	17	Liu, Z.	ENVR	930	Löbmann, K.	CELL	439
Liu, Y.	CARB	21	Liu, Z.	INOR	1573	Lobo Checa, J.	COLL	480
Liu, Y.	CATL	349	Liu, Z.	PMSE	69	Lobo, C.J.	COLL	78
Liu, Y.	COLL	527	Liu, Z.	PMSE	510	Lobo, R.F.	ENFL	96
Liu, Y.	FLUO	53	Liu, Z.	PMSE	644	Lobo-Castañón, M.	AGFD	134
Liu, Y.	INOR	476	Liu, Z.	POLY	75	Lochmaier, E.C.	POLY	472
Liu, Y.	INOR	1375	Lively, R.P.	POLY	395	Lock, L.	PMSE	481
Liu, Y.	AGFD	118	Livesay, D.	COMP	5	Locke, S.M.	CHED	150
Liu, Y.	CELL	137	Livi, K.J.	ENVR	407	Lockington, R.J.	CHED	1467
Liu, Y.	PMSE	185	Livi, K.J.	ENVR	1030	Locklin, J.J.	COLL	432
Liu, Y.	PMSE	82	Livingston, A.	ENVR	503	Locklin, J.J.	ENFL	314
Liu, Y.	I&EC	124	Livshits, M.	INOR	717	Locklin, J.J.	PMSE	117
Liu, Y.	ENFL	363	Liwang, P.J.	BIOT	383	Locklin, J.J.	POLY	304
Liu, Y.	COLL	193	Liyanage, D.	ANYL	314	Lockwood, L.	CHED	1897
Liu, Y.	ENFL	212	Liyanage, D.	COLL	209	Lodder, C.	CHED	847
Liu, Y.	PMSE	160	Liyanage, D.	COLL	474	Loder, A.	BIOT	654
Liu, Y.	PMSE	298	Liyanage, S.P.	ANYL	450	Lodge, T.P.	PMSE	95
Liu, Y.	BIOT	492	Liyanage, W.P.	INOR	1044	Lodge, T.P.	POLY	146
Liu, Y.	PHYS	399	Liz Marzan, L.	COLL	39	Lodge, T.P.	POLY	212
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Liu, Y.	INOR	1027	Lizama, K.	GEOC	84	Loebbecke, S.	YCC	18
Liu, Y.	INOR	1127	Lizcano, M.	PMSE	609	Loebelenz, J.	CHED	1022
Liu, Y.	ORGN	131	Lizundia, E.	CELL	262	Loebs, A.	BIOT	149
Liu, Y.	PMSE	404	Lizza, J.	ORGN	132	Loeffler, M.	PHYS	326
Liu, Y.	I&EC	40	Ljunglöf, A.	BIOT	34	Loertscher, J.A.	CHED	179
Liu, Y.	ENVR	68	Ljunglöf, A.	BIOT	560	Loertscher, J.A.	CHED	308
Liu, Y.	ENVR	948	Llewellyn, P.	INOR	1505	Loertscher, J.A.	CHED	2078
Liu, Y.	ENFL	403	Llop, J.	INOR	1374	Loesch-Fries, S.	COLL	282
Liu, Y.	CELL	237	Lloret Fillol, J.	CATL	213	Loewen, N.D.	INOR	163
Liu, Y.	ENVR	517	Lloret Fillol, J.	INOR	151	Loewen, N.D.	INOR	1472
Liu, Y.	CHED	746	Lloret-Fillol, J.	INOR	116	Loewen, P.C.	INOR	659
Liu, Y.	PMSE	598	Lloret-Fillol, J.	ORGN	317	Löfberg, C.	MEDI	17
Liu, Y.	AGFD	3	Lloyd, E.	CHED	1239	Lofchy, L.	BIOT	21
Liu, Y.	ENVR	14	Lloyd, J.	GEOC	157	Löfgren, J.	BIOT	368
Liu, Y.	ENVR	15	Lloyd, J.	INOR	1385	Lofland, S.E.	INOR	335
Liu, Y.	BIOL	82	Lloyd, W.	CHED	599	Loftis, A.	CHED	358
Liu, Y.	MEDI	112	Lm, N.	ENVR	284	Loftis, A.	CHED	414
Liu, Y.	ORGN	299	Lo Re, G.	CELL	393	Lofton, J.	ENVR	217
Liu, Y.	ANYL	116	Lo, F.	PMSE	347	Lofts, S.	ENVR	348
Liu, Y.	CATL	153	Lo, F.	PMSE	532	Logan, J.	COLL	736
Liu, Y.	ENFL	202	Lo, J.	INOR	867	Loganathan, N.	GEOC	143
Liu, Y.	INOR	949	Lo, J.N.	PMSE	70	Logie, J.	BIOL	329
Liu, Y.	INOR	1192	Lo, J.Y.	CHED	1860	Logie, J.	COLL	731
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Liu, Y.	ENVR	485	Lo, W.	PMSE	645	Lohmann, R.	ENVR	68
Liu, Y.	BIOL	92	Lo, W.	ANYL	2	Lohmann, R.	ENVR	69
Liu, Y.	BIOT	133	Lo, Y.	AGFD	73	Lohmann, R.	ENVR	573
Liu, Y.	BIOT	553	Lo, Y.	AGFD	74	Lohr, T.	INOR	569
Liu, Y.	COLL	363	Lo, Y.	AGFD	75	Lohr, T.	INOR	1283
Liu, Y.	COLL	365	Lo, Y.	AGFD	76	Lohrer, M.	COLL	527
Liu, Y.	COLL	401	Lo, Y.	BIOL	209	Lohrey, T.D.	INOR	97
Liu, Y.	ORGN	18	Lo, Y.	BIOL	211	Lohrey, T.D.	INOR	140
Liu, Y.	ORGN	642	Lo, Y.	BIOT	371	Lohrey, T.D.	INOR	1557
Liu, Y.	PMSE	11	Lo, Y.	BIOT	372	Lohrman, J.	INOR	1339
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Lokitz, B.S.	PMSE	583	Longo, M.L.	COLL	778	Lorance, E.D.	CHED	1606
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Long, J.R.	ENFL	409	Lopez, A.	MEDI	497	Lott, J.	POLY	228
Long, J.R.	INOR	58	Lopez, A.	ENFL	317	Lott, J.	POLY	358
Long, J.R.	INOR	86	Lopez, A.	ANYL	186	Lott, M.	ANYL	357
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Long, J.R.	INOR	1175	Lopez, K.M.	CHED	64	Lou, Z.	MEDI	18
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Long, J.R.	INOR	1405	Lopez, R.	PMSE	294	Louis, L.	CHED	1794
Long, J.R.	INOR	1460	Lopez, S.	GEOC	261	Louis, L.	CHED	2093
Long, J.R.	INOR	1474	Lopez, S.A.	COMP	436	Loukianov, A.	ANYL	30
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Long, J.R.	PHYS	245	Lopez-Barron, C.R.	PMSE	95	Lourdin, D.	CELL	356
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Long, J.W.	ANYL	179	Lopez-Linares, F.A.	ENFL	2	Love, B.	ENVR	855
Long, J.W.	ANYL	343	Lopez-Linares, F.A.	ENFL	42	Love, C.	CHED	1549
Long, J.W.	ANYL	183	Lopez-Linares, F.A.	ENFL	43	Love, J.C.	BIOT	5
Long, J.W.	ANYL	316	Lopez-Linares, F.A.	ENFL	155	Love, J.C.	BIOT	78
Long, J.W.	I&EC	80	Lopez-Linares, F.A.	ENFL	357	Love, J.C.	BIOT	156
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Long, N.J.	INOR	557	Lopez-Linares, F.A.	ENFL	454	Love, J.J.	BIOT	527
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Long, R.	CHED	1700	López-Mejías, V.	MEDI	210	Love, K.R.	BIOT	156
Long, R.	CHED	1736	Lopez-Nieto, J.M.	CATL	154	Love, N.	ENVR	569
Long, T.E.	PMSE	583	Lopez-Nieto, J.M.	CATL	434	Loveland, W.	NUCL	1
Long, T.E.	POLY	248	Lopez-Perez, K.A.	CHED	1854	Loveless, C.S.	NUCL	124
Long, T.R.	POLY	526	Lopez-Perez, W.	CHED	1829	Lovely, C.J.	ORGN	656

Lovenberg, T.W.	MEDI	461	Lu, Q.	CHED	612	Luesse, S.	ORGN	509
Loveridge, J.	ENFL	404	Lü, Q.	CATL	289	Luesse, S.	ORGN	510
Lovering, F.E.	CINF	82	Lu, R.	CATL	620	Luethi, H.P.	FLUO	21
Lovett, J.	POLY	601	Lu, R.	CATL	481	Luettggen, J.	MEDI	18
Lovett, J.	POLY	606	Lu, S.	INOR	873	Luft, J.C.	PMSE	550
Lovikka, V.	CELL	222	Lu, W.	ANYL	463	Luftman, H.	COLL	748
Loving, K.	COMP	112	Lu, W.	POLY	9	Lugan, N.	CHED	1066
Lovrić, M.	ENVR	222	Lu, W.	AGFD	231	Lugão, A.B.	CELL	91
Lovrinic, S.	PHYS	347	Lu, X.	AGFD	35	Luginbuhl, K.M.	PMSE	100
Low, J.	CATL	14	Lu, X.	AGFD	243	Lugo, E.	AGFD	152
Low, J.	ORGN	680	Lu, X.	ENVR	414	Lugo, J.	COLL	286
Lowary, T.L.	CARB	13	Lu, X.	ENVR	687	Lugo-Mas, P.	INOR	145
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Lowe, A.J.	ANYL	358	Lu, X.	COLL	736	Luhrs, A.	INOR	480
Lowe, C.	PMSE	584	Lu, X.	PMSE	29	Lui, M.	INOR	1312
Lowe, D.M.	CINF	105	Lu, X.	PMSE	511	Luikart, S.	CATL	530
Lowe, D.M.	CINF	106	Lu, X.	POLY	145	Luis Barrera, J.	ORGN	330
Lowe, D.M.	CINF	108	Lu, X.	POLY	478	Luis-Barrera, J.	CATL	470
Lowe, J.	CHED	520	Lu, Y.	MEDI	382	Luiz Genesi, G.L.	CHED	323
Lowe, L.E.	ANYL	194	Lu, Y.	INOR	179	Luiz Genesi, G.L.	MEDI	424
Lowe, L.E.	ENVR	761	Lu, Y.	INOR	616	Lukan, T.	BIOT	415
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Lowry, G.	CINF	121	Lu, Y.	CATL	140	Luke, A.M.	INOR	262
Lowry, G.	ENVR	218	Lu, Y.	CATL	524	Luke, A.M.	INOR	266
Lowry, G.	ENVR	580	Lu, Y.	PHYS	293	Luke, A.M.	INOR	1465
Lowry, G.	ENVR	964	Lu, Z.	INOR	607	Luke, G.	INOR	644
Loyo, C.	CELL	142	Lu, Z.	INOR	867	Lukens, W.W.	NUCL	43
Loyola, A.	CINF	54	Lu, Z.	INOR	1286	Lukens, W.W.	NUCL	93
Loyola, A.	CINF	130	Lu, Z.	INOR	1291	Lukinavicius, G.	ORGN	17
Loza, S.	INOR	748	Lu, Z.	CINF	105	Lukowski, A.	CHED	2102
Lozachmeur, M.	CELL	57	Luan, J.	ENVR	583	Luksic, M.	PHYS	484
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Lozancich, M.	CHED	768	Lubbers, L.	MEDI	309	Lum, W.	COLL	824
Lozano, E.	COLL	538	Luber, E.	INOR	535	Lumetta, G.J.	INOR	1481
Lozowski, S.	CHED	1140	Lubitz, W.	INOR	189	Lumetta, G.J.	NUCL	102
Lozoya, E.	MEDI	220	Lubitz, W.	INOR	769	Lumetta, G.J.	NUCL	112
Lu, A.	BIOT	78	Lubkowsk, J.	BIOT	333	Lumley, L.	ANYL	190
Lu, A.	COLL	412	Lucas, D.	ENVR	384	Luna Aguero, M.	ENVR	180
Lu, A.	PMSE	178	Lucas, G.J.	INOR	1478	Luna, D.	AGFD	211
Lu, C.	BIOL	144	Lucas, S.	CHED	206	Luna, R.	ENVR	659
Lu, C.	COLL	165	Lucchini, J.	ENVR	744	Lund, M.	CELL	516
Lu, C.	ENFL	271	Lucero, R.M.	BIOL	212	Lund, R.	COLL	84
Lu, C.	INOR	530	Luchetta, J.	CHED	478	Lundeen, J.A.	INOR	227
Lu, C.	INOR	1497	Luchkin, S.	ANYL	6	Lundell, D.	MEDI	248
Lu, F.	CELL	252	Lucht, B.L.	ANYL	36	Lundell, F.	CELL	430
Lu, F.	CHED	37	Lucia, L.A.	CHED	2088	Lundgren, M.	BIOT	75
Lu, G.	PHYS	316	Lucia, T.	INOR	233	Lundgren, M.	BIOT	363
Lu, G.	CATL	339	Lucid, A.K.	YCC	17	Lundholm, I.	PHYS	128
Lu, H.	ENFL	313	Lucid, A.K.	COMP	522	Lundin, J.	CATL	12
Lu, H.	INOR	688	Lucid, A.K.	INOR	789	Lundin, J.	CATL	60
Lu, H.	INOR	1559	Lucid, A.K.	INOR	1007	Lundin, J.	COLL	237
Lu, H.	INOR	1560	Lucisano, S.	POLY	452	Lundin, J.	COLL	835
Lu, H.	PMSE	673	Lucisano, S.	POLY	476	Lundin, J.	PMSE	694
Lu, H.	ANYL	156	Lucius, M.	BIOT	220	Lundin, J.	POLY	43
Lu, H.	BIOT	403	Lucius, M.	CHED	757	Lundin, J.	POLY	412
Lu, H.	CATL	367	Luck, T.	CHED	459	Lundin, M.	CATL	199
Lu, J.	PMSE	115	Luckey, M.	NUCL	48	Lundin, P.M.	CHED	2172
Lu, J.	PMSE	493	LuCore, S.D.	COMP	393	Lundin, P.M.	CHED	2173
Lu, J.	CATL	379	Lucy, C.	COMP	296	Lundin, V.	BIOT	132
Lu, J.	ENFL	209	Ludewick, G.	CHED	604	Lundstrom, F.	BIOT	217
Lu, J.	MEDI	377	Ludlow, F.	COMP	101	Lundström, M.	CELL	205
Lu, J.	COLL	546	Ludvík, J.	FLUO	5	Luning Prak, D.J.	CHED	927
Lu, J.	ENFL	151	Ludviková, L.	ENVR	527	Luning Prak, D.J.	CHED	1691
Lu, J.	CATL	481	Ludwig, C.	MEDI	132	Lunkenbein, T.	ENFL	95
Lu, J.	ENVR	483	Ludwig, H.	GEOC	227	Lunn, D.	PMSE	429
Lu, J.	CATL	215	Ludwig, J.	ORGN	95	Lunsford, A.M.	INOR	1324
Lu, J.	BIOT	573	Ludwig, J.	INOR	714	Lunsford, A.R.	CHED	232
Lu, J.	ENVR	168	Ludwig, J.	INOR	1237	Lunsford, S.K.	SOCED	4
Lu, L.	ENVR	529	Luebke, D.	ENFL	83	Luntz, A.C.	CATL	73
Lu, L.	CATL	85	Luebking, J.	INOR	1301	Luo, B.	MEDI	309
Lu, L.	INOR	693	Lueckheide, M.J.	COLL	733	Luo, F.	INOR	442
Lu, M.	BIOT	428	Luedeman, L.	POLY	513	Luo, F.	POLY	75
Lu, M.	POLY	482	Luengo, G.S.	COLL	157	Luo, G.	MEDI	51
Lu, M.	ENVR	592	Luengo, G.S.	COLL	672	Luo, G.	COLL	431
Lu, M.	BIOL	332	Luengo, G.S.	COLL	673	Luo, G.	ORGN	798
Lu, N.	COLL	241	Luers, M.	ENVR	126	Luo, H.	BIOT	619
Lu, P.	INOR	1149	Luesse, S.	CHED	1422	Luo, H.	CATL	151
Lu, Q.	CATL	68	Luesse, S.	CHED	1517	Luo, H.	CATL	587

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Luo, H.	COLL	88	Lutz, M.	MEDI	264	Lyubinetsky, I.	CATL	143
Luo, H.	COLL	726	Luxenhofer, R.	COLL	775	M'rah, Z.	CHED	581
Luo, H.	I&EC	12	Luxford, C.J.	CHED	69	Ma, A.	MEDI	23
Luo, H.	I&EC	17	Luxford, C.J.	CHED	154	Ma, B.	ENVR	95
Luo, H.	INOR	1133	Luxford, C.J.	CHED	1894	Ma, B.	GEOC	317
Luo, J.	POLY	21	Luxton, T.	ENVR	313	Ma, B.	COMP	489
Luo, J.	ENFL	368	Luzar, A.	PHYS	233	Ma, C.	ENFL	36
Luo, J.	BIOL	199	Luzinov, I.A.	PMSE	456	Ma, C.	COLL	542
Luo, J.	COLL	144	Luz-Madrigal, A.	BIOL	162	Ma, C.	ANYL	459
Luo, J.	CELL	223	Luzzio, F.A.	MEDI	486	Ma, C.	INOR	1027
Luo, K.	AGFD	55	Luzzio, F.A.	ORGN	742	Ma, C.	PMSE	404
Luo, L.	GEOC	174	Luzzio, M.	MEDI	366	Ma, D.	COMP	379
Luo, L.	ANYL	376	Lv, B.	INOR	983	Ma, E.S.	MEDI	213
Luo, L.	INOR	1169	Lv, B.	INOR	985	Ma, F.	BIOT	3
Luo, L.	PMSE	126	Lv, D.	ENFL	415	Ma, G.	ANYL	164
Luo, M.	COMP	310	Lv, H.	BIOT	298	Ma, H.	AGFD	4
Luo, M.	MEDI	23	Lv, H.	CHED	828	Ma, H.	AGFD	6
Luo, M.	MEDI	359	Lv, H.	PHYS	49	Ma, H.	AGFD	19
Luo, N.	CATL	589	Lv, J.	ANYL	116	Ma, H.	AGFD	23
Luo, P.	ENVR	240	Lv, J.	ENVR	965	Ma, H.	AGFD	106
Luo, P.	POLY	86	Lv, L.	BIOL	210	Ma, H.	AGFD	247
Luo, P.	POLY	115	Lv, L.	BIOT	375	Ma, H.	ENVR	1029
Luo, P.	POLY	429	Lv, L.	MEDI	484	Ma, H.	ENVR	390
Luo, P.	POLY	618	Lvy, D.	INOR	795	Ma, J.	ENVR	1028
Luo, R.	ORGN	292	Lwin, S.	CATL	94	Ma, J.	ENVR	827
Luo, S.	POLY	407	Ly, H.	BIOT	416	Ma, J.	ENFL	420
Luo, W.	CATL	192	Ly, H.	CATL	324	Ma, J.	CATL	481
Luo, Y.	ANYL	482	Ly, H.	ENFL	179	Ma, J.	ENVR	14
Luo, Y.	PHYS	477	Ly, R.	CHED	110	Ma, J.	ENVR	89
Luo, Y.	POLY	356	Lyda, B.	CHED	654	Ma, J.	ENVR	170
Luo, Y.	POLY	58	Lyding, J.	INOR	1201	Ma, J.	ENVR	173
Luo, Y.	ENVR	870	Lygeris, N.	CHED	1826	Ma, J.	ENVR	409
Luo, Y.	ENVR	871	Lykhin, A.O.	COMP	457	Ma, J.	ENVR	414
Luo, Y.	ENVR	975	Lykhin, A.O.	PHYS	408	Ma, J.	ENVR	485
Luo, Z.	COLL	313	Lyle, S.J.	POLY	596	Ma, J.	ENVR	490
Luo, Z.	BIOT	491	Lyles, J.	COLL	379	Ma, J.	ENVR	646
Luo, Z.	ORGN	476	Lynch, B.B.	COLL	863	Ma, J.	ENVR	688
Luong, C.	CHED	1036	Lynch, B.	ENVR	243	Ma, J.	BIOT	591
Luong, D.	CHED	1699	Lynch, D.D.	INOR	743	Ma, K.	CATL	266
Luong, D.	COLL	739	Lynch, J.J.	MEDI	11	Ma, L.	ENVR	983
Luong, T.	BIOT	207	Lynch, K.	INOR	928	Ma, L.	GEOC	140
Lupercio, L.	CHED	1787	Lynch, M.	BIOT	30	Ma, L.	GEOC	203
Lupercio, S.	PHYS	525	Lynch, M.	BIOT	67	Ma, L.	INOR	1105
Lupi, L.	GEOC	326	Lynch, M.	BIOT	199	Ma, L.	AGFD	35
Lupica, J.A.	CHED	243	Lynch, M.	BIOT	463	Ma, L.	AGFD	35
Lupo, K.	COLL	795	Lynch, M.	BIOT	552	Ma, L.	ENFL	418
Lupo, K.	INOR	817	Lynch, M.	BIOT	605	Ma, M.	CHED	445
Lupse, C.	CHED	959	Lynch, M.	BIOT	667	Ma, M.	CELL	13
Luptak, A.	BIOL	41	Lynch, M.	BIOT	672	Ma, M.	CELL	137
Lupton, H.	CHED	1777	Lynch, V.	INOR	258	Ma, M.	PMSE	185
Luscombe, C.K.	POLY	334	Lynch, V.	INOR	617	Ma, M.	CHED	1609
Lushi, L.	ENVR	175	Lynch, V.	INOR	1327	Ma, P.	ENFL	311
Lushi, L.	ENVR	655	Lynd, L.R.	BIOT	589	Ma, P.X.	PMSE	359
Lussier, D.	INOR	967	Lynd, N.	PMSE	319	Ma, R.	ENFL	24
Lustig, S.	PMSE	273	Lynd, N.	POLY	219	Ma, R.	ENFL	191
Lustig, W.P.	INOR	172	Lynd, N.A.	PMSE	261	Ma, R.	ENFL	344
Lustig, W.P.	INOR	1407	Lynd, N.A.	POLY	139	Ma, R.	ORGN	249
Luta, E.	CHED	942	Lynd, N.A.	POLY	277	Ma, R.	CELL	133
Lute, S.	BIOT	285	Lynde, B.E.	ORGN	814	Ma, S.	ENFL	397
Lute, S.	BIOT	362	Lyngsø, J.	COLL	701	Ma, S.	INOR	173
Luterbacher, J.S.	I&EC	30	Lynn, D.G.	PMSE	153	Ma, S.	AGFD	258
Luther, J.	ENFL	265	Lynn, D.M.	BIOL	257	Ma, S.	MEDI	341
Luther, J.	INOR	483	Lynn, D.M.	COLL	862	Ma, T.	CATL	352
Luther, S.	BIOT	662	Lynn, G.	PMSE	633	Ma, T.	CATL	353
Luthey-Schulten, Z.	COMP	114	Lyons, A.	ANYL	479	Ma, T.	ENVR	921
Luthi, A.J.	BIOT	511	Lyons, J.	ENVR	570	Ma, W.	PMSE	502
Luthman, K.	MEDI	446	Lyons, L.J.	CHED	1720	Ma, W.	ENVR	999
Luthy, R.G.	ENVR	178	Lyons, L.J.	INOR	904	Ma, W.	PMSE	237
Lutkenhaus, J.	PMSE	502	Lyons, L.J.	INOR	917	Ma, X.	ENVR	326
Lutkenhaus, J.L.	ENFL	119	Lyons, R.A.	ENVR	560	Ma, X.	CATL	43
Lutkenhaus, J.L.	POLY	431	Lyons, S.E.	CPRC	6	Ma, X.	CATL	140
Lutkus, L.	INOR	877	Lyons, T.	CHED	1081	Ma, X.	CATL	524
Lutter, J.C.	INOR	293	Lyssikatos, J.P.	MEDI	15	Ma, X.	PHYS	358
Lutter, J.C.	INOR	1265	Lytle, J.C.	ANYL	183	Ma, X.	ENFL	24
Lutterman, D.A.	PHYS	549	Lytle, J.C.	ANYL	316	Ma, X.	INOR	1574
Lutz, C.	CHED	307	Lytte, T.K.	COLL	34	Ma, X.	BIOL	58
Lutz, D.M.	CHED	1477	Lyu, A.	CELL	243	Ma, X.	CATL	638
Lutz, H.	BIOT	82	Lyu, H.	ENVR	374	Ma, X.	ENFL	97
Lutz, H.	BIOT	680	Lyu, X.	COLL	807	Ma, X.	ENVR	148
Lutz, J.	POLY	209	Lyubinetsky, I.	CATL	61	Ma, X.	ENVR	7

Ma, X.	ENVR	1034	MacKay, J.A.	PMSE	198	Maglinao, R.	CATL	401
Ma, X.	PMSE	537	MacKenzie, J.	CELL	82	Magnuson, G.	MEDI	321
Ma, Y.	PHYS	355	Mackessy, S.	BIOL	207	Magnuson, J.K.	BIOT	138
Ma, Y.	POLY	445	Mackey, D.	AGFD	263	Magnuson, M.	CHED	1579
Ma, Y.	COLL	513	Mackey, M.D.	COMP	292	Magnuson, Z.L.	CHED	110
Ma, Y.	CELL	293	Mackey, M.D.	COMP	497	Magnusson, L.	BIOT	97
Ma, Y.	ANYL	276	Mackey, M.D.	COMP	579	Magnusson, R.	ANYL	259
Ma, Y.	PHYS	382	Mackey, M.D.	MEDI	135	Magonov, S.	COLL	834
Ma, Y.	PHYS	549	Mackie, A.	ENVR	514	Magrini, K.A.	ENFL	288
Ma, Y.	AGFD	157	Mackie, B.	MEDI	222	Magrini, K.A.	ENFL	289
Ma, Z.	MEDI	36	Mackie, K.E.	COLL	152	Magrini, K.A.	ENFL	290
Ma, Z.	MEDI	237	Mackiewicz, M.	COLL	562	Magrini, K.A.	ENFL	291
Ma, Z.	PHYS	378	Mackiewicz, M.R.	COLL	203	Magrini, K.A.	ENFL	424
Ma, Z.	COMP	520	Mackiewicz, M.R.	COLL	332	Magsumbol, A.S.	CHED	1718
Ma, Z.	COMP	543	Mackley, S.	CHED	1039	Maguire, B.	MEDI	340
Maalouf, J.H.	ENFL	110	Mackus, A.	CATL	560	Maguire, R.	MEDI	406
Maan, A.	NUCL	142	Maclachlan, J.L.	ANYL	14	Maguire, R.	MEDI	73
Maassen, S.	PMSE	152	Maclachlan, J.L.	PROF	56	Magurudeniya, H.D.	INOR	1279
Maat, J.	COMP	251	Maclachlan, J.L.	SCHB	1	Magyar, J.S.	INOR	920
Maat, J.	PHYS	501	Maclachlan, J.L.	SCHB	8	Mah, R.	MEDI	353
Mabe, K.	INOR	1570	Maclaughlin, S.	COLL	821	Mahaffey, C.	CHED	350
Mabire, A.B.	POLY	378	MacLeod, J.	COLL	408	Mahaffy, P.G.	CHED	6
Mabire, A.B.	POLY	550	MacManus-Spencer, L.	ENVR	518	Mahaffy, P.G.	CHED	1898
Mable, C.	POLY	606	MacManus-Spencer, L.	ENVR	828	Mahaffy, P.G.	ENVR	468
Mabon, R.	CELL	214	MacManus-Spencer, L.	ENVR	880	Mahajan, E.	BIOT	639
Maboudian, R.	GEOC	321	MacMillan, D.W.	ORGN	155	Mahajan, L.H.	POLY	339
Mabrouk, P.A.	CINF	91	MacMillan, D.W.	ORGN	900	Mahajani, N.S.	MEDI	477
Mabrouk, S.T.	CHED	832	MacMillan, S.N.	INOR	1214	Mahal, L.K.	CARB	6
Mabry, J.M.	CELL	26	MacNevin, C.J.	BIOL	228	Mahanthappa, M.K.	PMSE	616
Mabry, J.M.	POLY	22	Macor, J.E.	MEDI	315	Maharaj, R.	CHED	1261
Mabry, J.M.	POLY	404	Macri, R.V.	CHED	1446	Maharaj, R.	CHED	1887
Mabry, J.M.	POLY	543	Madadkar, P.	BIOT	568	Mahboub, M.	INOR	919
Mac, R.	CHED	1542	Madaras, S.	BIOT	692	Mahdavi, A.	INOR	998
Macalady, J.	GEOC	124	Madder, A.	PMSE	203	Mahendra, S.	ENVR	463
Macalady, J.L.	GEOC	104	Maddox, M.P.	CHED	1579	Mahendran, A.	ORGN	548
Macalush, B.	CHED	1139	Maddox, T.	MEDI	186	Maher, K.	GEOC	142
Macalush, B.	CHED	1820	Madduma Arachchilage, M.	POLY	341	Maher, K.	GEOC	170
Macaranas, J.A.	INOR	266	Maddumapatabandi, T.D.	CATL	20	Maher, K.	GEOC	262
Macazo, F.	ANYL	423	Maddux, B.L.	INOR	456	Maher, K.	NUCL	25
Maccari, F.L.	BIOT	269	Madeen, E.	ANYL	52	Maher, K.	ENVR	223
Macchioni, A.	CHED	1159	Madej, B.	COMP	545	Maher, K.	GEOC	141
Macchioni, A.	INOR	1278	Madej, B.D.	COMP	547	Maher, M.	CHED	418
Macchioni, A.	PMSE	125	Madewell, M.D.	CHED	1877	Maher, M.	MEDI	461
Macchioni, A.	PMSE	173	Madhavachary, R.	MEDI	9	Maher, M.	CHED	191
Macdonald, F.V.	CHED	262	Madhi, S.	ORGN	157	Maher, M.J.	PMSE	679
MacDonald, G.	CHED	2144	Madinya, J.	COLL	34	Maher, M.J.	POLY	199
MacDonald, G.	COLL	129	Madison, A.	ENVR	463	Mahfouz, N.	ENVR	507
Macdonald, J.	COLL	283	Madison, T.	CHED	2168	Mahle, J.	INOR	1375
MacDonald, J.P.	ORGN	129	Madix, R.J.	CATL	16	Mahler, A.	COLL	469
MacDonald, L.	GEOC	344	Madix, R.J.	CATL	92	Mahler, A.	COLL	292
Macdonald, P.M.	INOR	1118	Madl, D.	CHED	916	Mahler, B.J.	ENVR	551
MacDonald, S.J.	MEDI	56	Madrahimov, S.	PMSE	18	Mahler, B.J.	ENVR	898
MacDonald, S.J.	MEDI	118	Madsen, K.E.	INOR	515	Mahler, K.	CELL	526
MacDonald, S.J.	MEDI	362	Madsen, M.	PMSE	684	Mahmood, J.	PMSE	399
Macdonald, T.J.	ENFL	104	Madubashitha, P.	BIOL	205	Mahmood, J.	PMSE	685
MacFarlane, D.R.	BIOL	248	Madura, J.D.	COMP	376	Mahmood, S.	CELL	501
MacFarlane, D.R.	COMP	207	Maeda, K.	COMP	503	Mahmoud, J.	INOR	750
Mach, R.H.	MEDI	318	Maedler, S.	ENVR	347	Mahmoud, N.	MEDI	241
Mach, R.H.	ORGN	68	Maegley, K.	MEDI	350	Mahmoud, Z.E.	INOR	740
Machado, C.	POLY	182	Maehler, P.	CHED	459	Mahroof-Tahir, M.	INOR	740
Machala, M.	CATL	102	Maetzold, S.	ENVR	36	Mahurin, S.M.	I&E	112
Macharia, J.K.	ENVR	906	Maffeis, T.	ENVR	495	Mahurin, S.M.	PMSE	471
Machat, M.	POLY	399	Magallanes, E.	BIOL	140	Mahurin, S.M.	POLY	79
Machesky, J.	CHED	111	Magallanes, G.	ORGN	323	Mahurin, S.M.	POLY	305
Machesky, M.L.	GEOC	110	Magbitang, T.P.	PMSE	640	Mahvidi, S.	PHYS	487
Machesky, M.L.	GEOC	112	Magee, C.	COMP	249	Mai, Q.	POLY	54
Machesky, M.L.	GEOC	279	Magee, C.	COMP	250	Mai, T.	CHED	747
Machonkin, T.E.	INOR	243	Mager, J.	POLY	371	Mai, X.	ENVR	90
Machonkin, T.E.	INOR	248	Magers, D.H.	CHED	855	Maia de Oliveira, H.N.	ENVR	696
Macias Macías, K.Y.	GEOC	258	Magers, D.H.	CHED	857	Maia, J.	BIOT	683
Macias, J.	ENFL	20	Magers, D.H.	CHED	1572	Maichle-Mössmer, C.	INOR	1318
Macias, K.	GEOC	308	Maggiora, G.M.	COMP	544	Maichle-Mössmer, C.	INOR	1380
Macieja, A.	MEDI	173	Magid, A.	CINF	21	Maier, A.	BIOT	722
Maciel, J.R.	CELL	513	Magiera, K.M.	ORGN	145	Maier, J.	COLL	633
Maclsaac, C.	INOR	1517	Magill, L.L.	ORGN	568	Maier, M.L.	ENVR	713
Mack, E.T.	COMP	357	Maginn, E.	ENFL	37	Maier, R.	GEOC	83
Mack, H.	MEDI	11	Magiotta, A.	BIOL	207	Maier, R.	GEOC	106
Mack, K.A.	ORGN	342	Magiotta, A.	BIOL	265	Maier, R.A.	ENVR	625
Mack, K.A.	ORGN	449	Magistrato, A.	COMP	216	Maier, T.	ORGN	527
MacKay, A.	ENVR	660	Magistrato, A.	COMP	569	Maier, W.F.	CATL	465



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Maignan, J.R.	MEDI	452	Malaisree, M.	COMP	103	Mallya, A.N.	ENVR	234
Maillard, F.	INOR	1227	Malaisree, M.	COMP	347	Malmberg, C.E.	INOR	448
Mailoux, B.	GEOC	163	Malaker, S.	ANYL	285	Malmberg, J.	ORGN	83
Mailoux, B.J.	ANYL	23	Malalasekera, A.P.	INOR	1147	Malmberg, J.	ORGN	672
Mainz, V.V.	CINF	38	Malalasekera, A.P.	INOR	1526	Malmgren, M.	MEDI	17
Mainz, V.V.	HIST	13	Malalasekera, A.P.	MEDI	80	Malmstadt, N.	COLL	529
Maio, S.	CHED	1481	Malamakal, R.M.	PHYS	470	Malmsten, M.	COLL	318
Maio, S.	CHED	563	Malanowski, A.J.	COLL	113	Malmsten, M.	COLL	320
Maio, W.A.	ORGN	843	Malanowski, A.J.	COLL	158	Malmsten, M.	COLL	321
Maisuria, V.	AGFD	21	Malaska, M.J.	PHYS	567	Malmsten, M.	COLL	700
Maiti, D.	ORGN	267	Malayala, K.	MEDI	489	Malmstrom, E.E.	CELL	286
Maiti, D.	ORGN	365	Malcolm, J.	ORGN	244	Malmstrom, E.E.	CELL	376
Maiti, K.	ENVR	575	Maldonado, I.	MEDI	151	Malmstrom, R.	COMP	411
Maitra, A.	ENFL	163	Maldonado, I.	MEDI	466	Malo de Molina, P.	COLL	426
Maitra, K.	ORGN	819	Maldonado, M.	PMSE	542	Malo, M.	MEDI	446
Maitra, S.	MEDI	32	Maldonado, M.	MEDI	220	Malone, K.	CHED	1698
Maitra, S.	ORGN	819	Maldonado, P.	CHED	1863	Malone, K.	CHED	1703
Maitra, S.	ENFL	247	Maldonado, S.	ANYL	408	Maloney, A.G.	CHED	2007
Maity, A.	INOR	1303	Maldonado, S.	ENFL	418	Maloney, A.G.	CINF	145
Maity, T.K.	ORGN	553	Malecha, K.T.	PROF	21	Maloney, A.G.	CINF	169
Maiz, R.	AGFD	107	Maleczka, R.E.	ORGN	424	Maloney, E.K.	MEDI	474
Maizel, A.	ENVR	187	Malek, A.	I&EC	103	Maloney, E.M.	CHED	397
Majeed, M.H.	INOR	809	Malek, S.	MEDI	24	Maloney, K.	MEDI	112
Majerle, R.S.	ORGN	230	Malek-Adamian, E.	BIOL	166	Maloney, K.N.	AGFD	154
Majewska, N.	BIOT	633	Malekke, N.	ENVR	158	Maloney, K.N.	CHED	31
Majewski, P.	ENFL	211	Malekxhaat-Häffner, S.	COLL	321	Maloney, K.N.	CHED	397
Maji, A.	ORGN	267	Malekxhaat-Häffner, S.	COLL	700	Maloney, S.	CHED	340
Maji, A.	ORGN	365	Malerich, J.P.	ORGN	796	Maloney, T.C.	CELL	76
Maji, R.	ORGN	359	Malerich, J.P.	ORGN	797	Maloney, T.C.	CELL	222
Majireck, M.M.	CHED	1217	Malerich, J.P.	ORGN	883	Maloney, T.D.	ORGN	395
Majireck, M.M.	ORGN	136	Maletic, M.	MEDI	112	Malonzo, C.	INOR	208
Majireck, M.M.	ORGN	137	Maletic-Savatic, M.	BIOL	270	Malott, S.	ENVR	76
Major, M.L.	INOR	310	Malfatti, M.A.	COLL	683	Maltarollo, V.G.	MEDI	282
Majumdar, C.	BIOL	47	Malhotra, D.	ENFL	38	Maltarollo, V.G.	MEDI	424
Majumdar, D.	MEDI	305	Malhotra, D.	ENFL	76	Maltarollo, V.G.	CHED	323
Majumdar, P.	COMP	122	Malhotra, D.	ENFL	77	Malti, S.	CELL	475
Majumdar, P.S.	POLY	1	Malhotra, D.	ENFL	78	Mamajanov, I.	ANYL	375
Majumdar, P.S.	POLY	618	Malhotra, K.	ANYL	175	Mamaril, J.B.	CHED	622
Majumder, C.	COMP	556	Malhotra, S.	ORGN	701	Mamiya, A.A.	INOR	297
Majumder, P.	PMSE	291	Malhotra, S.V.	MEDI	39	Mammetkuliyeu, M.	PHYS	546
Majumder, S.	COLL	293	Malhotra, S.V.	MEDI	165	Mammoliti, O.	MEDI	347
Majumder, S.	COLL	600	Malhotra, S.V.	MEDI	298	Mamontov, E.	PHYS	384
Majumder, S.B.	ENFL	69	Mali, K.S.	COLL	559	Mamtani, K.	CATL	28
Majure, L.	POLY	514	Maligal Ganesh, R.	CATL	170	Mana, S.	NUCL	167
Majzik, Z.	PHYS	116	Maligal Ganesh, R.	CATL	606	Manaenkov, O.	ENFL	335
majzlan, J.	GEOC	357	Malik, C.K.	CHED	1635	Manahan, M.	BIOT	187
Majzoub, E.	INOR	1530	Malik, F.	CHED	890	Manandhar, P.	ORGN	870
Mak, C.H.	PHYS	461	Malins, L.	ORGN	212	Manandhar, P.	PMSE	73
Mak, W.H.	ENVR	866	Malins, L.	ORGN	451	Manandhar, R.	INOR	368
Mak, W.H.	INOR	52	Malinski, T.	CHED	1376	Manchanayakage, R.N.	CHED	1019
Mak, Y.	ENVR	922	Malinski, T.	ENVR	813	Manchanayakage, R.N.	CHED	1499
Makar, M.	BIOL	349	Malinski, T.	POLY	422	Manchanda, A.	CATL	320
Makarassen, A.	PMSE	355	Malinski, T.	POLY	427	Mancheski, L.	CHED	1491
Makaravage, K.J.	ORGN	232	Malischewski, M.	FLUO	9	Mancini, R.J.	PROF	29
Makaravage, K.J.	ORGN	367	Malkoch, M.	POLY	416	Mancini, S.	BIOT	669
Makarem, A.	CELL	275	Mall, U.	PHYS	192	Mandadapu, K.	PHYS	101
Makaremi, S.	PMSE	534	Mallah, T.	INOR	1265	Mandakhalikar, K.	PMSE	412
Mäkelä, V.	CELL	519	Mallardo, V.	CHED	1066	Mandal, D.	ENFL	235
Makeneni, S.	COMP	388	Mallavarapu, A.	PMSE	679	Mandal, M.	MEDI	229
Makeneni, S.	COMP	447	Mallavarapu, A.	POLY	199	Mandal, M.	INOR	264
Makhanov, M.	ANYL	186	Mallet, C.	ENVR	131	Mandal, M.	INOR	266
Makhlynets, O.	BIOL	95	Mallette, J.	ANYL	226	Mandal, M.	INOR	738
Makhlynets, O.V.	BIOT	286	Mallette, J.	ANYL	288	Mandal, M.	INOR	1465
Makhoul, R.	PHYS	242	Mallette, J.	ANYL	293	Mandal, S.K.	INOR	942
Maki, B.	CHED	1577	Malley, B.	CHED	546	Mandal, S.K.	INOR	943
Maki, B.	CHED	1581	Malley, P.	ENVR	599	Mandal, S.K.	INOR	944
Maki, B.	CHED	1584	Malliakas, C.	INOR	1105	Mandala, D.	ORGN	156
Maki, B.	CHED	1586	Malliakas, C.	INOR	1364	Mandel, K.	COLL	467
Mäki-Arvela, P.	ENFL	332	Mallikarathy, P.	BIOT	555	Mandel, K.	COLL	770
Makitalo, C.	ORGN	139	Mallireddigari, M.R.	MEDI	254	Mandel, K.	COLL	775
Makkapati, T.	CHED	705	Mallireddigari, M.R.	MEDI	255	Mandel, K.	COLL	847
Makkee, M.	ENFL	136	Malloci, G.	COMP	484	Mandella, B.	CHED	431
Makkee, M.	ENFL	201	Malloci, G.	COMP	500	Mandella, B.	CHED	460
Makoukji, J.	MEDI	122	Malloggi, F.	COLL	429	Mandella, B.	CHED	471
Makowski, L.	CELL	24	Mallon, P.	PMSE	74	Mandella, B.	CHED	709
Makowski, L.	CELL	192	Mallouk, T.	PHYS	473	Mandella, B.	CHED	1783
Makowski, L.	CELL	361	Mallouk, T.E.	CATL	70	Mandl, A.	CHED	1870
Malachowski, M.R.	CHED	2064	Mallouk, T.E.	CATL	219	Mandla, K.	INOR	1396
Malachowski, M.R.	YCC	1	Mallouk, T.E.	NUCL	88	Mane, A.	COLL	592
Malachowski, M.R.	YCC	2	Malloy, T.	ENVR	422	Mane, A.	PMSE	21

Manesis, A.	INOR	180	Mansker, B.	ORGN	745	Marco, S.	POLY	74
Maness, P.	BIOT	97	Mansley, T.	CINF	62	Marcon, V.	GEOC	166
Manetsch, R.	MEDI	452	Mansley, T.	CINF	70	Marcoux, D.	MEDI	339
Manfredi, M.	CHAS	32	Mansley, T.	CINF	165	Marcu, J.	CHAL	24
Mangadlao, J.	POLY	640	Mansley, T.	COMP	313	Marcu, J.	CHAS	6
Mangalara, J.	COMP	392	Mansoor, E.	CATL	292	Marcu, J.	CHAS	8
Mangalgiri, K.	ENVR	109	Mansour, A.N.	ANYL	1	Marcu, J.	CHAS	11
Mangalgiri, K.	ENVR	520	Mansour, N.	INOR	934	Marcu, J.	CHAS	19
Mangalgiri, K.	ENVR	719	Mansour, P.	CHED	1430	Marcu, J.	SCHB	17
Manger, L.	BIOT	171	Mansour, S.	MEDI	423	Marcus, A.H.	ANYL	297
Manger, L.	BIOT	477	Mansouri, K.	CHAS	39	Marder, S.R.	ANYL	164
Mangolini, F.	COLL	30	Mansouri, K.	CINF	49	Marder, S.R.	PMSE	293
Manhart, A.	POLY	493	Mansouri, K.	ENVR	651	Mardirossian, N.	COMP	7
Manhart, M.W.	ANYL	149	Mansouri, K.	ENVR	936	Mardis, K.	CHED	241
Mani, H.	COLL	367	Mansouri, K.	ENVR	1013	Marek, K.A.	CHED	186
Mani, S.	POLY	73	Mansueto, M.	MEDI	112	Marek, K.A.	CHED	2013
Maniar, M.	MEDI	254	Mansur, A.	BIOT	381	Marek, P.	BIOT	57
Manias, D.	BIOT	105	Mansur, A.A.	CELL	384	Marek, R.F.	ANYL	441
Manion, J.	PMSE	594	Mansur, H.S.	CELL	384	Marek, R.F.	ENVR	75
Manjavacas, A.	PHYS	315	Mansy, S.S.	COLL	276	Marell, D.	INOR	266
Manke, D.R.	CHED	215	Manteca, R.	CHED	1259	Marell, D.	INOR	738
Manke, D.R.	INOR	1543	Mantica, P.F.	NUCL	30	Marelli, E.	ORGN	65
Manker, L.	CATL	245	Mantione, D.	PMSE	302	Marelli, E.	ORGN	229
Mankoci, S.G.	CHED	1733	Mantripgada, B.	MEDI	34	Marepally, S.	MEDI	427
Manley, D.	ENVR	34	Mantz, Y.	COMP	558	Marette, A.	AGFD	24
Manley, P.	ENVR	163	Manubay, B.	COMP	528	Marfatia, R.	ORGN	122
Manley, R.G.	INOR	458	Manuel, J.D.	POLY	450	Marfil-Vega, R.	ENVR	52
Manlove, A.	BIOL	47	Manumpil, M.	INOR	710	Margenot, A.J.	ENVR	970
Manlove, A.	CHAS	49	Manuspija, H.	CARB	33	Margenot, A.J.	ENVR	1040
Manmuanpom, N.	COLL	345	Manvar, A.P.	BIOT	14	Margerum, L.D.	INOR	480
Mann, F.	CHED	332	Manyam, P.	PMSE	18	Margis, S.	CHED	1880
Mann, J.	ENFL	335	Manyar, H.	CATL	491	Margittai, M.	BIOT	171
Mann, S.A.	INOR	1048	Manz, B.	CHED	30	Margittai, M.	BIOT	477
Mann, S.A.	INOR	1153	Manzano, J.	INOR	1035	Margolin, W.	ORGN	16
Mann, S.A.	INOR	1577	Manzano, J.	INOR	1420	Margolis, H.	COLL	654
Mann, S.I.	INOR	1190	Manzo, E.	AGFD	117	Margrey, K.	ORGN	326
Manna, C.M.	INOR	500	Mao, A.	ENFL	131	Marguet, S.C.	INOR	180
Manna, K.	PMSE	686	Mao, J.	CELL	27	Margulis, K.	ANYL	229
Manna, K.	INOR	1229	Mao, J.	CELL	133	Margus, M.	ENVR	222
Manna, L.	ENFL	263	Mao, J.	CELL	319	Marianelli, A.	COLL	657
Manna, S.	MEDI	395	Mao, J.	CATL	252	Mariani, G.	POLY	576
Manner, L.	CHED	810	Mao, J.	COLL	387	Mariano, M.	CELL	311
Manners, I.	POLY	250	Mao, L.	MEDI	7	Mariappan Balasekaran, S.	NUCL	63
Mannikko, D.	PMSE	585	Mao, L.	MEDI	244	Maric, S.	COLL	700
Manning, D.	ORGN	819	Mao, L.	INOR	1105	Maric, S.	COLL	701
Manning, K.	POLY	514	Mao, S.	GEOC	174	Marin, T.W.	PHYS	394
Mannino, N.	INOR	1119	Mao, S.	ANYL	429	Marinakos, S.	ENVR	6
Mannodi-Kanakithodi, A.	PMSE	411	Mao, W.	INOR	1106	Marinas, B.J.	ENVR	503
Mannodi-Kanakithodi, A.	POLY	150	Mao, W.	INOR	1174	Marincin, K.	CHED	1667
Mannodi-Kanakithodi, A.	POLY	269	Mao, X.	GEOC	244	Marinescu, S.	INOR	72
Mano, J.F.	CELL	50	Mao, Y.	CELL	196	Marinescu, S.C.	INOR	46
Mano, J.F.	CELL	55	Mao, Z.	COLL	637	Marinescu, S.C.	INOR	123
Mano, J.F.	CELL	56	Mapa, S.	BIOL	275	Marinescu, S.C.	INOR	504
Mano, J.F.	CELL	459	Mapas, J.	POLY	340	Marinkovic, N.	PHYS	176
Manoharan, M.	BIOL	167	Mapp, A.K.	BIOL	305	Marino, A.M.	MEDI	339
Manono, J.	CHED	1704	Marafatto, F.	GEOC	6	Marino, J.P.	BIOT	36
Manono, J.	CHED	1738	Marafatto, F.	GEOC	92	Markelz, A.	PHYS	43
Manono, J.	CHED	1743	Marafatto, F.	GEOC	287	Markelz, A.	PHYS	127
Manono, J.M.	CHED	1731	Marafino, J.	ORGN	651	Markelz, A.	PHYS	167
Manor, B.	INOR	234	Marahatta, R.	CHED	541	Markevicius, G.	CELL	264
Manor, B.	INOR	598	Marais, A.	CELL	474	Markey, K.H.	ENVR	933
Manor, B.	INOR	1208	Maranas, C.	BIOT	65	Markle, T.	INOR	526
Manor, B.	NUCL	47	Maranas, C.	BIOT	201	Markley, A.L.	BIOT	155
Manpadi, M.	CHED	1005	Maranas, C.	BIOT	350	Markmann, M.	POLY	467
Manpadi, M.	CHED	1213	Maranas, C.	BIOT	437	Markmann, M.	POLY	469
Manpadi, M.	CHED	1225	Maranas, C.	BIOT	589	Markmann, M.	SOCED	2
Manpadi, M.	CHED	1221	Marburger, B.	CHED	1185	Markov, Y.	CHED	865
Manrique, J.	CELL	41	Marcano, M.C.	GEOC	159	Markova, M.	ENFL	111
Mansbach, R.A.	POLY	293	Marcano-Gonzalez, M.E.	INOR	1446	Markova, V.	CATL	522
Mansell, T.	BIOT	173	Marchand, C.	MEDI	231	Markovtsov, V.	MEDI	159
Mansell, T.J.	BIOT	96	Marchione, D.	PHYS	453	Marks, R.	CATL	144
Mansell, T.J.	BIOT	111	Marchon, D.	GEOC	225	Marks, R.	COLL	146
Mansergh, R.	INOR	445	Marciel, A.	COLL	733	Marks, R.	INOR	1319
Mansergh, R.H.	INOR	441	Marcinko, J.J.	CELL	266	Marks, T.J.	CATL	392
Mansfeld, F.	POLY	55	Marcischak, J.C.	POLY	404	Marks, T.J.	CATL	571
Mansfeldt, T.	GEOC	133	Marcisz, K.	COLL	562	Marks, T.J.	COLL	18
Mansfield, A.	CHED	128	Marco, D.	COLL	295	Marks, T.J.	COLL	546
Mansfield, A.	CHED	137	Marco, S.	PMSE	14	Marks, T.J.	INOR	569
Mansfield, K.	CARB	17	Marco, S.	PMSE	74	Marks, T.J.	INOR	1283
Mansha, M.	POLY	453	Marco, S.	PMSE	79	Marks, T.J.	PMSE	163

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Markstedt, K.	CELL	156	Marsico, J.M.	POLY	191	Martinez, E.Y.	INOR	19
Markstedt, K.	CELL	158	Marsiglio, D.	BIOT	721	Martinez, J.	INOR	780
Markstedt, K.	CELL	160	Marston, S.B.	MEDI	189	Martinez, J.	COLL	640
Markstedt, K.	CELL	298	Marszalek, T.	ORGN	779	Martinez, J.C.	ORGN	765
Marlett, M.	COMP	174	Martell, E.	AGFD	23	Martinez, K.	BIOL	214
Marley, R.L.	INOR	391	Martell, J.	ENFL	82	Martinez, K.	CHED	1763
Marlier, E.E.	INOR	266	Martell, J.	ENFL	304	Martinez, L.	CATL	102
Marlin, N.	ENVR	436	Marten, M.	BIOT	515	Martinez, M.	CHED	1780
Marlin, R.	CHED	814	Martin, M.	BIOT	585	Martinez, M.	CHED	702
Marlow, M.	COLL	55	Marti, E.	ENVR	102	Martinez, M.	CHED	743
Marmiroli, B.	ANYL	219	Martignetti, J.A.	COLL	268	Martinez, M.	MEDI	112
Marmolejos, J.	PHYS	231	Martignetti, J.A.	COLL	735	Martinez, M.R.	POLY	467
Marmolejos, J.	PHYS	364	Martin, A.	COLL	829	Martinez, M.R.	SOCEd	2
Marnocha, C.L.	GEOC	104	Martin, A.L.	CHED	196	Martinez, T.J.	COMP	15
Marolf, D.M.	INOR	372	Martin, B.	CHED	1576	Martinez, T.J.	COMP	90
Maron, L.	CATL	57	Martin, B.R.	BIOL	195	Martinez, T.J.	COMP	570
Maron, L.	INOR	562	Martin, C.	CHED	1060	Martinez, T.J.	PMSE	582
Maron, L.	INOR	1132	Martin, C.	CELL	341	Martinez, V.	ENFL	176
Maron, L.	INOR	1139	Martin, D.	CHED	427	Martinez-Abad, A.	CELL	432
Maron, L.	INOR	1243	Martin, D.J.	INOR	159	Martinez-Huelamo, M.	AGFD	124
Maron, L.	NUCL	64	Martin, E.	ENVR	644	Martinez-Jardines, L.	GEOC	263
Maroncelli, M.	PHYS	144	Martin, E.	ORGN	318	Martinez-Jardines, L.	GEOC	308
Maroncelli, M.	PHYS	146	Martin, E.J.	CINF	149	Martinez-Mercado, M.	CHED	1775
Maroney, M.J.	INOR	24	Martin, E.J.	COMP	180	Martinez-Montero, S.	BIOL	166
Maroney, M.J.	INOR	280	Martin, E.J.	COMP	499	Martinez-Peña, F.	INOR	747
Maroon, C.	POLY	78	Martin, E.J.	COMP	545	Martinez-Prieto, L.M.	COLL	841
Marotta, A.	COLL	259	Martin, E.J.	COMP	547	Martinez-Prieto, L.M.	INOR	211
Marozas, I.	BIOT	665	Martin, E.J.	MEDI	341	Martinez-Rodriguez, R.A.	ENFL	210
Marpu, S.B.	PROF	16	Martin, E.J.	MEDI	464	Martini, A.	COLL	28
Marquard, A.	CATL	525	Martin, H.	CHED	1028	Martini, A.	COLL	105
Marquard, A.	INOR	817	Martin, I.	INOR	847	Martini, I.B.	INOR	702
Marquart, G.W.	COLL	203	Martin, J.	BIOT	159	Martini, O.	CHED	255
Marques, B.F.	BIOT	641	Martin, J.A.	POLY	518	Martin-Martinez, F.	COMP	184
Marques, B.F.	BIOT	731	Martin, J.W.	GEOC	302	Martin-Martinez, F.	GEOC	222
Marques, P.	CELL	443	Martin, K.L.	PMSE	243	Martin-Matute, B.	ORGN	83
Marquez, C.	BIOT	410	Martin, L.	I&EC	90	Martin-Matute, B.	ORGN	672
Marqus, G.M.	INOR	936	Martin, L.	I&EC	92	Martinovic-Weigelt, D.	CHED	986
Marqusee, S.	BIOL	176	Martin, L.	I&EC	93	Martinovic-Weigelt, D.	CHED	987
Marqusee, S.	COMP	74	Martin, L.	I&EC	95	Martins, A.F.	INOR	1479
Marr, L.C.	ENVR	229	Martin, L.	ENVR	345	Martins, A.F.	MEDI	87
Marra, S.	COLL	633	Martin, L.M.	CHED	1185	Martinsen, D.	CINF	153
Marras, S.	ENFL	263	Martin, L.R.	I&EC	94	Martinská, V.	I&EC	111
Marrero-Silva, N.	CHED	430	Martin, M.C.	ANYL	278	Martinson, A.B.	ENFL	271
Marris, P.F.	COMP	339	Martin, M.C.	PMSE	193	Martinson, A.B.	INOR	200
Marrocchi, A.	ENFL	389	Martin, N.	AGFD	2	Martinson, A.B.	PHYS	14
Marron, D.	MEDI	96	Martin, P.	NUCL	157	Martinu, L.	COLL	756
Marron, E.	ENVR	722	Martin, R.	BIOL	30	Martir Ramirez, L.S.	CHED	1776
Marrucho, I.	COLL	737	Martin, R.	BIOT	633	Martirez, J.	CATL	73
Marrucho, I.	POLY	607	Martin, R.	BIOT	119	Martirez, J.	PHYS	317
Marrufo, K.	CHED	1872	Martin, R.L.	NUCL	22	Marts, A.R.	INOR	175
Marrujo, S.	CHED	1577	Martin, R.L.	NUCL	71	Martyna, G.J.	PHYS	189
Marry, A.	CHED	342	Martin, R.L.	NUCL	66	Maruf, S.H.	ENVR	751
Marsac, R.	ENVR	41	Martin, R.W.	BIOL	238	Marugan, J.J.	CINF	64
Marsac, R.	ENVR	919	Martin, R.W.	COLL	486	Marusak, K.	ENFL	316
Marschilok, A.C.	I&EC	62	Martin, S.	CHED	1169	Maruya, K.A.	ENVR	556
Marschilok, A.C.	PMSE	105	Martin, S.	ENVR	919	Maruya, K.A.	ENVR	570
Marsden, P.	CHED	231	Martin, S.	ENVR	672	Maruya, K.A.	ENVR	876
Marsden, P.	CHED	2170	Martin, S.F.	ORGN	337	Marvin, B.	GEOC	80
Marsden, S.P.	ORGN	23	Martin, S.S.	ANYL	310	Marvin, C.	MEDI	392
Marsh, A.L.	CHED	2131	Martin, T.	CHAS	39	Marvin, C.W.	INOR	667
Marsh, A.L.	CHED	2155	Martin, T.	ENVR	931	Marvin-DiPasquale, M.	ENVR	768
Marsh, C.M.	ANYL	358	Martin, T.R.	POLY	334	Marvin-DiPasquale, M.	ENVR	770
Marsh, K.	COMP	226	Martin, W.	ANYL	472	Marvinney, E.	AGFD	190
Marsh, M.L.	NUCL	105	Martin, W.	ORGN	63	Marway, H.S.	CELL	204
Marsh, M.L.	NUCL	132	Martin, W.	POLY	369	Marway, H.S.	CELL	477
Marsh, T.C.	CHED	673	Martin, Y.C.	COMP	227	Marx, A.	MEDI	16
Marshak, M.P.	INOR	1542	Martina, S.	MEDI	347	Marx, B.	ENVR	598
Marshall, A.	ENFL	265	Martin-Culet, K.R.	CHED	920	Marx, J.M.	INOR	879
Marshall, A.	INOR	483	Martin-Diaconescu, V.	INOR	151	Mary, C.	ANYL	182
Marshall, A.G.	ENFL	151	Martinelli, L.	NUCL	114	Maryanoff, B.E.	ORGN	691
Marshall, C.W.	GEOC	182	Martinet, K.	CHED	1885	Marzaroli, V.	INOR	324
Marshall, J.	BIOT	566	Martinez de Salinas Uzquiza, S.	INOR	416	Marzluff, E.M.	CHED	636
Marshall, J.	CHED	1370	Martinez de Salinas Uzquiza, S.	ORGN	311	Masamitsu, K.	POLY	420
Marshall, J.	CHED	2172	Martinez, A.	CATL	248	Mas-Balleste, R.	CATL	470
Marshall, J.	ORGN	38	Martinez, A.	ENVR	459	Mas-Balleste, R.	ORGN	73
Marshall, J.	CHED	1405	Martinez, A.	ENVR	824	Mas-Balleste, R.	ORGN	330
Marshall, S.	CHED	529	Martinez, A.	ENVR	992	Mascal, M.	CATL	155
Marshall, S.	ORGN	608	Martinez, B.	COLL	565	Mascal, M.	ENFL	107
Marshall, T.	INOR	953	Martinez, B.L.	CHED	615	Mascarena, J.L.	ORGN	496
Marshburn, R.L.	CHED	637	Martinez, D.A.	INOR	1468	Mascavage, L.M.	CHED	1113

Mascharak, P.	BIOT	458	Matar Abed, M.	CHED	1168	Matsushita, Y.	AGFD	161
Mascharak, P.	INOR	1253	Matar Abed, M.	IAC	5	Matsushita, Y.	CELL	462
Masciocchi, N.	INOR	1505	Matarlo, J.	BIOL	88	Matsuura, A.	COMP	287
Maseras, F.	INOR	1156	Matchett, M.	MEDI	51	Matsuura, A.	COMP	329
Maseras, F.	ORGN	286	Matchett, M.	MEDI	52	Matsuzawa, K.	POLY	114
Mashek, D.	CHED	585	Mate, C.M.	COLL	581	Matsuzawa, K.	POLY	300
Mashhadi, N.	ENVR	151	Matera, K.M.	CHED	531	Matta, C.F.	COMP	580
Mashima, K.	INOR	1184	Matera, K.M.	CHED	532	Mattern, M.	MEDI	14
Mashima, K.	ORGN	40	Matera, K.M.	CHED	608	Mattes, T.	ENVR	459
Mashima, K.	ORGN	79	Matera, K.M.	CHED	641	Matteucci, S.	INOR	1570
Mashood, K.	CHED	2016	Materer, N.F.	COLL	716	Matthews, E.	NUCL	18
Mashuta, M.S.	INOR	338	Materer, N.F.	SCHB	11	Matthews, J.R.	PMSE	62
Masiello, D.	PHYS	207	Mates, J.	POLY	504	Matthews, J.R.	PMSE	413
Masiello, D.J.	PROF	6	Mathabathe, K.	CHED	2074	Matthews, K.	CHAL	17
Masino, B.	ORGN	604	Mathers, R.T.	CINF	23	Matthews, M.	BIOL	46
Masion, A.	ANYL	448	Mathes, T.	PHYS	84	Matthews, R.	ORGN	585
Masion, A.	CHAS	40	Matheu, I.	MEDI	430	Matthews, R.	PMSE	427
Masion, A.	ENVR	310	Matheu, I.	ORGN	912	Matthias, J.	ORGN	17
Masion, A.	ENVR	493	Mathew, A.	CELL	30	Matthiesen, J.E.	CATL	158
Masion, A.	ENVR	549	Mathew, A.	CELL	342	Matti, A.	CHED	1966
Masion, A.	ENVR	1041	Mathew, A.	CELL	386	Matti, A.	ENVR	289
Maskas, D.	BIOT	387	Mathew, A.	ENVR	411	Mattila, O.	CELL	76
Maskey, S.	CHED	1691	Mathew, A.S.	INOR	1002	Mattinen, M.	CELL	373
Mason, A.	INOR	838	Mathew, D.	CHED	114	Mattioda, A.	CHED	316
Mason, A.	INOR	840	Mathew, R.	AGFD	191	Mattioda, A.	PHYS	288
Mason, A.	BIOT	637	Mathew, T.	ORGN	96	Mattison, K.W.	BIOT	170
Mason, B.	ORGN	819	Mathew, T.	ORGN	143	Mattoso, L.H.	CELL	95
Mason, D.	CHED	1329	Mathew, T.	ORGN	144	Mattoso, L.H.	CELL	47
Mason, H.	ENFL	30	Mathews, N.	CATL	430	Mattoussi, H.M.	COLL	40
Mason, H.	GEOC	47	Mathewson, N.	INOR	317	Mattoussi, H.M.	COLL	445
Mason, J.	INOR	240	Mathies, R.A.	PHYS	212	Mattson, E.	INOR	1514
Mason, J.A.	ENFL	82	Mathieson, J.	INOR	708	Mattsson, A.	BIOT	560
Mason, J.A.	ENFL	409	Mathieu, C.	CELL	128	Matubayasi, N.	COMP	345
Mason, J.A.	INOR	1175	Mathieu, S.	MEDI	366	Matula, A.	PHYS	176
Mason, J.A.	INOR	1222	Mathieu, S.	MEDI	464	Matus-Meza, A.S.	MEDI	46
Mason, J.A.	INOR	1223	Mathiowetz, A.	COMP	63	Matveeva, V.	ENFL	332
Mason, J.A.	INOR	1417	Mathis, C.H.	PMSE	535	Matveeva, V.	ENFL	335
Mason, J.A.	INOR	1505	Mathis, M.	ORGN	460	Matyjaszewski, K.	COLL	670
Mason, J.M.	INOR	237	Mathison, B.	CHED	29	Matyjaszewski, K.	COLL	746
Mason, N.J.	PHYS	327	Mathivathanan, L.	INOR	1440	Matyjaszewski, K.	INOR	682
Mason, S.E.	GEOC	209	Mathivathanan, L.	NUCL	138	Matyjaszewski, K.	PMSE	50
Mason, S.E.	INOR	1266	Mathur, A.	CHED	1966	Matyjaszewski, K.	PMSE	171
Mason, T.G.	COLL	71	Mathur, A.	CHED	2162	Matyjaszewski, K.	PMSE	307
Masoumi, A.	BIOT	390	Mathur, A.	MEDI	18	Matyjaszewski, K.	POLY	211
Masoumi, A.	CATL	235	Mathur, A.	MEDI	339	Matyjaszewski, K.	POLY	211
Masoumi, A.	I&EC	10	Mathur, A.	MEDI	349	Matyska, M.	ANYL	8
Masoumi, S.	GEOC	323	Mato, J.	COMP	576	Matyska, M.	ANYL	140
Massaro, G.	CHED	1164	Mato, J.	PHYS	302	Matyska, M.	ANYL	141
Massaro, G.	IAC	4	Matos, M.P.	ANYL	356	Matyska, M.	ANYL	186
Massas Le'Cleres, T.	CHED	1863	Matra, C.	INOR	790	Matyushov, D.V.	PHYS	283
Massas Le'Cleres, T.	COLL	296	Matschei, T.	GEOC	224	Matz, R.	CHED	2016
Masse, C.	COMP	19	Matsika, S.	PHYS	45	Matzeu, G.	ANYL	483
Massena, C.	ORGN	469	Matsika, S.	PHYS	465	Mauban, R.C.	PHYS	427
Massey, J.	CHED	1882	Matsnev, A.V.	FLUO	15	Mauck, C.M.	INOR	780
Massey, J.M.	CHED	1279	Matsnev, A.V.	FLUO	16	Mauger, F.	COMP	535
Massey, M.	CHED	776	Matsnev, A.V.	FLUO	40	Maung, D.	INOR	52
Massey, M.	CHED	786	Matson, E.M.	INOR	158	Maung, J.	ENVR	518
Massie, A.A.	INOR	148	Matson, J.	POLY	245	Maurer, F.	CHED	1209
Massie, A.A.	INOR	287	Matson, J.	POLY	498	Maurer, F.	MEDI	172
Masso-Ferret, R.	CHED	1752	Matson, J.	POLY	599	Maurer, F.	MEDI	182
Masso-Ferret, R.	ENFL	101	Matson, J.B.	CELL	256	Maurer, M.C.	BIOL	300
Masson, E.	ORGN	465	Matson, J.B.	CELL	256	Maurer, S.E.	CHED	546
Massoudi, M.	ENFL	239	Matson, J.B.	POLY	319	Maurer, S.E.	CHED	597
Masterson, C.	COLL	861	Matson, J.B.	POLY	524	Maurer, S.E.	CHED	728
Masterson, C.	COLL	864	Matsubayashi, T.	COLL	174	Maurice, A.M.	POLY	429
Masterson, L.	BIOL	127	Matsubayashi, T.	PMSE	687	Maurice, M.	INOR	1325
Mastrangelo, A.	POLY	290	Matsuda, K.	COLL	557	Maurice, P.	ENVR	423
Mastro-Kishton, K.	BIOL	276	Matsuda, K.	COMP	503	Maurice, S.	CHED	389
Masud, J.	CATL	425	Matsui, H.	CATL	96	Maurice, S.	YCC	25
Masud, J.	INOR	1044	Matsui, H.	CATL	101	Maurin, G.	COMP	526
Masud, J.	INOR	1428	Matsui, J.T.	CHED	1902	Maurin, G.	ENFL	249
Masuda, E.	MEDI	401	Matsui, M.	BIOT	321	Mauroy, C.	CELL	423
Masuda, E.	MEDI	476	Matsui, M.	BIOT	684	Mauroy, C.	ENVR	493
Masuda, E.	MEDI	478	Matsui, S.	MEDI	133	Maust, R.	COLL	194
Masuda, E.	MEDI	479	Matsumoto, D.	ENVR	683	Mauter, M.S.	ENVR	480
Masuda, T.	COMP	345	Matsumoto, D.	ENVR	693	Mauter, M.S.	ENVR	580
Masuno, M.	CELL	406	Matsumoto, M.	ENVR	503	Mautner, A.	CELL	289
Maszelin, M.	BIOT	164	Matsuoka, F.	CATL	29	Mautner, A.	CELL	455
Mata-Gomez, M.	BIOT	531	Matsuoka, K.	CARB	85	Mauzeroll, J.	ANYL	435
Matar Abed, M.	BIOT	291	Matsushima, L.N.	INOR	1345	Mauzy, I.	CHED	1885
			Matsushima, L.N.	PHYS	439	Maver, T.	CELL	510



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Maver, U.	CELL	52	Mays, J.R.	MEDI	412	McCallum, J.	ORGN	541
Maver, U.	CELL	419	Mays, J.W.	PMSE	565	McCammon, J.	BIOL	2
Maver, U.	CELL	481	Mays, J.W.	POLY	9	McCammon, J.	BIOL	156
Maver, U.	CELL	510	Mays, J.W.	POLY	79	McCammon, J.	BIOL	356
Maverick, A.W.	INOR	1041	Mays, J.W.	POLY	305	McCammon, J.	CINF	53
Mavrandonakis, A.	INOR	677	Mays, Z.	BIOT	109	McCammon, J.	COMP	119
Mavrikakis, M.	CATL	280	Mayumi, K.	POLY	531	McCammon, J.	COMP	176
Mavrikakis, M.	COLL	19	Mayville, F.C.	CHED	1020	McCammon, J.	COMP	426
Mavros, M.	COLL	802	Mayville, F.C.	CHED	1177	McCammon, J.	COMP	486
Mavros, M.	PHYS	58	Mayville, F.C.	CHED	1200	McCammon, J.	COMP	515
Maw, J.	BIOL	314	Mayville, F.C.	CHED	1201	McCance, K.	CHED	126
Max, S.	CHED	1027	Mayville, F.C.	CHED	1214	McCann, M.	BIOT	488
Maxe, C.	AGFD	198	Mayville, F.C.	CHED	1784	McCann, M.	BIOT	583
Maxi, N.	CHED	1043	Maza, W.	PHYS	551	McCann, R.L.	CHED	682
Maxi, N.	CHED	1817	Mazacek, J.	ENVR	216	McCarley, R.L.	ANYL	123
Maximenko, N.	ENVR	864	Mazarakioti, E.	INOR	510	McCarrick, R.	CHED	1662
Maximoff, S.N.	BIOL	143	Maze, I.	ANYL	23	McCarthy, A.	CHED	24
Maximova, K.	MEDI	95	Mazeu, K.	CELL	240	McCarthy, A.	CHED	116
Maxton, L.J.	INOR	438	Mazenc, C.	CINF	129	McCarthy, A.	BIOT	541
Maxwell, A.	CHED	1788	Mazmanian, S.	BIOT	467	McCarthy, B.G.	CATL	220
Maxwell, B.	ORGN	212	Mazuella, J.	ORGN	23	McCarthy, B.G.	CATL	221
Maxwell, D.N.	CHED	1805	Mazuksi, R.J.	ANYL	302	McCarthy, C.	INOR	1424
Maxwell, D.N.	CHED	1830	Mazuksi, R.J.	PHYS	390	McCarthy, D.	COLL	217
Maxwell, R.	GEOC	170	Mazumder, S.	CHED	897	McCarthy, D.	COLL	537
Maxwell, R.S.	ANYL	84	Mazur Hipps, U.	COLL	724	McCarthy, D.	ANYL	300
Maxwell, R.S.	PMSE	323	Mazzanti, M.	NUCL	104	McCarthy, K.	INOR	702
Maxwell, S.	CHED	731	Mazzetti, J.	INOR	1066	McCarthy, K.	CHED	933
Maxwell, S.	POLY	455	Mazziotti, D.A.	COMP	208	McCarthy, K.	CHED	1845
Maxwell, S.	POLY	515	Mazzocanti, G.	ANYL	196	McCarthy, M.	POLY	513
Maxwell, Z.	CHED	680	Mazzochette, Z.	ANYL	155	McCarthy, R.	ENVR	525
May, B.	CHED	792	Mazzola, R.	MEDI	112	McCarthy, T.J.	COLL	687
May, B.	COMP	302	Mazzola, R.	MEDI	346	McCarthy, T.J.	COLL	799
May, E.M.	NUCL	36	Mazzone, C.	CHED	1149	McCartney, G.R.	BIOT	648
May, H.	CHED	1325	Mazzotta, M.G.	POLY	563	McCartney, S.	ENFL	428
May, R.	ENFL	171	McAdams, B.	ENVR	424	McCart, A.	ANYL	58
Mayani, M.	BIOT	678	McAdams, B.	ENVR	427	McCart, B.	CHED	1570
Mayer Arzuaga, R.J.	CHED	954	McAfee, J.	CHED	1445	McCart, B.	ORGN	233
Mayer, B.	CHED	97	McAfee, J.	CHED	1801	McCart, D.K.	ENFL	321
Mayer, B.	ENVR	207	McAfee, J.G.	PMSE	496	McCart, G.	ENVR	903
Mayer, B.	ENVR	984	McAfee, J.G.	PMSE	505	McCart, P.	ENVR	177
Mayer, B.	ENVR	987	McAfee, L.	CHED	764	McCaughy, K.	MEDI	478
Mayer, B.	ENVR	1027	McAfee, S.M.	CATL	350	McCaughy, K.	MEDI	479
Mayer, B.P.	ANYL	291	McAfee, S.M.	ORGN	675	McCauley, C.	CHED	1515
Mayer, B.P.	ANYL	359	McAlexander, H.	CHED	76	McCauley, J.P.	ANYL	48
Mayer, J.M.	INOR	1	McAllister, S.M.	GEOC	184	McCauley, J.P.	ENVR	366
Mayer, J.M.	INOR	64	McAlpine, I.J.	MEDI	350	McCauley, M.T.	CHED	1012
Mayer, J.M.	INOR	159	McAlpine, M.C.	ANYL	424	McCausland, M.	CHED	1677
Mayer, J.M.	INOR	503	McAlpine, S.	IAC	24	McCauslin, R.	CHED	902
Mayer, J.M.	INOR	526	McAnally, M.O.	CHED	817	McCauslin, R.	MEDI	204
Mayer, J.M.	INOR	1204	McAnally, M.O.	PHYS	313	McClain, E.J.	ORGN	210
Mayer, L.D.	PMSE	673	McArdell, C.S.	ENVR	135	McClain, E.J.	ORGN	216
Mayer, M.L.	INOR	1024	McArthur, S.G.	INOR	112	McClain, E.J.	ORGN	327
Mayer, P.	INOR	787	McAtee, C.	ORGN	634	McClain, J.	COMP	230
Mayers, A.	POLY	476	McAtee, C.	ORGN	729	McClain, M.	COLL	187
Mayes, H.	COMP	453	McAtee, R.C.	ORGN	381	McClelland, E.	BIOL	71
Mayes, R.T.	I&EC	130	McAtee, D.C.	INOR	1287	McClelland, T.	CHED	1774
Mayfield, R.	ENVR	996	McAuliffe, K.	INOR	344	McClelland, Z.B.	POLY	507
Mayhall, N.	COMP	209	McAuliffe, K.	INOR	749	McClements, D.	AGFD	33
Maynard, H.D.	CARB	17	McAuliffe, K.	INOR	937	McClenaghan, N.	POLY	624
Maynard, H.D.	INOR	384	McAuliffe, R.	INOR	1115	McClimon, J.B.	COLL	30
Maynard, H.D.	INOR	1151	McAvoy, D.	ENVR	284	McClimon, P.	CHED	1735
Maynard, H.D.	ORGN	5	McBriarty, M.E.	GEOC	68	McClinton, C.	ORGN	568
Maynard, H.D.	POLY	66	McBride, A.	INOR	523	McClory, A.	ORGN	449
Maynard, H.D.	POLY	292	McBride, J.R.	COLL	283	McClory, A.	ORGN	503
Maynard, H.D.	POLY	372	McBride, J.R.	COLL	293	McCloskey, B.D.	CATL	177
Maynard, H.D.	POLY	632	McBride, J.R.	COLL	331	McCloskey, B.D.	ENFL	146
Maynard, L.	BIOL	104	McBride, J.R.	COLL	600	McCloskey, B.D.	ENFL	375
Maynard, L.	BIOL	108	McBride, J.R.	COLL	705	McClure, A.	MEDI	51
Maynard, R.K.	CHED	96	McBride, R.	CARB	84	McClure, A.	MEDI	52
Mayne, C.G.	MEDI	338	McBurnett, B.	CHED	448	McClure, J.J.	MEDI	293
Mayne, N.R.	PMSE	100	McCabe, A.J.	ENVR	265	McClure, M.	BIOT	183
Mayo, R.	CHED	1880	McCabe, A.R.	INOR	907	McClure, M.	BIOT	436
Mayo, R.	CHED	583	McCabe, C.	BIOT	702	McClymont, K.S.	ORGN	212
Mayo-Bean, K.	ENVR	243	McCabe, M.	BIOL	66	McCobb, T.D.	ENVR	268
Mayo-Bean, K.	ENVR	933	McCafferty, D.G.	BIOL	160	McCollum, B.	CHED	295
Mayoral, B.	PMSE	214	McCall, P.	COLL	411	McCollum, B.	CHED	296
Mayorga, I.	CHED	439	McCall, R.	MEDI	93	McCollum, B.	CHED	784
Mayr, M.	CELL	525	McCall, R.	INOR	1197	McCollum, B.	CINF	98
Mays, J.R.	CHED	540	McCall-Butler, D.	INOR	345	McCollum, J.M.	POLY	441
Mays, J.R.	CHED	1944	McCall-Butler, D.	INOR	348	McCollum, J.M.	POLY	559

McCombs, N.L.	INOR	63	McDougal, K.B.	CHED	716	McGovern, A.D.	ANYL	183
McConlogue, L.	MEDI	317	McDougal, O.M.	CHED	851	McGovern, A.D.	ANYL	316
McConnell, J.S.	ENVR	849	McDougal, O.M.	CHED	1339	McGovern, C.	BIOT	290
McConnell, J.S.	ENVR	850	McDougall, G.	AGFD	200	McGovern-Gooch, K.R.	MEDI	477
McConnell, J.S.	ENVR	851	McDowell, L.	COMP	295	McGrail, P.	ENFL	309
McConnell, J.S.	ENVR	852	McDowell, R.G.	I&EC	92	McGrail, P.	ENFL	353
McConnell, M.	ENVR	659	McDowell, R.G.	I&EC	94	McGrath, A.	PMSE	143
McConnell, R.	MEDI	178	McEachern, D.	MEDI	236	McGrath, A.	POLY	117
McConnell, R.	MEDI	489	McEachern, D.	MEDI	243	McGrath, A.T.	CHED	1483
McConville, M.	ENVR	519	McEachern, D.	MEDI	265	McGrath, C.	ENVR	462
McCool, B.	POLY	395	McEachran, A.	ANYL	76	McGraw, J.	CHED	1411
McCool, J.	MEDI	449	McEachran, A.	ANYL	77	McGraw, S.	COLL	741
McCord, K.	CHED	1011	McEachran, A.	ANYL	470	McGraw, S.	ENFL	161
McCord, T.	CHED	2047	McEachran, A.	CHAS	39	McGregor, D.	ENVR	453
McCormick, A.	PMSE	533	McEachran, A.	CINF	48	McGregor, D.M.	CHED	309
McCormick, A.R.	INOR	391	McEachran, A.	ENVR	136	McGrier, P.	ENFL	351
McCormick, B.J.	INOR	1146	McEachran, A.	ENVR	651	McGrier, P.	ENFL	395
McCormick, B.J.	INOR	1349	McEachran, A.	ENVR	1012	McGuffie, E.	CHED	1546
McCormick, B.J.	PMSE	103	McElheney, K.	CHED	653	McGuire, J.	INOR	157
McCormick, C.L.	POLY	475	McElmurry, B.	ENFL	3	McGuire, J.A.	INOR	698
McCormick, G.	CHED	1379	McElrone, A.	ENVR	970	McGuire, J.M.	ANYL	190
McCormick, R.L.	ENFL	438	McElwee-White, L.	CHED	1959	McGuire, K.	MEDI	259
McCormick, S.P.	BIOT	267	McElwee-White, L.	COLL	153	McGuire, K.L.	INOR	743
McCormick, T.	INOR	1431	McElwee-White, L.	INOR	1200	McGuire, M.J.	ENVR	17
McCormick, T.	ORGN	287	McElwee-White, L.	INOR	1410	McGuire, M.M.	GEOC	349
McCormick, T.	INOR	877	McElwee-White, L.	INOR	1560	McGuire, P.	CHED	89
McCormy, J.D.	COMP	584	McElwee-White, L.	PROF	4	McGuire, S.E.	CHED	163
McCowen, S.	MEDI	497	McEnaney, J.	INOR	924	McGuire, S.E.	CHED	1899
McCoy, A.	ORGN	596	McEnaney, J.	INOR	1032	McGuire, S.E.	CHED	1903
McCoy, K.M.	NUCL	112	McEnaney, J.M.	INOR	1352	McGuire, T.	MEDI	405
McCoy, R.	BIOT	436	McEvoy, J.L.	CHED	934	McGuirk, C.	INOR	1506
McCracken, J.L.	COLL	258	McEwen, J.	CATL	50	McHale, J.	CATL	454
McCracken, J.L.	INOR	664	McEwen, L.	CHAS	35	McHardy, S.F.	MEDI	497
McCray, M.	INOR	854	McEwen, L.	CINF	74	McHugh, S.	COMP	27
McCrea-Hendrick, M.	INOR	1315	McEwen, L.	CINF	153	McHugh, S.	COMP	377
McCroly, C.C.	ANYL	312	McFadden, C.S.	CHED	397	McHugh, S.	COMP	450
McCroly, C.C.	INOR	41	McFadden, H.M.	CHED	1551	McHugh, T.	MEDI	417
McCue, J.	CHED	606	McFadden, H.M.	CHED	1605	McInally, T.	I&EC	66
McCullagh, M.	COMP	53	McFarland, B.	CHED	93	McInnes, E.	NUCL	64
McCullagh, M.	PHYS	281	McFarland, B.	CHED	1727	McInnes, E.	NUCL	78
McCulloch, B.	POLY	29	McFarland, B.	CHED	1734	McIntee, E.J.	CHED	1182
McCullogh, A.	AGFD	17	McFarland, B.J.	CHED	2010	Mcintosh, J.	CHED	999
McCullough, B.S.	MEDI	213	McFarland, B.J.	CHED	2043	McIntosh, S.	CATL	85
McCullough, T.M.	MEDI	509	McFarland, B.J.	CHED	2152	McIntosh, S.	ENFL	365
McCune, J.J.	INOR	1068	McFarland, E.W.	CATL	294	McIntosh, S.	INOR	693
McCunn, L.R.	CHED	1659	McFarland, E.W.	ENFL	125	McIntyre, C.	ANYL	17
McCurdy, C.W.	COMP	571	McFarland, J.	MEDI	397	McIntyre, D.	I&EC	118
McCurdy, R.	CHED	1415	McFarland, R.	AGFD	51	McIntyre, J.	ENVR	217
McCurdy, R.	ORGN	601	McFarland, R.	AGFD	57	Mcintyre, K.	MEDI	21
McCurdy, R.	ORGN	868	McFarland, R.	CHED	172	Mcintyre, K.	MEDI	25
McCurry, D.	ENVR	535	McFarland, R.	CHED	774	Mcintyre, K.	MEDI	315
McCusker, J.K.	PHYS	3	McFarland, R.	CHED	1769	Mcintyre, K.	MEDI	339
McCutcheon, C.	CHED	748	McFarland, S.K.	BIOT	320	McIver, A.	BIOL	276
McCutcheon, D.C.	BIOL	256	McFarland, S.K.	BIOT	486	McIver, Z.A.	MEDI	223
McCutcheon, J.	CHED	473	McFarland, S.K.	BIOT	622	McKay, G.	ENVR	25
McDaniel, A.	ANYL	289	McFarlane, F.E.	CELL	270	McKay, G.	ENVR	257
McDaniel, J.	COMP	415	McFerrin, H.	CHED	1307	McKay, G.	ENVR	707
McDaniel, K.	ORGN	514	McFerrin, H.	CHED	324	McKay, G.	ENVR	940
McDarby, A.	COLL	180	McFerrin, H.	CHED	549	McKay, I.	CATL	149
McDermond, D.	CHED	1185	McFerrin, H.	MEDI	445	McKee, S.	ORGN	787
McDermott, M.	PHYS	545	McGaha, T.	MEDI	209	McKendry, I.G.	COLL	714
McDermott, W.P.	CATL	580	McGann, C.L.	PMSE	694	McKenna, A.M.	ENVR	652
McDonald, A.R.	INOR	75	McGann, C.L.	POLY	43	McKenna, B.	CHED	1123
McDonald, A.R.	INOR	149	McGann, C.L.	POLY	412	McKenna, K.	ORGN	651
Mcdonald, J.	CHED	1932	McGarrah, J.E.	CHED	991	McKenna, R.	BIOL	220
McDonald, J.	CHED	1887	McGarrah, M.R.	BIOT	48	McKenzie, A.	BIOT	459
McDonald, J.	CHED	875	McGaughey, G.	COMP	178	McKenzie, C.	ANYL	325
McDonald, K.	BIOT	7	McGeachy, A.C.	CHED	111	McKenzie, C.J.	ENVR	277
McDonald, K.	BIOT	108	McGee, D.J.	ORGN	559	McKenzie, L.C.	CHED	12
McDonald, K.	BIOT	469	McGehee, M.D.	ENFL	89	McKenzie, R.N.	POLY	610
McDonald, K.P.	ORGN	410	McGill, B.	POLY	563	McKeon, B.	PROF	23
McDonald, M.	INOR	945	McGinnis, M.	ENVR	900	McKeown, B.A.	INOR	103
McDonald, S.T.	MEDI	261	McGivern, B.	CHED	580	McKeown, B.A.	MPPG	11
McDonald, T.	ENFL	82	McGlaughlin, M.	BIOL	200	McKeown, M.	INOR	523
McDonald, T.	ENVR	328	McGoldrick, D.	ENVR	73	McKernan, J.L.	ENVR	377
McDonough, C.	ENVR	68	McGoldrick, L.	ANYL	187	McKernan, J.L.	ENVR	380
McDonough, C.A.	ENVR	69	McGoldrick, L.	ANYL	188	McKibbin, P.L.	BIOL	58
McDonough, J.	ENVR	543	McGonagle, A.	MEDI	291	McKim, M.L.	PHYS	532
McDonough, L.K.	ENVR	756	McGonnigal, B.	BIOT	400	McKinlay, C.	POLY	420
McDouall, J.	INOR	1134	McGonnigal, B.	ORGN	529	McKinnie, S.	MEDI	376

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McKinzey, D.	CHED	1482	McReynolds, K.D.	CARB	70	Medronho, B.	CELL	464
McKinzey, D.	CHED	1888	McReynolds, K.D.	CHED	715	Meek, G.A.	COMP	47
McKnight, D.M.	ENVR	192	McReynolds, K.D.	CHED	1506	Meeker, B.	CHED	1462
McKnight, D.M.	ENVR	267	McReynolds, K.D.	CHED	1509	Meenakshisundaram, V.	COMP	392
McKnight, N.L.	BIOT	134	McReynolds, K.D.	CHED	1554	Meepagala, K.M.	AGFD	197
McKnight, N.L.	BIOT	730	McTaggart, T.	BIOT	266	Mees, B.N.	CHED	709
McKoy, M.L.	ENFL	239	McVerry, B.	ENVR	866	Meganathan, R.	MEDI	261
McLain, J.	PHYS	286	McVey, A.	MEDI	266	Megaridis, C.	POLY	504
McLane, S.	CHED	2045	McVinney, I.	CHED	700	Megerdich, N.	INOR	919
McLane, S.	CHED	178	McWhinney, D.	CHED	747	Mehanna, S.	INOR	934
McLauchlan, C.C.	INOR	968	McWhirter, R.B.	AGFD	267	Mehinto, A.	ENVR	570
McLaughlin, C.	BIOL	329	McWhirter, R.B.	ORGN	925	Mehl, R.A.	BIOL	279
McLaughlin, C.	COLL	731	Mdluli, V.	INOR	1543	Mehl, R.A.	BIOL	304
McLaughlin, J.	COMP	332	Meador, J.	ENVR	718	Mehlenbacher, B.	PHYS	479
McLaughlin, J.	MEDI	478	Meador, M.	YCC	19	Mehlenbacher, M.	CHED	689
McLaughlin, J.	MEDI	479	Meadows, C.	BIOT	62	Mehlmann, P.	INOR	109
McLaughlin, J.P.	MEDI	4	Meadows, S.	CELL	379	Mehmedović, Z.	ENFL	238
McLaughlin, K.	CHED	416	Meadows, T.	INOR	1481	Mehmood, M.F.	PMSE	74
McLaughlin, M.	CHED	927	Meadows, T.	NUCL	102	Mehmood, M.F.	POLY	74
McLaughlin, M.	GEOC	303	Meadows, T.	NUCL	102	Mehrkhodavandi, P.	INOR	603
McLaughlin, M.	GEOC	304	Means, N.	ENFL	128	Mehrkhodavandi, P.	INOR	797
McLaurin, E.J.	COLL	88	Meanwell, N.A.	MEDI	51	Mehrkhodavandi, P.	PMSE	361
McLaurin, E.J.	COLL	140	Meanwell, N.A.	MEDI	52	Mehta, A.	PMSE	153
McLaurin, E.J.	INOR	33	Mease, J.	CHED	1438	Mehta, A.	ENVR	445
McLaurin, E.J.	INOR	1062	Mease, J.	ORGN	833	Mehta, A.	CATL	195
McLean II, W.	ANYL	84	Mease, J.	ORGN	901	Mehta, D.	CINF	45
McLean II, W.	PMSE	323	Mebel, A.M.	ENVR	510	Mehta, D.	CHED	2167
McLennan, J.	CINF	11	Mebel, A.M.	INOR	1138	Mehta, K.	BIOT	47
McLennan, J.	ENFL	35	Mebel, A.M.	PHYS	489	Mehta, K.	BIOT	49
McLoughlin, E.	INOR	1539	Mecerreyes, D.	PMSE	302	Mehta, K.	BIOT	394
Mcmahan, C.	PMSE	446	Mecerreyes, D.	POLY	111	Mehta, N.	BIOT	129
McMahon, K.	CHED	556	Mecerreyes, D.	POLY	433	Mehta, R.	CHED	1235
McMahon, K.	CHED	1410	Mecerreyes, D.	POLY	541	Mehta, U.	BIOT	82
McMahon, W.	CHED	1406	Mecham, S.J.	PMSE	102	Mei, D.	CATL	48
McManus, C.M.	CHED	934	Mecham, S.J.	PMSE	318	Mei, H.	BIOL	6
McManus, C.M.	CHED	941	Mecham, S.J.	PMSE	550	Mei, J.	PMSE	65
McManus, G.J.	CHED	1060	Mecham, S.J.	PMSE	263	Mei, J.	PMSE	136
McManus, G.J.	CHED	1111	Mecham, S.J.	PMSE	105	Mei, J.	PMSE	191
McMaster, N.	ENVR	237	Mecinovic, J.	BIOL	322	Mei, J.	PMSE	555
McMillan, A.A.	COMP	363	Meckes, B.	COLL	680	Mei, J.	PMSE	560
McMillan, K.	COLL	44	Meckes, B.	PMSE	83	Mei, K.J.	CHED	1682
Mcmonagle, P.	MEDI	346	Mecking, S.	BIOT	302	Mei, K.J.	COMP	296
McMoran, E.P.	INOR	1336	Mecking, S.	COLL	170	Mei, S.L.	POLY	450
McMullan, G.	AGFD	200	Mecking, S.	INOR	408	Meier, J.L.	BIOL	192
McMullen, A.N.	CHED	1839	Mecking, S.	INOR	410	Meier, J.L.	BIOL	320
McMullen, R.	PROF	23	Mecking, S.	INOR	411	Meier, K.K.	INOR	276
McMurtree, D.	MEDI	401	Mecking, S.	INOR	412	Meigooni, M.	COMP	401
McNally, A.	ORGN	699	Mecking, S.	INOR	413	Meihaus, K.R.	PHYS	245
McNally, J.S.	INOR	1494	Mecking, S.	INOR	567	Meijer, A.J.	PHYS	74
McNally, T.	PMSE	214	Mecking, S.	INOR	865	Meijer, E.	CATL	120
McNamara, B.K.	INOR	1384	Mecking, S.	POLY	266	Meijer, E.W.	COLL	813
McNamara, B.K.	NUCL	59	Mecking, S.	POLY	346	Meijer, E.W.	POLY	306
McNamara, L.E.	CHED	1639	Mecking, S.	POLY	347	Meijer, E.W.	POLY	312
McNamara, L.E.	COLL	518	Mecking, S.	POLY	354	Meijide, J.	ENVR	352
McNamara, M.	CHED	372	Mecking, S.	POLY	357	Meile, C.	GEOC	127
McNamara, M.	CHED	1809	Mecking, S.	POLY	375	Meiler, J.	BIOT	128
McNamara, P.J.	ENVR	207	Mecking, S.	POLY	391	Meiler, J.	MEDI	245
McNamara, P.J.	ENVR	984	Mecking, S.	POLY	485	Meints, L.	CARB	62
McNamara, P.J.	ENVR	987	Mecozzi, S.	COLL	684	Meints, L.	CARB	64
McNaughton, B.	BIOL	331	Mecozzi, S.	ORGN	596	Meints, L.	CARB	66
McNeal, J.	CHED	461	Medcalf, Z.	CHED	1221	Meints, L.	CARB	67
McNeece, A.J.	INOR	513	Meddahi-Pelle, A.	CELL	181	Mei-Ratliff, Y.	CHED	455
McNeil, A.J.	POLY	298	Medders, G.R.	PHYS	200	Meirer, F.	CATL	147
McNeill, K.P.	CHED	1905	Medford, J.	AGFD	250	Meiser, J.	CATL	178
McNeill, K.P.	ENVR	25	Medina Ramos, J.	CATL	97	Meisner, Q.J.	ORGN	683
McNeill, K.P.	ENVR	426	Medina, Â.F.	POLY	426	meizan, j.	CATL	610
McNeill, K.P.	ENVR	939	Medina, J.C.	ENVR	201	Mejia Avendaño, S.	ENVR	538
McNeill, K.P.	ENVR	943	Medina, J.C.	ENVR	593	Mejia Avendaño, S.	ENVR	541
McNeill, K.P.	ENVR	944	Medina, M.	GEOC	123	Mejia, J.	GEOC	21
McNeill, K.P.	ENVR	1019	Medina, M.F.	BIOT	595	Mejia, J.	GEOC	50
McNichol, A.P.	ANYL	22	Medina-Cleghorn, D.	MEDI	142	Mejia, J.	GEOC	51
McNichols, B.	INOR	689	Medina-Feliciano, J.G.	CHED	1874	Mekhalif, Z.	POLY	488
McNitt, C.D.	COLL	432	Medina-Franco, J.L.	MEDI	443	Mekkat, A.	COMP	326
McNulty, L.M.	CHED	1922	Medintz, I.	BIOT	235	Melaet, G.	CATL	15
McNulty, L.M.	CHED	1977	Medintz, I.	COLL	571	Melaet, G.	CATL	336
McPartlin, M.	ENVR	825	Medley, C.	COLL	250	Melaet, G.	CATL	600
McQueen, T.	INOR	646	Medlin, J.W.	CATL	590	Melaet, G.	ENFL	49
McQueen, T.	INOR	1107	Medrano-Castillo, L.J.	INOR	878	Melaimi, M.	INOR	108
McQuilling, A.	ENVR	387	Medrik, I.	ENVR	307	Melaku, S.	CHED	2084
McReynolds, K.D.	CARB	69	Medronho, B.	CELL	11	Melby, E.	CHED	111

Melby, E.	ENVR	497	Mendoza, S.	INOR	523	Merino, E.J.	PROF	27
Melchor, D.	CHED	1435	MendozaCruz, R.	CATL	30	Merk, V.	CELL	203
Mele, E.	PMSE	629	Mendoza-Espinosa, D.	INOR	110	Merker, R.	AGFD	253
Meléndez, Á.	ENVR	836	Mendoza-Garcia, A.	COLL	333	Merkle, A.	ANYL	400
Melendez, I.	ENVR	343	Mendoza-Garcia, A.	COLL	861	Merle, N.	CATL	55
Melessa, J.	CHED	1026	Mendoza-Garcia, A.	COLL	864	Merle, N.	CATL	57
Melessa, J.	CHED	1193	Mendoza-Sanchez, R.	ORGN	396	Merle, N.	INOR	1243
Melessa, J.	I&EC	16	Mendralla, C.R.	CHED	436	Merle, T.	ENVR	513
Melikyan, G.	ORGN	315	Menefee, K.	CHED	566	Merlet, C.	ANYL	37
Melissen, S.	COMP	466	Menegatti, S.	BIOT	51	Merlic, C.A.	CHAS	42
Melkie, M.	INOR	241	Menegatti, S.	BIOT	519	Merlic, C.A.	ORGN	266
Melkonian, K.	COLL	175	Menegatti, S.	BIOT	686	Merlos, S.	CHED	440
Mella, M.	ENVR	131	Menendez Rodriguez, G.	CHED	1159	Merlos, S.	ENVR	902
Mella, M.	BIOL	312	Menendez Rodriguez, G.	INOR	1278	Merlus, S.	COLL	220
Melle-Franco, M.	COLL	512	Meng, B.	CATL	398	Merrell, D.S.	INOR	24
Mellinger, D.A.	CHED	1021	Meng, H.	COLL	144	Merrer, D.C.	ORGN	446
Mellis, B.	CHED	1265	Meng, J.	PMSE	75	Merrer, D.C.	ORGN	801
Mellis, B.	CHED	1320	Meng, J.	ANYL	146	Merrett, K.	CHED	1193
Mellonie, N.R.	ORGN	430	Meng, J.	ANYL	176	Merriam, N.R.	CHED	930
Melman, J.H.	SCHB	12	Meng, P.	ENVR	617	Merrifield, R.	ENVR	623
Melo, F.M.	CHED	2113	Meng, S.	ANYL	403	Merrill, A.	CHED	1614
Melo, M.A.	INOR	1268	Meng, S.	CATL	510	Merrill, A.K.	CHED	937
Meloni, G.	MEDI	87	Meng, S.	ENFL	74	Merrill, A.K.	CHED	990
Meloni, G.	PHYS	329	Meng, S.	ENFL	276	Merrill, S.	CHED	1527
Meloni, G.	PHYS	460	Meng, X.	COLL	91	Merrill-Steskal, G.	CHED	1195
Meloni, G.	PHYS	512	Meng, X.	CELL	3	Merriman, W.W.	ENFL	66
Meloni, S.	PHYS	470	Meng, X.	CATL	343	Merringer, K.	CHED	1471
Melot, B.C.	INOR	641	Meng, Y.	PMSE	560	Mertens, B.	COLL	659
Melot, B.C.	INOR	644	Menke, E.J.	ENFL	281	Mertens, J.	ANYL	398
Melot, B.C.	INOR	990	Mennah Goveia, Y.	AGFD	189	Mertens, L.	ORGN	877
Melot, B.C.	INOR	993	Mennucci, B.	PHYS	308	Mertens, S.	CATL	614
Melot, B.C.	INOR	1528	Menon, K.	MEDI	394	Mertens, S.	COLL	478
Melton, H.P.	CHED	1929	Mensah, F.	CHED	953	Mertens, S.	COLL	755
Melton, J.D.	INOR	380	Mensah, P.	PMSE	609	Mertzman, M.	MEDI	25
Melton, O.	PMSE	184	Mensch, A.C.	COLL	234	Mertzman, M.	MEDI	315
Melton, O.	PMSE	653	Mensch, A.C.	INOR	1521	Merz, K.M.	COMP	3
Melville, J.	INOR	1405	Mensing, Z.	CHED	644	Merz, R.	COLL	29
Melvin, P.	INOR	1163	Mensinger, Z.	CHED	1045	Mesch, R.A.	POLY	114
Memeo, M.	BIOL	312	Mensinger, Z.	CHED	1101	Mesch, R.A.	POLY	300
Memon, M.H.	ENFL	425	Menstell, P.	BIOT	451	Meserve, K.	ANYL	200
Men, L.	INOR	1013	Menstell, P.	BIOT	453	Meshi, L.	INOR	697
Men, L.	INOR	1015	Mente, S.	MEDI	364	Meshram, B.	MEDI	75
Men, Y.	PMSE	213	Mentel, T.F.	ENVR	320	Meshref, M.	ENVR	810
Men, Y.	ENVR	286	Menu, P.	CELL	55	Mesko, A.J.	PHYS	111
Mena, A.D.	INOR	345	Menumerov, E.	CATL	652	Mešl, M.	CELL	157
Mena, A.D.	INOR	348	Menzel, M.	PMSE	346	Mespouille, L.M.	PMSE	60
Mena, A.D.	PHYS	330	Mera, A.	ENVR	253	Mespouille, L.M.	POLY	488
Mena, C.N.	CHED	1274	Meral, C.	GEOC	318	Messenger, L.	PMSE	490
Menacho Melgar, R.	BIOT	605	Merayo, N.	ENVR	431	Messer, A.	MEDI	189
Menard, G.	INOR	217	Meraz, K.	ORGN	758	Messerer, R.	MEDI	214
Menard, K.	MEDI	349	Mercado, B.Q.	CHED	104	Messerle, L.	INOR	1338
Menciloglu, Y.Z.	ENVR	386	Mercado, B.Q.	INOR	1257	Messerle, L.	PROF	2
Menciloglu, Y.Z.	PMSE	683	Mercado, B.Q.	ORGN	782	Messersmith, P.	COLL	298
Menciloglu, Y.Z.	POLY	122	Mercado, E.	BIOT	282	Messersmith, P.B.	POLY	509
Menciloglu, Y.Z.	POLY	223	Mercado, R.	PMSE	184	Messina, M.	INOR	384
Mencer, D.E.	CHED	478	Mercado, R.	PMSE	653	Messina, M.	INOR	1151
Mencer, D.E.	ORGN	774	Mercado, R.	COMP	525	Messina, M.	POLY	372
Mendes, L.G.	CELL	512	Mercado-Adrover, J.E.	ANYL	218	Messmer, D.	PMSE	94
Mendes, P.	CHED	867	Mercaldi, M.	BIOT	593	Mestankova, H.	ENVR	181
Mendez, A.	ANYL	213	Mercedes-Camacho, A.	ANYL	457	Mestdagh, F.	AGFD	257
Méndez, D.	ENVR	612	Mercer, A.	CHED	2078	Mestre, B.	INOR	1323
Mendez, D.D.	PHYS	450	Mercer, A.	PROF	33	Mestre, J.	CARB	80
Mendez, D.D.	PHYS	534	Mercer, J.A.	POLY	261	Metallo, M.	ORGN	750
Mendez, J.	CHED	908	Merchant, C.J.	CHED	1014	Metcalf, E.A.	INOR	1450
Mendez, J.D.	CHED	216	Merchant, R.	ORGN	212	Metell, A.R.	ORGN	569
Mendez, J.D.	CHED	1912	Merchant, R.	ORGN	826	Méthivier, C.	PMSE	684
Mendez, N.	BIOT	249	Merdrignac, I.	ENFL	449	Methuku, K.R.	MEDI	99
Mendez, N.	BIOT	384	Meredith, R.	CHED	996	Metiu, H.	CATL	294
Méndez, P.O.	CHED	617	Merenda, E.	CHED	77	Metiu, H.	ENFL	44
Mendez, S.K.	CHED	1860	Merer, A.	PHYS	222	Metiu, H.	ENFL	125
Méndez-Hernández, D.	PHYS	452	Merg, A.	PMSE	38	Metivier, R.J.	CHED	409
Mendez-Perez, D.	BIOT	245	Merg, A.	PMSE	482	Mettry, M.	ORGN	582
Méndez-Rojas, M.	CHED	1333	Mergens, L.	CHED	768	Metwally, E.	COMP	37
Mendhe, R.	BIOT	546	Merges, D.	CELL	287	Metwally, E.	COMP	246
Mendicino, M.	COLL	377	Mergos, I.	ENVR	800	Metwally, E.	MEDI	89
Mendiola, V.A.	GEOC	266	Merino, E.J.	BIOL	157	Metz, A.	ENFL	6
Mendivielso-Perez, D.	PMSE	96	Merino, E.J.	BIOL	158	Metz, A.	ENFL	7
Mendoza, K.	COLL	239	Merino, E.J.	INOR	227	Metz, K.M.	CHED	914
Mendoza, M.	CHED	761	Merino, E.J.	MEDI	129	Metz, K.M.	CHED	1617
Mendoza, R.	CHED	493	Merino, E.J.	MEDI	432	Metz, T.	ANYL	441



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Metzger, E.	CHED	17	Mi, C.	INOR	157	Migler, K.	PMSE	322
Metzger, E.	INOR	673	Mi, C.	INOR	698	Migliori, C.	CHED	1193
Metzger, J.	CHED	320	Mi, X.	AGFD	262	Migliori, C.	I&EC	16
Metzger, J.O.	CELL	424	Mia, S.	COLL	717	Miguel, M.	CELL	400
Metzker, G.	CATL	238	Mia, S.	INOR	481	Migues, A.N.	PROF	13
Meudec, E.	AGFD	143	Mia, S.	INOR	1411	Miguirditchian, M.	NUCL	104
Meunier, D.M.	POLY	82	Miah, A.	MEDI	111	Mih, N.	BIOT	86
Meunier, D.M.	POLY	84	Miao, H.	BIOL	190	Mihai, M.T.	ORGN	671
Meuris, M.	PMSE	406	Miao, J.	MEDI	290	Mihalescu, M.	CHED	632
Meyder, A.	COMP	446	Miao, L.	INOR	388	Mihalescu, M.	CHED	658
Meyer, A.	ORGN	265	Miao, T.	ENFL	152	Mihalescu, M.	CHED	716
Meyer, B.	BIOT	710	Miao, T.	ENFL	400	Mihaljević, I.	ENVR	631
Meyer, C.R.	BIOT	282	Miao, T.	ENFL	454	Mihalyi-Koch, W.	INOR	485
Meyer, D.	CHED	170	Miao, Y.	BIOL	2	Mihelcic, J.	ENVR	909
Meyer, E.	COLL	480	Miao, Y.	COMP	176	Mihryan, A.	BIOT	544
Meyer, E.	I&EC	51	Miao, Y.	COMP	486	Mikami, K.	FLUO	24
Meyer, F.	INOR	275	Miao, Y.	COMP	515	Mikasen, M.	CPRC	13
Meyer, F.	INOR	628	Miao, Y.	ENVR	463	Mikhail, D.	CHED	1331
Meyer, F.	INOR	633	Michael, C.T.	CHED	2174	Mikhailov, K.	POLY	637
Meyer, G.	PHYS	116	Michael, K.	CARB	79	Mikkelsen, M.H.	PHYS	262
Meyer, J.	PMSE	366	Michael, K.	ORGN	921	Mikkonen, K.	CELL	287
Meyer, J.	ENFL	336	Michael, S.	I&EC	7	Mikkonen, K.	CELL	304
Meyer, J.	CHED	1782	Michael, W.	MEDI	366	Mikolawska, E.	CATL	517
Meyer, J.	CHED	1824	Michaelides, A.	CATL	619	Mikolon, A.	CHED	478
Meyer, J.	INOR	1211	Michaelides, A.	COMP	123	Mikutta, C.	GEOC	126
Meyer, K.	INOR	1382	Michaelides, A.	COMP	234	Milam, S.N.	PHYS	111
Meyer, K.	NUCL	82	Michaelides, A.	COMP	506	Milam-Guerrero, J.	INOR	644
Meyer, K.	PROF	44	Michaelis, J.	COLL	434	Milan, M.	INOR	143
Meyer, K.C.	COLL	137	Michaelis, J.	POLY	546	Milanese, J.	COMP	270
Meyer, M.	MEDI	305	Michaelos, T.	INOR	125	Milanovich, N.	SCHB	9
Meyer, M.	MEDI	464	Michaels, C.A.	PMSE	275	Milczarek, R.R.	AGFD	56
Meyer, S.	CHED	128	Michalczyk, R.	ANYL	360	Milczarek, R.R.	AGFD	115
Meyer, S.	CHED	137	Michalek, A.	CINF	115	Mileo, P.	ENFL	249
Meyer, S.C.	CHED	754	Michalowski, G.R.	POLY	538	Miles, J.	ENVR	543
Meyer, T.J.	CATL	130	Michalsky, S.	CHED	369	Miles, J.	ENVR	960
Meyer, T.J.	INOR	73	Michalsky, S.	CHED	370	Miles, M.	INOR	1197
Meyer, T.J.	PHYS	76	Michaud, K.	GEOC	275	Miles, M.S.	ENVR	576
Meyer, V.	CELL	240	Michel, C.	CATL	141	Miles, V.C.	CHED	324
Meyer, W.E.	PHYS	178	Michel, C.	CATL	187	Miles, V.C.	CHED	549
Meyer-Hagen, J.	CHED	1834	Michel, C.	CATL	229	Miles, V.C.	CHED	1774
Meyers, C.	COLL	837	Michel, C.	CATL	248	Miles, V.C.	MEDI	445
Meyers, G.	PMSE	272	Michel, C.	COMP	125	Miillo, T.M.	ENVR	550
Meyers, J.	ANYL	178	Michel, C.	COMP	532	Miljanic, O.	ENFL	308
Meyers, J.	CINF	148	Michel, C.	COMP	557	Milke, K.P.	GEOC	242
Meyers, J.J.	CHED	143	Michel, C.S.	ORGN	812	Milkey, A.	CHED	178
Meyers, J.J.	CHED	2024	Michel, F.	GEOC	173	Milkey, A.	CHED	2045
Meyers, J.J.	INOR	1544	Michel, F.M.	GEOC	96	Millan, A.	ORGN	300
Meyers, K.	POLY	505	Michel, M.	CHED	1836	Millar, T.	COLL	248
Meyers, M.	MEDI	473	Micheletti, R.	CHAL	25	Millar, W.C.	ANYL	375
Meyers, S.T.	INOR	763	Michels, J.J.	POLY	560	Millena, A.	MEDI	123
Meyers, S.T.	INOR	765	Michels, J.M.	CHED	501	Miller, A.	PMSE	665
Meyers, S.T.	INOR	768	Michels, O.	CHED	411	Miller, A.E.	ENVR	385
Meyers, W.	CHED	333	Michener, W.	CATL	245	Miller, A.F.	PMSE	627
Meyersohn, M.	POLY	467	Michida, W.	PMSE	503	Miller, A.J.	COMP	245
Meyersohn, M.	POLY	469	Michiue, K.	INOR	1170	Miller, A.L.	CHED	706
Meyersohn, M.	SOCED	2	Michki, N.	PHYS	43	Miller, A.S.	BIOT	724
Mezei, G.	INOR	966	Michl, J.	FLUO	5	Miller, B.	CHED	900
Mezei, G.	INOR	1436	Michl, J.	ORGN	444	Miller, B.	ENVR	498
Mezei, G.	ORGN	913	Michl, J.	PHYS	304	Miller, B.	COLL	657
Mezgebe, B.	ENVR	199	Micklavzina, B.L.	COLL	778	Miller, B.T.	COMP	148
Mezyk, S.P.	ENVR	39	Midden, W.R.	CHED	15	Miller, C.	ENVR	198
Mezyk, S.P.	ENVR	117	Middlecamp, C.H.	CHED	78	Miller, C.	ENVR	224
Mezyk, S.P.	ENVR	118	Mideksa, Y.	BIOT	406	Miller, C.	ENVR	277
Mezyk, S.P.	ENVR	200	Midelet, J.	COLL	249	Miller, C.C.	INOR	975
Mezyk, S.P.	ENVR	203	Midturu, C.V.	MEDI	351	Miller, C.E.	CHED	1037
Mezyk, S.P.	ENVR	206	Miech, J.	ANYL	200	Miller, C.J.	ENVR	956
Mezyk, S.P.	ENVR	208	Miecznikowski, J.R.	CHED	104	Miller, C.S.	MEDI	83
Mezyk, S.P.	ENVR	701	Miecznikowski, J.R.	INOR	20	Miller, D.	ENFL	103
Mezyk, S.P.	ENVR	702	Miecznikowski, J.R.	INOR	298	Miller, D.	COMP	437
Mezyk, S.P.	ENVR	705	Miecznikowski, J.R.	INOR	303	Miller, D.	ENFL	55
Mezyk, S.P.	ENVR	940	Mielke, M.	ORGN	802	Miller, D.	NUCL	53
Mezyk, S.P.	I&EC	84	Miers, L.	CHED	1211	Miller, D.	I&EC	118
Mezyk, S.P.	I&EC	85	Miesen, T.J.	COLL	332	Miller, D.	BIOT	652
Mezyk, S.P.	I&EC	86	Mieszawska, A.J.	COLL	281	Miller, D.	COMP	257
Mezyk, S.P.	I&EC	94	Mieszawska, A.J.	COLL	735	Miller, D.D.	MEDI	271
Mezzari, I.	ENVR	97	Mieszawska, A.J.	COLL	268	Miller, D.D.	MEDI	427
Mi, B.	ENVR	502	Miethe, P.	CELL	472	Miller, D.L.	INOR	42
Mi, B.	ENVR	506	Mifflin, A.L.	GEOC	275	Miller, E.	INOR	689
Mi, B.	ENVR	532	Migler, K.	PMSE	277	Miller, E.	CATL	134

Miller, E.	BIOL	289	Milliron, D.J.	COLL	95	Minkara, M.S.	CHED	2020
Miller, E.	BIOL	290	Milliron, D.J.	COLL	294	Minkara, M.S.	COLL	808
Miller, E.	BIOL	343	Milliron, D.J.	COLL	465	Minkara, M.S.	COMP	92
Miller, E.J.	MEDI	41	Milliron, D.J.	INOR	153	Minkara, M.S.	PHYS	410
Miller, E.J.	MEDI	42	Milliron, D.J.	INOR	1415	Minko, S.	ANYL	455
Miller, E.J.	MEDI	43	Milliron, D.J.	PHYS	561	Minkowicz, S.	BIOL	247
Miller, E.M.	INOR	1343	Milliron, D.J.	PROF	5	Minnaard, A.	ORGN	165
Miller, E.M.	INOR	1347	Millis, J.	CATL	249	Minner, J.P.	CHED	1633
Miller, G.	CHED	648	Mills, C.	PMSE	154	Minnick, J.P.	CHED	1169
Miller, G.E.	ORGN	482	Mills, C.	CHED	449	Minogue, C.	CHED	605
Miller, G.E.	ORGN	844	Mills, C.	CHED	1173	Minor, A.	PMSE	272
Miller, G.E.	NUCL	19	Mills, D.	NUCL	64	Minshall, B.L.	CHED	762
Miller, G.H.	GEOC	17	Mills, G.L.	ENVR	430	Minteer, S.D.	BIOL	282
Miller, G.J.	INOR	1011	Mills, H.	CHED	830	Minteer, S.D.	MPPG	1
Miller, G.P.	CHED	46	Mills, K.	CINF	124	Minter, D.E.	ORGN	784
Miller, G.P.	CHED	1188	Mills, M.	ENVR	120	Minter, F.F.	WCC	3
Miller, G.P.	CHED	1224	Mills, P.	CHED	309	Minter, L.M.	POLY	62
Miller, H.B.	BIOL	39	Mills, R.	ORGN	212	Minus, M.	PMSE	647
Miller, H.B.	BIOL	43	Mills, S.A.	CHED	711	Mio, M.J.	CHED	1510
Miller, J.	CATL	568	Millstone, J.	INOR	1199	Mio, M.J.	CHED	1805
Miller, J.	COLL	282	Millstone, J.	PHYS	207	Mio, M.J.	CHED	1830
Miller, J.	INOR	568	Milne, J.	ORGN	341	Mio, M.J.	ENVR	288
Miller, J.B.	COLL	593	Milner, P.J.	ENFL	81	Mir, L.	ORGN	148
Miller, J.S.	INOR	1404	Milner, P.J.	ENFL	82	Mirabello, G.	GEOC	360
Miller, J.T.	INOR	702	Milner, P.J.	ENFL	304	Miracco, E.	COLL	8
Miller, J.T.	CATL	276	Milner, P.J.	INOR	1506	Miracco, E.	COLL	86
Miller, K.	CHED	278	Milner, P.J.	ORGN	422	Miramontes-Corona, C.	CELL	8
Miller, K.	ORGN	700	Milner, S.	COMP	277	Miranda, A.	BIOT	291
Miller, K.A.	CHAS	47	Milner, S.	PMSE	97	Miranda, A.	BIOT	314
Miller, K.A.	PMSE	407	Milo, A.	ORGN	818	Miranda, A.L.	POLY	431
Miller, L.	ANYL	348	Milojkovic-Opsenica, D.	AGFD	144	Miranda, A.M.	ANYL	101
Miller, L.	CHED	464	Milosavljevic, B.H.	PHYS	347	Miranda, J.A.	COMP	327
Miller, L.	PMSE	342	Milosavljevic, B.H.	PHYS	520	Miranda, M.	CELL	155
Miller, L.	INOR	931	Milton, J.	CINF	143	Miranda, M.	BIOT	180
Miller, M.	ENVR	363	Milton, M.D.	ORGN	676	Miranda, M.O.	INOR	266
Miller, M.	ANYL	370	Mimbs, J.D.	CHED	1610	Miranda, P.	MEDI	370
Miller, M.E.	CATL	405	Min, B.	CATL	117	Miranda-Castro, R.	AGFD	134
Miller, M.E.	PHYS	457	Min, K.	BIOT	572	Miranda-Ordieres, A.J.	AGFD	134
Miller, M.L.	MEDI	474	Min, K.	BIOT	501	Miranda-Soto, V.	INOR	878
Miller, P.J.	CHED	1439	Min, W.	PMSE	16	Miranda-Soto, V.	INOR	880
Miller, R.	AGFD	92	Min, X.	ENVR	1032	Mirek, E.	CHED	573
Miller, R.	AGFD	96	Min, Y.	CATL	398	Mireles, S.	ENVR	834
Miller, R.D.	ORGN	882	Min, Y.	INOR	1027	Mirguet, O.	MEDI	149
Miller, R.D.	CHED	1710	Min, Y.	INOR	1127	Miri, M.J.	POLY	191
Miller, R.M.	INOR	304	Min, Y.	PMSE	404	Mirica, K.	ANYL	487
Miller, S.	COMP	524	Min, Y.	ENVR	583	Mirica, L.M.	INOR	1161
Miller, S.	ENFL	54	Min, Y.	GEOC	15	Mirica, L.M.	INOR	1437
Miller, S.	INOR	1116	Min, Y.	GEOC	139	Mirjafari, A.	I&EC	7
Miller, S.	PMSE	408	Minaeian, M.	MEDI	40	Mirjafari, A.	I&EC	13
Miller, S.	BIOL	126	Minakata, D.	ENVR	36	Mirjankar, N.S.	ANYL	295
Miller, S.A.	CELL	35	Minami, K.	INOR	1040	Mirkarimi, R.	CHAL	22
Miller, S.A.	POLY	142	Minasian, S.G.	INOR	92	Mirkarimi, R.	CHAS	18
Miller, S.A.	POLY	428	Minasian, S.G.	INOR	96	Mirkin, C.A.	ANYL	338
Miller, S.E.	CHED	292	Minasian, S.G.	INOR	140	Mirkin, C.A.	ANYL	417
Miller, S.J.	ORGN	104	Minasian, S.G.	INOR	1137	Mirkin, C.A.	COLL	435
Miller, S.J.	ORGN	385	Minasian, S.G.	INOR	1482	Mirkin, C.A.	COLL	522
Miller, T.R.	CHED	946	Minasian, S.G.	NUCL	39	Mirkin, C.A.	COLL	680
Miller, T.R.	CHED	947	Minaye Hashemi, F.	COLL	73	Mirkin, C.A.	ENFL	409
Miller, V.V.	ENFL	110	Minbirole, J.	CHED	197	Mirkin, C.A.	INOR	1186
Miller, W.J.	CHED	775	Minbirole, K.P.	POLY	406	Mirkin, C.A.	INOR	1417
Miller, W.J.	CHED	839	Mincher, B.	I&EC	83	Mirkin, C.A.	PHYS	265
Miller, W.J.	CHED	1831	Mincher, B.	I&EC	85	Mirkin, C.A.	PHYS	576
Miller, W.J.	CHED	2118	Mincher, B.	I&EC	86	Mirkin, C.A.	PMSE	83
Miller, W.M.	BIOT	450	Mincheva, R.	PMSE	488	Mirkin, C.A.	PMSE	527
Miller, W.M.	BIOT	664	Mindiola, D.J.	INOR	228	Mirkin, C.A.	PMSE	651
Miller-Hope, Z.	CHED	1239	Mindiola, D.J.	INOR	234	Mirkin, C.A.	PMSE	662
Miller-Schulze, J.	ENVR	62	Mindiola, D.J.	INOR	593	Mirkin, M.V.	COLL	442
Milley, S.	ENVR	539	Mindiola, D.J.	INOR	598	Miro, P.	INOR	1466
Millham, A.B.	CHED	1444	Mineart, K.P.	PMSE	76	Miro, P.	NUCL	119
Millhauser, G.L.	INOR	662	Mineer, A.	ANYL	87	Miro-Quesada, G.	BIOT	116
Milliand, M.	ENFL	1	Minehan, T.G.	BIOL	221	Miro-Quesada, G.	BIOT	692
Millick, N.	CHED	237	Minehan, T.G.	ORGN	721	Mirsaleh-Kohan, N.	CHED	74
Millick, N.	CHED	788	Minehan, T.G.	ORGN	847	Mirsaleh-Kohan, N.	CHED	1867
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Milligan, D.B.	ENVR	757	Mines, P.	ENVR	640	Mirzayans, P.	ORGN	190
Milligan, D.B.	POLY	362	Mingroni, M.	BIOL	172	Mischnick, P.	CELL	170
Milligan, G.L.	CHED	1475	Minitti, M.	BIOT	482	Miserez, A.	COLL	413
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Mishra, J.	CHED	40	Mladenov, N.	ENVR	228	Mohanty, U.	PHYS	282
Mishra, J.	CELL	272	Mladenov, N.	ENVR	349	Mohanty, U.	POLY	631
Mishra, M.	CATL	485	Mladenov, N.	ENVR	659	Mohapatra, H.	PMSE	4
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Mishra, N.	COLL	705	Mlsna, T.E.	ENVR	452	Mohite, A.D.	INOR	1105
Mishra, P.	BIOL	145	Mneimne, O.	CHED	129	Mohl, G.A.	INOR	743
Mishra, R.K.	GEOC	224	Mo, T.	ANYL	96	Mohler, C.E.	CELL	314
Mishra, S.	BIOT	4	Mo, T.	ANYL	97	Mohler, C.E.	PMSE	610
Mishra, S.	PMSE	470	Moadell, R.	MEDI	250	Mohler, C.E.	PMSE	614
Mishra, S.	CATL	440	Moaseri, E.	COLL	119	Mohnen, D.	CELL	175
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Misra, M.	CELL	505	Moberly, J.G.	INOR	1441	Moir, M.	ENFL	150
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Misra, P.	ENFL	451	Mobley, D.L.	COMP	268	Moir, M.	ENFL	156
Misra, R.N.	MEDI	492	Mobley, D.L.	COMP	353	Moir, M.	ENFL	400
Mitch, W.	ENVR	38	Mobley, T.A.	CHED	1142	Moirangthem, R.	ORGN	561
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Mitch, W.	ENVR	331	Modhera, B.A.	CHED	874	Mojica, E.E.	CHED	378
Mitch, W.	ENVR	759	Modiri Gharehveran, M.	ENVR	601	Mojica, E.E.	CHED	379
Mitch, W.	ENVR	899	Moebs-Sanchez, S.	ORGN	914	Mojica, E.E.	CHED	380
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Mitchell, A.E.	AGFD	177	Moeller, K.D.	INOR	40	Mojica, E.E.	CHED	402
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Mitchell, C.	GEOC	272	Moellering, R.E.	ORGN	694	Mojica, E.E.	CHED	404
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Mitchell, J.	BIOL	99	Moffett, K.L.	CHED	2149	Mokhtari, Z.	ANYL	420
Mitchell, L.A.	INOR	264	Moffitt, K.	CHED	414	Molander, G.A.	ORGN	59
Mitchell, L.A.	INOR	1275	Mogas-Soldevila, L.	ANYL	483	Molchanov, V.	ENFL	111
Mitchell, S.	BIOL	262	Moghaddam, A.D.	INOR	579	Moldaenke, C.	ENVR	236
Mitchler, M.	ORGN	570	Mogharbel, A.	ENVR	803	Moldenhauer, J.	CHED	2162
Mitnick, E.	GEOC	11	Mogharbel, R.	ENVR	801	Moldovan, F.	COLL	670
Mito, S.	GEOC	11	Mogonye, J.	COLL	750	Mole, R.A.	ENVR	780
Mitra, A.	COLL	352	Mohadjer Beromi, M.	INOR	1162	Molek, J.	BIOT	643
Mitra, S.	ENVR	395	Mohale, M.	BIOL	120	Molek, K.S.	ANYL	170
Mitra, S.	ENVR	581	Mohale, M.	PHYS	503	Molek, K.S.	CHED	1686
Mitra, S.	ENVR	865	Mohamed Gamal El-Din, M.	ENVR	810	Molek, K.S.	INOR	345
Mitragotri, S.	BIOT	686	Mohamed, A.	CELL	347	Molek, K.S.	INOR	348
Mitsuya, H.	COMP	503	Mohamed, A.	INOR	435	Molenda, M.	CHED	1165
Mitsuya, H.	MEDI	379	Mohamed, A.	INOR	516	Molenda, M.	IAC	16
Mittal, N.	CELL	430	Mohamed, A.	INOR	929	Molina Lopez, F.	PMSE	612
Mitton-Fry, R.M.	CHED	668	Mohamed, A.	INOR	1523	Molina, C.	MEDI	114
Mitzi, D.B.	INOR	786	Mohammad, A.	MEDI	73	Molina, C.A.	CELL	483
Miura, Y.	CARB	15	Mohammad, A.	MEDI	406	Molina, K.M.	COLL	302
Miura, Y.	PMSE	257	Mohammad, E.	PHYS	377	Molina, P.I.	CHED	1113
Miyabayashi, T.	BIOT	210	Mohammadi, E.	PMSE	191	Molina, P.I.	INOR	1235
Miyabayashi, T.	BIOT	435	Mohammadi, E.	PMSE	556	Molina, P.N.	ENVR	739
Miyagi, K.	CARB	57	Mohammadi, E.	PMSE	560	Molinari, A.	COLL	218
Miyake, G.	CATL	220	Mohammadi, H.	BIOT	408	Molinas, M.	BIOT	245
Miyake, G.	CATL	221	Mohammadhani, M.M.	POLY	602	Molina-Villarino, A.	CHED	498
Miyake, G.	ORGN	4	Mohammed, M.	COLL	651	Molinero, V.	GEOC	326
Miyake, G.	ORGN	329	Mohammed, S.	ENVR	557	Molinero, V.	GEOC	356
Miyake, G.	POLY	301	Mohan, A.	CHED	1371	Molinero, V.	PHYS	29
Miyamoto, H.	CELL	325	Mohan, A.	ORGN	472	Molino, N.	BIOT	699
Miyamoto, N.	PMSE	210	Mohan, R.S.	CHED	213	Molino, P.	COLL	821
Miyano, M.	CATL	103	Mohan, R.S.	ORGN	183	Molins, S.	GEOC	17
Miyata, K.	BIOT	536	Mohan, T.	CELL	52	Moll, N.	PHYS	116
Miyata, Y.	ENVR	65	Mohan, T.	CELL	419	Molla, M.	PMSE	426
Miyazaki, Y.	ORGN	41	Mohan, T.	CELL	454	Molla, M.	PMSE	513
Miyoshi, T.	PMSE	217	Mohan, T.	CELL	480	Molla, M.	POLY	371
Miyoshi, T.	PMSE	468	Mohan, T.	CELL	481	Moller, J.	PMSE	196

Möller, J.	MEDI	31	Monti, M.	CATL	102	Moore, S.	ANYL	79
Moller, K.	PHYS	69	Monti, M.	CATL	226	Moore, S.	ENVR	983
Moller, S.	AGFD	236	Montiel León, J.M.	ENVR	559	Moore, T.A.	PROF	1
Möllers, K.B.	CELL	279	Montjoy, D.	COLL	65	Moore, T.W.	MEDI	338
Molter, K.E.	CHED	503	Montoni, N.	PHYS	207	Moore-Farrell, S.	BIOT	402
Molter, K.E.	CHED	1845	Montoni, N.P.	PROF	6	Moore, A.H.	CATL	448
Molton, F.	ENVR	436	Montoro Bustos, A.R.	ENVR	544	Mooring, S.R.	CHED	2108
Momand, J.	BIOL	86	Montoro Bustos, A.R.	ENVR	546	Moot, T.	CINF	1
Momeni, A.	COLL	487	Montoto, E.	COLL	68	Mora, R.	ENVR	463
Monahan, D.M.	ANYL	27	Montoto, E.	COLL	312	Mora, R.	ENVR	731
Monasky, S.	CINF	112	Montoya, A.	CHED	737	Mora, S.J.	PROF	1
Monastersky, G.	BIOT	322	Montoya, A.	CATL	445	Moradi Ghadi, B.	ENFL	296
Monastyrski, A.	MEDI	452	Montoya, A.L.	CARB	79	Moradi, M.	COLL	552
Monbaliu, J.M.	ORGN	881	Montoya, J.	CHED	820	Moradian, A.	BIOT	467
Monbouquette, H.G.	ANYL	69	Montoya, M.	AGFD	96	Morales Guio, C.	CATL	330
Monceaux, C.J.	CHED	247	Mooberry, S.	MEDI	437	Morales Guzman, C.	ORGN	923
Monceaux, C.J.	CHED	1548	Moody, J.	CINF	53	Morales Martinez, O.J.	CHED	198
Moncho, S.	INOR	1464	Moody, K.	NUCL	16	Morales, D.	CHED	688
Monconduit, L.	ENFL	115	Moody, K.	NUCL	17	Morales, J.	CHED	1874
Mondal, D.	PHYS	461	Moody, P.C.	INOR	176	Morales, K.	ORGN	164
Mondal, P.	GEOC	322	Moog, R.S.	CHED	270	Morales, M.A.	MEDI	419
Mondal, P.	GEOC	324	Mook, W.	GEOC	46	Morales-Butler, E.J.	PHYS	534
Mondal, S.	COMP	19	Moon, A.C.	CHED	68	Morales-Lozada, Y.	ORGN	702
Mondal, S.	COMP	147	Moon, A.C.	CHED	200	Morales-Lozada, Y.	PROF	26
Mondal, S.	ENFL	341	Moon, A.C.	CHED	1946	Morales-Velez, J.	AGFD	107
Mondjinou, Y.	POLY	580	Moon, A.C.	CHED	1990	Moran, J.J.	ANYL	295
Mondo, S.J.	BIOT	139	Moon, A.C.	CHED	2154	Moran, K.D.	ENVR	997
Mondschein, J.	INOR	1032	Moon, A.P.	PHYS	158	Moran, P.	ENVR	898
Moneeb, A.M.	CATL	479	Moon, J.	PMSE	267	Moran, P.	GEOC	81
Monge, J.	GEOC	246	Moon, J.	CHED	1882	Moran, P.W.	ENVR	551
Monge, M.	INOR	709	Moon, J.	GEOC	179	Moran, R.	MEDI	481
Mongersun, A.	ANYL	307	Moon, J.	ORGN	870	Moran, R.	CHED	907
Mongue, F.	CHED	1302	Moon, J.	PMSE	73	Moran, S.D.	BIOL	10
Monie, E.	BIOT	560	Moon, J.	PMSE	329	Moran, S.D.	BIOL	292
Monnier, F.	CATL	639	Moon, J.	SOCED	5	Moran-Mirabal, J.	CELL	242
Monreal, M.J.	INOR	971	Moon, J.	AGFD	266	Morbidellij, M.	BIOT	79
Monroe, C.W.	ENFL	282	Moon, P.	CHED	333	Moreau, C.	CELL	126
Monroe, C.W.	ENFL	298	Moon, P.	MEDI	270	Moreau, C.	CELL	423
Monroe, E.	ENFL	183	Moon, S.	ANYL	144	Moreau, C.	CELL	534
Monroe, L.	CHED	340	Moon, S.	CATL	176	Moreau, R.	CELL	402
Mons, M.	PHYS	494	Moon, S.	CATL	321	Moreaux, M.	ORGN	302
Monson, C.F.	ANYL	157	Mooraj, S.	INOR	1080	Moreb, E.	BIOT	463
Montag, D.	CHED	1223	Moore, A.L.	PROF	1	Moree, B.	ANYL	223
Montag, P.	POLY	31	Moore, B.S.	MEDI	376	Morehead, A.T.	COMP	269
Montagna, V.	BIOL	312	Moore, C.E.	INOR	230	Morehead, A.T.	COMP	274
Montague, S.	CINF	161	Moore, C.E.	ORGN	246	Morehead, A.T.	COMP	288
Montague, S.	COMP	504	Moore, C.E.	ORGN	461	Morehouse, G.F.	ORGN	625
Montague, S.	MEDI	72	Moore, D.	CHED	1611	Morehouse, P.K.	CHED	2085
Montagut-Romans, A.	ORGN	218	Moore, D.	CHED	1702	Moreira, F.K.	CELL	95
Montanari, F.	MEDI	436	Moore, D.	CHED	1758	Moreira, F.K.	CELL	47
Montano, M.D.	ENVR	628	Moore, G.F.	CATL	218	Moreira, R.d.	ENVR	694
Monteil, D.	BIOT	364	Moore, J.	CHED	1768	Morel, B.	NUCL	114
Monteil, V.	INOR	410	Moore, J.	COLL	68	Morel, C.	CHED	999
Monteiro Ferreira, G.M.	MEDI	206	Moore, J.	COLL	312	Morell, G.	ENFL	173
Monteiro Ferreira, G.M.	MEDI	282	Moore, J.	PMSE	641	Morell, L.	AGFD	59
Monteiro, D.C.	PHYS	83	Moore, J.	POLY	236	Morelli, D.	AGFD	260
Monteiro, J.	INOR	93	Moore, J.	POLY	613	Morello, D.	ANYL	226
Monteiro, J.H.	INOR	1478	Moore, J.	CHED	165	Moreno, D.	ENVR	393
Monteiro, P.	GEOC	321	Moore, J.	CINF	100	Moreno, G.	CHAS	17
Montero de Espinosa, L.	POLY	254	Moore, J.D.	CELL	314	Moreno, K.	CHED	1853
Montero, K.S.	INOR	920	Moore, J.D.	PMSE	614	Moreno, T.G.	BIOL	124
Monterrosa Zavaleta, L.	CHED	1842	Moore, J.D.	INOR	1168	Moreno-Alcantar, G.	INOR	332
Montes, A.	ENVR	550	Moore, J.K.	INOR	1118	Moreno-Alcantar, G.	INOR	350
Montes, I.	CHED	498	Moore, J.N.	CHED	53	Moreton, J.C.	CHED	1104
Montes, I.	CHED	1555	Moore, J.S.	ORGN	930	Morey, A.M.	INOR	1067
Montes, M.	CHED	802	Moore, J.S.	PMSE	582	Morey, A.M.	INOR	1068
Montes, M.O.	COLL	844	Moore, J.S.	POLY	549	Morey, J.R.	INOR	1107
Montes, M.O.	ENVR	627	Moore, K.	CHED	1270	Morey, N.S.	INOR	423
Montes, M.O.	CHED	1105	Moore, L.	POLY	90	Morgan, B.	CELL	144
Montes, M.O.	CHED	1324	Moore, L.	POLY	235	Morgan, B.	POLY	587
Montes, M.O.	CHED	1261	Moore, L.J.	CHED	1994	Morgan, B.	BIOL	265
Montes-González, I.	CHED	1433	Moore, M.	COLL	659	Morgan, C.	MEDI	221
Montes-González, I.	IAC	17	Moore, M.M.	PHYS	238	Morgan, D.	CATL	86
Montes-González, I.	ORGN	702	Moore, N.	BIOT	316	Morgan, D.	ENFL	92
Montes-González, I.	PROF	26	Moore, N.	NUCL	162	Morgan, D.G.	CATL	80
Monteux, C.	PMSE	114	Moore, P.B.	COMP	264	Morgan, D.G.	ENFL	335
Montgomery, J.	ORGN	94	Moore, P.B.	PHYS	434	Morgan, H.R.	CHED	1256
Montgomery, J.I.	MEDI	316	Moore, P.B.	PMSE	357	Morgan, H.R.	CHED	1272
Monti, A.	COMP	11	Moore, P.W.	ORGN	190	Morgan, J.	I&EC	35
Monti, J.	COLL	103	Moore, R.	BIOT	478	Morgan, J.	ORGN	698



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Morgan, K.M.	BIOT	482	Morrison, C.	INOR	129	Moteki, T.	I&EC	43
Morgan, K.M.	COLL	146	Morrison, K.	GEOC	160	Motkuri, R.	ENFL	398
Morgan, K.M.	INOR	1319	Morrison, K.	GEOC	187	Motkuri, R.	ENFL	399
Morgan, L.R.	ENVR	851	Morrison, R.W.	CHED	96	Motley, K.	CHED	1084
Morgan, M.	ENVR	373	Morrison, R.W.	CHED	248	Motta Nascimento, B.	BIOT	31
Morgan, M.E.	CHED	104	Morrison, R.W.	CHED	1462	Motta, A.	INOR	1283
Morgan, N.	COLL	107	Morrison, S.	GEOC	233	Mottamal, M.	CHED	549
Morgan, R.J.	ORGN	765	Morrison, W.	ANYL	401	Mottillo, C.	INOR	1366
Morgan, S.E.	POLY	88	Morrison, W.J.	ANYL	194	Mottishaw, C.	BIOL	99
Morgan, S.E.	POLY	90	Morrissey, C.	CHED	521	Motz, A.	ENFL	363
Morgan, S.E.	POLY	235	Morrissey, T.	CHED	1657	Mouapi, K.	BIOL	300
Morgan, S.E.	POLY	459	Morrone, J.A.	COMP	29	Mouat, A.	INOR	569
Morgan, S.E.	POLY	506	Morrow, B.H.	CHED	1691	Mouchlis, V.	BIOL	356
Morgan, T.J.	ENFL	292	Morrow, J.R.	INOR	715	Mouchlis, V.	COMP	119
Morgan, T.J.	ENFL	323	Morrow, J.R.	INOR	1194	Mouchlis, V.	COMP	426
Morgan-Lang, C.	GEOC	122	Morrow, M.	CHED	1244	Moudrakovski, I.L.	INOR	787
Morgen, T.	POLY	354	Morrow, T.	INOR	1545	Mougel, J.	CELL	288
Morgenstern, A.	PHYS	218	Morsch, L.A.	CHED	295	Mougin, K.	CELL	177
Mori Quiroz, L.M.	CHED	1374	Morsch, L.A.	CHED	296	Mouille, G.	CELL	58
Mori Quiroz, L.M.	ORGN	48	Morsch, L.A.	CHED	784	Mould, D.P.	MEDI	291
Mori, R.A.	BIOT	482	Morse, B.	CHED	1076	Moulin, M.	COLL	701
Mori, R.A.	CATL	144	Morse, D.	CHED	758	Moulis, D.	ENVR	983
Mori, R.A.	COLL	146	Morse, D.	PMSE	306	Mouls, L.	AGFD	162
Mori, R.A.	INOR	1319	Morshedifar, A.	GEOC	323	Moulton, K.	CARB	40
Moriarty, K.	MEDI	449	Mortazavian, H.	POLY	296	Moune, M.	MEDI	455
Moric-Johnson, A.	PMSE	342	Morten, T.	COLL	640	Mountain, G.A.	COLL	319
Morigaki, K.	COLL	533	Mortensen, D.	CATL	198	Moura, E.A.	CELL	48
Morimoto, Y.	CATL	208	Mortenson, P.	COMP	101	Moura, E.A.	CELL	91
Morin, L.	CHED	671	Mortha, G.	ENVR	436	Moura-Letts, G.	ORGN	132
Morisseau, C.	MEDI	68	Mortimer, J.	CELL	270	Moura-Letts, G.	ORGN	133
Moriya, T.	COLL	174	Mortimer, J.	CELL	364	Moura-Letts, G.	ORGN	148
Morla, M.B.	CHED	1098	Mortimer, J.C.	CELL	271	Moura-Letts, G.	ORGN	149
Morla, M.B.	INOR	1021	Mortimer, M.	ENVR	752	Mousa, M.	ANYL	117
Morley, E.A.	CHED	1021	Mortimer, N.J.	ENFL	118	Mouser, P.	ENVR	800
Morley, E.A.	CHED	1866	Morton, H.E.	COMP	226	Mouser, P.	GEOC	186
Morley, S.M.	ENFL	377	Mosallaee, D.	INOR	1151	Mouser, P.	GEOC	298
Morosan, E.	INOR	754	Mosca, F.	PMSE	342	Mouser, P.	GEOC	338
Moroz, P.	INOR	819	Mosca, L.	ORGN	640	Mouser, P.	GEOC	343
Morozov, A.N.	INOR	1138	Mösch-Zanetti, N.	INOR	369	Mousseau, J.J.	ORGN	673
Morozov, Y.V.	COLL	541	Moseler, M.	COLL	29	Mousseau, J.J.	ORGN	707
Morozzi, C.	ORGN	192	Moseley, D.H.	INOR	714	Mousseau, J.J.	ORGN	763
Morrell, A.	CHED	1713	Moseley, D.H.	INOR	1233	Moustaid-moussa, N.	ANYL	450
Morrell, A.	CHED	1714	Moseley, D.H.	INOR	1237	Moustakim, M.	MEDI	6
Morren, A.	CHED	1754	Moser, B.	BIOL	130	Moutsopoulos, A.	BIOL	49
Morrill, J.	CELL	44	Moser, B.	BIOL	218	Mow, R.E.	CHED	1291
Morrill, L.C.	ORGN	376	Moser, B.	BIOT	400	Mower, B.	CHED	992
Morrill, L.C.	ORGN	487	Moser, B.	PMSE	693	Mownn, R.	CHED	535
Morris, A.	INOR	304	Moser, C.	CELL	530	Moya, R.	CELL	94
Morris, A.	BIOT	163	Moser, H.E.	COMP	247	Moyeen, G.	CHED	1183
Morris, A.	CHED	821	Moser, M.	COLL	121	Moyer, B.A.	ORGN	408
Morris, A.J.	ENFL	303	Moser, R.D.	POLY	507	Moyer, B.A.	ORGN	470
Morris, A.J.	PHYS	239	Moses, P.G.	CATL	593	Moyer, B.A.	ORGN	577
Morris, A.J.	PHYS	551	Mosher, E.	PMSE	427	Moyer, E.	PMSE	610
Morris, A.J.	POLY	177	Mosher, M.D.	AGFD	108	Moyer, Q.J.	ORGN	399
Morris, A.L.	COLL	538	Mosier, N.S.	CATL	151	Moylan, H.	INOR	1134
Morris, A.L.	INOR	488	Mosier, N.S.	CELL	20	Moynihan, M.	BIOT	332
Morris, C.	BIOT	127	Moskovits, M.	INOR	1529	Mozaffari, S.	COLL	12
Morris, D.	CHED	461	Moslin, R.	MEDI	315	Mozaffari, S.	COLL	792
Morris, D.E.	INOR	95	Mosquera-Giraldo, L.I.	CELL	3	Mozaffari, S.	MEDI	472
Morris, D.E.	INOR	971	Mosquera-Giraldo, L.I.	CELL	300	Mozaffari, S.	MEDI	144
Morris, J.	ANYL	79	Mosquera-Giraldo, L.I.	POLY	282	Mozdzierz, N.	BIOT	78
Morris, J.	MEDI	292	Moss, J.A.	MEDI	83	Mozhdehi, D.	PMSE	100
Morris, J.	GEOC	47	Moss, J.A.	MEDI	380	Mozzetti, A.R.	CHED	2054
Morris, J.	CHED	1553	Moss, M.	MEDI	385	Mozzoni, K.	MEDI	35
Morris, J.R.	INOR	1408	Moss, R.A.	ORGN	447	Mrksich, M.	ANYL	417
Morris, K.F.	CHED	412	Mossand, G.	NUCL	104	Mrksich, M.	BIOL	350
Morris, K.F.	CHED	415	Mossine, A.	ORGN	232	Mrksich, M.	BIOT	450
Morris, K.F.	CHED	422	Mossine, A.	ORGN	367	Mrksich, M.	BIOT	634
Morris, K.F.	CHED	488	Mostafa, S.S.	BIOT	460	Mroueh, M.	BIOL	274
Morris, K.F.	CHED	896	Mostafa, S.S.	BIOT	592	Mroueh, M.	INOR	934
Morris, L.	CHED	594	Mostafa, S.S.	BIOT	630	Mroz, C.R.	ORGN	399
Morris, L.S.	POLY	278	Mostajeran, C.	POLY	554	Mrozek, R.	POLY	526
Morris, M.	COMP	324	Mosure, K.	MEDI	51	Mu, A.	PMSE	689
Morris, M.	PROF	15	Motchnik, P.	BIOT	614	Mu, H.	I&EC	129
Morris, P.J.	MEDI	250	Motealleh, B.	ENFL	459	Mu, R.	CATL	143
Morris, R.	CHED	1358	Motealleh, B.	ENFL	462	Mubang, J.B.	POLY	450
Morris, R.H.	INOR	1165	Motealleh, B.	INOR	1421	Muchalski, H.	ORGN	521
Morris, S.	BIOL	139	Motealleh, B.	PMSE	77	Muchová, E.	COMP	467
Morris, T.W.	COLL	721	Motealleh, B.	PMSE	88	Muckelbauer, J.K.	MEDI	21
Morrison, A.E.	ORGN	661	Motealleh, B.	PMSE	409	Muckerman, J.T.	INOR	1181

Muckom, R.	BIOT	486	Mullberg, J.	BIOT	316	Munoz, J.	INOR	255
Mudarra, Á.	INOR	416	Mullen, L.	INOR	435	Munoz, J.	AGFD	59
Mudarra, Á.	ORGN	311	Mullen, L.	INOR	516	Muñoz, R.	CATL	384
Mueanggern, Y.	CATL	579	Mullen, T.J.	COLL	62	Muñoz, R.	CELL	168
Muehlhaus, F.R.	CATL	411	Mullen, T.J.	COLL	132	Munoz, T.	CHED	386
Mueller, K.	CATL	577	Muller, B.	COLL	126	Munro, A.M.	CHED	1868
Mueller, K.	ORGN	404	Muller, C.	MEDI	190	Munro, J.	POLY	27
Mueller, K.	ORGN	462	Muller, C.A.	MEDI	261	Munro, T.P.	BIOT	628
Mueller, K.	ORGN	639	Müller, D.	CATL	226	Munsell, E.V.	BIOT	706
Mueller, K.	ORGN	753	Muller, E.	PMSE	193	Munshi, J.	ANYL	271
Mueller, K.	ORGN	754	Muller, G.	CHED	106	Munson, A.	CHED	1890
Mueller, K.	ORGN	760	Müller, G.	MEDI	378	Munson, C.	CHED	1024
Mueller, K.	PMSE	309	Müller, G.	MEDI	426	Munteanu, D.A.	PHYS	330
Mueller, K.	POLY	208	Müller, J.	INOR	556	Munyaneza, E.	CHED	1236
Mueller, A.	CHED	196	Müller, J.	INOR	939	Munyaneza, E.	CHED	1237
Mueller, A.	POLY	124	Müller, M.T.	CHED	2005	Mura, C.	CHED	2038
Mueller, A.M.	INOR	71	Müller, M.T.	CHED	2006	Muralidharan, B.	ANYL	366
Mueller, C.	INOR	1097	Müller, M.T.	CHED	2115	Murase, R.	CARB	58
Mueller, J.	CHED	1157	Müller, T.A.	COMP	378	Murata, M.	MEDI	449
Mueller, K.T.	GEOC	72	Muller, T.J.	ORGN	419	Muráth, S.	CATL	393
Mueller, P.	CATL	580	Muller, T.J.	ORGN	455	Muratore, K.	CHED	1820
Mueller, T.	PMSE	536	Muller, U.	CHED	1407	Muratov, E.	ENVR	1009
Mueller, T.	CINF	5	Muller-Greven, J.	COLL	535	Muratsugu, S.	CATL	478
Mueller, V.	COLL	552	Mullerpatan, A.	BIOT	439	Murawski, A.	CELL	96
Muellers, S.N.	MEDI	121	Mullertz, A.	CELL	439	Murayama, H.	COLL	681
Muff, S.	COLL	755	Mullin, A.S.	PHYS	300	Murayama, M.	GEOC	103
Mugele, F.	GEOC	147	Mullin, J.L.	INOR	315	Murdick, R.	ANYL	401
Mugele, F.	GEOC	146	Mullin, J.L.	INOR	316	Murillo, J.G.	INOR	815
Mugnaini, M.	MEDI	11	Mullin, J.L.	INOR	317	Murkowski, A.	CHED	244
Mugo, S.	POLY	284	Mullin, L.	ENVR	131	Murkowski, A.	CHED	1964
Mugo, S.M.	POLY	552	Mullin, L.	BIOT	419	Murnane, R.	ENVR	726
Mugweru, A.M.	ANYL	155	Mullins, B.M.	ENVR	851	Murov, S.L.	CHED	282
Muhammad, M.	ORGN	607	Mullins, D.R.	CATL	139	Murphy, A.	COMP	285
Muhammad, R.	COMP	520	Mullins, P.B.	MEDI	361	Murphy, A.	POLY	454
Muhich, C.	CATL	597	Müllner, M.	CATL	614	Murphy, A.	POLY	455
Muir, D.	ENVR	69	Mulugeta, W.	CHED	462	Murphy, A.	POLY	515
Muir, D.C.	ENVR	68	Mulvaney, K.M.	ENVR	478	Murphy, B.	ANYL	351
Muir, D.C.	ENVR	71	Mulvaney, P.	COLL	449	Murphy, B.	CHAS	34
Muir, L.D.	ANYL	194	Mulvey, M.	MEDI	213	Murphy, C.	CHED	739
Mujacic, M.	BIOT	114	Mulvihill, E.	PHYS	490	Murphy, C.	CHED	1850
Mujahid, A.	ENVR	235	Mulville, A.K.	INOR	14	Murphy, C.	INOR	907
Mujahid, A.	PMSE	410	Mumford, E.M.	ORGN	537	Murphy, C.	INOR	918
Mujahid, A.	PMSE	682	Mumford, S.	BIOL	260	Murphy, C.J.	ANYL	336
Mujica, V.	ANYL	436	Mummadi, S.	INOR	899	Murphy, C.J.	COLL	341
Mujid, F.	COLL	243	Mummadi, S.	INOR	1486	Murphy, C.J.	COLL	848
Mukamel, S.	ANYL	262	Mumper, L.	POLY	542	Murphy, C.J.	ENVR	497
Mukarakate, C.	CATL	237	Mun, B.	BIOT	705	Murphy, C.J.	ENVR	670
Mukarakate, C.	CATL	242	Mun, J.	PMSE	115	Murphy, C.J.	ENVR	675
Mukarakate, C.	CELL	211	Mun, T.	I&EC	113	Murphy, C.J.	INOR	676
Mukarakate, C.	ENFL	290	Munasinghe, A.	INOR	289	Murphy, C.J.	INOR	1101
Mukarakate, C.	ENFL	291	Munasinghe, P.C.	BIOT	151	Murphy, C.J.	PROF	54
Mukerjee, S.	ANYL	282	Munck, E.	INOR	23	Murphy, D.	MEDI	309
Mukherjee, A.	INOR	271	Munck, E.	INOR	276	Murphy, J.	FLUO	52
Mukherjee, A.	INOR	1249	Munck, E.	INOR	948	Murphy, J.	CHED	1234
Mukherjee, N.	PHYS	59	Mundorff, E.C.	CHED	519	Murphy, J.C.	CHED	937
Mukherjee, P.	ORGN	904	Mundorff, E.C.	CHED	629	Murphy, J.C.	CHED	990
Mukherjee, S.	PMSE	317	Mundy, C.	COMP	93	Murphy, J.G.	ENFL	167
Mukhopadhyay, A.	CINF	25	Mundy, C.J.	COMP	57	Murphy, J.M.	CHED	1075
Mukhopadhyay, S.	PMSE	143	Mundy, C.J.	COMP	98	Murphy, J.S.	POLY	463
Mukhopadhyay, T.	BIOT	184	Mundy, C.J.	GEOC	328	Murphy, K.	ENVR	546
Mukhtar, S.	ENVR	387	Mundy, C.J.	GEOC	329	Murphy, K.	CHED	1824
Mukuna, R.B.	CHED	1241	Mundy, C.J.	PHYS	220	Murphy, K.L.	CHED	58
Mukundan, R.	ENFL	366	Munekiyo, B.	INOR	1537	Murphy, K.L.	CHED	176
Mulcahey, P.J.	COLL	438	Munet-Colon, C.	INOR	748	Murphy, K.L.	CHED	177
Mulcahy, H.A.	ANYL	359	Mungall, E.	PMSE	196	Murphy, K.L.	CHED	185
Mulcahy, S.P.	ORGN	187	Munguia, T.	CHED	511	Murphy, K.L.	CHED	186
Mulcahy, S.P.	ORGN	524	Munguia, T.	CHED	679	Murphy, K.L.	CHED	1949
Mulchandani, A.K.	ANYL	236	Munhoz, D.R.	CELL	47	Murphy, K.L.	CHED	1950
Mulchandani, A.K.	ENFL	427	Munhoz, D.R.	CELL	95	Murphy, K.L.	CHED	2012
Mulchandani, A.K.	INOR	1005	Munir, H.	ENVR	235	Murphy, K.L.	CHED	2013
Mulchandani, A.K.	INOR	1082	Muniyandi, S.	INOR	1328	Murphy, K.L.	CHED	2079
Muldoon, M.J.	INOR	808	Muniz, M.N.	CHED	816	Murphy, K.L.	CHED	2105
Muldoon, M.J.	INOR	1288	Muniz, M.N.	CHED	831	Murphy, M.	ENVR	145
Muldoon, M.J.	INOR	1496	Muñiz-Santiago, A.	CHED	1879	Murphy, M.	CHED	482
Muldoon, M.J.	INOR	1503	Munjar, C.	CHED	1618	Murphy, M.B.	ENVR	921
Mulero, M.	MEDI	430	Muñoz, A.	AGFD	107	Murphy, R.	ANYL	449
Mulford, D.R.	CHED	1812	Munoz, A.B.	COMP	229	Murphy, S.	CHED	1617
Mulfort, K.L.	CATL	391	Munoz, G.	ENVR	559	Murphy, T.	CHED	856
Mülhaupt, R.	PMSE	370	Munoz, G.	ENVR	538	Murray, A.	GEOC	200
Mulherin, J.	AGFD	39	Munoz, G.	ENVR	957	Murray, A.	CHED	527

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Murray, B.	COMP	543	Myneni, S.C.	GEOC	246	Najjar, M.	MEDI	312
Murray, B.	MEDI	367	Myneni, S.C.	GEOC	357	Najmr, S.	COLL	524
Murray, C.	COMP	101	Myres, G.J.	CHED	411	Najt, C.	CHED	736
Murray, C.B.	COLL	524	Mysona, J.	PMSE	306	Nakaba, S.	CELL	322
Murray, C.B.	INOR	35	N G Ralalage, D.	ORGN	530	Nakafuku, K.	ORGN	208
Murray, G.	SCHB	18	Na, C.	ENVR	1029	Nakafuku, K.	ORGN	331
Murray, G.P.	CHED	1291	Na, C.G.	ORGN	46	Nakai, H.	PHYS	134
Murray, J.K.	CHED	835	Na, D.H.	CARB	88	Nakakita, T.	INOR	1544
Murray, J.K.	CHED	1556	Na, Y.	CHED	1710	Nakamata Huynh, S.M.	ORGN	173
Murray, J.K.	CHED	1981	Naas, T.	COMP	582	Nakamatsu, J.	CARB	48
Murray, L.J.	MEDI	342	Nabavinia, M.	BIOT	390	Nakamatsu, J.	CHED	281
Murray, M.	BIOT	520	Nabissi, M.	MEDI	31	Nakamatsu, J.	MPPG	15
Murray, M.W.	POLY	118	Nadagouda, M.	ENVR	8	Nakamatsu, J.	PMSE	590
Murray, T.F.	MEDI	4	Nadagouda, M.	ENVR	249	Nakamura, J.	ENVR	53
Murrell, J.	BIOT	662	Nadagouda, M.	ENVR	644	Nakamura, J.	CATL	356
Murry, D.	MEDI	405	Nadeau, J.M.	CHED	1383	Nakamura, R.	MEDI	481
Murry, D.	MEDI	372	Nadeau, L.J.	PMSE	146	Nakamura, T.	INOR	1040
Murry, J.A.	ORGN	341	Nadegn, A.	ORGN	801	Nakamura, Y.	ENFL	334
Murtaugh, T.S.	INOR	624	Naderi, A.	CELL	239	Nakanishi, H.	CARB	46
Murthy, K.	AGFD	165	Nadipalli, R.	BIOT	355	Nakano, A.	PHYS	94
Murthy, N.	COLL	750	Nadler, S.	MEDI	25	Nakao, A.	MEDI	133
Murthy, N.	BIOL	152	Nadres, E.T.	ENVR	505	Nakashima, H.	ANYL	392
Murthy, N.	BIOL	180	Naef, E.	CHED	395	Nakashima, K.	CELL	66
Murthy, N.	BIOT	196	Naeim, M.	ANYL	219	Nakatsubo, F.	CELL	32
Murthy, N.	CARB	16	Naewrittikul, W.	COLL	291	Nakatsuka, N.	ANYL	32
Murzin, D.	ENFL	332	Nafea, M.	CHED	774	Nakatsuka, N.	COLL	132
Muscat, A.J.	COLL	154	Nafea, M.	CHED	981	Nakatsuka, N.	COLL	215
Museth, A.	BIOT	541	Nag, O.K.	COLL	573	Nakatsuka, N.	COLL	660
Museth, K.	BIOT	219	Nagabandi, N.	CELL	292	Nakayama, K.	CATL	388
Musgrave, C.	ANYL	246	Nagae, H.	INOR	1184	Nakayama, K.	CHED	520
Musgrave, C.	CATL	220	Nagae, H.	ORGN	79	Nalam, P.	COLL	586
Musgrave, C.	CATL	221	Nagai, A.	PMSE	503	Nalaparaju, A.	ENVR	529
Musgrave, C.	CATL	597	Nagalingam, A.	MEDI	298	Nalca, A.	MEDI	395
Musgrave, C.	COMP	524	Nagan, M.C.	CHED	901	Naldoni, A.	PHYS	268
Musgrave, C.	ENFL	54	Nagao, M.	COLL	83	Naleem, N.	COMP	387
Musgrave, C.	INOR	1116	Nagao, M.	COLL	698	Nalley, E.A.	WCC	21
Musick, V.	MEDI	183	Nagao, M.	COLL	703	Nallon, E.	COLL	741
Muskens, O.	COLL	248	Nagaoka, Y.	COLL	462	Nam, E.	CHED	1918
Musko, F.L.	CHED	485	Nagaraj, C.	CELL	52	Nam, E.	CHED	2179
Mussari, C.	MEDI	349	Nagarajan, R.	BIOL	122	Nam, G.	CATL	421
Musselwhite, N.	CATL	15	Nagarajan, R.	BIOL	159	Nam, H.	ANYL	440
Mussio, K.	ANYL	42	Nagasawa, K.	CATL	96	Nam, H.	BIOL	42
Mustafa, H.	POLY	240	Nagase, S.	INOR	1297	Nam, H.	BIOT	195
Musunuri, S.	BIOT	560	Nagata, K.	PMSE	447	Nam, I.	BIOL	42
Mutharasan, R.	ANYL	389	Nagelski, A.L.	INOR	952	Nam, I.	PMSE	393
Muthard, R.W.	BIOT	719	Nagendran, S.	GEOC	31	Nam, J.	AGFD	68
Muthike, A.	PHYS	222	Naggar, M.	INOR	1523	Nam, J.	AGFD	70
Muthukumar, M.	POLY	161	Naghdi, M.	ENVR	156	Nam, J.	BIOT	389
Muthukumar, M.	POLY	594	Nagib, D.A.	ORGN	50	Nam, K.	CATL	422
Muthunayake, N.	CHED	554	Nagib, D.A.	ORGN	52	Nam, K.	ENVR	122
Muthuraj, R.	CELL	505	Nagib, D.A.	ORGN	202	Nam, K.	ENFL	253
Muthusamy, E.	ENFL	349	Nagib, D.A.	ORGN	203	Nam, S.	CATL	310
Mutinda, S.	ANYL	314	Nagib, D.A.	ORGN	208	Nam, S.	AGFD	227
Mutka, T.	MEDI	452	Nagib, D.A.	ORGN	331	Nam, W.	INOR	144
Mutthamsetty, V.	ORGN	533	Nagib, D.A.	ORGN	435	Nam, Y.	CATL	424
Muy, S.	ANYL	238	Nagib, D.A.	ORGN	703	Nam, Y.	COLL	327
Muyldermans, S.	BIOT	212	Nagib, F.	COLL	377	Nam, Y.	COLL	596
Muzdalo, A.	COMP	568	Nagle, J.K.	INOR	306	Nam, Y.	INOR	76
Muzquiz, R.	CHED	1319	Nagle, N.	BIOT	140	Naman, B.	AGFD	166
Muzquiz, R.	CHED	2189	Nagle, H.	POLY	247	Naman, B.	POLY	463
Muzyka, J.L.	CHED	1910	Naguib, M.	COLL	850	Namboodiri, H.	MEDI	449
Mwangi, G.	CHED	466	Nagy, J.	CHED	2089	Nambukara Wellala, N.P.	INOR	1301
Mychak, A.	AGFD	246	Nagy, K.L.	ENVR	31	Namgung, H.	AGFD	26
Myers, A.M.	CHED	1177	Nagy, K.L.	GEOC	145	Nanayakkara, C.	INOR	445
Myers, A.M.	CHED	1784	Nah, J.	CATL	422	Nanayakkara, S.	INOR	1347
Myers, J.	MEDI	18	Nah, J.	ENFL	208	Nance, P.	INOR	855
Myers, R.	GEOC	321	Nah, J.	PHYS	405	Nancy, F.	CHED	129
Mygdali, E.	CARB	19	Naik, R.R.	ANYL	426	Nancy, F.	MEDI	487
Myhr, C.	CINF	64	Naik, R.R.	POLY	518	Nancy, F.	MEDI	488
Mykhaylyk, O.	COLL	818	Naik, S.	ENVR	77	Nanda, H.	COLL	6
Mykhaylyk, O.	PMSE	45	Nail, B.	ENFL	313	Nanda, J.	POLY	237
Mykhaylyk, O.	POLY	118	Nair, A.G.	MEDI	346	Nandakumar, P.	CHED	1872
Mykhaylyk, O.	POLY	288	Nair, N.U.	BIOT	31	Nandasiri, M.	ENFL	309
Mykland, M.	COLL	640	Nair, N.U.	BIOT	109	Nandi, S.	BIOT	7
Myles, D.	COLL	699	Nair, P.	COLL	760	Nandi, S.	BIOT	469
Myles, D.	PHYS	384	Nair, S.	PMSE	650	Nandwana, V.	COLL	216
Myllmäki, T.T.	COLL	820	Nair, S.	POLY	56	Nandwana, V.	COLL	335
Myneni, S.C.	GEOC	41	Najafi, H.	COLL	1	Nandwana, V.	PMSE	553
Myneni, S.C.	GEOC	197	Najera, H.	MEDI	288	Nandy, A.	BIOT	571
Myneni, S.C.	GEOC	199	Najib, H.	ANYL	275	Nangia, S.	BIOL	311

Nangia, S.	PHYS	164	Nath, M.	INOR	1428	Nealy, S.	CHED	2044
Nanita, S.C.	IAC	22	Nath, M.	INOR	1430	Neary, W.J.	POLY	113
Nann, T.	ENFL	104	Nathan, M.	INOR	308	Neaton, J.	CATL	261
Nano, A.	CHED	1066	Natividad, R.	ENVR	698	Neaton, J.	CATL	558
Nanta, P.	CARB	82	Natrajan, L.S.	I&EC	90	Neaton, J.	COMP	511
Nantz, M.H.	ANYL	468	Natrajan, L.S.	INOR	1385	Neaton, J.	COMP	513
Napier, B.	ANYL	483	Natsume, T.	BIOL	76	Neaton, J.	INOR	1222
Napoleon, R.L.	COMP	264	Nau, J.	ORGN	455	Nebipasagil, A.	PMSE	102
Napoleon, R.L.	PHYS	434	Nau, M.	CELL	119	Nebipasagil, A.	PMSE	318
Napolitano, A.	AGFD	125	Naudet, T.	CHED	1740	Nebot, V.J.	PMSE	292
Nappi, M.	ORGN	670	Nauert, S.	CATL	608	Nechay, M.R.	PHYS	218
Napso, S.	CELL	325	Naughton, K.	ANYL	219	Nechyporchuk, O.	CELL	79
Naqvi, A.	ORGN	696	Nault, K.J.	CHED	1851	Neckermann, G.	MEDI	194
Narain, R.	CARB	20	Nauman, M.	CHED	1006	Neckermann, G.	MEDI	272
Narain, R.	CARB	21	Naumann, C.	COLL	618	Nedder, T.F.	CHED	2177
Narain, R.	CARB	33	Naumann, C.	COLL	622	Nedelec, J.	CELL	442
Narang, A.S.	BIOT	292	Naumeic, G.R.	CHED	1880	Nederhoff, J.	CHED	452
Narang, A.S.	BIOT	550	Naumiec, G.R.	CHED	1397	Nederhoff, J.	CHED	506
Narayan, A.	INOR	1357	Naumiec, G.R.	CHED	1424	Nederhoff, J.	CHED	1821
Narayan, A.R.	ORGN	71	Naumov, P.	PROF	22	Nedosekin, D.	COLL	675
Narayan, A.R.	ORGN	662	Naumov, S.	FLUO	50	Nee, M.J.	CHED	1650
Narayan, R.	CELL	448	Naumov, S.	FLUO	51	Needle, D.	CHED	648
Narayanan, A.	POLY	566	Nauser, T.	FLUO	22	Neek, M.	BIOT	699
Narayanan, B.	COLL	635	Nauss, J.L.	CINF	104	Neelarapu, R.	MEDI	452
Nardi, A.	GEOC	153	Navadia, C.	AGFD	218	Neels, A.	CELL	83
Narehood, A.	CHED	1849	Navaratna, T.	BIOT	475	Neer, A.J.	INOR	990
Naresh, A.	BIOT	275	Navard, P.R.	CELL	58	Neese, F.	COMP	16
Naresh, A.	BIOT	476	Navard, P.R.	CELL	172	Neese, F.	INOR	739
Narita, A.	ORGN	404	Navarro Arzate, F.	CELL	236	Neese, F.	INOR	769
Narita, A.	ORGN	462	Navas-Moreno, M.	ENVR	1037	Neeway, J.	ENVR	301
Narjes, F.	INOR	56	Navea, J.G.	PHYS	425	Neff, L.	CHED	918
Narkeviute, I.	CATL	268	Navea, J.G.	PHYS	464	Neff-Mallon, N.	PHYS	202
Narkeviute, I.	CATL	318	Naveo, E.P.	ANYL	329	Negishi, E.	ORGN	78
Narkeviute, I.	CATL	560	Navid, A.	BIOT	305	Negishi, E.	ORGN	306
Naron, I.	CHED	650	Navotnaya, P.	PHYS	42	Negre-Salvayre, A.	AGFD	219
Narro, A.	CHED	421	Navotnaya, P.	PHYS	253	Negri, K.R.	ORGN	768
Narro, A.	CHED	1807	Navotnaya, P.	PHYS	258	Negrino, M.	CHED	1300
Narula, G.	BIOT	296	Navotnaya, P.	PHYS	332	Negrino, M.	COLL	754
Narula, G.	BIOT	369	Navotnaya, P.	PHYS	440	Negron, L.	CHED	1479
Narupai, B.	PMSE	143	Navrotsky, A.	COLL	850	Negron, L.J.	INOR	748
Narvaez Mejias, L.	CHED	345	Navrotsky, A.	ENFL	22	Negron-Teron, K.	CHED	329
Nasca, J.N.	MEDI	402	Navrotsky, A.	GEOC	32	Negron-Teron, K.	CHED	1829
Nascimento, D.R.	COMP	383	Navrotsky, A.	GEOC	62	Negru, B.	CHED	817
Nascimento, M.A.	CELL	512	Navrotsky, A.	GEOC	63	Negru, B.	CHED	1268
Naseri, N.	CELL	386	Navrotsky, A.	GEOC	176	Negru, B.	CHED	1316
Nasertorabi, F.	BIOT	334	Navrotsky, A.	GEOC	234	Negru, B.	CHED	1317
Nash, B.	CHED	855	Navrotsky, A.	NUCL	120	Negru, B.	CHED	1332
Nash, B.	CHED	1572	Nawaz, T.	ENVR	911	Negru, B.	CHED	1334
Nash, B.	CHED	1762	Nawi, M.M.	COMP	548	Nehdi, A.	MEDI	168
Nash, C.	CATL	633	Nayak, A.	PHYS	76	Nehme, Y.	ENVR	677
Nash, H.P.	INOR	304	Nayak, P.	BIOT	479	Neibergall, M.B.	CHED	684
Nash, K.L.	I&EC	82	Nayak, S.	ENVR	511	Neibergall, M.B.	CHED	736
Nash, K.L.	NUCL	145	Nayeer, A.	COLL	771	Neidig, M.L.	NUCL	40
Nash, K.L.	NUCL	159	Naz, S.	PMSE	459	Neidrich, K.L.	CHED	1940
Nash, K.L.	NUCL	160	Nazarenko, S.I.	POLY	505	Neil, C.W.	ENVR	512
Nashu, M.	ANYL	120	Nazari, H.	ORGN	221	Neil, C.W.	GEOC	39
Nasir, W.	PMSE	436	Nazarian, A.	ORGN	107	Neill, N.	BIOL	276
Nasiri, M.	POLY	561	Nazarova, A.	CHED	1564	Neilson, A.	AGFD	258
Naskar, A.K.	ENFL	423	Nazeeruddin, M.	INOR	1246	Neilson, J.R.	ENFL	274
Naskar, A.K.	ENFL	446	Nazin, G.	INOR	1059	Neiner, D.	INOR	854
Naskar, A.K.	I&EC	32	Nazin, G.	PHYS	1	Neisen, B.D.	INOR	85
Nason, D.	MEDI	364	Nday, D.	POLY	339	Neisen, B.D.	INOR	266
Nasrallah, D.	ORGN	95	Ndi, C.N.	CHED	1451	Neitz, J.	CINF	144
Nasreen, S.	PMSE	411	Ndi, C.N.	ORGN	657	Neiwert, W.A.	CHED	109
Nasreen, S.	POLY	150	Ndu, U.	ENVR	344	Neiwert, W.A.	CHED	2185
Nasreen, S.	POLY	218	Ndubaku, C.O.	MEDI	342	Nekoueishahraki, B.	CATL	570
Nasreen, S.	POLY	269	Ndukwe, G.	CATL	491	Nelin, C.J.	NUCL	29
Nasser, S.	MEDI	144	Ndukwe, M.	CHED	845	Nelles, L.	MEDI	347
Nassiri, H.	CATL	516	Ndukwe, M.	CHED	1774	Nellis, W.	CHED	2032
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Natarajan, B.	PMSE	320	Ndzeidze, G.N.	ORGN	887	Nellutla, S.	CHED	1123
Nataro, C.	CHED	245	Neal, H.A.	NUCL	117	Nelson, A.	POLY	109
Nataro, C.	INOR	134	Neal, H.A.	NUCL	136	Nelson, A.	INOR	250
Nataro, C.	INOR	221	Neal, J.	PMSE	101	Nelson, B.C.	ENVR	544
Nataro, C.	INOR	380	Neal, T.J.	POLY	118	Nelson, B.C.	ENVR	546
Nataro, C.	INOR	381	Neale, N.R.	INOR	692	Nelson, B.C.	ENVR	625
Nater, E.A.	GEOC	120	Neale, N.R.	INOR	1343	Nelson, B.C.	ENVR	969
Natesakhawat, S.	INOR	790	Neale, N.R.	INOR	1344	Nelson, D.J.	CHED	2017
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Nelson, J.	ENFL	4	Newar, T.	ORGN	843	Nguyen, G.	CHED	390
Nelson, J.	ENFL	155	Newaz, A.	ENFL	20	Nguyen, G.	CHED	1805
Nelson, J.	ENFL	359	Newaz, A.	INOR	1024	Nguyen, G.	CHED	1830
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Nelson, J.	GEOC	142	Newhart, W.H.	CHED	1667	Nguyen, G.	ENVR	742
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Nguyen, V.	CHED	885	Niegelhell, K.	CELL	471	Nilsson, P.	MEDI	205
Nguyen, V.	INOR	1537	Nieh, M.	COLL	8	Nilsson, P.	MEDI	403
Nguyen, V.	INOR	624	Nieh, M.	COLL	86	Nilsson, P.	MEDI	409
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Noel, V.	NUCL	25	Norlin, R.	ANYL	259	Nowick, J.S.	MEDI	390
Noël, V.	ENVR	223	Norman, A.I.	PMSE	216	Nowick, J.S.	ORGN	605
Noël, V.	NUCL	26	Norman, C.	CHED	709	Nowick, J.S.	ORGN	606
Noel-Torres, J.G.	CHED	1249	Norman, E.B.	NUCL	124	Nowick, J.S.	ORGN	690
Noey, E.L.	ORGN	688	Norman, E.B.	NUCL	125	Nowick, J.S.	ORGN	695
Nogaj, L.	CHED	640	Norman, J.	INOR	1254	Nowick, J.S.	PROF	15
Nogaj, L.	CHED	688	Norman, J.E.	ENVR	551	Nowick, J.S.	ENFL	92
Noganta, S.	CATL	381	Norman, M.	POLY	90	Nowicka, E.	CATL	86
Nogueira, A.	ENFL	266	Noronha, A.	BIOT	86	Nowlin, C.	CHED	429
Noh, C.	INOR	1026	Norppa, H.	CELL	198	Nowry, Y.	CHED	1297
Noh, D.	COLL	315	Norquist, A.J.	CATL	627	Noy, A.	COLL	779
Noh, J.	MEDI	279	Norrby, P.	ORGN	283	Noyes, A.	BIOT	593
Noh, J.	COLL	299	Norris, B.N.	CHED	847	Nozaki, K.	INOR	117
Noh, M.	CATL	520	Norris, B.N.	CHED	1838	Nozari, M.	INOR	351
Noh, Y.	PMSE	437	Norris, C.	CHED	428	Nozik, A.J.	INOR	689
Noimark, S.M.	INOR	1520	Norris, D.	MEDI	349	Nsangou, S.	MEDI	71
Nolan, B.	INOR	1559	Norris, I.	ENVR	838	Ntais, S.	CATL	249
Nolan, E.M.	INOR	508	Norris, T.	COLL	834	Nubbemeyer, U.	ORGN	832
Nolan, M.	CATL	137	Norris-Mullins, B.	MEDI	419	Nuckolls, C.P.	INOR	366
Nolan, M.	CATL	301	Norskov, J.K.	CATL	21	Nuckolls, C.P.	INOR	695
Nolan, M.	CATL	358	Norskov, J.K.	CATL	72	Nuckolls, C.P.	INOR	1462
Nolan, M.	CATL	459	Norskov, J.K.	CATL	73	Nudelman, F.	GEOC	327
Nolan, M.	CATL	544	Norskov, J.K.	CATL	166	Nudo, A.	ORGN	927
Nolan, M.	COLL	803	Norskov, J.K.	COMP	120	Nuevo, M.	PHYS	324
Nolan, M.	PROF	4	Norskov, J.K.	COMP	192	Nugen, S.	AGFD	252
Nole, N.	AGFD	100	Norskov, J.K.	ENFL	48	Nugen, S.	ANYL	419
Nolis, G.	CHED	1337	Norskov, J.K.	ENVR	144	Nugroho, W.	CELL	322
Nolis, G.	COLL	324	Norskov, J.K.	I&EC	24	Nuhn, L.	PMSE	636
Noll, R.J.	CHED	790	Norskov, J.K.	INOR	1352	Nuhu, M.	BIOT	443
Nolley, R.	ANYL	272	Norström, E.	CELL	376	Nulwala, H.B.	ENFL	83
Nolting, B.	BIOT	159	North, M.	POLY	563	Nulwala, H.B.	I&EC	136
Nolting, B.	BIOT	206	North, S.W.	CHED	1666	Nune, S.K.	ENFL	309
Nomaan, S.M.	ENVR	80	Northheim, C.	ENVR	377	Nunes de Macedo, J.	CELL	383
Nomoto, T.	BIOT	321	Northern, T.	BIOT	258	Nunes, S.	GEOC	270
Nomoto, T.	BIOT	684	Northrop, B.H.	ORGN	859	Nunez Garcia, A.	ENVR	306
Nomura, D.	ENVR	33	Northrop, B.H.	POLY	365	Nunez Garcia, A.	ENVR	748
Nonaka, H.	CELL	336	Northrop, B.H.	POLY	408	Nunez, F.	MEDI	144
Nonaka, H.	CELL	378	Norton, M.R.	CHED	1107	Nunez, J.	INOR	292
Noolvi, M.	MEDI	440	Norvell, B.	INOR	839	Nuñez, J.	AGFD	114
Noonan, K.J.	POLY	325	Nosek, J.	ENVR	307	Nuñez, L.	CHED	2090
Noor, N.	GEOC	285	Noshadi, I.	BIOT	390	Nunez, N.	BIOL	62
Noor, O.	ANYL	175	Noshadi, I.	CATL	235	Nunez, N.	CHAS	49

Nunez, P.	CHED	1073	O'Brien, C.	BIOT	583	O'Donnell, M.	CHED	2099
Nunez, P.	CHED	1792	O'Brien, C.	BIOT	590	O'Duill, M.L.	ORGN	310
Nupur, N.	BIOT	35	O'Brien, E.	COLL	707	Oehme, D.	CELL	23
Nupur, N.	BIOT	296	O'Brien, E.	PHYS	411	Oehme, D.	CELL	233
Nupur, N.	BIOT	445	Obrien, J.	CATL	629	Oehme, D.	CELL	517
Nurmi, J.T.	ENVR	106	O'Brien, J.	CHED	988	Oehrl, L.L.	AGFD	171
Nurumbetov, G.	PMSE	287	O'Brien, J.	ENVR	521	Oehrl, L.L.	AGFD	173
Nurumbetov, G.	PMSE	304	OBrien, J.J.	INOR	826	Oellien, F.	COMP	248
Nurumbetov, G.	POLY	14	OBrien, J.J.	INOR	827	Oelmeier, S.A.	BIOT	570
Nussinov, R.	COMP	489	OBrien, L.	CHED	523	Oelrich, R.	MEDI	212
Nutt, S.	PMSE	70	O'Brien, L.C.	INOR	826	Oener, S.	INOR	1153
Nuzzo, R.G.	CATL	1	O'Brien, L.C.	INOR	827	Oener, S.	INOR	1582
Nuzzo, R.G.	CATL	145	Obrien, M.	INOR	1417	Oestreich, M.	ORGN	44
Nwachuku, K.	PHYS	329	O'Brien, N.	ENVR	6	Oetjen, K.	ENVR	213
Nwokogu, P.	COLL	344	O'Brien, S.	BIOT	488	Oettgen, H.	GEOC	269
Nwokolo, C.	CHED	1032	O'Brien, S.	BIOT	583	O'Fee, L.	MEDI	111
Nwokolo, C.	I&EC	16	O'Brien, T.	MEDI	342	Offen, W.	BIOL	361
Nwosu, U.G.	GEOC	23	Obrist, D.	GEOC	20	O'Flanagan, J.	CHED	342
Nyachwaya, J.	CHED	837	Obrist, D.	GEOC	50	Oganesyan, A.	CHED	1552
Nyamekye, C.	PMSE	96	Obrist, D.	GEOC	54	Ogasawara, H.	BIOT	482
Nyanhongo, G.	CELL	294	O'Bryan, C.	CATL	400	Ogasawara, H.	CATL	144
Nyapete, C.O.	INOR	1130	O'Bryan, C.	CHED	1790	Ogasawara, H.	COLL	146
Nybo, E.	BIOT	267	Obst, F.	CELL	217	Ogasawara, H.	INOR	1319
Nydam, A.	CHED	1756	Obst, F.	CELL	428	Ogasawara, M.	INOR	183
Nydam, A.	CHED	1757	Ocampo, J.	NUCL	19	Ogawa, D.	BIOT	41
Nyein, H.	ANYL	485	Ocampo, M.	CATL	285	Ogawa, R.	ORGN	160
Nyein, H.Y.	ANYL	465	O'Carroll, D.	PMSE	159	Ogawa, Y.	CELL	70
Nylander, T.	CELL	400	O'Carroll, D.	ENVR	315	Ogawa, Y.	CELL	240
Nylander, T.	COLL	79	O'Carroll, D.	ENVR	756	Ogawa, Y.	CELL	311
Nyman, M.D.	CHED	1113	O'Carroll, D.M.	ENVR	76	Ogba, O.	CHED	1700
Nyman, M.D.	INOR	441	O'Carroll, D.M.	ENVR	306	Ogba, O.	CHED	1736
Nyman, M.D.	INOR	443	O'Carroll, D.M.	ENVR	748	Ogba, O.	COMP	284
Nyman, M.D.	INOR	446	Ocasio Rodriguez, H.A.	CHED	198	Ogba, O.	ENVR	639
Nyman, M.D.	INOR	448	Ocasio, D.	ENVR	719	Ogba, O.	ENVR	650
Nyman, M.D.	INOR	450	Ochoa, C.I.	ORGN	784	Ogba, O.	ENVR	1008
Nyman, M.D.	INOR	451	Ochoa, G.	GEOC	237	Ogden, H.	PHYS	300
Nyman, M.D.	INOR	656	Ochoa, J.	CHED	520	Ogi, S.	POLY	444
Nyman, M.D.	INOR	1235	Ochoa, M.	CHED	1853	Ogilvie, D.	MEDI	291
Nyman, M.D.	NUCL	117	Ochoa-Puentes, C.	ORGN	821	Ogilvie, J.P.	ANYL	30
Nyman, M.D.	NUCL	136	Ochsendorf, J.	CELL	425	Ogilvie, J.P.	PHYS	12
Nypelo, T.	CELL	37	Ochuba, A.	CHED	1824	OgilvieBattersby, J.	COLL	218
Nysschen, J.J.	CHED	874	Ocko, B.	PMSE	187	Ogitsu, T.	INOR	1535
Nystroem, L.	CELL	109	Ocola, E.J.	PHYS	359	Ogline, O.	CHED	682
Nyström, G.	CELL	321	Ocola, L.	COLL	592	Ognibene, T.	ANYL	23
Nyström, L.	COLL	318	O'Connell, B.J.	INOR	327	Ognibene, T.	ANYL	51
Nyström, L.	COLL	320	O'Connell, C.	COMP	393	Ognibene, T.	ANYL	54
Nziko, V.D.	ORGN	515	O'Connell, G.	PMSE	3	Ognibene, T.	ANYL	58
O'Claire, E.	ORGN	778	O'Connell, S.	PHYS	461	Ogorek, T.J.	CHED	1569
O'Connell, T.N.	MEDI	340	O'Connor, A.R.	CHED	1813	Ogorodnik, E.	CINF	122
O'Connor, M.	ENVR	157	O'Connor, A.R.	CHED	1972	Ogrinc, N.	GEOC	203
O'Neill, K.	BIOT	43	O'Connor, A.R.	INOR	137	Ogungbe, I.V.	PROF	48
Oakley, J.V.	CHED	1404	O'Connor, A.R.	INOR	804	Ogunjirin, E.	CHED	42
Obaid, A.	INOR	824	O'Connor, B.	CELL	197	Ogunwale, M.	ANYL	468
Obaidullah, A.J.	MEDI	437	O'Connor, D.	ENVR	444	Ogunyankin, M.	BIOT	292
Obaleye, J.A.	INOR	1261	O'Connor, K.	INOR	1146	O'Gwynn, D.	CHED	144
Obaleye, J.A.	INOR	1262	O'Connor, K.	INOR	428	Oh, A.	INOR	485
Obare, S.O.	AGFD	94	O'Connor, L.	ENVR	518	Oh, A.	COMP	436
Obare, S.O.	ENVR	815	O'Connor, M.	ENVR	525	Oh, A.	MEDI	342
Obare, S.O.	ENVR	816	O'Connor, M.	ENVR	942	Oh, C.	MEDI	258
Obare, S.O.	ENVR	817	Oconnor, P.	CELL	244	Oh, D.	ENVR	783
Obare, S.O.	ENVR	818	Oconnor, P.	ENFL	53	Oh, E.	BIOT	235
Obeng, S.	MEDI	117	O'Connor, R.	MEDI	364	Oh, E.	COLL	571
Ober, C.K.	PMSE	9	Odago, M.O.	CHED	1110	Oh, G.	I&EC	113
Ober, C.K.	PMSE	346	Odago, M.O.	CHED	1461	Oh, H.	INOR	1571
Ober, C.K.	PMSE	356	Odago, M.O.	CHED	1512	Oh, H.	COLL	232
Oberdorfer, K.L.	POLY	470	Odago, M.O.	CHED	1550	Oh, J.	PMSE	608
Oberg, K.M.	ORGN	826	Odago, M.O.	CHED	2114	Oh, J.	CHED	991
Öberg, L.	INOR	56	O'Day, P.A.	GEOC	3	Oh, J.	PMSE	134
Öberg, L.	MEDI	363	O'Day, P.A.	GEOC	164	Oh, J.	BIOT	541
Oberhofer, H.	COMP	59	O'Day, P.A.	GEOC	204	Oh, S.	BIOT	688
Obermeier, M.T.	MEDI	21	O'Dea, A.	MEDI	200	Oh, S.	ENFL	388
Obhi, N.	PMSE	594	Odegard, A.P.	CHED	1104	Oh, S.	CATL	321
Obora, Y.	INOR	1280	Odellius, M.	PHYS	67	Oh, W.	CATL	543
Oborná, J.	ENVR	307	Odell, L.	ORGN	42	O'Hagan, M.J.	CATL	546
Obay, K.	PHYS	339	Odenwelder, D.	BIOT	367	O'Hagan, M.J.	INOR	539
Obregón, I.	CATL	487	Odewade, N.	CHED	1653	Ohkoshi, S.	INOR	1040
Obrezkov, F.	POLY	637	O'Doherty, G.A.	CARB	10	Ohlhausen, J.A.	COLL	30
O'Brian, N.	ENVR	159	O'Donnell, C.J.	MEDI	361	Ohlsen, B.	CHED	234
O'Brien, C.	CATL	270	O'Donnell, K.	CELL	313	Ohm, W.	COLL	67
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Ohrstrom, L.R.	INOR	209	Oldham, D.	ORGN	514	Olsen, K.	INOR	862
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Oien, N.	BIOT	542	Olds, D.	ENFL	274	Olsen, M.	INOR	450
Oien, N.	MEDI	392	Olea, C.	AGFD	117	Olsen, M.	INOR	451
Ojala, W.H.	CHED	1388	O'Leary, D.J.	CHED	1642	Olsen, R.J.	CHED	321
Ojala, W.H.	CHED	1389	O'Leary, D.J.	CHED	1700	Olsen, R.J.	CHED	888
Ojala, W.H.	CHED	1390	O'Leary, D.J.	CHED	1736	Olshansky, J.H.	COLL	284
Ojala, W.H.	CHED	1602	O'Leary, D.J.	COMP	284	Olson, A.	INOR	1213
Ojea Jimenez, I.	COLL	828	O'Leary, D.J.	INOR	418	Olson, A.P.	CHED	108
Ojeda, J.J.	ENVR	807	O'Leary, I.R.	CHED	532	Olson, C.	CARB	66
Oji, L.	NUCL	151	Olek, A.T.	CELL	192	Olson, D.	BIOT	157
Oji, M.	POLY	165	Olesen, S.E.	CATL	480	Olson, D.	BIOT	71
Ojima, I.	FLUO	30	Olesik, S.J.	ANYL	318	Olson, D.	INOR	1085
Ojima, I.	MEDI	13	Oliaro, T.	GEOC	253	Olson, J.	INOR	1338
Ojima, I.	MEDI	218	Oliboni, R.	PHYS	133	Olson, J.	PROF	2
Ojima, I.	MEDI	219	Oliva, G.	MEDI	134	Olson, K.	PMSE	105
Ojima, I.	MEDI	224	Oliva, R.	BIOL	44	Olson, M.	CHED	1182
Ojstršek, A.	CELL	157	Oliva, R.	BIOL	67	Olson, M.A.	POLY	323
Okada, M.	ENVR	864	Oliva, S.	CHED	1798	Olson, M.A.	CHED	975
Okada, M.	GEOC	247	Olivares Corichi, I.	COLL	303	Olson, M.A.	COMP	96
Okada, T.	ORGN	479	Olive, D.	COLL	866	Olson, M.R.	ENVR	62
Okajima, M.	POLY	77	Olive, D.	INOR	92	Olson, N.	ORGN	224
Okamoto, C.	PMSE	198	Olive, D.	INOR	1137	Olson, R.E.	MEDI	51
O'Kane, P.T.	BIOL	350	Olive, D.	NUCL	39	Olson, R.E.	MEDI	52
O'Keefe, C.A.	INOR	1118	Oliveira, C.	BIOT	513	Olson, T.	INOR	897
O'Keefe, K.	CHED	1924	Oliveira, F.	COLL	373	Olson, T.	ORGN	783
Okeefe, S.F.	AGFD	258	Oliveira, F.	PMSE	590	Olstad, J.	ENFL	288
Okeke, I.O.	CHED	661	Oliveira, L.A.	ENVR	453	Olstad, J.	ENFL	289
Okerlund, A.	CATL	158	Oliveira, M.	CELL	154	Olstad, J.	ENFL	424
Okí, L.R.	ENVR	869	Oliveira, M.	CELL	513	Oltermann, E.L.	CHAS	19
Oklejas, V.	COLL	108	Oliveira, M.M.	CELL	71	Oltermann, E.L.	SCHB	1
Oklejas, V.	COLL	749	Oliveira, O.N.	BIOT	269	Oltermann, E.L.	SCHB	17
Okoh, G.	CELL	2	Oliveira, O.N.	CARB	32	Olvera De La Cruz, M.	COLL	448
Okolie, C.	CATL	201	Oliveira, O.N.	PMSE	104	Olvera De La Cruz, M.	INOR	1177
Okolie, C.	ENFL	14	Oliveira, R.	CELL	48	Olvera, A.C.	ORGN	521
Okonkwo, S.	AGFD	239	Oliveira, W.Q.	CELL	154	Olyschlaeger, T.	ORGN	159
Okonogi, A.	CATL	356	Oliver, J.	POLY	85	Omadjela, O.	CELL	466
Okoroji-Ohabor, P.	PHYS	532	Oliver, S.	CATL	83	O'Mahony, D.J.	ORGN	194
Okoth, E.	ORGN	460	Oliver, S.	ENVR	447	O'Mahony, G.	MEDI	17
Oksman, K.A.	CELL	93	Oliver, S.	ENVR	854	O'Malley, D.P.	MEDI	349
Oksman, K.A.	CELL	396	Oliver, S.	INOR	1017	O'Malley, M.A.	BIOT	60
Oksuz, L.	COLL	159	Oliver, S.	INOR	1030	O'Malley, M.A.	BIOT	98
Oksuz, L.	COLL	849	Oliver, S.	INOR	1034	O'Malley, M.A.	BIOT	128
Oktawiec, J.	INOR	1270	Oliver, T.	PHYS	417	O'Malley, M.A.	BIOT	139
Oktawiec, J.	INOR	1505	Oliver, W.	PMSE	531	O'Malley, M.A.	BIOT	153
Okubo, J.	ORGN	554	Olivera, D.	ENVR	373	O'Malley, M.A.	BIOT	177
Okubo, M.	MEDI	110	Oliveri, A.	GEOC	268	O'Malley, M.A.	BIOT	252
Okuda, J.	INOR	799	Oliveri, A.	INOR	449	O'Malley, M.A.	BIOT	258
Okuda, J.	INOR	1184	Oliveri, A.F.	CHED	1055	O'Malley, M.A.	BIOT	393
Okuda, N.	ENVR	65	Oliveri, A.F.	INOR	446	O'Malley, M.A.	BIOT	399
Okumu, A.A.	ORGN	837	Olivetti, E.	CELL	425	O'Malley, M.A.	PMSE	6
Okumura, M.	ORGN	173	Olivier, M.	INOR	1561	O'Malley, M.A.	PRES	12
Okumura, M.	CHED	1670	Olivucci, M.	COMP	131	Omaque, J.	ORGN	333
Okur, S.	COLL	137	Olkin, C.	PHYS	191	Omary, M.	INOR	358
Okweye, P.	ENVR	734	Oller do Nascimento, C.A.	ENVR	696	Omary, M.	INOR	821
Okweye, P.	ENVR	821	Olmanson, L.G.	ENVR	266	Omary, M.A.	CHED	1096
Oladepo, S.A.	ANYL	273	Olmstead, M.M.	INOR	374	Omary, M.A.	INOR	1043
Oladepo, S.A.	ANYL	476	Olmstead, M.M.	INOR	1092	Omary, M.A.	INOR	1241
Olaechea, L.	POLY	254	Olmstead, M.M.	INOR	1256	Omary, M.A.	PROF	16
Olah, G.	CATL	291	Olmstead, M.M.	INOR	1331	Omastova, M.	COLL	744
Olah, G.	ENFL	242	Olmstead, M.M.	INOR	1333	O'Meara, M.J.	MEDI	57
Olah, G.	ORGN	96	Oloo, W.N.	INOR	276	Omenetto, F.	ANYL	483
Olah, G.	ORGN	143	Oloo, W.N.	INOR	277	Omer, K.A.	CATL	617
Olah, G.	ORGN	144	O'Loughlin, A.M.	ORGN	146	Omi, R.	MEDI	449
Olah, G.	PROF	24	O'Loughlin, E.J.	ENVR	103	Omran, A.	MEDI	498
Olaitan, A.	ANYL	170	O'Loughlin, E.J.	GEOC	132	Ona Ruales, J.O.	PHYS	335
Olaitan, A.	CHED	1686	O'Loughlin, E.J.	GEOC	182	Ona Ruales, J.O.	PHYS	351
Olarte, M.V.	ENFL	182	O'Loughlin, E.J.	GEOC	239	Ona-Nguema, G.	ENVR	221
Olarte, M.V.	ENFL	378	O'Loughlin, E.J.	GEOC	291	Ona-Nguema, G.	ENVR	665
Olatunbosun, A.	BIOT	430	Olp, M.D.	CHED	704	Onasch, T.B.	ENVR	400
Olatunbosun, A.	BIOT	481	Ölsbye, U.	COLL	640	Onder, F.	MEDI	465
Olatunbosun, A.	COLL	172	Ölscher, F.	INOR	410	Onder, O.C.	PMSE	658
Olazarán-Santibáñez, F.	ORGN	790	Olschewski, A.	CELL	52	Ondi, L.	ORGN	366
Ölçeroglu, E.	POLY	513	Olsen, B.	INOR	535	Ondrechen, M.J.	BIOL	226
Oldenburg, C.	ENFL	29	Olsen, B.D.	MPPG	20	Ondrechen, M.J.	COMP	306
Oldenburg, S.	PHYS	314	Olsen, B.D.	PMSE	154	Ondrechen, M.J.	COMP	367
Oldenhuis, N.J.	BIOT	539	Olsen, C.W.	AGFD	56	Ondrechen, M.J.	PHYS	523
Oldenhuis, N.J.	PMSE	101	Olsen, C.W.	AGFD	115	Ondry, J.	COLL	389
Oldham, C.J.	INOR	1081	Olsen, E.	CHED	13	O'Neal, A.	GEOC	275

O'Neil, G.	CATL	144	Organ, M.G.	ORGN	363	Orton, D.	WCC	18
O'Neil, G.	COLL	146	Organ, M.G.	ORGN	884	Orts, W.J.	AGFD	60
O'Neil, G.	BIOT	482	Orgill, M.	CHED	26	Orts, W.J.	AGFD	61
O'Neil, G.	INOR	1319	Orgill, M.	CHED	237	Orts, W.J.	CELL	401
O'Neil, G.	ANYL	433	Orgill, M.	CHED	788	Orts, W.J.	COLL	851
O'Neil, G.W.	ORGN	824	Orgill, M.	CHED	2044	Orts, W.J.	PMSE	340
O'Neil, J.	BIOL	265	Oriard, T.	ENVR	838	Orts, W.J.	PMSE	446
O'Neil, S.	MEDI	364	Oriez, V.	CELL	92	Ortu, F.	NUCL	64
O'Neil, B.	BIOL	131	Orio, M.	INOR	628	Ortuño, M.	INOR	684
O'Neill, C.A.	ENFL	173	Orlandi, J.	CHED	835	Ortuno, M.A.	INOR	677
O'Neill, G.	ENVR	296	Orlandi, J.	CHED	1556	Ortuno, M.A.	INOR	810
O'Neill, H.M.	CELL	19	Orlandi, J.	ENVR	552	Ortuno-Quintana, C.	ENFL	209
O'Neill, H.M.	CELL	189	Orlando, T.M.	PHYS	196	Ortwine, D.F.	CINF	47
O'Neill, H.M.	CELL	188	Orlando, T.M.	PHYS	286	Ortwine, D.F.	COMP	22
O'Neill, H.M.	CELL	275	Orlicki, J.A.	POLY	556	Orwat, M.J.	MEDI	18
O'Neill, H.M.	CELL	520	Orloff, N.	CHED	513	Orzech, B.	COLL	250
O'Neill, H.M.	PHYS	384	Orlov, A.	CATL	34	Orzel, J.	CHED	780
O'Neill, K.	BIOT	631	Orlov, A.	CATL	300	Osada, H.	BIOL	181
O'Neill, M.	CARB	64	Orlov, A.	CATL	370	Osada, K.	BIOT	536
O'Neill, M.	CARB	66	Orlov, A.	CATL	373	Osatiashtiani, A.	CATL	466
O'Neill, M.J.	ORGN	511	Orlov, A.	CHED	209	Osborn Popp, T.	POLY	596
Onen, H.	PMSE	414	Orlov, A.	ENVR	372	Osborn, J.	CHED	2064
Ong, C.	MEDI	342	Orlović-Leko, P.	ENVR	736	Osborne, B.	POLY	371
Ong, E.H.	MEDI	422	Ormanci Acar, T.	POLY	223	Osborne, C.	ORGN	141
Ong, M.	ENFL	317	Orndorff, P.B.	COMP	321	Osborne, D.	MEDI	249
Ong, S.	ENFL	278	Ornelas, A.	ORGN	921	Osborne, D.	BIOT	46
Onishi, N.	CHED	101	Ornelas, M.A.	MEDI	350	Osborne, E.	CHED	635
Onneweer, F.	ENVR	59	Orner, K.	ENVR	909	Osborne, E.	CHED	1778
Onobun, E.	BIOL	260	Oro, L.A.	INOR	419	Osborne, E.	CHED	1816
Onobun, E.	MEDI	92	Oro, L.A.	INOR	420	Osborne, M.D.	BIOT	648
Onuchic, J.N.	COMP	76	Oro, L.A.	INOR	880	Osburn, J.	COLL	683
Onuchukwu, U.	CELL	124	Orona, J.	CHED	1234	Osburn, P.L.	CHED	1485
Onuchukwu, U.	ENVR	779	Oropeza, D.	ENFL	42	Osby, J.	PMSE	338
Onurlu, H.	AGFD	147	Orozco, J.	CHED	1331	Oscar, B.G.	PHYS	121
Onyeagba, J.	CHED	809	Orozco, M.	COMP	428	Oschmann, B.	ENFL	117
Onyeozili, E.E.	BIOL	315	Orr, G.	ENVR	497	Ose, R.	PMSE	628
Oo, S.D.	CHED	512	Orr, J.	CHED	1675	Osgood, R.M.	INOR	1577
Ooi, B.G.	BIOT	478	Orr, T.J.	CHED	1797	O'Shea, K.	INOR	247
Ookawara, S.	ENVR	609	Orsat, V.	AGFD	240	O'Shea, K.E.	CHED	919
Ooki, W.	CATL	356	Orski, S.V.	PMSE	278	O'Shea, K.E.	CHED	925
Oostendorp, D.J.	CHED	1735	Orski, S.V.	POLY	608	O'Shea, K.E.	ENVR	433
Opel, K.	CHED	435	Orta, K.	CHED	1858	O'Shea, K.E.	ENVR	482
Opel, K.	CHED	630	Ortaboy, S.	GEOC	321	O'Shea, K.E.	ENVR	510
Opel, K.	CHED	593	Ortega, E.	COLL	480	O'Shea, K.E.	ENVR	522
Oppenheimer, J.	ORGN	424	Ortega, R.	INOR	1147	O'Shea, K.E.	ENVR	614
Opperman, C.	AGFD	191	Ortega-San-Martín, L.	CHED	281	O'Shea, K.E.	ENVR	615
Oppermann, U.	COMP	549	Orth, P.	MEDI	128	O'Shea, K.E.	ENVR	689
Or, D.	BIOT	431	Orth, P.	MEDI	248	O'Shea, S.K.	CHED	1850
Orange, D.	ENVR	558	Ortiz Gomez, V.	BIOL	109	Osinski, M.	CHED	1305
Orbey, N.	COLL	218	Ortiz Hernandez, C.	BIOT	342	Osmundsen, R.	CELL	425
Orbey, N.	I&EC	132	Ortiz Quiles, E.O.	CHED	1752	Osorio Cantillo, C.	CHED	1327
Orcel, U.	FLUO	19	Ortiz Quiles, E.O.	ENVR	45	Osorio Cantillo, C.	CHED	1328
Orchard, A.	MEDI	239	Ortiz Quiles, E.O.	PMSE	20	Osorio-Cantillo, C.M.	CHED	1174
Ordenana, J.	CHED	702	Ortiz Torres, I.	COMP	549	Osorio-Cantillo, C.M.	CHED	1249
Ordenana, J.	CHED	743	Ortiz, A.	CHED	752	Osorio-Cantillo, C.M.	CHED	1323
Ordonez, D.	CHED	610	Ortiz, A.	GEOC	203	Osorio-Cantillo, C.M.	CHED	1338
O'Reilly, D.	BIOL	166	Ortiz, A.	COLL	259	Osowiecki, W.T.	COLL	188
O'Reilly, R.K.	PMSE	619	Ortiz, C.	CHED	891	Ospina, C.A.	MEDI	431
O'Reilly, R.K.	POLY	163	Ortiz, C.A.	INOR	904	Ospina, C.A.	MEDI	470
O'Reilly, R.K.	POLY	259	Ortiz, J.V.	COMP	494	Ossler, F.	ENFL	320
O'Reilly, R.K.	POLY	378	Ortiz, L.	INOR	257	Osswald, H.L.	MEDI	379
O'Reilly, R.K.	POLY	516	Ortiz, O.	CHED	329	Ostapenko, G.	FLUO	51
O'Reilly, R.K.	POLY	547	Ortiz, R.	ANYL	213	Ostapenko, G.	MEDI	456
O'Reilly, R.K.	POLY	550	Ortiz, V.	CHED	617	Ostaszewski, C.J.	PHYS	425
O'Reilly, R.K.	POLY	628	Ortiz-Martinez, K.	ENVR	44	Ostazeski, S.	ANYL	261
Orellana, M.	BIOL	54	Ortiz-Martinez, K.	ENVR	729	Österberg, M.K.	CELL	207
Orelma, H.	CELL	207	Ortiz-Quiles, E.O.	ENFL	101	Österberg, M.K.	CELL	333
Orelma, H.	CELL	374	Ortiz-Quiles, E.O.	PMSE	362	Österberg, M.K.	CELL	373
Orelma, H.	CELL	409	Ortiz-Soto, J.	CHED	884	Ostericher, A.	INOR	1439
Orem, W.	ENVR	31	Ortiz-Soto, J.	CHED	894	Osterloh, F.E.	CATL	264
Orem, W.H.	ENVR	110	Ortloff, F.	I&EC	11	Osterloh, F.E.	CATL	496
Oremland, R.S.	GEOC	125	Ortner, A.	CELL	294	Osterloh, F.E.	CHED	1039
Oren, Y.	COLL	371	Ortoleva, P.	CELL	526	Osterloh, F.E.	ENFL	313
Orf, G.	PHYS	206	Ortoleva, P.	COLL	363	Osterloh, F.E.	INOR	1268
Orf, G.	PHYS	336	Ortoleva, P.	COLL	365	Osterloh, F.E.	INOR	1271
Orfão, J.	ENVR	487	Ortoleva, P.	COLL	401	Osterloh, F.E.	INOR	1470
Orfield, N.	COLL	293	Ortoleva, P.	COLL	402	Osterloh, F.E.	INOR	1574
Orfield, N.	COLL	600	Ortoleva, P.	COLL	485	Ostermann, A.	INOR	176
Orfield, N.	COLL	705	Ortoleva, P.	COLL	558	Osterwalder, J.	COLL	755
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Ostrander, J.	CHED	1688	Owen, M.	CHED	2118	Pacheco, J.	NUCL	13
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Ostrowski, M.	BIOL	352	Owens, C.P.	INOR	391	Pachter, R.	COMP	469
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Ottens, M.	BIOT	526	Ozbek, S.	COLL	375	Paesani, F.	ENFL	249
Ottens, M.	BIOT	528	Ozcan, A.	PMSE	415	Paesani, F.	INOR	1400
Ottens, M.	BIOT	534	Ozcan, A.	PMSE	416	Paesani, F.	PHYS	120
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Otto, J.P.	ANYL	302	Ozcelik, O.	GEOC	60	Paeth, M.	CHED	1358
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Ou, Y.	MEDI	309	Ozerov, O.	CHED	1076	Pagano, J.J.	ENVR	74
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Oueis, Y.	ENVR	525	Ozerov, O.	INOR	875	Pagano, J.K.	INOR	95
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Ovalles, C.F.	ENFL	2	Ozturk, S.	BIOT	248	Page, K.	CHED	826
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Overgard, A.	ORGN	699	Pabst, T.M.	BIOT	211	Pahl, M.N.	BIOL	65
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Oviedo, M.B.	COMP	479	Pac, C.	INOR	914	Paige, J.	ENVR	180
Oviedo, M.B.	COMP	542	Pac, C.	INOR	916	Paik, S.	POLY	650
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Pajarillo, L.A.	CHED	1304	Pan, A.	COLL	193	Pant, K.K.	CATL	440
Pajarillo, L.A.	CHED	1319	Pan, A.	MEDI	159	Pantazis, D.	INOR	769
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Pak, J.J.	CHED	1021	Pan, C.	GEOC	93	Pantelides, S.	COLL	842
Pak, J.J.	CHED	1259	Pan, C.	POLY	403	Pantojas, V.	CELL	129
Pak, J.J.	CHED	1262	Pan, C.	ANYL	54	Pantojas, V.	CELL	146
Pak, J.J.	CHED	1866	Pan, C.	ORGN	212	Pantoustier, N.	COLL	429
Pal, L.	AGFD	191	Pan, C.	ORGN	451	Paolella, D.	BIOT	725
Pal, L.	CELL	162	Pan, D.	CATL	180	Paolucci, C.	CATL	276
Pal, L.	COLL	183	Pan, F.	COLL	144	Paolucci, C.	COMP	160
Pal, N.	COLL	352	Pan, F.	CATL	281	Paolucci, F.	CATL	234
Pal, S.	PHYS	376	Pan, F.	CATL	613	Papageorgiou, L.	BIOT	648
Pala, I.R.	ANYL	1	Pan, H.	COMP	285	Papaiconomou, N.	I&EC	18
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Paladhi, S.	ORGN	131	Pan, K.	PHYS	498	Papavassiliou, G.	INOR	1276
Palagin, D.	ENFL	10	Pan, L.	ENFL	29	Papavassiliou, G.	COLL	842
Palakurthi, M.	CELL	309	Pan, L.	AGFD	166	Papillon, J.P.	MEDI	366
Palaniandavar, M.	INOR	1328	Pan, L.	INOR	1332	Papineau, M.	AGFD	154
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Palatucci, M.	ENVR	4	Pan, L.	CATL	472	Papish, E.T.	INOR	614
Palazzolo, A.	ORGN	625	Pan, L.	COLL	185	Papish, E.T.	INOR	1209
Palazzolo, S.	COLL	277	Pan, M.	ANYL	393	Papke, R.	MEDI	67
Paldi, R.	CATL	379	Pan, M.	ENVR	172	Papke, R.	MEDI	410
Palecek, S.	BIOL	257	Pan, Q.	CATL	56	Papoutsakis, E.T.	BIOT	623
Palermo, A.	CATL	81	Pan, S.	COLL	513	Papoutsakis, E.T.	BIOT	627
Palermo, G.	BIOL	2	Pan, S.	COLL	517	Papoutsakis, L.	POLY	168
Palermo, G.	COMP	176	Pan, S.	INOR	1146	Pappano, B.	BIOL	189
Palermo, G.	COMP	216	Pan, S.	INOR	1349	Pappenfus, T.M.	CHED	1728
Palermo, G.	COMP	520	Pan, S.	ENVR	856	Pappoppula, M.	ORGN	31
Palermo, G.	COMP	543	Pan, T.	CHED	1563	Pappoppula, M.	ORGN	303
Palermo, G.	COMP	569	Pan, X.	BIOT	207	Pappu, R.V.	COLL	35
Palermo, M.G.	MEDI	305	Pan, X.	BIOT	284	Paquet, T.	CINF	165
Palermo, M.G.	MEDI	366	Pan, X.	BIOT	337	Paquin, C.	ORGN	205
Paley, D.	INOR	1462	Pan, X.	BIOT	416	Paquin, C.	ORGN	820
Paley, D.	PHYS	386	Pan, X.	BIOT	457	Parachikova, A.I.	MEDI	344
Paley, M.V.	PHYS	411	Pan, X.	CELL	150	Parackal, J.	CHED	596
Palii, A.	PHYS	154	Pan, X.	CELL	444	Parajuli, D.	ANYL	89
Palinko, I.	CARB	77	Pan, X.	CELL	507	Parajuli, D.	INOR	1040
Palinko, I.	CARB	78	Pan, X.	CATL	646	Parak, W.	COLL	118
Palinko, I.	CATL	393	Pan, Y.	ENVR	367	Parak, W.	COLL	419
Palit, C.	INOR	1160	Panagiotopoulos, A.	PMSE	673	Parak, W.	COLL	422
Palla, K.	BIOT	218	Panak, P.	I&EC	90	Parala, H.	INOR	1203
Pallela, V.	MEDI	254	Panatdasirisuk, W.	POLY	135	Parales, R.E.	ENVR	3
Pallela, V.	MEDI	255	Pance, N.	ORGN	677	Paranawithana, N.N.	MEDI	87
Pallempati, K.	ENVR	850	Pancoast, A.	CHED	1571	Parang, K.	MEDI	144
Pallinti, P.	CELL	186	Pancrazio, J.	PMSE	613	Parang, K.	MEDI	145
Palm, D.	CATL	268	Panda, S.S.	MEDI	393	Parang, K.	MEDI	162
Palm, D.	ENFL	206	Panda, T.	BIOT	565	Parang, K.	MEDI	472
Palma, J.L.	ANYL	436	Pande, P.	ENVR	292	Parang, K.	MEDI	506
Palma, J.L.	PHYS	221	Pande, V.S.	COMP	452	Parang, K.	ORGN	613
Palma, M.	COLL	738	Pande, V.S.	COMP	475	Parang, K.	ORGN	618
Palmal, M.	ENVR	606	Pande, V.S.	PHYS	169	Paranthaman, M.	ENFL	423
Palmans, A.	POLY	312	Pande, V.S.	PMSE	240	Paranthaman, M.	GEOC	32
Palmer, A.	CHED	162	Pandelia, M.	INOR	775	Paranthaman, M.	ENFL	413
Palmer, A.	CHED	2030	Pandey, P.	COMP	487	Pardasani, R.T.	ORGN	66
Palmer, C.	AGFD	91	pandey, R.	COMP	405	Parducho, K.	CHED	2097
Palmer, C.P.	ANYL	163	pandey, R.	COMP	561	Parekh, A.A.	CATL	276
Palmer, G.	CHED	1199	Pandey, R.	PHYS	158	Parent, L.R.	COLL	629
Palmer, J.G.	CHAS	51	Pandey, S.	PMSE	81	Parent, Y.	ENFL	288
Palmer, L.C.	PMSE	626	Pandey, T.	ENFL	363	Parent, Y.	ENFL	289
Palmer, M.	COLL	259	Pandian, R.	CHED	1360	Parent, Y.	ENFL	424
Palmer, M.	CHED	1195	Panecka, M.	ENVR	999	Parenti, N.	AGFD	42
Palmer, N.	INOR	605	Panella, J.	INOR	1107	Parga Rivera, K.A.	CHED	1854
Palmese, G.R.	CELL	268	Paneth, P.	ENVR	3	Parham, J.	INOR	283
Palmese, G.R.	PMSE	639	Panfil, Y.	PHYS	175	Parham, J.	INOR	289
Palmese, G.R.	PMSE	652	Panfilov, D.	ENVR	737	Parhamifar, L.	POLY	410
Palmese, G.R.	PMSE	691	Pang, H.	PHYS	480	Paria, S.	ENFL	207
Palmese, G.R.	PMSE	591	Pang, J.	CELL	14	Paricio, L.	CHED	719
Palmgren, M.B.	MEDI	374	Pang, J.W.	CHED	187	Paricio, L.	CHED	1842
Palsson, B.O.	BIOT	86	Pang, Q.	COLL	316	Parikh, A.N.	COLL	779
Paluck, S.	POLY	292	Pangging, M.	ENVR	784	Parikh, A.N.	COLL	780
Paluck, S.	POLY	632	Pangloli, P.	AGFD	16	Parikh, A.N.	COLL	782
Palui, G.	COLL	445	Pangloli, P.	AGFD	158	Parikh, A.N.	COLL	784
Palumbo, C.	INOR	1382	Pangloli, P.	AGFD	159	Parikh, D.	CHED	735
Paluri, S.	CHED	2052	Panhuis, M.	COLL	740	Parikh, S.J.	ENVR	970



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Parikh, S.J.	ENVR	1040	Park, G.A.	INOR	518	Park, M.	ENVR	841
Parikka, K.	CELL	304	Park, H.	BIOL	180	Park, M.	ENVR	842
Parish, E.J.	AGFD	74	Park, H.	CHED	830	Park, M.	ENFL	187
Parish, E.J.	AGFD	75	Park, H.	ENVR	392	Park, M.	ENFL	241
Parish, E.J.	AGFD	76	Park, H.	ENVR	926	Park, M.	I&EC	125
Parish, E.J.	BIOL	209	Park, H.	I&EC	4	Park, M.	ENFL	369
Parish, E.J.	BIOL	210	Park, H.	MPPG	16	Park, N.	COLL	688
Parish, E.J.	BIOL	211	Park, H.	ENFL	372	Park, N.	CATL	507
Parish, E.J.	BIOT	371	Park, H.	CATL	310	Park, S.	ENVR	618
Parish, E.J.	BIOT	372	Park, H.	ORGN	243	Park, S.	INOR	1026
Parish, E.J.	BIOT	373	Park, H.	INOR	673	Park, S.	CHED	1943
Parish, E.J.	BIOT	374	Park, H.	CATL	406	Park, S.	ENVR	371
Parish, E.J.	BIOT	375	Park, H.	PMSE	348	Park, S.	ORGN	130
Parish, E.J.	BIOT	377	Park, H.	PMSE	375	Park, S.	PHYS	72
Parish, E.J.	COMP	258	Park, H.	PMSE	417	Park, S.	BIOT	586
Parish, E.J.	COMP	259	Park, H.	ENVR	357	Park, S.	I&EC	99
Parish, E.J.	COMP	340	Park, H.	ORGN	904	Park, S.	I&EC	100
Parish, E.J.	ENVR	765	Park, H.	INOR	1046	Park, S.	I&EC	101
Parish, E.J.	ENVR	766	Park, H.	ORGN	67	Park, S.	I&EC	108
Parish, E.J.	ENVR	767	Park, H.	INOR	923	Park, S.	I&EC	122
Parish, E.J.	ENVR	884	Park, H.	ENVR	357	Park, S.	PMSE	465
Parish, E.J.	I&EC	105	Park, H.	ENFL	216	Park, S.	PMSE	392
Parish, E.J.	I&EC	106	Park, I.	ENFL	372	Park, S.	CELL	147
Parish, E.J.	I&EC	114	Park, J.	BIOT	329	Park, S.	CHED	1367
Parish, E.J.	INOR	926	Park, J.	PMSE	380	Park, S.	CHED	1883
Parish, E.J.	INOR	999	Park, J.	ENFL	180	Park, S.	ORGN	131
Parish, E.J.	INOR	1022	Park, J.	ENFL	429	Park, S.	PHYS	424
Parish, E.J.	MEDI	170	Park, J.	CATL	176	Park, S.	ANYL	401
Parish, E.J.	MEDI	171	Park, J.	CATL	321	Park, S.	COLL	179
Parish, E.J.	MEDI	483	Park, J.	CATL	378	Park, S.	COLL	223
Parish, E.J.	MEDI	484	Park, J.	CATL	520	Park, S.	PMSE	500
Parish, E.J.	MEDI	485	Park, J.	COLL	476	Park, S.	AGFD	228
Parish, E.J.	ORGN	180	Park, J.	COLL	752	Park, S.	AGFD	72
Parish, E.J.	ORGN	182	Park, J.	COLL	753	Park, S.D.	ANYL	25
Parish, E.J.	ORGN	262	Park, J.	CATL	340	Park, S.D.	ORGN	303
Parish, E.J.	PHYS	530	Park, J.	CATL	341	Park, S.Y.	ENVR	566
Park, A.A.	ENFL	426	Park, J.	INOR	1231	Park, S.Y.	PMSE	350
Park, A.A.	WCC	15	Park, J.	ENVR	746	Park, T.	ENVR	792
Park, B.	BIOL	98	Park, J.	ORGN	810	Park, T.	GEOC	267
Park, B.	BIOL	99	Park, J.	AGFD	68	Park, T.	PMSE	190
Park, B.	MEDI	76	Park, J.	AGFD	70	Park, W.	PMSE	151
Park, B.	AGFD	77	Park, J.	COLL	206	Park, W.	CATL	520
Park, B.	AGFD	160	Park, J.	AGFD	62	Park, Y.	ENFL	218
Park, B.Y.	ORGN	354	Park, J.	ANYL	95	Park, Y.	BIOT	621
Park, C.	INOR	462	Park, J.	INOR	882	Park, Y.	CATL	310
Park, C.	INOR	1009	Park, J.	COMP	221	Park, Y.	COLL	204
Park, C.	MEDI	383	Park, J.	BIOT	661	Park, Y.	COLL	205
Park, C.	ANYL	167	Park, J.	INOR	227	Park, Y.	COLL	206
Park, C.	PMSE	107	Park, J.	CARB	88	Park, Y.	COLL	253
Park, C.	CHED	830	Park, J.	PHYS	424	Park, Y.	COLL	254
Park, C.	CHED	1418	Park, J.	INOR	1046	Park, Y.	PMSE	395
Park, C.	COLL	629	Park, J.	ENFL	187	Park, Y.	COLL	179
Park, C.	ENFL	463	Park, J.	CHED	1254	Park, Y.	COLL	224
Park, C.	AGFD	10	Park, J.	BIOL	148	Park, Y.	ENVR	514
Park, D.	CATL	284	Park, J.	ENVR	55	Parkash, O.	ENVR	966
Park, D.	INOR	441	Park, J.	PMSE	350	Parker, A.J.	AGFD	20
Park, D.	INOR	443	Park, J.	CATL	311	Parker, A.M.	ENVR	181
Park, D.	INOR	445	Park, J.	POLY	352	Parker, B.	INOR	97
Park, D.	ENVR	837	Park, J.	COLL	836	Parker, B.	INOR	1337
Park, D.	ENVR	839	Park, J.	AGFD	84	Parker, C.J.	NUCL	97
Park, D.	ENVR	840	Park, J.	ENFL	187	Parker, C.J.	CHED	968
Park, D.	ENVR	841	Park, J.	FLUO	49	parker, D.	MEDI	51
Park, D.	ENVR	842	Park, J.	PHYS	401	Parker, E.T.	PHYS	570
Park, D.	COLL	742	Park, J.	CATL	396	Parker, G.	NUCL	147
Park, D.	ENFL	211	Park, J.	ENFL	88	Parker, G.	NUCL	166
Park, D.	INOR	442	Park, J.C.	AGFD	7	Parker, J.F.	ANYL	1
Park, D.	INOR	446	Park, J.G.	INOR	1461	Parker, J.F.	ANYL	179
Park, D.	INOR	1413	Park, J.Y.	AGFD	153	Parker, J.F.	ANYL	183
Park, E.	INOR	425	Park, K.	ENFL	214	Parker, J.F.	ANYL	316
Park, E.	MEDI	341	Park, K.	COLL	223	Parker, J.F.	ANYL	343
Park, E.	AGFD	181	Park, K.	BIOT	447	Parker, K.M.	ENVR	901
Park, E.	CATL	266	Park, K.	COLL	840	Parker, M.K.	CHED	1610
Park, E.	PMSE	500	Park, K.	INOR	482	Parker, P.D.	ORGN	459
Park, E.J.	CARB	88	Park, K.	CATL	267	Parker, R.	ANYL	457
Park, G.	MEDI	159	Park, K.J.	ANYL	156	Parker, R.	CELL	235
Park, G.	MEDI	401	Park, M.	PMSE	198	Parker, R.	PMSE	170
Park, G.	MEDI	476	Park, M.	AGFD	26	Parker, S.M.	COMP	463
Park, G.	MEDI	478	Park, M.	CELL	135	Parker, T.	PMSE	293
Park, G.	MEDI	479	Park, M.	ENVR	859	Parker, T.A.	CHED	467
Park, G.	CATL	377	Park, M.	ENVR	837	Parker, W.	CHED	414

Parkes, M.V.	INOR	1522	Patel, A.	INOR	1412	Patrick, D.L.	CHED	1657
Parkhill, J.	COMP	538	Patel, A.	ANYL	292	Patrick, D.L.	CHED	1754
Parkhill, J.	PHYS	20	Patel, A.	BIOT	503	Patrick, S.	MEDI	292
Parkhill, J.	PHYS	349	Patel, A.	BIOL	156	Patron, A.M.	COLL	62
Parkhill, J.	PHYS	482	Patel, B.	AGFD	218	Patrone, J.	MEDI	460
Parkhill, J.	PHYS	504	Patel, B.	ENVR	63	Patrón-Soberano, O.A.	CATL	464
Parkin, D.W.	MEDI	121	Patel, D.	PMSE	342	Patrow, J.	PHYS	247
Parkin, G.	INOR	1314	Patel, D.	ENVR	735	Pattammattel, A.	BIOL	317
Parkin, I.P.	ENFL	104	Patel, D.G.	CHED	1587	Pattammattel, A.	GEOC	204
Parkin, I.P.	INOR	1520	Patel, D.G.	CHED	1723	Pattan, J.	BIOL	98
Parkins, S.	CHED	1289	Patel, D.G.	ORGN	684	Pattanayek, S.	PMSE	586
Parkinson, B.A.	CHED	1737	Patel, H.A.	ENVR	375	Pattani, A.	CINF	91
Parkinson, J.	POLY	616	Patel, H.A.	INOR	784	Pattani, L.	PMSE	355
Parks, J.	ENVR	419	Patel, J.	ENVR	1006	Pattenaude, S.A.	NUCL	81
Parks, J.	MEDI	139	Patel, K.	MEDI	85	Pattenaude, S.A.	NUCL	106
Parks, J.M.	COMP	403	Patel, K.	MEDI	373	Patterson, B.	ANYL	398
Parks, J.M.	ENFL	337	Patel, K.V.	ORGN	209	Patterson, D.	BIOT	194
Parks, T.B.	INOR	748	Patel, N.	MEDI	361	Patterson, D.	CHED	575
Parlett, C.M.	CATL	240	Patel, N.	POLY	449	Patterson, D.	CHED	576
Parlett, C.M.	ENFL	147	Patel, N.	PHYS	411	Patterson, D.	CHED	755
Parlett, C.M.	ENVR	140	Patel, N.	MEDI	207	Patterson, D.	COLL	289
Parlett, C.M.	ENVR	704	Patel, N.	MEDI	225	Patterson, D.J.	POLY	424
Parlett, C.M.	INOR	1129	Patel, P.	ORGN	579	Patterson, G.D.	CINF	36
Parmar, J.	ENVR	595	Patel, P.	PMSE	294	Patterson, G.D.	CINF	42
Parmar, J.	CHED	867	Patel, R.	CHED	742	Patterson, G.D.	CINF	43
Parnell, C.J.	CATL	405	Patel, R.	BIOL	272	Patterson, J.E.	PHYS	407
Parnell, S.	INOR	943	Patel, R.	CHED	1407	Patterson, J.E.	PHYS	485
Parquette, J.R.	CHED	1940	Patel, S.	ORGN	894	Patterson, J.K.	COLL	433
Parra Hake, M.	INOR	878	Patel, S.	BIOT	419	Patterson, J.P.	COLL	769
Parra Hake, M.	INOR	880	Patel, V.	COLL	759	Patterson, J.T.	ENFL	394
Parra, S.	BIOT	692	Paterson, A.	ANYL	306	Patterson, M.	INOR	14
Parrish, C.A.	FLUO	40	Paterson, A.	BIOT	300	Patterson, M.	INOR	382
Parrish, K.A.	CHED	881	Paterson, I.	ORGN	722	Pattisson, S.	CATL	86
Parrish, R.M.	COMP	90	Paterson, I.	ORGN	836	Pattnaik, P.	BIOT	598
Parrish, R.M.	COMP	445	Paterson, J.	COLL	379	Pattoli, M.A.	MEDI	21
Parrish, R.M.	COMP	570	Patfield, S.A.	AGFD	234	Patton, D.L.	PMSE	604
Parruca da Cruz, D.	BIOT	534	Pathak, A.	ORGN	97	Patton, D.L.	POLY	246
Parry, C.	CHED	1217	Pathak, J.A.	BIOT	21	Patton, D.L.	POLY	273
Parson, K.	CHED	1100	Pathak, M.	BIOT	663	Patton, S.D.	ENVR	118
Parsons, A.	CHED	1622	Pathak, M.	BIOT	246	Patton, Z.	CHED	100
Parsons, B.A.	ANYL	327	Pathak, M.	BIOT	647	Pau, G.S.	COLL	314
Parsons, G.	INOR	1081	Pathi Pati, S.	ORGN	321	Paudel, J.	INOR	950
Parsons, J.G.	ENFL	87	Pathiparampil, A.	ENFL	43	Paukshto, M.	BIOT	612
Parsons, J.G.	ENFL	197	Pathiraja, I.	CHED	869	Paul, A.	POLY	296
Parsons, J.G.	ENVR	758	Pathiranage, T.M.	POLY	221	Paul, A.	PMSE	292
Parsons, J.G.	ENVR	796	Pathiranage, T.M.	POLY	636	Paul, B.	GEOC	364
Parsons, J.G.	ENVR	798	Pati, N.	CHED	103	Paul, J.J.	INOR	227
Parsons, J.G.	ENVR	834	Pati, S.G.	ENVR	3	Paul, J.J.	INOR	319
Parsons, J.G.	INOR	897	Pati, S.G.	ENVR	653	Paul, M.	COMP	346
Parsons, L.	CHED	806	Patil, B.	AGFD	123	Paul, M.	ENVR	526
Parsons, L.	CHED	359	Patil, B.	AGFD	146	Paul, M.	PHYS	475
Parsons-Moss, T.	COLL	866	Patil, B.	AGFD	165	Paul, M.	CHED	328
Partovi, S.	CHED	877	Patil, M.K.	ENVR	249	Paul, M.	CHED	899
Partridge, J.	CHED	1881	Patil, N.	BIOT	512	Paul, N.M.	CHED	1190
Partridge, J.	ORGN	848	Patil, P.	MEDI	9	Paul, N.M.	CHED	1940
Parulkar, A.	CATL	59	Patil, P.	MEDI	504	Paul, N.M.	CHED	1979
Parungao, G.G.	BIOL	128	Patil, P.C.	MEDI	486	Paul, N.M.	ORGN	787
Parviainen, A.	CATL	385	Patil, P.C.	ORGN	742	Paul, T.	BIOL	145
Parvizian, B.	ENVR	72	Patil, P.C.	MEDI	169	Paulenova, A.	NUCL	56
Paryani, T.	ANYL	227	Patil, P.D.	COLL	53	Pauli, I.	MEDI	134
Pascall, A.J.	COLL	706	Patil, R.	INOR	576	Paulick, M.G.	CARB	75
Pascanu, V.	ORGN	83	Patil, R.	MEDI	155	Paulick, M.G.	ENVR	518
Paschen, S.	BIOT	13	Patil, R.	BIOT	695	Paul, D.	CHED	23
Pascoal, E.S.	CELL	91	Patil, S.	CARB	38	Paul, D.	CHED	1003
Pascual, L.	INOR	685	Patil, S.	MEDI	155	Paul, D.	CHED	1518
Pasek, M.A.	PHYS	568	Patil, S.	ORGN	777	Paul, D.	CHED	1520
Pasparakis, G.	PMSE	599	Patil, S.A.	ORGN	777	Paul, D.	CHED	1545
Pasqua, E.	MEDI	111	Patil, U.	BIOT	381	Paul, D.	ENVR	814
Pasquinelli, M.A.	POLY	338	Patil, V.	ORGN	777	Paul, D.	ORGN	124
Pasquini, D.	CELL	311	Patke, S.	BIOT	292	Paul, L.	I&EC	7
Passarelli, V.	INOR	880	Patlewicz, G.	CHAS	39	Paul, M.L.	BIOT	193
Passeport, E.	ENVR	524	Patlewicz, G.	ENVR	651	Paul, M.L.	BIOT	254
Pastewka, L.	COLL	103	Patlewicz, G.	ENVR	932	Paulsen, J.L.	COMP	442
Pastor, M.B.	INOR	1157	Patlewicz, G.	ENVR	933	Paulson, A.	CHED	961
Pastor, M.B.	INOR	970	Patlewicz, G.	ENVR	937	Paulson, A.L.	INOR	1580
Patankar, S.C.	CELL	257	Patmore, N.	PHYS	74	Paulson, E.R.	INOR	874
Patch, J.A.	BIOT	617	Patnaude, R.	CHED	348	Paulson, E.R.	ORGN	246
Pate, B.H.	PHYS	225	Patra, P.	CHED	595	Paulson, J.C.	CARB	84
Pate, K.	CHED	1527	Patra, T.K.	COMP	392	Paulson, S.	ENVR	343
Patel, A.	GEOC	54	Patricia, B.	CELL	288	Paultler, R.	COLL	333

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Paulus, E.	CHED	1817	Peaslee, G.	NUCL	124	Pemberton, J.E.	ANYL	39
Paulusse, J.M.	COLL	776	Peck, G.	AGFD	258	Pemmaraju, S.	INOR	96
Paulvannan, K.	MEDI	226	Peck, M.	BIOT	205	Pemmaraju, S.	INOR	160
Pauly, M.	COLL	606	Peck, M.	BIOT	675	Pemmaraju, S.	PHYS	338
Paung, Y.T.	CHED	1709	Peck, T.C.	CATL	635	Pena, C.C.	CHED	1259
Paurus, V.	ANYL	441	Pecora, G.	ENVR	214	Pena, C.C.	CHED	1262
Pautler, R.	COLL	757	Pecoraro, V.L.	INOR	131	Peña, G.C.	ENFL	176
Pavanello, M.	COMP	374	Pecoraro, V.L.	INOR	293	Pena, J.	ENVR	99
Pavanello, M.	PHYS	19	Pecoraro, V.L.	INOR	1265	Pena, J.	GEOC	6
Pavano, M.	ORGN	766	Pecorelli, T.	CHED	1780	Pena, J.	GEOC	92
Pavel Sizemore, I.E.	CHED	2052	Peczuh, M.	CHED	1549	Pena, J.	GEOC	102
Pavia Sanders, A.	PMSE	156	Peczuh, M.W.	CHED	2146	Pena, J.	GEOC	287
Pavitt, A.S.	ENVR	106	Peczuh, M.W.	ORGN	97	Pena, M.	CELL	269
Pavlenko, S.	COMP	96	Peczuh, M.W.	ORGN	112	Peña-Hueso, A.	ENFL	374
Pavlenko, S.	CHED	975	Peczuh, M.W.	ORGN	527	Pence, J.	CHED	1421
Pavliček, N.	PHYS	116	Pedferri, M.	ENVR	435	Penchoff, D.A.	INOR	1135
Pavlishchuk, A.	INOR	335	Peden, C.H.	CATL	107	Penchoff, D.A.	INOR	1383
Pavlopoulos, N.G.	PMSE	24	Pedersen, B.	CHED	2118	Pendergraff, H.	POLY	627
Pavlopoulos, N.G.	POLY	12	Pedersen, D.	CHED	240	Pendergraph, S.	CELL	376
Pavlopoulos, N.G.	POLY	108	Pedersen, H.	COLL	76	Peneva, K.	ORGN	290
Pavlov, Y.	BIOL	3	Pedersen, J.	COLL	701	Penfold, N.	COLL	66
Pavlova, A.	COMP	403	Pedersen, J.	POLY	584	Penfold, N.	POLY	601
Pavlovici, F.	CHED	951	Pedersen, J.A.	CHED	111	Penfold, N.	POLY	606
Pavone, M.	COMP	229	Pedersen, J.A.	COLL	233	Penfold, T.	INOR	720
Pawlak, J.	CELL	395	Pedersen, J.A.	COLL	234	Peng, F.	POLY	447
Pawlik, J.	PMSE	458	Pedersen, J.A.	ENVR	335	Peng, F.	CELL	108
Payack, J.	ORGN	341	Pederson, R.L.	INOR	418	Peng, F.	PMSE	142
Payan, D.	MEDI	159	Pedramrazi, Z.	COLL	147	Peng, H.	CHED	1324
Payan, D.	MEDI	401	Pedras, M.	AGFD	244	Peng, H.	POLY	215
Payan, D.	MEDI	476	Pedro, E.C.	INOR	236	Peng, H.	PMSE	644
Payan, D.	MEDI	478	Pedroza, R.	BIOT	702	Peng, J.	INOR	1
Payan, D.	MEDI	479	Peebles, C.A.	BIOT	104	Peng, J.	INOR	503
Payan, L.	CATL	285	Peebles, C.A.	BIOT	402	Peng, J.	ORGN	299
Payne, A.	CATL	350	Peebles, C.A.	BIOT	652	Peng, L.	CHED	1643
Payne, A.	ORGN	858	Peebles, C.A.	BIOT	674	Peng, P.	ENVR	893
Payne, G.F.	BIOT	492	Peek, N.	CATL	58	Peng, Q.	COLL	592
Payne, K.	CHED	879	Peel, A.J.	INOR	844	Peng, T.	BIOL	332
Payne, K.A.	CHED	1208	Peeples, T.L.	BIOT	309	Peng, T.L.	INOR	1341
Payne, K.A.	MEDI	444	Peers, G.	BIOT	586	Peng, W.	PHYS	306
Payne, M.	INOR	1140	Peethambaran Nair Syamala, P.	POLY	443	Peng, W.	CARB	84
Payne, M.	INOR	1568	Pegis, M.L.	INOR	159	Peng, W.	BIOT	8
Payne, M.M.	CHED	1510	Pehlivanoglu Mantas, E.	INOR	205	Peng, W.	BIOT	448
Payne, T.	ORGN	744	Pehlivanoglu Mantas, E.	ENVR	283	Peng, X.	ORGN	515
Payton, F.L.	CHED	1513	Pehrsson, P.E.	CATL	12	Peng, X.	BIOT	177
Payton, F.L.	CHED	1516	Pehrsson, P.E.	CATL	60	Peng, Y.	MEDI	290
Payton, P.	ENVR	1042	Pehrsson, P.E.	COLL	835	Peng, Y.	ENVR	150
Payton-Stewart, F.	CHED	861	Pei, J.	PMSE	296	Peng, Y.	CHED	1145
Paz, A.	COMP	440	Pei, Q.	PMSE	544	Peng, Z.	PHYS	461
Paz, N.	ORGN	520	Pei, S.	ENVR	856	Peng, Z.	CATL	22
Pazenok, S.	FLUO	33	Pei, Y.	CATL	170	Peng, Z.	CATL	646
Pazos, M.	ENVR	352	Pei, Y.	CATL	606	Pengpumkiat, S.	ANYL	456
Pazos, M.	ENVR	437	Peiffer, S.	GEOC	175	Penkala, K.	PMSE	620
Pazos, M.	ENVR	678	Peintler, G.	CARB	78	Penn, A.	INOR	1025
Pazos, M.	ENVR	679	Peiravi, M.	ENVR	853	Penn, A.	INOR	337
Pazzi, J.	COLL	278	Peirce, S.M.	INOR	1002	Penn, R.	CHED	2054
Pazzi, J.	COLL	384	Pekar, S.	CHAS	40	Penn, R.	GEOC	206
Peabody, G.L.	BIOT	68	Peckanen, A.	POLY	248	Penn, R.	INOR	208
Peace, S.	ORGN	402	Pelckmans, M.	CATL	469	Penney, R.	CHED	45
Peacock, D.M.	ORGN	418	Pelegri-O'Day, E.	POLY	632	Penny, W.	ANYL	163
Peacock, R.	CHED	2163	Pelfrey, I.	CHED	902	Penrod, C.N.	ORGN	85
Peacor, B.C.	BIOT	542	Pell, C.J.	CHED	1076	Pentecost, T.C.	CHED	56
Peak, D.	ENVR	611	Pellati, F.	AGFD	141	Pentel, P.	PMSE	630
Peak, D.	GEOC	96	Pellegrini, K.L.	NUCL	149	Pentelute, B.L.	MPPG	12
Pearce, A.J.	INOR	632	Pellegrino, J.	BIOL	254	Penton, K.	CHED	1878
Pearce, C.	ENVR	301	Pellegrino, J.	INOR	245	Penton, K.	PMSE	418
Pearce, C.	GEOC	208	Pellegrino, L.	MEDI	111	Penton, K.	CHED	1722
Pearlman, B.W.	CHED	2149	Peller, J.R.	ENVR	705	Pentzer, E.	INOR	1050
Pearlstein, R.A.	COMP	483	Pelletier, J.	PMSE	169	Pentzer, E.	ORGN	585
Pearson, A.R.	PHYS	83	Pelletier, L.	CHED	848	Pentzer, E.	PMSE	59
Pearson, G.	CHED	1729	Pellicier-Rodriguez, C.	CHED	1249	Pentzer, E.	PMSE	427
Pearson, K.S.	CHED	109	Pellis, A.	POLY	61	Pentzer, E.	POLY	348
Pearson, R.M.	CATL	220	Pellois, J.	INOR	1195	Pentzer, E.	POLY	437
Pearson, R.M.	ORGN	329	Pellouchoud, L.	CATL	149	Penzo, E.	COLL	142
Pearson, R.M.	POLY	301	Peloquin, A.	POLY	392	Peper, J.	INOR	1
Pearson, T.	INOR	78	Pelowitz, J.	INOR	523	Peppas, N.	BIOT	687
Pearson, Z.	CHED	1193	Pelowitz, J.	INOR	1143	Peraino, N.	ORGN	121
Peart, J.	BIOT	520	Pelss, J.	POLY	258	Perales, D.	CHED	1048
Pease, J.P.	ANYL	349	Peltan, E.	CHED	548	Perales, D.	INOR	520
Pease, M.	BIOT	662	Peltier, R.	POLY	290	Perales, D.	INOR	1248
Peaslee, G.	ENVR	78	Pelton, R.H.	CELL	291	Perales, O.	COLL	296

Perales, O.	ENVR	682	Périat, A.	ANYL	322	Personick, M.L.	CATL	115
Perales, O.	ENVR	774	Perillo, D.	CHED	1293	Persson, A.R.	INOR	809
Perales, O.	MEDI	246	Perini, J.A.	ENVR	271	Persson, J.	BIOT	351
Peralta, A.	BIOL	336	Perkins, C.K.	CATL	479	Persson, J.	BIOT	617
Peralta, J.	CHED	982	Perkins, C.K.	CHED	1055	Persson, K.	INOR	654
Peram, T.	BIOT	209	Perkins, C.K.	ENVR	376	Persson, S.	CELL	270
Peram, T.	BIOT	693	Perkins, C.K.	INOR	445	Persson, S.	CELL	273
Pera-Titus, M.	CATL	141	Perkins, C.K.	INOR	446	Persson, T.	BIOT	75
Perchik, M.C.	COMP	320	Perkins, C.K.	INOR	447	Persson, T.	BIOT	363
Percival, E.	CHED	1806	Perkins, C.K.	INOR	655	Perticaroli, S.	PHYS	384
Perdue, E.M.	ENVR	28	Perkins, C.K.	INOR	1264	Peru, A.	ORGN	302
Perdue, E.M.	ENVR	259	Perkins, C.K.	SCHB	11	Peruch, F.	POLY	633
Perdue, O.	CHED	527	Perkins, M.	ANYL	469	Pervane, C.S.	COMP	171
Perea, B.C.	BIOT	320	Perkins, M.	POLY	362	Perwez, A.	MEDI	73
Perea, B.C.	BIOT	486	Perkins, R.	PHYS	228	Perwez, A.	MEDI	406
Perea, B.C.	BIOT	622	Perkins, R.	PHYS	272	Pes, O.	BIOL	123
Perea, D.E.	GEOC	37	Perkins, R.	PHYS	356	Peschke, J.	CHED	346
Perea, W.	ORGN	13	Perkins, R.	PHYS	398	Pesek, J.J.	ANYL	8
Pereira Almaso, P.	ENFL	357	Perkins, R.	PHYS	402	Pesek, J.J.	ANYL	140
Pereira, J.	BIOL	357	Perkins, R.	PHYS	430	Pesek, J.J.	ANYL	141
Pereira, M.	CHED	351	Perkins, R.	PHYS	430	Pesek, J.J.	ANYL	186
Pereira, M.	CELL	161	Perlestein, D.	BIOL	225	Pesko, D.M.	POLY	591
Pereira, M.R.	ENVR	121	Perminova, I.V.	ENVR	30	Peslherbe, G.	PHYS	320
Pereira, M.R.	ENVR	487	Pernevik, E.	CELL	206	Pester, C.	PMSE	143
Pereira, N.	ANYL	245	Pero, B.	CHED	1441	Pestman, R.	CATL	581
Pereira-Caro, G.	AGFD	200	Pérocheau Arnaud, S.	CATL	155	Petasis, N.A.	MEDI	177
Perepichka, D.F.	COLL	408	Perram, D.	ENVR	36	Pete, R.	COMP	107
Perepichka, D.F.	COLL	482	Perras, F.	CATL	151	Peter, C.	GEOC	356
Perepichka, D.F.	PMSE	594	Perras, F.A.	CATL	54	Peterlechner, M.	INOR	939
Perera, H.	POLY	296	Perras, F.A.	PMSE	39	Peterman, D.R.	I&EC	88
Perera, K.	MEDI	103	Perreault, W.	PHYS	59	Peterman, K.E.	CHED	1056
Perera, N.T.	ANYL	332	Perri, M.	ENVR	738	Peterman, K.E.	CHED	1924
Perera, P.	GEOC	114	Perricone, U.	COMP	140	Peterman, K.E.	CHED	1925
Perera, T.A.	INOR	1310	Perric, Y.	COLL	357	Peterman, K.E.	CHED	1926
Perera, T.A.	ORGN	181	Perrier, S.	PMSE	33	Peterman, K.E.	CHED	1927
Peresin, M.S.	CELL	344	Perrier, S.	PMSE	564	Peterman, K.E.	CHED	1929
Peretich, M.E.	ENFL	6	Perrier, S.	PMSE	599	Peterman, K.E.	CHED	1930
Peretich, M.E.	ENFL	7	Perrier, S.	POLY	290	Peterman, K.E.	CHED	1931
Pérez de León, A.A.	AGFD	92	Perrier, S.	POLY	525	Peterman, K.E.	CHED	1931
Pérez de León, A.A.	AGFD	96	Perrier, S.	POLY	625	Peters, A.	ENFL	346
Perez Estrada, S.	ORGN	560	Perrin, P.	COLL	429	Peters, B.	GEOC	356
Perez Gutierrez, E.	INOR	1061	Perrine, C.	ENVR	549	Peters, B.	PMSE	220
Perez Matos, A.	BIOL	78	Perrino, C.	I&EC	115	Peters, B.J.	BIOL	68
Perez Rodriguez, M.E.	AGFD	246	Perrone, T.	ORGN	216	Peters, B.J.	BIOL	140
Perez Ruiz, A.	COLL	303	Perron-Sierra, F.	MEDI	149	Peters, B.J.	MEDI	201
Perez Vidal, H.	ENVR	516	Perrotta, K.A.	CHED	459	Peters, B.J.	MEDI	203
Perez, A.	COMP	29	Perry, A.K.	CHED	518	Peters, B.J.	ORGN	543
Perez, A.M.	BIOL	9	Perry, B.	COMP	223	Peters, C.A.	GEOC	296
Perez, D.E.	INOR	105	Perry, C.C.	CHED	440	Peters, C.J.	COMP	92
Perez, F.	ORGN	268	Perry, C.C.	ENVR	902	Peters, E.	CHED	1471
Perez, G.	BIOT	502	Perry, D.	CHED	1251	Peters, E.	CHED	1573
Perez, L.	MEDI	305	Perry, D.	CHED	1326	Peters, H.M.	CHAL	5
Perez, L.	BIOT	101	Perry, D.	CHED	1330	Peters, J.	CATL	216
Perez, L.	CHED	1863	Perry, D.L.	I&EC	115	Peters, J.	COLL	5
Perez, L.Y.	CELL	59	Perry, D.L.	I&EC	116	Peters, J.	COLL	683
Perez, P.	CHED	702	Perry, G.	ANYL	112	Peters, S.B.	CHAL	5
Perez, P.	CHED	743	Perry, G.	ANYL	122	Petersen, C.M.	CHED	557
Perez, S.C.	BIOL	245	Perry, J.	CHED	1019	Petersen, D.	MEDI	340
Perez, S.C.	INOR	748	Perry, J.W.	ENFL	218	Petersen, E.	ENVR	544
Perez, T.J.	CHED	775	Perry, L.	ANYL	192	Petersen, E.	ENVR	546
Perez, V.	CHED	1836	Perry, L.N.	GEOC	292	Petersen, J.	PHYS	300
Pérez-Anes, A.	POLY	583	Perry, L.N.	PMSE	419	Petersen, J.L.	INOR	1558
Perez-Carrillo, E.	AGFD	136	Perry, L.N.	PMSE	589	Petersen, P.B.	ANYL	298
Pérez-Jiménez, J.	AGFD	126	Perry, M.C.	CHED	1120	Petersen, P.B.	PHYS	545
Pérez-Jiménez, J.	AGFD	142	Perry, M.C.	CHED	1559	Petersen, S.	POLY	287
Pérez-Ortiz, G.E.	ORGN	702	Perry, M.C.	CHED	1565	Peterson, A.	CATL	256
Perez-Ortiz, R.M.	CHED	1257	Perry, M.D.	CHED	46	Peterson, A.	ENVR	219
Perez-Ortiz, R.M.	CHED	1266	Perry, M.D.	CHED	274	Peterson, A.M.	COLL	271
Perez-Ortiz, R.M.	CHED	1786	Perry, M.D.	CHED	1184	Peterson, A.M.	COLL	807
Pérez-Rafael, S.	CELL	385	Perry, M.D.	CHED	1224	Peterson, A.W.	ENVR	544
Perez-Rodriguez, C.	AGFD	107	Perry, N.	ORGN	719	Peterson, C.	CHED	1253
Perez-Rodriguez, C.	CHED	1775	Perry, R.J.	ENFL	75	Peterson, C.	CHED	713
Pérez-Rodriguez, S.	CATL	362	Perry, S.C.	ANYL	435	Peterson, C.	INOR	1135
Perez-Temprano, M.	INOR	417	Perry, S.L.	COLL	114	Peterson, C.	INOR	1383
Perez-Temprano, M.	ORGN	313	Perry, S.L.	COLL	411	Peterson, C.	INOR	436
Pérez-Temprano, M.	INOR	416	Perry, S.L.	PMSE	574	Peterson, E.	BIOT	500
Pérez-Temprano, M.	ORGN	311	Perry, T.	CHED	1824	Peterson, E.	GEOC	310
Perez-Torrente, J.	INOR	880	Perry, T.	COLL	195	Peterson, E.	GEOC	354
Pérez-Villanueva, J.	MEDI	44	Persenarie, O.	CELL	394	Peterson, E.J.	CHED	1502
Perhonitich, K.C.	ORGN	399	Pershina, V.	NUCL	92	Peterson, E.M.	ANYL	149
			Personick, M.L.	CATL	92	Peterson, G.I.	POLY	6



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Peterson, G.W.	CATL	12	Pezzotti, S.	GEOC	271	Phillips, E.	CHED	1214
Peterson, G.W.	CATL	60	Pfaendtner, J.	BIOT	214	Phillips, J.	COMP	554
Peterson, G.W.	COLL	835	Pfaendtner, J.	CELL	213	Phillips, J.A.	CHED	1255
Peterson, G.W.	INOR	1508	Pfaendtner, J.	COMP	239	Phillips, J.A.	CHED	1256
Peterson, J.J.	PHYS	479	Pfaff, F.F.	INOR	151	Phillips, J.A.	CHED	1272
Peterson, K.	CHED	418	Pfau, A.	CATL	61	Phillips, K.	CHAS	39
Peterson, K.	CHED	952	Pfefferle, L.	PHYS	176	Phillips, K.	BIOT	591
Peterson, K.A.	NUCL	85	Pfeifer, B.A.	BIOT	668	Phillips, K.	ENVR	1012
Peterson, L.	CHED	1108	Pflegger, B.	BIOT	155	Phillips, N.	ENFL	309
Peterson, L.W.	BIOL	230	Pflegger, B.	BIOT	201	Phillips, N.R.	BIOL	173
Peterson, L.W.	COMP	249	Pflug, N.C.	CHED	987	Phillips, O.	PMSE	245
Peterson, L.W.	COMP	250	Pflug, N.C.	CHED	988	Phillips, R.	INOR	933
Peterson, L.W.	COMP	252	Pfohl, M.	AGFD	23	Phillips, S.T.	POLY	114
Peterson, L.W.	COMP	319	Pham, A.	COLL	586	Phillips, S.T.	POLY	300
Peterson, L.W.	COMP	320	Pham, A.	CHAS	13	Phillips, T.A.	POLY	618
Peterson, L.W.	COMP	322	Pham, A.	CHAS	19	Phipps, M.	NUCL	141
Peterson, L.W.	COMP	324	Pham, A.	SCHB	19	Phipps, R.	ORGN	671
Peterson, L.W.	COMP	337	Pham, B.Q.	COMP	408	Phomphrai, K.	INOR	212
Peterson, L.W.	ORGN	522	Pham, B.Q.	PHYS	354	Phomphrai, K.	INOR	215
Peterson, L.W.	ORGN	546	Pham, C.	ANYL	96	Phomphrai, K.	INOR	888
Peterson, P.	ENFL	274	Pham, C.	ANYL	97	Phomphrai, K.	INOR	889
Peterson, P.W.	ORGN	352	Pham, H.	INOR	1400	Phomphrai, K.	INOR	890
Peterson, Y.K.	MEDI	293	Pham, H.H.	INOR	1346	Phomphrai, K.	INOR	892
Petersson, E.J.	ORGN	295	Pham, J.	CHED	1839	Phomphrai, K.	INOR	1372
Pethe, K.	MEDI	327	Pham, J.	ORGN	849	Phomphrai, K.	INOR	1373
Pethica, J.B.	PMSE	531	Pham, L.	BIOL	220	Phongamwong, T.	CATL	462
Peti, W.	MEDI	303	Pham, M.	CHED	1822	Phuan, P.	MEDI	180
Petillo, E.	CHED	1011	Pham, M.	COMP	296	Phung, L.	MEDI	75
Petit, A.	ORGN	805	Pham, P.	CHED	1119	Phung, T.	AGFD	116
Petit, C.	ORGN	349	Pham, P.T.	CHED	1936	Phung, T.	CATL	386
Petit, I.	CATL	10	Pham, S.N.	CHED	2129	Phyo, P.	CELL	21
Petit-Conil, M.	CELL	240	Pham, T.	POLY	149	Phyo, P.	CELL	438
Petit-Conil, M.	CELL	511	Pham, T.	ANYL	96	Pianetta, P.	ANYL	399
Petkova, P.	COLL	343	Pham, T.	ANYL	97	Pianetta, P.	COLL	146
Petridis, L.	CELL	19	Pham, T.	COLL	553	Piao, S.	PHYS	567
Petridis, L.	CELL	23	Pham, T.	COMP	99	Piarulli, U.	ORGN	356
Petridis, L.	CELL	188	Pham, T.	ANYL	236	Piatt, J.	CHED	946
Petridis, L.	CELL	517	Pham, T.J.	CHED	1841	Piatt, J.	CHED	947
Petridis, L.	CELL	520	Phambu, N.	ANYL	111	Piburn, G.W.	COLL	97
Petridis, L.	COMP	390	Phambu, N.	BIOL	129	Picard, C.	AGFD	23
Petrilli, W.L.	CINF	85	Phan, E.N.	PHYS	461	Picazo, E.	ORGN	660
Petrou, A.	CHED	1141	Phan, H.	COLL	285	Piccinini, G.	PHYS	197
Petrov, A.	PHYS	333	Phan, H.	INOR	1566	Pich, A.	COLL	326
Petrov, A.	ANYL	375	Phan, H.	INOR	114	Pich, A.	COLL	691
Petrov, D.P.	MEDI	198	Phan, L.	ANYL	219	Pich, A.	PMSE	108
Petrov, D.P.	MEDI	453	Phan, L.	BIOT	663	Pickard, F.C.	COMP	24
Petrova, K.T.	CARB	90	Phan, L.	PMSE	31	Pickard, F.C.	COMP	145
Petrovic, A.G.	PHYS	377	Phan, S.	ORGN	495	Pickard, F.C.	COMP	529
Petrovic, S.C.	ANYL	386	Phan, S.	ORGN	894	Pickett, C.	INOR	190
Petrukhina, M.A.	COLL	564	Phan, T.	GEOC	44	Pickett, P.D.	POLY	475
Petrukhina, M.A.	INOR	716	Phan, T.	GEOC	294	Pickrell, A.	MEDI	127
Petters, M.	PHYS	495	Phan, T.	COLL	477	Pico, N.	ENVR	836
Pettersen, B.A.	MEDI	361	Phan, T.	COLL	478	Piculell, L.	COLL	492
Petterson, M.	MEDI	361	Phan, T.	BIOT	590	Pidko, E.	CATL	534
Petterson, T.	CELL	418	Phattharachindanuwong, C.	COLL	356	Pidko, E.	COMP	459
Pettinger, J.	BIOL	313	Phelan, B.T.	INOR	780	Pidko, E.	ENFL	9
Pettit, A.	CHED	573	Phelan, F.R.	COLL	336	Pidko, E.	INOR	725
Pettitt, B.M.	COMP	175	Phelan, F.R.	POLY	20	Piedad, J.	ORGN	892
Pett-Ridge, J.	GEOC	53	Phelan, R.	BIOT	336	Piemonte, K.	CHED	638
Pett-Ridge, J.	GEOC	201	Phelps, M.	BIOT	493	Pienta, N.J.	CHED	53
Petty, A.	COLL	654	Phelps, T.	NUCL	162	Pienta, N.J.	CHED	59
Petty, A.L.	MEDI	270	Phifer, R.W.	CHAS	6	Pienta, N.J.	CHED	160
Petty, D.	BIOL	265	Phillbin, J.P.	PHYS	175	Pienta, N.J.	CHED	266
Petty, J.T.	PHYS	578	Philibert, M.	ENVR	262	Pieper, K.	ENVR	419
Petty, S.	ENFL	28	Philipp, C.	INOR	246	Pieper, P.	CHED	307
Petzold, C.J.	BIOT	176	Philipp, C.C.	AGFD	53	Pierce, A.	CHED	230
Petzold, C.J.	BIOT	179	Philipp, C.C.	AGFD	93	Pierce, E.M.	GEOC	179
Petzold, C.J.	BIOT	245	Philipp, M.	MEDI	469	Pierce, J.	GEOC	344
Petzold, M.	CELL	125	Philipp, S.B.	CHED	168	Pierce, J.G.	ORGN	346
Petzold-Welcke, K.	CELL	49	Philippou, H.	BIOL	300	Pierce, J.G.	ORGN	459
Peuchen, E.	ANYL	248	Phillips, R.	ENVR	430	Pierce, J.G.	ORGN	719
Peverly, A.	ENVR	70	Phillip, J.R.	BIOT	151	Piercy, B.	COLL	602
Pevzner, Y.	CINF	141	Phillips, A.	ORGN	836	Pieri, K.	CHED	552
Pevzner, Y.	COMP	148	Phillips, B.	CHED	1192	Piermaria, P.	INOR	1302
Peydecastaing, J.	CELL	92	Phillips, B.	GEOC	268	Pierre, V.C.	CHED	952
Peyre, J.	CELL	73	Phillips, B.	ENVR	875	Pierre, V.C.	INOR	27
Peyret, A.	COLL	323	Phillips, C.	BIOT	460	Pierrelouis, K.	CHED	1836
Peyret, A.	POLY	624	Phillips, D.L.	PHYS	423	Pierri, A.E.	ANYL	467
Peyton, L.	MEDI	262	Phillips, D.L.	PHYS	506	Pierri, A.E.	INOR	1252
Pezzato, C.	ORGN	640	Phillips, D.L.	PHYS	331	Pieschl, R.	MEDI	51

Pieschl, R.	MEDI	52	Pircher, N.	CELL	260	Pletincx, S.	GEOC	115
Pietrangelo, A.	PMSE	673	Piret, J.	BIOT	346	Plewa, M.J.	ENVR	327
Pietron, J.J.	ANYL	406	Pirillo, J.	INOR	1196	Plonka, A.	INOR	1408
Pietrucci, F.	ENFL	36	Pirio, N.	INOR	1290	Plonski, M.	CHED	1842
Pignataro, L.	ORGN	356	Pirnie, R.	BIOT	292	Ploof, B.	CHED	1041
Pignatello, J.J.	ENVR	10	Pirnot, M.T.	ORGN	36	Ploof, B.	CHED	1122
Pignatello, J.J.	ENVR	104	Piro, N.A.	CHED	1065	Ploskonka, A.M.	INOR	1508
Pignatello, J.J.	ENVR	179	Piro, N.A.	INOR	319	Plotnikov, N.	PMSE	582
Pignon, F.	CELL	238	Piro, N.A.	INOR	380	Plotzke, K.	CHED	1660
Pigot, T.	ENVR	274	Piro, N.A.	INOR	836	Plotzke, K.	CHED	1821
Pike, A.J.	BIOT	641	Piro, N.A.	INOR	1444	Pluen, A.	COLL	656
Pike, J.D.	CHED	1353	Piromjitpong, P.	INOR	215	Pluhar, D.	CHED	365
Pike, S.D.	COLL	856	Piromjitpong, P.	INOR	1372	Plumlee, M.H.	ENVR	232
Pila, T.	INOR	342	Pirotte, G.	PMSE	293	Plumlee, M.H.	ENVR	258
Pila, T.	INOR	347	Pirro, V.	ANYL	284	Plumlee, M.H.	ENVR	281
Pilarz, L.	CHED	1436	Pirrung, S.	BIOT	534	Plunkett, S.L.	ORGN	35
Pilate, F.	PMSE	488	Pirzada, D.	INOR	1005	Pluth, M.D.	INOR	514
Pilcher, S.	CHED	566	Pirzada, D.	INOR	1082	Plutnar, J.	FLUO	5
Piletsky, S.	ANYL	416	Pirzada, T.	AGFD	191	Poater, A.	CATL	312
Piletsky, S.	POLY	627	Pirzada, T.	PMSE	85	Poater, A.	INOR	98
Piligian, B.	CARB	65	Pisano, R.	PMSE	14	Poater, A.	INOR	1438
Piligian, B.	CARB	66	Pisitsoyon, P.	INOR	892	Poater, A.	ORGN	555
Pilkington, E.	POLY	419	Pistey, D.	INOR	1562	Poater, J.	BIOL	322
Pillai, R.	COMP	526	Pistono, A.O.	COLL	563	Poater, J.	CATL	312
Pillai, V.	COLL	149	Pisula, W.	ORGN	779	Poater, J.	INOR	1489
Pillai, V.	COLL	246	Pitell, S.	ENVR	776	Poblete, A.P.	PHYS	429
Pillai, V.	INOR	1276	Pitkanen, L.	CELL	485	Pochan, D.J.	PMSE	253
Pillai, V.	PMSE	332	Pitkänen, M.	CELL	198	Pochard, I.	GEOC	221
Pillai, X.	CHAL	1	Pitre, J.	ENFL	432	Pochet, P.	ENFL	373
Pillai, X.	CINF	94	Pitre-Yulfo, R.	CHED	1884	Pockat, D.	ORGN	561
Pillalamarry, V.	MEDI	73	Pitt, S.	MEDI	25	Podaru, G.	COLL	777
Pillejera, M.V.	ENFL	391	Pittenger, B.	PMSE	536	Poddar, R.	ANYL	434
Pillers, M.A.	PHYS	289	Pittman, C.U.	COLL	743	Podgornik, A.	BIOT	415
Pillion, M.B.	POLY	85	Pitto-Barry, A.	POLY	378	Podgorski, D.C.	ENFL	151
Pilon, G.	AGFD	24	Pitto-Barry, A.	POLY	550	Podgorski, D.C.	ENFL	405
Pilsf, L.	ORGN	373	Pittton, B.	ENVR	869	Podgorski, D.C.	ENVR	105
Pimentel, E.B.	CHED	1419	Pitts, W.	NUCL	112	Podgorski, D.C.	ENVR	600
Pinar, A.B.	ENFL	10	Pitts, W.J.	MEDI	25	Podila, R.	ENVR	496
Pinaud, B.	CATL	560	Pivec, T.	CELL	510	Podlesnyak, A.A.	INOR	714
Pinckney, C.	COMP	250	Piveteau, C.	MEDI	455	Podlesnyak, A.A.	INOR	1233
Pincus, A.	CHED	49	Piwowar, A.M.	POLY	1	Podolski, R.H.	COMP	378
Pincus, L.	ENVR	610	Piyachomkwan, K.	CELL	345	Podolsky, I.	BIOT	153
Pine, D.	COLL	388	Piyade, R.	PMSE	387	Podolsky, I.	BIOT	399
Pine, D.	PMSE	134	Piyade, R.	PMSE	382	Poe, M.M.	MEDI	19
Pinel, C.	CELL	511	Piyakeeratikul, P.	INOR	342	Poe, M.M.	MEDI	99
Pines, A.	BIOT	234	Piyakeeratikul, P.	INOR	347	Poeppelmeier, K.R.	INOR	753
Pines, E.	PHYS	119	Piyaratne, P.S.	AGFD	120	Poeppelmeier, K.R.	INOR	1114
Ping, Y.	ENFL	27	Pizarro, A.M.	INOR	747	Pogash, M.A.	INOR	393
Pingali, S.	CELL	19	Pizzelli, K.M.	BIOT	578	Pogosova, M.	INOR	1006
Pingali, S.	CELL	520	Pizzelli, K.M.	BIOT	681	Pogostin, B.	POLY	202
Pingen, D.	INOR	413	Plakos, K.	INOR	579	Pohl, A.A.	CHED	537
Pinho, L.	CELL	154	Plaks, J.	BIOT	58	Pohl, N.L.	CARB	12
Pink, M.	CATL	80	Plamondon, S.	ORGN	99	Pohlki, F.	MEDI	11
Pink, M.	ENFL	335	Planalp, R.P.	INOR	1150	Pohlman, A.	COLL	275
Pink, M.	ORGN	417	Planalp, R.P.	NUCL	156	Pohlman, A.J.	COLL	258
Pinkard, A.	PROF	3	Planas, A.	CELL	305	Poineau, F.	INOR	615
Pinkerton, A.	MEDI	321	Plank, H.	CELL	255	Poineau, F.	INOR	1102
Pinkerton, D.K.	ANYL	327	Plank, H.	CELL	471	Poineau, F.	NUCL	8
Pinket, W.	AGFD	259	Plank, J.	COLL	356	Poineau, F.	NUCL	63
Pinkin, N.	BIOL	228	Plappert, S.	CELL	442	Poineau, F.	NUCL	84
Pinna, N.	PMSE	24	Plappert, S.	CELL	470	Poirier, C.	CHED	1855
Pinna, N.	POLY	108	Plascencia, C.	COMP	211	Poirier, L.	ENFL	2
Pinnau, I.	PMSE	367	Plassmeyer, P.	INOR	655	Poirier, L.	ENFL	155
Pinsky, B.	CHED	1244	Plassmeyer, P.	INOR	1413	Poirier, L.	ENFL	359
Pintar, A.	ENVR	194	Plata, D.	ENVR	157	Poirier, L.	ENFL	454
Pintar, A.	ENVR	700	Plata, D.	ENVR	862	Poisson, L.	AGFD	257
Pintauer, T.	CHED	1507	Plata, D.L.	GEOC	298	Pojman, J.A.	CHED	1751
Pinter, B.	INOR	598	Plata, D.L.	GEOC	343	Pokharel, N.	INOR	624
Pinter, E.N.	ORGN	571	Platero Prats, A.	ENFL	271	Pokhilko, P.	PHYS	461
Pintiala, C.	MEDI	455	Platero, J.	CHED	1834	Pokorski, J.K.	BIOT	683
Pinto, D.	MEDI	18	Plath, K.L.	CHED	233	Pokorski, J.K.	CELL	308
Pinto, I.F.	BIOT	53	Platteau, G.	BIOT	212	Pokorski, J.K.	POLY	411
Pinto, M.	MEDI	436	Platteau, G.	BIOT	420	Poladi, A.K.	ENVR	849
Pinto, M.N.	BIOT	458	Plazzotta, B.	POLY	584	Polanco, A.	I&EC	132
Pinto, R.	CELL	443	Plech, A.	COLL	67	Poland, S.	INOR	220
Pintus, A.	INOR	1547	Plekker, M.	CHED	793	Polaske, M.R.	BIOL	118
Pipe, K.	POLY	195	Plenderleith, R.	PMSE	443	Polcari, D.	ANYL	435
Pique, M.	ANYL	219	Plescica, J.	MEDI	231	Polen, S.	ORGN	471
Piquette, M.	INOR	219	Pletcher, C.	BIOT	390	Polenova, T.E.	INOR	233
Pir-Cakmak, F.	COLL	729	Pletincx, S.	COLL	235	Polentarutti, B.	MEDI	17

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Poler, J.C.	COLL	350	Popelier, P.	COMP	254	Pottel, J.	ORGN	284
Polezhaev, A.V.	COLL	721	Popelka-Filcoff, R.	ANYL	362	Potter, S.	ANYL	475
Poli, M.	CHED	689	Popelka-Filcoff, R.	NUCL	33	Potter, T.	ANYL	469
PolICASTRO, G.M.	PMSE	603	Popelka-Filcoff, R.	NUCL	123	Potter, T.	ENVR	757
PolICASTRO, S.	INOR	1348	Popescu, V.C.	INOR	825	Potter, T.	POLY	362
Policht, V.	PHYS	12	Pophristic, V.	COMP	388	Potter, T.	CHED	1535
Polifka, J.	CHED	1893	Pophristic, V.	COMP	447	Potter, W.	INOR	1072
Polinski, R.	INOR	245	Popik, O.	CARB	1	Potter, W.	BIOL	283
Polizzotto, M.	GEOC	94	Popik, V.	COLL	432	Potter, W.	CHED	705
Polizzotto, M.	GEOC	98	Poplawski, T.	MEDI	173	Potthast, A.	CELL	37
Polizzotto, M.	GEOC	171	Poplawski, T.	MEDI	174	Potthast, A.	CELL	259
Polk, M.	CHED	1173	Poplan-Vaida, D.	PHYS	341	Potthast, A.	CELL	366
Pollak, J.	GEOC	108	Popova, M.	CHED	175	Potti, G.K.	MEDI	253
Pollard, D.J.	BIOT	121	Popova, M.	MEDI	120	Poudel, A.	PHYS	177
Pollard, J.	BIOT	187	Popovici-muller, J.	MEDI	248	Poudyal, R.	COLL	276
Pollard, J.R.	CHED	1815	Popovs, I.	ENFL	222	Poudyal, S.	CATL	181
Pollard, Z.	COMP	190	Popowycz, F.	ORGN	218	Pouget, E.	POLY	484
Pollard, Z.	COMP	285	Popowycz, F.	ORGN	633	Poulesquen, A.	GEOC	320
Pollard, Z.	COMP	286	Popowycz, F.	ORGN	914	Poulin, B.	ENVR	31
Pollegioni, L.	ANYL	435	Popp, B.V.	INOR	1498	Poulos, C.	ENVR	744
Pollet, E.	CELL	307	Popp, B.V.	INOR	1558	Poulose, S.	AGFD	201
Pollock, A.	CHED	2073	Popp, B.V.	ORGN	216	Poulsen, A.	MEDI	422
Pollock, J.	BIOL	190	Popp, B.V.	ORGN	439	Poulson, S.R.	ENVR	1037
Pollock, J.A.	CHED	447	Popp, B.V.	ORGN	599	Poulson, S.R.	GEOC	21
Pollock, J.A.	CHED	462	Popp, T.	INOR	1010	Poulson, S.R.	GEOC	50
Pollock, M.N.	INOR	436	Poppinga, F.	CHED	1857	Poulson, S.R.	GEOC	25
Pollock, S.B.	BIOL	346	Popple, D.	ENVR	854	Poulter, B.	CHED	1619
Pollock, S.B.	COMP	549	Poppler, A.	CELL	364	Poulter, B.	CHED	1866
Pollock, T.	INOR	1080	Poremba, K.	ORGN	222	Poulter, C.D.	ORGN	8
Pollok, K.	MEDI	164	Portela, R.	CATL	593	Pour, G.	CHED	110
Polly, R.	NUCL	108	Portelinha, J.	CHED	1549	Pourpoint, F.	CATL	55
Polman, A.	INOR	1572	Porter, A.G.	COLL	56	Poutsma, J.C.	CHED	882
Polson, S.W.	GEOC	184	Porter, C.	MEDI	30	Poverenov, E.	ORGN	926
Poltavets, V.	INOR	1359	Porter, C.L.	ORGN	632	Powderly, K.M.	INOR	1364
Poluektov, O.	CATL	391	Porter, G.S.	CINF	135	Powell, D.R.	INOR	67
Poluektov, O.	INOR	271	Porter, J.	BIOL	279	Powell, G.L.	INOR	372
Polvani, D.A.	CHED	1129	Porter, J.	BIOL	304	Powell, J.R.	CHED	385
Polvani, D.A.	CHED	1814	Porter, L.A.	CHED	139	Powell, J.R.	COMP	328
Polvere, R.	CHED	1625	Porter, L.A.	CHED	836	Powell, J.R.	MEDI	509
Polyakov, V.	COMP	499	Porter, L.A.	CHED	843	Powell, W.S.	ORGN	14
Polyakov, V.R.	CINF	149	Porter, N.	INOR	243	Power, P.P.	INOR	856
Polyakov, V.R.	COMP	180	Porter, T.M.	PHYS	75	Power, P.P.	INOR	864
Poma, A.	ANYL	416	Porter, W.	CELL	313	Power, P.P.	INOR	1297
Poma, A.	PMSE	629	Portero Camacho, F.A.	CHED	954	Power, P.P.	INOR	1315
Poma, A.	POLY	627	Portier, R.J.	ENVR	574	Powers, A.	INOR	1122
Pombar, G.	CHED	1344	Portillo, D.	INOR	353	Powers, D.	BIOT	573
Pomerantseva, E.	ENFL	300	Portillo-Veléz, N.S.	ENVR	201	Powers, D.N.	BIOT	261
Pomerantz, W.C.	CHED	2036	Portinha, D.	POLY	484	Powers, M.	MEDI	111
Pomerantz, W.C.	FLUO	43	Portinha, D.	POLY	503	Powers, M.	INOR	936
Pommier, Y.	MEDI	231	Portner, J.C.	ENVR	351	Powers, R.	CHED	556
Ponce De Leon Guzman, S.	BIOT	494	Posada, L.	CHED	1152	Powers, X.B.	INOR	374
Ponce Vargas, M.	INOR	1290	Posada, L.	CHED	1881	Powers, X.B.	INOR	1256
Ponce, H.	CHED	1672	Posey, L.A.	CHED	2073	Powers, X.B.	INOR	1333
Ponce, M.	PMSE	340	Posey, N.D.	POLY	62	Poynton, H.	ENVR	895
Ponce, R.R.	ORGN	768	Posont, D.	CHED	2021	Poyton, M.	COLL	380
Ponce, S.	CHED	330	Pospech, J.	ORGN	173	Pozzo, L.D.	POLY	196
Ponce, S.	CHED	331	Poss, M.	MEDI	349	Prabakar, S.	ENVR	282
Ponder, J.W.	COMP	417	Posselt, D.	COLL	5	Prabakaran, P.	PMSE	420
Ponder, J.W.	COMP	529	Post, J.	GEOC	105	Praban, S.	INOR	212
Pongteeraporn, C.	COLL	177	Post, J.	GEOC	162	Prabhakaran, V.	CATL	458
Pongwan, P.	AGFD	259	Post, J.	GEOC	177	Prabhu, V.	PMSE	76
Pons Royo, M.D.	BIOT	534	Postigo, C.	ENVR	638	Prabhu, V.M.	PMSE	492
Ponsi, D.	BIOT	71	Postlethwaite, A.E.	MEDI	427	Prabhu, V.M.	POLY	588
Pontalier, P.	CELL	92	Postlewaite, M.A.	CHED	2083	Prack, E.	INOR	1118
Pontalier, P.	ENFL	338	Poston, A.	CARB	65	Pradel, J.	ANYL	184
Ponthus, J.	ENFL	401	Poston, A.	CARB	66	Pradhan, A.	ENFL	357
Pontius, R.K.	CHED	1514	Poston, M.J.	PHYS	196	Pradhan, A.R.	ENFL	400
Poon, C.	ENVR	244	Potapov, A.	PHYS	494	Pradhan, D.	CATL	452
Poon, G.	GEOC	356	Potatau, R.	COLL	841	Prado, R.	AGFD	149
Poon, H.	BIOT	382	Potenzino, R.	CHED	1499	Praetorius, A.	ENVR	308
Poongavanam, M.	BIOT	381	Potenzzone, R.	CINF	166	Praetorius, J.M.	PMSE	284
Pop, E.	INOR	1201	Potgieter, M.	CHED	2074	Prakash, A.	COLL	588
Pop, F.	COLL	648	Pothig, A.	INOR	834	Prakash, G.	ORGN	96
Popat, K.	PMSE	440	Pothig, A.	INOR	1538	Prakash, G.	ORGN	144
Pope, B.	CHED	394	Pothoof, J.	CHED	390	Prakash, G.	BIOT	207
Pope, C.J.	CELL	140	Pothoof, J.	CHED	1805	Prakash, G.	BIOT	416
Pope, C.J.	CELL	212	Pothoof, J.	CHED	1830	Prakash, J.	INOR	268
Pope, J.C.	INOR	218	Pothoof, J.	ENVR	741	Prakash, J.	INOR	272
Pope, J.C.	POLY	138	Potocki-Véronèse, G.	CELL	356	Prakash, J.	INOR	1191
Pope, T.	COLL	726	Pottel, J.	BIOT	716	Prakash, J.	INOR	1453

Prakash, O.	ENVR	349	Price, C.	PHYS	419	Pryor, E.M.	CHAS	6
Prakash, P.	COLL	777	Price, D.	CHED	948	Pryor, E.M.	CHAS	19
Prakash, S.G.	CATL	291	Price, D.	CHED	989	Pryor, E.M.	SCHB	17
Prakash, S.G.	ENFL	242	Price, D.A.	BIOL	10	Pryor, E.M.	SCHB	21
Prakash, S.G.	FLUO	1	Price, D.A.	BIOL	292	Przybranowski, S.	MEDI	236
Prakash, S.G.	ORGN	143	Price, H.	CHED	244	Przybranowski, S.	MEDI	243
Prakash, S.G.	PROF	24	Price, H.	CHED	1964	Przybranowski, S.	MEDI	265
Pramanik, A.	COLL	322	Price, N.E.	BIOL	60	Przybycien, T.M.	BIOT	677
Pramanik, S.	INOR	942	Price, S.	CHED	1795	Przybycien, T.M.	COLL	424
Pramanik, S.	INOR	943	Price, S.A.	CHED	1640	Psarska, S.	GEOC	120
Pramanik, S.	INOR	944	Price, S.J.	AGFD	158	Psencik, J.	PHYS	18
Prange, M.P.	GEOC	148	Price, T.	POLY	18	Pu, M.	MEDI	305
Prasad, P.	PMSE	513	Price, W.A.	CHED	1436	Pu, Y.	PHYS	397
Prasad, P.	POLY	371	Priddy, A.	MEDI	212	Pubill-Ulldemolins, C.	ORGN	65
Prasad, V.	PMSE	439	Priecel, P.	CATL	359	Pubill-Ulldemolins, C.	ORGN	229
Prasad, V.	PMSE	567	Priest, A.	ORGN	513	Puckett, N.C.	BIOL	134
Prasher, A.	POLY	274	Priestley, R.D.	PMSE	80	Pudasaini, B.	INOR	811
Prasomsri, T.	AGFD	116	Prieto, A.L.	INOR	609	Puente, A.	CELL	94
Prasomsri, T.	CATL	386	Prieto, A.L.	INOR	640	Puga, M.	POLY	297
Prasse, C.	CHED	969	Prieto, A.L.	ENVR	2	Pugh, C.R.	POLY	342
Prasse, C.	ENVR	33	Prieto, H.	CHED	535	Pugh, C.R.	POLY	434
Prasse, C.	ENVR	456	Prieto, H.	CHED	561	Pugh, W.	CHED	361
Prasse, C.	ENVR	722	Prieto, H.	CHED	564	Puglia, M.	CHED	1654
Prasse, C.	ENVR	1016	Prieto, H.	CHED	579	Puig, J.	PMSE	289
Prater, C.	PMSE	147	Prieto, J.A.	ORGN	164	Pujadas, G.	MEDI	430
Prather, K.A.	ENVR	479	Prieto, J.A.	ORGN	908	Pulay, P.	PHYS	183
Prather, P.	MEDI	37	Prieto, L.	ORGN	451	Pulgarin, C.	ENVR	272
Prati, L.	CATL	278	Prieva, D.C.	PMSE	254	Pulgarin, C.	ENVR	685
Prato, M.	CATL	234	Primacella, M.	AGFD	214	Pulicicchio, C.	MEDI	21
Prato, M.	ENFL	263	Primera-Pedrozo, J.N.	INOR	1446	Pullanchery, S.	COLL	380
Prats-Mateu, B.	CELL	463	Primera-Pedrozo, O.M.	CHED	1874	Pullanchery, S.	COLL	395
Pratt, H.	COMP	309	Prince, B.J.	ANYL	469	Pulley, P.R.	POLY	424
Pratt, J.	INOR	864	Prince, B.J.	ENVR	757	Pulley, P.R.	WCC	23
Pratt, J.M.	CHED	140	Prince, B.J.	POLY	362	Pullin, A.	CHED	965
Pratt, J.M.	CHED	795	Principato, J.	CHED	2022	Pullman, D.	COLL	280
Pratt, M.	BIOT	334	Prins, A.	ENFL	118	Pun, A.	ORGN	857
Pratt, M.	CARB	76	Prinsell, M.R.	CHED	1994	Pun, A.	PROF	3
Pratx, G.	ANYL	307	Printz, A.	ENFL	57	Pun, M.	MEDI	287
Precht, T.L.	INOR	844	Printz, A.	ENFL	145	Punia, A.	INOR	1039
Predota, M.	GEOC	112	Printz, A.	ENFL	267	Punia, A.	PMSE	317
Predota, M.	GEOC	279	Pritchard, C.	CELL	236	Punia, A.	PMSE	421
Predota, M.	GEOC	280	Pritchard, J.	MEDI	362	Punia, A.	POLY	630
Preece, J.E.	AGFD	56	Priyadarshini, P.	CATL	228	Punia, K.	COLL	653
Preece, J.E.	AGFD	115	Priyadarshini, P.	CATL	645	Punia, K.	INOR	1039
Preefer, M.	ENFL	117	Prlc, A.	BIOT	86	Punia, K.	PMSE	317
Preis, J.	POLY	31	Prlc, A.	CINF	71	Punia, K.	PMSE	421
Preis, J.	POLY	217	Proano, A.	CELL	148	Punreddy, S.	BIOT	662
Prelesnik, J.	CHED	602	Proano-Aviles, J.	CATL	404	Puntes, V.F.	COMP	293
Premaratne, W.	GEOC	132	Prodinger, S.	ENFL	399	Puolakka, A.	CELL	207
Prendergast, D.	COMP	510	Proetto, M.T.	ORGN	873	Pupaza, D.	CHED	478
Prendergast, D.	ENFL	283	Prokay, A.	CHED	1865	Pupo Nogueira, R.	ENVR	271
Prendergast, D.	INOR	96	Proksch, R.	I&EC	54	Pupo Nogueira, R.	ENVR	695
Prendergast, D.	INOR	160	Proksch, R.	PMSE	592	Purchel, A.	POLY	377
Prendergast, D.	PHYS	338	Promkhan, P.	INOR	1354	Purdie, J.	BIOT	71
Prendergast, D.	PHYS	357	Prommer, H.	GEOC	250	Puri, M.	INOR	269
Prendergast, D.	PHYS	362	Proppe, J.	INOR	818	Purísima, E.O.	BIOT	172
Prenni, A.	GEOC	345	Protasiewicz, J.D.	INOR	596	Purkey, H.E.	MEDI	24
Prentice, J.	BIOT	692	Protasiewicz, J.D.	INOR	1311	Purohit, T.	BIOL	190
Prescher, J.A.	BIOL	256	Protat, M.	COLL	429	Purohit, V.	ORGN	512
Prescher, J.A.	CHED	2042	Prough, R.	AGFD	86	Pursell, C.	INOR	900
Presland, J.	MEDI	112	Provorse, M.	COMP	425	Pursell, C.	CATL	37
Presniakov, I.	CINF	170	Provost, T.	CHED	773	Pursell, C.	CATL	530
Press, L.P.	INOR	724	Proynov, E.	COMP	283	Pursell, C.	CATL	651
Presselt, M.	COLL	720	Proynov, E.	COMP	469	Pursell, C.	ENFL	93
Prestegard, J.H.	CELL	435	Prucker, O.	PMSE	346	Pursell, C.	INOR	436
Preston, A.	BIOL	142	Pruden, A.	GEOC	249	Pursell, C.	INOR	439
Preston, R.	ORGN	527	Prudente, C.M.	CHED	287	Pursell, C.	INOR	903
Prevatt, J.	ENVR	983	Prudente, C.M.	INOR	315	Pursell, D.P.	CHED	1943
Prevette, L.E.	CHED	1196	Prudente, C.M.	INOR	316	Purser, G.H.	CHED	537
Prevette, L.E.	CHED	1715	Prudente, C.M.	INOR	317	Purtell, J.	BIOT	723
Prevette, L.E.	CHED	1716	Prudhomme, R.K.	PMSE	80	Purucker, S.	CHED	1780
Prevost, G.	AGFD	198	Prudhomme, R.K.	PMSE	673	Purushotham, P.	CELL	189
Prevost, N.T.	CELL	260	Pruis, C.	CHED	222	Purushothaman, G.	ORGN	353
Prezhdo, O.V.	PHYS	57	Pruitt, E.L.	PMSE	376	Purvine, S.O.	BIOT	139
Prezhdo, O.V.	PHYS	557	Prushan, M.J.	CHED	1083	Purvis, L.	ORGN	562
Pribil, S.	CHED	356	Prushan, M.J.	CHED	1140	Pusede, S.	CHED	928
Pribil, S.	CHED	364	Pruski, M.	CATL	54	Pushkarev, E.	BIOT	282
Pribil, S.	CHED	1800	Pruski, M.	CATL	151	Puskas, J.E.	PMSE	389
Pribyl, J.	POLY	10	Pruski, M.	PMSE	39	Pussacq, T.	INOR	1561
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Pusuluri, A.	BIOT	686	Qin, Z.	COMP	184	Queeney, K.L.	COLL	802
Putans, R.	PMSE	422	Qing, F.	FLUO	27	Queensen, M.J.	CATL	414
Putaux, J.	CELL	311	Qing, S.	FLUO	15	Quesnelle, C.A.	MEDI	349
Putkonen, M.	CELL	205	Qing, S.	FLUO	16	Quevedo, W.	PHYS	67
Putkonen, M.	CELL	417	Qing, S.	FLUO	40	Quevedo-Lopez, M.	INOR	701
Putnam, A.	POLY	563	Qiu, B.	INOR	1393	Quezada, A.	BIOT	50
Puttick, S.	POLY	215	Qiu, F.	CATL	177	Quezada, R.	CHED	474
Pyle, M.	INOR	1526	Qiu, J.	NUCL	98	Quiambao, L.	ORGN	426
Pyle, M.	MEDI	420	Qiu, J.	INOR	1308	Quicksall, A.	GEOC	8
Pyles, D.	ENFL	395	Qiu, L.	ENVR	413	Quincy, T.J.	PHYS	261
Pyles, H.	COLL	366	Qiu, M.	CINF	112	Quinlivan, P.	INOR	1314
Pyles, R.B.	MEDI	83	Qiu, M.	ENVR	800	Quinn, H.	CHED	970
Pyann, R.	COLL	624	Qiu, Q.	ENVR	413	Quinn, J.	POLY	54
Pyser, J.	INOR	1399	Qiu, R.	CELL	263	Quinn, J.	POLY	55
Pyun, J.	PMSE	24	Qiu, R.	POLY	23	Quinn, J.	POLY	419
Pyun, J.	POLY	12	Qiu, R.	MEDI	361	Quinn, K.J.	CHED	1439
Pyun, J.	POLY	108	Qiu, S.	POLY	27	Quinn, K.J.	CHED	1444
Pyun, J.	POLY	555	Qiu, S.	ENVR	93	Quinn, T.	COMP	242
Qadir Shar, G.	ANYL	216	Qiu, S.	PMSE	423	Quinn, T.	ORGN	512
Qafoku, N.	GEOC	249	Qiu, S.	BIOL	248	Quinones Velez, G.	MEDI	210
Qafoku, N.P.	ENVR	301	Qiu, S.	COMP	207	Quinones, R.	CHED	2116
Qafoku, O.	GEOC	37	Qiu, T.	INOR	1089	Quinones, R.	COLL	251
Qafoku, O.	GEOC	312	Qiu, T.A.	ANYL	336	Quinones, R.	COLL	252
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Qayouh, H.	POLY	188	Qiu, T.A.	INOR	1521	Quinones, R.	MEDI	186
Qi, F.	ENVR	248	Qiu, Y.	ENVR	507	Quiñonez González, S.E.	COLL	329
Qi, F.	ENVR	489	Qiu, Y.	COMP	205	Quinonez, A.	CHED	1302
Qi, H.	CELL	460	Qiu, Y.	POLY	325	Quintana Mendoza, J.H.	INOR	995
Qi, J.	ORGN	305	Qu, F.	INOR	227	Quintana Vicente, R.	CELL	394
Qi, L.	BIOL	22	Qu, G.	PMSE	191	Quintanilla, A.L.	PMSE	102
Qi, L.	CATL	204	Qu, G.	PMSE	556	Quintanilla, A.L.	PMSE	318
Qi, L.	ENFL	61	Qu, J.	ORGN	171	Quintero, A.	CHED	511
Qi, L.	ENVR	928	Qu, J.	INOR	106	Quinto, L.B.	BIOT	190
Qi, L.	COLL	52	Qu, S.	ENVR	649	Quirino, R.	BIOL	302
Qi, M.	INOR	398	Qu, S.	ORGN	890	Quirino, R.	CELL	96
Qi, M.	INOR	683	Qu, Y.	ORGN	175	Quirino, R.L.	CELL	479
Qi, P.	CELL	35	Qu, Y.	ORGN	917	Quirke, J.C.	CHED	838
Qi, Q.	ORGN	306	Qu, Z.	CHED	107	Quirke, J.M.	CHED	838
Qi, W.	I&EC	127	Qu, Z.	INOR	697	Quraishi, S.	CELL	250
Qi, X.	CELL	108	Qu, Z.	PMSE	504	Quraishi, S.	CELL	470
Qi, X.	INOR	32	Quaderi, N.	CINF	30	Qureshi, I.	CHED	1831
Qi, X.	INOR	1058	Quadrelli, P.	BIOL	312	Qvit-Raz, N.	BIOT	146
Qi, X.	COLL	334	Quadri, M.	MEDI	67	R., S.	BIOT	239
Qi, X.	PROF	13	Quail, J.	INOR	556	Ra, C.	AGFD	71
Qi, Z.	CATL	170	Quan, M.L.	MEDI	18	Ra, H.	I&EC	113
Qi, Z.	CATL	606	Quan, S.	INOR	397	Rabaey, D.J.	INOR	291
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Qian, E.A.	INOR	1151	Quan, S.	INOR	1448	Rabani, E.	PHYS	23
Qian, H.	ORGN	713	Quan, X.	ENVR	86	Rabani, E.	PHYS	175
Qian, J.	COLL	313	Quan, X.	ENVR	195	Rabbani, S.	ORGN	527
Qian, S.	COLL	699	Quan, X.	ENVR	355	Rabet, P.	ORGN	49
Qian, W.	ANYL	171	Quang, J.	BIOT	132	Rabia, L.	BIOT	55
Qian, W.	MEDI	396	Quaretti, M.	INOR	324	Rabinovich, D.	HIST	25
Qian, W.	ENFL	450	Quarles, D.	ENFL	42	Rabinovich, D.	INOR	15
Qian, W.	I&EC	123	Quarles, D.	ENFL	454	Rabinovich, D.	INOR	1456
Qian, X.	BIOT	455	Quarles, R.J.	INOR	618	Rabolt, J.F.	PMSE	195
Qian, X.	BIOT	715	Quarmby, V.	BIOT	614	Rabolt, J.F.	POLY	167
Qian, X.	CATL	461	Quartermaine, C.	CHED	437	Rabuffetti, F.	INOR	1119
Qian, X.	ORGN	497	Quartermaine, C.	CHED	446	Rabuffetti, F.	INOR	1125
Qian, X.	CELL	141	Quay, A.	ENVR	868	Rabuka, D.	MEDI	397
Qian, Y.	POLY	524	Que, E.L.	INOR	28	Rabuska, R.J.	CHED	1147
Qian, Y.	ENVR	604	Que, E.L.	INOR	1087	Race, N.A.	CHED	963
Qiang, Z.	POLY	302	Que, L.	INOR	22	Rachini, A.	CELL	450
Qiao, B.	BIOL	92	Que, L.	INOR	66	Racicot, C.	BIOT	358
Qiao, B.	ORGN	18	Que, L.	INOR	268	Rack, J.	INOR	717
Qiao, G.G.	INOR	884	Que, L.	INOR	269	Rack, P.D.	COLL	75
Qiao, G.G.	INOR	1504	Que, L.	INOR	272	Rackov, C.	CHED	166
Qiao, J.B.	BIOT	28	Que, L.	INOR	273	Rackov, C.	ENVR	696
Qiao, Q.	INOR	1519	Que, L.	INOR	274	Radak, B.	COMP	173
Qiao, Z.	ENVR	1021	Que, L.	INOR	276	Radak, B.	COMP	554
Qin, D.	COLL	386	Que, L.	INOR	277	Radak, B.	COMP	563
Qin, F.	ENFL	430	Que, L.	INOR	279	Raddatz, A.	BIOT	626
Qin, J.	CATL	149	Que, L.	INOR	286	Radford, L.	CHED	661
Qin, J.	POLY	504	Que, L.	INOR	493	Radford, M.N.	ORGN	815
Qin, S.	POLY	505	Que, L.	INOR	948	Radhakrishnan, K.	ENVR	146
Qin, T.	COLL	50	Que, L.	INOR	1191	Radhamohan Keaba, A.	BIOT	708
Qin, T.	ORGN	212	Que, L.	INOR	1453	Radi, L.	PMSE	424

Radi, L.	PMSE	457	Rahman, T.	ENVR	777	Ramalingam, V.	ORGN	590
Radi, L.	POLY	183	Rahman, T.S.	CATL	523	Ramalingam, V.	ORGN	848
Radin, M.	ANYL	244	Rahman, T.S.	COLL	722	Ramamoorthy, G.	ORGN	8
Radke, W.	CELL	508	Rahmanudin, A.	ENFL	100	Ramamurthy, D.C.	ENVR	234
Radke, W.	POLY	31	Rahmat, J.	PMSE	412	Ramamurthy, P.C.	ORGN	866
Radke, W.	POLY	217	Rai, N.	CATL	279	Raman, A.	COMP	293
Radley, E.	PMSE	584	Rai, N.	CATL	447	Raman, D.R.	CATL	158
Radoniqi, F.	BIOT	480	Rai, P.	ENFL	301	Raman, N.	BIOL	257
Radousky, H.	NUCL	155	Rai, R.	CATL	64	Ramanan, S.	ENVR	998
Radtke, M.	CHED	1857	Raichur, A.	ENVR	146	Ramanathan, A.	INOR	1113
Radu, M.	COMP	134	Raidt, T.	PMSE	425	Ramasamy, B.	INOR	1166
Radwan, I.	ENVR	312	Raidt, T.	POLY	612	Ramasamy, R.	ANYL	422
Radzinski, S.	POLY	245	Raidt, T.	POLY	614	Ramaswamy, S.	MEDI	342
Radzinski, S.	POLY	498	Raigoza, A.F.	CHED	1624	Ramayani, A.	CHED	1521
Radzinski, S.	POLY	599	Raigoza, A.F.	CHED	1678	Rameez, S.	BIOT	630
Raeisi, M.	ORGN	465	Raines, R.T.	PROF	31	Ramesh, H.	ENVR	146
Raeiszadeh, M.	PMSE	244	Rainier, J.D.	ORGN	842	Ramesh, S.	CELL	140
Raetz, A.G.	BIOL	58	Rainsberry, A.N.	INOR	392	Ramesh, S.	CELL	212
Raeymaekers, B.	COLL	581	Raizada, M.	INOR	1335	Rameshan, C.	CATL	223
Rafferty, R.	ORGN	717	Raj, A.	CINF	28	Rameshan, C.	COLL	21
Rafferty, R.	ORGN	720	Raj, A.	BIOL	149	Ramey, R.F.	AGFD	17
Rafferty, R.	ORGN	851	Raja, A.A.	COLL	554	Ramirez Domenech, J.I.	CHED	198
Rafferty, S.	PHYS	436	Raja, B.	ANYL	306	Ramirez Domenech, J.I.	CHED	345
Rafiei Miandashti, A.	PHYS	267	Raja, B.	BIOT	300	Ramirez Domenech, J.I.	CHED	974
Rafique, M.G.	CATL	387	Raja, K.S.	COLL	653	Ramirez Domenech, J.I.	CHED	1257
Raftery, D.	AGFD	167	Raja, K.S.	INOR	1039	Ramirez Domenech, J.I.	CHED	1266
Raghavachari, K.	COLL	363	Raja, K.S.	PMSE	317	Ramirez Domenech, J.I.	CHED	1328
Raghavachari, K.	COLL	365	Raja, K.S.	PMSE	421	Ramirez Domenech, J.I.	CHED	1786
Raghavachari, K.	COLL	401	Rajabipour, F.	GEOC	319	Ramirez Domenech, J.I.	CHED	1802
Raghavachari, K.	COLL	402	Rajaeian, B.	ENVR	449	Ramirez Domenech, J.I.	CHED	1825
Raghavachari, K.	COLL	485	Rajagopal, K.	BIOT	133	Ramirez Domenech, J.I.	CHED	1886
Raghavachari, K.	COLL	558	Rajajayavel, S.	ENVR	894	Ramirez Ramos, A.	MEDI	182
Raghavachari, K.	COLL	725	Rajamani, R.	MEDI	52	Ramirez Trejo, K.	ORGN	467
Raghavachari, K.	ORGN	417	Rajamani, R.	MEDI	51	Ramirez, A.	ORGN	340
Raghavachari, K.	PHYS	565	Rajan, K.	CATL	623	Ramirez, J.	BIOL	273
Raghavan, N.	MEDI	349	Rajan, N.	BIOT	423	Ramirez, J.	CHED	627
Raghavan, S.R.	COLL	82	Rajan, R.	CHED	720	Ramirez, J.	MPPG	20
Raghavan, S.R.	COLL	367	Rajanbabu, T.	ORGN	471	Ramirez, J.V.	BIOT	687
Raghavan, S.R.	COLL	412	RajanBabu, T.	ORGN	735	Ramirez, K.	ENFL	209
Raghavan, S.R.	PMSE	22	Rajaraman, S.	CHED	1721	Ramirez, L.	CHED	1787
Raghavan, S.R.	PMSE	178	Rajaseelan, E.	CHED	1070	Ramirez, S.	BIOL	50
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Raghavan, S.R.	PMSE	547	Rajee, A.O.	INOR	1262	Ramirez-Cuesta, A.	ENFL	272
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Ragin-Wilson, A.	ENVR	77	Rajh, T.	ENFL	327	Ramirez-Ramos, A.	CHED	1209
Ragland, D.	COMP	442	Rajput, A.	INOR	1340	Ramirez-Ramos, A.	MEDI	172
Ragoza, M.	COMP	100	Raju, R.	CATL	394	Ramjee, B.	CHED	1086
Ragoza, M.	COMP	290	Rakariyatham, K.	AGFD	37	Ramjoie, Y.	PMSE	286
Raguette, L.	COMP	338	Raker, J.R.	CHED	27	Rammeloo, R.X.	COLL	582
Ragunath, S.	ENVR	395	Raker, J.R.	CHED	58	Rammo, O.	BIOT	451
Ragunath, S.	ENVR	581	Raker, J.R.	CHED	176	Rammo, O.	BIOT	453
Ragunath, S.	ENVR	865	Raker, J.R.	CHED	185	Ramnani, P.	ANYL	236
Rahaman, S.	ENVR	508	Raker, J.R.	CHED	186	Ramos Flores, J.	ORGN	521
Rahaman, S.	ENVR	999	Raker, J.R.	CHED	202	Ramos Torres, A.	POLY	571
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Rahatekar, S.	CELL	179	Raker, J.R.	CHED	2012	Ramos, B.	CHED	198
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Raheem, A.	ENFL	384	Rakita, M.	CELL	130	Ramos, E.	COMP	572
Rahikainen, J.	CELL	359	Rakotondraibe, L.	AGFD	156	Ramos, J.	CHED	1858
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Rahimi, P.	ENFL	153	Rakowska, M.	ENVR	166	Ramos, J.C.	INOR	445
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Rahman, A.	AGFD	58	Ralston, W.	CATL	600	Ramos, M.	CATL	318
Rahman, A.	BIOT	225	Ralston, W.	ENFL	49	Ramos, M.	CHED	1331
Rahman, A.	GEOC	310	Ram, S.	MEDI	394	Ramos, M.	ENVR	739
Rahman, I.	CHED	500	Ramachandraiah, H.	CELL	418	Ramos, P.	COMP	374
Rahman, K.M.	COMP	409	Ramachandran, P.V.	ORGN	436	Ramos, S.	ANYL	64
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Rahman, M.	GEOC	149	Ramakrishnan, R.	POLY	505	Ramphal, I.A.	PROF	20
Rahman, M.M.	POLY	513	Ramakrishnan, S.	CHED	362	Ramprasad, R.	PMSE	411
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Ramsey, T.	MEDI	305	Raskin, L.	ENVR	474	Raut, S.	CHED	472
Ramsey, T.M.	MEDI	366	Rasley, A.	COLL	683	Rauwolf, T.J.	ORGN	183
Ramsing, A.F.	COMP	368	Rasley, B.T.	COLL	835	Ravel, B.	INOR	568
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Randolph, S.	COLL	589	Rataboul, F.	CELL	511	Ravula, S.	MEDI	461
Randolph, T.	BIOT	608	Ratchford, D.	COLL	237	Rawal, B.	INOR	882
Randolph, T.	BIOT	718	Ratcliffe, E.L.	ANYL	39	Rawal, B.	ORGN	549
Rangadurai, P.	PMSE	426	Ratcliffe, L.P.	COLL	776	Rawal, T.B.	CATL	523
Rangamani, P.	COLL	784	Rathi, P.	COMP	101	Rawal, V.H.	ORGN	307
Rangari, S.	CELL	110	Rathke, N.	CHED	610	Rawal, V.H.	ORGN	899
Range, K.	CHED	1861	Rathke, N.	CHED	745	Rawal, V.H.	ORGN	902
Range, K.	COMP	279	Rathnayake, A.	INOR	576	Rawle, R.	COLL	381
Rangel, J.	COLL	3	Rathnayake, A.D.	MEDI	126	Rawner, T.	ORGN	43
Rangel, T.	COMP	511	Rathnayake, H.P.	COLL	483	Ray, A.E.	BIOT	140
Rangsunvigit, P.	ENFL	190	Rathnayake, H.P.	INOR	1025	Ray, D.	NUCL	148
Ranieri, C.	AGFD	141	Rathnayake, H.P.	ORGN	598	Ray, H.	ENVR	561
Ranjak, A.	COLL	771	Rathnayake, H.P.	PHYS	553	Ray, H.E.	CHED	2109
Ranjan, S.	BIOT	250	Rathore, A.S.	BIOT	14	Ray, J.	ENVR	929
Ranjan, S.	BIOT	567	Rathore, A.S.	BIOT	35	Ray, K.	INOR	146
Rank, C.	POLY	347	Rathore, A.S.	BIOT	83	Ray, K.	INOR	151
Rankic, D.A.	MEDI	361	Rathore, A.S.	BIOT	216	Ray, K.	INOR	270
Ranocchiar, M.	ENFL	10	Rathore, A.S.	BIOT	239	Ray, K.G.	INOR	1535
Rao, A.	PHYS	256	Rathore, A.S.	BIOT	246	Ray, M.	PHYS	565
Rao, C.	ENFL	247	Rathore, A.S.	BIOT	295	Ray, P.C.	COLL	322
Rao, L.	INOR	1337	Rathore, A.S.	BIOT	296	Ray, P.C.	COLL	678
Rao, N.Z.	AGFD	42	Rathore, A.S.	BIOT	303	Ray, P.C.	COLL	767
Rao, P.	ENFL	60	Rathore, A.S.	BIOT	307	Ray, S.	MEDI	312
Rao, P.	ENFL	149	Rathore, A.S.	BIOT	369	Ray, S.	CINF	147
Rao, R.G.	CATL	111	Rathore, A.S.	BIOT	445	Rayaroth, M.	ENVR	886
Rao, Y.	POLY	149	Rathore, A.S.	BIOT	538	Raybaud, P.	CATL	8
Rao, Y.	COLL	537	Rathore, A.S.	BIOT	546	Raybaud, P.	CATL	585
Rao, Y.	ENVR	604	Rathore, A.S.	BIOT	558	Raybin, J.G.	PMSE	489
Rao, Y.	ENVR	251	Rathore, A.S.	BIOT	559	Raymond, D.	ENVR	889
Rapf, R.	PHYS	228	Rathore, A.S.	BIOT	616	Raymond, E.	CHED	1847
Rapf, R.	PHYS	272	Rathore, A.S.	BIOT	647	Raymond, J.	GEOC	200
Rapf, R.	PHYS	356	Rathore, A.S.	BIOT	649	Raymond, K.N.	CHED	1530
Rapf, R.	PHYS	402	Rathore, A.S.	BIOT	685	Raymond, K.N.	INOR	59
Rapf, R.	PHYS	430	Rathore, A.S.	BIOT	711	Raymond, K.N.	INOR	126
Raphael, M.	ENVR	570	Rathore, A.S.	BIOT	729	Raymond, M.	CHED	1078
Raphemot, R.	BIOL	303	Rathore, N.	BIOT	698	Raymond, P.	ENVR	270
Raphemot, R.	MEDI	245	Rathore, N.	BIOT	721	Raynaud, C.	CELL	128
Rapinoja, M.	ANYL	254	Ratke, L.	CELL	446	Raynaud, C.	INOR	611
Rapko, B.M.	INOR	1384	Ratna, M.	BIOT	636	Raynaud, F.	MEDI	111
Rappe, A.K.	INOR	822	Ratnayake, N.	BIOL	315	Rayon, C.	CELL	192
Rappe, A.K.	INOR	823	Ratner, D.M.	CHED	1642	Raza, F.	CATL	311
Rappe, A.M.	COMP	514	Ratner, D.M.	CHED	1700	Razavi, A.	ENVR	462
Raptis, R.G.	INOR	1138	Ratner, D.M.	CHED	1736	Razavi, A.	COMP	2
Raptis, R.G.	INOR	1440	Ratner, M.A.	ANYL	436	Razavi, M.J.	POLY	304
Raptis, R.G.	NUCL	138	Ratner, M.A.	PHYS	35	Razavi, S.	PMSE	81
Raquez, J.	PMSE	488	Ratner, M.A.	PHYS	177	Razavi, S.	PMSE	82
Rarey, M.	CINF	47	Rattanavong, L.	CHED	669	Razavilar, N.	BIOT	702
Rarey, M.	CINF	72	Rau, M.A.	CHED	165	Razgoniaev, A.	INOR	1111
Rarey, M.	COMP	22	Rauch, A.	CHED	1834	Razgoniaev, A.	POLY	637
Rarey, M.	COMP	138	Rauchfuss, F.	CELL	49	Razgoniaev, N.	COLL	213
Rarey, M.	COMP	446	Rauchfuss, T.B.	INOR	191	Razgoniaeva, N.	COLL	338
Rarey, M.	MEDI	22	Rauer, S.	ORGN	651	Razza, N.	PMSE	79
Rasaiah, J.C.	PHYS	30	Raugei, S.	CATL	27	Re, M.	PHYS	266
Rasapalli, S.	MEDI	191	Raugei, S.	CATL	546	Rea, C.	PHYS	266
Raschke, M.B.	PMSE	193	Raugei, S.	ENFL	172	Rea, L.	CHED	932
Rascon, A.	BIOL	137	Raugei, S.	INOR	159	Rea, T.	CATL	81
Rascon, A.	BIOL	212	Raugei, S.	INOR	193	Read De Alaniz, J.	INOR	802
Rascon, A.	BIOL	307	Rauker, A.	CHED	1842	Read De Alaniz, J.	ORGN	681
Rashedi, A.	MEDI	505	Raula, J.	CELL	249	Read De Alaniz, J.	PMSE	58
Rasheed, W.	INOR	269	Rauner, N.	PMSE	406	Read De Alaniz, J.	POLY	214
Rasheed, W.	INOR	273	Rausch, D.J.	ORGN	802	Read, C.	INOR	690

Read, C.	ORGN	190	Reed, J.J.	CHED	186	Reimer, J.A.	ENFL	442
Read, D.	CHED	1836	Reed, J.J.	CHED	1896	Reimer, J.A.	INOR	1010
Read, E.	BIOT	647	Reed, J.J.	CHED	2012	Reimer, J.A.	POLY	596
Ready, J.	MEDI	322	Reed, J.J.	INOR	293	Reimhult, E.	COLL	349
Reagan, M.	INOR	336	Reed, K.	BIOL	230	Rein, D.	CELL	325
Reagan, N.	CPRC	15	Reed, K.	ORGN	522	Reineke, M.	INOR	1439
Reale, E.	CHED	733	Reed, L.	ENFL	281	Reineke, T.M.	POLY	25
Reams, J.	POLY	22	Reed, N.M.	CHED	102	Reineke, T.M.	POLY	72
Reams, J.	POLY	404	Reed, N.M.	CHED	1827	Reineke, T.M.	POLY	146
Reams, J.	POLY	543	Reed, R.	CELL	486	Reineke, T.M.	POLY	377
Reardon, K.F.	BIOT	586	Reed, S.A.	CHED	2034	Reineke, T.M.	POLY	448
Reaser, B.C.	ANYL	327	Reed, S.M.	COLL	540	Reineke, T.M.	POLY	561
Reath, A.H.	INOR	1205	Reed, T.	ENVR	376	Reiner, R.	CELL	518
Rebelsky, W.L.	CHED	880	Reeder, J.	PMSE	186	Reiner, V.	CINF	51
Reber, K.P.	ORGN	901	Reed-Gore, E.R.	POLY	507	Reinhart, D.	BIOT	557
Reber, K.P.	CHED	1438	Reelitz, J.	AGFD	51	Reinheimer, E.	CHED	1217
Reber, K.P.	ORGN	833	Reelitz, J.	AGFD	57	Reinheimer, E.	INOR	303
Reboredo, F.	COMP	559	Reese, C.	POLY	273	Reinheimer, E.W.	ORGN	137
Recabo, K.	CHED	1432	Reese, D.	INOR	1369	Reinhold, W.C.	MEDI	298
Rechsteiner, C.E.	ENFL	2	Reese, H.	BIOT	51	Reinicker, A.	CATL	135
Rechsteiner, C.E.	ENFL	155	Reese, H.	BIOT	519	Reinig, K.	NUCL	162
Recio, R.	INOR	1466	Reese, R.A.	COLL	432	Reinke, K.R.	CHED	904
Reck, J.M.	BIOT	10	Reese, W.	POLY	509	Reinke, K.R.	COMP	368
Reckhow, D.A.	ENVR	90	Reeve, A.M.	CHED	1185	Reinoso-Maset, E.	GEOC	3
Reckhow, D.A.	ENVR	182	Reeve, A.M.	CHED	1980	Reinspach, J.	POLY	197
Reckhow, D.A.	ENVR	326	Reeve, S.M.	BIOL	284	Reintsema, C.	BIOT	482
Reckhow, D.A.	ENVR	1024	Reeves, M.R.	CHED	983	Reintsema, C.	COLL	146
Reczek, J.	CHED	1470	Refaely-Abramson, S.	COMP	513	Rejpa, V.	ENVR	544
Reczek, J.	CHED	1541	Reffner, J.	POLY	429	Reis, A.	BIOT	485
Reczek, J.	COLL	287	Regalado, E.L.	ANYL	320	Reis, M.	CELL	484
Reczek, J.J.	CHED	1409	Regalbuto, J.R.	CATL	32	Reiser Evans, E.	CHED	51
Reczek, J.J.	CHED	1588	Reger, N.	CHED	525	Reiser, O.	ORGN	43
Reczek, J.J.	ORGN	704	Register, R.A.	PMSE	615	Reiser, O.	ORGN	373
Redd, G.P.	CHED	2191	Regmi, Y.N.	INOR	1427	Reishofer, D.	CELL	422
Redd, T.C.	CHED	2191	Rego, L.G.	PHYS	133	Reising, A.	ANYL	247
Reddem, E.	BIOL	325	Rehak, E.A.	ENVR	927	Reisinger, S.	AGFD	249
Redden, P.A.	CHED	2087	Rehak, P.	BIOL	115	Reisman, S.E.	ORGN	222
Redden, P.A.	CHED	2122	Rehak, P.	BIOT	514	Reisman, S.E.	ORGN	335
Reddi, A.R.	BIOL	183	Rehak, P.	INOR	1151	Reisman, S.E.	PROF	9
Reddy Maddirala, A.	MEDI	85	Rehm, A.	FLUO	41	Reisner, B.A.	CHED	245
Reddy Maddirala, A.	AGFD	193	Rehman, A.	ANYL	460	Reisner, B.A.	CHED	2013
Reddy, A.	ENVR	658	Rehr, J.J.	CATL	49	Reisner, B.A.	INOR	221
Reddy, A.	ENVR	763	Rehr, J.J.	CATL	322	Reisner, B.A.	INOR	519
Reddy, A.	AGFD	91	Reible, D.D.	ENVR	166	Reiss, H.	ORGN	779
Reddy, C.	ENVR	596	Reich, C.	MPPG	13	Reister, E.	INOR	579
Reddy, C.N.	ORGN	14	Reicher, K.	CHED	1372	Reiter, G.	CELL	319
Reddy, H.	PHYS	268	Reichert, P.	BIOT	223	Reizman, I.M.	CHED	750
Reddy, M.	MEDI	254	Reichman, J.R.	ENVR	548	Rekosh, D.	BIOL	336
Reddy, M.	MEDI	255	Reichmanis, E.	CHED	25	Relethford, Z.R.	INOR	44
Reddy, M.	MEDI	194	Reichmanis, E.	PMSE	135	Rellaford, K.	PHYS	485
Reddy, M.	MEDI	272	Reichmanis, E.	PMSE	167	Relo, A.L.	MEDI	11
Reddy, P.	MEDI	254	Reichmanis, E.	POLY	449	Remaud-Siméon, M.	CELL	356
Reddy, P.	MEDI	255	Reichmanis, E.	POLY	617	Remcho, V.T.	ANYL	456
Redeker, F.	INOR	1487	Reid, A.	CARB	49	Rème, H.	PHYS	192
Redeker, N.	CELL	26	Reid, D.	COMP	434	Rémi, M.	COLL	606
Redekop, E.	COLL	640	Reid, E.E.	MEDI	474	Remick, T.A.	FLUO	14
Redfern, L.	ENVR	458	Reid, K.	COLL	331	Rommel, A.	MEDI	463
Redmond, B.V.	CHED	1704	Reid, K.R.	COLL	283	Remmele, R.L.	BIOT	167
Redmond, B.V.	CHED	1731	Reid, L.	COMP	504	Remotigue, R.	MEDI	32
Redmond, B.V.	CHED	1738	Reid, M.J.	ANYL	442	Rensen, A.	ENVR	313
Redmond, B.V.	CHED	1774	Reid, M.S.	CELL	88	Rensing, R.C.	CATL	230
Redmond, C.	CHED	523	Reid, M.S.	CELL	153	Rensing, R.C.	COLL	714
Redwing, J.	COLL	590	Reid, M.S.	CELL	477	Rensing, R.C.	COMP	54
Ree, M.	POLY	51	Reidl, C.	MEDI	264	Rensing, R.C.	PHYS	232
Reed Harris, A.	PHYS	272	Reidy, K.	CATL	175	Remucal, C.K.	ENVR	34
Reed, A.P.	ENVR	268	Reier, J.	BIOT	116	Remucal, C.K.	ENVR	187
Reed, B.	BIOT	44	Reif, R.D.	BIOL	139	Remucal, C.K.	ENVR	519
Reed, C.	INOR	65	Reig, A.J.	CHED	1995	Remucal, C.K.	GEOC	89
Reed, C.	PHYS	525	Reig, A.J.	INOR	244	Ren, B.	BIOT	323
Reed, D.	INOR	1404	Reig, A.J.	INOR	245	Ren, B.	BIOT	580
Reed, D.	INOR	1513	Reig, A.J.	INOR	246	Ren, B.	PHYS	395
Reed, D.T.	GEOC	191	Reig, A.J.	INOR	247	Ren, B.	PMSE	19
Reed, D.T.	NUCL	58	Reiher, M.	COMP	85	Ren, B.	PMSE	345
Reed, D.T.	NUCL	109	Reiher, M.	COMP	341	Ren, B.	PMSE	461
Reed, D.T.	NUCL	113	Reiher, M.	INOR	818	Ren, B.	PMSE	464
Reed, J.	ENVR	764	Reijerse, E.	INOR	189	Ren, B.	ENVR	8
Reed, J.	BIOT	204	Reilly, J.	ORGN	320	Ren, B.	ENVR	249
Reed, J.	MEDI	321	Reilly, L.	CHED	379	Ren, C.	ENVR	949
Reed, J.	INOR	179	Reilly, M.	BIOT	138	Ren, C.	MEDI	254
Reed, J.J.	CHED	58	Reilly, S.W.	ORGN	68	Ren, C.	BIOT	723



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Ren, D.	AGFD	75	Renslow, R.S.	ANYL	441	Rezvani, A.	CATL	297
Ren, D.	BIOL	210	Renson, V.	NUCL	122	Rha, A.	PMSE	153
Ren, D.	BIOT	375	Renta Morales, L.	CHED	976	Rhadfi, T.	ENFL	264
Ren, D.	BIOT	377	Rentsch, D.	ENVR	513	Rhatigan, S.	CATL	544
Ren, D.	MEDI	170	Rentzeperis, D.	MEDI	251	Rhee, C.	CATL	543
Ren, D.	MEDI	171	Rentzepris, P.	ANYL	156	Rhee, Y.M.	PHYS	374
Ren, D.	MEDI	483	Repasky, M.P.	COMP	357	Rheingold, A.L.	INOR	90
Ren, F.	PHYS	176	Repasky, P.	CHED	1384	Rheingold, A.L.	INOR	230
Ren, G.	AGFD	73	Repert, D.A.	ENVR	268	Rheingold, A.L.	INOR	391
Ren, G.	AGFD	74	Repo, T.	CATL	385	Rheingold, A.L.	INOR	874
Ren, G.	AGFD	75	Reppert, H.E.	ORGN	399	Rheingold, A.L.	INOR	878
Ren, G.	BIOL	209	Requena, J.R.	BIOL	208	Rheingold, A.L.	INOR	880
Ren, G.	BIOL	210	Resasco, J.	CATL	75	Rheingold, A.L.	INOR	1151
Ren, G.	BIOL	211	Resch-Genger, U.	COLL	121	Rheingold, A.L.	INOR	1250
Ren, G.	BIOT	371	Resconi, L.	PMSE	281	Rheingold, A.L.	INOR	1537
Ren, G.	BIOT	372	Resel, R.	CELL	422	Rheingold, A.L.	ORGN	246
Ren, G.	BIOT	373	Resendiz, M.J.	ORGN	540	Rheingold, A.L.	ORGN	461
Ren, G.	BIOT	374	Restagno, F.	COLL	577	Rho, J.Y.	PMSE	33
Ren, G.	BIOT	375	Restivo, M.	NUCL	151	Rhoad, J.S.	CHED	197
Ren, G.	BIOT	376	Resto, T.	BIOL	110	Rhoads, R.	POLY	151
Ren, G.	BIOT	377	Restrepo, A.	AGFD	135	Rhoda, L.M.	CHED	1002
Ren, G.	COMP	258	Restrepo, M.	CELL	41	Rhodes, L.F.	PMSE	246
Ren, G.	COMP	259	Restuccia, A.	CARB	96	Rhyne, A.	CHED	409
Ren, G.	COMP	282	Retallick, J.	PHYS	153	Riahifard, N.	MEDI	144
Ren, G.	COMP	340	Rettie, A.J.	INOR	1364	Riahifard, N.	MEDI	145
Ren, G.	ENVR	765	Rettig, M.B.	ORGN	530	Riahinasab, S.	ORGN	595
Ren, G.	ENVR	766	Retulainen, E.	CELL	524	Rials, T.G.	I&EC	32
Ren, G.	ENVR	767	Retuta, A.	ENVR	707	Riant, O.	ORGN	231
Ren, G.	ENVR	884	Retuta, A.	ENVR	708	Riaz, N.	PMSE	18
Ren, G.	I&EC	105	Retzlaff-Roberts, E.	COLL	282	Ribakova, J.	CHED	197
Ren, G.	I&EC	106	Reuel, N.F.	BIOT	462	Ribeiro, A.A.	ORGN	904
Ren, G.	I&EC	114	Reuk-ngam, N.	PMSE	355	Ribeiro, A.R.	ENVR	121
Ren, G.	INOR	926	Reuter, K.U.	CATL	207	Ribeiro, F.	CATL	276
Ren, G.	INOR	999	Reuter, K.U.	COMP	48	Ribeiro, F.	COMP	122
Ren, G.	INOR	1022	Reuter, K.U.	COMP	59	Ribeiro, F.	INOR	568
Ren, G.	MEDI	170	Reuter, K.U.	COMP	121	Ribeiro, L.	BIOT	515
Ren, G.	MEDI	483	Reuter, N.	MEDI	95	Ribeiro, L.	BIOT	585
Ren, G.	MEDI	484	Reuther, J.	POLY	219	Ribes, C.	WCC	9
Ren, G.	MEDI	485	Reuther, J.F.	ORGN	687	Ribes-Zamora, A.	BIOL	255
Ren, G.	ORGN	180	Reuther, J.F.	ORGN	692	Ribordy, K.E.	ENVR	852
Ren, G.	ORGN	182	Reuther, J.F.	PMSE	483	Ricano, A.	INOR	21
Ren, G.	ORGN	262	Reutt-Robey, J.E.	COLL	644	Ricano, A.	INOR	1136
Ren, G.	PHYS	530	Revah, S.	CELL	90	Ricca Bauschlicher, A.	PHYS	288
Ren, H.	ANYL	376	Revchuk, A.D.	ENVR	415	Riccardi, C.	BIOL	296
Ren, H.	MEDI	478	Revell, K.D.	CHED	2181	Rice, B.M.	COMP	195
Ren, H.	MEDI	479	Rex, R.E.	CATL	454	Rice, C.A.	COLL	563
Ren, H.	ORGN	732	Rexrode, N.R.	BIOL	122	Rice, C.P.	ENVR	903
Ren, J.	PMSE	489	Rey, C.	CELL	238	Rice, C.V.	BIOL	277
Ren, J.	INOR	648	Rey, R.	PHYS	321	Rice, C.V.	BIOL	316
Ren, L.	INOR	555	Reyes Caraballo, M.A.	CHED	1786	Rice, C.V.	CHED	191
Ren, N.	ENVR	590	Reyes Sanchez, K.R.	CHED	954	Rice, C.V.	MEDI	69
Ren, P.	MEDI	429	Reyes, G.	CHED	805	Rice, C.V.	MEDI	434
Ren, T.	ENVR	500	Reyes, G.	CHED	1547	Rice, D.	INOR	148
Ren, X.	CELL	107	Reyes, K.	CHED	1867	Rice, D.	INOR	288
Ren, X.	PMSE	37	Reyes, K.	INOR	358	Rice, D.	INOR	289
Ren, Y.	BIOL	82	Reyes, K.A.	ANYL	170	Rice, D.	MEDI	419
Ren, Y.	ORGN	299	Reyes-Lillo, S.	INOR	1222	Rice, J.	ENVR	189
Ren, Y.	PMSE	582	Reyes-Oliveras, A.	INOR	908	Rice, J.	CHED	922
Ren, Y.	POLY	435	Reyes-Rojas, A.	INOR	815	Rice, J.	ENVR	66
Ren, Y.	POLY	148	Reyhanitash, E.	I&EC	14	Rice, J.	ENVR	812
Ren, Y.	ENVR	688	Reynisson, J.	MEDI	373	Rice, J.A.	CHED	2145
Ren, Z.	ENVR	391	Reynolds, B.P.	CHED	1842	Rice, J.A.	ENVR	710
Ren, Z.	ENVR	172	Reynolds, C.	GEOC	14	Rice, K.	CARB	91
Renard, D.	COLL	187	Reynolds, D.	ANYL	479	Rich, B.K.	PHYS	532
Rencher, B.	CHED	1359	Reynolds, D.	ENVR	539	Rich, C.V.	CHED	168
Rencher, B.	ORGN	484	Reynolds, J.	PMSE	293	Richard, A.	ANYL	76
Renders, T.	CATL	591	Reynolds, J.R.	INOR	672	Richard, A.	CHAS	39
Rendon, S.	MEDI	102	Reynolds, J.R.	PMSE	10	Richard, A.	ENVR	651
Rengifo, R.	PMSE	153	Reynolds, J.R.	POLY	501	Richard, A.	ENVR	932
Renier, O.	NUCL	117	Reynolds, J.R.	POLY	617	Richard, A.	ENVR	933
Renneckar, S.	AGFD	116	Reynolds, K.J.	POLY	203	Richard, A.	ENVR	936
Renneckar, S.	CELL	60	Reynolds, M.A.	INOR	586	Richard, B.	PMSE	42
Renneckar, S.	CELL	257	Reynolds, M.M.	CATL	631	Richard, C.	ENVR	523
Rennie, E.	CELL	271	Reynolds, M.M.	CHED	719	Richard, C.	ENVR	656
Renom-Carrasco, M.	ORGN	356	Reynolds, M.M.	PMSE	440	Richard, G.	CHED	10
Renshaw, S.	MEDI	417	Reynolds, R.	CHED	1822	Richards, A.A.	CHED	1476
Renslo, A.R.	BIOL	141	Reynolds, R.	GEOC	238	Richards, J.	ENVR	556
Renslo, A.R.	MEDI	142	Reza, M.	CELL	73	Richards, J.	ENVR	900
Renslo, A.R.	MEDI	457	Reza, M.	CELL	274	Richards, J.	PMSE	215
Renslow, R.S.	ANYL	361	Rezsnyak, C.	CHED	156	Richards, K.	ENVR	786

Richards, M.	MEDI	111	Rieger, B.	POLY	399	Rioux, R.M.	COLL	641
Richards, M.	CHED	1203	Rieger, B.	POLY	496	Rioux, R.M.	COLL	717
Richards, R.M.	CATL	237	Rieger, E.	POLY	493	Rioux, R.M.	I&EC	41
Richards, R.M.	INOR	1581	Riegner, D.E.	CHED	461	Rioux, R.M.	INOR	481
Richards, S.	AGFD	51	Riegner, D.E.	CHED	1740	Rioux, R.M.	INOR	1519
Richards, S.	AGFD	57	Riehl, P.	ORGN	634	Rioux, R.M.	NUCL	88
Richards, S.	CHED	172	Riehl, P.	ORGN	729	Ripa, L.	INOR	56
Richards, S.	CHED	1769	Riel, A.	ORGN	469	Ripa, L.	MEDI	363
Richards, T.	ENVR	463	Rieth, M.D.	BIOT	128	Ripplinger, T.	PROF	45
Richardson, A.	BIOT	679	Rietz, A.	MEDI	453	Rippner, D.	ENVR	970
Richardson, H.H.	PHYS	267	Riffel, M.	INOR	402	Risbud, S.H.	COLL	453
Richardson, J.N.	CHED	423	Riffle, E.N.	CHED	1785	Riscoe, A.R.	ENFL	110
Richardson, J.N.	CHED	443	Rigacci, A.	CELL	264	Rishi, S.	ORGN	299
Richardson, J.N.	CHED	1645	Rigal, L.	ENFL	338	Rishton, G.	MEDI	35
Richardson, M.	BIOT	520	Rigal, M.	CELL	447	Risica, G.	INOR	16
Richardson, M.S.	ORGN	834	Rigaut, S.	INOR	1473	Risteen, B.	PMSE	167
Richardson, P.	I&EC	72	Rigby, S.	BIOT	662	Rister, A.	ORGN	651
Richardson, R.	CELL	179	Riggins-Walker, T.	MEDI	261	Ritcey, A.	PMSE	42
Richardson, S.	CELL	318	Riggie, J.	CHED	471	Rito Palomares, M.A.	ANYL	306
Richardson, S.D.	CHED	1906	Rightmire, N.R.	INOR	1488	Rito Palomares, M.A.	BIOT	161
Richardson, S.D.	ENVR	98	Rigney, M.L.	CHED	487	Rito Palomares, M.A.	BIOT	300
Richardson, S.D.	ENVR	261	Rigsby, R.E.	CHED	731	Rito Palomares, M.A.	BIOT	531
Richardson, S.D.	ENVR	327	Rihana-Abdallah, A.	ENVR	295	Ritter, A.M.	ENVR	976
Richardson, S.D.	ENVR	517	Riiff, T.	COLL	851	Ritter, A.R.	COMP	337
Richardson, S.D.	ENVR	638	Riives, A.	CHED	106	Ritter, S.	BIOT	130
Richardson, T.	POLY	471	Rijavec, T.	CELL	510	Ritter, T.	FLUO	25
Richelle, A.	BIOT	588	Riley, E.	HIST	32	Rittmann, B.E.	ENVR	989
Richers, C.P.	INOR	191	Riley, J.	ENFL	126	Rittmeyer, S.P.	COMP	48
Richert, A.	POLY	466	Riley, J.	ENFL	129	Ritz, M.	INOR	1081
Riches, J.	ANYL	292	Riley, K.	CATL	403	Ritzén, A.	MEDI	143
Riches, M.	ANYL	72	Riley, K.	CHED	845	Riva, E.	BIOL	335
Richman, B.A.	ENVR	385	Riley, K.	CHED	879	Rivalta, I.	COMP	460
Richmann, M.K.	NUCL	113	Riley, K.	CHED	1208	Rivalta, I.	COMP	518
Richmond, G.	COLL	427	Riley, K.	COMP	304	Rivalti, D.	ORGN	761
Richmond, G.	COLL	126	Riley, K.	COMP	491	Rivard, B.	CHED	848
Richmond, G.L.	CHED	1661	Riley, K.	MEDI	444	Rivard, B.	CHED	1819
Richmond, G.L.	COLL	124	Riley, S.J.	ENFL	73	Rivard, B.	PHYS	537
Richmond, G.L.	PHYS	295	Riling, C.	MEDI	14	Rivard, B.S.	INOR	22
Richmond, G.L.	PHYS	337	Rill, T.	CHED	1639	Rivard, E.	INOR	1312
Richmond, T.	CHED	1822	Rim, Y.	ANYL	32	Rivard, E.	INOR	1493
Richnow, H.	ENVR	524	Riman, R.	GEOC	32	Rivas, F.	INOR	812
Richrath, R.	ORGN	263	Riman, R.	GEOC	62	Rivas, M.C.	CHED	844
Richter, D.	MEDI	350	Rimmer, S.	PMSE	377	Rivas, T.E.	ORGN	308
Richter, D.T.	ENVR	362	Rimmer, S.	PMSE	443	Rivera Cora, M.	CHED	1776
Richter, L.	MEDI	436	Rimmer, S.	PMSE	696	Rivera Molina, P.J.	ENVR	739
Richter, M.	BIOT	124	Rimmer, S.	POLY	220	Rivera Tirado, E.	CHED	1846
Richter-Addo, G.B.	CHED	1068	Rimmer, S.	POLY	551	Rivera Vazquez, L.	CHED	1825
Richter-Addo, G.B.	INOR	67	Rimola, A.	PHYS	237	Rivera, A.	CHED	439
Rickard, L.H.	CHED	486	Rimsza, J.M.	GEOC	167	Rivera, A.	CHED	1863
Rickert, K.	INOR	753	Rinaldi, E.	CHED	765	Rivera, C.	CHED	501
Rickey, D.	CHED	192	Rinaldi, F.	BIOT	292	Rivera, C.I.	ANYL	199
Rickey, D.	CHED	193	Rinaman, J.	ENVR	525	Rivera, D.M.	CHED	662
Rickey, D.	CHED	306	Rinauro, D.	CHED	566	Rivera, E.	ORGN	853
Rickey, D.	CHED	2033	Rinderspacher, C.B.	COMP	433	Rivera, E.	ENVR	739
Rickey, D.	CHED	2095	Rinderspacher, C.B.	POLY	556	Rivera, G.	ORGN	790
Ricko, S.	ORGN	106	Rinderspacher, C.B.	POLY	600	Rivera, H.	ENVR	834
Rico del Cerro, D.	CELL	245	Rindgen, D.	MEDI	128	Rivera, I.	BIOT	291
Rico Mendoza, M.	CHED	829	Rinehart, J.D.	INOR	1445	Rivera, I.	BIOT	314
Rico, A.C.	MEDI	341	Rinehart, J.D.	PHYS	245	Rivera, J.	CHED	1555
Rico, C.M.	ENVR	548	Rinehart, T.	CHED	1798	Rivera, J.M.	CHED	1479
Rico, T.	GEOC	263	Ring, A.	PMSE	408	Rivera, J.M.	COLL	329
Riddle, A.J.	INOR	534	Ring, K.	COLL	633	Rivera, L.	ENVR	45
Rider, D.A.	CHED	1657	Ringe, E.	PHYS	315	Rivera, M.	COMP	360
Rider, D.A.	CHED	1754	Ringe, S.	COMP	59	Rivera, M.	CELL	129
Rider, D.A.	COLL	262	Ringer McDonald, A.	BIOL	124	Rivera, M.	ENVR	300
Rider, D.A.	COLL	825	Ringer McDonald, A.	CHED	701	Rivera, N.	GEOC	171
Rider, D.A.	PMSE	337	Ringstrand, B.S.	INOR	1279	Rivera, O.	CHED	1858
Ridge, C.D.	ANYL	103	Rinke, P.	COMP	233	Rivera, R.	CHED	1603
Ridge, C.J.	CATL	34	Rinklebe, J.	GEOC	347	Rivera, S.	MEDI	428
Ridge, C.J.	CATL	300	Rintjema, J.	ORGN	318	Rivera-Marrero, H.	INOR	429
Ridley, M.K.	GEOC	110	Riordan, C.G.	INOR	580	Rivero, G.	PMSE	60
Ridley, M.K.	GEOC	278	Riordan, C.G.	INOR	734	Rivero, K.I.	INOR	748
Ridley, M.K.	GEOC	279	Riordan, C.G.	INOR	958	Rivers, A.	CHED	536
Riechers, S.L.	ANYL	364	Rios Cruz, I.	CHED	1863	Rivest, J.	I&EC	119
Riechers, S.L.	GEOC	331	Rios Cruz, I.	COLL	296	Rivilla, I.	POLY	541
Riedel, S.	INOR	1487	Rios, D.	CHED	472	Rivoire, E.	CELL	225
Riedel, T.	COMP	520	Rios, R.	MEDI	287	Riya, M.	ENFL	407
Rieger, B.	INOR	845	Ríos-Bonilla, S.M.	ENVR	774	Rizvi, M.	MEDI	73
Rieger, B.	POLY	370	Rioux, L.	COLL	491	Rizvi, M.	MEDI	406
Rieger, B.	POLY	381	Rioux, R.M.	CATL	574	Rizvi, W.	ORGN	397

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Rizzello, L.	MEDI	417	Robinson, C.	BIOL	17	Rodriguez, R.C.	CELL	91
Rizzello, L.	PMSE	514	Robinson, C.	ENVR	76	Rodriguez Aviles, Y.G.	CHED	1749
Rizzello, L.	PMSE	629	Robinson, C.	PHYS	503	Rodriguez Corrales, J.A.	BIOL	278
Rizzi, V.	ANYL	106	Robinson, D.K.	ANYL	212	Rodriguez Freire, L.	GEOC	229
Rizzo, C.J.	CHED	1635	Robinson, E.	ORGN	932	Rodriguez Gonzalez, V.	CATL	464
Rizzo, J.I.	COLL	175	Robinson, G.H.	INOR	575	Rodriguez Gonzalez, V.	ENVR	594
Rizzo, J.I.	COLL	181	Robinson, J.	BIOT	12	Rodriguez Lopez, J.	ANYL	277
Rizzo, R.C.	MEDI	218	Robinson, J.	BIOT	253	Rodriguez Lopez, J.	CATL	503
Rizzolio, F.	COLL	277	Robinson, J.A.	INOR	690	Rodriguez Lopez, J.	COLL	68
Ro, S.	INOR	401	Robinson, J.A.	BIOT	222	Rodriguez Lopez, J.	COLL	312
Ro, S.Y.	INOR	737	Robinson, J.K.	ANYL	381	Rodriguez Lopez, J.	POLY	236
Roa Morales, G.	ENVR	698	Robinson, L.	CHED	76	Rodriguez Ortiz, F.A.	INOR	1077
Roach, J.	CHED	1258	Robinson, L.	CHED	144	Rodriguez Ortiz, F.A.	PHYS	452
Roach, M.C.	CHED	1612	Robinson, L.	CHED	170	Rodriguez Torres, V.	BIOT	241
Roback, S.	ENVR	232	Robinson, L.L.	CHED	1699	Rodriguez Uribe, A.	CELL	427
Roback, S.	ENVR	258	Robinson, P.	CHED	774	Rodriguez, A.	CELL	344
Roback, S.	ENVR	281	Robinson, P.J.	COMP	465	Rodriguez, C.	PMSE	319
Robador, A.	GEOC	216	Robinson, P.V.	YCC	9	Rodriguez, E.E.	INOR	758
Robak, M.	ENVR	292	Robinson, R.J.	CHED	500	Rodriguez, E.E.	INOR	984
Robak, M.T.	CHED	22	Robitaille Brown, N.	CELL	466	Rodriguez, E.E.	INOR	987
Robak, M.T.	CHED	231	Robotham, S.	ORGN	919	Rodriguez, E.E.	INOR	988
Robak, M.T.	CHED	844	Roby, S.H.	ENFL	43	Rodriguez, E.E.	INOR	989
Robak, M.T.	CHED	1963	Roca, M.	CHED	777	Rodriguez, E.J.	COLL	418
Robak, M.T.	CHED	1974	Rocchigiani, L.	INOR	720	Rodriguez, E.P.	MEDI	431
Robak, M.T.	CHED	2072	Rocchigiani, L.	INOR	1547	Rodriguez, F.	CHED	1052
Robak, M.T.	CHED	2170	Rocha, D.	CELL	29	Rodriguez, F.	AGFD	114
Robart, C.	COMP	240	Rocha, M.	CHED	1195	Rodriguez, F.D.	CHED	1327
Robotjazi, H.	PHYS	560	Rocha, R.R.	ENVR	487	Rodriguez, G.	BIOT	226
Robb, M.	POLY	549	Rocha, T.	ENFL	95	Rodriguez, G.	CHED	460
Robbenolt, S.	COLL	389	Roche, D.	MEDI	16	Rodriguez, G.	INOR	204
Robbenolt, S.	INOR	1532	Roche, M.	CHED	334	Rodriguez, G.S.	CHED	1796
Robbins, D.	BIOT	547	Rochel, N.	MEDI	427	Rodriguez, J.	AGFD	152
Robbins, D.	BIOT	567	Rochelle, M.M.	AGFD	198	Rodriguez, J.	CATL	138
Robbins, D.	BIOT	692	Rochford, J.J.	INOR	43	Rodriguez, J.	CATL	211
Robbins, J.	BIOT	563	Rock, N.	ENVR	192	Rodriguez, J.	CATL	583
Robbins, K.	ANYL	79	Rocke, B.N.	MEDI	340	Rodriguez, J.	ENFL	45
Robbins, M.O.	COLL	103	Rockett, H.	ENVR	574	Rodriguez, J.	ENFL	170
Robbins, W.K.	ENFL	405	Rockwell, N.	PHYS	87	Rodriguez, J.	ENVR	658
Roberson, L.B.	YCC	13	Roco, C.	GEOC	103	Rodriguez, J.	INOR	1505
Robert, H.	CHED	30	Rocroi, I.	ORGN	270	Rodriguez, J.	ENVR	658
Robert, V.	CHED	1837	Rod, K.A.	ENFL	34	Rodriguez, J.H.	BIOT	168
Roberts, A.	BIOT	156	Rodas, P.	CHED	1808	Rodriguez, J.H.	INOR	776
Roberts, A.	COLL	449	Roddick, D.M.	FLUO	14	Rodriguez, J.H.	INOR	1329
Roberts, A.	CHED	614	Roden, E.E.	GEOC	21	Rodriguez, M.	CHED	1655
Roberts, A.	CHED	625	Roden, E.E.	GEOC	50	Rodriguez, M.	CHED	1863
Roberts, A.W.	CELL	65	Roden, E.E.	GEOC	51	Rodriguez, M.	ORGN	560
Roberts, C.J.	BIOT	167	Roden, E.E.	GEOC	54	Rodriguez, M.A.	INOR	1401
Roberts, E.T.	INOR	519	Roden, E.E.	GEOC	185	Rodriguez, M.C.	CHED	195
Roberts, I.	BIOT	102	Rodenbough, P.P.	PROF	22	Rodriguez, N.	INOR	353
Roberts, I.	BIOT	127	Rodgers, M.	ENFL	212	Rodriguez, O.	INOR	1524
Roberts, J.	CHED	425	Rodgers, M.	PMSE	239	Rodriguez, P.G.	COLL	535
Roberts, K.	NUCL	16	Rodger, P.	GEOC	327	Rodriguez, R.	BIOT	7
Roberts, K.	CHED	1255	Rodgers, J.E.	AGFD	226	Rodriguez, R.	BIOT	469
Roberts, K.	CHED	1322	Rodgers, K.R.	INOR	1257	Rodriguez, R.	CHED	1619
Roberts, M.	ANYL	22	Rodgers, R.P.	ENFL	151	Rodriguez, T.M.	BIOL	119
Roberts, M.	BIOT	221	Rodgers, R.P.	ENFL	405	Rodriguez, T.M.	CHED	1844
Roberts, S.J.	BIOL	361	Rodgers, Z.	MEDI	392	Rodriguez, V.	BIOL	109
Roberts, S.T.	PHYS	158	Rodier, B.	ORGN	585	Rodriguez, Y.	CHED	617
Roberts, S.T.	PHYS	363	Rodier, B.	PMSE	427	Rodriguez, Y.	PMSE	491
Roberts, V.	ANYL	219	Rodier, E.	CELL	399	Rodriguez-Pauca, G.	AGFD	90
Roberts-Kirchhoff, E.	CHED	389	Rodier, J.	POLY	491	Rodriguez-Blanco, J.	GEOC	188
Roberts-Kirchhoff, E.	ENVR	288	Rodil, S.E.	ENVR	593	Rodriguez-Castellon, E.	CATL	434
Roberts-Kirchhoff, E.	ENVR	742	Rodil, S.E.	ENVR	201	Rodriguez-Lopez, A.	BIOL	257
Robertson, A.B.	BIOL	64	Rodilla, H.	PHYS	128	Rodriguez-Mirasol, J.	CATL	40
Robertson, D.D.	CATL	115	Rodionov, V.O.	POLY	81	Rodriguez-Molina, B.V.	ORGN	560
Robertson, E.	POLY	451	Rodionov, V.O.	SCHB	10	Rodriguez-Reyes, D.	ORGN	908
Robertson, F.	CHED	1536	Rödle, A.	POLY	571	Rodriguez-Robles, K.	CHED	1879
Robertson, F.	CHED	1540	Rodnick, K.	BIOL	98	Rodriguez-Urbe, A.	CELL	505
Robertson, J.	MEDI	417	Rodnick, K.	BIOL	99	Rodriguez-Zúñiga, A.	CELL	94
Robertson, J.	BIOT	231	Rodnick, K.	CHED	674	Rodriguez-Beltran, S.L.	ORGN	612
Robertson, J.	CHED	1454	Rodnick, K.	CHED	685	Roe, E.	ENFL	103
Robertson, J.D.	NUCL	122	Rodrigue, D.	COMP	198	Roedern, E.	INOR	1146
Robertson, J.D.	NUCL	124	Rodrigues, A.	BIOT	179	Roelfes, G.	BIOL	206
Robertson, S.	CHED	97	Rodrigues, D.F.	ENFL	297	Roelfes, G.	BIOL	325
Robertson, S.	CHED	1259	Rodrigues, D.F.	ENVR	505	Roemelt, M.	INOR	541
Robertson, T.	CHED	909	Rodrigues, J.P.	COMP	368	Roenbeck, M.R.	PMSE	273
Robichaud, D.	COMP	162	Rodrigues, M.V.	CATL	201	Roepfer, S.	ORGN	338
Robin, M.	POLY	378	Rodrigues, N.D.	PHYS	64	Roepke, E.	GEOC	154
Robinson, C.	CINF	110	Rodrigues, R.	BIOT	84	Roerdink, A.R.	CHED	260
Robinson, C.	ANYL	369	Rodrigues, R.	BIOT	442	Roesch, N.	CATL	522

Roesch, N.	INOR	811	Rojas, O.J.	CELL	329	Romero, P.	COLL	29
Roeske, K.	CHED	918	Rojas, O.J.	CELL	429	Romero, R.	PMSE	440
Roesler, C.	ENVR	269	Rojas, O.J.	CELL	524	Romero, R.	ORGN	772
Roessler, C.	GEOC	227	Rojas, O.J.	PMSE	328	Romero, R.	CHED	146
Roethlisberger, U.	COMP	216	Rojas-Andrade, M.	BIOT	458	Romero, R.	ENVR	443
Roethlisberger, U.	COMP	520	Rojo, J.	ANYL	421	Romero-Gonzalez, M.E.	ENVR	227
Roethlisberger, U.	COMP	543	Rojo-Wiechel, E.	ORGN	265	Romero-Rivera, A.	COMP	553
Roethlisberger, U.	COMP	569	Rokach, J.	ORGN	14	Romero-Vargas Castrillon, S.	ENVR	1000
Roffi, K.	BIOT	311	Rokosz, L.	MEDI	346	Romieu, C.	AGFD	162
Rogachev, A.	COMP	455	Rol, F.	CELL	79	Rominger, F.	ORGN	776
Rogel, E.	ENFL	2	Rola, A.	CHED	1191	Römling, U.	CELL	68
Rogel, E.	ENFL	42	Rolandi, P.	BIOT	697	Rommelfanger, S.	BIOT	227
Rogel, E.	ENFL	152	Rolczynski, B.S.	PHYS	42	Romo, G.	INOR	350
Rogel, E.	ENFL	156	Rolczynski, B.S.	PHYS	253	Romo-Mancillas, A.	MEDI	227
Rogel, E.	ENFL	357	Rolczynski, B.S.	PHYS	258	Romo-Mancillas, A.	MEDI	443
Rogel, E.	ENFL	359	Rolczynski, B.S.	PHYS	332	Rondinelli, J.	INOR	1114
Rogel, E.	ENFL	406	Rolczynski, B.S.	PHYS	440	Rondinone, A.	CATL	78
Rogel-Castillo, C.	AGFD	48	Roldan, R.	COMP	319	Roner, M.	PMSE	342
Roger, J.	INOR	1290	Roldan, R.	ORGN	546	Roner, M.	PMSE	343
Rogers, B.A.	COLL	129	Rolf, J.	ENVR	531	Rong, H.	ENVR	316
Rogers, C.	CATL	77	Rolinger, L.	BIOT	727	Rong, J.	MEDI	321
Rogers, C.	ENVR	126	Rolison, D.R.	ANYL	183	Rong, L.	POLY	640
Rogers, C.	ENVR	412	Rolison, D.R.	ANYL	316	Rong, S.	CATL	410
Rogers, E.	CHED	42	Rolison, D.R.	ANYL	406	Ronkainen, N.J.	CHED	2121
Rogers, E.	CHED	43	Rolison, D.R.	ANYL	1	Ronning, D.R.	CHED	708
Rogers, E.	ORGN	651	Rolison, D.R.	ANYL	179	Ronning, D.R.	MEDI	400
Rogers, J.	COMP	27	Rolison, D.R.	ANYL	343	Ronning, D.R.	ORGN	349
Rogers, J.	COMP	450	Rolison, D.R.	I&EC	80	Ronning, M.	CATL	6
Rogers, J.A.	INOR	1498	Rolison, D.R.	INOR	652	Rooney, D.	CATL	491
Rogers, J.A.	ANYL	452	Roll, M.F.	INOR	357	Roosendaal, T.J.	ENFL	34
Rogers, J.A.	INOR	1201	Roll, M.F.	INOR	1441	Root, R.	GEOC	106
Rogers, J.D.	ENVR	633	Roll, M.F.	POLY	276	Root, R.A.	GEOC	83
Rogers, J.D.	GEOC	341	Rolland, J.	MPPG	14	Rooths, B.	PMSE	196
Rogers, K.	CHED	355	Rolland, J.	PMSE	102	Rozeboom, M.	CHED	411
Rogers, M.L.	ANYL	34	Rolland-Sabaté, A.	CELL	356	Roper, C.	AGFD	154
Rogers, N.	BIOT	585	Rollins, H.	BIOT	689	Roper, C.	CHED	815
Rogers, N.	ENVR	119	Rollins, H.W.	INOR	1494	Ropski, P.	BIOL	98
Roggen, M.	SCHB	20	Rollins, R.A.	MEDI	350	Ropski, P.	BIOL	99
Rogoff, T.	ANYL	80	Rollison, J.	CHED	483	Ropski, P.	CHED	1866
Rogowiec, J.	BIOL	230	Rollison, J.	CHED	489	Rorie, C.	INOR	1548
Rogowiec, J.A.	ORGN	522	Rollnick, M.	CHED	2074	Rosa, D.	CELL	29
Roh, S.	COLL	710	Roloff, A.	PMSE	515	Rosa, D.	CELL	383
Rohani, M.	BIOT	394	Rolph, T.	MEDI	340	Rosa, D.	CELL	536
Rohde, G.	INOR	268	Rolshausen, P.	AGFD	154	Rosado, J.M.	CHED	925
Rohde, G.	INOR	1453	Rolsma, C.	CHED	283	Rosado, J.M.	CHED	1766
Rohde, G.	ORGN	138	Rolston, N.	ENFL	57	Rosado-Torres, A.	CHED	1323
Rohde, J.	CHED	1392	Rolston, N.	ENFL	145	Rosales, B.	INOR	1012
Rohdenburg, M.	COLL	156	Rolston, N.	PMSE	300	Rosales, B.	INOR	1015
Rohena, C.C.	MEDI	437	Rolston, N.	ENFL	267	Rosales, E.	ENVR	352
Rohn, S.	AGFD	122	Romain, C.	INOR	214	Rosales, E.	ENVR	437
Rohrer, J.	AGFD	210	Romain, C.	INOR	396	Rosales, E.	ENVR	678
Rohrer, J.	ANYL	78	Roman, F.	COLL	296	Rosales, E.	ENVR	679
Rohrer, J.	ANYL	109	Roman, F.	COLL	302	Rosario Berrios, D.	CHED	1776
Rohrer, J.	CARB	38	Roman, F.	ENVR	44	Rosario, F.L.	ENVR	25
Rohrer, J.	ENVR	314	Roman, F.	ENVR	774	Rosario, F.L.	ENVR	27
Rohrer, J.	ENVR	330	Roman, F.	MEDI	246	Rosario, F.L.	ENVR	256
Rohwer, L.E.	INOR	1401	Roman, F.	AGFD	59	Rosario, F.L.	ENVR	257
Roitberg, A.E.	COMP	177	Roman, F.R.	ENVR	682	Rosario, F.L.	ENVR	416
Roitberg, A.E.	COMP	361	Roman, M.	CELL	5	Rosario, F.L.	ENVR	418
Roitberg, A.E.	COMP	418	Roman, M.	CELL	236	Rosario, F.L.	ENVR	707
Roitberg, A.E.	COMP	509	Roman, M.	CELL	486	Rosario, F.L.	ENVR	708
Roitberg, A.E.	COMP	564	Romanach, R.J.	ANYL	218	Rosario, F.L.	ENVR	940
Roizen, J.L.	ORGN	723	Romano, I.	PMSE	629	Rosas, A.S.	NUCL	88
Rojas Escontrillas, R.	CELL	166	Romano, P.N.	CATL	359	Rosas-Hernández, A.	INOR	541
Rojas, A.	MEDI	468	Romanov, A.S.	INOR	700	Rosca, D.	PMSE	123
Rojas, C.M.	ORGN	270	Romanowski, M.	MEDI	366	Roschdi, S.R.	CHED	327
Rojas, E.	CATL	517	Rombola, M.	ORGN	307	Roschitz, M.	I&EC	11
Rojas, E.	CHED	1064	Romeo, J.	CHED	1707	Roscioli, J.D.	PHYS	260
Rojas, G.	CHED	366	Romera-Castillo, C.	ENVR	257	Rose, A.	CHED	830
Rojas, O.J.	CELL	7	Romero-Castillo, R.	ENVR	698	Rose, A.S.	CINF	71
Rojas, O.J.	CELL	247	Romero, D.	CHED	1001	Rose, B.	CHED	496
Rojas, O.J.	CELL	249	Romero, E.	ORGN	434	Rose, C.	CHED	1803
Rojas, O.J.	CELL	295	Romero, F.	GEOC	263	Rose, J.	CELL	423
Rojas, O.J.	CELL	409	Romero, J.J.	COLL	314	Rose, J.	CHAS	40
Rojas, O.J.	CELL	441	Romero, K.J.	ORGN	896	Rose, J.	ENVR	310
Rojas, O.J.	CELL	531	Romero, L.	CHED	976	Rose, J.	ENVR	493
Rojas, O.J.	COLL	183	Romero, L.G.	ENVR	612	Rose, K.	AGFD	3
Rojas, O.J.	CELL	43	Romero, M.	COMP	257	Rose, P.	BIOT	86
Rojas, O.J.	CELL	251	Romero, N.	ORGN	326	Rose, P.	CINF	71
Rojas, O.J.	CELL	327	Romero, N.	INOR	1317	Rose, T.	NUCL	155



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Rosei, F.	COLL	555	Rossetti, I.	CATL	278	Roux, B.	COMP	563
Rosei, F.	PHYS	292	Rossi, A.	COLL	31	Roux, B.	PHYS	478
Roseman, G.P.	BIOL	97	Rossi, F.M.	CHED	1535	Rover, M.R.	CELL	521
Rosen, D.W.	POLY	337	Rossi, K.	MEDI	18	Rover, M.R.	ENFL	287
Rosen, J.	ENVR	18	Rossi, L.	ENVR	7	Rowane, M.	CHED	170
Rosen, J.	ENVR	420	Rossi, L.	ENVR	1034	Rowe Jr, G.	GEOC	165
Rosen, T.	BIOT	401	Rossini, A.J.	CELL	318	Rowe, A.	CHED	609
Rosen, T.	BIOT	404	Rossini, A.J.	INOR	204	Rowe, J.	BIOL	37
Rosen, T.	INOR	262	Rossiter, H.	CHED	1564	Rowe, J.M.	PHYS	239
Rosen, T.	INOR	1465	Rossiter, H.	ORGN	886	Rowe, M.P.	CATL	635
Rosenau, T.	CELL	27	Rossky, P.J.	PHYS	139	Rowe, R.K.	BIOL	64
Rosenau, T.	CELL	37	Rossky, P.J.	PHYS	170	Rowe, W.	CHED	516
Rosenau, T.	CELL	259	Rossky, P.J.	PHYS	318	Rowedder, J.	MEDI	56
Rosenau, T.	CELL	366	Rossman, K.	COMP	441	Rowedder, J.	MEDI	118
Rosenau, T.	CELL	470	Rosso, K.	GEOC	36	Rowland, B.A.	CHED	824
Rosenbaum, I.	PMSE	157	Rosso, K.	GEOC	174	Rowland, B.A.	CHED	862
Rosenbaum, J.	CHED	2086	Rosso, K.	GEOC	208	Rowland, B.A.	CHED	1856
Rosenberg, D.	ANYL	75	Rosso, K.	GEOC	289	Rowland, B.A.	CHED	1993
Rosenberg, E.	BIOT	344	Rosso, K.	GEOC	331	Rowland, I.	AGFD	200
Rosenberg, J.	CATL	379	Rosso, K.M.	GEOC	37	Rowland, J.	COLL	196
Rosenberg, J.	COMP	354	Rosso, K.M.	GEOC	38	Rowland, N.	CHED	493
Rosenberg, R.E.	CHED	1595	Rosso, K.M.	GEOC	68	Rowland, S.	ENFL	151
Rosenberg, R.E.	ORGN	715	Rosso, K.M.	GEOC	148	Rowland, S.	ENFL	405
Rosenbloom, A.	BIOT	486	Rosso, K.M.	GEOC	159	Rowlands, M.	MEDI	111
Rosenblum, J.	ENVR	212	Rosso, K.M.	GEOC	211	Rowley, A.	I&EC	43
Rosenblum, J.	ENVR	633	Rosso, K.M.	GEOC	361	Rowley, D.C.	AGFD	6
Rosenblum, J.	GEOC	299	Rosso, R.J.	CATL	405	Rowley, J.G.	CHED	1002
Rosenblum, J.	GEOC	341	Rosso, R.J.	CHED	1335	Rowley, J.G.	CHED	1523
Rosenblum, J.	GEOC	342	Rostagno, M.	POLY	142	Rowley, J.G.	CHED	2096
Rosenblum, S.	CHED	660	Rostagno, M.	POLY	428	Roy Chowdhury, P.	CINF	77
Rosenblum, S.	CHED	734	Rostovtseva, T.K.	COLL	6	Roy, A.	ENVR	923
Rosenblum, S.L.	CHED	574	Rote, J.	ORGN	522	Roy, B.	BIOL	112
Rosenfeld, C.	GEOC	213	Roth, B.L.	COMP	584	Roy, B.	ENFL	372
Rosenfeld, N.	CHED	19	Roth, B.L.	MEDI	57	Roy, D.	PMSE	320
Rosenfeld, N.	CHED	1473	Roth, E.W.	COLL	216	Roy, D.	GEOC	339
Rosengren, A.	CELL	44	Roth, J.	CHED	632	Roy, K.	COMP	487
Rosenhauer, G.	ORGN	729	Roth, J.C.	CHED	867	Roy, L.	CHED	515
Rosenkoetter, K.E.	INOR	1098	Roth, M.	POLY	477	Roy, L.	CHED	1668
Rosenqvist, J.K.	GEOC	280	Roth, S.	COLL	67	Roy, P.	ENFL	30
Rosenstein, P.	CPRC	4	Rothbauer, G.	CHED	488	Roy, P.	GEOC	47
Rosenstein, S.	ENVR	578	Rothberg, L.	COLL	444	Roy, R.	ENVR	386
Rosenthal, J.	INOR	1089	Rothen-Rutishauser, B.	CELL	31	Roy, R.N.	CHED	515
Rosenthal, P.J.	MEDI	457	Rother, G.	GEOC	168	Roy, R.N.	CHED	1668
Rosenthal, S.J.	BIOT	273	Rothfuss, N.	PHYS	495	Roy, S.	ENVR	395
Rosenthal, S.J.	COLL	90	Roth-Rodriguez, A.	CHED	1807	Roy, S.	ENVR	581
Rosenthal, S.J.	COLL	283	Rothschild, A.	ENFL	58	Roy, S.	ENVR	865
Rosenthal, S.J.	COLL	331	Rothstein, S.M.	BIOT	96	Roy, S.	POLY	137
Rosenthal-Kim, E.	PMSE	389	Rotjanapun, K.	AGFD	200	Roy, S.	AGFD	218
Rosentreter, J.	BIOL	253	Rotondaro, M.C.	CHED	1631	Roy, S.	COMP	57
Rosenzweig, A.C.	ENFL	12	Rotsides, C.	ORGN	348	Roy, S.	CATL	95
Rosenzweig, A.C.	INOR	737	Roucan, M.	ORGN	762	Roy, S.	INOR	801
Rosenzweig, Z.	INOR	1521	Rouffet, M.J.	CHED	1238	Roy, S.	INOR	1500
Roshandel, S.	ORGN	96	Rouffet, M.J.	CHED	1245	Roy, S.	ORGN	906
Roshandel, S.	ORGN	144	Rouhanifard, S.H.	BIOL	149	Roy, S.	PHYS	199
Rosi, A.N.	ENVR	800	Rouilly, A.	CELL	447	Roy, T.	CINF	128
Rosi, M.	PHYS	524	Rouleau, S.	ORGN	177	Roy, V.	BIOT	633
Rosi, N.L.	ENFL	347	Roulier, A.	BIOT	104	Roy, X.	COLL	707
Rosi, N.L.	PMSE	38	Rouméas, L.	AGFD	162	Roy, X.	PHYS	386
Rosi, N.L.	PMSE	482	Round, J.L.	MEDI	213	Roy, X.	PHYS	411
Roskamp, K.	BIOL	30	Round, L.M.	INOR	1444	Roy, X.	PROF	3
Roslin, S.	ORGN	42	Rourk, E.J.	INOR	306	Royal, W.	BIOT	606
Roslonowski, M.C.	SOCED	8	Rourk, S.E.	CHED	1575	Royappa, A.T.	INOR	90
Rosner, K.	MEDI	248	Rourke, D.A.	CHED	836	Royappa, A.T.	INOR	345
Rosnik, A.	PHYS	515	Roush, D.J.	BIOT	12	Royappa, A.T.	INOR	348
Rosokha, S.V.	ORGN	708	Roush, D.J.	BIOT	362	Royappa, A.T.	INOR	1151
Ross, A.J.	CHED	196	Roush, D.W.	GEOC	95	Royappa, A.T.	INOR	1537
Ross, A.S.	AGFD	176	Rousseau, A.	POLY	491	Roycroft, S.	NUCL	26
Ross, B.M.	CHED	1510	Rousseau, R.	CATL	143	Roye, M.	ENFL	152
Ross, C.	ENVR	745	Rousseau, R.	ENFL	38	Roye, M.	ENFL	406
Ross, C.A.	POLY	243	Rousseau, R.	ENFL	76	Royer, S.	CATL	247
Ross, D.	GEOC	339	Rousseau, R.	ENFL	77	Rozeanov, N.D.	INOR	460
Ross, E.	CHED	1777	Rousseau, R.	ENFL	78	Rozema, D.	MEDI	458
Ross, I.	ENVR	543	Rousseau, R.	ENFL	270	Rozen, S.	ORGN	771
Ross, I.	ENVR	960	Roussell, A.	POLY	97	Rozovsky, S.	BIOL	342
Ross, J.	CHED	2090	Routier, F.H.	BIOL	198	Rozyyev, V.	PMSE	657
Ross, J.M.	GEOC	163	Rouvimov, S.	COLL	541	Rozyyev, V.	POLY	638
Ross, M.B.	INOR	1423	Roux, A.N.	CHED	1210	Rreza, I.	INOR	31
Ross, M.B.	PHYS	265	Roux, B.	COMP	173	Ru, L.	ENVR	409

Ruan, D.	GEOC	302	Ruiz-Martinez, C.R.	CHED	1884	Russo, N.	INOR	1196
Ruan, Q.	BIOL	267	Ruiz-Morales, Y.	PHYS	335	Russo, P.S.	COLL	261
Ruan, Y.	ENVR	577	Ruiz-Morales, Y.	PHYS	351	Russo, R.	CHED	1803
Ruangsiriluk, W.	MEDI	340	Ruiz-Perez, L.	PMSE	181	Russo, R.E.	ENFL	42
Ruanjaikaen, K.	BIOT	594	Ruiz-Perez, L.	PMSE	490	Russom, A.	CELL	418
Rubahn, H.	PMSE	684	Ruiz-Ruiz, F.	ANYL	306	Russon, M.	CHED	856
Rubashkin, S.B.	INOR	138	Ruiz-Ruiz, F.	BIOT	300	Rust, R.	POLY	624
Rubeck, S.S.	CHED	1393	Rukavina, B.	ENVR	764	Rustagi, M.	CHED	279
Rubin, H.	CATL	631	Rukes, S.C.	CHED	66	Ruta, B.	GEOC	333
Rubin, J.	CHED	1184	Rukes, S.C.	CHED	1755	Rutenberg, R.	ORGN	926
Rubin, M.	PHYS	192	Rukes, S.C.	CHED	1756	Rutherford, T.	CHED	451
Rubin, M.A.	ORGN	193	Rukes, S.C.	CHED	1757	Ruthes, A.	CELL	432
Rubin, N.	MEDI	351	Rukes, S.C.	CHED	1760	Ruths, M.	COLL	673
Rubin, N.C.	COMP	575	Rukes, S.C.	CHED	1761	Ruths, M.	COLL	758
Rubin, Y.F.	CHED	1415	Rumble, C.	PHYS	144	Rutland, M.W.	COLL	318
Rubin, Y.F.	ORGN	601	Rumble, J.	CINF	116	Rutland, M.W.	COLL	672
Rubin, Y.F.	ORGN	868	Rumpel, S.	INOR	189	Rutter, E.	CHED	488
Ruble, D.	BIOT	315	Rumptz, J.	COMP	524	Rutter, L.	CHED	484
Rublein, K.	CHED	499	Runcevski, T.	INOR	201	Ruuska, D.	COMP	346
Rubottom, L.	CHED	1418	Runco, J.L.	ANYL	350	Ruuska, D.	ENVR	526
Rubtsov, I.V.	PHYS	378	Rundberg, R.S.	NUCL	2	Ruuska, D.	PHYS	475
Rubush, D.M.	ORGN	122	Runde, W.H.	NUCL	57	Ruuttunen, K.J.	CELL	40
Ruch, A.	INOR	113	Rundell, S.	CARB	64	Ruvinsky, R.	CHED	1920
Ruch, A.	ORGN	90	Rundell, S.	CARB	66	Ruyle, B.	GEOC	342
Ruck, R.	MEDI	346	Rundle, D.R.	CHED	1796	Ruyonga, M.R.	CHED	1180
Ruck, R.	ORGN	390	Rungtaweevoranit, B.	INOR	886	Ruyonga, M.R.	ORGN	565
Ruda, M.	CELL	286	Running, L.	COLL	210	Ryabov, A.D.	ENVR	953
Rudakov, D.	NUCL	142	Runyon, S.	COMP	502	Ryabov, A.D.	ENVR	954
Rudakov, F.	PHYS	383	Ruokolainen, J.	CELL	274	Ryan, A.	INOR	1379
Rudaz, C.	CELL	339	Ruotolo, B.T.	ANYL	283	Ryan, C.	CHED	803
Rudberg, E.	PHYS	92	Rupar, P.	INOR	1492	Ryan, C.	CHED	693
Rudd, A.K.	COLL	697	Rupar, P.	ORGN	860	Ryan, D.	BIOT	630
Rudd, A.K.	BIOL	153	Rupasinghe, R.	CHED	1045	Ryan, J.	PMSE	196
Rudd, G.E.	CHED	118	Rupert, P.B.	INOR	1387	Ryan, J.	POLY	137
Rudd, G.E.	CHED	1882	Rupp, K.K.	COLL	56	Ryan, J.N.	ENVR	31
Rudd, N.	INOR	1407	Ruppe, S.	ENVR	216	Ryan, J.N.	ENVR	633
Rudd, P.N.	CHED	1470	Ruppel, J.V.	BIOL	107	Ryan, J.N.	GEOC	341
Ruddy, D.A.	CATL	242	Ruppel, J.V.	CARB	47	Ryan, M.	CHED	956
Ruddy, D.A.	CATL	568	Ruppel, J.V.	CHED	252	Ryan, M.D.	CATL	220
Ruddy, D.A.	CATL	633	Rupprechter, G.	CATL	223	Ryan, M.D.	CATL	221
Rudel, H.E.	PHYS	474	Rupprechter, G.	COLL	21	Ryan, R.	CHED	1387
Rudenko, A.	INOR	1452	Rury, A.	PHYS	163	Ryan, R.T.	INOR	750
Rudick, J.G.	PMSE	315	Rury, A.	PHYS	461	Ryan, S.	BIOT	578
Rudie, A.	CELL	518	Rusay, R.J.	CHED	294	Ryan, S.J.	ORGN	882
Rudie, A.	ENFL	337	Rusay, R.J.	CINF	78	Ryba, K.	PMSE	13
Rudiger, O.	INOR	189	Rusch, P.F.	CINF	102	Rybak-Akimova, E.V.	INOR	219
Rudisell, R.C.	CHED	883	Ruseva, K.	COLL	245	Rybenkov, V.V.	MEDI	139
Rudolf, R.	ENFL	32	Rushton, G.T.	CHED	60	Rybtchinski, B.	ORGN	499
Rudolph, F.	BIOT	124	Rushton, G.T.	CHED	2109	Rybtchinski, B.	POLY	253
Rudolph, J.	MEDI	342	Rushton, G.T.	PROF	35	Rychnovsky, S.D.	ANYL	250
Rudshteyn, B.	ENFL	171	Rushton, P.S.	CELL	192	Rychnovsky, S.D.	ORGN	693
Rudshteyn, B.	INOR	38	Rusinek, C.A.	CHED	437	Rychnovsky, S.D.	ORGN	827
Rudshteyn, B.	PHYS	176	Rusinek, C.A.	CHED	446	Rydzek, C.	INOR	380
Rudt, M.	BIOT	727	Russel, D.	COLL	250	Ryder, S.	AGFD	42
Rudzinski, J.F.	COMP	134	Russel, L.	COLL	685	Rye, C.	MEDI	111
Rue, G.	ENVR	192	Russelgong, J.	CELL	285	Rykaczewski, K.	POLY	514
Ruebush, S.S.	CHED	810	Russell, A.A.	CHED	187	Rylski, A.	CARB	68
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Ruehe, J.	PMSE	346	Russell, A.E.	ORGN	120	Rynders, J.P.	CHED	553
Ruelas, S.	INOR	161	Russell, A.G.	ENFL	65	Ryoo, S.	PMSE	553
Ruffier, P.	CHED	794	Russell, B.	INOR	235	Ryskamp, M.	POLY	262
Ruger, G.W.	SCHB	1	Russell, B.	BIOT	547	Ryskin, M.	MEDI	350
Ruger, G.W.	SCHB	3	Russell, C.	CHED	1239	Ryther, T.	CHED	1782
Ruggeri, R.B.	MEDI	340	Russell, C.W.	MEDI	213	Rytter, E.	COLL	471
Ruggiu, F.	COMP	247	Russell, D.D.	NUCL	139	Ryu, C.Y.	POLY	32
Ruggles Gere, A.	CHED	200	Russell, D.H.	ANYL	371	Ryu, D.	PMSE	469
Ruggles Gere, A.	CHED	1982	Russell, F.	PMSE	342	Ryu, D.	PMSE	308
Ruggles Gere, A.	CHED	1990	Russell, J.N.	PMSE	146	Ryu, G.	CELL	452
Ruhlmann, L.	PHYS	507	Russell, M.	ENVR	641	Ryu, H.	POLY	363
Rui, E.	MEDI	350	Russell, S.	AGFD	65	Ryu, J.	BIOT	360
Rui, H.	COMP	402	Russell, S.	AGFD	100	Ryu, J.	ANYL	25
Ruijie, G.	CATL	412	Russell, S.	ENFL	270	Ryu, J.	ANYL	303
Ruixue, Z.	PHYS	423	Russell, S.	CHED	653	Ryu, K.	ORGN	529
Ruixue, Z.	PHYS	506	Russell, S.R.	COLL	56	Ryu, M.	ORGN	195
Ruiz Perez, J.D.	COLL	170	Russell, S.R.	COLL	135	Ryu, Y.	ORGN	566
Ruiz Rodriguez, L.	CATL	434	Russell, S.R.	COLL	433	Ryu, Y.	PMSE	334
Ruiz, O.	CHED	978	Russell, T.	INOR	536	Ryu, Y.	PMSE	350
Ruiz, Y.B.	AGFD	123	Russell, T.P.	PMSE	64	Rzayev, J.	POLY	340
Ruizhi, N.	CELL	199	Russell, T.P.	POLY	103	S, H.	AGFD	123
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Saake, B.	CELL	126	Safranski, D.L.	PMSE	665	Sakamoto, J.	ENFL	277
Saalfrank, P.	COMP	568	Sagalés, J.	COLL	661	Sakdamart, F.	CHED	1352
Saangonyo, D.	CATL	482	Sagata, K.	ENVR	65	Sakhaei, Z.	INOR	954
Saari, G.	ENVR	126	Sagata, K.	ENVR	811	Sakhno, T.	ENVR	793
Saati, A.	BIOT	324	Sagbas, S.	CARB	81	Sakhno, T.	PHYS	528
Saavedra, D.I.	CHED	1359	Sage, D.	MEDI	464	Sakhno, T.	PHYS	529
Saavedra, D.I.	CHED	1362	Sager, A.	CHED	950	Sakhno, T.	PHYS	538
Saavedra, D.I.	ORGN	484	Sager, A.	ENVR	661	Sakiyama, M.	ANYL	475
Saavedra, J.	CATL	651	Sager, C.	ORGN	527	Sakkos, J.K.	ENVR	845
Saavedra, J.	ENFL	93	Saggioro, E.M.	ENVR	515	Saklani, P.	BIOL	199
Saavedra, S.S.	COLL	57	Sagle, L.	COLL	824	Sakuma, H.	GEOC	188
Sabahi, M.	CHED	25	Sah, R.	BIOT	429	Sakuragi, M.	COLL	681
Sabal, C.	CHED	1649	Sah, R.	CHED	524	Sakuragi, M.	PMSE	503
Sabale, S.	COLL	762	Saha Ray, A.	INOR	1148	Sakurai, K.	CARB	94
Sabbe, M.	CATL	141	Saha, A.	PHYS	565	Sakurai, K.	COLL	359
Sabila, P.	CHED	2142	Saha, A.	CHED	931	Sakurai, K.	COLL	815
Sabo, M.	CHED	359	Saha, A.	ENVR	778	Sakurai, K.	COLL	816
Sabo, M.	CHED	360	Saha, A.	INOR	336	Sakurai, K.	PMSE	210
Sabo, R.	CELL	518	Saha, B.	CATL	112	Sakurai, K.	POLY	639
Sabol, J.E.	SCHB	1	Saha, B.	CATL	202	Sakurai, T.	INOR	1222
Sabyrov, K.	CATL	15	Saha, B.	CATL	416	Saladini-Alvarado, E.N.	BIOT	532
Sabyrov, K.	CATL	87	Saha, D.K.	POLY	423	Saladrigas, C.	PHYS	222
Sacanna, S.	COLL	772	Saha, J.	ORGN	97	Salafia, M.	MEDI	364
Sacanna, S.	COLL	774	Saha, P.	COMP	482	Salafsky, J.	ANYL	223
Sacanna, S.	PMSE	134	Saha, S.	INOR	1195	Salahi, F.	ORGN	512
Sacchettini, J.	COMP	224	Saha, S.	GEOC	254	Salahub, D.R.	PHYS	549
Sacenti, D.	CHED	1347	Saha, S.	INOR	451	Salam, A.	AGFD	191
Sach, N.	ORGN	451	Saha, S.	INOR	453	Salam, A.	PHYS	376
Sachdeva, T.	ORGN	676	Saha, S.	INOR	454	Salamov, A.A.	BIOT	139
Sack, J.	MEDI	25	Saha, S.	INOR	455	Salamova, A.	ENVR	70
Sackett, B.	BIOT	209	Saha, S.	INOR	456	Salanitro, J.	ENVR	462
Sacko, O.	CHED	965	Saha, S.	INOR	460	Salas, E.G.	CHED	584
Sacligil, I.	POLY	223	Saha, S.K.	CHED	931	Salas, J.	INOR	225
Sacramento, J.	INOR	1093	Saharinen, E.	CELL	251	Salazar, A.	CHED	465
Sadani, A.A.	MEDI	130	Sahiner, N.	CARB	81	Salazar, G.	ANYL	19
Sadaria, A.M.	ENVR	997	Sahiner, N.	COLL	201	Salazar, J.	CHED	442
Sadavarte, R.H.	BIOT	568	Sahiner, N.	MEDI	465	Salazar, M.	ANYL	211
Sadeghi, J.	ANYL	12	Sahiner, N.	PMSE	428	Salazar-Alvarez, G.	CELL	237
Sadeghi, V.	ENVR	731	Sahithi, K.	AGFD	218	Salazar-Garza, G.A.	CHED	1096
Sadeghiani, N.	MEDI	162	Sahle-Demessie, E.	ENVR	199	Salazar-Garza, G.A.	INOR	1241
Sadeghiani, N.	MEDI	472	Sahle-Demessie, E.	ENVR	791	Saldaña González, Y.	INOR	349
Sadeghnejad, A.	INOR	693	Sahoo, S.	BIOT	86	Saldaña, F.	AGFD	90
Sadeh, S.	INOR	556	Sahoo, S.K.	CELL	315	Saleem, K.M.	ENVR	188
Sadergaski, L.R.	NUCL	99	Sahota, N.	ORGN	752	Saleh, L.M.	INOR	702
Sadergaski, L.R.	NUCL	165	Sahouani, J.	POLY	464	Saleh, N.	INOR	1567
Sadetsky, J.	CHED	939	Sahouani, J.M.	POLY	192	Saleh, N.B.	COLL	294
Sadetsky, J.	CHED	940	Sahu, I.	CHED	1248	Saleh, N.B.	COLL	848
Sadhu, A.	BIOL	155	Sahu, S.	ENVR	927	Saleh, N.B.	ENVR	586
Sadighi, J.P.	INOR	859	Sahu, S.	PMSE	341	Saleheen, M.	CATL	637
Sadighi, J.P.	INOR	1553	Sai, K.	CHED	1542	Salehi, A.	INOR	415
Sadiki, M.	AGFD	2	Saiani, A.	PMSE	627	Salem, F.	MEDI	400
Sadler, J.M.	CELL	268	Said Stålsmeden, A.	ORGN	371	Salerno, G.J.	INOR	920
Sadler, J.M.	PMSE	652	Saido, K.	ENVR	864	Salgueiro, D.	CHED	1812
Sadlo, M.	MEDI	149	Saido, K.	GEOC	247	Saliba, B.M.	CHED	1396
Sadlowski, C.M.	BIOL	152	Saidykhan, A.	ORGN	63	Salim, M.	PHYS	508
Sadow, A.D.	CATL	246	Saiers, J.	GEOC	255	Salipante, P.	PMSE	276
Sadow, A.D.	INOR	1541	Saikia, N.	COMP	405	Salis, H.	BIOT	485
Sadow, A.D.	PMSE	128	Saikia, N.	COMP	561	Salis, H.	BIOT	650
Sadoway, D.R.	PRES	10	Saikia, U.	COMP	405	Salis, S.	COMP	500
Sadowski, J.W.	COLL	843	Saindane, M.	MEDI	41	Salisbury, K.	ANYL	178
Sadowski, N.M.	CHED	182	Saini, A.	INOR	837	Salit, M.L.	BIOT	603
Sadowsky, M.	GEOC	154	Saini, A.	BIOT	179	Salleo, A.	PMSE	140
Saebi, A.	INOR	1151	Saint-Louis, C.J.	ORGN	568	Saller, H.	CINF	129
Saentier, B.	CELL	440	Saint-Louis, C.J.	ORGN	861	Salm, J.	BIOT	517
Saephan, T.	CATL	600	Sainz, M.A.	MEDI	177	Salman Haider, M.	COLL	858
Saer, R.G.	PHYS	257	Saison, T.	PMSE	114	Salman Haider, M.	PMSE	538
Saetta, D.	ENVR	561	Saito, A.	ORGN	138	Salman, B.	PMSE	387
Saetta, D.	ENVR	562	Saito, A.	ORGN	139	Salman, B.	PMSE	415
Saey, S.A.	CHED	1230	Saito, K.	MEDI	133	Salmen, K.	AGFD	238
Saez Cabezas, C.	COLL	294	Saito, T.	PMSE	565	Salmen, K.	CHAL	29
Saez, A.E.	ENVR	983	Saito, T.	POLY	79	Salmén, L.	CELL	413
Saez, A.E.	ENVR	1018	Saito, T.	POLY	237	Salmeron, M.	CATL	65
Safaeipour, M.	CHED	562	Saito, T.	POLY	305	Salmeron, M.	CATL	257
Safaeipour, M.	CHED	645	Saito, T.	POLY	446	Salmeron, M.	CATL	518
Safaeipour, M.	CHED	691	Saito, T.	CELL	136	Salmeron, M.	COLL	23
Saffern, M.S.	CHED	589	Saito, T.	CELL	199	Salmeron, M.	COLL	193
Saffle, J.	CHED	480	Saito, T.	CELL	350	Salmeron, M.	COLL	752

Salminen, K.	CELL	251	Sanborn, J.	INOR	1254	Sanehira, E.	ENFL	265
Salminen, R.	CELL	73	Sanborn, J.	COLL	779	Saner, C.K.	CHED	1832
Salomon, P.	MEDI	474	Sanborn, J.	COLL	780	Sanford, M.J.	INOR	264
Salomon, T.	PHYS	392	Sanborn, N.	CHED	350	Sanford, M.S.	ENFL	298
Salon, I.	BIOT	504	Sanborn, N.	GEOC	152	Sanford, M.S.	INOR	142
Salon, I.	CARB	98	Sanchez Andrea, I.	POLY	625	Sanford, M.S.	ORGN	232
Salpage, S.R.	POLY	311	Sanchez Cano, C.	CATL	245	Sanford, M.S.	ORGN	367
Salske, S.	CHED	503	Sánchez i Nogué, V.	ENVR	699	Sanford, M.S.	ORGN	386
Salter-Cid, L.	MEDI	21	Sanchez Lombardo, I.	ENFL	1	Sanford, M.S.	ORGN	452
Salter-Cid, L.	MEDI	25	Sanchez Rodriguez, C.	MEDI	471	Sanford, M.S.	PRES	2
Salter-Cid, L.	MEDI	339	Sanchez, A.	MEDI	70	Sang, B.	BIOT	66
Saltiel, J.	PHYS	435	Sanchez, A.	INOR	1327	Sang, L.	ANYL	39
Salvachua, D.	CATL	245	Sanchez, C.M.	COMP	334	Sangalang, E.	ANYL	84
Salvador, P.	COMP	565	Sanchez, E.E.	BIOT	669	Sani Wudil, Y.	PHYS	403
Salvalaglio, M.	ENFL	39	Sanchez, I.C.	PHYS	350	Saniepay, M.	INOR	157
Salvant, J.	ORGN	163	Sanchez, J.	CATL	318	Saniepay, M.	INOR	698
Salvatore, D.	CATL	70	Sanchez, J.J.	BIOT	291	Sanii, B.	COLL	164
Salvatore, K.L.	INOR	519	Sanchez, J.J.	BIOT	314	Sanii, B.	POLY	201
Salveson, P.J.	ORGN	605	Sanchez, K.	AGFD	130	Sankar, K.	BIOT	268
Salveson, P.J.	ORGN	695	Sanchez, K.	CHED	110	Sankaranarayanan, S.	COLL	635
Salzameda, N.T.	CHED	1956	Sánchez, L.	POLY	307	Sankhagowit, S.	COLL	534
Salzameda, N.T.	ORGN	612	Sanchez, L.A.	BIOL	173	Sanna, S.	CATL	102
Sama, F.	INOR	1334	Sanchez, M.	COLL	663	Sannicolo, T.	INOR	1126
Samad, L.	INOR	1051	Sanchez, M.	CHED	691	Sanoj, F.	COLL	791
Samadi, A.	MEDI	71	Sanchez, M.G.	ENVR	343	Sanon, C.	MEDI	67
Samadi, F.	ENVR	282	Sanchez, R.	CHED	330	Sanroman, A.	ENVR	352
Samanatary, M.	CATL	570	Sanchez, R.	CHED	331	Sanroman, A.	ENVR	437
Samani, A.	ANYL	87	Sanchez, S.	ENVR	595	Sanroman, A.	ENVR	678
Samanipour, S.	ANYL	442	Sanchez, S.	INOR	258	Sanroman, A.	ENVR	679
Samant, A.V.	ORGN	196	Sanchez, S.	INOR	1327	Sans, M.	PHYS	83
Samant, A.V.	ORGN	808	Sanchez, V.	HIST	30	Sansom, R.	CHED	289
Samant, B.	MEDI	478	Sánchez-España, J.	GEOC	55	Sansom, R.	CHED	767
Samant, B.	MEDI	479	Sánchez-España, J.	GEOC	151	Sansom, R.	CHED	781
Samanta, A.	COLL	72	Sanchez-Rodríguez, C.	CELL	273	Sansom, R.	CHED	1987
Samanta, A.	ORGN	640	Sanchez-Sanchez, A.	POLY	541	Sanson, T.	CHED	1788
Samanta, D.	PMSE	548	Sanchez-Sanchez, A.	PMSE	302	Santaella, C.	ENVR	493
Samanta, P.	PMSE	666	Sand, K.	GEOC	188	Santaella, C.	ENVR	549
Samanta, S.	COMP	500	Sandberg, M.	CELL	492	Santaella, C.	ENVR	1041
Samara, A.	ENFL	264	Sandbrook, A.	AGFD	258	Santambrogio, P.	CHED	689
Samaranayake, V.	ENVR	242	Sandefur, S.	BIOT	2	Santana Martínez, G.	ENVR	698
Samaras, C.	ENVR	1	Sanden, A.	BIOT	727	Santana, J.A.	CHED	884
Samaratunga, A.	ENFL	383	Sander, M.	ENVR	426	Santana, J.A.	CHED	886
Samaratunga, S.	PHYS	30	Sander, M.	ENVR	901	Santana, J.A.	CHED	894
Samaritoni, J.G.	CHED	2099	Sander, M.	GEOC	287	Santana, J.A.	COMP	559
Sambasivan, S.	CHED	1315	Sander, S.P.	CHED	1670	Santella, J.B.	MEDI	315
Samenuk, G.	AGFD	92	Sander, S.P.	CHED	1690	Santelli, C.	GEOC	177
Sammet, S.	COLL	351	Sander, W.W.	PHYS	325	Santelli, C.	GEOC	213
Sammeta, V.	MEDI	191	Sanders Jr, T.	CELL	314	Santer, M.	COMP	568
Sammeta, V.K.	ORGN	820	Sanders, A.	ENVR	622	Santer, S.A.	COLL	768
Sammler, R.L.	CELL	313	Sanders, A.J.	CHED	1794	Santiago Delgado, L.	ENVR	747
Sammler, R.L.	CELL	314	Sanders, A.J.	CHED	2093	Santiago Rivera, G.M.	CHED	1266
Sammler, R.L.	PMSE	614	Sanders, B.	ANYL	87	Santiago Rivera, G.M.	CHED	1786
Samoshin, V.V.	CHED	1180	Sanders, D.P.	COLL	438	Santiago Ruiz, A.	BIOT	342
Samoshin, V.V.	COLL	256	Sanders, E.	PMSE	4	Santiago, C.	AGFD	100
Samoshin, V.V.	ORGN	565	Sanders, E.	POLY	295	Santiago, C.	INOR	1536
Samoshina, N.M.	CHED	1180	Sanders, J.N.	ORGN	688	Santiago, C.B.	ORGN	818
Samoshina, N.M.	COLL	256	Sanders, M.B.	INOR	1362	Santiago, M.	AGFD	226
Samper, I.C.	ANYL	34	Sanders, S.	PROF	3	Santiago, T.	ANYL	160
Sample, C.	PMSE	429	Sanders, S.	CHED	1331	Santiago, T.	COLL	211
Sampson, N.S.	MEDI	331	Sanders, S.	PHYS	545	Santiago-Maldonado, X.	CHED	1555
Samra, H.	BIOT	167	Sanders, W.	CHED	1769	Santiago-Martoral, L.	PMSE	20
Sams, J.L.	CHED	2093	Sanders, W.C.	ANYL	178	Santiago-Mercado, M.	CHED	1323
Samu, G.F.	ENVR	141	Sanders, W.C.	CHED	2111	Santiago-Mercado, M.	CHED	1338
Samudio, B.M.	CHED	768	Sanderson, H.	ENVR	934	Santiago-Pérez, L.I.	CHED	1879
Samuel, A.	CHED	1055	Sanderson, J.	ENVR	637	Santillan, J.	CHED	617
Samuel, E.L.	COLL	239	Sanderson-Brown, J.P.	INOR	624	Santillan, J.	PMSE	491
Samuel, E.L.	COLL	757	Sandford, S.A.	PHYS	324	Santillan, J.	PMSE	362
San Angelo, M.	ORGN	804	Sandi-Urena, S.	CHED	299	Santillán, J.	CHED	1749
San Jose, J.	INOR	417	Sandi-Urena, S.	CHED	301	Santiveri Martín-Varés, C.	MEDI	496
San Pablo, F.	MEDI	476	Sandi-Urena, S.	CHED	2071	Santmarti, A.	CELL	10
San Pablo, F.	MEDI	478	Sandi-Urena, S.	CHED	2075	Santmarti, A.	CELL	372
San Pablo, F.	MEDI	479	Sandoval, E.	CHED	1279	Santo Domingo, J.	ENVR	785
Sanabria Rios, D.J.	PROF	26	Sandoval, N.	MEDI	194	Santoro, S.	ENVR	60
Sanabria Ríos, D.J.	ORGN	702	Sandoval, N.	MEDI	272	Santoro, S.	ORGN	86
Sanabria Ríos, D.J.	ORGN	923	Sandoval, P.J.	COLL	212	Santos Cancel, M.	ANYL	464
Sanabria, B.E.	ENVR	435	Sandoval, P.J.	COLL	766	Santos Díaz, M.	AGFD	219
Sanabria-Chanaga, E.E.	MEDI	45	Sandoval, R.	CHED	89	Santos, A.L.	GEOC	78
Sanaie, N.	BIOT	50	Sandoz-Rosado, E.J.	PMSE	273	Santos, G.	ANYL	448
Sanborn, C.	PHYS	123	Sandre, O.	POLY	624	Santos, L.	CHED	1828
Sanborn, C.	PHYS	307	Sandridge, M.	ORGN	734	Santos, L.M.	CHAL	30



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Santos, M.Y.	CATL	530	Sarnik, J.	MEDI	174	Sautter, M.	CHED	1888
Santos, M.Y.	INOR	900	Sarno, C.	ENFL	365	Sauvé, S.	ENVR	538
Santos, M.Y.	INOR	903	Sarode, B.R.	BIOL	239	Sauvé, S.	ENVR	559
Santos, W.L.	BIOL	336	Sarode, H.	ENFL	363	Sauvé, S.	ENVR	957
Santos, W.L.	ORGN	438	Sarpong, R.	ORGN	152	Sava Gallis, D.F.	INOR	1401
Santos-Vazquez, Y.	CHED	1266	Sarpong, R.	ORGN	336	Savagatrup, S.	PMSE	180
Santos-Vazquez, Y.	CHED	1786	Sarpong, R.	ORGN	655	Savage, A.M.	POLY	256
Santra, S.	PMSE	459	Sarpong, R.	ORGN	718	Savage, A.M.	POLY	526
Santra, S.	PMSE	496	Sarpong, R.	ORGN	822	Savage, P.B.	INOR	794
Santra, S.	PMSE	505	Sarría, E.F.	ENVR	594	Savage, R.E.	MEDI	300
Santschi, N.	FLUO	22	Sarsito, H.	INOR	687	Savage, S.	ORGN	449
Santulli, R.	MEDI	251	Sartor, E.E.	ORGN	846	Savage, S.	ORGN	503
Sanyal, A.	POLY	379	Sartor, S.	CATL	221	Savall, B.M.	MEDI	461
Sanyal, R.	POLY	379	Sartori, B.	ANYL	219	Savara, A.	CATL	139
Sanz, G.M.	SCHB	18	Sarupria, S.	BIOT	87	Savara, A.	CATL	186
Sanz, J.F.	CATL	211	Sarupria, S.	COMP	424	Savara, A.	CATL	278
Sanz-Marco, A.	ORGN	83	Sarver, T.	CHED	1120	Savary, B.J.	AGFD	110
Sanz-Marco, A.	ORGN	672	Sasaki, D.Y.	COLL	534	Savchuk, O.	COLL	494
Sanzone, J.R.	ORGN	374	Sasaki, K.	COLL	46	Savelski, M.J.	CATL	235
Sapcharoenkun, C.	COLL	601	Sasaki, K.	CATL	526	Savelski, M.J.	I&EC	10
Saperstein, Y.	ORGN	801	Sasan, K.	ENVR	448	Savikhin, S.	PHYS	206
Sapi, A.	COLL	718	Sassi, M.	GEOC	361	Savikhin, S.	PHYS	303
Sapia, R.	CHED	611	Sassin, M.B.	ANYL	1	Savikhin, S.	PHYS	336
Sapia, R.	CHED	1869	Sassin, M.B.	ANYL	343	Savin, D.	BIOL	220
Sapieha, J.	COLL	756	Sastri, A.	BIOT	86	Savin, D.	POLY	495
Sapkota, R.	ORGN	520	Satapathy, S.	PMSE	430	Savin, D.A.	POLY	182
Sapp, M.	ENVR	807	Sathitsuksanoh, N.	AGFD	116	Savinova, E.	ANYL	281
Sapp, W.	PHYS	305	Sathitsuksanoh, N.	CATL	386	Saviola, A.	BIOL	207
Saquin, C.D.	PMSE	85	Sathyamoorthy, S.	ENVR	394	Savitzky, B.	COLL	461
Sarabia-Sánchez, M.J.	MEDI	240	Satish, P.	COLL	269	Savoie, B.M.	INOR	781
Sarafianos, S.	COMP	503	Sato, C.	POLY	165	Saw, C.	ANYL	84
Sarago, K.	CHED	480	Sato, C.M.	INOR	1553	Sawada, D.	CELL	19
Saraidaridis, J.	ENFL	298	Sato, H.	COMP	329	Sawada, D.	CELL	275
Saralegi, A.	CELL	225	Sato, H.	POLY	11	Sawada, G.	MEDI	402
Sarangan, A.	CHED	753	Sato, K.	INOR	1370	Sawada, J.	POLY	271
Sarang, R.	INOR	1539	Sato, K.	MEDI	110	Sawada, W.	MEDI	449
Saranjampour, P.	ENVR	598	Sato, Y.	ORGN	77	Sawamoto, M.	INOR	679
Saranjampour, P.	ENVR	917	Satoru, N.	MEDI	133	Sawano, S.	ORGN	718
Sarantes, C.	POLY	154	Sattelberger, A.P.	INOR	615	Sawano, T.	INOR	1228
Sarantes, C.	POLY	461	Sattelberger, A.P.	INOR	1102	Sawant, D.M.	ORGN	66
Sarantos, M.	PHYS	286	Sattelberger, A.P.	NUCL	8	Sawant, M.	BIOT	163
Saraswat, A.	BIOT	711	Sattelberger, A.P.	NUCL	63	Sawatzky, E.	MEDI	31
Sardar, R.	PHYS	369	Sattelberger, A.P.	NUCL	84	Sawaya, I.	BIOT	202
Sardon, H.	PMSE	302	Satterfield, A.R.	CHED	1462	Sawtelle, V.	CHED	2016
Sardon, H.	POLY	267	Sattler, A.	INOR	1449	Saxena, M.	BIOL	245
Sardon, H.	POLY	541	Sattler, A.	PMSE	279	Saxena, M.	BIOT	494
Sarepalla, H.	MEDI	178	Satyro, S.	ENVR	515	Saxena, M.	ENFL	173
Sargent, A.	COMP	269	Satzler, P.	BIOT	164	Saxena, S.K.	INOR	741
Sargent, A.	COMP	274	Sauceau, M.	CELL	399	Sayed, F.	MEDI	132
Sargent, A.	COMP	288	Sauer, J.	COMP	158	Sayfutyarova, E.R.	COMP	237
Sargent, A.	CHED	1811	Saugar, D.	CHED	1512	Sayin, S.	COMP	308
Sargent, B.T.	ORGN	490	Saugstad, M.M.	CHED	711	Saylan, Y.	BIOL	235
Sargent, E.	INOR	1423	Saul, J.	CHED	1701	Sayle, R.A.	CINF	106
Sargsyan, R.	CHED	558	Saulcy, K.	MEDI	78	Sayle, R.A.	CINF	108
Sargun, A.	INOR	741	Saults, D.	ORGN	780	Sayler, R.I.	ORGN	129
Sarjeant, A.	CHED	2007	Saund, S.	INOR	542	Sayre, R.	ENVR	936
Sarjeant, A.	CINF	19	Saunders, A.	CHED	1289	Sayyar, K.	MEDI	178
Sarjeant, A.	INOR	792	Saunders, A.E.	PHYS	314	Sayyar, K.	MEDI	489
Sarkanen, S.	CELL	182	Saunders, B.	COLL	318	Scaggs, J.	NUCL	139
Sarkar, A.	POLY	149	Saunders, B.	COLL	320	Scaglione, K.M.	CHED	654
Sarkar, A.	POLY	481	Saunders, J.	INOR	1030	Scaiano, J.	ORGN	821
Sarkar, A.	POLY	621	Saunders, J.	PHYS	324	Scales, S.A.	MEDI	350
Sarkar, A.	BIOL	155	Saunders, O.L.	MEDI	367	Scalfani, V.F.	CINF	157
Sarkar, A.	CHED	1219	Saunyama, Q.	CHED	1797	Scalfi, L.	PHYS	132
Sarkar, B.	INOR	870	Saura Calixto, F.	AGFD	142	Scalmani, G.	COMP	539
Sarkar, B.	INOR	1247	Saurabh, S.	BIOL	9	Scammell, M.	ENVR	992
Sarkar, D.	I&EC	120	Saura-Calixto, F.	AGFD	126	Scamp, R.J.	ORGN	214
Sarkar, D.	I&EC	131	Sauschuck, E.N.	CHED	1177	Scandolo, S.	ENFL	122
Sarkar, D.	AGFD	220	Sauschuck, E.N.	CHED	1784	Scanlan, L.D.	ENVR	544
Sarkar, J.	BIOT	538	Sautet, P.	CATL	51	Scanlan, L.D.	ENVR	628
Sarkar, N.	COLL	785	Sautet, P.	CATL	141	Scanlan, M.M.	CHED	1077
Sarker, P.	ENFL	60	Sautet, P.	CATL	187	Scanlon, I.	BIOT	49
Sarkes, D.A.	BIOT	215	Sautet, P.	CATL	229	Scanlon, J.	CHED	864
Sarkes, D.A.	BIOT	440	Sautet, P.	CATL	271	Scanlon, J.	COMP	297
Sarkis, A.	ORGN	344	Sautet, P.	COMP	79	Scanzain, M.	ORGN	875
Sarlah, D.	ORGN	173	Sautet, P.	COMP	125	Scarabelli, L.	COLL	215
Sarlah, D.	ORGN	828	Sautet, P.	COMP	164	Scarborough, M.E.	BIOL	163
Sarmadivaleh, M.	GEOC	48	Sautet, P.	COMP	466	Scarpa, M.	BIOT	269
Sarmiento, D.	ORGN	794	Sautet, P.	COMP	532	Schaak, R.	INOR	1032
Sarnik, J.	MEDI	173	Sautet, P.	COMP	557	Schaak, R.E.	INOR	690

Schaak, R.E.	INOR	699	Scheffler, M.	COMP	523	Schiro, A.	CHED	1370
Schaal, P.	CINF	69	Scheid, D.	COLL	464	Schiros, T.	CHED	1285
Schabes, B.	CHED	1661	Scheidt, K.	ORGN	285	Schiros, T.	COLL	146
Schabes, B.	COLL	427	Scheifers, J.	INOR	986	Schiza, M.	CHED	1293
Schabes, B.	PHYS	295	Scheiman, D.	PMSE	408	Schiza, M.	CHED	1314
Schabron, J.F.	ENFL	360	Scheiman, D.	PMSE	609	Schkeryantz, J.M.	MEDI	99
Schabron, J.F.	ENFL	361	Scheirey, S.K.	PMSE	411	Schlagnitweit, J.	CELL	318
Schabron, J.F.	ENFL	404	Scheirey, S.K.	POLY	150	Schlau-Cohen, G.	ANYL	267
Schadler, L.	COLL	267	Scheirey, S.K.	POLY	218	Schlau-Cohen, G.	PHYS	299
Schaeef, T.	ENFL	123	Schelble, S.M.	CHED	94	Schlecht, J.	COMP	96
Schaefer, G.	MEDI	24	Schelble, S.M.	PROF	18	Schlecht, J.	CHED	975
Schaefer, H.F.	FLUO	4	Scheler, U.	COLL	63	Schlecht, U.	BIOT	180
Schaefer, H.F.	PHYS	179	Scheler, U.	PMSE	44	Schlegel, F.	BIOT	697
Schaefer, J.	PMSE	95	Schell, T.	ENVR	110	Schlegel, H.B.	PHYS	368
Schaefer, J.L.	ANYL	378	Scheller, H.V.	CELL	271	Schleicher, D.	INOR	1300
Schaefer, K.	MEDI	11	Schellinger, J.G.	CHED	255	Schleissner, P.	POLY	239
Schaefer, O.Z.	CHED	542	Schellinger, J.G.	CHED	1407	Schlenk, D.	ENVR	473
Schaeffer, R.W.	CHED	1985	Schellinger, J.G.	CHED	1718	Schlenk, D.	ENVR	517
Schäfer, A.	INOR	213	Schellman, M.	CHED	1138	Schlenker, E.D.	CHED	2082
Schafer, B.	ORGN	136	Schelter, E.J.	NUCL	47	Schlenoff, J.B.	COLL	111
Schafer, K.	COMP	535	Schempp, T.	CHED	1414	Schlesinger, D.	GEOC	199
Schafer, K.	BIOL	69	Schenck, R.	CHED	292	Schlessinger, A.	MEDI	283
Schäfer, O.	PMSE	479	Schenkel, M.	AGFD	53	Schlessinger, A.	CHED	865
Schäfer, O.	PMSE	551	Schenkel, M.	AGFD	93	Schley, N.D.	INOR	4
Schaffer, D.V.	BIOT	320	Schenter, G.K.	PHYS	220	Schlicht, G.	CHED	1461
Schaffer, D.V.	BIOT	486	Schenter, G.K.	COMP	57	Schlichting, I.	PHYS	126
Schaffer, D.V.	BIOT	622	Schenter, G.K.	COMP	93	Schloegl, R.	CATL	111
Schaffer, J.	CHED	768	Schenter, G.K.	COMP	98	Schloegl, R.	ENFL	95
Schaible, M.J.	PHYS	342	Schenter, G.K.	GEOC	328	Schlosser, D.	COLL	263
Schaidle, J.	CATL	242	Schenter, G.K.	GEOC	329	Schlothauer, T.	BIOT	614
Schaidle, J.	CATL	568	Schepartz, A.	BIOL	353	Schlueter, D.	COLL	551
Schaidle, J.	CATL	633	Schepartz, A.	ORGN	10	Schlueter, D.	COLL	552
Schaidle, J.	CELL	211	Schepargerdes, B.J.	COLL	288	Schlueter, D.	PMSE	94
Schalk, V.	COMP	148	Scher, J.	PHYS	164	Schmadeke, G.	COMP	298
Schall, J.D.	COLL	106	Scherer, M.	PMSE	628	Schmale, D.	ENVR	237
Schaller, J.	CELL	6	Scherer, M.	ENVR	79	Schmatz, B.	POLY	617
Schaller, R.D.	PHYS	358	Scherer, M.	GEOC	58	Schmehl, R.H.	INOR	227
Schamerhorn, G.A.	MEDI	223	Scherer, M.	GEOC	132	Schmelzer, A.E.	BIOT	633
Schantz, S.	CELL	318	Scherer, M.	GEOC	285	Schmid, A.	PMSE	684
Schanz, H.J.	CHED	1717	Scherer, M.	GEOC	289	Schmid, E.	ENVR	112
Schanze, K.S.	INOR	415	Scherer, N.	COLL	599	Schmid, M.	CATL	614
Schanze, K.S.	PMSE	256	Scherer, S.	BIOL	36	Schmid, S.	MEDI	182
Schanze, K.S.	POLY	393	Scherman, O.A.	POLY	310	Schmidt, A.	INOR	213
Schaper, J.	ENVR	346	Schermeyer, E.	BIOT	213	Schmidt, B.	INOR	1487
Scharadin, T.	ANYL	54	Scherzinger, E.	POLY	616	Schmidt, C.	CPRC	4
Scharbach, S.	INOR	945	Schestakow, M.	CELL	127	Schmidt, D.	BIOT	482
Scharfenberg, M.	POLY	368	Schestakow, M.	CELL	446	Schmidt, D.	CATL	144
Scharfer, P.	ORGN	779	Schettler, S.	CHED	1465	Schmidt, D.	COLL	146
Scharnow, A.	ORGN	270	Scheuermann, M.L.	INOR	392	Schmidt, D.	INOR	1319
Scharrer, E.	CHED	1547	Schiavi, L.	ENVR	435	Schmidt, D.G.	WCC	24
Scharrer, E.	CHED	1589	Schichtel, B.	GEOC	345	Schmidt, J.G.	ORGN	352
Schatz, G.C.	CATL	233	Schick, C.P.	CHED	162	Schmidt, J.R.	COMP	415
Schatz, G.C.	COLL	597	Schick, C.P.	CHED	2094	Schmidt, M.	PHYS	125
Schatz, G.C.	INOR	1417	Schickel, H.	INOR	1254	Schmidt, M.	PHYS	127
Schatz, G.C.	PHYS	4	Schiebel, E.	INOR	412	Schmidt, M.	PMSE	431
Schatz, G.C.	PHYS	130	Schieber, N.P.	COMP	438	Schmidt, M.	ORGN	212
Schatz, G.C.	PHYS	265	Schieber, N.P.	COMP	439	Schmidt, M.J.	ORGN	625
Schatz, G.C.	PHYS	313	Schieffer, C.	CHED	528	Schmidt, S.	MEDI	24
Schatz, G.C.	PHYS	315	Schiemann, O.	ORGN	265	Schmidt, V.	INOR	1180
Schatz, P.	AGFD	233	Schieven, G.L.	MEDI	25	Schmidt, W.	ENVR	236
Schatzberg, W.E.	CHED	92	Schiff, K.	ENVR	571	Schmidtchen, A.	COLL	321
Schatzberg, W.E.	CHED	305	Schiffer, C.A.	COMP	442	Schmidt-McCormack, J.A.	CHED	2077
Schatzberg, W.E.	CHED	407	Schiffer, J.	COMP	366	Schmidt-Mende, L.	INOR	787
Schaub, T.	ORGN	520	Schiffhauer, R.	CHED	1842	Schmidt-Mende, L.	POLY	357
Schaub, T.	INOR	213	Schifman, L.	ENVR	153	Schmidt-Rohr, K.	CATL	108
Schauer, D.J.	CHED	410	Schile, A.J.	PHYS	105	Schmidt-Rohr, K.	PMSE	98
Schauer, D.J.	CHED	909	Schiller, A.	ANYL	447	Schmiechen, A.	INOR	376
Schauer, D.J.	CHED	949	Schimel, J.P.	ENVR	666	Schmiedt, R.	CELL	525
Schauer, D.J.	CHED	983	Schimel, J.P.	ENVR	968	Schmitt, C.	CINF	107
Schauer, D.J.	CHED	995	Schindler, C.	BIOL	305	Schmitt, E.	FLUO	33
Schauer, D.J.	CHED	2029	Schindler, C.	ORGN	95	Schmitt, M.	ENVR	943
Schauer, J.J.	ENVR	62	Schindler, C.	ORGN	493	Schmitt, M.	ENVR	1019
Schaus, S.	ORGN	528	Schindler, C.	ORGN	631	Schmitt, M.	COLL	128
Schaus, S.	PROF	10	Schindler, C.	ORGN	634	Schmitt, N.	CHED	1795
Scheberl, A.	COLL	349	Schindler, C.	ORGN	729	Schmitt, N.	I&E	83
Scheck, J.	GEOC	358	Schindler, R.	AGFD	99	Schmittgen, T.	BIOT	493
Schedler, D.J.	CHED	683	Schindler, S.	ORGN	409	Schmitt-Kopplin, P.	ENVR	30
Scheeler, J.	CHED	1594	Schinnerer, C.	CHED	604	Schmitt-Kopplin, P.	GEOC	119
Scheer, M.	INOR	80	Schirmer, K.	ENVR	113	Schmitz, D.	COLL	691
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Schmuecker, S.	INOR	1429	Scholz, N.	ENVR	217	Schuler, B.	PHYS	116
Schmüser, L.	PHYS	548	Scholz, S.	PROF	12	Schuler, C.	GEOC	124
Schnable, D.	ORGN	592	Schomaecker, R.	ENFL	47	Schuler, H.	MEDI	473
Schnadt, J.	COLL	77	Schomaker, J.M.	CHED	1456	Schulitz, A.	MEDI	103
Schnadt, J.	INOR	809	Schomaker, J.M.	ORGN	214	Schulte, J.M.	CHED	916
Schnaith, A.	ORGN	227	Schomaker, J.M.	ORGN	275	Schulten, K.	COMP	554
Schnedermann, C.	PHYS	212	Schönbein, A.	POLY	560	Schultz, A.A.	CHED	525
Schnedermann, C.	PHYS	256	Schonenbach, N.S.	BIOT	128	Schultz, D.	PHYS	577
Schneider, A.	I&EC	35	Schoonbrood, J.	GEOC	364	Schultz, D.	CHED	1008
Schneider, A.	CHED	1488	Schoonheydt, R.A.	ENFL	11	Schultz, D.	CHED	1789
Schneider, C.	HIST	31	Schoop, L.M.	INOR	787	Schultz, H.	CHED	660
Schneider, C.R.	INOR	180	Schoose, C.	BIOL	231	Schultz, L.D.	CHED	467
Schneider, E.	COMP	297	Schorr, F.J.	POLY	141	Schultz, M.	INOR	898
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Schneider, G.	MEDI	435	Schorr, P.L.	ENVR	236	Schulz, C.E.	INOR	19
Schneider, J.	PMSE	291	Schorr, P.L.	ENVR	642	Schulz, K.M.	WCC	22
Schneider, J.	BIOL	198	Schotland, J.	COLL	834	Schulz, M.D.	COLL	417
Schneider, J.P.	PMSE	622	Schott, J.	GEOC	202	Schulz, M.D.	POLY	281
Schneider, J.W.	PMSE	254	Schott, J.A.	I&EC	112	Schulz, M.D.	POLY	413
Schneider, O.	ENVR	52	Schotzinger, R.J.	MEDI	343	Schulze, M.	CELL	495
Schneider, P.	CINF	84	Schou, M.	MEDI	12	Schulze, P.	CELL	472
Schneider, P.	MEDI	435	Schrader, A.	CHED	475	Schulzetzenberg, P.	CHED	1372
Schneider, R.	CELL	273	Schrader, A.	CHED	1213	Schumacher, J.	ENVR	242
Schneider, S.	INOR	852	Schrader, A.	COLL	502	Schumaker, J.	CELL	246
Schneider, S.	INOR	853	Schrader, A.M.	COLL	503	Schumann, T.	CINF	56
Schneider, S.	INOR	187	Schrader, T.E.	INOR	176	Schumann, T.	CINF	130
Schneider, S.	INOR	1454	Schramm, A.J.	MEDI	477	Schünemann, S.	CATL	433
Schneider, S.R.	ENVR	605	Schramm, M.P.	CHED	1452	Schünemann, V.	INOR	771
Schneider, T.	CHED	1143	Schramm, M.P.	ENVR	701	Schurko, R.W.	INOR	1118
Schneider, T.	PHYS	128	Schreck, J.	CHED	2084	Schurko, R.W.	PMSE	42
Schneider, T.	BIOT	596	Schrecke, S.	CHED	47	Schurman, M.	GEOC	345
Schneider, W.F.	CATL	46	Schreckenbach, G.	NUCL	61	Schurmeier, K.D.	CHED	2065
Schneider, W.F.	CATL	276	Schreiber, D.K.	GEOC	37	Schutski, R.	PHYS	535
Schneider, W.F.	COMP	122	Schreidah, C.M.	CHED	708	Schutsky, E.	BIOT	675
Schneider, W.F.	COMP	160	Schreidah, C.M.	CHED	1865	Schuttlefield Christus, J.D.	CATL	399
Schneider, W.F.	ENFL	37	Schreiner, E.P.	ENFL	96	Schuttlefield Christus, J.D.	CHED	284
Schneider, W.F.	INOR	1103	Schreiner, S.H.	INOR	861	Schuttlefield Christus, J.D.	CHED	285
Schneiderman, D.K.	POLY	95	Schreiner, S.H.	INOR	862	Schutyser, W.	CATL	444
Schnell, S.K.	ENFL	442	Schreiner, S.H.	INOR	863	Schutyser, W.	CATL	591
Schneller, S.	MEDI	462	Schrier, J.	CATL	627	Schütz, C.	CELL	237
Schneps, C.M.	CHED	1645	Schrier, J.	CINF	6	Schuur, B.	I&EC	14
Schnieders, M.J.	COMP	393	Schriever, H.	CHED	248	Schwab, A.D.	PHYS	526
Schnitte, M.	INOR	408	Schrock, A.	INOR	345	Schwab, A.D.	PMSE	458
Schnitzenbaumer, K.	CHED	1321	Schrock, A.	INOR	348	Schwab, C.	CHED	690
Schnitzenbaumer, K.	COLL	839	Schrock, A.	ORGN	568	Schwab, F.	ENVR	549
Schnitzler, A.	BIOT	662	Schrock, A.	ORGN	861	Schwab, H.	CELL	471
Schoebelen, A.	CHED	1088	Schrock, A.	POLY	430	Schwab, P.	ENVR	7
Schoebelen, C.	CHED	238	Schröder, B.	ORGN	724	Schwabe, A.	BIOL	200
Schnoor, J.L.	ENVR	164	Schrodij, G.	CELL	177	Schwalbe, J.A.	INOR	1352
Schnoor, J.L.	ENVR	459	Schroeder, B.C.	PMSE	608	Schwalenstocker, K.	INOR	820
Schnorenberg, M.R.	PMSE	202	Schroeder, F.	BIOL	295	Schwall, K.C.	CHED	292
Schnupf, U.	COMP	91	Schroeder, G.M.	MEDI	41	Schwall, K.C.	CINF	125
Schoborg, C.	AGFD	93	Schroeder, G.M.	MEDI	42	Schwans, J.P.	BIOL	273
Schoch, T.	POLY	467	Schroeder, G.M.	MEDI	43	Schwans, J.P.	CHED	520
Schoedel, A.	INOR	1021	Schroeder, I.	PHYS	192	Schwans, J.P.	CHED	627
Schoedel, A.	INOR	1036	Schroeder, L.	CHED	206	Schwans, J.P.	CHED	727
Schoendorff, G.	COMP	211	Schroeder, R.	MEDI	202	Schwantes, J.M.	INOR	1384
Schoenfish, M.	ANYL	130	Schroeder, R.J.	CHED	155	Schwantes, J.M.	NUCL	149
Schoenfish, M.	PMSE	600	Schroeder, R.J.	CHED	2180	Schwartz, A.H.	BIOT	210
Schoenfish, M.	POLY	39	Schroeder, Z.	CHED	416	Schwartz, A.H.	BIOT	435
Schoenfuss, H.L.	ENVR	125	Schroön, K.	CELL	287	Schwartz, B.	MEDI	300
Schoenfuss, T.C.	CELL	503	Schroer, H.	ENVR	165	Schwartz, B.J.	COLL	145
Schoepfer, J.	MEDI	302	Schubert, A.	PHYS	490	Schwartz, B.J.	ENFL	318
Schoffers, E.	ENVR	470	Schubert, D.M.	INOR	854	Schwartz, B.J.	PHYS	71
Schoffers, E.	HIST	18	Schubert, M.	CHED	2137	Schwartz, B.J.	PHYS	428
Schoffstall, A.	CHED	283	Schubert, S.	CHED	1162	Schwartz, B.J.	PMSE	336
Schoffstall, A.	ENVR	761	Schubert, S.	IAC	9	Schwartz, B.J.	PMSE	432
Schoffstall, A.	ENVR	805	Schubert, T.J.	I&EC	11	Schwartz, B.J.	PMSE	449
Schoffstall, A.M.	CHED	97	Schubert, U.S.	CHED	1162	Schwartz, C.	BIOT	149
Schoffstall, A.M.	CHED	1483	Schubert, U.S.	IAC	9	Schwartz, C.	BIOT	279
Schofield, B.A.	BIOL	268	Schuchmann, H.	CELL	502	Schwartz, D.K.	CATL	590
Schofield, M.	BIOT	499	Schuck, P.	GEOC	114	Schwartz, D.K.	COLL	134
Scholes, D.T.	PMSE	432	Schuck, P.	INOR	91	Schwartz, J.	COLL	642
Scholes, D.T.	PMSE	449	Schuckers, S.	COLL	569	Schwartz, J.	PMSE	321
Scholl, W.E.	CHED	1310	Schuder, J.	BIOL	229	Schwartz, J.M.	PMSE	245
Scholl, W.E.	CHED	1822	Schuder, M.D.	PHYS	541	Schwartz, P.	CHED	333
Schollée, J.E.	ENVR	135	Schueneman, G.T.	CELL	226	Schwartz, R.	BIOT	243
Schollmeyer, K.	NUCL	122	Schuerer, S.	PMSE	628	Schwartz, S.D.	PHYS	166

Schwartz, T.J.	CATL	432	Scott, T.F.	POLY	92	Seeman, J.	CINF	92
Schwartzberg, A.	COLL	142	Scott, W.L.	CHED	2099	Seeman, J.	HIST	16
Schwarz G. Henriques, D.	ORGN	265	Scrimin, P.	ORGN	442	Seeram, N.P.	AGFD	1
Schwarz, D.	MEDI	16	Scrudders, K.	CHED	1785	Seeram, N.P.	AGFD	3
Schwarz, G.	ANYL	396	Sculimbrene, B.R.	CHED	1377	Seeram, N.P.	AGFD	4
Schwarz, S.	CHED	592	Sculimbrene, B.R.	CHED	1378	Seeram, N.P.	AGFD	6
Schwarzenböck, C.	POLY	370	Scully, M.C.	CHED	1009	Seeram, N.P.	AGFD	19
Schwarzmann, M.A.	CHED	367	Scuseria, G.E.	COMP	88	Seeram, N.P.	AGFD	23
Schwarzmann, M.A.	CHED	384	Scuseria, G.E.	COMP	228	Seeram, N.P.	AGFD	106
Schwarzwälder, S.	COLL	642	Scuseria, G.E.	PHYS	181	Seeram, N.P.	AGFD	247
Schwebel, F.	CHED	1302	Scuseria, G.E.	PHYS	535	Seethaler, S.	CHED	2130
Schwegler, E.	COMP	99	Sea, M.	CHED	93	Seferos, D.S.	PMSE	158
Schwehm, C.	MEDI	56	Seal, A.	CINF	86	Seferos, D.S.	PMSE	594
Schwehm, C.	MEDI	118	Seals, R.N.	INOR	1542	Sega, E.	CHED	221
Schweigert, I.	CATL	12	Seaman, S.A.	INOR	1002	Segal, M.	PMSE	157
Schweikert, E.A.	CHED	388	Seamans, T.	BIOT	631	Segall, M.	COMP	313
Schweins, R.	POLY	576	Seamans, T.	BIOT	43	Segall, M.D.	CINF	62
Schweitzer, B.	COMP	125	Seantier, B.	CELL	120	Segall, M.D.	CINF	70
Schweitzer, B.	COMP	532	Searles, D.	POLY	215	Segall, M.D.	CINF	165
Schweitzer, G.K.	INOR	1383	Searles, E.	CHED	1252	Segall, M.D.	COMP	218
Schweitzer, L.E.	ENVR	184	Sears, B.B.	INOR	220	Segev, G.	CATL	556
Schweitzer, N.	CATL	569	Sears, B.B.	INOR	242	Segev, G.	ENFL	58
Schweizer, S.	CATL	14	Sears, B.B.	PMSE	516	Segura, C.	POLY	233
Schweizer, S.	ENFL	248	Sears, D.	CHED	29	Segura, C.	POLY	239
Schwendenwein, D.	CELL	471	Sears, J.M.	CHED	1048	Segura, E.	ENVR	795
Schwertfeger, T.	CHED	1535	Sears, J.M.	INOR	1248	Sehaqui, H.	ENVR	411
Schwing, Q.	CELL	315	Sears, J.M.	CHED	149	Sehgal, R.	MEDI	71
Sciabola, S.	COMP	62	Sears, J.M.	INOR	1459	Sehirlioglu, A.	INOR	1050
Sciacca, B.	INOR	1572	Sears, R.M.	CHED	1862	Seibel, M.	CHED	178
Sciacca, B.	INOR	1576	Sears, S.	COLL	200	Seibel, M.	CHED	2045
Scielzo, N.D.	NUCL	124	Seath, C.P.	ORGN	427	Seibel, W.	MEDI	155
Scifo, L.	ENVR	310	Seath, C.P.	ORGN	489	Seidel, M.	CHED	1473
Scoggins, L.E.	INOR	821	Seay, A.	BIOT	682	Seidel, R.	COMP	99
Scola, K.	BIOT	226	Seba, A.A.	CHED	769	Seidel, S.R.	INOR	296
Scorciapino, M.	COMP	484	Seba, A.A.	POLY	430	Seidel, T.	CINF	51
Scorciapino, M.	COMP	500	Sebahar, H.L.	CHED	1822	Seidel, T.	COMP	140
Scorese, A.	ORGN	801	Seballos, L.	CHED	1296	Seidler, G.	CATL	198
Scorzelli, A.	CHED	1139	Sebastian, M.	BIOT	637	Seidler, K.	NUCL	126
Scorzelli, A.	CHED	1820	Sebastiani, D.	PHYS	51	Seierstad, M.J.	MEDI	461
Scott, B.	INOR	95	Sebe, G.	CELL	202	Seifert, G.V.	PMSE	659
Scott, B.	INOR	971	Sebesta, J.	BIOT	674	Seifert, H.	ORGN	467
Scott, B.	INOR	1216	Sebestyen, S.D.	ENVR	193	Seifert, K.	CHED	42
Scott, B.	INOR	1391	Sebestyen, S.D.	GEOC	120	Seifert, K.	CHED	43
Scott, B.	NUCL	10	Sebold, M.	INOR	390	Seifert, K.	CHED	1232
Scott, B.	NUCL	11	Sebree, J.	CHED	506	Seifert, K.	ORGN	651
Scott, B.	NUCL	79	Sebree, J.	CHED	1612	Seifert, T.	MEDI	446
Scott, C.	ENVR	126	Sebree, J.	CHED	1648	Seiffert, D.	MEDI	18
Scott, C.	ENVR	994	Secinti, H.	ORGN	643	Seigneur, D.	CHED	491
Scott, D.	CHED	1243	Secondo, P.M.	CHED	1064	Seipp, C.	ORGN	408
Scott, D.	CHED	1309	Secondo, P.M.	CHED	1081	Seipp, C.	ORGN	470
Scott, E.	CHED	2016	Sedai, B.R.	POLY	296	Seipp, C.	ORGN	576
Scott, E.	CINF	107	Seddon, M.	CINF	44	Seisenbaeva, G.	COLL	605
Scott, E.A.	PMSE	206	Seddon, M.	CINF	80	Seitsonen, J.	CELL	295
Scott, J.	CHED	572	Sedej, I.J.	AGFD	56	Seitz, W.R.	INOR	1150
Scott, J.D.	MEDI	128	Sedej, I.J.	AGFD	115	Seivert, M.D.	ENVR	652
Scott, K.	CHED	436	Seder, R.	PMSE	633	Seivert, M.D.	ENVR	664
Scott, K.	CHED	482	Sedgeman, C.A.	I&EC	111	Sejdarasi, L.	INOR	749
Scott, K.	CHED	484	Sedighi, A.	COLL	222	Sejnowski, T.	COMP	77
Scott, K.A.	ORGN	551	Sedlacek, T.D.	COMP	363	Seker, A.	AGFD	119
Scott, K.A.	CHED	1364	Sedlak, D.	ENVR	722	Seker, E.	ANYL	390
Scott, K.A.	CHED	1365	Sedlak, D.	ENVR	1016	Seki, S.	INOR	1222
Scott, K.C.	ENVR	546	Sedlak, D.L.	CHED	969	Seki, T.	AGFD	12
Scott, L.C.	CHED	538	Sedlak, D.L.	ENVR	33	Seki, T.	INOR	117
Scott, P.	INOR	933	Sedlak, D.L.	ENVR	456	Seki, T.	INOR	1065
Scott, P.J.	ORGN	232	Sedlak, D.L.	ENVR	619	Sekizawa, O.	CATL	96
Scott, P.J.	ORGN	367	Sedlik, C.	PMSE	633	Sekizawa, O.	CATL	101
Scott, P.M.	CARB	50	Sedwick, V.M.	ANYL	385	Sekou, K.	CHED	915
Scott, R.W.	CATL	516	See, X.	INOR	602	Selander, N.	ORGN	264
Scott, S.	CHED	1867	See, Y.	ORGN	825	Selander, N.	ORGN	312
Scott, S.	INOR	358	Seebach, D.	FLUO	28	Selander, N.	ORGN	321
Scott, S.L.	CATL	50	Seebergh, J.	COLL	685	Selby, T.D.	CHED	1762
Scott, S.L.	CATL	55	Seed, J.	NUCL	78	Selco, J.	CHED	226
Scott, S.L.	CATL	58	Seefeldt, L.C.	CATL	216	Selco, J.	CHED	2153
Scott, S.L.	CATL	84	Seefeldt, L.C.	ENFL	172	Selcuk, S.	COMP	10
Scott, S.L.	CATL	204	Seeharaj, P.	COLL	176	Selegue, J.P.	HIST	26
Scott, S.L.	CATL	251	Seel, M.	COMP	405	Selegue, J.P.	INOR	750
Scott, S.L.	CATL	536	Seelen, E.	ENVR	193	Seletskiy, D.	POLY	346
Scott, S.L.	ENFL	61	Seeley, H.J.	INOR	1059	Self, T.L.	CHED	449
Scott, S.L.	PMSE	220	Seelinger, F.	BIOT	640	Seliman, A.	POLY	605
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Sellers, W.	MEDI	353	Senthil, S.	INOR	370	Serrano-Brizuela, A.	PROF	26
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Selling, G.W.	CELL	392	Senyach, V.	CHED	1369	Serratore, N.	ORGN	258
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Sels, B.	CATL	591	Seo, H.	PMSE	398	Seshadri, R.	INOR	522
Sels, B.F.	CATL	444	Seo, H.	PMSE	433	Seshadri, R.	INOR	711
Sels, B.F.	CATL	469	Seo, H.	INOR	1029	Seshadri, R.	INOR	1079
Sels, B.F.	ENFL	11	Seo, H.	CHED	554	Seshadri, R.	INOR	1080
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Selvaratnam, B.	ENFL	17	Seo, J.	BIOT	396	Seshadri, R.	INOR	1365
Selvaratnam, B.	ENFL	312	Seo, J.	ENVR	760	Seshadri, R.	INOR	1529
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Selytin, O.	MEDI	346	Seo, J.	ENVR	840	Sessler, J.L.	MEDI	93
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Senanayake, R.D.	COMP	375	Seppala, J.	PMSE	322	Sevinis Ozbulut, E.	POLY	122
Senanayake, R.D.	PHYS	173	Seppala, S.	BIOT	153	Sevinis Ozbulut, E.	POLY	223
Senanayake, S.D.	CATL	211	Seppala, S.	BIOT	399	Sevov, C.S.	ENFL	298
Senanayake, S.D.	CATL	583	Seppänen, T.	CELL	528	Sevrin, C.	CELL	484
Senanayake, S.D.	ENFL	45	Seppelt, K.	FLUO	9	Seward, E.	MEDI	24
Senaweera, S.	ORGN	54	Sepulveda, M.	ENVR	958	Seybert, D.W.	CHED	568
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Senecal, K.	ENFL	161	Serafin, R.	CHED	1662	Seyfried, C.	AGFD	256
Senevirathne, P.P.	CHED	115	Seraly, M.	POLY	480	Seyhan, S.A.	AGFD	147
Seney, C.S.	CHED	1610	Serapian, S.	INOR	1235	Sezen, H.	CATL	225
Senftle, T.	NUCL	88	Sereda, G.	COLL	300	Sezer, A.O.	CHED	1730
Senftle, T.	PHYS	17	Sereda, Y.	COLL	365	Sezer, A.O.	CHED	1744
Senge, M.O.	ORGN	35	Sereda, Y.	COLL	485	Sfadia, R.	ENFL	20
Senge, M.O.	ORGN	762	Serghei, A.	CELL	496	Sfeir, M.	PROF	3
Senge, M.O.	ORGN	832	Serkova, E.	CATL	80	Sgolastra, F.	BIOT	562
Senge, M.O.	HIST	4	Sermon, P.A.	COLL	45	Sha, D.	MEDI	112
Senge, M.O.	MEDI	414	Sermon, P.A.	COLL	51	Sha, D.	MEDI	346
Senge, M.O.	ORGN	401	Sermon, P.A.	COLL	355	Sha, S.	BIOT	117
Senger, R.S.	BIOT	231	Sermon, P.A.	COLL	358	Shaaban, H.	CHED	1920
Senger, R.S.	BIOT	287	Sermon, P.A.	MEDI	88	Shabbir-Hussain, M.	BIOT	279
Senger, S.	CINF	108	Serna, C.	ENVR	758	Shabestary, N.	CHED	1687
Sengor, S.S.	ENVR	753	Serna, D.	BIOT	358	Shadish, J.A.	PMSE	5
Sengupta, A.	COLL	725	Serna-Saldivar, S.O.	AGFD	136	Shadmehr, M.	BIOL	250
Sengupta, A.	ORGN	417	Serna-Saldivar, S.O.	AGFD	182	Shadrav, A.	INOR	485
Sengupta, A.K.	ENVR	138	Serpa Guerra, A.M.	CELL	80	Shadrack, M.	CARB	42
Sengupta, A.K.	ENVR	162	Serpa Guerra, A.M.	CELL	159	Shafaat, H.S.	INOR	180
Sengupta, D.	ANYL	307	Serpe, M.	POLY	284	Shafei, B.	GEOC	153
Sengupta, S.	ENVR	911	Serpe, M.	POLY	552	Shaff, A.B.	CHED	1087
Sengupta, S.	ENVR	985	Serrano Martinez, F.	CHED	1776	Shaffer, D.W.	INOR	546
Sengupta, S.	COMP	474	Serrano Navarro, P.	MEDI	370	Shaffer, M.	COLL	856

Shaffer, R.J.	CHED	443	Shao, L.	MEDI	24	Sharpe, L.R.	CHED	1014
Shah Walter, S.	ANYL	22	Shao, R.	ENFL	181	Sharpe, M.	COLL	239
Shah, A.	AGFD	218	Shao, S.	CHED	1482	Sharpensteen, J.	COLL	483
Shah, A.	ENVR	601	Shao, W.	CATL	365	Sharpensteen, J.	INOR	1025
Shah, B.	BIOT	70	Shao, X.	GEOC	244	Sharpless, C.M.	ENVR	521
Shah, D.	CHED	1721	Shao, X.	ORGN	468	Sharpless, C.M.	ENVR	660
Shah, D.	CHED	1495	Shao, Y.	INOR	702	Sharpless, K.B.	BIOL	27
Shah, I.	ENVR	933	Shao, Y.	ENVR	461	Sharps, M.C.	INOR	1018
Shah, J.F.	ENVR	191	Shao, Y.	ENVR	621	Sharrad, C.A.	I&EC	90
Shah, L.	CHED	2109	Shao, Z.	BIOT	26	Sharrad, C.A.	I&EC	91
Shah, M.	COMP	217	Shao, Z.	BIOT	65	Sharrett, Z.	AGFD	99
Shah, P.	BIOT	49	Shao, Z.	BIOT	154	Shashvatt, U.	ENVR	985
Shah, P.	ENFL	92	Shao, Z.	BIOT	426	Shashvatt, U.	ENVR	982
Shah, P.	ORGN	845	Shao, Z.	MEDI	106	Shashvatt, U.	ENVR	988
Shah, P.	BIOT	394	Shao-Horn, Y.	ANYL	231	Shastri, N.	BIOT	196
Shah, R.	CELL	19	Shao-Horn, Y.	ANYL	238	Shastry, D.	BIOL	311
Shah, R.P.	ENFL	6	Shao-Horn, Y.	ANYL	405	Shastry, D.	BIOT	189
Shah, R.R.	INOR	1146	Shao-Horn, Y.	CATL	123	Shatruk, M.	INOR	642
Shah, R.R.	INOR	1580	Shao-Horn, Y.	I&EC	81	Shatruk, M.	INOR	1566
Shah, S.	PMSE	85	Shapero, M.	PROF	20	Shaughnessy, D.A.	NUCL	16
Shah, S.S.	ORGN	891	Shapiro, J.	ORGN	137	Shaughnessy, D.A.	NUCL	17
Shah, T.	ORGN	931	Shapiro, L.	BIOL	9	Shaughnessy, D.A.	NUCL	124
Shaharyar, M.	PMSE	435	Shapiro, M.A.	BIOT	32	Shaughnessy, K.H.	INOR	814
Shahbazi, S.	NUCL	134	Shapter, J.	COLL	620	Shaughnessy, K.H.	INOR	1164
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Shahkaramipour, N.	ENVR	998	Sharifronizi, M.	NUCL	98	Shaw, B.	ORGN	341
Shahmuradyan, A.	ANYL	172	Sharkas, A.	COMP	379	Shaw, G.	CATL	86
Shahpar, Z.	ANYL	485	Sharma, A.	POLY	89	Shaw, J.T.	ORGN	85
Shahripour, A.	MEDI	128	Sharma, A.	MEDI	98	Shaw, J.T.	ORGN	297
Shahruk, M.	ANYL	139	Sharma, A.	ENFL	301	Shaw, L.	PMSE	608
Shahsavari, S.	ORGN	508	Sharma, A.	BIOT	88	Shaw, L.	POLY	197
Shaibu, R.O.	BIOL	271	Sharma, B.	CHED	1296	Shaw, M.J.	INOR	67
Shaikh, S.A.	CHED	631	Sharma, C.	ENVR	750	Shaw, S.A.	ORGN	212
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Shakhashiri, B.Z.	CHED	123	Sharma, H.	ORGN	122	Shawkey, M.	PMSE	260
Shakhashiri, B.Z.	ENVR	472	Sharma, H.	ANYL	84	Shayesteh, P.	COLL	77
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Shalit, A.	PHYS	41	Sharma, R.	POLY	597	She, J.	CHED	505
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Shamovsky, I.	INOR	56	Sharma, R.K.	BIOT	494	Shea, P.	INOR	1534
Shamp, B.	CHED	994	Sharma, R.K.	ENFL	173	Shea, P.	INOR	1535
Shan, J.	CATL	239	Sharma, S.	ORGN	66	Sheaff, R.J.	CHED	537
Shan, L.	CATL	398	Sharma, S.	MEDI	350	Sheaff, R.J.	CHED	559
Shan, X.	ANYL	164	Sharma, S.	BIOT	494	Sheaff, R.J.	CHED	567
Shaner, S.E.	CHED	2193	Sharma, S.	INOR	281	Sheaff, R.J.	CHED	596
Shaner, S.E.	COLL	243	Sharma, S.	ENFL	448	Sheaff, R.J.	CHED	609
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Shang, C.	ENVR	171	Sharma, S.V.	ORGN	229	Sheaff, R.J.	CHED	633
Shang, C.	ENVR	172	Sharma, V.	BIOL	61	Sheaff, R.J.	CHED	647
Shang, J.	ENVR	196	Sharma, V.	COLL	780	Sheaff, R.J.	CHED	649
Shang, K.	ORGN	611	Sharma, V.	MEDI	429	Sheaff, R.J.	CHED	742
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Shankar, S.	COLL	335	Sharp, I.	CATL	558	Shee, W.	CHED	1779
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Shanks, R.	ANYL	17	Sharp, J.	GEOC	77	Sheets, M.	MEDI	351
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Shao, G.N.	PMSE	538	Sharpe, E.	COLL	569	Sheina, E.	POLY	221
Shao, J.	MEDI	23	Sharpe, L.	BIOT	687	Shekhawat, D.	ENFL	128
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Shelby, M.	PHYS	259	Sherer, S.	CHAS	11	Shi, W.	MEDI	54
Shelby, T.	PMSE	496	Sheri, M.	PMSE	354	Shi, W.	NUCL	100
Shelby, T.	PMSE	505	Sheridan, M.	PHYS	76	Shi, W.	NUCL	127
Shell, M.	PMSE	311	Sheridan, M.V.	INOR	73	Shi, W.	PMSE	531
Shellhamer, D.F.	CHED	1443	Sheridan, P.M.	CHED	1793	Shi, X.	ENFL	431
Shelp, R.A.	COLL	509	Sheridan, Q.	ENFL	37	Shi, X.	COLL	572
Shelp, R.A.	COLL	647	Sheriff, S.	MEDI	18	Shi, X.	PMSE	517
Shelton, A.H.	CHED	1798	Sherman, B.	PHYS	76	Shi, X.	PMSE	86
Shelton, C.K.	PMSE	49	Sherman, D.H.	COMP	485	Shi, X.	COLL	535
Shelton, P.	ORGN	823	Sherman, L.M.	INOR	1035	Shi, X.	COLL	626
Shelton, P.A.	CHED	1576	Sherman, L.M.	INOR	1420	Shi, X.	CELL	346
Shelton, P.A.	CHED	1582	Sherman, M.P.	ORGN	895	Shi, X.	COLL	854
Shelton, P.A.	CHED	1590	Sherman, S.E.	INOR	956	Shi, Y.	ENFL	444
Shen, B.	INOR	906	Sherman, T.	BIOL	265	Shi, Y.	INOR	1193
Shen, C.	BIOT	586	Sherman, W.	PROF	13	Shi, Y.	POLY	8
Shen, D.	MEDI	339	Sherman, Z.T.	ORGN	768	Shi, Y.	POLY	16
Shen, D.R.	MEDI	41	Sherrill, C.	COMP	445	Shi, Y.	POLY	247
Shen, D.R.	MEDI	42	Sherrill, C.	PHYS	352	Shi, Y.	POLY	388
Shen, F.	BIOL	93	Sherrill, C.D.	PHYS	39	Shi, Y.	POLY	398
Shen, G.	COLL	185	Sherry, A.	INOR	1479	Shi, Y.	ENVR	197
Shen, G.	MEDI	25	Sherry, A.	MEDI	87	Shi, Y.	ENVR	721
Shen, H.	ENVR	613	Sherry, J.	ENVR	71	Shi, Y.	GEOC	202
Shen, H.	PMSE	189	Sherry, S.	CHED	830	Shi, Z.	PMSE	688
Shen, J.	POLY	338	Sherwood Lollar, B.	ENVR	524	Shi, Z.	ENFL	137
Shen, J.	INOR	1027	Shestopalov, A.	COLL	369	Shi, Z.	MEDI	112
Shen, J.	PMSE	404	Shete, A.	PMSE	325	Shiao, H.	MEDI	482
Shen, J.	COLL	162	Shete, A.	POLY	100	Shiao, H.	ORGN	516
Shen, L.	ENVR	668	Shete, A.	POLY	483	Shiau, A.	INOR	309
Shen, M.	ANYL	66	Shetty, D.	CHED	1712	Shiau, B.J.	COLL	500
Shen, M.	MEDI	113	Shetty, K.	AGFD	220	Shiau, T.	MEDI	194
Shen, M.	PROF	30	Shetty, R.	MEDI	449	Shiau, T.	MEDI	272
Shen, M.	CINF	63	Shevchuk, O.	CELL	33	Shibamoto, T.	AGFD	266
Shen, M.	COLL	572	Shevchuk, O.	CELL	34	Shibata, N.	FLUO	31
Shen, M.	ORGN	653	Shevchuk, O.	PMSE	396	Shieh, A.	CHED	1940
Shen, R.	CHED	369	Shevlin, P.J.	BIOT	481	Shieh, I.	BIOT	503
Shen, S.	INOR	1051	Shevlin, P.J.	COLL	172	Shieh, Y.	PMSE	434
Shen, S.	PMSE	324	Sheyko, S.	PMSE	258	Shields, S.	MEDI	15
Shen, S.	PMSE	645	Shi, A.	PMSE	568	Shields, T.	BIOL	75
Shen, S.	POLY	142	Shi, A.	MEDI	75	Shifrina, Z.	CATL	80
Shen, V.K.	BIOT	23	Shi, A.	MEDI	82	Shifrina, Z.	ENFL	335
Shen, X.	CATL	646	Shi, B.	GEOC	130	Shigemoto, A.K.	INOR	1431
Shen, X.	INOR	106	Shi, C.	COLL	499	Shih, A.	CATL	276
Shen, X.	ENVR	166	Shi, C.	BIOL	6	Shih, J.	ORGN	785
Shen, X.	CHED	670	Shi, C.	BIOT	52	Shih, J.J.	BIOT	271
Shen, X.	ENVR	405	Shi, C.	ANYL	176	Shih, N.	MEDI	248
Shen, Y.	INOR	406	Shi, D.	CATL	209	Shih, P.	PMSE	324
Shen, Y.	COLL	225	Shi, G.	ANYL	33	Shih, W.	INOR	722
Shen, Y.	ENVR	500	Shi, G.	ANYL	235	Shih, W.	INOR	860
Shen, Y.	ORGN	226	Shi, G.	ANYL	459	Shih, W.	INOR	1159
Shen, Y.	ORGN	237	Shi, G.	MEDI	7	Shih, W.	PMSE	43
Shen, Z.	CHED	1440	Shi, G.	MEDI	244	Shih, Y.	ENVR	150
Shen, Z.	MEDI	36	Shi, H.	CHED	529	Shih, Y.	ENVR	668
Shen, Z.	MEDI	237	Shi, H.	MEDI	339	Shih, Y.	ENVR	826
Shen, Z.	GEOC	148	Shi, H.	ENVR	545	Shih, Y.	ENVR	847
Shen, Z.	GEOC	211	Shi, H.	CHED	817	Shih, Y.	ENVR	848
Sheng, H.	ENFL	186	Shi, H.	CHED	1268	Shih, Y.	COMP	330
Sheng, R.	MEDI	33	Shi, H.	CHED	1316	Shih, Y.	BIOT	207
Sheng, X.	COMP	468	Shi, H.	CHED	1317	Shih, K.	BIOT	416
Sheng, Y.	BIOL	247	Shi, H.	CHED	1332	Shilling, F.	AGFD	190
Shenk, M.	BIOT	663	Shi, H.	CHED	1334	Shiloach, J.	BIOT	385
Shepard, B.	BIOT	358	Shi, H.	CATL	153	Shilpa, S.	ENFL	301
Shepard, R.	COMP	212	Shi, J.	BIOL	162	Shilts, K.	COLL	622
Shepard, S.M.	INOR	406	Shi, J.	PMSE	524	Shilts, K.D.	COLL	618
Shepherd, J.	BIOT	220	Shi, J.	CATL	342	Shim, H.	ENVR	371
Shepherd, J.	POLY	369	Shi, L.	PHYS	162	Shim, J.	ORGN	769
Shepherd, R.	INOR	254	Shi, L.	GEOC	350	Shim, K.	COMP	280
Shepherd, S.	INOR	933	Shi, M.	ENVR	225	Shim, S.	AGFD	10
Shepherd, T.D.	CHED	273	Shi, M.	GEOC	144	Shimabuku, K.	ENVR	180
Shepherd, T.D.	CHED	871	Shi, Q.	MEDI	65	Shimada, H.	CELL	253
Shepherd, T.D.	CHED	872	Shi, Q.	COLL	391	Shimada, I.	ENFL	334
Shepherd-Barr, K.	HIST	23	Shi, Q.	MEDI	21	Shimada, K.	MEDI	133
Sheppard, P.	CHED	2032	Shi, Q.	PMSE	293	Shimizu, K.D.	ORGN	580
Sheppard, T.D.	ORGN	402	Shi, Q.	ENFL	339	Shimizu, L.S.	PHYS	361
Shepson, P.B.	PHYS	274	Shi, Q.	ENFL	402	Shimizu, L.S.	POLY	311
Sher, M.	INOR	705	Shi, Q.	ENFL	434	Shimizu, M.	CELL	375
Sherborne, B.	COMP	107	Shi, Q.	ENFL	435	Shimizu, T.	INOR	1048
Sherbow, T.	INOR	1251	Shi, Q.	ENFL	436	Shimode, Y.	CELL	317
Sherbow, T.	INOR	1397	Shi, S.	NUCL	154	Shimomoto, H.	POLY	387
Sherbrook, E.M.	ORGN	29	Shi, T.	ORGN	551	Shimoni, E.	ORGN	499
Sherer, S.	CHAL	24	Shi, W.	INOR	1245	Shimoni, Y.	BIOT	76

Shimoni-Zhu, J.	BIOT	132	Shoichet, B.	COLL	731	Shukla, A.	BIOT	460
Shimoyama, Y.	CARB	82	Shoichet, B.	COMP	21	Shukla, A.	BIOT	542
Shin, C.	COMP	280	Shoichet, B.	COMP	356	Shukla, A.	BIOT	592
Shin, C.	COMP	349	Shoichet, B.	COMP	549	Shukla, A.	BIOT	630
Shin, C.	ENVR	177	Shoichet, B.	COMP	584	Shukla, D.	COMP	401
Shin, D.	AGFD	104	Shoichet, B.	MEDI	57	Shukla, D.	PMSE	560
Shin, D.	CATL	507	Shoichet, B.	MEDI	124	Shukla, M.K.	ENVR	1007
Shin, E.	PMSE	609	Shoichet, M.S.	BIOL	329	Shukla, M.K.	POLY	477
Shin, G.	BIOT	417	Shoichet, M.S.	COLL	731	Shukla, M.K.	POLY	507
Shin, I.	ORGN	355	Shoichet, M.S.	PMSE	546	Shukla, N.	INOR	1518
Shin, J.	ORGN	309	Shoichet, M.S.	PMSE	637	Shukla, V.	INOR	986
Shin, J.	PMSE	597	Shojaei, H.	ORGN	17	Shuler, A.	CHED	1458
Shin, J.	INOR	717	Shokoples, B.	CHED	784	Shulka, S.	BIOT	683
Shin, K.	AGFD	28	Shokri Kojori, H.	ANYL	466	Shull, D.	ENVR	993
Shin, M.	PMSE	326	Shokri, A.	INOR	1191	Shull, K.R.	I&EC	34
Shin, M.	CHED	368	Shon, J.	BIOT	467	Shull, K.R.	POLY	104
Shin, M.	BIOT	529	Shon, Y.	CATL	329	Shultz, G.V.	CHED	1982
Shin, M.	BIOT	577	Shon, Y.	CHED	1303	Shultz, G.V.	CHED	2159
Shin, M.	COLL	728	Shong, B.	CATL	543	Shultz, J.	BIOT	84
Shin, S.	COLL	232	Shonkwiler, K.	GEOC	344	Shultz, J.	BIOT	442
Shin, S.	CELL	135	Shook, B.C.	MEDI	251	Shultz, M.D.	MEDI	305
Shin, S.	ENFL	208	Shoopman, T.	COMP	288	Shultz, M.J.	PHYS	231
Shin, S.	PHYS	405	Shopov, D.Y.	INOR	125	Shultz, M.J.	PHYS	364
Shin, S.	POLY	198	Shore, D.	MEDI	15	Shultz, Z.	ORGN	835
Shin, Y.	ENFL	398	Short, G.	CELL	35	Shumaker-Parry, J.S.	CHED	1310
Shin, Y.	AGFD	192	Short, K.	MEDI	194	Shumaker-Parry, J.S.	CHED	1655
Shin, Y.	AGFD	194	Short, K.	MEDI	272	Shumaker-Parry, J.S.	COLL	231
Shin, Y.	AGFD	195	Short, M.E.	CHED	1798	Shumaker-Parry, J.S.	COLL	466
Shin, Y.	AGFD	196	Shortlidge, E.	CHED	13	Shumaker-Parry, J.S.	PHYS	312
Shinde, A.	CATL	261	Shortt, R.	COLL	202	Shumard, K.	COLL	306
Shinde, A.	CATL	558	Shortt, R.	COLL	734	Shumlas, S.	COLL	714
Shinde, S.	ENVR	241	Shott, J.L.	INOR	1042	Shupe, A.	BIOT	301
Shinde, S.	ORGN	649	Shott, J.L.	INOR	1567	Shupe, B.	ORGN	129
Shingledecker, C.N.	PHYS	108	Shouji, T.	CELL	104	Shurtleff, J.K.	ENFL	188
Shingledecker, C.N.	PHYS	513	Shoukry, M.	CHED	1120	Shuster, D.	ENVR	913
Shinn, M.	CHED	1466	Shoulders, M.	BIOL	174	Shusterman, G.P.	CHED	13
Shinohara, A.	CATL	208	Shoup, D.	COLL	251	Shusterman, J.	COLL	866
Shinozuka, T.	MEDI	133	Shreiber, S.	CHED	799	Shusterman, J.	NUCL	124
Shintu, L.	ENVR	1041	Shreiber, S.	CHED	1861	Shutes, A.	MEDI	365
Shiozaki, T.	COMP	13	Shrestha, A.	INOR	927	Shvalagin, V.	PHYS	538
Shiozaki, T.	COMP	458	Shrestha, A.	INOR	1376	Shvets, A.	PHYS	416
Shirase, S.	ORGN	40	Shrestha, B.	ORGN	170	Shwarz, E.	CELL	316
Shiratori, S.	COLL	46	Shrestha, B.	COLL	670	Shyu, H.	AGFD	76
Shiratori, S.	COLL	169	Shrestha, J.P.	ORGN	515	Shyu, H.	COMP	282
Shiratori, S.	COLL	174	Shrestha, P.	ENFL	342	Shyu, H.	I&EC	106
Shiratori, S.	COLL	219	Shrestha, S.	CHED	1242	Shyu, H.	INOR	926
Shiratori, S.	ENFL	231	Shrestha, S.	ENFL	86	Shyu, Y.	ANYL	144
Shiratori, S.	ENFL	232	Shrestha, T.B.	INOR	1526	shyue, J.	ANYL	201
Shiratori, S.	ENFL	233	Shrestha, T.B.	MEDI	80	Si, Y.	AGFD	157
Shiratori, S.	ENFL	237	Shrestha, T.B.	MEDI	420	Si, Y.	CELL	74
Shiratori, S.	PMSE	687	Shrestha, U.K.	ORGN	843	Si, Y.	CELL	388
Shirazi, F.	ENVR	462	Shrimp, J.H.	BIOL	320	Si, Y.	COLL	307
Shireman, B.T.	MEDI	461	Shrivastava, S.	MEDI	18	Si, Y.	BIOL	88
Shirley, B.	COMP	247	Shropshire, J.N.	CHED	1731	Si, Y.	ANYL	462
Shirsekar, G.	AGFD	263	Shropshire, J.N.	CHED	1738	Siahrostami, S.	CATL	166
Shirts, M.R.	BIOT	11	Shtarget, S.	CHED	1041	Siahrostami, S.	ENVR	144
Shirts, M.R.	COMP	135	Shtoyko, T.	CHED	472	Siam, K.S.	CATL	293
Shirts, M.R.	COMP	438	Shu, W.	ANYL	223	Siam, K.S.	ENFL	219
Shirts, M.R.	COMP	439	Shu, W.	COMP	295	Sian, L.	PMSE	125
Shirts, M.R.	COMP	528	Shu, W.	MEDI	341	Siangsai, A.	ENFL	190
Shishido, R.	ORGN	242	Shu, Y.	PHYS	306	Siaw, T.	INOR	1108
Shisler, K.A.	INOR	175	Shuai, D.	ENVR	607	Sibai, D.	CHED	1522
Shivakumar, D.	COMP	414	Shuai, D.	ENVR	613	Sibaja, B.	CELL	377
Shivaramaiah, R.	GEOC	32	Shuai, D.	ENVR	1003	Sibener, S.J.	PMSE	489
Shivaramaiah, R.	GEOC	62	Shuai, D.	ENVR	1030	Sibener, S.J.	PHYS	150
Shivhare, A.	CATL	240	Shuai, D.	ENVR	1031	Sibi, M.P.	ORGN	80
Shizuka, M.	MEDI	474	Shuai, L.	ENFL	333	Sibi, M.P.	ORGN	127
Shkrob, I.A.	I&EC	8	Shuai, L.	POLY	421	Sibi, M.P.	POLY	558
Shoebargh, S.	BIOT	595	Shuangshuang, F.	CATL	382	Sibley, D.R.	MEDI	148
Shockley, J.M.	COLL	751	Shuffield, G.D.	CHED	388	Sibley, M.M.	CHED	1514
Shoda, M.	ENVR	551	Shugart, H.A.	NUCL	125	Sica, A.	CHED	1809
Shoda, M.	ENVR	897	Shugrue, C.R.	ORGN	104	Sicard, A.J.	FLUO	6
Shoemaker, B.A.	CINF	146	Shuh, D.K.	INOR	96	Sichula, V.A.	CHED	1515
Shoemaker, D.	INOR	988	Shuh, D.K.	INOR	967	Sichula, V.A.	CHED	1526
Shoemaker, D.	INOR	1113	Shuh, D.K.	INOR	1175	Sichula, V.A.	CHED	1942
Shoemaker, D.	INOR	1115	Shuh, D.K.	NUCL	41	Sicilia, G.	COLL	55
Shoemaker, D.	INOR	1357	Shuh, D.K.	NUCL	72	Sidari, A.	CHED	1723
Shoemaker, R.K.	CHED	97	Shukhman, D.	BIOL	106	Siddiqi, H.	COMP	354
Shoichet, B.	BIOL	329	Shukitt-Hale, B.	AGFD	201	Siddiqi, Z.A.	INOR	1335
Shoichet, B.	BIOT	716	Shukla, A.	BIOT	459	Siddique, T.	GEOC	157



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Siddiqui, A.	MEDI	248	Sill, S.	CATL	163	Simonich, S.	ENVR	650
Siddiqui, M.N.	ENFL	192	Silva de Souza, C.	AGFD	78	Simonich, S.	ENVR	727
Siddiqui, M.N.	POLY	405	Silva Silva, P.K.	CHED	351	Simonich, S.L.	ENVR	747
Siddiqui, N.A.	PMSE	435	Silva, A.M.	ENVR	121	Simonich, S.L.	ENVR	639
Sidebottom, M.	COLL	748	Silva, B.E.	COMP	327	Simonich, S.L.	ENVR	648
Sidenstein, S.C.	ORGN	17	Silva, B.E.	INOR	422	Simonich, S.L.	ENVR	1008
Sideris, S.	MEDI	24	Silva, C.	NUCL	150	Simons, R.	COLL	685
Sides, P.J.	PMSE	254	Silva, C.J.	AGFD	234	Simonucci, C.	ENVR	345
Sidhu, G.	BIOT	635	Silva, C.J.	ANYL	438	Simon-Walker, R.	PMSE	440
Sidler, D.	PHYS	41	Silva, C.J.	BIOL	208	Simpson, A.	BIOL	219
Sidorenko, A.	PMSE	357	Silva, D.	BIOT	186	Simpson, A.	INOR	1187
Sidorov, A.	CATL	80	Silva, D.G.	CHED	2113	Simpson, A.M.	INOR	635
Siebecke, M.	GEOC	29	Silva, F.	GEOC	253	Simpson, B.H.	CATL	503
Sieber, J.	CATL	198	Silva, L.C.	CELL	512	Simpson, J.	BIOL	4
Siebert, H.	POLY	563	Silva, M.	BIOT	526	Simpson, M.	PHYS	382
Sieburg, M.A.	MEDI	477	Silva, N.	ENVR	676	Simpson, S.	ANYL	137
Siefert, R.L.	CHED	612	Silva, N.	ENVR	703	Sims, C.M.	ENVR	546
Sieg, R.	CHED	41	Silva, N.H.	COLL	737	Sims, C.M.	ENVR	625
Siegel, A.	ANYL	271	Silva, N.H.	POLY	607	Sims, H.	COLL	483
Siegel, A.	BIOT	232	Silva, R.	COLL	374	Sims, H.	ORGN	598
Siegel, J.B.	BIOL	62	Silva, T.	CHED	1363	Sims, J.L.	CHED	1797
Siegel, J.B.	BIOT	141	Silva, T.D.	ORGN	641	Sims-Robinson, C.	CHED	744
Siegel, T.	BIOT	148	Silva, W.R.	PHYS	161	Sin, D.	CELL	135
Siegelman, R.L.	ENFL	82	Silva-Hernandez, S.	INOR	1478	Sinclair, C.	ENVR	807
Siegelman, R.L.	ENFL	304	Silveira, A.T.	CHED	2113	Sinclair, R.	CATL	166
Siegelman, R.L.	INOR	1223	Silver, J.E.	CHED	129	Sindhikara, D.J.	COMP	451
Siegelman, R.L.	INOR	1506	Silver, J.E.	MEDI	487	Sindt, A.J.	POLY	311
Siegler, M.	PHYS	266	Silver, J.E.	MEDI	488	Sinex, S.	CHED	2142
Siegmund, A.	MEDI	127	Silver, W.	GEOC	53	Sing, C.E.	COLL	34
Siek, S.	INOR	614	Silver, W.	GEOC	91	Singamaneni, S.	ENVR	583
Siek, S.	INOR	1209	Silverberg, L.J.	CHED	1996	Singamaneni, S.	ENVR	929
Siekhaus, W.	NUCL	155	Silverberg, L.J.	ORGN	399	Singamaneni, S.	PHYS	574
Sienert, K.D.	ANYL	106	Silverman, A.I.	ENVR	1022	Singappuli-Arachchige, D.	INOR	1035
Sienert, K.D.	CHED	259	Silverman, J.A.	INOR	969	Singappuli-Arachchige, D.	INOR	1420
Sienert, K.D.	CHED	507	Silverman, R.B.	MEDI	325	Singer, D.	GEOC	10
Siepmann, J.	COLL	808	Silverman, S.M.	ORGN	916	Singer, D.	GEOC	233
Siepmann, J.	COMP	92	Silvestre, A.A.	CELL	443	Singer, H.	ENVR	216
Siepmann, J.	COMP	96	Silvestre, A.A.	CELL	476	Singh, A.	COLL	335
Siepmann, J.	COMP	217	Silvestre, A.A.	COLL	737	Singh, A.	CELL	187
Siepmann, J.	GEOC	328	Silvestri, R.L.	CHED	429	Singh, A.	CELL	188
Siepmann, J.	GEOC	329	Silvestri, R.L.	CHED	1941	Singh, A.	COLL	631
Siepmann, J.	PHYS	410	Silvestrov, P.	COMP	378	Singh, A.	INOR	1415
Siepmann, T.	SCHB	1	Silvestry, P.	CHED	1775	Singh, A.	PMSE	207
Sierra, B.	ORGN	251	Sim, J.	ORGN	109	Singh, A.	CELL	396
Sierra, C.A.	ORGN	821	Simanova, A.	GEOC	102	Singh, A.	ENVR	810
Sierra, E.	MEDI	240	Simão, R.A.	CELL	63	Singh, A.R.	INOR	1352
Sierra, E.	MEDI	289	Simchi, A.	PMSE	518	Singh, G.	GEOC	249
Sievers, C.	CATL	201	Simcik, M.F.	ENVR	616	Singh, G.	CHED	1808
Sievers, C.	CATL	529	Simes, M.	CHED	1211	Singh, H.	ORGN	399
Sievers, C.	ENFL	14	Simic, R.	PMSE	535	Singh, J.	CHED	1537
Sigler, A.C.	CHED	1427	Simine, L.	PHYS	170	Singh, J.	CHED	1592
Sigman, M.E.	ANYL	326	Simini, M.	GEOC	353	Singh, J.	AGFD	146
Sigman, M.S.	INOR	1536	Simionescu, B.C.	CELL	4	Singh, K.	ORGN	347
Sigman, M.S.	ORGN	389	Simister, R.	GEOC	122	Singh, M.	POLY	133
Sigman, M.S.	ORGN	809	Simmerling, C.L.	COMP	39	Singh, N.	ORGN	553
Sigman, M.S.	ORGN	818	Simmerling, C.L.	COMP	381	Singh, N.	CATL	485
Sigmann, S.	CHAS	36	Simmonett, A.C.	COMP	529	Singh, N.	CATL	167
Sigmann, S.	CHED	1971	Simmons, B.	ORGN	916	Singh, N.	ENFL	270
Sigmann, S.B.	CHED	2147	Simmons, B.A.	BIOT	138	Singh, N.	PMSE	251
Sigmann, S.B.	CINF	74	Simmons, B.A.	ENFL	438	Singh, N.	BIOT	79
Sigmon, G.	NUCL	120	Simmons, B.A.	PRES	13	Singh, N.	BIOT	90
Sigmon, G.	NUCL	121	Simmons, C.N.	CHED	1795	Singh, N.	BIOT	119
Sihlbom, C.	MEDI	446	Simmons, D.	ENVR	71	Singh, N.	BIOT	126
Sik Ok, Y.	GEOC	248	Simmons, D.S.	COMP	392	Singh, N.	BIOT	205
Sik Ok, Y.	GEOC	347	Simmons, E.	ENVR	363	Singh, N.	BIOT	428
Sik Ok, Y.	GEOC	348	Simmons, L.	CHED	1193	Singh, N.	BIOT	675
Sikkema, D.	PMSE	340	Simmons, R.	CHED	240	Singh, N.	BIOT	676
Sikkema, W.K.	COLL	239	Simmons, T.J.	CELL	364	Singh, N.	BIOT	714
Sikkema, W.K.	COLL	757	Simocko, C.K.	POLY	280	Singh, N.	INOR	271
Sikligar, K.	INOR	576	Simões, M.	CELL	443	Singh, N.P.	ORGN	891
Siklos, M.	COMP	549	Simon, A.	ENVR	239	Singh, P.	CATL	172
Siklos, M.	MEDI	124	Simon, A.J.	BIOT	152	Singh, R.	MEDI	159
Sikma, E.	INOR	205	Simon, J.	PMSE	100	Singh, R.	MEDI	401
Sikorski, J.A.	MEDI	437	Simon, T.	PMSE	519	Singh, R.	MEDI	476
Silahua, A.A.	ENVR	699	Simon, Y.C.	POLY	232	Singh, R.	MEDI	478
Silantyeva, E.	PMSE	436	Simon, Y.C.	POLY	548	Singh, R.	MEDI	479
Silberstein, A.L.	CHED	1508	Simonato, J.	ENVR	494	Singh, R.	CHED	524
Silcock, P.	ENVR	638	Simonato, J.	ENVR	495	Singh, R.	BIOT	429
Siles-Brugge, O.	COLL	104	Simonato, J.	INOR	1126	Singh, S.	COLL	759

Singh, S.	BIOT	166	Sitkoff, D.F.	COMP	445	Skrabalak, S.E.	COLL	347
Singh, S.	CHED	595	Sittaramane, V.	MEDI	93	Skrabalak, S.E.	INOR	638
Singh, S.	BIOT	295	Sitterley, K.	GEOC	300	Skubic, K.	MEDI	212
Singh, S.	BIOT	296	Sitterley, K.	GEOC	342	Skudas, R.	BIOT	451
Singh, S.	BIOT	369	Sittivanichai, S.	AGFD	259	Skudas, R.	BIOT	453
Singh, S.	BIOT	558	Situm, A.	GEOC	149	Skulason, E.	COMP	80
Singh, S.	BIOT	616	Siu, K.	BIOT	110	Skylaris, C.	COMP	95
Singh, S.	BIOT	647	Siu, K.	BIOT	533	Skylaris, C.	COMP	146
Singh, S.	BIOT	649	Siu, M.	INOR	298	Skylaris, C.	COMP	220
Singh, S.	ORGN	788	Siu, M.	INOR	303	Skylaris, C.	ENFL	124
Singh, V.	AGFD	79	Siu, M.	MEDI	336	Skylaris, C.	MEDI	423
Singh, V.	ORGN	16	Siu, T.	MEDI	112	Skyrud, W.	BIOT	671
Singh, V.P.	PHYS	42	Siva, S.	BIOT	574	Slack, C.C.	BIOT	234
Singhasemanon, N.	ENVR	870	Sivaraja, M.	MEDI	194	Slack, W.	ENVR	745
Singhasemanon, N.	ENVR	871	Sivaraja, M.	MEDI	272	Slade, P.	BIOT	315
Singhasemanon, N.	ENVR	975	Sivaraman, B.	PHYS	152	Slade, P.G.	BIOT	324
Singhasemanon, N.	ENVR	979	Sivarao, D.	MEDI	51	Sladek, M.F.	GEOC	182
Singhsa, P.	CARB	33	Sive, B.C.	GEOC	345	Slafer, B.	MEDI	134
Singiser, R.	CHED	142	Sivey, J.D.	CHED	920	Slagbrand, T.	ORGN	253
Singiser, R.	CHED	2024	Sivey, J.D.	CHED	963	Slama, J.	BIOL	224
Singla, A.	BIOT	216	Sivry, Y.	ENVR	665	Slama, J.	BIOL	244
Singla, S.	POLY	564	Sivula, K.A.	ENFL	100	Slater, C.	CATL	235
Singleton, D.	CHED	1603	Sivy, T.	CHED	196	Slater, C.	I&EC	10
Singleton, D.	CHED	593	Sivy, T.	CHED	655	Slater, J.W.	INOR	180
Singleton, D.	ENVR	53	Sivy, T.	CHED	941	Slaughter, L.	COLL	435
Singleton, M.	ANYL	359	Sivy, T.	CHED	2102	Slaughter, L.M.	ORGN	90
Sinha, S.B.	INOR	125	Siwak, M.	BIOT	275	Slaughter, L.M.	INOR	113
Sinha, S.K.	PMSE	437	Siwak, M.	BIOT	420	Slavens, K.	CHED	73
Sinha, S.S.	COLL	322	Siwak, M.	BIOT	476	Slavens, K.	CHED	1867
Sinha, S.S.	COLL	767	Sixta, H.	CELL	36	Slavicek, P.	COMP	467
Sinitskii, A.	INOR	1152	Sixta, H.	CELL	42	Slavicinska, K.	PHYS	455
Sinitskiy, A.	COMP	452	Sixta, H.	CELL	293	Slavin, N.	COLL	343
Sinitskiy, A.	COMP	475	Sixta, H.	CELL	334	Slavnay, A.	INOR	69
Sinkov, S.	NUCL	59	Sizemore, H.M.	INOR	437	Slawek, P.	PMSE	342
Sinno, T.	BIOL	293	Sizemore, H.M.	INOR	517	Slayden, R.A.	MEDI	400
Sinnott, S.B.	COMP	186	Sizikov, S.	MEDI	194	Slaymaker, L.	CHED	943
Sipos, P.	CARB	77	Sizikov, S.	MEDI	272	Sleiman, M.	ENVR	523
Sipos, P.	CARB	78	Sjo, P.	ANYL	323	Sleiman, M.	ENVR	656
Sipos, P.	CATL	393	Sjo, P.	INOR	56	Sletten, E.M.	ORGN	457
Sipponen, M.H.	CELL	333	Skabara, P.	CHED	1168	Slick, E.	CHED	1432
Siqueira, G.	CELL	83	Skaf, M.S.	PHYS	190	Slifko, T.R.	ENVR	22
Siraj, N.	ANYL	42	Skafta, T.	CATL	102	Slininger Lee, M.	BIOL	360
Sirard, S.	PMSE	679	Skagen, D.	CHED	784	Slizberg, Y.	POLY	19
Sirard, S.	POLY	199	Skala, S.	MEDI	21	Slipchenko, L.V.	CELL	3
Siretanu, I.	GEOC	146	Skanthakumar, S.	NUCL	28	Slipchenko, L.V.	PHYS	44
Siretanu, I.	GEOC	147	Skanthakumar, S.	NUCL	95	Slipchenko, L.V.	PHYS	215
Sirimulla, S.	CHED	1198	Skarja, G.	BIOT	121	Slipchenko, L.V.	PHYS	303
Sirimulla, S.	CINF	59	Skedung, L.	COLL	672	Slitt, A.	AGFD	23
Sirimulla, S.	COMP	298	Skeel, B.	CHED	969	Sloan-Lyon, V.A.	POLY	450
Sirimulla, S.	COMP	299	Skeel, B.	ENVR	456	Slobodchikova, I.	ORGN	14
Sirimulla, S.	COMP	360	Skellam, E.	CHED	1156	Slochower, D.	COMP	555
Sirimulla, S.	COMP	398	Skelton, J.	INOR	1001	Slocum, D.	ORGN	47
Siriwardane, D.	POLY	275	Skerker, J.M.	BIOT	138	Slocum, J.	PHYS	380
Siriwardane, R.V.	ENFL	126	Skersick, P.	CHED	352	Slocum, L.E.	CHED	61
Siriwardane, R.V.	ENFL	129	Skibinski, E.S.	COLL	151	Slocum, L.E.	CHED	205
Siriwardane, R.V.	I&EC	118	Skibsbye, L.	MEDI	344	Slocumb, H.S.	CHED	1640
Sirjoosingh, A.	CATL	233	Skibsted, J.	GEOC	226	Slominski, A.J.	MEDI	427
Sirk, T.W.	CINF	22	Skillman, A.G.	COMP	71	Slor, G.	PMSE	157
Sirk, T.W.	PMSE	595	Skinner, A.V.	CHED	1086	Slotcavage, D.J.	ENFL	89
Sirois, L.E.	ORGN	225	Skinner, C.B.	AGFD	234	Slough, D.	COMP	27
Sirois, L.E.	ORGN	481	Skinner, J.L.	PHYS	188	Slough, D.	COMP	377
Sirois, L.E.	ORGN	737	Skinner, K.	COMP	12	Slowing, I.I.	INOR	1035
Sirovetz, B.	COMP	272	Skinner, T.A.	CHED	1449	Slowing, I.I.	INOR	1420
Sirviö, J.A.	CELL	25	Skinner, T.A.	CHED	1883	Slowinska, K.	BIOT	242
Sirviö, J.A.	CELL	352	Skipper, H.	CHED	777	Slowinska, K.	BIOT	297
Sirviö, J.A.	CELL	533	Skjak-Brak, G.	CELL	51	Slowinska, K.	COLL	677
Siska, C.	BIOT	18	Skochko, A.	AGFD	65	Slowinska, K.	INOR	1076
Sisley, T.	MEDI	146	Skolnick, J.	COMP	471	Slunský, J.	ENVR	307
Sisneroz, J.	ENVR	869	Skolpap, W.	CARB	82	Slusher, G.	POLY	518
Sissay, A.	COMP	535	Skorheim, R.	CHED	830	Small, D.	COMP	87
Sit, P.	COMP	206	Skorseth, P.E.	POLY	450	Small, M.C.	BIOT	440
Sit, P.	INOR	1097	Skorupskii, G.	PHYS	72	Smalley, A.L.	CHED	280
Sit, T.L.	AGFD	191	Skoryk, M.	PHYS	538	Smalley, A.L.	CHED	349
Sita, L.R.	PMSE	283	Skourtis, S.	PHYS	378	Smalley, A.L.	CHED	600
Sita, L.R.	PMSE	617	Skouteris, D.	PHYS	524	Smalley, A.L.	CHED	936
Sitapara, D.B.	CHED	1225	Skov, A.W.	PHYS	287	Smalley, A.L.	CHED	1298
Sitarik, I.	PHYS	339	Skovgaard, M.	COMP	66	Smalley, A.L.	CHED	1984
Sitarik, I.M.	CHED	1842	Skrabalak, S.E.	CATL	33	Smanski, M.	BIOT	488
Sitarik, P.	CHED	1753	Skrabalak, S.E.	COLL	11	Smeaton, C.M.	GEOC	130
Sitchler, A.	GEOC	107	Skrabalak, S.E.	COLL	227	Smedley, J.G.	BIOT	459

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Smedley, J.G.	BIOT	542	Smith, J.A.	CHED	553	Smith-Carpenter, J.E.	CHED	48
Smeets, P.J.	GEOC	327	Smith, J.E.	CHED	753	Smith-Carpenter, J.E.	CHED	595
Smets, J.	COLL	66	Smith, J.E.	COLL	250	Smock, J.	COMP	148
Smets, J.	POLY	601	Smith, J.S.	ANYL	178	Smock, S.	INOR	711
Smiar, K.	CHED	325	Smith, J.S.	COMP	418	Smolczyk, T.J.	ORGN	749
Smirniotis, P.	I&EC	3	Smith, J.S.	COMP	509	Smoliakova, I.P.	CELL	246
Smirnov, D.	INOR	714	Smith, K.	CHAS	45	Smoliakova, I.P.	ORGN	179
Smirnov, D.	INOR	1237	Smith, K.	ENFL	284	Smolke, C.D.	BIOT	38
Smirnova, E.	INOR	116	Smith, K.	PHYS	496	Smotkin, E.S.	CATL	169
Smit, B.	COMP	525	Smith, K.	BIOL	300	Smotkin, E.S.	CHED	1707
Smit, B.	ENFL	442	Smith, K.E.	POLY	450	Smrity, S.	COLL	379
Smital, T.	ENVR	631	Smith, K.E.	PHYS	400	Smrt, S.T.	BIOL	354
Smith II, L.	MEDI	18	Smith, K.E.	PMSE	665	Smulders, M.	POLY	258
Smith, A.	BIOT	595	Smith, K.J.	CHED	2027	Smylie, M.	INOR	988
Smith, A.	CHED	533	Smith, L.	PMSE	637	Smyly, A.	CHED	855
Smith, A.	BIOT	274	Smith, L.	CHED	669	Smyly, A.	CHED	1572
Smith, A.A.	POLY	297	Smith, M.	CHED	1931	Smyly, A.	CHED	1762
Smith, A.B.	CHED	1644	Smith, M.	ORGN	259	Smyth, K.	CHED	524
Smith, A.C.	INOR	331	Smith, M.	ANYL	161	Smythe, N.C.	NUCL	10
Smith, A.D.	ORGN	191	Smith, M.	ORGN	860	Snead, R.	ORGN	438
Smith, A.D.	ORGN	285	Smith, M.	CHED	330	Sneddon, H.	I&EC	68
Smith, A.D.	ORGN	665	Smith, M.	CHED	830	Sneha, M.	CATL	178
Smith, A.D.	ORGN	932	Smith, M.D.	INOR	705	Snell, E.	PHYS	167
Smith, A.H.	BIOL	263	Smith, M.J.	BIOT	338	Snell, J.	BIOT	718
Smith, A.J.	PMSE	222	Smith, M.K.	ANYL	487	Snetsinger, P.A.	CHED	972
Smith, A.W.	COLL	535	Smith, M.K.	ORGN	859	Snider, J.	CATL	243
Smith, A.W.	COLL	626	Smith, M.R.	INOR	303	Snider, J.L.	CATL	36
Smith, B.	ORGN	473	Smith, M.R.	INOR	1273	Snihur, K.	GEOC	348
Smith, B.	PMSE	554	Smith, M.R.	ORGN	2	Snitker, J.	COLL	844
Smith, B.	BIOL	99	Smith, M.R.	ORGN	424	Snitker, J.M.	ENVR	627
Smith, B.	CHED	689	Smith, M.R.	PMSE	349	Snow, M.	CHED	206
Smith, B.A.	CHED	639	Smith, M.R.	POLY	418	Snyder, B.E.	ENFL	11
Smith, B.A.	CHED	1531	Smith, N.	INOR	727	Snyder, C.A.	INOR	858
Smith, B.C.	CHED	704	Smith, N.	NUCL	157	Snyder, C.R.	PMSE	561
Smith, B.D.	MEDI	419	Smith, P.	INOR	1556	Snyder, E.	INOR	715
Smith, B.D.	ORGN	412	Smith, P.	ORGN	705	Snyder, J.	COMP	136
Smith, B.J.	COLL	629	Smith, P.	BIOT	725	Snyder, J.	MEDI	65
Smith, B.J.	ORGN	859	Smith, P.B.	CELL	406	Snyder, J.	POLY	19
Smith, B.R.	INOR	876	Smith, P.E.	COMP	387	Snyder, J.	CHED	1321
Smith, B.R.	ORGN	477	Smith, P.E.	MEDI	420	Snyder, J.	CATL	23
Smith, C.	ANYL	72	Smith, P.J.	CHED	1099	Snyder, J.A.	PHYS	381
Smith, C.	MEDI	251	Smith, P.M.	INOR	301	Snyder, J.W.	COMP	90
Smith, C.A.	PHYS	413	Smith, P.M.	INOR	307	Snyder, K.	ENVR	659
Smith, D.	AGFD	148	Smith, P.R.	BIOT	641	Snyder, M.	CHED	1314
Smith, D.	ORGN	380	Smith, P.R.	BIOT	731	Snyder, N.L.	CARB	45
Smith, D.	GEOC	121	Smith, Q.	BIOT	625	Snyder, N.L.	CARB	46
Smith, D.	AGFD	117	Smith, R.	POLY	222	Snyder, N.L.	CARB	47
Smith, D.C.	CHED	2000	Smith, R.	POLY	345	Snyder, N.L.	CHED	251
Smith, D.C.	COMP	437	Smith, R.	POLY	544	Snyder, N.L.	CHED	252
Smith, D.K.	INOR	230	Smith, R.	ANYL	441	Snyder, R.A.	ENVR	652
Smith, D.K.	ORGN	647	Smith, R.	WCC	18	Snyder, R.L.	POLY	190
Smith, D.K.	ORGN	652	Smith, R.	ENVR	191	Snyder, S.A.	ENVR	215
Smith, D.L.	INOR	858	Smith, R.	CELL	406	Snyder, S.A.	ENVR	337
Smith, E.	CHED	353	Smith, R.	CELL	407	Snyder, S.A.	ENVR	570
Smith, E.A.	PMSE	96	Smith, R.C.	ORGN	723	Snyder, S.E.	CHED	40
Smith, E.L.	GEOC	246	Smith, R.G.	CELL	521	Snyder, S.E.	FLUO	48
Smith, E.L.	CHED	753	Smith, R.G.	ENFL	287	So, C.R.	POLY	569
Smith, F.N.	GEOC	210	Smith, R.L.	ENVR	268	So, F.	INOR	415
Smith, F.N.	GEOC	281	Smith, S.	MEDI	497	So, J.	CATL	529
Smith, G.L.	CHED	1876	Smith, S.A.	CHED	855	So, M.C.	CHED	1069
Smith, H.	PHYS	575	Smith, S.A.	CHED	857	So, M.C.	CHED	1072
Smith, H.	PHYS	111	Smith, S.A.	CHED	1572	So, M.C.	CHED	2057
Smith, I.	POLY	182	Smith, S.D.	PHYS	407	So, M.C.	INOR	1409
Smith, I.	MEDI	478	Smith, S.D.	PHYS	485	So, M.C.	POLY	240
Smith, I.	MEDI	479	Smith, S.R.	CHED	245	Soares, A.J.	CHED	1111
Smith, III, A.B.	ORGN	334	Smith, S.R.	INOR	221	Soares, K.	CHED	1860
Smith, III, A.B.	ORGN	903	Smith, S.R.	INOR	622	Soares, O.	ENVR	487
Smith, J.	BIOL	228	Smith, T.	MEDI	464	Soares, R.R.	BIOT	53
Smith, J.	AGFD	230	Smith, T.W.	POLY	452	Soars, M.	MEDI	51
Smith, J.	ANYL	211	Smith, T.W.	POLY	476	Sobeck, S.J.	CHED	339
Smith, J.	CHAS	39	Smith, W.	CHED	1823	Sobeck, S.J.	CHED	1616
Smith, J.	ENVR	651	Smith, W.	COMP	331	Sobeck, S.J.	CHED	1630
Smith, J.	AGFD	56	Smith, W.C.	POLY	85	Sobeck, S.J.	ORGN	886
Smith, J.	AGFD	115	Smith, W.J.	MEDI	392	Sobel, S.G.	CHED	771
Smith, J.	CELL	19	Smith, W.W.	CINF	52	Sobell, Z.	INOR	1078
Smith, J.	CELL	520	Smith, W.W.	COMP	69	Sobell, Z.C.	INOR	1071
Smith, J.	MEDI	139	Smith, W.W.	MEDI	166	Soberats, B.	POLY	443
Smith, J.	PHYS	165	Smith, W.W.	MEDI	480	Soberats, B.	POLY	641
Smith, J.	ANYL	135	Smith, Z.	POLY	37	Sobhi, H.F.	BIOL	204
Smith, J.	CHED	2167	Smith-Carpenter, J.E.	CHED	47	Sobhi, H.F.	ORGN	399

Sobhy, M.	CHED	1925	Solis, D.	INOR	1061	Son, H.	BIOT	705
Sobkowitz, M.J.	CELL	453	Soliz, J.R.	INOR	1367	Son, J.	INOR	1485
Soblosky, L.	COLL	732	Solla-Gullón, J.	ENFL	210	Son, M.	ENFL	241
Soboleva, T.	MEDI	105	Soller, B.S.	POLY	381	Son, M.	INOR	915
Soboleva, T.	MEDI	120	Sollner, J.S.	ENFL	87	Son, M.	INOR	696
Sobus, J.	ANYL	76	Sollogoub, M.	ORGN	583	Son, P.	AGFD	267
Sobus, J.	ANYL	470	Solola, L.	NUCL	47	Son, P.	ORGN	925
Sobus, J.	ENVR	136	Solomon, E.I.	ENFL	11	Son, S.	MEDI	389
Sobus, J.	ENVR	1012	Solomon, E.I.	INOR	245	Son, Y.	ENFL	420
Sodano, T.	ORGN	440	Solomon, E.I.	INOR	247	Son, Y.	ENFL	143
Sodano, T.M.	ORGN	213	Solomon, E.I.	INOR	528	Son, Y.	ENFL	216
Sode, O.	COMP	331	Solomon, E.I.	INOR	1319	Son, Y.	MEDI	208
Sode, O.	COMP	496	Solomon, K.	BIOT	139	Son, Y.	ORGN	195
Sode, O.	INOR	382	Solomon, M.J.	PMSE	82	Sonberg, J.	ORGN	137
Sodeoka, M.	FLUO	17	Solov'yov, I.	PHYS	88	Sone, A.	CELL	136
Soderberg, D.	CELL	430	Soltani, I.	PMSE	690	Song, A.	MEDI	247
Soderberg, D.	COLL	67	Soltani, I.	PMSE	698	Song, B.	ORGN	411
Soderholm, L.	NUCL	28	Soltan, S.R.	CATL	391	Song, C.	ANYL	221
Soderholm, L.	NUCL	95	Soltero, A.	CELL	8	Song, C.	CARB	88
Soderquist, C.	NUCL	59	Soltis, J.A.	GEOC	210	Song, C.	COLL	52
Soderquist, C.	NUCL	149	Soltis, J.A.	GEOC	281	Song, C.	COMP	15
Soderquist, R.G.	BIOT	49	Soltis, J.A.	GEOC	312	Song, C.	MEDI	267
Soderquist, R.G.	BIOT	394	Soltis, J.A.	NUCL	102	Song, C.	ORGN	109
Söderström, M.	ANYL	254	Soltwedel, O.	COLL	79	Song, C.	ORGN	130
Soe, E.	INOR	1017	Som, B.	PHYS	361	Song, C.	ORGN	131
Soedarmadji, E.	CATL	261	Som, B.	POLY	311	Song, D.	ENVR	409
Soehl, A.	ENVR	73	Soma, K.	CATL	272	Song, D.	ENVR	490
Soehl, A.	ENVR	78	Somasundar, Y.	ENVR	954	Song, D.	COLL	674
Soehl, A.	ENVR	962	Somavat, P.	AGFD	79	Song, E.	AGFD	237
Soejarto, D.D.	AGFD	156	Somers, L.A.	CHED	425	Song, F.	COLL	553
Soellner, J.	INOR	1298	Somers, L.A.	GEOC	100	Song, F.	MEDI	251
Soemardi, D.	INOR	299	Somerville, C.R.	CELL	273	Song, H.	ENFL	354
Soeta, H.	CELL	350	Somerville, C.R.	CELL	229	Song, H.	ENFL	234
Soh, H.	BIOL	241	Someya, Y.	PMSE	679	Song, H.	INOR	933
Soh, H.	BIOT	686	Someya, Y.	POLY	199	Song, H.	CELL	501
Soh, H.	BIOT	688	Sommer, C.	INOR	189	Song, I.	COLL	112
Soh, L.	ENFL	428	Sommerdijk, N.A.	GEOC	327	Song, J.	NUCL	154
Sohail, S.H.	PHYS	257	Sommerdijk, N.A.	GEOC	360	Song, J.	MEDI	10
Sohn, B.	INOR	1571	Sommerdijk, N.A.	GEOC	364	Song, J.	CHED	873
Sohn, B.	PMSE	394	Sommerer, N.	AGFD	143	Song, J.	CHED	885
Sohn, B.	ENVR	846	Sommers, C.	ANYL	147	Song, J.	PHYS	471
Sohng, J.	GEOC	255	Sommers, J.A.	INOR	457	Song, J.	PRES	8
Sohrabnia, N.	COLL	370	Sommerville, P.J.	ORGN	768	Song, J.	INOR	1463
Sohrabnia, N.	COLL	615	Somogyi, A.	CHED	882	Song, K.	ORGN	245
Soito, L.	CINF	134	Somorjai, G.A.	BIOT	218	Song, K.	I&EC	125
Sokaras, D.	BIOT	482	Somorjai, G.A.	CATL	15	Song, M.	INOR	106
Sokaras, D.	CATL	144	Somorjai, G.A.	CATL	87	Song, M.	INOR	731
Sokaras, D.	CATL	166	Somorjai, G.A.	CATL	222	Song, M.	INOR	873
Sokaras, D.	CATL	194	Somorjai, G.A.	CATL	232	Song, M.	ORGN	653
Sokaras, D.	COLL	146	Somorjai, G.A.	CATL	336	Song, M.	AGFD	265
Sokaras, D.	COLL	636	Somorjai, G.A.	CATL	337	Song, W.	ENVR	116
Sokaras, D.	ENVR	144	Somorjai, G.A.	CATL	518	Song, W.	ENVR	175
Sokaras, D.	GEOC	114	Somorjai, G.A.	CATL	551	Song, W.	ENVR	655
Sokaras, D.	INOR	1319	Somorjai, G.A.	CATL	600	Song, W.	ENVR	946
Sokirniy, I.	MEDI	14	Somorjai, G.A.	ENFL	49	Song, W.	ENVR	948
Sokolik, C.W.	CHED	1607	Somorjai, G.A.	INOR	570	Song, W.	CATL	610
Sokolnicki, A.	BIOT	359	Somorjai, G.A.	INOR	886	Song, W.	CATL	655
Sokoloff, A.	MEDI	458	Somoza, V.	AGFD	270	Song, W.	CATL	656
Sokolov, A.	COMP	213	Son, A.	ENVR	233	Song, W.	CATL	172
Sokolov, A.	PMSE	143	Son, A.	ENVR	724	Song, X.	ENFL	193
Sokolov, A.	COMP	14	Son, A.	ENVR	859	Song, Y.	CATL	78
Sokolov, A.P.	POLY	79	Son, C.	COMP	415	Song, Y.	CATL	167
Sokolov, A.P.	POLY	216	Son, D.Y.	POLY	401	Song, Y.	COLL	746
Sokolov, A.P.	POLY	237	Son, E.	INOR	462	Song, Y.	BIOT	482
Sokolov, A.P.	POLY	305	Son, F.	CHED	1754	Song, Y.	CATL	144
Sokolov, A.P.	POLY	446	Son, G.	INOR	696	Song, Y.	COLL	146
Sokolov, V.V.	ORGN	17	Son, G.	MEDI	208	Song, Y.	INOR	1319
Sokov, S.	MEDI	48	Son, G.	MEDI	383	Song, Y.	CATL	307
Solà, M.	INOR	1489	Son, H.	INOR	909	Song, Y.	PMSE	438
Solaiman, D.	AGFD	118	Son, H.	INOR	910	Song, Y.	POLY	303
Solanki, A.	ENVR	568	Son, H.	INOR	911	Song, Y.	POLY	505
Solanki, K.	BIOT	576	Son, H.	INOR	912	Song, Y.	INOR	784
Solanki, R.	INOR	1000	Son, H.	INOR	913	Song, Y.	PMSE	657
Solano-Becerra, J.	MEDI	158	Son, H.	INOR	914	Song, Y.	CATL	352
Solans, M.	ORGN	927	Son, H.	INOR	915	Song, Y.	CATL	353
Solares, S.	ENVR	1003	Son, H.	INOR	916	Song, Y.	ENFL	114
Solari, J.	INOR	1048	Son, H.	INOR	1377	Song, Y.	CATL	431
Soldera, A.	COMP	198	Son, H.	COLL	327	Song, Y.	CATL	531
Soldera, A.	MEDI	388	Son, H.	COLL	596	Song, Y.	BIOT	428
Solis, D.	INOR	117	Son, H.	BIOT	577	Song, Y.	BIOT	678



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Song, Y.	PMSE	598	Soukup, J.	CHED	1857	Speldrich, M.	NUCL	93
Song, Y.	COMP	159	Soulsby, D.P.	ANYL	72	Spellane, P.	HIST	7
Song, Z.	COMP	371	Soulsby, D.P.	ANYL	80	Speltz, T.	MEDI	338
Song, Z.	ENVR	489	Soulsby, D.P.	BIOL	264	Spence, J.D.	CHED	860
Song, Z.	ENVR	883	Soulsby, D.P.	CHED	1343	Spence, J.D.	CHED	1350
Song, Z.	INOR	409	Soulsby, D.P.	MEDI	157	Spence, J.D.	CHED	1351
Song, Z.	PMSE	13	Sours, R.E.	CHED	340	Spence, J.D.	CHED	1352
Song, Z.	PMSE	439	Sousa Morais, A.	CELL	84	Spence, J.D.	CHED	1413
Song, Z.	PMSE	476	Sousa, J.	ENVR	121	Spence, J.D.	COMP	244
Song, Z.	PMSE	576	Sousa, M.	CHED	948	Spence, J.D.	ORGN	709
Song, Z.	POLY	140	Sousa, M.	CHED	967	Spence, S.	ENVR	754
Song, Z.	POLY	293	Sousa, M.	CHED	989	Spence, T.G.	CHED	496
Songbo, L.	PHYS	506	Sousa, M.P.	CELL	56	Spence, W.C.	CHED	1866
Songsurang, K.	CELL	253	Sousa, M.P.	CELL	459	Spencer, A.	ANYL	299
Soni, B.	CELL	537	South, C.	CATL	27	Spencer, J.	ORGN	220
Soni, D.	CHED	1770	Southall, N.	CINF	64	Spencer, J.A.	COLL	153
Sonmez, C.	BIOT	333	Souther, K.	POLY	298	Spencer, J.A.	INOR	1560
Sonmez, O.	ENVR	878	Southgate, E.H.	ORGN	828	Spencer, K.	CHED	834
Sonn, G.	ANYL	272	Souto, A.P.	COLL	373	Spencer, N.D.	COLL	24
Sonnenberg, J.L.	NUCL	69	Souza, A.	CELL	536	Spencer, N.D.	COLL	31
Sonnenberg, K.	INOR	1487	Souza, A.	CELL	383	Spencer, N.D.	COLL	545
Sonnenschein, C.	POLY	4	Souza, B.A.	ENVR	356	Spencer, N.D.	PMSE	535
Sonntag, M.D.	PHYS	421	Souza, C.F.	POLY	426	Spencer, P.	ANYL	185
Sood, P.	COMP	278	Souza, C.J.	COLL	491	Spencer, R.G.	ENVR	105
Sood, P.	COMP	359	Souza, H.S.	CHED	166	Spencer, R.K.	ORGN	606
Sood, P.	ENFL	416	Souza, J.	POLY	425	Spencer, R.K.	ORGN	690
Soong, R.	BIOL	219	Souza, K.	BIOT	339	Spergel, S.	MEDI	315
Soong, R.	INOR	1187	Souza, L.	POLY	154	Spergel, S.H.	MEDI	25
Soong, Y.	GEOC	49	Souza, L.	POLY	461	Spernjak, D.	ENFL	366
Sophanpanichkul, P.	ORGN	103	Souza, M.L.	INOR	1188	Sperry, E.J.	CHED	1596
Sophanpanichkul, P.	ORGN	147	Sowan, N.	POLY	351	Sperry, J.	MEDI	373
Sophocleous, A.	BIOT	719	Sowards, J.	CHED	1659	Sperstad, P.	CHED	1455
Sorauf, K.	CHED	364	Sowers, B.	CHED	1471	Speth, T.	ENVR	97
Sorauf, K.	CHED	1800	Sowers, T.	GEOC	98	Spezzati, G.	CATL	649
Sorauf, K.J.	CHED	356	Sowers, T.	GEOC	257	Spielman-Sun, E.	ENVR	964
Sorella, S.	COMP	234	Sowers, T.	GEOC	288	Spikerman, D.	CHED	431
Sorensen-Stowell, K.C.	CHED	1562	Spackman, P.	ANYL	291	Spikerman, D.	CHED	460
Sorensen-Stowell, K.C.	CHED	1583	Spadoni, D.	MEDI	444	Spikerman, D.	CHED	471
Sorenson, S.A.	PHYS	247	Spadoni, D.A.	CHED	861	Spikerman, D.	CHED	1783
Sorescu, D.	CATL	62	Spadoni, D.A.	CHED	1208	Spikes, H.	COLL	107
Sorial, G.	ENVR	199	Spaeth, A.D.	INOR	265	Spilde, M.	GEOC	229
Soriano, K.	MEDI	207	Spagnuolo, M.	BIOT	226	Spilde, M.	GEOC	354
Sorieul, M.	CELL	270	Spahr, S.	ENVR	475	Spilere, C.	POLY	582
sorkin, A.	COMP	77	Spain, J.C.	ENVR	4	Spillane, K.M.	PHYS	212
Sørllie, M.	CELL	171	Spakowitz, A.	PMSE	115	Spillmann, C.M.	POLY	569
Sorte, E.G.	POLY	119	Spakowitz, A.	PMSE	493	Spilman, P.	BIOT	689
Sortedahl, N.	COLL	418	Spalding, K.L.	ANYL	23	Spinella, S.	CELL	393
Sosa Cintron, N.N.	CHED	1327	Spang, E.	AGFD	190	Spink, S.	PMSE	112
Sosa Vazquez, X.	COMP	251	Spangler, J.	MEDI	350	Spirik, K.	CHED	718
Sosa Vazquez, X.A.	PHYS	501	Spangler, J.	ORGN	451	Spiriti, J.M.	COMP	443
Sosa, C.	PMSE	80	Spangler, L.	INOR	693	Spirk, S.	CELL	255
Sosonkina, M.	COMP	495	Spaniol, T.P.	INOR	1184	Spirk, S.	CELL	422
Sostarecz, A.	COLL	255	Spano, F.C.	INOR	704	Spirk, S.	CELL	471
Sostarecz, A.	MEDI	78	Spanogiannopoulos, P.	BIOL	355	Spirk, S.	CELL	525
Sostarecz, A.	MEDI	160	Spargo, H.	ORGN	823	Spitale, R.	BIOL	1
Sostarecz, A.	MEDI	161	Sparks, D.L.	GEOC	27	Spitz, R.	ENVR	507
Sotero, J.	BIOT	581	Sparks, D.L.	GEOC	29	Spitzer, D.	PMSE	571
Soto Alvarez, R.E.	CHED	395	Sparks, D.L.	GEOC	257	Spivey, J.J.	ENFL	133
Soto Bonilla, D.	CHED	974	Sparks, D.L.	GEOC	288	Spivey, J.J.	ENFL	135
Soto Perez, J.J.	CHED	502	Sparks, D.L.	GEOC	290	Splan, K.E.	INOR	239
Soto, N.M.	CHED	329	Sparks, J.	CHED	1225	Splan, K.E.	INOR	518
Sotos, J.G.	CPRC	8	Sparks, J.	CHED	1701	Spokoyny, A.M.	INOR	384
Sottos, N.R.	POLY	549	Sparks, J.R.	CHED	1636	Spokoyny, A.M.	INOR	680
Sottos, N.R.	POLY	611	Sparks, T.D.	ENFL	35	Spokoyny, A.M.	INOR	702
Sotzing, G.A.	PMSE	400	Spata, V.A.	PHYS	465	Spokoyny, A.M.	INOR	1151
Sotzing, G.A.	PMSE	411	Spear, J.	ENVR	672	Spokoyny, A.M.	INOR	1341
Sotzing, G.A.	PMSE	437	Specht, K.M.	CHED	578	Spokoyny, A.M.	INOR	1537
Sotzing, G.A.	POLY	150	Specht, K.M.	CHED	672	Sponsler, M.B.	PHYS	385
Sotzing, G.A.	POLY	218	Specht, R.	BIOT	135	Sponsler, N.	ENVR	364
Sotzing, G.A.	POLY	269	Specht, S.	COMP	226	Spontak, R.J.	PMSE	690
Sotzing, G.A.	POLY	353	Speckhard, D.C.	CHED	586	Spontak, R.J.	PMSE	698
Sotzing, G.A.	PMSE	192	Speckhard, D.C.	CHED	620	Spontak, R.J.	POLY	338
Sotzing, G.A.	PMSE	472	Speckhard, D.C.	CHED	730	Spormann, A.	ANYL	126
Sotzing, G.A.	POLY	101	Spector, T.I.	HIST	20	Spormann, A.	ENFL	174
Soubias, O.	COLL	530	Speelman, A.	INOR	243	Spradlin, C.	SOCED	4
Souček, J.	CARB	72	Speerstra, H.	CHED	833	Spradlin, S.	BIOL	89
Soucy, S.	MEDI	316	Speetzen, E.D.	CHED	1491	Spradlin, S.	CHED	1866
Soucy, T.	INOR	1032	Speetzen, E.D.	INOR	1097	Sprague, E.	MEDI	464
Souder, S.A.	ORGN	234	Spehar, J.M.	CHED	1492	Sprenger, K.	BIOT	214
Sougrati, M.	ENFL	115	Speight, P.	CHED	510	Sprenger, K.	COMP	239

Sprick, R.	CATL	262	Stacy, A.	CHED	180	Stanley, C.B.	COLL	699
Spring, B.Q.	PMSE	516	Stacy, A.	CHED	812	Stanley, C.B.	PHYS	384
Spring, D.R.	MEDI	266	Stacy, E.	POLY	237	Stanley, D.	PMSE	419
Spring, D.R.	MEDI	296	Stadelman, B.	CHED	1075	Stanley, G.G.	INOR	1095
Spring, S.	CHED	1209	Stadelman, B.	INOR	825	Stanley, J.L.	ORGN	547
Spring, S.	MEDI	172	Stadler, S.	INOR	410	Stanley, L.M.	CHED	2035
Spring, S.	MEDI	182	Stadnytskyi, V.	PHYS	206	Stanley, L.M.	ENFL	441
Sprouse, D.	POLY	146	Stadnytskyi, V.	PHYS	336	Stanley, L.M.	ORGN	370
Sprowl, L.H.	CATL	548	Stafford, C.M.	POLY	273	Stanley, N.	COMP	452
Spruijt, E.	COLL	410	Stafford, D.C.	MEDI	19	Stanley, N.	COMP	475
Spurgeon, S.	GEOC	312	Stafford, G.	ANYL	283	Stanley, N.	PHYS	169
Spurgus, N.W.	CHED	795	Stafford, V.	CHED	444	Stanley, S.	INOR	623
Spurlock, A.D.	CHED	2178	Stafslie, S.	PMSE	474	Stanley, T.	CHED	1404
Spurzem, G.	CHED	49	Stagg, M.	BIOL	250	Stannowski, B.	ENFL	58
Spycher, N.	ENVR	907	Stahl, R.	CHED	1227	Stansell, J.	BIOL	107
Spyker, A.R.	INOR	978	Stahl, R.S.	ANYL	81	Stanton, A.	PMSE	692
Spyriouni, T.	CINF	2	Stahl, S.S.	INOR	601	Stanton, G.	CHED	1490
Squiggins, K.	CHED	1765	Stahl, S.S.	ORGN	394	Stanzione, J.F.	CATL	235
Squires, T.	COLL	425	Staiger, C.J.	CELL	231	Stanzione, J.F.	CELL	268
Squitieri, R.	ORGN	85	Stains, C.I.	BIOL	32	Staples, O.	CHED	1048
Sramala, I.	AGFD	259	Stains, C.I.	BIOL	101	Staples, O.	INOR	1248
Sredojevic, D.	CATL	392	Stains, C.I.	BIOL	111	Staples, R.J.	INOR	850
Sreenilayam, B.M.	BIOL	263	Stains, C.I.	BIOL	175	Staples, R.J.	INOR	851
Sreerama, L.	INOR	740	Stains, C.I.	BIOL	251	Stapleton, D.	CHED	1026
Sreeskandarajan, S.	BIOL	162	Stains, C.I.	BIOL	347	Stapleton, D.	CHED	1193
Sridhar, A.	PMSE	691	Stains, M.N.	CHED	176	Stapleton, D.	I&E	16
Sridhar, J.	CHED	324	Stains, M.N.	CHED	2076	Starace, A.	ENFL	290
Sridhar, J.	CHED	549	Stains, M.N.	CHED	2080	Starace, A.	ENFL	291
Sridhar, J.	CHED	1233	Stains, M.N.	CHED	2106	Starbird, R.	CELL	45
Sridhar, J.	MEDI	202	Stair, P.C.	CATL	79	Stark, M.	CATL	414
Sridhar, J.	MEDI	444	Stair, P.C.	COLL	101	Stark, N.	CELL	518
Sridhar, J.	MEDI	445	Stair, P.C.	ENFL	90	Stark, R.E.	AGFD	246
Sridhar, J.	ORGN	199	Stair, P.C.	INOR	569	Stark, T.D.	AGFD	18
Srihari, A.	PHYS	164	Stair, P.C.	INOR	571	Stark, T.D.	AGFD	254
Srinivasan, R.	CHED	1234	Stake, J.	PHYS	128	Starks, O.E.	CHED	1408
Srinivasan, R.	ENVR	145	Stålbrand, H.	CELL	44	Starovoytov, O.N.	PHYS	346
Srinivasan, R.R.	CHED	170	Stalder, M.	BIOT	283	Starovoytov, O.N.	PHYS	517
Srinivasan, S.	CHED	185	Stallings, D.	PROF	52	Starr, J.	MEDI	475
Srinivasan, S.	CHED	2105	Stallings, D.	PROF	53	Stasiw, D.E.	INOR	262
Srinivasulu, V.	ORGN	92	Stalzer, M.	CATL	571	Stasiw, D.E.	INOR	1465
Srivastava, P.S.	COMP	519	Stamatakis, M.	CATL	210	Stasko, D.	CHED	1768
Srivastava, R.	BIOT	515	Stamatakis, M.	CATL	619	Stateler, P.	CHED	687
Srivastava, R.	BIOT	585	Stamatatos, T.	INOR	510	Stathis, A.	ENVR	599
Srivastava, R.	MEDI	502	Stamate, E.	CATL	102	Staton, J.	COLL	558
Srivastava, R.	MEDI	502	Stamatelatos, D.	ENVR	1019	Stauch, C.	COLL	775
Srivastava, S.	COLL	411	Stambulyan, H.	ORGN	721	Stauffacher, C.	ORGN	512
Srivastava, S.	CHED	1504	Stamenkovic, V.	CATL	26	Stauffacher, C.V.	CELL	192
Srivastava, V.	COLL	525	Stamenkovic, V.	ENFL	327	Stauring, L.R.	CHED	497
Srnec, M.N.	CHED	1955	Stammler, H.	MEDI	407	Staveness, D.	ORGN	213
St Angelo, S.K.	INOR	427	Stamoulis, A.	CHED	1530	Staveness, D.	ORGN	440
St. Ange, K.	BIOT	392	Stamp, N.	CHED	1965	Staver, J.	PMSE	440
St. Jeor, J.D.	CHED	395	Stams, T.	MEDI	305	Stavila, V.	INOR	1530
St. John, R.	BIOT	134	Stan, G.	COMP	330	Stavila, V.	INOR	1534
St. Onge, R.	BIOT	180	Stana Kleinschek, K.	CELL	52	Stavitski, E.	CATL	196
Staby, A.	BIOT	81	Stana Kleinschek, K.	CELL	157	Stavitski, E.	ENFL	14
Staby, A.	BIOT	395	Stana Kleinschek, K.	CELL	419	Stavretis, S.	INOR	1233
Stacchiola, D.J.	CATL	188	Stana Kleinschek, K.	CELL	428	Stavretis, S.	INOR	1237
Stacchiola, D.J.	CATL	211	Stana Kleinschek, K.	CELL	454	Stavretis, S.E.	INOR	714
Stacchiola, D.J.	CATL	540	Stana Kleinschek, K.	CELL	473	Stavros, A.J.	CHED	459
Stacchiola, D.J.	CATL	563	Stana Kleinschek, K.	CELL	480	Stavros, V.	PHYS	64
Stacchiola, D.J.	CATL	583	Stana Kleinschek, K.	CELL	481	Stavrou, E.	NUCL	155
Stace, J.J.	CHED	1059	Stana Kleinschek, K.	CELL	510	Stawinoga, M.	ENVR	656
Stacey, J.	COMP	504	Stana, J.	CELL	419	Staykova, M.	COLL	625
Stacey, M.	HIST	28	Stanbury, M.	CHED	1099	Stebbins, A.H.	CHED	783
Stach, C.	BIOT	488	Stancik, C.M.	AGFD	215	Stebe, K.J.	COLL	123
Stach, E.	CATL	1	Standaert, R.F.	COLL	699	Stebe, K.J.	PMSE	129
Stach, E.	CATL	34	Standlee, M.	MEDI	478	Stec, G.J.	CHED	314
Stach, E.	CATL	145	Standlee, M.	MEDI	479	Stec, J.	ORGN	88
Stach, E.	CATL	322	Stanford, B.D.	ENVR	98	Steckhahn, D.	CATL	193
Stach, E.	CATL	511	Stanford, B.D.	ENVR	261	Stedman, A.	CHED	942
Stachowiak, J.	COLL	382	Stanford, C.	CHED	2154	Steeber, D.A.	MEDI	19
Stachowiak, J.C.	COLL	377	Stanford, C.	CHED	68	Steeffel, C.	GEOC	11
Stachura, S.M.	MEDI	25	Stanford, J.	CELL	521	Steeffel, C.	GEOC	17
Stack, A.G.	GEOC	43	Stanford, S.	CHED	331	Steeffel, C.	GEOC	45
Stack, A.G.	GEOC	137	Stanford, W.	PMSE	637	Steeffel, C.	GEOC	138
Stack, A.G.	GEOC	190	Stangeby, P.	NUCL	142	Steel, P.G.	ORGN	431
Stack, A.G.	GEOC	193	Stangl, P.	CHED	585	Steele, A.	BIOT	281
Stack, A.G.	GEOC	194	Stanhope, K.	AGFD	209	Steele, A.	GEOC	104
Stack, A.G.	GEOC	208	Staniforth, M.	PHYS	64	Steele, C.	CHED	386
Stack, T.P.	INOR	630	Stanitski, C.L.	CINF	100	Steele, J.L.	INOR	1250

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Steele, S.W.	CHED	1708	Stemmler, E.A.	CHED	501	Stevens, E.	ORGN	199
Steele, T.	CHED	671	Stemmler, E.A.	CHED	510	Stevens, J.	BIOT	175
Steelman, K.L.	ANYL	21	Stemmler, E.A.	ENFL	387	Stevens, J.F.	AGFD	203
Steelman, K.L.	CHED	400	Stemp, E.	AGFD	111	Stevens, K.	MEDI	340
Steelman, K.L.	CHED	1880	Stemp, E.	CHED	562	Stevens, K.G.	ORGN	201
Steen, A.	CHED	1719	Stemp, E.	CHED	645	Stevens, M.	COLL	416
Steen, A.D.	GEOC	217	Stemp, E.	CHED	691	Stevens, M.	PHYS	310
Steen, A.E.	PHYS	514	Stemp, E.	CHED	702	Stevens, M.	PMSE	625
Steen, C.	CHED	1661	Stemp, E.	CHED	743	Stevens, M.D.	ORGN	872
Steen, C.	COLL	427	Stemp, E.	CHED	1001	Stevens, M.L.	INOR	239
Steenberge, L.	BIOL	261	Stempel, Z.D.	ORGN	782	Stevens, R.	BIOT	334
Steeves, T.M.	COLL	310	Stengler, E.	CPRC	10	Stevens, T.	INOR	1220
Stefan, M.C.	CHED	1745	Stenken, J.A.	ANYL	142	Stevenson, A.	CHED	729
Stefan, M.C.	ORGN	862	Stenken, J.A.	ANYL	177	Stevenson, B.	NUCL	139
Stefan, M.C.	POLY	148	Stenken, J.A.	CHED	382	Stevenson, J.W.	CATL	172
Stefan, M.C.	POLY	221	Stennette, K.	CHED	162	Stevenson, K.J.	ANYL	6
Stefan, M.C.	POLY	636	Stenou, N.	ENFL	249	Stevenson, K.J.	ANYL	241
Stefan, M.C.	SOCED	1	Stenqvist, B.	CELL	516	Stevenson, L.E.	COLL	260
Štefane, B.	ORGN	106	Stenstrom, M.	ENVR	422	Stevenson, M.	INOR	942
Stefanov, I.S.	CELL	385	Stenstrom, M.K.	ENVR	341	Stevenson, M.J.	INOR	180
Stefanov, I.S.	COLL	343	Stenzel, M.H.	COLL	434	Stevenson, N.	ORGN	273
Steffek, M.	ANYL	223	Stepacheva, A.	ENFL	111	Stevenson, P.	ENVR	382
Steffen, M.	POLY	458	Stepacheva, A.	ENFL	332	Stevenson, P.R.	COLL	231
Steffensen, M.B.	CHED	1561	Stepan, A.F.	MEDI	361	Steves, J.	INOR	1180
Stefik, M.	COLL	857	Stepanek, F.	BIOT	504	Steves, M.A.	CHED	1694
Stefik, M.	ENFL	56	Stepanenko, V.	POLY	251	Stewart, A.	MEDI	350
Stefik, M.	POLY	149	Stepanenko, V.	POLY	444	Stewart, A.	CATL	457
Stefik, M.	POLY	481	Stepanenko, V.	POLY	571	Stewart, A.	ENVR	130
Stefik, M.	POLY	621	Stephan, C.	ENVR	545	Stewart, A.	AGFD	258
Stegemeier, J.P.	ENVR	218	Stephan, C.	CHED	1652	Stewart, A.	BIOL	36
Steger, S.	CHED	1046	Stephan, C.	ENVR	623	Stewart, A.	BIOL	302
Steichen, S.	BIOT	687	Stephan, J.T.	INOR	139	Stewart, A.	CHED	527
Steiert, E.	PMSE	424	Stephan, J.T.	INOR	370	Stewart, B.	ANYL	53
Steigerwald, M.L.	INOR	1462	Stephan, J.T.	INOR	371	Stewart, C.	CHED	1278
Steigerwald, M.L.	PHYS	298	Stephani, R.	MEDI	234	Stewart, C.	CHED	1287
Stein, A.	BIOT	456	Stephanopoulos, G.	BIOT	27	Stewart, D.	AGFD	200
Stein, A.	ENFL	230	Stephanopoulos, G.	BIOT	589	Stewart, J.	BIOT	220
Stein, A.	ENFL	271	Stephanopoulos, N.	POLY	522	Stewart, J.L.	CHED	245
Stein, A.	INOR	208	Stephen, M.R.	MEDI	19	Stewart, J.L.	INOR	221
Stein, B.	CATL	80	Stephens, I.	CATL	24	Stewart, K.A.	INOR	458
Stein, B.	ENFL	335	Stephens, J.	CHED	1856	Stewart, K.A.	CHED	97
Stein, B.	ANYL	286	Stephenson, C.	INOR	379	Stewart, M.	COLL	573
Stein, B.W.	NUCL	13	Stephenson, C.	FLUO	36	Stewart, P.	POLY	411
Stein, C.J.	COMP	341	Stephenson, C.	INOR	404	Stewart, R.	PHYS	555
Stein, D.J.	COMP	92	Stephenson, C.	INOR	1183	Stewart, R.	COLL	112
Stein, F.	INOR	1247	Stephenson, C.	ORGN	210	Stewart, R.	POLY	289
Stein, H.	ENVR	518	Stephenson, C.	ORGN	213	Stewart, T.	GEOC	9
Stein, R.	COMP	356	Stephenson, C.	ORGN	323	Steyn, S.J.	MEDI	361
Stein, R.M.	COMP	21	Stephenson, C.	ORGN	327	Stich, T.A.	INOR	1297
Stein, T.	PHYS	234	Stephenson, C.	ORGN	381	Stieglitz, J.T.	BIOT	190
Stein, T.	PHYS	235	Stephenson, C.	ORGN	391	Stiegman, A.E.	CATL	58
Steinauer, A.	BIOL	353	Stephenson, C.	ORGN	440	Stiegman, A.E.	ORGN	714
Steinberg, D.	ORGN	223	Stephenson, C.	ORGN	485	Stiegman, A.E.	PMSE	220
Steiner, L.R.	CHED	1748	Stephenson, C.	ORGN	896	Stievano, L.	ENFL	115
Steiner, M.	CATL	557	Stephenson, C.	ORGN	924	Stiff, C.M.	MEDI	361
Steiner, R.A.	INOR	947	Stephenson, S.	CHED	1173	Stiff, L.	CHED	612
Steinhardt, R.C.	BIOT	400	Steppert, P.	BIOT	596	Stiglbauer, B.	AGFD	18
Steinhardt, R.C.	COLL	310	Sterbinsky, G.	ENVR	482	Stillinger, F.	PHYS	137
Steinhardt, R.C.	PMSE	693	Sterckx, Y.	BIOT	212	Stillway, M.	ENVR	869
Steinhart, M.	COLL	148	Stergar, J.	CELL	419	Stilts, C.E.	CHED	167
Steinhuebel, D.	ORGN	372	Sterle, J.	GEOC	260	Stilts, C.E.	CHED	553
Steinly, S.	ENVR	720	Stern, J.	ENVR	1648	Stilts, C.E.	CHED	1477
Steinmann, S.	CATL	187	Stern, L.	BIOT	56	Stimple, S.D.	BIOT	203
Steinmann, S.	COMP	125	Stern, L.A.	ANYL	358	Stimple, S.D.	BIOT	483
Steinmann, S.	COMP	532	Stern, M.	CHED	1409	Stingel, A.M.	ANYL	298
Steinmann, S.N.	CATL	229	Stern, M.	GEOC	51	Stinnett, G.	COLL	333
Steinmann, S.N.	COMP	466	Stern, S.	PHYS	191	Stinville, J.	INOR	1080
Steinmetz, M.G.	ORGN	887	Sternberg, P.	BIOL	295	Stipp, S.	GEOC	188
Steinmetz, N.	BIOT	683	Stetsko, P.	MEDI	18	Stipp, S.	GEOC	334
Steinmetz, N.	POLY	411	Steussy, C.	CELL	192	Stirchak, L.T.	ENVR	941
Steinmiller, E.	CHED	1088	Stevanic Srdovi, J.	CELL	194	Stitzel, S.E.	CHED	340
Steirer, K.X.	INOR	1343	Stevanic Srdovi, J.	CELL	239	Stivers, P.	MEDI	112
Stellacci, F.	COLL	603	Stevanovic, V.	COMP	524	Stochl, I.	CHED	1311
Stellacci, F.	POLY	581	Stevens, B.	ANYL	224	Stockdale, A.	BIOT	78
Stelmacovich, G.S.	CHED	1839	Stevens, C.	ORGN	199	Stockdale, A.	ENVR	348
Stelzer, F.	CELL	255	Stevens, C.	CHED	1074	Stockdill, J.L.	CHED	1873
Stelzer, F.	CELL	471	Stevens, C.	INOR	523	Stockman, B.J.	CHED	34
Stemig, A.M.	GEOC	206	Stevens, D.	MEDI	117	Stockman, B.J.	MEDI	121
Stemmer, P.	COLL	29	Stevens, D.	ENVR	131	Stocks, M.J.	MEDI	56

Stocks, M.J.	MEDI	118	Stout, L.M.	GEOC	236	Streisel, D.J.	CHED	1141
Stoddart, F.	ORGN	640	Stout, M.	MEDI	462	Streu, C.	CHED	1146
Stoddart, J.F.	POLY	533	Stouten, P.	MEDI	347	Streu, C.	CHED	1191
Stodolka, M.	CHED	1389	Stow, C.	CHED	1538	Streu, C.	CHED	1194
Stoekman, A.K.	CHED	50	Stow, C.	CHED	1811	Streu, C.	CHED	1204
Stoekman, A.K.	CHED	257	Stowe, J.	COMP	33	Streu, C.	CHED	1387
Stoekman, A.K.	CHED	585	Stowell, S.	CHED	44	Streu, C.	CHED	1205
Stoekman, A.K.	CHED	736	Stowers, C.	ENVR	1034	Streu, K.	ANYL	413
Stoehr, M.	COLL	479	Stowers, K.J.	CATL	63	Strickland, J.	ENVR	1009
Stoehr, M.	COLL	480	Stowers, K.J.	CATL	304	Strickland, S.M.	ORGN	580
Stoehr, M.	COLL	553	Stowers, K.J.	CATL	305	Strickler, A.	INOR	1517
Stoehr, M.	ORGN	563	Stowers, K.J.	CATL	314	Strickler, A.L.	CATL	24
Stoehr, M.	ORGN	678	Stowers, K.J.	CATL	396	Strickler, A.L.	CATL	126
Stoerzinger, K.	CATL	446	Stoxen, W.	NUCL	99	Strickler, J.	CHED	476
Stoesz, D.	CHED	684	Stoxen, W.	NUCL	165	Striegel, A.M.	CELL	485
Stojanovic, M.	ANYL	32	Stoyanov, P.	COLL	29	Stringfellow, W.	ENVR	907
Stojanovic, M.	COLL	215	Stoyanov, S.D.	COLL	710	Strini, A.	ENVR	435
Stojek, Z.	COLL	562	Stoyanovich, C.	CHED	264	Stripe, B.	ANYL	479
Stojkovic, V.	BIOL	7	Stoyer, M.A.	NUCL	3	Strnad, J.	MEDI	315
Stokes, B.J.	ORGN	333	Stoyer, M.A.	NUCL	124	Strobel, S.A.	CHED	246
Stokes, B.J.	ORGN	405	St-Pierre, P.	AGFD	24	Ströhlein, G.	BIOT	212
Stokes, B.J.	ORGN	426	Strain, J.	PHYS	369	Ströhlein, G.	BIOT	420
Stokes, B.J.	ORGN	595	Strain, J.	PHYS	553	Strollo, C.M.	CHED	910
Stokes, B.J.	ORGN	893	Straker, R.	ENFL	298	Strollo, C.M.	CHED	956
Stokes, C.	MEDI	67	Strand, M.T.	ENFL	89	Ström, A.	CELL	118
Stokes, C.	MEDI	410	Strandwitz, N.	COLL	748	Ström, A.	CELL	381
Stokes, D.	ENVR	742	Straney, P.	PHYS	207	Stromberg, C.J.	CHED	128
Stokes, G.Y.	CHED	317	Strange, G.	POLY	502	Stromberg, C.J.	CHED	137
Stokes, G.Y.	CHED	530	Strange, N.	CATL	564	Stromberg, C.J.	CHED	2032
Stokes, G.Y.	COLL	3	Strange, N.A.	COLL	484	Stromberg, C.J.	INOR	1471
Stokes, G.Y.	COLL	247	Strange, S.	BIOL	277	Strong, D.J.	CHED	1021
Stokes, L.C.	ENVR	478	Strange, S.	BIOL	316	Strong, J.	ORGN	791
Stokich, T.	PMSE	610	Strange, S.	MEDI	69	Strong, R.K.	INOR	1387
Stoliker, D.	ENVR	268	Strange, S.	MEDI	434	Strongin, D.R.	CATL	121
Stoll, S.	PMSE	585	Strangman, W.K.	ENVR	130	Strongin, D.R.	COLL	714
Stoll, S.L.	INOR	37	Stransky, N.	MEDI	351	Stroud, R.M.	ANYL	406
Stoll, S.L.	INOR	1524	Strasser, A.	MEDI	31	Strouse, G.F.	COLL	665
Stoll, S.L.	INOR	1565	Strasser, D.J.	POLY	364	Strouse, G.F.	COLL	666
Stollenz, M.	CHED	1131	Strasser, J.M.	BIOL	320	Strouse, G.F.	INOR	34
Stoltz, B.M.	ORGN	280	Strassert, C.	INOR	939	Strouse, J.M.	POLY	372
Stoltz, B.M.	ORGN	723	Strassner, T.	INOR	996	Strowbridge, M.	ORGN	558
Stone, A.	CHED	1122	Strassner, T.	INOR	1298	Strull, J.	CHAS	10
Stone, A.	CHED	1679	Strassner, T.	INOR	1300	Strumolo, M.	CHED	771
Stone, A.L.	CATL	115	Strassner, T.	INOR	1302	Strunk, J.	CATL	555
Stone, A.T.	ENVR	12	Strassner, T.	ORGN	453	Struss, J.A.	CHED	1823
Stone, E.A.	CHED	319	Strathmann, T.J.	ENVR	40	Strych, U.	ANYL	306
Stone, E.M.	CHED	194	Strathmann, T.J.	ENVR	82	Strych, U.	BIOT	300
Stone, E.M.	CHED	2068	Strathmann, T.J.	ENVR	949	Strynar, M.	ENVR	136
Stone, K.	AGFD	65	Stratis-Cullum, D.N.	BIOT	215	Strynar, M.	ENVR	536
Stone, K.	CHED	217	Stratis-Cullum, D.N.	BIOT	440	Stuart, A.	FLUO	29
Stone, K.L.	CHED	2193	Stratt, R.M.	PHYS	106	Stuart, B.	ENFL	382
Stone, K.L.	INOR	237	Stratt, R.M.	PHYS	184	Stuart, B.	ENFL	383
Stone, K.L.	INOR	240	Stratton, L.M.	CATL	163	Stuart, D.R.	ORGN	910
Stone, M.	BIOT	692	Straub, C.	BIOT	654	Stuart, M.C.	PMSE	149
Stone, M.P.	CHED	1635	Straub, C.	MEDI	366	Stuart, N.M.	PHYS	425
Stone, S.	BIOT	467	Straub, C.	MEDI	464	Stuart, R.	CHAS	1
Stone, W.W.	ENVR	551	Straub, M.	INOR	92	Stuart, R.	CHAS	30
Stone, W.W.	ENVR	897	Straub, M.	INOR	1137	Stuart, R.	CHAS	34
Stone-Hunter, K.	ENVR	854	Straub, M.	INOR	1482	Stuart, R.	CHED	2147
Stonor, M.	ENFL	426	Straus, D.	INOR	35	Stuart, R.	CINF	74
Stopic, A.	ANYL	362	Straus, D.	PHYS	386	Stuart, S.	COMP	136
Stopic, A.	NUCL	123	Strauss, C.E.	ORGN	352	Stubb, N.	BIOL	264
Stopler, E.B.	CHED	1386	Strauss, D.	BIOT	210	Stubbins, A.	ENVR	31
Storey, R.F.	POLY	463	Strauss, D.	BIOT	265	Stubbs, J.	ENVR	665
Stork, C.	ANYL	328	Strauss, D.	BIOT	435	Stubbs, J.	GEOC	33
Storksdieck, M.	PROF	37	Strauss, M.J.	CHED	1401	Stubbs, J.	GEOC	34
Storlie, M.D.	INOR	139	Strauss, M.J.	CHED	1593	Stubbs, J.	GEOC	68
Storlie, M.D.	INOR	239	Strauss, M.J.	CHED	1708	Stubbs, J.	GEOC	162
Storlie, M.D.	INOR	370	Strauss, S.H.	FLUO	16	Stubbs, J.	GEOC	193
Storlie, M.D.	INOR	371	Strauss, S.H.	ORGN	866	Stubbs, J.M.	CHED	848
Storz, T.	ORGN	341	Straw, M.	COLL	589	Stubbs, J.M.	CHED	1682
Stothard, A.	CARB	64	Strawhecker, K.E.	PMSE	273	Stubbs, J.M.	COMP	296
Stothers, T.	CHED	1799	Strayer, M.	NUCL	88	Stubbs, J.M.	PHYS	537
Stoumpos, C.	INOR	1105	Streb, C.	CHED	1167	Stuckey, J.	GEOC	257
Stoumpos, C.	INOR	1108	Streeter, M.	BIOL	138	Stuckey, J.	GEOC	288
Stoumpos, C.	INOR	1109	Streets, D.G.	ENVR	478	Stuckey, J.	MEDI	236
Stout, D.	ORGN	796	Strehlau, J.H.	GEOC	206	Stuckey, J.	MEDI	243
Stout, D.	ORGN	797	Streifel, B.	PMSE	694	Stuckey, J.	MEDI	377
Stout, D.	ORGN	883	Streifel, B.	POLY	43	Stucky, G.D.	INOR	47
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Studt, F.	CATL	166	Subramaniam, S.	COMP	24	Sul, S.	INOR	1026
Studt, F.	COMP	43	Subramanian, B.	ENVR	380	Sulbaran, B.C.	CELL	43
Studs, J.	BIOT	124	Subramanian, G.	POLY	477	Sulca, C.	INOR	241
Studwell, S.	CINF	110	Subramanian, H.	ORGN	80	Sulcer, S.	CHED	1582
Stueckler, F.	BIOT	13	Subramanian, H.	ORGN	127	Sulea, T.	BIOT	172
Stueckler, F.	BIOT	696	Subramanian, L.	CATL	14	Sulg, M.	CELL	138
Stuffle, E.	CHED	1278	Subramanian, L.	CINF	2	Sulicz, A.N.	INOR	1303
Stuffle, E.	CHED	1287	Subramanian, L.	CINF	25	Sulikowski, G.A.	ORGN	841
Stum, D.	CHED	1604	Subramanian, L.	COMP	189	Sulimoff, N.	ORGN	532
Stumpfe, D.	MEDI	426	Subramanian, L.	ENFL	248	Sulkanen, A.	CELL	74
Stupar, K.	CHED	1181	Subramanian, S.	COLL	554	Sullen, C.	MEDI	184
Stupp, S.I.	PMSE	626	Subramanian, S.	INOR	784	Sullivan, A.	GEOC	345
Sturchio, N.C.	GEOC	145	Subramanian, S.	ENVR	164	Sullivan, A.	AGFD	159
Sturchio, N.C.	GEOC	332	Subramanyam, C.	MEDI	361	Sullivan, A.F.	CHED	635
Sturdevant, J.	CHED	1511	Subramony, A.	BIOT	607	Sullivan, A.F.	CHED	1778
Sturgeon, B.E.	CHED	1230	Subrati, M.	COLL	842	Sullivan, A.F.	CHED	1816
Sturges, D.	AGFD	202	Such, G.K.	PMSE	520	Sullivan, D.	ANYL	229
Sturm, H.	CHED	1089	Sucheck, S.J.	MEDI	400	Sullivan, D.L.	CHED	410
Stürzel, M.	PMSE	370	Sucheck, S.J.	ORGN	349	Sullivan, J.	ENVR	711
Stutzman, P.E.	GEOC	292	Suchewski, M.	CHED	1116	Sullivan, M.	SOCED	4
Stutzmann, M.	COLL	642	Suchorski, Y.	COLL	21	Sullivan, M.O.	BIOT	706
Stuve, E.	CATL	173	Suchyta, D.J.	PMSE	600	Sullivan, M.O.	POLY	147
Styler, S.A.	ANYL	384	Suchyta, D.J.	POLY	39	Sullivan, P.	GEOC	202
Styler, S.A.	ENVR	605	Sudduth, M.	CHED	635	Sullivan, P.	GEOC	203
Su, B.	COMP	351	Sudo, Y.	COLL	533	Sullivan, S.	CHED	567
Su, C.	MEDI	349	Sudol, P.E.	CHED	340	Sullivan, S.	CHED	649
Su, C.	ANYL	94	Sudowe, R.	NUCL	51	Sulman, E.	ENFL	94
Su, D.	CATL	34	Sudre, G.	CELL	496	Sulman, E.	ENFL	111
Su, D.	CATL	322	Sudyn, A.W.	INOR	683	Sulman, E.	ENFL	332
Su, H.	CATL	584	Sudyn, A.W.	PMSE	113	Sulman, E.	PMSE	335
Su, J.	POLY	242	Sudyn, A.W.	POLY	538	Sulman, M.	CATL	80
Su, J.	POLY	536	Sue, K.	ANYL	89	Sulman, M.	ENFL	94
Su, J.	ORGN	83	Suebsuwong, C.	MEDI	257	Sulman, M.	ENFL	111
Su, J.	INOR	1213	Suebsuwong, C.	MEDI	312	Sulthana, S.	PMSE	496
Su, J.	NUCL	21	Suescun, L.	INOR	1119	Sulthana, S.	PMSE	505
Su, J.	NUCL	45	Suess, D.	INOR	181	Sum, C.	MEDI	41
Su, L.	PMSE	598	Suffet, I.H.	ENVR	17	Sum, C.	MEDI	42
Su, L.	PMSE	695	Suffet, I.H.	ENVR	19	Suman, S.G.	INOR	1368
Su, L.	POLY	598	Suffet, I.H.	ENVR	20	Sumby, C.	ENFL	254
Su, M.	CHED	817	Suffet, I.H.	ENVR	21	Sumerlin, B.S.	POLY	130
Su, M.	CHED	1268	Suffet, I.H.	ENVR	23	Sumerlin, B.S.	POLY	320
Su, M.	CHED	1316	Suffet, I.H.	ENVR	342	Summers, C.	CHED	1517
Su, M.	CHED	1317	Suffet, I.H.	ENVR	415	Summers, M.	BIOL	54
Su, M.	CHED	1332	Suffet, I.H.	ENVR	422	Summers, R.S.	ENVR	94
Su, M.	CHED	1334	Suffet, I.H.	ENVR	429	Summers, R.S.	ENVR	180
Su, P.	BIOL	244	Sugimura, K.	CELL	267	Summers, R.S.	ENVR	261
Su, Q.	BIOT	154	Sugita, Y.	COMP	265	Summers, R.S.	ENVR	98
Su, Q.	CHED	1598	Sugiyama, J.	CELL	365	Summers, T.J.	COMP	490
Su, W.	COLL	784	Sugiyama, Y.	INOR	1040	Sumner, A.J.	GEOC	298
Su, X.	ENVR	389	Sugnaux, C.	COLL	298	Sumner, C.	CATL	564
Su, X.	ENVR	1026	Suh, D.	PHYS	478	Sumner, H.	CHED	572
Su, X.	INOR	1410	Suh, D.	I&EC	125	Sumpster, B.	COLL	624
Su, Y.	AGFD	262	Suh, H.	ENFL	215	Sun, A.	INOR	404
Su, Y.	CATL	649	Suh, J.	AGFD	180	Sun, A.	ORGN	210
Su, Y.	AGFD	213	Suh, M.P.	INOR	1507	Sun, A.	ORGN	327
Su, Y.	ENVR	302	Suh, S.	ORGN	517	Sun, B.	PHYS	418
Su, Y.	ORGN	420	Suh, Y.	INOR	1046	Sun, B.	PHYS	468
Su, Y.	ENVR	394	Suh, Y.	MEDI	208	Sun, B.	PHYS	500
Su, Y.	ENFL	105	Suh, Y.	COLL	801	Sun, C.	INOR	1250
Su, Y.	ENVR	826	Suhaimi, A.	ENVR	158	Sun, C.	BIOL	248
Su, Z.	PMSE	145	Sui, K.	CELL	509	Sun, C.	COMP	207
Su, Z.	PMSE	197	Suib, S.L.	CATL	172	Sun, C.	CATL	366
Suarez Moreno, O.E.	CELL	348	Suib, S.L.	ENVR	142	Sun, D.	INOR	690
Suarez Sandoval, J.	COLL	303	Suib, S.L.	ENVR	906	Sun, D.	BIOL	190
Suarez, A.	CELL	59	Suib, S.L.	INOR	887	Sun, D.	MEDI	265
Suarez, A.	ENVR	594	Suiter, K.M.	CHED	1510	Sun, D.Z.	MEDI	21
Suarez, C.	POLY	518	Suiter, K.M.	CHED	1805	Sun, D.Z.	MEDI	349
Suarez, J.	CHED	1858	Suitor, K.M.	CHED	1830	Sun, G.	AGFD	157
Suárez, R.	CATL	285	Sujantor, J.	INOR	624	Sun, G.	ANYL	73
Suarez, V.	INOR	251	Sujansky, S.	CHED	1861	Sun, G.	CELL	74
Suasin, R.	CHED	715	Sujansky, S.J.	CHED	499	Sun, G.	CELL	388
Suastegui, M.	BIOT	65	Sukenik, S.	BIOT	108	Sun, G.	CELL	460
Sublett, V.	CHED	20	Sukert, K.	INOR	422	Sun, G.	COLL	307
Subotnik, J.E.	COMP	49	Sukhatme, V.P.	MEDI	53	Sun, G.	PMSE	598
Subotnik, J.E.	PHYS	200	Sukhonosova, E.V.	FLUO	50	Sun, G.	PMSE	695
Subrahmanyam, K.	INOR	1529	Sukhonosova, E.V.	FLUO	51	Sun, H.	POLY	130
Subramaniam, A.B.	COLL	278	Sukhonosova, E.V.	MEDI	48	Sun, H.	ANYL	429
Subramaniam, A.B.	COLL	279	Sukhonosova, E.V.	MEDI	49	Sun, H.	ORGN	186
Subramaniam, A.B.	COLL	384	Sukhonosova, E.V.	MEDI	456	Sun, H.	PMSE	601
Subramaniam, B.	CATL	199	Sukumar, N.	COMP	482	Sun, H.	MEDI	315

Sun, H.	MEDI	339	Sundén, H.	ORGN	301	Suurnäkki, A.	CELL	374
Sun, H.	COLL	674	Sundhagen, S.	CHED	1349	Suvlu, D.	PHYS	30
Sun, I.	PROF	48	Sundhagen, S.	CHED	1883	Suwannasarn, P.	COLL	178
Sun, J.	ENVR	995	Sundman, A.	GEOC	87	Suwantong, O.	PMSE	353
Sun, J.	ENVR	996	Sundquist, N.	COLL	196	Suydam, I.T.	BIOL	65
Sun, J.	AGFD	6	Sundriyal, V.	COMP	495	Suydam, I.T.	MEDI	59
Sun, J.	ENVR	687	Sung, J.	POLY	549	Suzol, S.	ORGN	731
Sun, J.	ENVR	728	Sung, K.	ORGN	800	Suzuki, D.	COLL	694
Sun, J.	COLL	714	Sung, L.	ENVR	309	Suzuki, K.	ENFL	334
Sun, J.	GEOC	250	Sung, L.	PMSE	419	Suzuki, N.	ORGN	222
Sun, J.	ORGN	469	Sung, L.	PMSE	589	Suzuki, R.	MEDI	449
Sun, K.	ENFL	54	Sung, M.	GEOC	245	Suzuki, S.	CELL	86
Sun, L.	ENFL	260	Sung, M.M.	INOR	1165	Suzuki, Y.	POLY	562
Sun, L.	PHYS	72	Sung, R.	ORGN	800	Svagan, A.	CELL	439
Sun, L.	ANYL	248	Sung, S.	ENFL	241	Svagan, A.J.	CELL	369
Sun, L.	MEDI	53	Sung, T.	BIOT	384	Svay, M.	CHED	1768
Sun, M.	ENVR	536	Sung, T.	BIOT	249	Svechkarev, D.	CARB	72
Sun, N.	AGFD	116	Sung, Y.	ENFL	143	Svedendahl Humble, M.	BIOT	368
Sun, N.	CATL	386	Sung, Y.	ENFL	216	Svete, J.	ORGN	106
Sun, Q.	CATL	423	Sung, Y.	INOR	921	Svetlanova-Larsen, A.S.	CHED	1078
Sun, Q.	COMP	230	Sung, Y.	INOR	1527	Sviatenko, L.	ENVR	1007
Sun, Q.	PROF	13	Sunny, K.	CATL	315	Svitana, K.	CHED	970
Sun, R.	CELL	108	Sunoqrot, S.	PMSE	442	Swager, T.M.	ANYL	340
Sun, R.	CELL	141	Sunseri, J.	COMP	100	Swager, T.M.	ANYL	427
Sun, R.	CELL	252	Sunseri, J.	COMP	416	Swager, T.M.	COLL	662
Sun, R.	CELL	297	Suntravat, M.	BIOT	669	Swager, T.M.	ORGN	457
Sun, R.	CELL	335	Suntrup, L.	INOR	870	Swager, T.M.	PMSE	23
Sun, R.	CELL	499	Suntrup, L.	INOR	1247	Swager, T.M.	PMSE	180
Sun, S.	BIOT	625	Suopajärvi, T.T.	CELL	533	Swager, T.M.	POLY	194
Sun, S.	ANYL	364	Supalo, C.A.	CHED	2019	Swails, R.J.	CHED	1080
Sun, S.	INOR	1516	Supalo, C.A.	CHED	2025	Swails, R.J.	CHED	1082
Sun, S.	INOR	906	Supalo, C.A.	CHED	2157	Swails, R.J.	INOR	390
Sun, S.	COLL	380	Supalo, C.A.	CHED	2192	Swain, J.	ORGN	407
Sun, S.	COLL	395	Supapol, P.	PMSE	353	Swain, S.	CHED	680
Sun, S.S.	PMSE	90	Supnet, M.	MEDI	395	Swale, D.R.	MEDI	245
Sun, T.	MEDI	159	Suppan, K.	ORGN	254	Swaminathan, J.	ORGN	918
Sun, T.	GEOC	24	Surampallij, R.Y.	ENVR	156	Swamy, U.	CHED	1844
Sun, T.	COLL	442	Surbella, R.	NUCL	115	Swanberg, J.C.	BIOT	1
Sun, W.	PMSE	441	Sure, R.	ORGN	265	Swanson, C.	ANYL	478
Sun, W.	INOR	1451	Surendar, D.	BIOT	207	Swanson, E.	CHED	354
Sun, W.	ENVR	196	Surendar, D.	BIOT	284	Swanson, J.P.	POLY	502
Sun, X.	PHYS	106	Surendar, D.	BIOT	457	Swanson, J.S.	NUCL	113
Sun, X.	PHYS	388	Surendranath, Y.	INOR	512	Swanson, R.	BIOT	428
Sun, X.	PHYS	490	Surendranath, Y.	PRES	14	Swanson, R.K.	BIOT	301
Sun, X.	PMSE	139	Sures, D.	INOR	1235	Swanson, W.B.	CHED	1793
Sun, X.	ENFL	222	Suresh, S.	PHYS	414	Swanson, W.B.	CHED	1130
Sun, X.	COLL	386	Surmeier, M.	ENVR	52	Swaren, L.	GEOC	348
Sun, X.	BIOT	455	Surratt, C.	COMP	376	Swarnkar, A.	ENFL	265
Sun, X.	I&EC	3	Susanto, D.	ENFL	221	Swart, M.	INOR	147
Sun, X.	COLL	643	Sushko, M.	GEOC	174	Swart, M.	INOR	216
Sun, X.	NUCL	128	Suski, K.	ENVR	727	Swart, M.	INOR	270
Sun, X.	CARB	55	Suslick, B.A.	INOR	807	Swart, M.	INOR	275
Sun, Y.	BIOT	288	Suslick, K.S.	ANYL	15	Swart, M.	INOR	278
Sun, Y.	COLL	736	Susnjar, A.	CHED	1551	Swartling, D.J.	CHED	20
Sun, Y.	MEDI	377	Susnjar, A.	CHED	1605	Swartling, D.J.	CHED	1023
Sun, Y.	INOR	690	Susruta, S.	COMP	484	Swartling, D.J.	CHED	1033
Sun, Y.	PMSE	213	Süßenbacher, M.	CELL	471	Swarts, B.	CARB	59
Sun, Y.	ENVR	827	Susumu, K.	COLL	573	Swarts, B.	CARB	65
Sun, Y.	INOR	1369	Sutcliffe, J.L.	ENVR	970	Swarts, B.	CARB	63
Sun, Y.	COLL	94	Suter, J.	CINF	8	Swarts, B.M.	CARB	60
Sun, Y.	CATL	347	Suter, R.	INOR	1311	Swarts, B.M.	CARB	61
Sun, Y.	CATL	364	Sutherland, L.	NUCL	124	Swarts, B.M.	CARB	62
Sun, Y.	CATL	418	Sutian, M.	ENFL	435	Swarts, B.M.	CARB	64
Sun, Y.	ENFL	134	Sutlief, A.	PMSE	245	Swarts, B.M.	CARB	66
Sun, Y.	ENFL	137	Sutorius, T.	PHYS	415	Swarts, B.M.	CARB	67
Sun, Y.	ENFL	138	Sutter-Fella, C.M.	ENFL	103	Swarts, B.M.	CARB	68
Sun, Y.	ENFL	302	Suttil, J.	ENFL	298	Swartz, J.	CHED	1741
Sun, Y.	INOR	1028	Sutto, L.	PMSE	490	Swartz, J.R.	BIOT	103
Sun, Y.	CATL	165	Sutton, C.	BIOL	37	Swartz, L.	ANYL	364
Sun, Y.	INOR	74	Sutton, C.	COMP	523	Swartz, M.	COLL	231
Sun, Z.	COLL	313	Sutton, E.	INOR	579	Swartz, M.M.	CHED	1655
Sun, Z.	COLL	787	Sutton, M.	COMP	409	Swartzentruber, B.	COLL	137
Sun, Z.	CHED	828	Sutton, R.A.	ENVR	717	Swartzentruber, B.	COLL	616
Sun, Z.	ENVR	409	Sutton, R.A.	ENVR	995	Swasey, S.	INOR	940
Sunda-Meya, A.	ANYL	111	Sutton, R.A.	ENVR	997	Swasey, S.	PHYS	577
Sunda-Meya, A.	BIOL	129	Sutton, S.	CHED	1656	Swayze, E.E.	BIOL	165
Sundar, A.	ANYL	398	Sutton, S.C.	MEDI	350	Swayze, E.E.	MEDI	334
Sundaram, P.	PMSE	542	Suturina, E.	INOR	739	Sweeder, R.D.	CHED	9
Sundberg, J.D.	CHED	1567	Suurnäkki, A.	CELL	76	Sweeder, R.D.	CHED	778
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Sweeney, K.	CHED	1407	Szczypinski, F.T.	ORGN	586	Tait, S.L.	COLL	365
Sweeney, P.	MEDI	217	Szecsényi, A.	ENFL	9	Tait, S.L.	COLL	401
Sweeney, T.E.	BIOT	145	Szecsody, J.E.	GEOC	52	Tait, S.L.	COLL	402
Sweeney, Z.K.	COMP	295	Szendrei, A.	ENFL	35	Tait, S.L.	COLL	485
Sweeny, D.	MEDI	159	Szeto, J.	ORGN	797	Tait, S.L.	COLL	558
Sweeny, D.	MEDI	478	Szeto, K.C.	CATL	55	Tait, S.L.	COLL	721
Sweeny, D.	MEDI	479	Szeto, K.C.	CATL	57	Tait, S.L.	PROF	41
Sweet, C.A.	CHED	1102	Szeto, K.C.	INOR	1243	Tajc, S.G.	CHED	417
Sweet, C.A.	INOR	907	Szidat, S.	ANYL	19	Tajc, S.G.	CHED	756
Sweet, C.A.	INOR	918	Szita, N.	BIOT	441	Tajc, S.G.	CHED	942
Sweet, E.	CHAS	2	Szita, N.	COLL	357	Tajc, S.G.	ENVR	820
Sweet, E.	CHAS	31	Szkodny, A.	BIOT	643	Tajkhorshid, E.	COMP	488
Sweet, J.	ANYL	289	Szlag, R.	INOR	749	Tajkhorshid, E.	MEDI	338
Sweet-Cordero, A.	BIOT	410	Szlag, R.	INOR	937	Tajuelo Rodriguez, E.	GEOC	324
Swenson, D.	INOR	1338	Szlag, R.	INOR	961	Tak, S.	ENVR	771
Swenson, D.	PROF	2	Szollosi, D.	MEDI	150	Takabe, K.	CELL	469
Swenson, V.	ENVR	920	Szucs, D.	PHYS	434	Takacs, M.P.	BIOT	286
Sweredoski, M.	BIOT	467	Szwajkajzer, D.	CHED	1820	Takahashi, A.	ANYL	89
Swesi, A.T.	CATL	425	Szyc, L.	PHYS	67	Takahashi, A.	INOR	1040
Swetz, D.S.	BIOT	482	Szychowski, B.	INOR	1060	Takahashi, K.	AGFD	110
Swetz, D.S.	CATL	144	Szymanowski, J.	COLL	463	Takahashi, K.	ENFL	232
Swetz, D.S.	COLL	146	Szymanowski, J.	INOR	1418	Takahashi, K.	ENFL	233
Swetz, D.S.	INOR	1319	Szymanowski, J.	NUCL	98	Takahashi, N.	BIOT	265
Swiderek, P.	COLL	156	Szymanowski, J.	NUCL	120	Takai, S.	MEDI	449
Swier, S.	I&EC	36	Szymanowski, J.	NUCL	128	Takamatsu, Y.	COMP	503
Swift, A.	GEOC	11	Szymanowski, J.	NUCL	165	Takaoka, S.	POLY	165
Swift, A.	GEOC	168	Szymczak, G.V.	CHED	200	Takasaki, M.	MEDI	110
Swift, A.J.	NUCL	35	Szymczak, G.V.	CHED	1990	Takata, T.	POLY	11
Swift, C.	BIOT	177	Szymczak, N.K.	INOR	377	Takata, T.	POLY	271
Swift, C.	BIOT	258	Szymczak, N.K.	INOR	500	Takata, T.	POLY	272
Swift, E.	ORGN	485	Szymczak, N.K.	INOR	563	Takata, T.	POLY	634
Swift, K.M.	BIOL	267	Szymczak, N.K.	ORGN	204	Takatama, K.	GEOC	247
Swift, M.L.	INOR	139	Szymczak, N.K.	ORGN	379	Takatsuka, T.	ENFL	334
Swift, M.L.	INOR	370	Szypko, C.	CHED	1260	Takayama, S.	PMSE	364
Swift, M.L.	INOR	371	Ta, L.	ORGN	301	Takayanagi, K.	CELL	378
Swift, T.	PMSE	443	Tabasko, C.	POLY	597	Takeda, H.	MEDI	449
Swift, T.	PMSE	696	Tabatabaei, K.	INOR	32	Takeda, S.	CATL	272
Swift, T.	POLY	551	Tabatabaei, K.	INOR	1559	Takeda, T.	COMP	325
Swihart, M.	POLY	80	Tabe, M.	ORGN	77	Takematsu, K.	PHYS	429
Swinburne, A.	INOR	1385	Taber, B.	PHYS	1	Takematsu, K.	PHYS	474
Swindle, A.L.	GEOC	205	Tabler-Miller, K.	ENVR	854	Takemoto, H.	BIOT	321
Swingle, M.	MEDI	215	Taborsky, P.	BIOL	123	Takemoto, H.	BIOT	536
Swisher, J.	ORGN	585	Tabrizian, P.	ENVR	508	Takemoto, H.	BIOT	684
Swita, M.	ENFL	182	Tada, M.	CATL	96	Takemoto, J.	ORGN	515
Swyer, M.W.	ENFL	28	Tada, M.	CATL	101	Takemura, M.	INOR	19
Syamala, P.	POLY	641	Tada, M.	CATL	478	Takemura, T.	ENVR	864
Sycks, D.G.	PMSE	665	Tadepalli, S.	ENVR	583	Takeuchi, E.S.	I&EC	62
Sydlik, S.A.	PMSE	230	Tadepalli, S.	ENVR	929	Takeuchi, E.S.	PMSE	105
Sydlik, S.A.	PMSE	697	Tadesse, M.G.	CATL	504	Takeuchi, J.	MEDI	449
Sydlik, S.A.	POLY	37	Tadjiki, S.	CELL	486	Takeuchi, K.J.	I&EC	62
Syed, Z.H.	INOR	138	Tae, C.	ANYL	103	Takeuchi, K.J.	PMSE	105
Sykes, A.G.	INOR	1350	Tae, H.	PMSE	444	Takeuchi, M.	CELL	468
Sykes, A.G.	ORGN	589	Tafer, R.	ENVR	523	Takluder, P.	BIOL	112
Sykes, E.H.	CATL	19	Taffin, J.	BIOL	122	Talapin, D.V.	COLL	525
Sykes, E.H.	CATL	619	Taft, J.	BIOT	57	Talavera, C.	PHYS	562
Sykes, E.H.	PHYS	290	Tagawa, S.	CELL	362	Talbot, C.R.	ENFL	383
Sykora, R.	INOR	979	Tagg, A.S.	ENVR	807	Talbot, E.	ORGN	220
Sylvia, C.	CHED	1316	Taggart, M.	ENVR	525	Talbot, M.O.	CATL	163
Sylvinson, D.	PHYS	461	Taghavi, O.	INOR	891	Taleb, R.I.	BIOL	274
Synelnikov, M.	CHED	856	Tagliabue, G.	INOR	891	Taleb, R.I.	INOR	934
Synovec, R.E.	ANYL	327	Tagliaferro, A.	CATL	175	Taleghani, L.	PMSE	300
Sytsma, T.M.	CHED	791	Taguchi, K.	ENVR	593	Tal-Gan, Y.	BIOL	173
Syu, H.	CHED	832	Tague, E.D.	COLL	681	Taliaferro, J.M.	MEDI	429
Syverud, K.	CELL	330	Tague, E.D.	ANYL	132	Talin, A.	ENFL	279
Syverud, K.	CELL	391	Tahara, K.	ORGN	615	Talina, K.	MEDI	49
Szabo, K.	FLUO	20	Taheran, M.	COLL	512	Tallarek, U.	ANYL	247
Szabo, K.	ORGN	24	Taheri, A.	ENVR	156	Talley, K.	INOR	1116
Szabo, K.	ORGN	316	Taheri, A.	INOR	163	Talorico, A.A.	CHED	1025
Szabo, K.	ORGN	807	Taheri, N.	INOR	543	Talosis, A.R.	CHED	1078
Szabo, K.J.	FLUO	46	Taheri, N.	COLL	61	Talsania, A.	INOR	486
Szabo, K.J.	FLUO	46	Taheri, N.	COLL	333	Tam, C.W.	INOR	486
Szabo, K.J.	ORGN	257	Tahira, A.	COLL	512	Tam, J.O.	ENVR	292
Szalda, D.	ORGN	257	Tahirovic, Y.A.	ORGN	128	Tam, R.Y.	COLL	663
Szamel, G.	INOR	546	Tahirovic, Y.A.	MEDI	41	Tam, R.Y.	PMSE	546
Szamel, G.	PHYS	186	Tahirovic, Y.A.	MEDI	42	Tam, R.Y.	PMSE	637
Szanyi, J.	CATL	50	Tahirovic, Y.A.	MEDI	43	Tamang, S.R.	INOR	1485
Szarko, J.M.	CHED	1646	Tahmouresilerd, B.	INOR	1230	Tamarang, R.	ENFL	195
Szarko, J.M.	INOR	704	Tai, O.	ORGN	364	Tamariz, J.	ENFL	421
Szarpak-Jankowska, A.	INOR	704	Tai, Y.	COLL	595	Tamasauskaite Tamasuinaite, L.	INOR	198
Szczepanski, A.P.	POLY	583	Taillefert, M.	COLL	595			
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Tamayo, J.	ENFL	314	Tang, C.	POLY	143	Tantawi, O.	ENVR	588
Tame, C.J.	ORGN	402	Tang, D.	BIOT	298	Tantillo, D.J.	ORGN	396
Tame, C.J.	ORGN	834	Tang, D.	CHED	828	Tanyeli, C.	ORGN	108
Tamez, A.	CHED	869	Tang, D.	COLL	334	Tanzer, J.	POLY	429
Tamez, C.	CHED	982	Tang, E.	COLL	852	Tao, F.	CATL	3
Tamez, V.	MEDI	341	Tang, F.	PMSE	145	Tao, F.	CATL	273
Tamimi, M.	ENFL	365	Tang, F.	PMSE	197	Tao, F.	CATL	521
Tamma, V.A.	COLL	231	Tang, H.	BIOT	414	Tao, F.	CATL	595
Tammelin, T.	CELL	37	Tang, H.	CHED	53	Tao, F.	COLL	98
Tammelin, T.	CELL	205	Tang, H.	CHED	59	Tao, F.	COMP	126
Tammelin, T.	CELL	207	Tang, J.	ENVR	374	Tao, F.	ENFL	13
Tammelin, T.	CELL	324	Tang, J.	INOR	510	Tao, G.	PHYS	174
Tammelin, T.	CELL	372	Tang, J.	INOR	714	Tao, H.	AGFD	34
Tammelin, T.	CELL	374	Tang, J.	INOR	1233	Tao, J.	MEDI	317
Tammelin, T.	CELL	417	Tang, J.	INOR	1237	Tao, J.	CATL	373
Tammelin, T.	CELL	421	Tang, J.	ENFL	105	Tao, L.	COLL	726
Tammelin, T.	CELL	422	Tang, J.	ENVR	188	Tao, L.	PMSE	445
Tammelin, T.	CELL	344	Tang, K.	CHED	787	Tao, L.	POLY	317
Tamura, F.	COLL	533	Tang, L.	ENVR	407	Tao, L.	INOR	1297
Tan, B.	INOR	91	Tang, L.	MEDI	33	Tao, N.	ANYL	164
Tan, C.	CHED	1299	Tang, L.	PMSE	525	Tao, N.	ANYL	436
Tan, C.	COLL	27	Tang, L.	PHYS	121	Tao, N.	PHYS	221
Tan, C.	CHED	343	Tang, M.	ENFL	314	Tao, N.	COLL	443
Tan, C.	ORGN	172	Tang, M.	INOR	229	Tao, P.	COMP	432
Tan, D.S.	ORGN	348	Tang, M.	INOR	919	Tao, T.	ENVR	844
Tan, E.	CATL	245	Tang, M.	PHYS	371	Tao, Y.	ENVR	587
Tan, H.	ENVR	717	Tang, M.	CELL	318	Taormina, L.	AGFD	53
Tan, J.	MEDI	486	Tang, M.L.	COLL	141	Taoufik, M.	CATL	55
Tan, J.	PMSE	153	Tang, M.L.	COLL	314	Taoufik, M.	CATL	57
Tan, K.	ENVR	1026	Tang, M.L.	INOR	424	Taoufik, M.	INOR	573
Tan, K.	INOR	1514	Tang, M.L.	INOR	1575	Taoufik, M.	INOR	1243
Tan, L.	BIOT	341	Tang, M.L.	ORGN	594	Taoufik, M.	INOR	1374
Tan, L.	CATL	302	Tang, M.L.	PHYS	492	Tapadar, S.	MEDI	438
Tan, L.	CELL	175	Tang, N.	CATL	527	Tapia Hernandez, R.	CHED	2129
Tan, L.	COMP	514	Tang, N.	PMSE	92	Tapia Hernandez, R.	COLL	234
Tan, L.	COLL	840	Tang, P.	BIOL	35	Tapia Reche, M.	CATL	466
Tan, L.	INOR	482	Tang, P.	ANYL	73	Tapia, D.	INOR	93
Tan, L.	POLY	610	Tang, S.	ORGN	497	Tapia-Padilla, G.	INOR	815
Tan, L.	ORGN	305	Tang, S.	MPPG	20	Tappero, R.	CATL	145
Tan, R.	COLL	462	Tang, S.	POLY	613	Tapu, D.	INOR	356
Tan, S.H.	CHED	1291	Tang, S.	ANYL	393	Tapu, D.	INOR	360
Tan, T.	INOR	1550	Tang, T.	PMSE	638	Tapu, D.	INOR	838
Tan, W.	ANYL	152	Tang, V.	MEDI	25	Tapu, D.	INOR	839
Tan, W.	ANYL	162	Tang, W.	ENVR	1028	Tapu, D.	INOR	840
Tan, W.	ANYL	444	Tang, W.	ENFL	410	Taquet, V.	PHYS	237
Tan, W.	INOR	744	Tang, X.	MEDI	376	Tarafder, A.	ANYL	321
Tan, W.	BIOT	8	Tang, Y.	INOR	157	Tarahomi, J.A.	CHED	1600
Tan, W.	BIOT	45	Tang, Y.	INOR	698	Tardy, B.	CELL	249
Tan, W.	BIOT	409	Tang, Y.	BIOT	180	Tardy, B.	CELL	295
Tan, W.	BIOT	414	Tang, Y.	COLL	652	Tariq, J.	AGFD	89
Tan, W.	BIOT	448	Tang, Y.	ENVR	11	Taris, J.	BIOT	52
Tan, W.	BIOT	452	Tang, Y.	ENVR	929	Tarkka, R.M.	CHED	1739
Tan, X.	ENVR	246	Tang, Y.	GEOC	21	Tarnavchyk, I.	CELL	33
Tan, X.	INOR	642	Tang, Y.	GEOC	50	Tarnavchyk, I.	CELL	34
Tan, X.	COLL	736	Tang, Y.	GEOC	54	Tarnavchyk, I.	PMSE	358
Tan, X.	PMSE	29	Tang, Y.	GEOC	65	Tarnavchyk, I.	PMSE	396
Tan, X.	PMSE	511	Tang, Y.	GEOC	127	Tarpeh, W.A.	ENVR	563
Tan, X.	POLY	145	Tang, Y.	GEOC	181	Tarpeh, W.A.	ENVR	565
Tan, Y.	ENVR	689	Tang, Y.	GEOC	235	Tarpley, R.	MEDI	495
Tan, Y.	MEDI	422	Tang, Z.	COLL	543	Tarr, M.A.	ANYL	471
Tan, Z.	BIOT	428	Tang, Z.	COLL	604	Tarr, M.A.	ENVR	105
Tan, Z.	BIOT	513	Tang, Z.	ANYL	107	Tarr, M.A.	ENVR	597
Tan, Z.	CARB	9	Tang, Z.	INOR	341	Tarr, M.A.	ENVR	600
Tanabe, C.K.	ANYL	100	Tangsermvit, V.	INOR	341	Tarr, M.A.	ENVR	697
Tanabe, C.K.	AGFD	112	Tanida, Y.	COMP	287	Tarr, M.A.	ENVR	697
Tanabe, C.K.	AGFD	113	Taniguchi, I.	PMSE	257	Tartakoff, S.	CHED	1580
Tanabe, S.	MEDI	110	Taniguchi, M.	ENVR	811	Tasch, B.O.	FLUO	46
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Tanaka, K.	INOR	1170	Taniguchi, T.	COLL	646	Tasker, R.F.	CHED	2011
Tanaka, M.	POLY	165	Taniike, T.	CATL	345	Tasker, R.F.	CHED	2018
Tanaka, Y.	INOR	1170	Tanimoto, Y.	COLL	533	Tasooji, M.	CELL	62
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Taylor, C.B.	CHED	1887	Teissere, J.A.	CHED	459	Terrile, N.	INOR	867
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Taylor, T.L.	MEDI	339	Teng, W.	ENVR	534	Tew, G.N.	POLY	623
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Taylor, Z.E.	ORGN	789	Tenjimbayashi, M.	PMSE	687	Teyssandier, J.	COLL	559
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Tazhigulov, R.	PHYS	85	Tennant, J.L.	INOR	438	Tfaily, M.	ENVR	192
Tchang Cervin, N.	CELL	369	Tenorio, K.	CHED	1398	Tfaily, M.	ENVR	103
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te Brinke, E.	COLL	410	Tentscher, P.	COMP	55	Thackeray, M.	ANYL	379
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Teague, C.M.	CHED	2148	Tentscher, P.R.	ENVR	113	Thakar, R.	ENVR	725
Teague, Jr., W.E.	COLL	530	Tentscher, P.R.	ENVR	706	Thakellapalli, H.	ORGN	599
Teare, J.	BIOT	337	Teo, B.K.	INOR	472	Thakor, V.J.	MEDI	440
Teasley, P.	BIOL	204	Teo, N.	POLY	620	Thakur, A.	CATL	345
Teat, S.J.	INOR	1223	Teo, W.	ORGN	250	Thakur, S.B.	BIOL	155
Teat, S.J.	INOR	1407	Teo, Y.	POLY	76	Thal, L.B.	BIOT	273
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Thao, K.	INOR	898	Thomas, C.	BIOL	288	Thompson, S.	ORGN	819
Thapa Magar, R.	ORGN	170	Thomas, C.J.	MEDI	250	Thompson, S.	CATL	4
Thapa, I.	CATL	249	Thomas, D.	ANYL	441	Thompson, T.S.	COLL	129
Thapa, P.	INOR	1526	Thomas, D.	CHED	1026	Thompson, T.S.	COLL	361
Thapa, P.	MEDI	80	Thomas, D.	I&EC	16	Thompson, W.B.	ORGN	502
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Thayumanavan, S.	BIOL	70	Thomas, G.	BIOL	227	Thomsen, B.	COMP	265
Thayumanavan, S.	ORGN	643	Thomas, G.	CHED	613	Thomsen, J.R.	ORGN	157
Thayumanavan, S.	PMSE	373	Thomas, J.	PHYS	510	Thomson, J.	CHED	1966
Thayumanavan, S.	PMSE	426	Thomas, J.	PHYS	521	Thomson, M.A.	CHED	1799
Thayumanavan, S.	PMSE	475	Thomas, J.	BIOL	46	Thon, S.	PHYS	496
Thayumanavan, S.	PMSE	513	Thomas, J.B.	COMP	502	Thongsomboon, W.	CELL	97
Thayumanavan, S.	POLY	178	Thomas, K.	ANYL	442	Thonhauser, T.	INOR	1514
Thayumanavan, S.	POLY	371	Thomas, K.J.	NUCL	124	Thorarensen, A.	MEDI	316
Thayumanavan, S.	POLY	500	Thomas, K.J.	NUCL	125	Thorat, R.G.	ORGN	659
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Theegala, C.	CELL	100	Thomas, M.	BIOL	207	Thorn, M.G.	PMSE	176
Theiler, Z.	NUCL	38	Thomas, M.A.	CHED	1259	Thornburg, N.E.	CATL	109
Theis, M.L.	PHYS	238	Thomas, M.C.	INOR	444	Thornbury, R.	ORGN	228
Thenuwara, A.C.	CATL	121	Thomas, M.E.	CHED	653	Thorne, P.S.	ENVR	75
Thenuwara, A.C.	COLL	714	Thomas, P.K.	ENFL	177	Thornhill, N.	BIOT	646
Theodorou, M.	BIOT	177	Thomas, R.	COLL	195	Thornton, G.	CATL	497
Theopold, K.H.	INOR	629	Thomas, R.	INOR	1562	Thornton, J.	ENVR	323
Theopold, K.H.	INOR	1258	Thomas, R.	CHED	480	Thornton, K.	ANYL	41
Theriot, J.C.	CATL	220	Thomas, R.	MEDI	339	Thornton, T.	ENVR	1009
Theriot, J.C.	CATL	221	Thomas, S.	CATL	269	Thorsell, A.	MEDI	473
Therrien, A.	CATL	619	Thomas, S.	ENVR	742	Thorsell, V.M.	CHED	179
Therrien, M.	AGFD	20	Thomas, S.	ORGN	549	Thorsell, V.M.	CHED	308
Thevenet, A.	ORGN	577	Thomas, S.	ENVR	963	Thorsell, V.M.	CHED	2078
Thevenon, A.A.	INOR	214	Thomas, S.W.	PMSE	259	Thorsteinson, N.	MEDI	47
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Thiebaut, B.	COLL	586	ThomasArrigo, L.K.	GEOC	126	Thrasher, J.S.	FLUO	15
Thiebes, J.	INOR	1000	Thomas-Smith, T.	ANYL	410	Thrasher, J.S.	FLUO	16
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Thierer, L.M.	INOR	1444	Thompson, B.	ANYL	24	Thum, M.	PHYS	300
Thierry, J.	CATL	337	Thompson, C.	ENVR	145	Thuo, M.	COLL	372
Thiessen, P.A.	CINF	32	Thompson, C.	BIOT	211	Thuo, M.	COLL	829
Thiessen, P.A.	CINF	146	Thompson, C.	COLL	792	Thuo, M.	I&EC	42
Thilagavathi, R.	MEDI	187	Thompson, C.	INOR	647	Thuo, M.	INOR	204
Thilagavathi, R.	MEDI	199	Thompson, C.	CHED	1434	Thuo, M.	PHYS	117
Thilakarathne, R.	CATL	404	Thompson, C.F.	ANYL	178	Thuo, M.	PMSE	106
Thillainadarajah, I.	ENVR	936	Thompson, D.H.	POLY	580	Thuo, M.	POLY	229
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Thirion, D.	POLY	638	Thompson, J.	CHED	1582	Thurber, G.	BIOT	604
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Thoburn, J.D.	ORGN	569	Thompson, K.	GEOC	122	Thurman, E.	GEOC	300
Thoburn, J.D.	ORGN	570	Thompson, K.	ORGN	651	Thurman, E.M.	ENVR	29
Thoburn, J.D.	ORGN	578	Thompson, L.A.	MEDI	51	Thurman, E.M.	ENVR	54
Thoburn, J.D.	ORGN	579	Thompson, L.A.	MEDI	52	Thurman, E.M.	ENVR	338
Thogluva, D.	COMP	132	Thompson, L.B.	CHED	1288	Thurman, E.M.	ENVR	633
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Thogluva, D.	PHYS	420	Thompson, L.B.	CHED	1307	Thurman, E.M.	GEOC	341
Thoi, V.	INOR	542	Thompson, L.M.	CHED	877	Thurston, J.H.	CATL	561
Thoi, V.	INOR	1088	Thompson, L.M.	COMP	215	Thurston, J.H.	CHED	592
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Thom, J.	CHED	839	Thompson, L.M.	PHYS	370	Thurston, J.H.	CHED	1241
Thom, V.	BIOT	709	Thompson, M.	CHED	1151	Thurston, J.H.	MEDI	152
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Thomas, A.	CHED	1217	Thompson, M.E.	COLL	649	Thyparambil, A.A.	COMP	136
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Thomas, B.	GEOC	44	Thompson, P.K.	INOR	859	Tian, C.	INOR	997
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Tian, H.	ENFL	126	Timko, M.T.	PMSE	98	Tkachenko, V.	CINF	172
Tian, H.	ENFL	129	Timko, S.	ENVR	109	Tkaczyk, K.M.	SCHB	5
Tian, J.	PMSE	160	Timm, A.	ENVR	124	Tkatchenko, A.	CATL	16
Tian, J.	BIOT	513	Timmel, E.	CHED	955	Tkaucic, D.	CELL	454
Tian, K.	GEOC	228	Timmick, S.	BIOT	257	Tlumac, C.M.	CHED	958
Tian, L.	COMP	180	Timmick, S.	BIOT	259	To, A.	CATL	81
Tian, L.	COMP	499	Timmick, S.	BIOT	510	To, E.	MEDI	194
Tian, L.	MEDI	341	Timofeeva, T.V.	MEDI	131	To, E.	MEDI	272
Tian, Q.	ORGN	22	Timpson, C.J.	CHED	1102	To, J.W.	CATL	166
Tian, Q.	ORGN	504	Timpson, C.J.	INOR	918	To, J.W.	POLY	197
Tian, S.	INOR	616	Tinajero-Delgado, V.	MEDI	158	To, Q.	AGFD	244
Tian, S.	ENFL	403	Tinawi, S.	ENVR	741	Toal, G.	ANYL	229
Tian, T.	ANYL	124	Tindall, E.G.	COLL	420	Toan, S.	ENFL	65
Tian, Y.	CATL	528	Ting, C.	COLL	534	Tobe, Y.	COLL	512
Tian, Y.	ORGN	171	Tingaut, P.	CELL	83	Tobias, D.	COMP	353
Tian, Y.	AGFD	241	Tinnis, G.	ORGN	253	Tobias, D.	ENVR	602
Tian, Z.	ENVR	53	Tino, J.A.	MEDI	21	Tobias, D.	PHYS	275
Tiano, D.	CHED	1399	Tinoco, A.D.	BIOL	245	Tobias, J.	CHED	1399
Tiano, T.	ENVR	825	Tinoco, A.D.	BIOT	494	Tobiason, J.E.	ENVR	90
Tiano, T.	ENVR	838	Tinoco, A.D.	INOR	748	Tobin, J.	CHED	712
Tibabuzo, A.	POLY	563	Tinoco, A.D.	INOR	930	Tobin, J.	CHED	1810
Tibbits, A.	POLY	542	Tinoco, A.D.	PROF	47	Tobler, D.	GEOC	188
Tibshirani, R.	ANYL	272	Tinoco, A.D.	ORGN	923	Todd, C.	CHED	861
Tice, N.C.	INOR	858	Tinsley, I.C.	ORGN	572	Todd, M.	CHED	1535
Ticich, T.M.	CHED	1837	Tinsley, J.	CINF	125	Todd, R.J.	BIOT	395
Tickerhoof, M.	ORGN	585	Tinsley, J.	CHED	2167	Todd, S.A.	ORGN	564
Ticknor, B.W.	NUCL	158	Tipparapu, G.	MEDI	34	Todde, G.	POLY	477
Ticknor, M.A.	CHED	1310	Tipping, E.	ENVR	348	Todoli, J.	ENFL	1
Tie, L.	BIOT	211	Tirado-Robles, J.	CHED	1323	Toffoli, G.	COLL	277
Tiede, D.M.	PHYS	14	Tiraferri, A.	POLY	74	Tofoleanu, F.	COMP	24
Tielens, F.	CATL	10	Tirak, I.	ANYL	115	Tofoleanu, F.	COMP	145
Tien, C.	ENVR	743	Tirak, J.	ANYL	115	Tofoleanu, F.	COMP	448
Tierney, D.L.	INOR	663	Tirrell, D.A.	BIOT	467	Togasawa, R.	COLL	169
Tierney, H.L.	CINF	89	Tirrell, M.V.	COLL	387	Togashi, T.	ENVR	560
Tierney, M.M.	CHED	1420	Tirrell, M.V.	COLL	411	Toghiani, H.	COLL	743
Tieu Ngo, T.	ENVR	742	Tirrell, M.V.	COLL	671	Togni, A.	CHED	2005
Tigaa, R.A.	INOR	703	Tirrell, M.V.	COLL	733	Togni, A.	CHED	2006
Tigaa, R.A.	INOR	1478	Tirrell, M.V.	PMSE	202	Togni, A.	FLUO	23
Tigges, A.	GEOC	46	Tirrell, M.V.	POLY	592	Togni, A.	INOR	1536
Tijssen, K.	GEOC	364	Tirrell, M.V.	CHED	2170	Toher, C.	CATL	622
Tikoo, A.	MEDI	155	Tischhauser, S.	CHED	231	Toivola, R.E.	PMSE	585
Tiller, J.C.	PMSE	406	Tischhauser, S.M.	BIOL	121	Tokarski, J.S.	MEDI	25
Tiller, J.C.	PMSE	425	Tischler, D.	CHED	1788	Tokarski, J.S.	MEDI	315
Tiller, J.C.	PMSE	431	Tischler, J.L.	ENVR	1042	Tokarski, J.S.	MEDI	349
Tiller, J.C.	POLY	512	Tissue, D.	ENVR	639	Toker, S.	COLL	763
Tiller, J.C.	POLY	612	Titaley, I.	ENVR	648	Tokunaga, K.	PHYS	291
Tiller, J.C.	POLY	614	Titaley, I.	ENVR	650	Tokunaga, T.	GEOC	114
Tiller, K.	BIOT	55	Titaley, I.	ENVR	1008	Tokura, Y.	COLL	434
Tiller, K.	BIOT	350	Titarenko, E.	INOR	702	Tolaymat, T.	ENVR	137
Tilley, L.J.	CHED	1558	Titcombe Lee, M.	ENVR	123	Tolbatov, I.	COMP	267
Tilley, L.J.	CHED	1566	Titinchi, S.	CATL	332	Tolbatov, I.	COMP	342
Tilley, L.J.	CHED	1578	Titinchi, S.	CATL	381	Tolberd, E.	POLY	450
Tilley, R.	ENFL	460	Titus, C.	BIOT	482	Tolbert, P.L.	BIOT	286
Tilley, T.D.	FLUO	12	Titus, C.	COLL	146	Tolbert, R.	COMP	71
Tilley, T.D.	INOR	210	Titus, C.	PHYS	344	Tolbert, S.H.	ANYL	342
Tilley, T.D.	INOR	502	Titus, C.J.	CATL	144	Tolbert, S.H.	COLL	145
Tilley, T.D.	INOR	594	Titus, C.J.	INOR	1319	Tolbert, S.H.	COLL	389
Tilley, T.D.	INOR	807	Titus, G.	BIOL	99	Tolbert, S.H.	ENFL	250
Tilley, T.D.	INOR	868	Tiwari, A.	CATL	120	Tolbert, S.H.	ENFL	294
Tilley, T.D.	INOR	1270	Tiwari, R.	MEDI	162	Tolbert, S.H.	ENFL	318
Tilley, T.D.	INOR	1296	Tiwari, R.	MEDI	472	Tolbert, S.H.	INOR	51
Tilley, T.D.	INOR	1392	Tiwari, R.	MEDI	506	Tolbert, S.H.	INOR	490
Tilley, T.D.	INOR	1447	Tiwari, R.K.	MEDI	144	Tolbert, S.H.	INOR	1532
Tilley, T.D.	INOR	1502	Tiwari, R.K.	MEDI	145	Tolbert, S.H.	PMSE	432
Tilley, T.D.	INOR	1540	Tiwari, R.K.	ORGN	613	Toledo, S.	CELL	149
Tilley, T.D.	INOR	1556	Tiwari, R.K.	ORGN	618	Toledo, S.A.	INOR	220
Tilley, T.D.	INOR	1563	Tiwari, R.K.	PHYS	98	Toledo, S.A.	INOR	258
Tilley, T.D.	ORGN	646	Tizeno, A.	ANYL	185	Toledo, S.A.	INOR	617
Tilley, T.D.	PMSE	218	Tiznado, E.	CHED	691	Toledo, S.A.	INOR	1327
Tillman, E.S.	POLY	402	Tjandra, H.	BIOT	207	Toledo, Y.	INOR	1147
Tillman, E.S.	POLY	403	Tjandra, H.	BIOT	284	Tolentino, T.	CHED	1447
Tillo, M.	ORGN	875	Tjandra, H.	BIOT	337	Tolias, S.	SOCED	4
Tillotson, R.	I&EC	83	Tjandra, H.	BIOT	416	Tollefson, E.	ORGN	141
Tilluck, W.R.	COLL	538	Tjandra, H.	BIOT	457	Tolman, W.B.	INOR	64
Tilton, R.D.	COLL	424	Tjeerdema, R.S.	ENVR	713	Tolman, W.B.	INOR	85
Timachova, K.	PMSE	105	Tjuanta, M.	AGFD	117	Tolman, W.B.	INOR	260
Timko, M.T.	CATL	108	Tkachenko, V.	CINF	67	Tolman, W.B.	INOR	261
Timko, M.T.	CELL	209	Tkachenko, V.	CINF	124	Tolman, W.B.	INOR	262

Tolman, W.B.	INOR	263	Tong, L.	MEDI	248	Torrent, M.	COMP	179
Tolman, W.B.	INOR	264	Tong, L.	MEDI	346	Torres Burgueno, A.I.	ORGN	219
Tolman, W.B.	INOR	265	Tong, P.Y.	BIOL	239	Torres Caban, C.	CHED	38
Tolman, W.B.	INOR	266	Tong, R.	POLY	270	Torres Caban, R.	AGFD	59
Tolman, W.B.	INOR	491	Tong, S.	COLL	682	Torres Candelaria, J.	CHED	1863
Tolman, W.B.	INOR	810	Tong, S.	CHED	1916	Torres Irizarry, V.	BIOT	241
Tolman, W.B.	INOR	883	Tong, S.	CHED	1921	Torres King, J.H.	CHED	174
Tolman, W.B.	INOR	1275	Tong, S.	MEDI	218	Torres King, J.H.	CHED	762
Tolman, W.B.	INOR	1465	Tong, T.	ENVR	868	Torres Martinez, C.	CHED	1886
Tolman, W.B.	POLY	25	Tong, W.G.	ANYL	184	Torres Martinez, Z.	ORGN	923
Tolonen, T.	BIOT	441	Tong, X.	CATL	34	Torres Torres, J.	ENVR	516
Tolzmann, A.	CHED	370	Tong, X.	CATL	300	Torres Torres, J.G.	ENVR	699
Tom, J.	MEDI	395	Tong, X.	COLL	826	Torres, A.	PHYS	133
Tom, J.	MEDI	247	Tong, Y.	ENVR	984	Torres, C.	ENVR	916
Tom, L.A.	ANYL	91	Tonge, P.J.	BIOL	88	Torres, C.D.	CHED	1688
Toma, F.	CATL	505	Tonge, P.J.	MEDI	136	Torres, C.E.	CELL	149
Toma, F.	CATL	558	Tonge, P.J.	MEDI	310	Torres, E.	ORGN	39
Toma, F.	ENFL	103	Tongraar, A.	BIOL	214	Torres, E.	GEOC	153
Toma, H.E.	CHED	2113	Tongying, P.	COLL	541	Torres, F.	BIOT	425
Tomar, D.	BIOT	166	Tonks, I.	INOR	602	Torres, J.	CHED	1451
Tomaraei, M.	CHED	774	Tonks, I.	INOR	632	Torres, L.	CHED	976
Tomaraei, M.	CHED	981	Tonks, I.	PMSE	222	Torres, L.F.	PMSE	446
Tomas Gonzalez de Mendivil, E.	INOR	108	Tonn, H.N.	CHED	403	Torres, L.F.	CELL	401
Tomasik, J.	ANYL	383	Tonnaer, A.	ORGN	772	Torres, M.	PHYS	502
Tomasik, J.	CHED	196	Tonnaer, A.	POLY	449	Torres, M.	ENVR	972
Tomasik, J.	CHED	834	Tonoli, G.H.	CELL	401	Torres, V.	PHYS	421
Tomasik, J.	CHED	2102	Toomey, C.G.	CHED	740	Torres, W.	ORGN	908
Tomasino, E.	AGFD	265	Toomey, R.G.	COLL	624	Torres, Z.	BIOL	103
Tomasio, S.	COMP	292	Toor, R.	COLL	128	Torres, Z.	PROF	47
Tomasio, S.	COMP	497	Topalian, P.J.	COLL	474	Torres-Garcia, X.	COMP	273
Tomasio, S.	COMP	579	Topalian, P.J.	COLL	209	Torres-Lopez, C.	POLY	427
Tomaskovic, L.	MEDI	347	Topalidis, V.	ANYL	88	Torres-Martinez, C.	CHED	1338
Tomasula, P.M.	AGFD	39	Topbas, C.	ANYL	135	Torrez, R.	MEDI	235
Tomaszewski, E.	GEOC	131	Töpel, A.	PMSE	108	Torrice, M.	HIST	12
Tomat, E.	BIOL	245	Topete, A.	CELL	426	Torruellas, C.	ORGN	839
Tomat, E.	INOR	365	Topete, J.	ANYL	96	Torsetnes, S.	ORGN	649
Tomat, E.	INOR	1458	Topete, J.	ANYL	97	Torstrick, B.	POLY	415
Tombo, A.	CATL	530	Topete, J.	ANYL	140	Tortolani, D.	MEDI	349
Tombo, A.	INOR	900	Topete, J.	ANYL	141	Tortonese, M.	I&EC	47
Tombo, A.	INOR	903	Topgaard, D.	CELL	280	Tortorella, M.	MEDI	224
Tombola, F.	BIOT	663	Topham, B.	CHED	320	Toscano, J.P.	POLY	262
Tombs, E.	PMSE	287	Topinka, M.	ORGN	72	Tosco, P.	COMP	292
Tomco, D.	CHED	1966	Topinka, M.	ORGN	134	Tosco, P.	COMP	497
Tomco, D.	ENVR	289	Topiwala, R.	POLY	449	Tosh, D.	COMP	389
Tomczyk, A.	CHED	946	Topp, E.M.	BIOT	479	Tosh, D.	MEDI	448
Tomczyk, A.	CHED	947	Toppare, L.	POLY	349	Tosi, F.	CATL	415
Tomecek, M.	ENVR	143	Toppare, L.	POLY	360	Tosi, F.	CATL	602
Tomiczek, B.	CHED	1486	Torgunrud, J.	CHED	249	Tosi, F.	ORGN	587
Tomiczek, B.	CHED	1773	Torgunrud, J.	CHED	1883	Tosin, M.	BIOL	335
Tomida, S.	PHYS	432	Toriz Gonzalez, G.	CELL	8	Toske, S.	ANYL	290
Tomimaga, K.	PHYS	129	Toriz Gonzalez, G.	CELL	43	Tostanoski, L.H.	BIOT	606
Tomkiewicz, A.	ENFL	365	Toriz Gonzalez, G.	CELL	156	Tostanoski, L.H.	PMSE	519
Tomlinson, A.L.	CHED	898	Toriz Gonzalez, G.	CELL	158	Toste, D.	CATL	551
Tomlinson, A.L.	POLY	501	Toriz Gonzalez, G.	CELL	160	Toste, D.	FLUO	7
Tomlinson, I.D.	BIOT	273	Toriz Gonzalez, G.	CELL	163	Toste, D.	INOR	59
Tomlovich, R.A.	CHED	1400	Toriz Gonzalez, G.	CELL	298	Toste, D.	ORGN	196
Tommasino, J.	INOR	1227	Toriz Gonzalez, G.	CELL	532	Toste, D.	ORGN	228
Tomoda, K.	BIOT	321	Torkelson, J.M.	CELL	226	Toste, D.	ORGN	247
Tomoda, K.	BIOT	684	Torkelson, J.M.	PMSE	566	Toste, D.	ORGN	248
Tomonari, Y.	ORGN	306	Torkelson, J.M.	POLY	184	Toste, D.	ORGN	271
Tomova, Z.	PHYS	300	Torkelson, J.M.	POLY	249	Toste, D.	ORGN	387
Tomoyuki, H.	CELL	336	Torkelson, J.M.	POLY	299	Toste, D.	ORGN	623
Tomsho, J.W.	MEDI	101	Torkian, L.	ORGN	597	Toste, D.	ORGN	808
Tomsho, K.	ENVR	992	Torma, P.	PHYS	563	Toste, D.	ORGN	809
Tomson, M.B.	ENVR	488	Tornabene, B.	ENVR	958	Tóth, Á.	PHYS	445
Tomson, N.C.	INOR	1208	Torneros, A.	MEDI	476	Toth, D.	ORGN	513
Tomson, N.C.	NUCL	11	Torneros, A.	MEDI	478	Toth, S.J.	AGFD	172
Tonchev, A.	NUCL	3	Torneros, A.	MEDI	479	Toti, K.S.	MEDI	249
Tondiglia, V.	PMSE	89	Tornow, O.	CHED	52	Totzke, F.	MEDI	378
Tondreau, A.M.	INOR	1216	Tornow, W.	NUCL	3	Toufanian, R.	COLL	469
Tondreau, A.M.	NUCL	11	Toro, S.	BIOT	291	Toufanian, R.	INOR	285
Tonelli, A.E.	POLY	224	Toro, S.	BIOT	314	Toupin, N.	CHED	1500
Tonelli, A.E.	POLY	338	Torquato, S.	PHYS	141	Tour, J.M.	CATL	30
Tonelli, A.E.	POLY	647	Torrado, X.	AGFD	124	Tour, J.M.	COLL	239
Toner, B.M.	GEOC	120	Torrance, B.	CHED	1088	Tour, J.M.	COLL	739
Tonetti, A.L.	ENVR	271	Torre, P.	COLL	276	Tour, J.M.	COLL	757
Toney, M.	PMSE	115	Torrealba, V.	COLL	430	Tour, J.M.	ENFL	202
Toney, M.	PMSE	493	Torrejon, K.	BIOT	624	Tour, J.M.	ORGN	871
Toney, M.	POLY	197	Torrrens, H.	INOR	332	Toure, B.	MEDI	464
Tong, F.	ORGN	679	Torrrens, H.	INOR	350	Toussaint, N.	MEDI	18



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Touve, M.	COLL	769	Tran, T.	CHED	520	Trinh, M.	INOR	366
Tovar, J.D.	PMSE	252	Tran, T.P.	MEDI	361	Trinh, M.	INOR	705
Tovar, T.M.	INOR	1508	Tran, Y.	INOR	1024	Trinh, M.	PROF	3
Tower, A.	BIOT	596	Trana, C.	MEDI	489	Trinh, M.N.	CHED	37
Tower, C.	POLY	456	Tran-Gyamfi, M.B.	BIOT	95	Tripathi, A.	CELL	429
Towers, G.	CHED	1170	Tran-Thi, N.	ENVR	558	Tripathi, A.	CELL	441
Towers, G.	CHED	1469	Trapp, M.	COLL	5	Tripp, C.	ENVR	762
Towler, C.	MEDI	305	Trappe, J.	MEDI	353	Tripp, J.A.	CHED	12
Townley, C.	ANYL	472	Trate, J.M.	CHED	177	Trippier, P.C.	MEDI	122
Towns, H.	CHED	1385	Trate, J.M.	CHED	2079	Tristani, N.	CHED	1863
Towns, M.H.	CHED	28	Tratnyek, P.G.	ENVR	106	Trivedi, E.R.	INOR	344
Towns, M.H.	CHED	68	Tratnyek, P.G.	ENVR	303	Trivedi, E.R.	INOR	749
Towns, M.H.	CHED	201	Tratnyek, P.G.	ENVR	892	Trivedi, E.R.	INOR	937
Towns, M.H.	CHED	269	Tratnyek, P.G.	GEOC	156	Trivedi, E.R.	INOR	961
Towns, M.H.	CHED	1900	Tratras Contis, E.	IAC	23	Trivedi, P.	CELL	6
Towns, M.H.	CHED	1946	Trauner, D.	BIOL	16	Trivedi, P.	CELL	478
Towns, M.H.	CHED	2047	Travis, J.	INOR	322	Trivedi, R.	ANYL	7
Towns, M.H.	CHED	2154	Travis, J.	INOR	324	Troccoli, N.M.	BIOT	695
Townsend, D.	BIOT	40	Travis, J.Z.	INOR	17	Troester, M.	CHED	1876
Townsend, M.	BIOT	127	Travis, S.G.	CHED	857	Trofimovaite, R.	ENFL	147
Townsend, S.	CARB	54	Travis, S.G.	CHED	1762	Trogler, W.C.	BIOT	249
Townsend, S.	CARB	71	Trawick, M.	CHED	367	Trogler, W.C.	BIOT	384
Townsend, T.M.	CHED	1813	Traylor, S.	BIOT	428	Trogler, W.C.	COLL	351
Townsend, T.M.	INOR	137	Traylor, S.	BIOT	676	Trogler, W.C.	COLL	846
Townsend, T.M.	INOR	305	Traylor, S.	BIOT	714	Trogolo, D.	ENVR	32
Toy, P.H.	ORGN	378	Traynor, H.	BIOL	5	Trogolo, D.	MEDI	84
Toyama, K.	CELL	317	Treadwell, L.J.	INOR	440	Troiano, J.	CHED	111
Toybou, D.	ENVR	494	Treadwell, L.J.	INOR	1522	Trojer, P.	MEDI	358
Toybou, D.	ENVR	495	Treasure, T.	AGFD	228	Trombettoni, V.	ENFL	389
Toybou, D.	INOR	1126	Treat, N.J.	ORGN	681	Tron, A.	POLY	624
Tözendemir, D.	ORGN	108	Trebotich, D.	GEOC	17	Tropsha, A.	CINF	1
Trabolski, A.	CHED	1712	Treetong, A.	COLL	601	Tropsha, A.	CINF	107
Trabucco, J.	CHED	703	Trefonas, P.	PMSE	675	Tropsha, A.	CINF	124
Tracy, B.P.	BIOT	151	Treibergs, L.	ENVR	263	Tropsha, A.	ENVR	1009
Tracy, D.A.	COMP	361	Treich, G.M.	PMSE	411	Tropsha, A.	HIST	37
Tracy, H.	INOR	315	Treich, G.M.	PMSE	437	Troselj, P.	ORGN	645
Tracy, H.	INOR	316	Treich, G.M.	POLY	150	Troshin, P.A.	ANYL	6
Tracy, H.	INOR	317	Treich, G.M.	POLY	218	Trossini, G.H.	CHED	323
Tracy, J.B.	COLL	863	Treich, G.M.	POLY	269	Trossini, G.H.	MEDI	206
Tracy, K.	ANYL	62	Treich, N.R.	INOR	1546	Trossini, G.H.	MEDI	282
Trad, T.	ENVR	834	Treichel, M.	INOR	904	Trossini, G.H.	MEDI	424
Trad, T.M.	INOR	429	Trejo, N.	CHED	1301	Trost, B.M.	ORGN	55
Traeger, A.	CHED	1162	Trejo, N.	COLL	860	Trost, C.	CHED	334
Traeger, A.	IAC	9	Trejo, P.J.	MEDI	44	Trost, C.	CHED	338
Traeger, S.C.	MEDI	21	Trejo, P.J.	MEDI	240	Trotochaud, L.	CATL	647
Trafton, B.	BIOT	566	Trejo, P.J.	MEDI	443	Trotochaud, L.	COLL	235
Traikia, M.	I&EC	18	Tremain, S.M.	CHED	2183	Trotochaud, L.	GEOC	115
Trainer, M.	CHED	1648	Tremblay, A.	COLL	175	Trotter, B.	COLL	500
Tram, P.	MEDI	202	Trenary, M.	CATL	91	Trotter, K.	INOR	313
Tramel, W.	ANYL	102	Trenerry, M.	INOR	871	Troutman, J.	CARB	49
Trammell, R.A.	ORGN	825	Trenholm, R.A.	ENVR	129	Troutman, J.M.	CARB	36
Tran Lu, L.	CHED	1890	Trenholm, R.A.	ENVR	634	Troutman, J.M.	CARB	50
Tran, A.	CATL	238	Trent, M.	CARB	26	Trowbridge, A.	ORGN	668
Tran, B.	COLL	553	Trepanowski, N.	CHED	1171	Trowbridge, A.	CHED	363
Tran, C.	BIOT	50	Tress, M.	POLY	446	Trowbridge, P.	ENVR	991
Tran, D.	INOR	1030	Tressel, J.	BIOT	77	Troya, D.	INOR	1408
Tran, D.	BIOL	269	Tressel, J.	BIOT	635	Troya, D.	POLY	245
Tran, G.	BIOT	719	Tretiak, S.	COMP	361	Troyer, D.L.	INOR	1147
Tran, G.A.	INOR	19	Tretter, T.R.	CHED	168	Troyer, D.L.	INOR	1526
Tran, J.	CHED	1808	Treviño, A.	PHYS	522	Troyer, D.L.	MEDI	80
Tran, J.	ORGN	251	Trevino, E.	COMP	253	Troyer, D.L.	MEDI	420
Tran, J.	BIOT	267	Trewyn, B.G.	CATL	237	Truax, V.	MEDI	41
Tran, K.	INOR	433	Trewyn, B.G.	NUCL	137	Truax, V.T.	MEDI	42
Tran, K.	COMP	304	Treye, T.	ENVR	313	Truax, V.T.	MEDI	43
Tran, K.	COMP	491	Triano, R.M.	CHED	1530	Trueblood, J.	CHED	938
Tran, K.T.	ENVR	351	Triantafillu, U.L.	BIOT	626	Truhlar, D.G.	COMP	379
Tran, L.	ENVR	558	Tribe, L.	GEOC	12	Truhlar, D.G.	ENFL	271
Tran, M.	MEDI	253	Trice, S.L.	ORGN	393	Trujillo, B.J.	CHED	547
Tran, N.	ENFL	230	Trickett, C.	INOR	1010	Trujillo, J.	MEDI	316
Tran, N.	CHED	1516	Trickett, C.	INOR	1021	Trujillo, M.J.	ORGN	872
Tran, N.K.	ENVR	343	Trickett, C.	INOR	1036	Trulove, P.C.	CHED	1009
Tran, P.	CELL	389	Trickett, C.	CATL	535	Trulove, P.C.	ENVR	1030
Tran, P.	COLL	191	Trickett, C.	CHED	1317	Trulove, P.C.	POLY	132
Tran, P.	COLL	766	Trilles, R.	ORGN	528	Trunfio, N.	BIOT	272
Tran, P.D.	CHAS	34	Trillo, M.P.	ORGN	253	Truong, J.	ENVR	73
Tran, P.X.	ENFL	239	Trillo, P.	ORGN	384	Truong, K.	POLY	45
Tran, R.	INOR	894	Trimble, A.	CHED	1496	Truong, L.	ENVR	558
Tran, R.	INOR	1395	Trimmer, E.E.	CHED	636	Truong, N.	PMSE	304
Tran, T.	INOR	1107	Tringe, S.	BIOT	179	Truong, N.	POLY	54
Tran, T.	BIOL	220	Trinh, K.	COLL	743	Truong, N.	POLY	604

Truong, P.	MEDI	298	Tsung, C.	ENFL	256	Turn, S.	ENFL	385
Truong, P.T.	INOR	1322	Tsung, C.	INOR	549	Turnbaugh, P.	BIOL	355
Truong, Q.T.	COLL	218	Tsuno, S.	ORGN	801	Turnbaugh, P.	BIOL	358
Truong, T.	BIOL	101	Tsunoda, S.	PHYS	404	Turner, A.	ENVR	159
Truong, V.	ANYL	96	Tsurugi, H.	ORGN	40	Turner, A.	MEDI	17
Truong, V.	ANYL	97	Tsyshevsky, R.	CATL	647	Turner, A.	PHYS	494
Trusiak, A.	ENVR	263	Tsyshevsky, R.	COLL	235	Turner, A.M.	PHYS	569
Truskett, T.	BIOT	88	Tu, B.	INOR	199	Turner, C.L.	INOR	1071
Truskett, T.	COLL	119	Tu, C.	PMSE	447	Turner, D.	PHYS	414
Truskett, T.	COLL	390	Tu, F.	PMSE	129	Turner, D.	ANYL	385
Truskett, T.	PHYS	138	Tu, Q.	COLL	510	Turner, J.	CHED	481
Truttmann, T.	PHYS	540	Tu, Q.	ENVR	506	Turner, J.	COMP	226
Truttmann, T.	POLY	477	Tu, R.S.	PMSE	577	Turner, J.	CINF	130
Trygstad, T.M.	CHED	1372	Tu, W.	CATL	549	Turner, J.	CHED	724
Tryhorn, J.	MEDI	147	Tube, R.	CATL	387	Turner, J.A.	CATL	557
Trylska, J.	MEDI	95	Tube, R.	CATL	390	Turner, J.A.	INOR	1343
Trzupke, J.D.	ORGN	673	Tube, R.	POLY	438	Turner, N.W.	POLY	627
Tsai, A.	ORGN	871	Tucci, R.	CHED	999	Turner, R.	BIOT	637
Tsai, C.	CATL	281	Tucci, V.K.	CINF	17	Turner, R.	BIOT	645
Tsai, C.	CATL	613	Tucci, V.K.	CINF	159	Turner, S.	CHED	1880
Tsai, H.	ENVR	557	Tüchler, M.	INOR	369	Turner, S.	CELL	272
Tsai, H.	INOR	1105	Tuchler, M.F.	ANYL	387	Turpin, C.L.	CHED	1706
Tsai, H.	INOR	849	Tucker, A.T.	BIOT	152	Turpin, M.	GEOC	231
Tsai, L.	BIOT	312	Tucker, B.A.	BIOL	52	Turro, C.	INOR	545
Tsai, M.	CATL	526	Tucker, B.A.	BIOT	690	Turro, C.	INOR	719
Tsai, M.	ENFL	203	Tucker, C.J.	COLL	54	Turro, C.	INOR	1104
Tsai, P.	COLL	106	Tucker, C.J.	PMSE	620	Turro, C.	INOR	1195
Tsai, S.	ORGN	292	Tucker, J.	BIOT	699	Turro, C.	INOR	1272
Tsai, S.	AGFD	102	Tucker, J.	CATL	548	Turro, R.	ORGN	206
Tsai, T.	POLY	336	Tucker, M.J.	MEDI	111	Turteltaub, K.	ANYL	54
Tsang, D.	CATL	489	Tucker, M.P.	BIOT	140	Turteltaub, K.	ANYL	58
Tsang, D.	CELL	380	Tucker, W.	ENVR	125	Turuga, A.	ENFL	356
Tsang, D.	ENVR	244	Tuckey, R.C.	MEDI	427	Tutal, B.	ENFL	184
Tsang, D.	GEOC	309	Tufar, P.	POLY	546	Tuttle, M.	MEDI	215
Tsang, D.	GEOC	347	Tufenkji, N.	AGFD	21	Tuttle, N.	ENVR	712
Tsang, K.	INOR	326	Tufenkji, N.	ENVR	999	Tuttle, P.	ORGN	299
Tsang, L.	CHED	1632	Tugcu, N.	BIOT	187	Tutubalina, E.	CINF	107
Tsao, C.	MEDI	350	Tuhlei, B.	CHED	1221	Tutwiler, C.	CHED	1548
Tsapatsis, M.	CATL	202	Tuladhar, P.	CHED	1242	Tuysuz, H.	CATL	241
Tsarevsky, N.V.	CHED	2112	Tulaphol, S.	AGFD	116	Tuysuz, H.	CATL	433
Tsarevsky, N.V.	HIST	15	Tulaphol, S.	CATL	386	Tuzun, S.C.	ENVR	283
Tsargorodska, A.	PHYS	563	Tulloch, A.G.	BIOT	72	Tweit, M.	CHED	477
Tsavalas, J.	INOR	1150	Tully, A.	ANYL	194	Tvrdy, K.C.	CHED	283
Tsay, C.	INOR	161	Tulysan, A.	BIOT	644	Tvrdy, K.C.	COLL	196
Tschauner, O.	GEOC	200	Tumber, A.	BIOL	314	Tvrdy, K.C.	COLL	838
Tschirhart, T.	BIOT	651	Tumber, A.	COMP	549	Tway, C.L.	INOR	1570
Tschudi, K.	BIOT	17	Tumey, S.	NUCL	17	Twight, L.	ENVR	117
Tschudi, K.	BIOT	132	Tumiel, C.B.	CHED	1793	Twomey, M.	NUCL	138
Tschumper, G.S.	CHED	1697	Tumiel, T.M.	CHED	1793	Twum, E.B.	ORGN	410
Tschumper, G.S.	PHYS	514	Tumkur, T.	PHYS	560	Twum, E.B.	ORGN	417
Tse, E.	INOR	742	Tummalapalli, K.	ORGN	209	Tyagi, A.	BIOT	491
Tseng, A.S.	CINF	76	Tumminello, R.	CHED	996	Tyagi, M.	PHYS	185
Tseng, A.S.	CINF	101	Tumminello, R.	CHED	998	Tye, C.	MEDI	349
Tseng, H.	BIOT	64	Tumuluri, U.	CATL	592	Tyer, D.	INOR	115
Tseng, H.	MEDI	256	Tumurbaatar, E.	COMP	349	Tyl, C.	CELL	503
Tseng, H.	MEDI	382	Tun, A.	CHED	566	Tyler, L.A.	INOR	945
Tseng, J.	MEDI	385	Tuna, F.	NUCL	64	Tyliszczak, T.	INOR	96
Tseng, K.T.	INOR	500	Tuna, F.	NUCL	78	Tyrchan, C.	INOR	56
Tseng, K.T.	INOR	563	Tunc, S.	COLL	744	Tyrpak, D.	PMSE	198
Tseng, P.	ANYL	483	Tunega, D.	GEOC	278	Tysoe, W.T.	CATL	136
Tseng, Y.	COMP	291	Tung, T.	MEDI	374	Tysoe, W.T.	COLL	22
Tseng, Y.	COMP	351	Tung, T.	MEDI	425	Tysoe, W.T.	COLL	25
Tseng, Y.	COLL	592	Tunick, M.H.	AGFD	39	Tysoe, W.T.	COLL	28
Tsent, H.	INOR	568	Tunick, M.H.	AGFD	174	Tysoe, W.T.	INOR	1085
Tsitovich, P.B.	INOR	715	Tunstad, L.M.	CHED	1954	Tyssebotn, I.M.	ANYL	90
Tsitovich, P.B.	INOR	1194	Tunuguntla, R.	COLL	779	Tyssebotn, I.M.	ANYL	402
Tsolakis, A.	CATL	351	Turalli-Emre, E.S.	BIOT	326	Tyufekchiev, M.V.	PMSE	98
Tsonis, P.	BIOL	162	Türe, H.	CELL	449	Tzanov, T.	CELL	385
Tsou, A.H.	PMSE	216	Tureski, R.E.	INOR	856	Tzanov, T.	COLL	160
Tsou, A.H.	PMSE	618	Turgeon, S.L.	COLL	491	Tzanov, T.	COLL	230
Tsuboi, K.	MEDI	449	Turgeson, A.	BIOL	116	Tzanov, T.	COLL	245
Tsuboi, K.	CELL	77	Turk, M.	CHED	1004	Tzanov, T.	COLL	339
Tsuchiya, H.	POLY	165	Turk, M.C.	ORGN	223	Tzanov, T.	COLL	343
Tsuda, Y.	PMSE	558	Turkett, J.A.	BIOL	94	Tzanov, T.	COLL	373
Tsui, M.M.	ENVR	921	Turkiewicz, A.	INOR	1038	Tzeng, P.	PMSE	438
Tsui, V.	CINF	47	Turkiewicz, A.	INOR	1224	Tzitzios, V.	INOR	1276
Tsui, V.	COMP	22	Turkmen, Y.E.	ORGN	899	Tzou, C.	PHYS	192
Tsuji, Y.	INOR	188	Turlington, C.	POLY	534	Tzvetkov, N.T.	MEDI	407
Tsujino, T.	MEDI	110	Turn, S.	ENFL	292	Ubiera, A.R.	BIOT	725
Tsukerblat, B.	PHYS	154	Turn, S.	ENFL	323	Uchimiya, S.M.	ENVR	372

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Uddenberg, M.	ENFL	28	Ung, P.	MEDI	283	Uygun, A.	COLL	849
Uddin, M.J.	INOR	429	Unger, A.	NUCL	83	Uygun, E.	COLL	159
Uddin, R.	ORGN	456	Unger, J.	ORGN	206	Uygun, E.	COLL	849
Uddin, S.	BIOT	165	Ungermann, S.	AGFD	150	Uzair, U.	ANYL	458
Uddin, S.	COLL	656	Ungpittagul, T.	INOR	889	Uzarski, J.R.	BIOT	58
Udert, K.	ENVR	567	Unjaroen, D.	INOR	147	Uzarski, J.R.	COLL	732
Udikovic-Kolic, N.	ENVR	631	Unjaroen, D.	INOR	216	Uzarski, J.R.	COLL	741
Udomsasporn, K.	INOR	890	Unlu, I.	COLL	153	Uzarski, J.R.	COLL	796
Udovic, T.J.	ENFL	410	Unocic, R.	ENFL	394	V., V.N.	ORGN	866
Udovic, T.J.	INOR	1534	Unrine, J.M.	ENVR	964	Vaaje-Kolstad, G.	CELL	171
Ueda, C.	INOR	775	Unruh, D.	CHED	101	Vaca Medina, G.	CELL	128
Ueda, H.	BIOT	317	Unruh, D.	INOR	1140	Vaccaro, H.A.	MEDI	112
Uehara, K.	COMP	295	Unruh, D.	INOR	1486	Vaccaro, L.	CHED	1153
Uehara, N.	INOR	1170	Unruh, D.	INOR	1568	Vaccaro, L.	ENFL	389
Ueno, S.	ORGN	822	Unser, S.	COLL	824	Vaccaro, L.	ENVR	60
Ueno, Y.	ANYL	392	Unterberg, E.	NUCL	142	Vaccaro, L.	ORGN	86
Ueno, Y.	COLL	376	Unterweger, C.	CELL	250	Vaccaro, P.H.	PHYS	444
Uersfeld, D.	ORGN	639	Unwalla, R.	MEDI	316	Vaccaro, W.	MEDI	349
Ueta, H.	PHYS	110	Upadhyay, S.	INOR	817	Vacchina, P.	MEDI	419
Ugarte Trejo, O.	CHED	1131	Upham, D.C.	CATL	294	Vachet, R.W.	BIOL	70
Ugliengo, P.	PHYS	237	Upham, D.C.	ENFL	125	Vaes, W.	ANYL	55
Uhlig, K.A.	INOR	1562	Upmacis, R.K.	CHED	387	Vaghjiani, G.L.	PHYS	341
Uhrich, K.E.	CARB	93	Upp, C.	CELL	111	Vaia, R.A.	COLL	840
Uitvlugt, C.	PHYS	144	Uppuluri, R.	NUCL	88	Vaia, R.A.	INOR	482
Ukhapunyakul, P.	COLL	601	Upton, B.	INOR	384	Vaia, R.A.	PMSE	264
Ukhliyanova, N.	ANYL	451	Upton, K.	CHED	1795	Vaia, R.A.	PMSE	356
Ukil, S.	ORGN	616	Upton, K.	MEDI	473	Vaia, R.A.	POLY	610
Ukrainsev, D.V.	PMSE	483	Urakawa, A.	CATL	309	Vaida, V.	PHYS	228
Ukuser, S.	ORGN	220	Urakawa, A.	CATL	542	Vaida, V.	PHYS	272
Ulbricht, M.	BIOT	709	Uranga, G.	COMP	299	Vaida, V.	PHYS	356
Ulibarrie, N.	CELL	143	Urasa, I.T.	IAC	20	Vaida, V.	PHYS	367
Ulijn, R.	ANYL	484	Urata, C.	COLL	131	Vaida, V.	PHYS	398
Ulijn, R.	COLL	281	Urbach, A.R.	CHED	1345	Vaida, V.	PHYS	402
Ulijn, R.	PMSE	250	Urbach, A.R.	CHED	1346	Vaida, V.	PHYS	430
Ulijn, R.	PMSE	480	Urbach, A.R.	CHED	1373	Vaidya, N.	CINF	171
Ullah, N.	POLY	405	Urbach, A.R.	CHED	1375	Vaidya, N.	ENVR	365
Ullah, N.	POLY	453	Urban, J.	CATL	177	Vaidya, N.A.	ENVR	442
Ullah, S.	ENFL	243	Urban, J.	ENVR	502	Vaidyanathan, D.	BIOT	392
Ullal, C.	COLL	267	Urban, J.	ENVR	506	Vaidyanathan, N.	BIOT	365
Ullman, K.S.	MEDI	213	Urban, M.	NUCL	48	Vail, A.W.	BIOT	562
Ullom, J.	BIOT	482	Urban, M.W.	POLY	17	Vailionis, A.	CATL	69
Ullom, J.	CATL	144	Urban, M.W.	POLY	200	Vaish, A.	COLL	7
Ullom, J.	COLL	146	Urban, P.	INOR	1021	Vaish, A.	COLL	132
Ullom, J.	INOR	1319	Urban, V.	CELL	19	Vaitheeswaran, S.	PROF	13
Ullsten, H.	CELL	449	Urban, V.	CELL	520	Vaithi, R.	CHED	1610
Ulrich, B.	ENVR	542	Urbanek, B.	CARB	62	Vajda, S.	COMP	473
Ulrich, E.M.	ANYL	76	Urbanowicz, B.	CELL	269	Vajda, S.	CATL	2
Ulrich, J.	CHED	1881	Urbonaite, M.	FLUO	29	Vajda, S.	COMP	203
Ulrich, J.	ENVR	880	Urena, J.F.	CHED	1574	Vajdos, F.F.	MEDI	316
Ulrich, R.	CHED	1226	Uribe, V.M.	BIOT	379	Vajpeyi, S.	ENVR	910
Ulrich, S.	CHED	1179	Uribe-Romo, F.	CHED	110	Vakil, P.N.	COLL	665
Ulrichsen, C.	AGFD	45	Urman, D.	CHED	1700	Valasatava, Y.	CINF	71
Um, C.	ORGN	464	Urman, D.	CHED	1736	Valcarce, R.V.	AGFD	51
Um, H.	ENFL	268	Urness, D.	INOR	264	Valcarce, R.V.	AGFD	57
Um, H.	ENFL	269	Uroos, M.	AGFD	89	Valcarce, R.V.	ANYL	79
Um, W.	ENFL	34	Urquilla, A.	ORGN	801	Valcarce, R.V.	ANYL	86
Um, W.	GEOC	305	Uruga, T.	CATL	96	Valcarce, R.V.	ANYL	87
Um, W.	ENVR	781	Uruga, T.	CATL	101	Valcarce, R.V.	ANYL	178
Umei, K.	ORGN	519	Usher, T.	CHED	2000	Valcarce, R.V.	CHED	172
Umemoto, T.	FLUO	39	Usher, T.	COMP	303	Valcarce, R.V.	CHED	774
Umemura, S.	MEDI	449	Usher, T.	COMP	437	Valcarce, R.V.	CHED	809
Umerani, M.	PMSE	294	Ushizima, D.	COLL	465	Valcarce, R.V.	CHED	981
Umeyama, D.	INOR	1174	Usov, P.	ENFL	303	Valcarce, R.V.	CHED	992
Umland, S.	MEDI	248	Usrey, M.	ENFL	374	Valcarce, R.V.	CHED	1769
Umuhire-Juru, A.	CHED	1487	Usta, H.	ANYL	237	Valdés Espinosa de los		
Unal Tosun, G.	GEOC	236	Uster, B.	GEOC	100	Monteros, H.	CATL	173
Unal, S.	POLY	122	Uster, B.	GEOC	256	Valdes, C.	ENFL	197
Unal, S.	POLY	223	Ustoyev, A.	CHED	901	Valdez, C.	INOR	1
Underhill, P.	COLL	852	Uto, T.	CELL	102	Valdez, C.A.	ANYL	291
Underwood, J.	ENVR	268	Uto, T.	CELL	467	Valdez, C.A.	ANYL	359
Underwood, K.	CHED	941	Utschig-Johnson, L.M.	CATL	391	Valdez, C.A.	COMP	546
Underwood, S.	CHED	236	Utsunomiya, S.	GEOC	207	Valdez, C.E.	PHYS	218
Underwood, S.	CHED	2015	Utt, K.	CELL	392	Valdez, D.	CATL	169
Underwood, S.J.	ORGN	258	Utz, A.	BIOL	242	Valdez, L.J.	ORGN	461
Underwood, S.M.	CHED	2016	Utz, A.	CHED	560	Valdez, M.	MEDI	181
Underwood, T.	GEOC	30	Uvegi, H.	CELL	425	Valdez-Solana, M.	MEDI	240
Undey, C.	BIOT	644	Uversky, V.N.	COLL	38	Valdez-Solana, M.	MEDI	289
Uneyama, H.	AGFD	208	Uygun, A.	COLL	159	Vale, J.K.	CHED	1828
Ung, D.	INOR	1342	Uygun, A.	COLL	301	Valedon Arce, R.	CHED	345
Ung, J.	CHED	1343	Uygun, A.	COLL	744	Valencia, M.A.	CHED	1591

Valencia-Gallegos, J.A.	BIOT	531	Van Dyke, B.	INOR	244	Vanalstine-Parris, M.A.	MEDI	230
Valente, C.	POLY	429	van Dyke, Y.	ANYL	219	Vanbriesen, J.M.	ENVR	327
Valente, E.J.	CHED	1236	Van Eker, D.	MEDI	278	Vandavasi, V.	CELL	188
Valentine, A.	INOR	5	van Esch, J.	POLY	574	Vandavasi, V.	CELL	189
Valentine, D.L.	BIOT	177	Van Genuchten, C.M.	ENVR	99	Vande Stouwe, O.	CHED	1720
Valentine, M.	ANYL	65	van Grondelle, R.	PHYS	396	Vanden Heuvel, J.	GEOC	304
Valentini, A.	COMP	131	van Haandel, L.	CATL	7	VanDenBossche, V.	CELL	447
Valentino, L.	ENVR	503	Van Hecke, G.R.	CHED	1640	Vandenbrande, J.	INOR	685
Valenzuela, B.	ANYL	331	Van Hecke, G.R.	CHED	1641	VanDenburgh, K.	BIOL	92
Valenzuela, S.A.	CHED	1413	Van Hecke, G.R.	COLL	260	VanDenburgh, K.	ORGN	18
Valera, J.	POLY	307	van Heerden, E.	GEOC	79	Vandenplas, J.R.	CHED	9
Valero, J.R.	ENVR	156	Van Helten, S.	GEOC	265	Vandenplas, J.R.	CHED	56
Valero-Vidal, C.	ENFL	283	Van Herck, S.	PMSE	526	Vandenplas, J.R.	CHED	778
Valiere, A.N.	ORGN	461	van Hest, J.	PMSE	646	Vandenplas, J.R.	CHED	793
Valiulis, S.	ANYL	213	Van Heuvelen, K.M.	INOR	238	Vander Meer, A.	POLY	262
Valla, M.	PMSE	174	Van Heuvelen, K.M.	INOR	252	Vander Meulen, I.	ENVR	160
Vallat, M.	CELL	177	Van Heuvelen, K.M.	INOR	271	Vander Zanden, C.	BIOL	64
Valle, E.	CATL	243	Van Horn, C.J.	CHED	1683	Vanderfleett, O.	CELL	88
Valle, E.	CATL	290	Van Horn, K.S.	MEDI	142	Vanderford, B.	ENVR	129
Valle, H.U.	CATL	403	Van Horn, M.	CHED	594	Vanderford, B.	ENVR	284
Valle, M.	AGFD	24	Van Horn, R.M.	POLY	36	Vanderford, B.	ENVR	634
Valle, V.	CELL	142	Van Horn, R.M.	POLY	456	VanderVelde, D.	CHED	997
Valle-Bourrouet, G.	INOR	359	Van Horn, R.M.	POLY	458	VanderVelde, D.	MEDI	428
Valle-Delgado, J.	CELL	333	Van Horn, R.M.	POLY	480	Vanderwal, C.D.	ORGN	142
Valle-Delgado, J.	CELL	373	Van Horn, W.D.	BIOL	55	Vanderwal, C.D.	ORGN	292
Vallet, V.	NUCL	68	Van Horne, S.	CHED	1443	Vanderwal, L.	PMSE	474
Valley, D.T.	PHYS	559	van Houts, R.	BIOT	72	Vanelderen, P.	ENFL	11
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Valley, N.A.	PHYS	337	Van Hoveln, R.	ORGN	233	VanHouten, J.	CHED	196
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Valverde-Cerdas, J.	ENVR	612	Van Humbeck, J.	INOR	1175	VanMieghem, M.	CHED	1411
Vamvakaki, M.	CARB	19	van Kasteren, S.	BIOL	12	Vannam, R.	ORGN	527
Van Allsburg, K.M.	INOR	1270	van Kessel, J.	BIOT	651	VanNatta, P.E.	INOR	927
Van Anders, G.	PMSE	177	Van Kirk, K.	CHED	328	VanNatta, P.E.	INOR	1376
Van Bavel, B.	ANYL	442	Van Kirk, K.	CHED	2166	Vanninen, P.	ANYL	254
van Beckhoven, R.F.	BIOT	534	Van Kuiken, B.	PHYS	393	Vano, R.	CELL	292
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van Benthem, K.	INOR	1559	Van Loan, M.	AGFD	209	Vanselous, H.	ANYL	298
Van Benthem, M.H.	COLL	30	Van Meir, E.	MEDI	500	Vanselous, H.	PHYS	545
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Van Cappellen, P.	GEOC	153	van Montfort, R.L.	MEDI	111	Varapragasam, S.	COLL	717
Van Daelen, M.	COMP	151	Van Nieuwenhze, M.	BIOL	339	Varapragasam, S.	INOR	481
Van De Burgt, L.J.	CATL	58	Van Patten, P.G.	COLL	538	Varapragasam, S.	INOR	1411
van de Lagemaat, J.	BIOT	72	Van Patten, P.G.	INOR	488	Varapragasam, S.	INOR	1519
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Van den Bosch, S.	CATL	591	Van Ripper, J.	CHED	44	Vardenega, J.	CHED	709
Van den Bossche, M.	COMP	42	Van Ryswyk, H.	CHED	944	Vardon, D.	CATL	245
Van Den Driessche, G.	CINF	150	Van Ryswyk, H.	CHED	1291	Vardon, D.	ENVR	61
Van Den Driessche, G.	MEDI	451	Van Ryswyk, H.	CHED	1299	Varga, G.	CATL	393
van den Ende, D.	GEOC	147	Van Scyoc, Z.	AGFD	260	Varga, I.	POLY	584
van den Ende, D.	GEOC	146	Van Shufflin, S.	BIOL	91	Varga, J.	ORGN	366
Van der Aar, E.	MEDI	347	Van Speybroeck, V.	COMP	192	Varganov, S.A.	COLL	275
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Van Der Schueren, J.	MEDI	347	van Vliet, P.	PHYS	288	Varganov, S.A.	PHYS	408
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Vikesland, P.J.	ENVR	624	Vinson, D.	CHED	1887	Vogel, D.	PHYS	343
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Villani-Gale, A.J.	ORGN	495	Vivekanandhan, S.	CELL	505	Volkis, V.	ENVR	779
Villani-Gale, A.J.	ORGN	421	Vivero-Escoto, J.L.	BIOT	236	Volkov, A.	INOR	19
Villanueva, M.	CHED	1156	Vivero-Escoto, J.L.	CHED	1312	Volkov, A.	ORGN	253
Villanueva, M.	IAC	13	Vizza, A.	ORGN	881	Volkov, A.	PMSE	640
Villar-Acevedo, G.	INOR	145	Vjunov, A.	CATL	48	Vollrath, F.	CHED	1009
Villar-Acevedo, G.	INOR	284	Vlachos, D.G.	CATL	112	Voloshin, A.	BIOT	205
Villares, A.	CELL	126	Vlachos, D.G.	CATL	202	Voloshin, A.	BIOT	520
Villares, A.	CELL	534	Vlachos, D.G.	CATL	275	Voltolini, M.	GEOC	11
Villarino Palmaz, L.	BIOL	325	Vlachos, D.G.	COMP	125	Vom Saal, F.S.	ENVR	953
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Villarreal, C.	INOR	1082	Vlahopoulou, J.	BIOT	421	Von Der Kammer, F.	ENVR	308
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von Gunten, U.	ENVR	181	Vyas, R.	CINF	175	Wagner, W.J.	POLY	444
von Gunten, U.	ENVR	279	Vyas, S.	INOR	792	Wagschal, K.C.	BIOT	247
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von Gunten, U.	ENVR	945	Wachs, I.E.	CATL	519	Wahl, K.J.	POLY	569
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Vornheder, T.R.	CHED	622	Wade, C.	ORGN	744	Waite, D.	ENVR	1023
Vornheder, T.R.	CHED	653	Wade, D.	CHED	1484	Waite, D.	ENVR	1028
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Vorwerk, K.M.	CHED	876	Wagberg, L.	CELL	369	Walden, D.	ORGN	932
Vosburg, D.A.	CHED	782	Wagberg, L.	CELL	370	Walden, K.	CHED	786
Vosburg, D.A.	ORGN	482	Wagberg, L.	CELL	439	Walden, T.	CHED	549
Vosburg, D.A.	ORGN	844	Wagberg, L.	CELL	492	Waldie, K.M.	CATL	76
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Voss, J.	INOR	1174	Wagberg, L.	CELL	290	Waldow, D.A.	CHED	1746
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Vowinkel, S.	COLL	464	Wager, J.F.	INOR	649	Waldschmidt, H.	MEDI	10
Vowinkel, S.	PMSE	450	Wager, J.F.	INOR	761	Waldvogel, S.R.	ORGN	409
Voyer, N.	AGFD	5	Wager, J.F.	INOR	765	Waleed, A.	INOR	1578
Vranish, J.	COLL	571	Wager, J.F.	INOR	768	Walensky, J.R.	NUCL	62
Vreeke, M.	BMGT	1	Waggoner, D.C.	ENVR	947	Walensky, J.R.	NUCL	90
Vreeke, M.	SCHB	2	Waghe, A.B.	CHED	1240	Walger, E.	CELL	293
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Vu, K.	CHED	1827	Wagner, B.L.	ORGN	572	Walish, J.	COLL	662
Vu, K.	BIOL	255	Wagner, C.	INOR	1297	Walke, P.	COLL	511
Vu, N.Q.	ANYL	74	Wagner, E.P.	CHED	2058	Walker, A.	MEDI	468
Vu, T.	CHED	356	Wagner, E.P.	CHED	2168	Walker, A.	COMP	378
Vu, T.	CHED	364	Wagner, J.	CHED	1768	Walker, A.V.	COLL	74
Vu, V.	ORGN	796	Wagner, J.	CINF	140	Walker, G.	GEOC	272
Vu, V.	ORGN	797	Wagner, J.	COMP	411	Walker, J.	CHED	1336
Vucic, D.	MEDI	247	Wagner, K.	MEDI	68	Walker, J.	PMSE	609
Vucinic, S.	CHAL	21	Wagner, K.	MEDI	297	Walker, J.	ORGN	325
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Vukovic, L.	COLL	49	Wagner, M.	ENVR	236	Walker, J.K.	MEDI	167
Vukovic, L.	COLL	420	Wagner, M.	POLY	576	Walker, J.K.	MEDI	408
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Vullev, V.I.	COLL	314	Wagner, N.	CHED	1515	Walker, K.L.	INOR	1503
Vulpe, C.	ENVR	494	Wagner, N.J.	BIOT	133	Walker, L.M.	BIOT	131

Walker, N.	COMP	400	Wambach, T.C.	INOR	868	Wang, D.	INOR	1189
Walker, R.	ORGN	268	Wammer, K.H.	CHED	986	Wang, D.	COLL	506
Walker, R.	BIOL	2	Wammer, K.H.	CHED	987	Wang, D.	COLL	726
Walker, R.	COMP	176	Wammer, K.H.	CHED	988	Wang, D.	MEDI	142
Walker, S.	CHED	851	Wammer, K.H.	ENVR	521	Wang, D.	COLL	602
Walker, S.	CHED	547	Wampfler, S.	PHYS	192	Wang, D.	PHYS	424
Walker, S.	CHED	1038	Wampler, W.	NUCL	142	Wang, D.H.	COLL	840
Walker, S.	BIOL	341	Wamser, N.	INOR	381	Wang, D.H.	INOR	482
Walker, S.L.	ANYL	365	Wan Abu Bakar, W.	CATL	484	Wang, D.H.	POLY	610
Walker, S.L.	ENVR	1036	Wan Nawawi, W.	CELL	455	Wang, F.	CATL	605
Walker, T.	COLL	375	Wan, B.	GEOC	235	Wang, F.	BIOT	318
Wall, D.E.	NUCL	147	Wan, C.	PMSE	274	Wang, F.	CATL	478
Wall, D.E.	NUCL	166	Wan, C.	INOR	1429	Wang, F.	ENVR	912
Wall, L.	CHAL	14	Wan, G.	CELL	183	Wang, F.	GEOC	273
Wall, L.	CHAL	15	Wan, J.	GEOC	13	Wang, F.	ENFL	59
Wall, N.	NUCL	147	Wan, K.	INOR	1165	Wang, F.	ENVR	409
Wall, N.	NUCL	166	Wan, L.	COLL	506	Wang, F.	MEDI	350
Wallace, A.	GEOC	67	Wan, Q.	PMSE	422	Wang, F.	CATL	295
Wallace, A.	CHED	943	Wan, S.	CINF	81	Wang, F.	CATL	307
Wallace, A.	PMSE	62	Wan, S.	COMP	68	Wang, F.	CATL	313
Wallace, A.	PMSE	413	Wan, W.	POLY	345	Wang, F.	CATL	365
Wallace, C.	INOR	968	Wan, W.	POLY	544	Wang, F.	CATL	476
Wallace, C.J.	CHED	1666	Wan, W.	PMSE	534	Wang, F.	CATL	589
Wallace, I.	CINF	85	Wan, X.	MEDI	280	Wang, F.	COMP	94
Wallace, I.S.	CELL	273	Wan, Y.	ANYL	203	Wang, F.	ENFL	181
Wallace, J.M.	ANYL	1	Wanasekara, N.	CELL	324	Wang, F.	MEDI	14
Wallace, J.M.	ANYL	343	Wanathammapong, J.	COLL	354	Wang, F.	BIOT	362
Wallace, K.	ANYL	481	Wand, A.J.	PHYS	7	Wang, F.	PMSE	506
Wallace, M.	PMSE	248	Wander, R.	ORGN	227	Wang, G.	BIOT	188
Wallach, D.	POLY	97	Wanekaya, A.	INOR	635	Wang, G.	BIOT	411
Wallat, J.D.	BIOT	683	Wang, A.	CATL	107	Wang, G.	ORGN	355
Wallat, J.D.	POLY	411	Wang, A.Z.	PMSE	550	Wang, G.	CATL	302
Wallenberg, R.L.	INOR	809	Wang, B.	BIOT	701	Wang, G.	INOR	1004
Wallentine, C.	MEDI	398	Wang, B.	ORGN	186	Wang, G.	INOR	1008
Wallentine, S.K.	INOR	743	Wang, B.	BIOT	182	Wang, G.	CATL	299
Waller, C.L.	CINF	85	Wang, B.	CELL	254	Wang, G.	INOR	885
Waller, P.	POLY	596	Wang, B.	COLL	535	Wang, G.	BIOT	245
Waller, T.	ANYL	365	Wang, B.	MEDI	500	Wang, G.	PMSE	608
Wallick, J.	NUCL	19	Wang, B.	ENFL	345	Wang, G.	COMSCI	4
Wallner, A.S.	CHED	1663	Wang, B.	POLY	419	Wang, G.	ENVR	826
Wallner, K.	BIOT	702	Wang, B.S.	ORGN	655	Wang, G.	CHED	549
Walls, M.	MEDI	146	Wang, C.	PMSE	640	Wang, G.	MEDI	413
Walpen, N.	ENVR	426	Wang, C.	CATL	541	Wang, G.	ENVR	195
Walpert, D.	ENVR	343	Wang, C.	MEDI	224	Wang, G.	PMSE	645
Walser, M.E.	CHED	664	Wang, C.	ENFL	299	Wang, G.	CHED	1553
Walser, P.	BIOT	730	Wang, C.	PMSE	606	Wang, G.	AGFD	263
Walseth, T.	BIOL	224	Wang, C.	POLY	609	Wang, H.	PMSE	598
Walseth, T.	BIOL	244	Wang, C.	BIOT	452	Wang, H.	POLY	598
Walsh, A.	BIOT	362	Wang, C.	PHYS	4	Wang, H.	BIOT	528
Walsh, B.	ORGN	651	Wang, C.	MEDI	459	Wang, H.	ENVR	409
Walsh, J.	INOR	132	Wang, C.	COLL	393	Wang, H.	CATL	612
Walsh, L.T.	CHED	1007	Wang, C.	INOR	1228	Wang, H.	INOR	941
Walsh, L.T.	CHED	1806	Wang, C.	CHED	130	Wang, H.	GEOC	117
Walsh, P.J.	ORGN	497	Wang, C.	PMSE	650	Wang, H.	ENFL	255
Walsh, S.	GEOC	47	Wang, C.	ENVR	359	Wang, H.	INOR	1407
Walsh, S.D.	ENFL	30	Wang, C.	GEOC	174	Wang, H.	INOR	1514
Walsh, S.P.	MEDI	128	Wang, C.	ORGN	306	Wang, H.	PMSE	194
Walsh, Z.	CELL	81	Wang, C.	ENVR	481	Wang, H.	POLY	642
Walshe, K.	NUCL	123	Wang, C.	INOR	627	Wang, H.	COLL	225
Walt, D.R.	ANYL	341	Wang, C.	MEDI	21	Wang, H.	INOR	1147
Walter, C.	INOR	345	Wang, C.	MEDI	349	Wang, H.	INOR	1526
Walter, C.	INOR	348	Wang, C.	BIOT	392	Wang, H.	MEDI	80
Walter, E.	CATL	204	Wang, C.	COLL	773	Wang, H.	MEDI	420
Walter, L.A.	BIOT	334	Wang, C.	INOR	790	Wang, H.	MEDI	128
Walter, M.S.	CINF	22	Wang, C.	PMSE	580	Wang, H.	PMSE	160
Walters, B.	BIOT	479	Wang, C.	PMSE	632	Wang, H.	AGFD	213
Walters, B.	CHED	766	Wang, D.	PMSE	29	Wang, H.	PHYS	129
Walters, D.T.	INOR	1333	Wang, D.	POLY	145	Wang, H.	GEOC	208
Walters, G.	CHED	326	Wang, D.	COLL	634	Wang, H.	PMSE	641
Walters, M.A.	BIOL	320	Wang, D.	ENVR	873	Wang, H.	BIOL	135
Walters, R.S.	PHYS	518	Wang, D.	ENVR	877	Wang, H.	ORGN	454
Walther, A.	PMSE	179	Wang, D.	ENVR	979	Wang, H.	BIOL	328
Walther, B.	PMSE	422	Wang, D.	BIOT	301	Wang, H.	MEDI	497
Walther, J.	BIOT	573	Wang, D.	MEDI	217	Wang, H.	ENVR	590
Waltman, R.N.	INOR	812	Wang, D.	ENVR	37	Wang, H.	ANYL	236
Walton, L.	CHED	2025	Wang, D.	ENVR	353	Wang, H.	BIOL	70
Walton, S.	PMSE	349	Wang, D.	PHYS	76	Wang, H.	CATL	364
Walus, K.	PHYS	153	Wang, D.	COLL	442	Wang, H.	ENFL	137
Walvoord, R.R.	ORGN	19	Wang, D.	ENVR	891	Wang, H.	MEDI	14
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Wang, J.	BIOT	249	Wang, L.	COMP	147	Wang, S.	MEDI	236
Wang, J.	BIOT	384	Wang, L.	COLL	193	Wang, S.	MEDI	243
Wang, J.	COLL	351	Wang, L.	COLL	282	Wang, S.	MEDI	265
Wang, J.	COLL	846	Wang, L.	BIOT	509	Wang, S.	MEDI	377
Wang, J.	ENVR	464	Wang, L.	ENVR	485	Wang, S.	ANYL	164
Wang, J.	MEDI	112	Wang, L.	CATL	92	Wang, S.	ENFL	119
Wang, J.	ORGN	730	Wang, L.	ENVR	125	Wang, S.	BIOT	591
Wang, J.	CATL	613	Wang, L.C.	CATL	589	Wang, S.	CATL	638
Wang, J.	INOR	1048	Wang, M.	CELL	498	Wang, S.	ENVR	148
Wang, J.	INOR	1066	Wang, M.	INOR	1055	Wang, S.	ANYL	201
Wang, J.	COLL	746	Wang, M.	PMSE	451	Wang, S.	MEDI	387
Wang, J.	COLL	634	Wang, M.	COLL	721	Wang, S.	CATL	367
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Wang, J.	GEOC	215	Wang, M.	MEDI	163	Wang, S.	POLY	557
Wang, J.	BIOT	45	Wang, M.	MEDI	164	Wang, S.	ORGN	497
Wang, J.	BIOT	452	Wang, M.	AGFD	224	Wang, S.	NUCL	101
Wang, J.	PHYS	543	Wang, M.	ENVR	856	Wang, S.	MEDI	24
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Wang, J.	COMP	36	Wang, N.	INOR	1324	Wang, S.	PMSE	611
Wang, J.	ORGN	212	Wang, P.	ENVR	409	Wang, S.	PMSE	612
Wang, J.	ORGN	451	Wang, P.	ENVR	490	Wang, S.	CATL	43
Wang, J.	COLL	304	Wang, P.	ENVR	89	Wang, S.	COMP	81
Wang, J.	COLL	305	Wang, P.	CATL	187	Wang, S.	AGFD	180
Wang, J.	BIOT	116	Wang, P.	COMP	291	Wang, S.	CHED	1919
Wang, J.	BIOT	547	Wang, P.	COMP	351	Wang, S.	CATL	475
Wang, J.	BIOT	615	Wang, P.	COLL	652	Wang, S.	INOR	1064
Wang, J.	COMP	567	Wang, P.	CARB	8	Wang, S.	INOR	1070
Wang, J.	COLL	635	Wang, P.	COLL	572	Wang, S.	BIOT	699
Wang, J.	I&EC	32	Wang, P.	ENVR	247	Wang, S.	ANYL	107
Wang, J.	PHYS	364	Wang, P.	PMSE	579	Wang, S.X.	PHYS	315
Wang, J.	PMSE	281	Wang, P.	ENFL	128	Wang, T.	CATL	141
Wang, J.	CATL	302	Wang, P.	ENFL	239	Wang, T.	CELL	505
Wang, J.	INOR	1008	Wang, P.	ENVR	174	Wang, T.	MEDI	41
Wang, J.	INOR	1151	Wang, P.	INOR	1369	Wang, T.	MEDI	42
Wang, J.	CINF	146	Wang, P.	MEDI	305	Wang, T.	MEDI	43
Wang, J.	COLL	257	Wang, P.	MEDI	231	Wang, T.	MEDI	375
Wang, J.	BIOT	264	Wang, P.	POLY	21	Wang, T.	ORGN	740
Wang, J.	ENVR	339	Wang, P.	CELL	223	Wang, T.	INOR	1579
Wang, J.	ENVR	791	Wang, P.G.	CARB	37	Wang, T.	COLL	588
Wang, J.	PMSE	359	Wang, P.G.	CELL	354	Wang, T.	BIOT	717
Wang, J.	COLL	664	Wang, P.G.	ANYL	9	Wang, T.	COLL	761
Wang, J.	MEDI	23	Wang, Q.	ORGN	166	Wang, T.	AGFD	80
Wang, J.	PMSE	403	Wang, Q.	MEDI	271	Wang, T.	AGFD	81
Wang, J.	PMSE	532	Wang, Q.	INOR	1408	Wang, T.	AGFD	214
Wang, J.	INOR	1289	Wang, Q.	CATL	559	Wang, T.	BIOT	717
Wang, J.H.	POLY	185	Wang, Q.	GEOC	4	Wang, T.	CATL	488
Wang, J.H.	POLY	186	Wang, Q.	GEOC	5	Wang, T.	CELL	21
Wang, J.H.	POLY	619	Wang, Q.	GEOC	274	Wang, T.	CELL	438
Wang, J.P.	ANYL	198	Wang, Q.	GEOC	277	Wang, T.	CELL	517
Wang, J.P.	ANYL	202	Wang, Q.	MEDI	429	Wang, W.	POLY	114
Wang, J.P.	ANYL	265	Wang, Q.	ANYL	107	Wang, W.	POLY	300
Wang, K.	COLL	431	Wang, Q.	COLL	290	Wang, W.	BIOL	345
Wang, K.	ENVR	425	Wang, Q.	CATL	594	Wang, W.	COLL	48
Wang, K.	ENVR	1023	Wang, Q.	ORGN	533	Wang, W.	ENFL	403
Wang, K.	ORGN	798	Wang, Q.	BIOT	115	Wang, W.	ENVR	160
Wang, K.	ORGN	593	Wang, Q.	INOR	1208	Wang, W.	BIOT	87
Wang, K.	INOR	52	Wang, Q.	PHYS	516	Wang, W.	PMSE	645
Wang, K.	INOR	1226	Wang, Q.	INOR	550	Wang, W.	PHYS	560
Wang, K.	BIOL	102	Wang, Q.J.	COLL	546	Wang, W.	MEDI	342
Wang, K.	CELL	141	Wang, R.	ORGN	269	Wang, W.	PMSE	565
Wang, K.K.	ORGN	599	Wang, R.	ENVR	150	Wang, W.	POLY	9
Wang, L.	AGFD	17	Wang, R.	ENVR	847	Wang, W.	MEDI	482
Wang, L.	NUCL	45	Wang, R.	ORGN	69	Wang, W.	INOR	191
Wang, L.	ENFL	199	Wang, R.	MPPG	20	Wang, W.	COLL	40
Wang, L.	CATL	463	Wang, R.	ORGN	14	Wang, W.	ENVR	244
Wang, L.	MEDI	15	Wang, R.	BIOL	135	Wang, W.	CATL	467
Wang, L.	MEDI	263	Wang, R.	PMSE	13	Wang, W.	ENVR	930
Wang, L.	INOR	475	Wang, R.	POLY	400	Wang, W.	INOR	1573
Wang, L.	PMSE	194	Wang, R.	PHYS	197	Wang, W.	PMSE	69
Wang, L.	CHED	895	Wang, R.	MEDI	366	Wang, W.	PMSE	510
Wang, L.	COMP	205	Wang, R.	ANYL	2	Wang, W.	PMSE	644
Wang, L.	CATL	330	Wang, R.	BIOL	359	Wang, W.	POLY	75
Wang, L.	ANYL	146	Wang, S.	INOR	1315	Wang, X.	ENVR	1037
Wang, L.	CATL	528	Wang, S.	BIOT	4	Wang, X.	GEOC	21
Wang, L.	ENFL	343	Wang, S.	BIOT	41	Wang, X.	GEOC	50
Wang, L.	ENFL	431	Wang, S.	BIOT	325	Wang, X.	GEOC	54
Wang, L.	INOR	628	Wang, S.	AGFD	178	Wang, X.	PMSE	87

Wang, X.	PMSE	507	Wang, Y.	POLY	436	Wannberg, J.	MEDI	232
Wang, X.	ORGN	341	Wang, Y.	ENFL	445	Wanninayake, U.K.	ORGN	175
Wang, X.	BIOT	211	Wang, Y.	POLY	26	Wansapura, P.	CELL	389
Wang, X.	ENVR	486	Wang, Y.	CATL	58	Wantaniyakul, G.	CHED	1041
Wang, X.	POLY	304	Wang, Y.	PMSE	220	Wappes, E.	ORGN	208
Wang, X.	POLY	247	Wang, Y.	PMSE	414	Wappes, E.	ORGN	331
Wang, X.	POLY	388	Wang, Y.	PMSE	643	Warakulwit, C.	COLL	356
Wang, X.	GEOC	337	Wang, Y.	AGFD	180	Waratuke, S.A.	CHED	930
Wang, X.	GEOC	75	Wang, Y.	BIOT	465	Waratuke, S.A.	CHED	985
Wang, X.	INOR	714	Wang, Y.	PMSE	518	Warchola, T.	GEOC	157
Wang, X.	INOR	1233	Wang, Y.	PMSE	562	Warchola, T.	GEOC	348
Wang, X.	ORGN	497	Wang, Y.	ENFL	59	Ward, A.	ENVR	519
Wang, X.	CATL	245	Wang, Y.	INOR	470	Ward, A.	INOR	1385
Wang, X.	ANYL	250	Wang, Y.	PMSE	644	Ward, C.P.	ENVR	263
Wang, X.	PMSE	667	Wang, Y.	COMP	430	Ward, C.P.	ENVR	596
Wang, X.	INOR	1490	Wang, Y.	MEDI	379	Ward, E.	BIOT	249
Wang, X.	ENVR	689	Wang, Y.	INOR	690	Ward, E.	BIOT	384
Wang, X.	ENVR	71	Wang, Y.	COLL	541	Ward, J.S.	CHED	2073
Wang, X.	AGFD	247	Wang, Y.	BIOL	35	Ward, M.M.	CHED	2110
Wang, X.	ANYL	451	Wang, Y.	ENVR	329	Ward, S.	COMP	226
Wang, X.	ENFL	317	Wang, Y.	INOR	52	Ward, S.	CHED	2007
Wang, X.	MEDI	219	Wang, Y.	ORGN	868	Ward, S.	CINF	19
Wang, X.	POLY	39	Wang, Y.	CELL	395	Ward, S.S.	ANYL	170
Wang, X.	ENVR	419	Wang, Y.	GEOC	92	Ward, S.S.	CHED	1686
Wang, X.	INOR	697	Wang, Y.	GEOC	287	Ward, T.B.	PHYS	518
Wang, X.	INOR	962	Wang, Y.	ENVR	358	Ward, T.R.	INOR	1190
Wang, X.	ORGN	445	Wang, Y.	PHYS	548	Ware, M.	CHED	1703
Wang, X.	ENFL	74	Wang, Y.	CELL	182	Ware, T.H.	POLY	279
Wang, X.	ANYL	305	Wang, Y.	BIOL	147	Ware, T.H.	POLY	636
Wang, X.	INOR	795	Wang, Y.	PMSE	481	Warikoo, V.	BIOT	695
Wang, X.	MEDI	348	Wang, Z.	MEDI	237	Wärnä, J.	ENFL	332
Wang, X.	ENVR	504	Wang, Z.	ENFL	219	Warneke, J.	COLL	156
Wang, X.	COLL	431	Wang, Z.	ORGN	15	Warner, C.J.	BIOL	170
Wang, Y.	BIOT	454	Wang, Z.	ENVR	406	Warner, D.	CHED	1026
Wang, Y.	COLL	488	Wang, Z.	COLL	865	Warner, D.	CHED	1193
Wang, Y.	ANYL	370	Wang, Z.	INOR	208	Warner, D.	I&EC	16
Wang, Y.	BIOT	59	Wang, Z.	INOR	1445	Warner, D.L.	CHED	1175
Wang, Y.	INOR	731	Wang, Z.	PMSE	260	Warner, D.L.	CHED	1575
Wang, Y.	PMSE	565	Wang, Z.	PMSE	455	Warner, D.L.	MEDI	270
Wang, Y.	POLY	216	Wang, Z.	BIOT	505	Warner, E.A.	CHED	521
Wang, Y.	ANYL	318	Wang, Z.	COMP	412	Warner, G.R.	ENVR	953
Wang, Y.	CINF	61	Wang, Z.	ENVR	1000	Warner, I.M.	ANYL	42
Wang, Y.	CINF	139	Wang, Z.	CATL	376	Warner, I.M.	ANYL	308
Wang, Y.	CINF	146	Wang, Z.	CHED	393	Warner, I.M.	CHED	1899
Wang, Y.	COMP	325	Wang, Z.	INOR	1481	Warner, I.M.	CHED	2161
Wang, Y.	INOR	460	Wang, Z.	NUCL	102	Warner, J.	CHED	1550
Wang, Y.	PHYS	121	Wang, Z.	CELL	493	Warner, J.C.	CHED	1022
Wang, Y.	CATL	451	Wang, Z.	BIOT	651	Warner, L.	BIOT	97
Wang, Y.	CELL	130	Wang, Z.	INOR	256	Warner, M.	POLY	554
Wang, Y.	INOR	471	Wang, Z.	ENVR	626	Warner, N.	GEOC	304
Wang, Y.	ANYL	444	Wang, Z.	ENVR	967	Warner, N.	CHED	1642
Wang, Y.	PMSE	452	Wang, Z.	CATL	252	Warnick, E.P.	MEDI	448
Wang, Y.	CELL	85	Wang, Z.	CELL	139	Warnke, I.	ENFL	171
Wang, Y.	ENVR	285	Wang, Z.	ENFL	139	Warnock, R.	CHED	1164
Wang, Y.	CATL	476	Wang, Z.	CATL	619	Warnock, R.	IAC	4
Wang, Y.	PMSE	50	Wang, Z.	BIOT	69	Warrack, B.M.	MEDI	339
Wang, Y.	MEDI	224	Wang, Z.	CATL	443	Warren, E.	GEOC	307
Wang, Y.	COLL	635	Wang, Z.	PMSE	454	Warren, G.I.	ORGN	595
Wang, Y.	GEOC	198	Wang, Z.	COLL	544	Warren, M.	CHED	1192
Wang, Y.	PMSE	645	Wang, Z.	COLL	462	Warren, N.	POLY	606
Wang, Y.	ENVR	450	Wang, Z.	ENVR	219	Warren, T.H.	INOR	631
Wang, Y.	ENVR	843	Wang, Z.	ENVR	502	Warren, T.H.	INOR	954
Wang, Y.	ENVR	1032	Wang, Z.	ENVR	532	Warrick, K.	CHED	1425
Wang, Y.	CARB	21	Wang, Z.	ENFL	133	Warrick, M.	BIOL	39
Wang, Y.	CARB	33	Wang, Z.	ENFL	135	Warrick, S.	CHED	889
Wang, Y.	ENVR	666	Wang, Z.	CATL	357	Wartchow, C.A.	ANYL	223
Wang, Y.	ENVR	968	Wang, Z.	CATL	550	Wartenweiler, V.M.	CHED	1325
Wang, Y.	PHYS	76	Wang, Z.	ENVR	759	Wartenweiler, V.M.	CHED	1845
Wang, Y.	PMSE	141	Wang, Z.	GEOC	118	Wartmann, M.	MEDI	353
Wang, Y.	INOR	873	Wang, Z.	ORGN	830	Wasacz, C.	CHED	1406
Wang, Y.	BIOL	60	Wang, Z.	ENVR	91	Waser, J.	FLUO	19
Wang, Y.	INOR	384	Wang, Z.	ENVR	579	Washington, K.E.	POLY	148
Wang, Y.	COLL	290	Wang, Z.A.	BIOL	31	Washton, N.	CATL	204
Wang, Y.	ANYL	451	Wanhala, A.	GEOC	190	Washton, N.	GEOC	72
Wang, Y.	MEDI	380	Wani, O.B.	COLL	64	Wasielewski, M.R.	INOR	780
Wang, Y.	ENVR	867	Wankel, S.D.	GEOC	212	Wasielewski, M.R.	INOR	1105
Wang, Y.	ENVR	1001	Wannakao, S.	INOR	341	Wasielewski, M.R.	ORGN	567
Wang, Y.	PMSE	86	Wannakao, S.	INOR	342	Wasielewski, M.R.	ORGN	640
Wang, Y.	PMSE	453	Wannakao, S.	INOR	346	Wasinger, E.C.	CHED	830
Wang, Y.	PMSE	455	Wannakao, S.	INOR	347	Wasinger, E.C.	INOR	630

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Wasserman, E.	ENFL	171	Wax, T.J.	PHYS	437	Weck, M.	COLL	388
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Wasylenki, L.	GEOC	142	Waychunas, G.A.	GEOC	76	Weckhuysen, B.M.	CATL	203
Wasylenko, T.M.	BIOT	695	Wayment, L.	MEDI	152	Weckhuysen, B.M.	CATL	509
Wasyluk, J.M.	BIOT	550	Waymouth, R.M.	INOR	117	Weckhuysen, B.M.	CATL	565
Wataha, J.C.	I&EC	89	Waymouth, R.M.	INOR	808	Weckhuysen, B.M.	CATL	582
Watanabe, A.	MEDI	449	Waymouth, R.M.	INOR	1452	Weddle, C.	CHED	259
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Watanabe, C.	CHED	732	Waymouth, R.M.	POLY	57	Weder, C.	POLY	548
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Watanabe, T.	PMSE	257	Waynant, K.V.	INOR	1441	Weeks, K.	CHED	650
Watanabe, T.	PMSE	346	Wayne, C.	BIOT	348	Weeks, N.	COLL	838
Watanabe, U.	CELL	322	Wayu, M.B.	CHED	367	Weeks, W.	PMSE	418
Watanabi, T.	POLY	508	Wayu, M.B.	CHED	384	Weeks, W.B.	CHED	1722
Waterhouse, A.	INOR	233	Wayu, M.B.	CHED	447	Weeks, W.B.	CHED	1878
Waterhouse, A.L.	AGFD	132	Wazeerud-Din, I.	MEDI	123	Weerakkody, C.	INOR	887
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Waterman, R.	INOR	95	Weaver, H.A.	PHYS	191	Weerasakare, G.M.	COLL	112
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Waters, K.	COMP	561	Weaver, J.D.	ORGN	347	Weerawardene, K.	COMP	480
Watkins, A.L.	INOR	618	Weaver, J.D.	ORGN	888	Weese, C.	ORGN	720
Watkins, D.L.	CHED	1697	Weaver, J.F.	CATL	64	Wegener, E.C.	INOR	568
Watkins, D.L.	PHYS	514	Weavers, L.K.	ENVR	681	Wegener, E.C.	INOR	702
Watkins, D.L.	PMSE	133	Weavers, L.K.	ENVR	800	Wehmeyer, T.	CHED	515
Watkins, J.	I&EC	136	Weavers, L.K.	ENVR	1014	Wehner, M.	POLY	444
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Watkins, L.M.	CHED	1271	Webb, L.	CHED	1382	Wei, C.	CATL	99
Watkins, S.	CATL	392	Webb, L.J.	BIOT	600	Wei, C.	CINF	105
Watkins, S.	MEDI	261	Webb, L.J.	COLL	133	Wei, C.	BIOL	69
Watney, J.	COMP	147	Webb, L.J.	PHYS	114	Wei, C.	BIOL	75
Watson, A.	CARB	52	Webb, L.J.	PHYS	249	Wei, C.	BIOL	117
Watson, A.	CARB	53	Webb, L.J.	PHYS	380	Wei, C.	ANYL	116
Watson, A.J.	I&EC	67	Webb, M.	COLL	851	Wei, C.T.	BIOT	444
Watson, A.J.	ORGN	37	Webb, S.	GEOC	77	Wei, F.	ENFL	450
Watson, A.J.	ORGN	427	Webber, D.	CHED	264	Wei, F.	I&EC	123
Watson, A.J.	ORGN	489	Webber, K.G.	ORGN	603	Wei, G.	CATL	11
Watson, B.	ENFL	57	Webber, T.E.	INOR	208	Wei, G.	COMP	577
Watson, B.	ENFL	145	Weber, A.L.	CHED	250	Wei, G.	PMSE	492
Watson, B.	ENFL	267	Weber, D.	GEOC	344	Wei, H.	ENVR	83
Watson, B.	PMSE	300	Weber, E.J.	ENVR	1006	Wei, H.	ENVR	229
Watson, B.R.	PHYS	547	Weber, I.	MEDI	379	Wei, J.	INOR	399
Watson, D.	MEDI	402	Weber, J.	INOR	90	Wei, J.	INOR	402
Watson, D.G.	CHED	841	Weber, K.	ENVR	315	Wei, J.	INOR	558
Watson, G.W.	COMP	521	Weber, K.	ENVR	539	Wei, J.	INOR	1442
Watson, G.W.	COMP	522	Weber, K.A.	GEOC	91	Wei, L.	CELL	518
Watson, G.W.	INOR	789	Weber, P.K.	COLL	455	Wei, L.	PMSE	456
Watson, G.W.	INOR	1007	Weber, R.	ENFL	342	Wei, M.	PROF	23
Watson, G.W.	INOR	1019	Weber, S.G.	ANYL	35	Wei, P.	COLL	418
Watson, G.W.	INOR	1533	Weber, T.	CATL	7	Wei, P.	PMSE	59
Watson, K.	MPPG	9	Weber, T.	COLL	551	Wei, P.	POLY	348
Watson, K.	CHED	1743	Weber-Bargioni, A.	COLL	142	Wei, P.	POLY	437
Watson, K.	CHED	1738	Webley, P.	ENFL	84	Wei, Q.	CATL	653
Watson, L.A.	CHED	245	Webley, P.	INOR	884	Wei, Q.	CATL	654
Watson, L.A.	INOR	221	Webley, P.	INOR	1504	Wei, S.	ORGN	680
Watson, M.	CATL	236	Webster, A.	INOR	1097	Wei, T.	COLL	68
Watson, M.B.	INOR	1161	Webster, C.E.	INOR	591	Wei, T.	AGFD	73
Watson, M.P.	ORGN	308	Webster, C.E.	INOR	599	Wei, T.	AGFD	76
Watson, R.	ORGN	95	Webster, C.E.	INOR	614	Wei, T.	BIOT	372
Watt, D.	CHED	2140	Webster, C.E.	INOR	1369	Wei, T.	BIOT	374
Watt, J.D.	COLL	840	Webster, C.E.	PHYS	456	Wei, T.	BIOT	376
Wattanatorn, N.	COLL	435	Webster, D.C.	POLY	192	Wei, T.	COMP	258
Watterson, A.C.	COLL	758	Webster, D.C.	POLY	464	Wei, T.	COMP	282
Watterson, S.H.	MEDI	21	Webster, D.C.	POLY	473	Wei, T.	I&EC	105
Wattigney, W.	ENVR	77	Webster, E.	COLL	381	Wei, T.	I&EC	106
Watton, S.P.	CHED	1147	Webster, G.H.	CHED	2103	Wei, T.	I&EC	114
Watts, A.	POLY	244	Webster, J.	ENVR	27	Wei, T.	INOR	926
Watts, F.M.	ORGN	757	Webster, P.	MEDI	428	Wei, T.	INOR	999
Watts, H.	CELL	23	Webster, R.D.	ANYL	432	Wei, T.	INOR	1022
Watts, J.	POLY	627	Webster, S.	POLY	137	Wei, T.	ORGN	180
Watts, K.E.	ANYL	39	Webster, S.	MEDI	428	Wei, T.	ORGN	262

Wei, T.	PHYS	530	Welch, C.J.	ANYL	320	Wentzel, M.T.	CHED	829
Wei, T.	CATL	388	Welch, C.J.	COMSCI	3	Wentzel, M.T.	CHED	1004
Wei, W.	ENVR	185	Welch, C.J.	I&EC	21	Wentzel, M.T.	CHED	1571
Wei, W.	CHED	1666	Welch, C.J.	ORGN	72	Wentzel, M.T.	CHED	1573
Wei, W.	ENFL	138	Welch, G.	CATL	350	Wentzel, M.T.	CHED	1594
Wei, X.	ENFL	131	Welch, G.	ORGN	675	Wenz, G.	CELL	303
Wei, X.	YCC	12	Welch, G.	ORGN	855	Wenz, G.	POLY	532
Wei, Y.	COLL	652	Welch, G.	ORGN	858	Wenz, G.	POLY	648
Wei, Y.	PHYS	560	Welch, J.M.	INOR	352	Wenz, J.J.	CHED	1911
Wei, Y.	BIOL	345	Welch, J.T.	FLUO	41	Wenzel, A.G.	CHED	1503
Wei, Z.	CATL	342	Welch, L.F.	BIOT	19	Wenzel, A.G.	CHED	1528
Wei, Z.	AGFD	4	Welch, M.	MEDI	266	Wenzel, A.G.	CHED	1539
Weiden, A.	CHED	660	Welch, P.M.	ANYL	398	Wenzel, A.G.	CHED	1478
Weidner, T.	BIOT	214	Welch, S.	CHED	1966	Wenzel, A.G.	CHED	1504
Weigandt, K.	PMSE	276	Welch, S.	GEOC	343	Wenzel, T.J.	CHED	1952
Weight, A.K.	CHED	1228	Wellaway, N.	ORGN	402	Werghi, B.	CATL	572
Wei-Haas, M.L.	ENVR	424	Wellborn, W.	BIOT	159	Werle, J.M.	PHYS	314
Weikart, C.	BIOT	608	Welle, A.	CELL	327	Werle, K.	ORGN	499
Weil, T.	COLL	421	Welle, A.	COLL	434	Werlein, A.L.	NUCL	52
Weil, T.	COLL	434	Wellen, B.	PHYS	31	Werlein, A.L.	NUCL	122
Weil, T.	MPPG	5	Weller, D.P.	CHED	1649	Werner, A.	CELL	202
Weil, T.	POLY	376	Weller, H.	COLL	704	Werner, E.J.	INOR	14
Weimer, A.W.	CATL	597	Weller, S.R.	INOR	391	Werner, E.J.	INOR	382
Weimer, A.W.	COMP	524	Wellington, J.	NUCL	44	Werner, H.	PHYS	180
Weimer, A.W.	ENFL	54	Wells, B.	GEOC	344	Werner, J.	PMSE	486
Weimer, A.W.	INOR	1116	Wells, J.A.	BIOL	161	Werner, N.S.	CHED	1348
Weinberg, D.R.	INOR	391	Wells, J.A.	BIOL	330	Werner, S.	BIOT	283
Weinberg, J.	CHED	225	Wells, J.A.	BIOL	346	Wernet, P.	PHYS	67
Weinberger, P.	INOR	352	Wells, P.	MEDI	350	Werrel, S.	ORGN	325
Weingarten, N.	COMP	195	Welp, U.	INOR	988	Wert, E.	ENVR	48
Weinhouse, M.I.	ORGN	461	Welsh, H.	CHED	980	Wert, E.	ENVR	111
Weinstein, C.	CHED	2163	Welsh, J.P.	BIOT	187	Werthen, M.	PMSE	149
Weinstein, C.	INOR	1315	Welsh, M.J.	CHED	2124	Werth, C.J.	ENVR	82
Weinstein, C.	INOR	1316	Welty, C.	CHED	948	Wertheim, J.A.	BIOT	341
Weinstein, D.S.	MEDI	315	Welty, C.	CHED	967	Werts, M.	COLL	249
Weinstein, H.	COMP	2	Welty, C.	CHED	989	Wescott, C.	CHED	1228
Weinstein, H.	PHYS	6	Wemmer, D.E.	BIOT	234	Weselinski, L.	ORGN	188
Weinstock, J.	MEDI	14	Wempe, M.F.	CELL	1	Wesemann, J.L.	CHED	2158
Weintraub, B.	CHED	1864	Wen, B.	BIOL	190	Wesley, B.	ORGN	136
Weintraub, B.	ENFL	205	Wen, B.	MEDI	265	Wesolowski, D.	GEOC	112
Weis, D.D.	CHED	426	Wen, E.	BIOT	293	Wesolowski, D.	GEOC	208
Weisbeck, A.	ORGN	399	Wen, G.	ENVR	333	Wesolowski, G.	MEDI	309
Weiss, A.	CHED	459	Wen, J.	ANYL	132	Wessel, A.	INOR	1437
Weiss, A.	MEDI	353	Wen, L.	MEDI	178	Wesselman, H.	CHED	349
Weiss, D.J.	CHED	89	Wen, L.	MEDI	489	Wessels, H.	POLY	18
Weiss, E.A.	PHYS	4	Wen, M.	MEDI	349	Wessner, K.	MEDI	309
Weiss, J.	ORGN	41	Wen, R.	BIOL	287	West, A.	BIOL	154
Weiss, J.	ORGN	638	Wen, T.	ANYL	239	West, A.	POLY	19
Weiss, K.L.	COLL	530	Wen, X.	CATL	307	West, D.	CHED	774
Weiss, P.	ORGN	488	Wen, X.	COLL	286	West, D.	CHED	1769
Weiss, P.S.	ANYL	32	Wen, Y.	ANYL	146	West, R.	ANYL	153
Weiss, P.S.	COLL	132	Wen, Y.	POLY	222	West, R.	CHED	474
Weiss, P.S.	COLL	215	Wen, Z.	CATL	438	West, T.	ORGN	932
Weiss, P.S.	COLL	435	Wen, Z.	BIOL	82	West, T.K.	INOR	751
Weiss, P.S.	COLL	505	Wen, Z.	ORGN	299	Westcott, S.A.	ORGN	430
Weiss, P.S.	COLL	613	Wendel, D.	INOR	845	Westemeier, E.	CHED	375
Weiss, P.S.	COLL	660	Wendel, S.O.	INOR	1526	Wester, R.	COMP	19
Weiss, R.A.	POLY	342	Wendel, S.O.	MEDI	80	Westerhoff, L.	COMP	581
Weiss, R.A.	POLY	434	Wendel, S.O.	MEDI	420	Westerhoff, P.K.	CHAS	40
Weiss, S.	PHYS	269	Wendell, R.M.	GEOC	349	Westerhoff, P.K.	COLL	70
Weiss, W.	ENFL	449	Wendenburg, S.	CELL	523	Westerhoff, P.K.	ENVR	189
Weiss, Z.	CHED	593	Wender, P.A.	POLY	420	Westerhoff, P.K.	ENVR	281
Weissenborn, J.	PHYS	84	Wendt, A.	GEOC	336	Westerhoff, P.K.	ENVR	338
Weisser, S.	BIOT	725	Wendt, M.K.	CHED	39	Westerhoff, P.K.	PMSE	376
Weiss-Errico, M.J.	ENVR	614	Wendt, O.F.	INOR	809	Westerlund, B.	BIOT	518
Weiss-Errico, M.J.	ENVR	615	Weng, J.	BIOT	72	Westerman, D.	CHED	939
Weissman, H.	ORGN	499	Weng, T.	BIOT	482	Western, B.	COLL	289
Weisz, A.	ANYL	103	Weng, T.	COLL	146	Westfall, J.	BIOT	483
Weisz, D.	NUCL	155	Weng, T.	CATL	144	Westgate, C.	CHED	985
Weitz, A.	INOR	1190	Weng, T.	INOR	1319	Westhouse, R.	MEDI	349
Weitz, D.A.	COLL	836	Weng, W.	MEDI	351	Westman, G.J.	CELL	118
Weitz, K.	ENVR	838	Wengel, J.	BIOL	164	Westmoreland, T.D.	INOR	1433
Weitz, T.	POLY	197	Wenger, M.	BIOT	591	Westoby, M.	BIOT	5
Weizman, H.	CHED	218	Wenjian, S.	CHED	917	Westoby, M.	BIOT	466
Weizman, H.	CHED	1919	Wenk, J.	ENVR	1016	Westoby, M.	BIOT	679
Weizman, H.	CHED	2135	Wenner, R.	COMP	266	Weston, J.	PMSE	276
Weker, J.	ENFL	250	Wenner, R.	COMP	336	Westover, T.L.	ENFL	331
Welch, A.	ENVR	775	Wentworth, C.	CHED	348	Westra, B.	CINF	160
Welch, A.J.	CATL	175	Wentworth, C.	CHED	350	Westrick, J.	ENVR	296
Welch, C.F.	ANYL	398	Wentzel, M.T.	CHED	291	Wethekam, L.	CHED	578



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Wetterhall, M.	BIOT	560	White, T.	CHED	721	Wiesner, M.	CINF	121
Wetzler, R.	CHED	1247	White, T.J.	PMSE	89	Wiesner, M.	ENVR	6
Wetzler, M.	CHED	1514	White, T.J.	PMSE	587	Wiesner, M.	ENVR	42
Wetzler, S.	ORGN	482	White, T.J.	POLY	116	Wiesner, M.	ENVR	159
Weuster-Botz, D.	BIOT	16	White, T.J.	POLY	326	Wiesner, U.B.	CATL	29
Wexler, R.R.	MEDI	18	White, T.J.	POLY	554	Wiesner, U.B.	PMSE	486
Weyens, N.	ENVR	238	White, W.N.	PHYS	307	Wiest, O.	COMP	242
Wezendonk, T.	ENFL	136	Whited, J.	CARB	55	Wiest, O.	ORGN	511
Wezendonk, T.	ENFL	201	Whited, M.T.	INOR	871	Wiest, O.	ORGN	512
Whalen, L.J.	CHED	1834	Whitehead, D.C.	MEDI	292	Wietsma, T.	ENFL	34
Wheatley, A.	INOR	844	Whitehead, N.	CHED	2167	Wietsma, T.	GEOC	37
Wheeldon, I.R.	BIOT	149	Whitehead, P.S.	CHED	749	Wiewiora, R.P.	COMP	310
Wheeldon, I.R.	BIOT	279	Whitehead, P.S.	CHED	1877	Wigand, M.O.	ENFL	321
Wheeler, D.E.	CHED	1971	Whitehead, R.C.	I&EC	91	Wigent, R.	PHYS	434
Wheeler, K.	ENVR	669	Whitehead, S.	COLL	368	Wiggins, E.	ANYL	20
Wheeler, K.	ENVR	671	Whitehead, T.	BIOT	61	Wiggins, J.S.	POLY	89
Wheeler, K.	INOR	518	Whitehill, A.	CHED	686	Wiggins, S.	CHED	890
Wheeler, K.A.	INOR	19	Whitermore, Z.D.	POLY	406	Wigginton, K.	ENVR	569
Wheeler, K.A.	INOR	299	Whitfield, C.	CARB	23	Wigginton, K.	ENVR	1021
Wheeler, K.A.	ORGN	571	Whitfield, R.	POLY	268	Wigman, B.	ORGN	215
Wheeler, K.A.	ORGN	572	Whitfield, R.	POLY	604	Wiita, E.	INOR	928
Wheeler, K.A.	ORGN	573	Whitham, K.	COLL	461	Wijeratne, G.	INOR	282
Wheeler, L.	INOR	692	Whitlock, C.R.	CHED	1447	Wijeratne, G.	INOR	283
Wheeler, M.	BIOL	83	Whitman, D.	CHED	1832	Wiklow-Marnell, M.	INOR	730
Wheeler, R.	POLY	137	Whitmore, L.S.	ENFL	438	Wikström, L.	CELL	331
Wheeler, R.A.	INOR	955	Whitnell, R.M.	CHED	1945	Wikteliuss, D.	ANYL	259
Wheeler, S.E.	ORGN	359	Whitnell, R.M.	CHED	2103	Wilber, K.	CHED	568
Wheeler, T.A.	INOR	632	Whitt, L.M.	CHED	1148	Wilbon, P.	CHED	1741
Wheelhouse, K.	I&EC	70	whittaker, A.	POLY	215	Wilborn, E.	POLY	204
Wheelock, M.	CHED	671	Whittaker, L.L.	CHED	1295	Wilbur, J.	CHED	1908
Whitaker, A.H.	GEOC	96	Whittaker, M.	POLY	54	Wilcock, J.	CINF	113
Whitaker, A.H.	GEOC	98	Whittaker, M.	POLY	55	Wilcox, D.	CHED	1419
Whitaker, C.	CHED	1382	Whittaker, M.	POLY	419	Wilcox, E.	ENFL	285
Whitaker, M.E.	INOR	1146	Whittaker, M.	PMSE	304	Wilcox, E.	ENFL	286
Whitaker, M.R.	CATL	59	Whittaker, R.	ORGN	733	Wilcox, M.J.	ANYL	196
Whitby, R.J.	ORGN	88	Whittaker, T.	CATL	651	Wilcox, M.J.	CHAS	8
Whitcomb, S.	CHED	1602	Whittaker, T.	ENFL	93	Wilcox, M.J.	CHAS	19
White, A.	COMP	571	Whittick, G.	CHAS	32	Wilcox, M.J.	SCHB	17
White, A.	ORGN	142	Whittingham, M.	I&EC	61	Wild, D.J.	CINF	162
White, A.	ORGN	292	Whittingham, M.	PRES	11	Wilde, G.	INOR	939
White, A.	BIOT	351	Wiaderek, K.	INOR	1529	Wilder, P.T.	MEDI	277
White, A.	INOR	214	Wiberg, K.B.	COMP	410	Wilder, P.T.	MEDI	278
White, A.	INOR	396	Wiberg, K.B.	ORGN	782	Wilding, B.	MEDI	111
White, A.	CHED	1263	Wich, P.	PMSE	424	Wilding, M.J.	INOR	42
White, A.	INOR	1011	Wich, P.R.	PMSE	457	Wildman, C.F.	GEOC	80
White, C.	COMP	188	Wich, P.R.	POLY	183	Wile, B.	CHED	1983
White, C.	COMP	197	Wichner, S.	INOR	1122	Wile, B.	INOR	141
White, C.	GEOC	60	Wicht, D.K.	CHED	102	Wile, B.	INOR	383
White, C.	GEOC	223	Wickham, L.M.	CHED	1383	Wilemski, G.	PHYS	187
White, C.C.	PMSE	419	Wickramasinghe, D.	ENFL	161	Wilemski, G.	PHYS	403
White, C.C.	PMSE	589	Wickramasinghe, S.	BIOT	715	Wiley, B.J.	I&EC	39
White, C.D.	CHED	1546	Wickramasinghe, S.	CATL	461	Wiley, J.B.	CHED	1270
White, C.G.	ANYL	332	Wickremasinghe, P.D.	CHED	255	Wiley, T.	BIOT	731
White, D.H.	CELL	12	Widaman, A.	AGFD	209	Wiley, T.	CHED	330
White, D.H.	CELL	165	Widenhoefer, R.	ORGN	904	Wilfong, B.	INOR	758
White, D.S.	MEDI	141	Widera, J.	ANYL	169	Wilfong, B.	INOR	984
White, D.W.	CHED	694	Widicus Weaver, S.L.	PHYS	111	Wilfong, B.	INOR	987
White, E.	CHED	923	Widmann, D.	CATL	297	Wilfong, B.	INOR	989
White, F.D.	NUCL	105	Widmann, D.	CATL	298	Wilhelm, A.	MEDI	474
White, F.D.	NUCL	132	Widmann, D.	CATL	480	Wilhelm, C.	CHED	652
White, G.D.	CHED	1797	Widya, M.	BIOL	313	Wilhelm, C.	CHED	1788
White, H.	ANYL	376	Wiebenga-Sanford, B.P.	PHYS	70	Wilhelm, M.	CELL	287
White, J.	CINF	66	Wieber, G.	POLY	440	Wilhelm, M.	MEDI	217
White, J.	CINF	127	Wiedemann, T.	INOR	412	Wilhelm, M.R.	CHAS	3
White, J.B.	CHED	1347	Wiedenheft, B.	BIOL	20	Wilhelm, M.R.	CHED	220
White, J.C.	ENVR	238	Wieder, M.	COMP	140	Wilhelm, M.R.	CHED	1788
White, J.C.	ENVR	966	Wiederoder, M.	COLL	741	Wilhelmy, J.	NUCL	3
White, J.D.	ORGN	883	Wiediger, S.D.	CHED	150	Wilk, J.T.	COLL	207
White, J.D.	INOR	579	Wiediger, S.D.	CHED	2070	Wilk, M.	INOR	358
White, J.L.	INOR	1530	Wiedmer, S.	CELL	334	Wilk, M.	INOR	821
White, J.L.	PMSE	40	Wiedner, E.S.	INOR	42	Wilke, J.	COLL	263
White, K.	MEDI	478	Wiedner, E.S.	INOR	539	Wilke, J.	COLL	798
White, K.	MEDI	479	Wiemer, D.F.	ORGN	845	Wilke, J.A.	COLL	362
White, M.	ORGN	74	Wienkers, H.	CHED	565	Wilke, T.J.	CATL	618
White, M.	BIOL	276	Wiens, R.	YCC	25	Wilken, S.	BIOT	98
White, P.E.	CHED	538	Wiernusz, M.	CHED	450	Wilken, S.	BIOT	252
White, R.J.	ANYL	423	Wiers, B.	INOR	1222	Wilkening, I.	BIOL	335
White, S.	POLY	549	Wierzbicka, C.	ORGN	649	Wilkens, S.	ORGN	894

Wilker, J.J.	POLY	563	Williams, D.	PHYS	476	Willits, R.	PMSE	436
Wilker, M.	CATL	216	Williams, D.	MEDI	194	Willmann, S.	BIOT	344
Wilker, M.	CHED	2151	Williams, D.	MEDI	272	Willner, M.	COLL	44
Wilkerson, M.P.	NUCL	23	Williams, D.	BIOL	310	Willner, M.	ENVR	83
Wilkerson-Hill, S.M.	ORGN	45	Williams, D.	CHED	744	Willner, M.	ENVR	229
Wilkins, B.O.	GEOC	179	Williams, D.J.	INOR	1279	Willner, M.	ENVR	624
Wilkins, M.	GEOC	343	Williams, D.S.	PMSE	646	Willoughby, J.A.	CELL	247
Wilkins, O.	CHED	159	Williams, E.	INOR	1562	Willoughby, P.	CHED	1358
Wilkinson, A.P.	INOR	1110	Williams, G.	CHED	1093	Willoughby, P.	CHED	1431
Wilkinson, L.	INOR	836	Williams, G.	CHED	2025	Wills, L.	INOR	447
Wilkinson, L.	PHYS	74	Williams, H.C.	CHED	1125	Wills, L.	INOR	448
Wilkinson, S.	BIOT	618	Williams, J.	INOR	881	Willson, C.G.	PMSE	27
Wilkinson, T.	I&EC	116	Williams, J.	ANYL	398	Willson, C.G.	PMSE	679
Wilklow-Marnell, M.	INOR	1285	Williams, J.R.	ENVR	122	Willson, C.G.	POLY	114
Wilks, T.	ANYL	469	Williams, J.R.	CHED	406	Willson, C.G.	POLY	199
Wilks, T.	ENVR	757	Williams, J.R.	CHED	444	Willson, C.G.	POLY	300
Wilks, T.	POLY	362	Williams, J.R.	CHED	543	Willson, R.C.	ANYL	306
Willand, N.	MEDI	369	Williams, K.	CHED	662	Willson, R.C.	BIOT	300
Willand, N.	MEDI	455	Williams, K.	GEOC	19	Willson, R.C.	BIOT	381
Willard, A.	PHYS	162	Williams, K.	GEOC	170	Willson, R.C.	BIOT	602
Willard, A.	POLY	255	Williams, K.	GEOC	262	Wilmarth, W.R.	NUCL	151
Willcock, H.	POLY	378	Williams, K.	BIOL	134	Wilmoth, J.	GEOC	127
Willcock, H.	POLY	550	Williams, K.	CHED	494	Wilson, A.	COMP	254
Willemssen, J.	ENVR	43	Williams, K.	CHED	1090	Wilson, A.	CHED	1722
Wiley, T.	COLL	706	Williams, K.	CHED	1106	Wilson, A.	CATL	497
William-Olsson, L.	MEDI	17	Williams, K.	INOR	331	Wilson, A.K.	CATL	27
Williams, A.	BIOT	308	Williams, K.	PHYS	499	Wilson, A.K.	COMP	211
Williams, A.	CHED	814	Williams, K.N.	ORGN	921	Wilson, A.K.	ENFL	79
Williams, A.	CHED	1647	Williams, K.R.	POLY	85	Wilson, A.K.	INOR	1135
Williams, A.J.	ANYL	76	Williams, L.	INOR	413	Wilson, A.M.	CHED	553
Williams, A.J.	ANYL	77	Williams, L.	CHED	584	Wilson, B.	CHED	891
Williams, A.J.	ANYL	470	Williams, M.	PMSE	422	Wilson, B.K.	PMSE	673
Williams, A.J.	CHAS	39	Williams, M.	PMSE	620	Wilson, B.P.	CELL	417
Williams, A.J.	CINF	15	Williams, M.L.	CHED	254	Wilson, B.P.	CELL	205
Williams, A.J.	CINF	48	Williams, N.	CHED	245	Wilson, B.P.	CELL	289
Williams, A.J.	CINF	49	Williams, N.	INOR	221	Wilson, B.P.	CELL	326
Williams, A.J.	CINF	109	Williams, N.H.	COLL	104	Wilson, C.	CHED	853
Williams, A.J.	CINF	152	Williams, N.J.	I&EC	17	Wilson, C.	INOR	522
Williams, A.J.	CINF	172	Williams, N.J.	INOR	1133	Wilson, C.	INOR	1529
Williams, A.J.	ENVR	136	Williams, N.J.	ORGN	408	Wilson, D.	COMP	322
Williams, A.J.	ENVR	651	Williams, N.J.	ORGN	470	Wilson, D.	MEDI	497
Williams, A.J.	ENVR	932	Williams, N.J.	ORGN	576	Wilson, D.	BIOL	219
Williams, A.J.	ENVR	936	Williams, N.S.	POLY	118	Wilson, D.	INOR	1187
Williams, A.J.	ENVR	937	Williams, R.	CHED	1804	Wilson, D.A.	PMSE	646
Williams, A.J.	ENVR	1013	Williams, R.F.	ANYL	360	Wilson, D.P.	MEDI	365
Williams, A.J.	HIST	37	Williams, R.F.	ORGN	352	Wilson, E.E.	CHED	290
Williams, A.K.	POLY	358	Williams, R.J.	POLY	550	Wilson, G.	ORGN	224
Williams, A.M.	ANYL	291	Williams, S.	MEDI	305	Wilson, H.	ENVR	270
Williams, A.M.	ANYL	359	Williams, S.	ORGN	836	Wilson, I.A.	CARB	84
Williams, B.	INOR	249	Williams, S.L.	POLY	507	Wilson, J.	POLY	287
Williams, B.B.	CHED	1106	Williams, S.R.	ORGN	722	Wilson, J.	CHED	479
Williams, B.R.	INOR	952	Williams, T.	PMSE	408	Wilson, J.	CHED	949
Williams, C.	BIOT	617	Williams, T.	PMSE	609	Wilson, J.A.	ORGN	568
Williams, C.	COMP	241	Williams, T.	POLY	645	Wilson, J.L.	ENVR	242
Williams, C.	COMP	362	Williams, T.	CHED	1832	Wilson, J.M.	ANYL	443
Williams, C.	ENVR	1010	Williams, T.	COLL	344	Wilson, K.	CATL	236
Williams, C.	MEDI	47	Williams, T.E.	COLL	465	Wilson, K.	CATL	240
Williams, C.	MEDI	138	Williams, T.J.	INOR	607	Wilson, K.	CATL	466
Williams, C.	BIOT	391	Williams, T.J.	INOR	867	Wilson, K.	CATL	486
Williams, C.	BIOT	482	Williams, T.J.	INOR	872	Wilson, K.	ENVR	140
Williams, C.	CATL	144	Williams, T.J.	INOR	1286	Wilson, K.	ENVR	704
Williams, C.	COLL	146	Williams, T.J.	INOR	1291	Wilson, K.	INOR	1129
Williams, C.	INOR	1319	Williams, T.J.	INOR	1371	Wilson, K.	ORGN	546
Williams, C.	ORGN	136	Williams, T.J.	ORGN	319	Wilson, K.	MEDI	365
Williams, C.	ORGN	137	Williams, T.J.	PMSE	70	Wilson, K.	CHED	837
Williams, C.	PROF	16	Williams, T.M.	INOR	404	Wilson, K.	CHED	1849
Williams, C.	ORGN	190	Williams, T.M.	ORGN	485	Wilson, L.E.	INOR	1305
Williams, C.B.	POLY	248	Williams, Z.	PMSE	458	Wilson, L.J.	MEDI	41
Williams, C.C.	CHED	603	Williamson, B.	PHYS	402	Wilson, L.J.	MEDI	42
Williams, C.G.	COLL	721	Williamson, G.	AGFD	225	Wilson, L.J.	MEDI	43
Williams, C.K.	COLL	856	Williamson, S.	INOR	1147	Wilson, M.	BIOL	359
Williams, C.K.	INOR	214	Williamson, V.M.	CHED	827	Wilson, M.	MEDI	10
Williams, C.K.	INOR	396	Williard, P.G.	ORGN	364	Wilson, N.	CATL	228
Williams, C.K.	INOR	557	Willis, C.	BIOT	461	Wilson, N.	CELL	132
Williams, C.K.	INOR	588	Willis, J.	CATL	35	Wilson, P.	POLY	604
Williams, C.K.	INOR	735	Willis, J.	CATL	149	Wilson, P.	ENVR	934
Williams, C.K.	PMSE	629	Willis, J.J.	ENFL	110	Wilson, R.	NUCL	65
Williams, C.L.	ORGN	344	Willis, M.C.	ENFL	298	Wilson, R.	NUCL	68
Williams, C.M.	CHED	1096	Willis, M.C.	ORGN	33	Wilson, R.A.	ANYL	100
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Wilson, S.	INOR	1079	Witczak, Z.J.	MEDI	173	Wolsleger, R.	CHED	1026
Wilson, S.F.	CHED	1885	Witczak, Z.J.	MEDI	174	Wolsleger, R.	I&EC	16
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Wilson-Kennedy, Z.S.	CHED	1899	Witherspoon, J.	ENVR	19	Wolterink, A.	ANYL	294
Wilson-Kennedy, Z.S.	CHED	2161	Witkin, J.M.	MEDI	99	Woltosz, W.	MEDI	399
Wilt, M.	CELL	247	Witkowski, N.	PMSE	684	Wolverton, C.	I&EC	77
Wiltowski, T.	I&EC	128	Witoon, T.	CATL	287	Wolynes, P.G.	COMP	73
Wimalasena, K.	BIOL	275	Witoon, T.	COLL	354	Wommack, A.J.	BIOL	201
Wimalasiri, P.	PHYS	296	Witos, J.	CELL	334	Wommack, A.J.	CHED	52
Wimmer, F.P.	INOR	411	Witt, C.E.	CHED	473	Wommack, A.J.	CHED	723
Wimmer, L.	ORGN	212	Witt, S.	INOR	1272	Wommack, A.J.	CHED	1370
Winans, R.E.	ENFL	319	Witt, T.	POLY	391	Wommack, A.J.	CHED	2172
Winans, R.E.	ENFL	321	Witten, T.	COLL	599	Wommack, A.J.	ORGN	38
Winchell, K.	COLL	145	Wittkopp, F.	BIOT	640	Won, D.	INOR	912
Winchester, M.R.	ENVR	544	Wittmann, H.	MEDI	31	Won, D.	INOR	913
Winchester, W.R.	CHED	1453	Witus, L.	CHED	1354	Won, D.	INOR	1377
Winchester, W.R.	CHED	1454	Witus, L.	CHED	1599	Won, S.	PMSE	384
Windhof, A.	AGFD	267	Witzke, M.E.	CATL	535	Wong Chang, M.	CATL	155
Windhof, A.	ORGN	925	Witzke, R.	INOR	1502	Wong, A.	PMSE	520
Windorff, C.J.	NUCL	79	Witzler, M.	CELL	495	Wong, A.	CATL	32
Window, P.	CHED	1088	Wixtrom, A.I.	INOR	702	Wong, A.	INOR	1082
Windus, T.L.	COMP	495	Wixtrom, A.I.	INOR	1151	Wong, A.	INOR	1005
Winey, K.I.	POLY	160	Wlodarczyk, M.	COLL	735	Wong, A.B.	INOR	694
Winfield, L.	CHED	2160	Wlodarczyk, M.T.	COLL	268	Wong, A.J.	CHED	1600
Winfough, M.	PHYS	512	Wlodarczyk, M.T.	COLL	281	Wong, B.M.	COMP	194
Wingad, R.	INOR	101	Wlodawer, A.	BIOT	333	Wong, B.M.	COMP	422
Wingad, R.	INOR	407	Wnek, G.E.	POLY	326	Wong, B.M.	COMP	479
Wingfield, K.	ANYL	188	Wnuk, S.F.	BIOL	82	Wong, B.M.	COMP	542
Wingo, K.	POLY	88	Wnuk, S.F.	MEDI	70	Wong, B.M.	COMP	419
Wingolf, C.E.	MEDI	17	Wnuk, S.F.	MEDI	471	Wong, C.	BIOL	18
Wink, D.J.	CHED	206	Wnuk, S.F.	ORGN	299	Wong, C.	ORGN	637
Wink, D.J.	CHED	1989	Wnuk, S.F.	ORGN	532	Wong, D.W.	AGFD	60
Winkel, R.	INOR	415	Wnuk, S.F.	ORGN	731	Wong, D.W.	AGFD	61
Winkelman, M.	CHED	818	Woda, J.	GEOC	336	Wong, E.M.	ENVR	123
Winkle, S.A.	BIOL	119	Woen, D.	INOR	1378	Wong, J.	COLL	109
Winkler, J.	CHED	906	Woerner, F.	COLL	325	Wong, J.	COLL	579
Winkler, J.R.	INOR	71	Woerner, M.	PMSE	14	Wong, J.	COLL	580
Winkler, J.R.	INOR	384	Woerpel, K.A.	CHED	852	Wong, J.	CHED	1868
Winkler, P.C.	ENVR	213	Woerpel, K.A.	ORGN	374	Wong, J.	ORGN	814
Winn, B.T.	CHED	825	Woertink, J.	ENFL	11	Wong, K.	CHED	445
Winnick, M.	GEOC	170	Woessner, Z.J.	INOR	307	Wong, K.	ENVR	999
Winnick, M.	GEOC	262	Wohlers, H.	CHED	2025	Wong, L.H.	CATL	430
Winson, E.	BIOT	541	Wohlert, J.	CELL	61	Wong, L.S.	CHAS	51
Winter, C.H.	INOR	1084	Wohlert, J.	CELL	323	Wong, M.	ANYL	349
Winter, G.	PMSE	647	Wohlert, J.	CELL	439	Wong, N.	BIOL	332
Winter, J.	CHED	229	Wohlleben, W.	ORGN	499	Wong, N.	ORGN	20
Winter, J.O.	COLL	440	Wohlrab, C.	CHED	705	Wong, N.	ENVR	772
Winter, J.O.	INOR	636	Wojnar, M.	INOR	1098	Wong, N.	I&EC	107
Winter, M.	I&EC	63	Wojnar, M.	INOR	1457	Wong, N.L.	ANYL	477
Winter, M.	ORGN	881	Wojtecki, R.	PMSE	111	Wong, P.	MEDI	18
Winter, W.T.	CELL	277	Wojtecki, R.	POLY	285	Wong, S.	BIOT	351
Winter, W.T.	CELL	488	Wolber, J.M.	CARB	62	Wong, S.	BIOT	617
Winters, B.J.	ANYL	411	Wolcott, A.	COLL	146	Wong, S.B.	CHED	250
Winters, B.J.	CHED	108	Wolcott, A.	COLL	212	Wong, S.S.	INOR	1202
Wintgens, V.	POLY	584	Wolcott, A.	COLL	766	Wong, Y.	INOR	1172
Wirick, J.	CHED	911	Wolcott, A.	COLL	191	Wongkasemjit, S.	COLL	177
Wirth, D.	CHED	1264	Wolczanski, P.T.	INOR	1214	Wongkasemjit, S.	COLL	178
Wirth, D.	COLL	859	Wold, A.	CHED	1648	Wongkasemjit, S.	COLL	291
Wirth, M.J.	COLL	418	Wold, A.	CHED	1821	Wongkasemjit, S.	COLL	345
Wirth, T.	YCC	23	Wold, E.D.	ORGN	632	Wongmahasirikun, P.	INOR	888
Wirtz, J.	ENVR	555	Woldeyes, M.	BIOT	22	Wongmahasirikun, P.	INOR	892
Wirtz, J.	ENVR	976	Woldring, D.	BIOT	56	Wongmahasirikun, P.	INOR	1372
Wise, A.	CINF	31	Wolf, B.M.	INOR	1318	Wongmahasirikun, P.	INOR	1373
Wise, B.O.	CHED	763	Wolf, C.	ORGN	414	Wongsrisujarit, N.	CATL	374
Wise, B.O.	CHED	772	Wolf, J.	PMSE	316	Wongsrisujarit, N.	COLL	266
Wise, C.	INOR	159	Wolf, M.S.	CHED	1578	Woo, B.	CHED	1163
Wise, F.	COLL	461	Wolf, P.	CATL	580	Woo, B.	IAC	14
Wise, S.	MEDI	367	Wolf, S.	PHYS	300	Woo, E.T.	PMSE	115
Wishart, D.S.	ENVR	938	Wolfe, L.S.	BIOT	542	Woo, H.	CATL	284
Wisher, M.	BIOT	598	Wolfe, N.	INOR	290	Woo, H.	ENFL	178
Wishner, J.	BIOT	297	Wolfe, S.R.	INOR	357	Woo, J.	BIOT	50
Wisian-Neilson, P.	CHED	2112	Wolfe, S.R.	INOR	1441	Woo, K.	INOR	1356
Wisian-Neilson, P.	INOR	855	Wolfson, A.	PROF	33	Woo, S.	PMSE	308
Wisman, D.L.	COLL	721	Wolins, N.E.	CHED	257	Wood, B.	INOR	1530
Wisniewski, L.	INOR	931	Wolkow, R.A.	PHYS	156	Wood, B.	INOR	1534
Wissingner, J.E.	CHED	1741	Wollack, J.	BIOL	37	Wood, B.	INOR	1535
Wissingner, J.E.	POLY	33	Wollack, J.	CHED	1391	Wood, D.F.	CELL	401

Wood, D.W.	BIOT	52	Wrasman, C.	COLL	860	Wu, J.	ORGN	706
Wood, D.W.	BIOT	203	Wrasman, C.	ENFL	110	Wu, J.	ENVR	860
Wood, D.W.	BIOT	483	Wray, P.	PHYS	560	Wu, J.	POLY	403
Wood, K.M.	MEDI	361	Wren, D.	CHED	2164	Wu, J.	MEDI	14
Wood, K.N.	ANYL	41	Wren, S.	CHED	1673	Wu, J.	AGFD	73
Wood, N.	MEDI	139	Wren, S.	PHYS	337	Wu, J.	ENVR	188
Wood, P.	CHED	2032	Wrenbeck, E.	BIOT	61	Wu, K.	CATL	442
Wood, P.A.	CHED	2007	Wrenn, S.	ORGN	187	Wu, K.	BIOT	426
Wood, S.	BIOT	477	Wriedt, M.	INOR	1399	Wu, K.	MEDI	130
Wood, S.	MEDI	127	Wright, A.	CHED	2161	Wu, L.	I&EC	124
Wood, V.	CHED	1273	Wright, A.M.	INOR	138	Wu, L.	ENVR	524
Wood, Z.	CHED	1115	Wright, A.M.	INOR	881	Wu, L.	ENFL	110
Wood, Z.	INOR	1544	Wright, A.T.	BIOT	139	Wu, L.	CATL	149
Woodall, R.A.	WCC	1	Wright, B.	ANYL	327	Wu, L.	GEOC	234
Woodall, S.	INOR	1385	Wright, B.	ENFL	377	Wu, L.	PMSE	488
Woodard, D.	INOR	1522	Wright, C.	BIOT	5	Wu, L.	CATL	155
Woodard, L.L.	POLY	98	Wright, C.W.	ENFL	377	Wu, L.	GEOC	130
Wood-Black, F.K.	WCC	8	Wright, D.	COLL	769	Wu, M.	PHYS	418
Woodcock, H.L.	COMP	236	Wright, D.	PMSE	603	Wu, M.	CELL	208
Woodcock, H.L.	COMP	106	Wright, D.	BIOL	284	Wu, M.	ORGN	739
Woodcock, H.L.	COMP	148	Wright, D.	INOR	844	Wu, N.	ANYL	269
Woodcock, H.L.	COMP	240	Wright, D.	INOR	565	Wu, N.	ENFL	51
Woodfield, B.	PHYS	365	Wright, D.W.	CINF	81	Wu, N.	INOR	432
Woodle, M.B.	ORGN	768	Wright, D.W.	COMP	68	Wu, N.	PMSE	78
Woodling, M.	BIOT	591	Wright, E.	COMP	440	Wu, N.	MEDI	461
Woodrow, K.A.	MEDI	59	Wright, J.	ORGN	431	Wu, P.	BIOL	176
Woodruff, P.	CARB	61	Wright, J.	ANYL	433	Wu, P.	GEOC	350
Woodruff, P.	CARB	62	Wright, J.C.	ANYL	24	Wu, Q.	POLY	235
Woodruff, P.	CARB	66	Wright, J.C.	PHYS	202	Wu, Q.	CELL	535
Woodruff, P.	CHED	152	Wright, J.L.	ENVR	130	Wu, Q.	CELL	449
Woodruff, S.R.	CHED	2112	Wright, K.	MEDI	464	Wu, Q.	CATL	34
Woods, C.J.	COMP	103	Wright, L.	ENVR	955	Wu, Q.	CATL	300
Woods, C.J.	COMP	347	Wright, L.	ANYL	190	Wu, Q.	CATL	370
Woods, J.	INOR	190	Wright, M.	CHED	485	Wu, Q.	CATL	373
Woods, K.N.	INOR	444	Wright, M.	CHED	1819	Wu, Q.	NUCL	107
Woods, R.D.	AGFD	56	Wright, M.K.	CHED	606	Wu, R.	INOR	95
Woods, R.D.	AGFD	115	Wright, M.W.	INOR	935	Wu, S.	MEDI	259
Woods, R.J.	CARB	84	Wright, P.E.	COMP	157	Wu, S.	CELL	346
Woodward, E.	CHED	1601	Wright, S.	BIOL	362	Wu, T.	INOR	553
Woodward, R.T.	CELL	289	Wright, S.	BIOL	277	Wu, T.	INOR	1414
Woodworth, B.	CHED	729	Wright, S.	BIOL	316	Wu, T.	ENVR	1029
Woody, K.	PMSE	459	Wright, S.	MEDI	69	Wu, T.	COLL	802
Woolard, K.	CHED	1812	Wright, S.	MEDI	434	Wu, T.S.	CHED	521
Wooles, A.	NUCL	78	Wright, S.W.	ORGN	673	Wu, W.	BIOT	95
Wooley, K.L.	PMSE	156	Wright, T.	BIOT	220	Wu, W.	INOR	117
Wooley, K.L.	PMSE	598	Wright, Z.	PMSE	230	Wu, W.	ENVR	930
Wooley, K.L.	PMSE	695	Wright, Z.	POLY	37	Wu, W.	ENVR	591
Wooley, K.L.	POLY	210	Wrighton, K.	GEOC	343	Wu, X.	INOR	705
Wooley, K.L.	POLY	263	Wristers, D.	MEDI	497	Wu, X.	COMP	551
Wooley, K.L.	POLY	598	Wroblecki, S.	MEDI	25	Wu, X.	ENVR	512
Wooley, K.L.	POLY	645	Wroblecki, S.	MEDI	315	Wu, X.	GEOC	39
Wolf, J.	CHED	1239	Wrublewski, D.	CINF	135	Wu, Y.	COLL	524
Wolf, J.	CHED	1819	Wu, A.	BIOL	150	Wu, Y.	INOR	35
Woolley, A.	ANYL	47	Wu, B.	ENFL	191	Wu, Y.	ENVR	604
Woolley, A.T.	ANYL	44	Wu, B.	ENFL	344	Wu, Y.	BIOT	719
Woolley, J.	PHYS	64	Wu, B.	ENVR	174	Wu, Y.	ENVR	717
Woon, D.E.	PHYS	236	Wu, B.	PHYS	146	Wu, Y.	INOR	893
Woon, S.	BIOT	530	Wu, C.	ENVR	329	Wu, Y.	INOR	247
Wordofa, D.	GEOC	25	Wu, C.	ENVR	806	Wu, Y.	ORGN	567
Worek, F.	MEDI	396	Wu, C.	ENVR	276	Wu, Y.	ORGN	640
Worke, M.	CHED	1515	Wu, C.	MEDI	148	Wu, Y.	MEDI	18
Workie, B.	INOR	929	Wu, C.	ANYL	156	Wu, Y.	COMP	391
Workman, P.	MEDI	111	Wu, C.	ENVR	64	Wu, Y.	COMP	394
Works, C.F.	INOR	250	Wu, D.	BIOT	182	Wu, Y.	CINF	126
Works, C.F.	INOR	251	Wu, D.	MEDI	21	Wu, Y.	COLL	386
Works, C.F.	INOR	257	Wu, D.	MEDI	349	Wu, Y.	ORGN	830
Works, C.F.	INOR	379	Wu, F.	ENFL	84	Wu, Y.	BIOT	8
Wormwood, T.L.	COMP	368	Wu, F.	INOR	456	Wu, Y.	BIOT	448
Worsley, M.	COLL	358	Wu, F.	ENVR	41	Wu, Y.	INOR	547
Worsley, M.A.	COLL	706	Wu, F.	ANYL	104	Wu, Y.	INOR	1434
Worsley, M.A.	ENFL	162	Wu, F.	ENFL	68	Wu, Y.	MEDI	51
Worsnop, D.R.	ENVR	404	Wu, G.	ORGN	871	Wu, Y.	MEDI	52
Worthington, M.J.	PMSE	648	Wu, G.	ENFL	456	Wu, Y.	COLL	162
Worthy, S.	CHED	366	Wu, G.	I&EC	128	Wu, Y.	PMSE	460
Wotal, A.C.	INOR	602	Wu, H.	INOR	751	Wu, Y.	BIOL	306
Wotal, A.C.	INOR	632	Wu, H.	MEDI	112	Wu, Y.	BIOT	318
Wotherspoon, A.	ANYL	362	Wu, H.	MEDI	314	Wu, Y.	COLL	594
Wovkulich, K.M.	GEOC	163	Wu, H.	BIOL	48	Wu, Y.	PMSE	663
Woznack, K.A.	CHED	1150	Wu, H.	ENFL	410	Wu, Y.	INOR	38
Wrasman, C.	CATL	498	Wu, H.	MEDI	404	Wu, Y.	ENVR	604



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Wu, Y.	COMP	369	Xi, Y.	MEDI	241	Xie, J.	INOR	95
Wu, Y.	INOR	1560	Xi, Y.	INOR	1573	Xie, J.	INOR	530
Wu, Y.	COLL	434	Xi, Y.	ORGN	425	Xie, J.	NUCL	148
Wu, Z.	INOR	568	Xi, Y.	POLY	196	Xie, K.	CATL	20
Wu, Z.	CATL	189	Xia, E.	MEDI	346	Xie, K.	INOR	884
Wu, Z.	CATL	621	Xia, P.	COLL	141	Xie, K.	INOR	1504
Wu, Z.	ENVR	116	Xia, P.	COLL	314	Xie, L.	COLL	499
Wu, Z.	ENVR	171	Xia, P.	ENFL	314	Xie, L.	COMP	295
Wu, Z.	ENVR	172	Xia, P.	INOR	1575	Xie, L.	PHYS	72
Wu, Z.	CATL	592	Xia, S.	ORGN	535	Xie, L.	MEDI	361
Wu, Z.	ENFL	91	Xia, T.	ENVR	492	Xie, N.	ORGN	825
Wu, Z.	ENFL	261	Xia, X.	COLL	788	Xie, R.	CATL	467
Wu, Z.	ENVR	108	Xia, X.	ENVR	12	Xie, R.	ENVR	930
Wu, Z.	ENVR	417	Xia, Y.	COLL	8	Xie, R.	INOR	1573
Wu, Z.	INOR	1470	Xia, Y.	COLL	86	Xie, R.	PMSE	69
Wübbolt, S.	ORGN	44	Xia, Y.	COLL	458	Xie, R.	PMSE	510
Wudl, F.	INOR	711	Xia, Y.	ORGN	3	Xie, R.	PMSE	644
Wuelfing, W.P.	MEDI	29	Xia, Y.	ORGN	463	Xie, R.	POLY	75
Wuerthner, F.	POLY	251	Xia, Y.	PMSE	110	Xie, S.	CHED	787
Wuerthner, F.	POLY	443	Xia, Y.	PMSE	664	Xie, S.	CHED	1030
Wuerthner, F.	POLY	444	Xia, Y.	POLY	76	Xie, T.	COLL	438
Wuerthner, F.	POLY	641	Xia, Y.	POLY	242	Xie, W.	CELL	247
Wuerz, S.	CHED	801	Xia, Y.	POLY	261	Xie, X.	ENVR	905
Wuerz, S.	CHED	802	Xia, Y.	POLY	536	Xie, X.	GEOC	118
Wuerz, S.	CHED	803	Xia, Y.	POLY	540	Xie, X.	INOR	1201
Wuerz, S.	CHED	804	Xia, Y.	CELL	509	Xie, X.	MEDI	429
Wuerz, S.	CHED	805	Xia, Y.	ENVR	248	Xie, Y.	INOR	546
Wuerz, S.	CHED	806	Xia, Y.	COLL	9	Xie, Y.	INOR	1445
Wuerz, S.	CHED	807	Xia, Z.	CATL	252	Xie, Y.	ENVR	553
Wuerz, S.	CHED	808	Xiang, A.	CHED	1809	Xie, Y.	ENVR	870
Wuerz, S.	CHED	818	Xiang, B.	PHYS	556	Xie, Y.	ORGN	399
Wuerz, S.	CHED	819	Xiang, F.	COLL	190	Xie, Y.	BIOT	624
Wuerz, S.	CHED	820	Xiang, J.	CELL	338	Xie, Y.	AGFD	213
Wuerz, S.	CHED	821	Xiang, L.	ANYL	436	Xie, Z.	ENFL	132
Wuerz, S.	CHED	822	Xiang, L.	PHYS	221	Xie, Z.	PMSE	651
Wuest, W.M.	POLY	406	Xiang, M.	ORGN	830	Xin, B.	MEDI	18
Wunschel, D.	ANYL	331	Xiang, T.	COLL	726	Xin, H.	CATL	43
Wurm, F.	POLY	493	Xiang, W.	CELL	251	Xin, H.	CATL	140
Wurstbauer, U.	COLL	642	Xiang, W.	I&EC	135	Xin, H.	CATL	258
Wurtzel, F.	CHED	2021	Xiao, C.	CATL	170	Xin, H.	CATL	524
Wurz, P.	PHYS	192	Xiao, C.	CATL	606	Xin, H.	COMP	81
Wurzer, J.	CHAS	9	Xiao, D.	PMSE	224	Xin, H.	COLL	542
Wusterbarth, E.	INOR	876	Xiao, D.	CHED	905	Xin, H.	COLL	442
Wutikhun, T.	COLL	601	Xiao, H.	CATL	231	Xin, X.	BIOT	262
Wuu, J.	BIOT	73	Xiao, H.	MEDI	339	Xin, X.	BIOT	434
Wyan, L.O.	CHED	402	Xiao, H.	AGFD	37	Xinfei, F.	ENVR	355
Wyatt, B.	CHED	1290	Xiao, J.	CATL	436	Xing, B.	ENVR	626
Wydra, B.R.	CHED	509	Xiao, K.	PHYS	382	Xing, B.	ENVR	667
Wylar, B.	ORGN	655	Xiao, L.	COMP	550	Xing, B.	ENVR	966
Wylie, A.	MEDI	366	Xiao, M.	BIOL	277	Xing, B.	ENVR	967
Wylie, P.	ENVR	637	Xiao, M.	BIOL	316	Xing, B.	ENVR	971
Wynia-Smith, S.L.	CHED	704	Xiao, M.	MEDI	69	Xing, B.	ENVR	972
Wynn, J.	BIOL	336	Xiao, M.	MEDI	434	Xing, B.	ENVR	1037
Wynn, L.	CHED	2130	Xiao, M.	PMSE	260	Xing, C.	ANYL	158
Wynn, M.	CHED	65	Xiao, M.	PMSE	99	Xing, C.	POLY	96
Wynne, J.H.	CATL	60	Xiao, P.	ANYL	439	Xing, K.	POLY	446
Wynne, J.H.	COLL	237	Xiao, P.	ANYL	304	Xing, L.	COLL	572
Wynne, J.H.	COLL	835	Xiao, Q.	CATL	605	Xing, L.	PMSE	517
Wynne, J.H.	ORGN	889	Xiao, R.	PMSE	401	Xing, M.	ENVR	843
Wynne, J.H.	PMSE	649	Xiao, R.	PMSE	445	Xing, Y.	ENVR	959
Wynne, J.H.	PMSE	694	Xiao, S.	PMSE	461	Xing, Z.	BIOT	678
Wynne, J.H.	POLY	43	Xiao, W.	GEOC	40	Xinwei, M.	ENVR	460
Wynne, J.H.	POLY	412	Xiao, W.	COLL	726	Xiong, H.	ENFL	284
Wynne, K.J.	PMSE	650	Xiao, X.	ANYL	398	Xiong, J.	GEOC	254
Wynne, K.J.	POLY	56	Xiao, X.	ENVR	542	Xiong, L.	POLY	273
Wyse, I.A.	CHED	2149	Xiao, X.	ENVR	248	Xiong, M.	PMSE	52
Wysocki, V.H.	ANYL	368	Xiao, Y.	POLY	41	Xiong, M.	PMSE	521
Wysocki, V.H.	CHED	882	Xiao, Y.	POLY	644	Xiong, R.	INOR	1476
Wysocki, V.H.	COMP	174	Xiao, Y.	ENVR	273	Xiong, W.	BIOT	97
Wyss, C.M.	INOR	859	Xiao, Y.	BIOT	227	Xiong, W.	PHYS	543
Wyss, K.	CHED	1048	Xiao, Y.	PMSE	462	Xiong, W.	PHYS	556
Wyss, K.	INOR	1248	Xiao, Y.	PMSE	461	Xiong, W.	PMSE	667
Wyss, K.M.	NUCL	76	Xiao, Z.	INOR	1027	Xiong, W.	PMSE	667
Wyszynski, M.	CATL	351	Xiao, Z.	INOR	1127	Xiong, X.	ENVR	806
Wythes, M.	MEDI	350	Xiao, Z.	PMSE	404	Xiong, Y.	CHED	629
Wytko, J.A.	ORGN	41	Xiao, Z.	MEDI	339	Xiu, Y.	CHED	1584
Wytko, J.A.	ORGN	638	Xiaojun, L.	CATL	346	Xu, B.	ENVR	248
Xantheas, S.	PHYS	226	Xiaoxiao, L.	CHED	917	Xu, B.	ENVR	489
Xenos, D.	CHED	621	Xiaoyang, Z.	PROF	3	Xu, B.	BIOL	32
Xhani, X.	CHED	1060	Xie, G.	COLL	670	Xu, B.	BIOL	328
			Xie, J.	MEDI	339	Xu, B.	PMSE	249

Xu, B.	PMSE	293	Xu, T.	ORGN	780	Yadava, U.	MEDI	73
Xu, B.	CATL	66	Xu, T.	CHED	1822	Yadava, U.	MEDI	406
Xu, B.	CATL	68	Xu, T.	ORGN	874	Yagdi, K.	ENFL	184
Xu, B.	CATL	92	Xu, T.	PMSE	310	Yager, K.	PMSE	187
Xu, B.	CATL	658	Xu, T.	PMSE	365	Yaghi, O.M.	CATL	87
Xu, C.	NUCL	130	Xu, T.	PMSE	385	Yaghi, O.M.	CHED	1098
Xu, C.	MEDI	194	Xu, T.	PMSE	402	Yaghi, O.M.	ENFL	253
Xu, C.	MEDI	272	Xu, T.	PMSE	462	Yaghi, O.M.	INOR	207
Xu, C.	CELL	287	Xu, T.	POLY	297	Yaghi, O.M.	INOR	886
Xu, C.	ENFL	345	Xu, T.	GEOC	35	Yaghi, O.M.	INOR	1010
Xu, C.	ENFL	434	Xu, T.	COLL	127	Yaghi, O.M.	INOR	1021
Xu, C.	ENFL	437	Xu, W.	ENVR	246	Yaghi, O.M.	INOR	1036
Xu, D.	CHED	651	Xu, W.	POLY	343	Yaghi, O.M.	INOR	1179
Xu, D.	CHED	1241	Xu, W.	BIOT	615	Yaghi, O.M.	POLY	136
Xu, D.	COLL	241	Xu, W.	COLL	326	Yaghi, O.M.	POLY	445
Xu, D.	CATL	398	Xu, W.	CATL	252	Yaghi, O.M.	POLY	596
Xu, D.	CHED	592	Xu, W.	ENVR	823	Yaghi, R.	BIOT	57
Xu, D.	ENFL	59	Xu, W.	GEOC	57	Yaghi, R.	BIOT	378
Xu, E.	CHED	252	Xu, W.	ENFL	398	Yagi, K.	COMP	265
Xu, E.G.	ENVR	517	Xu, X.	CHED	1646	Yaglioglu, G.	ORGN	869
Xu, F.	CATL	206	Xu, X.	BIOT	9	Yahr, W.	CHED	1788
Xu, F.	COLL	572	Xu, X.	BIOT	79	Yakelis, N.A.	CHED	1502
Xu, F.	CELL	13	Xu, X.	BIOT	160	Yakelis, N.A.	ORGN	814
Xu, F.	CELL	14	Xu, X.	BIOT	676	Yakelis, N.A.	ORGN	815
Xu, F.	CELL	445	Xu, X.	BIOT	714	Yakelis, N.A.	POLY	262
Xu, F.	MEDI	265	Xu, X.	ENVR	333	Yakhini, Z.	COMP	474
Xu, G.	BIOL	58	Xu, X.	ANYL	32	Yakobson, B.I.	ENFL	202
Xu, G.	MEDI	251	Xu, X.	COLL	435	Yakovchuk, P.	BIOL	112
Xu, H.	CELL	309	Xu, X.	PHYS	399	Yakovenko, A.	INOR	1399
Xu, H.	GEOC	131	Xu, X.	PMSE	194	Yakovenko, A.	ORGN	871
Xu, J.	BIOL	35	Xu, X.	CHED	27	Yalcin, G.	AGFD	147
Xu, J.	ORGN	902	Xu, X.	CHED	2107	Yalcintas, E.	NUCL	108
Xu, J.	MEDI	112	Xu, X.	COLL	673	Yalcintas, E.	NUCL	109
Xu, J.	GEOC	103	Xu, X.	COLL	758	Yam, G.	MEDI	478
Xu, J.	GEOC	178	Xu, X.	ENVR	11	Yam, G.	MEDI	479
Xu, J.	GEOC	189	Xu, X.	PMSE	481	Yamada, K.	ENVR	864
Xu, J.	GEOC	249	Xu, Y.	ORGN	667	Yamada, N.	BIOT	321
Xu, J.	ORGN	225	Xu, Y.	PMSE	68	Yamagishi, Y.	CELL	322
Xu, J.	ORGN	481	Xu, Y.	PMSE	659	Yamaguchi, M.	CELL	253
Xu, J.	ORGN	737	Xu, Y.	GEOC	364	Yamaguchi, S.	PHYS	544
Xu, J.	PMSE	608	Xu, Y.	POLY	566	Yamakawa, K.M.	BIOL	65
Xu, J.	PMSE	611	Xu, Y.	ENVR	334	Yamaki, J.	MEDI	144
Xu, J.	PMSE	612	Xu, Y.	ORGN	643	Yamaki, J.	MEDI	145
Xu, J.	PHYS	271	Xu, Y.	ENFL	430	Yamamoto, E.	ORGN	242
Xu, J.	ORGN	800	Xu, Y.	CARB	8	Yamamoto, K.	CELL	102
Xu, J.	AGFD	43	Xu, Y.	CATL	16	Yamamoto, K.	CELL	103
Xu, J.	ENVR	41	Xu, Y.	PHYS	510	Yamamoto, K.	CELL	104
Xu, K.	ENFL	371	Xu, Y.	PHYS	521	Yamamoto, K.	CELL	117
Xu, K.	ANYL	144	Xu, Z.	MEDI	112	Yamamoto, S.	BIOT	415
Xu, L.	CELL	309	Xu, Z.	CATL	252	Yamamoto, S.	BIOT	498
Xu, L.	BIOT	537	Xu, Z.	CATL	99	Yamamoto, T.	CATL	163
Xu, L.	ANYL	22	Xu, Z.	COLL	321	Yamani, J.	ENVR	610
Xu, L.	PMSE	668	Xu, Z.	PMSE	463	Yamani, J.	ENVR	611
Xu, L.	FLUO	34	Xuan, W.	BIOL	345	Yamanishi, T.	CHED	768
Xu, M.	COLL	278	Xue, A.	ENVR	556	Yamasaki, S.	CELL	199
Xu, M.	COLL	279	Xue, B.	COLL	692	Yamashita, C.	PMSE	257
Xu, M.	COLL	384	Xue, F.	AGFD	43	Yamauchi, Y.	PHYS	404
Xu, M.	PHYS	43	Xue, H.	PHYS	480	Yamaura, T.	MEDI	110
Xu, M.	PHYS	127	Xue, J.	PHYS	331	Yamazaki, S.	MEDI	350
Xu, M.	PHYS	167	Xue, J.	ENFL	344	Yamazaki, T.	COMP	449
Xu, M.	CATL	237	Xue, L.	ORGN	131	Yamazaki, T.	COLL	174
Xu, M.	CELL	211	Xue, Z.	AGFD	235	Yamazaki, Y.	ENVR	65
Xu, N.	CHED	1068	Xue, Z.	INOR	224	Yan, A.	ENFL	325
Xu, P.	CATL	219	Xue, Z.	INOR	714	Yan, B.	ENFL	70
Xu, Q.	ANYL	146	Xue, Z.	INOR	1233	Yan, B.	ENFL	170
Xu, Q.	CELL	130	Xue, Z.	INOR	1237	Yan, C.	INOR	1010
Xu, Q.	COLL	715	Xue, Z.	GEOC	11	Yan, D.	CATL	183
Xu, S.	BIOT	43	Xusheng, S.	AGFD	52	Yan, D.	CATL	370
Xu, S.	GEOC	50	Yabbarov, N.	MEDI	456	Yan, D.	CATL	373
Xu, S.	INOR	115	Yablon, D.	I&EC	52	Yan, D.Z.	POLY	450
Xu, S.	MEDI	236	Yablon, L.	POLY	538	Yan, H.	ORGN	131
Xu, S.	MEDI	243	Yabuta, H.	PHYS	149	Yan, H.	PMSE	234
Xu, S.	ORGN	78	Yacaman, M.J.	CATL	30	Yan, H.	PMSE	240
Xu, S.	ORGN	306	Yacaman, M.J.	ENFL	202	Yan, H.	POLY	197
Xu, S.	INOR	279	Yachandra, V.K.	INOR	665	Yan, H.	ANYL	134
Xu, T.	COLL	15	Yada, N.	MEDI	449	Yan, j.	BIOT	248
Xu, T.	ENFL	262	Yadav, D.	BIOT	616	Yan, J.	POLY	499
Xu, T.	PHYS	358	Yadav, M.P.	CELL	402	Yan, J.	POLY	646
Xu, T.	MEDI	236	Yadav, S.	PMSE	652	Yan, J.	ENFL	244
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Yan, J.	INOR	472	Yang, F.	PMSE	461	Yang, P.	CATL	132
Yan, J.	INOR	555	Yang, F.	PMSE	464	Yang, P.	ENFL	105
Yan, J.	ANYL	414	Yang, F.	MEDI	83	Yang, P.	INOR	639
Yan, J.	ENVR	396	Yang, G.	INOR	219	Yang, P.	INOR	694
Yan, J.J.	INOR	1319	Yang, H.	INOR	1483	Yang, P.	INOR	1124
Yan, K.	CELL	460	Yang, H.	CATL	220	Yang, P.	INOR	1222
Yan, L.	I&EC	37	Yang, H.	ENVR	839	Yang, P.	INOR	1423
Yan, L.	PMSE	559	Yang, H.	ENVR	840	Yang, P.	MPPG	4
Yan, L.	POLY	335	Yang, H.	ENVR	1001	Yang, P.	CHED	917
Yan, L.	NUCL	154	Yang, H.	COLL	215	Yang, P.	GEOC	4
Yan, L.	POLY	238	Yang, H.	ANYL	121	Yang, P.	GEOC	5
Yan, M.	ANYL	461	Yang, H.	BIOT	433	Yang, P.	GEOC	274
Yan, M.	CARB	31	Yang, H.	BIOT	495	Yang, P.	GEOC	277
Yan, M.	ORGN	865	Yang, H.	CINF	140	Yang, P.	CATL	605
Yan, N.	ENVR	147	Yang, H.	CELL	21	Yang, P.	INOR	1213
Yan, P.	CATL	252	Yang, H.	CELL	23	Yang, P.	NUCL	21
Yan, Q.	CATL	121	Yang, H.	CELL	517	Yang, P.	NUCL	22
Yan, R.	ANYL	144	Yang, H.	CARB	73	Yang, P.	NUCL	71
Yan, R.	ANYL	225	Yang, H.	MEDI	390	Yang, P.	NUCL	75
Yan, R.	PMSE	537	Yang, J.	COLL	572	Yang, P.	NUCL	93
Yan, S.	ENVR	175	Yang, J.	BIOT	249	Yang, Q.	CATL	175
Yan, S.	ENVR	655	Yang, J.	BIOT	384	Yang, Q.	COLL	435
Yan, S.	ENVR	948	Yang, J.	COLL	351	Yang, Q.	PMSE	284
Yan, S.	ENVR	946	Yang, J.	COLL	846	Yang, R.	PHYS	453
Yan, S.	ENVR	166	Yang, J.	CELL	11	Yang, S.	ENFL	411
Yan, S.	MEDI	218	Yang, J.	CATL	455	Yang, S.	POLY	198
Yan, W.	ENVR	304	Yang, J.	COMP	514	Yang, S.	AGFD	62
Yan, W.	ENVR	887	Yang, J.	ENVR	410	Yang, S.	ANYL	95
Yan, X.	ANYL	230	Yang, J.	PMSE	461	Yang, S.	ENVR	724
Yan, Y.	COLL	389	Yang, J.	PMSE	473	Yang, S.	ENFL	369
Yan, Y.	ENFL	294	Yang, J.	CATL	322	Yang, S.	CHED	1297
Yan, Y.	INOR	1532	Yang, J.	CATL	611	Yang, S.	CATL	295
Yan, Y.	PHYS	480	Yang, J.	COLL	632	Yang, S.	CELL	297
Yan, Y.	CATL	179	Yang, J.	ENFL	98	Yang, S.	POLY	135
Yan, Y.	CATL	68	Yang, J.	MEDI	297	Yang, S.	BIOT	115
Yan, Y.	POLY	542	Yang, J.J.	CINF	162	Yang, S.	COMP	485
Yan, Z.	CATL	70	Yang, J.Y.	INOR	161	Yang, S.	ORGN	296
Yan, Z.	PHYS	473	Yang, J.Y.	INOR	1205	Yang, S.	ORGN	539
Yan, Z.	PHYS	441	Yang, K.	COLL	726	Yang, S.	BIOT	196
Yancey, J.	MEDI	500	Yang, K.	ENVR	81	Yang, S.	NUCL	110
Yandek, G.R.	PMSE	652	Yang, K.	ANYL	126	Yang, S.I.	ENVR	673
Yandek, G.R.	POLY	543	Yang, K.	PMSE	186	Yang, S.I.	ENVR	674
Yanez Arteta, M.	COLL	79	Yang, K.	PMSE	654	Yang, S.I.	ENVR	769
Yang, A.	ENFL	110	Yang, K.	COMP	188	Yang, S.I.	ENVR	861
Yang, A.	ORGN	930	Yang, K.	CATL	422	Yang, S.T.	BIOT	380
Yang, A.	CHED	1745	Yang, K.	MEDI	221	Yang, S.T.	BIOT	657
Yang, B.	BIOL	70	Yang, K.	COLL	215	Yang, T.	INOR	1155
Yang, B.	PHYS	382	Yang, K.	ANYL	32	Yang, W.	GEOC	91
Yang, B.	CARB	8	Yang, L.	INOR	700	Yang, W.	ANYL	231
Yang, B.	ENFL	242	Yang, L.	CELL	38	Yang, W.	PMSE	142
Yang, B.	BIOT	277	Yang, L.	CHED	1092	Yang, W.	PHYS	89
Yang, B.	BIOT	529	Yang, L.	CHED	1093	Yang, W.	PHYS	91
Yang, B.	COLL	650	Yang, L.	INOR	1336	Yang, W.	CATL	308
Yang, C.	ENVR	932	Yang, L.	POLY	39	Yang, W.	ENVR	196
Yang, C.	PMSE	327	Yang, L.	CHED	1876	Yang, W.	CARB	8
Yang, C.	MEDI	112	Yang, L.	GEOC	11	Yang, W.	ORGN	145
Yang, C.Y.	MEDI	265	Yang, L.	ENVR	635	Yang, X.	PHYS	560
Yang, D.	BIOL	93	Yang, L.	MEDI	248	Yang, X.	COLL	27
Yang, D.	BIOL	113	Yang, L.	COLL	764	Yang, X.	CELL	150
Yang, D.	BIOL	202	Yang, L.	COLL	646	Yang, X.	PMSE	679
Yang, D.	BIOL	332	Yang, L.	COLL	431	Yang, X.	POLY	199
Yang, D.	PMSE	184	Yang, L.	INOR	499	Yang, X.	MEDI	339
Yang, D.	PMSE	653	Yang, M.	CHED	1044	Yang, X.	POLY	222
Yang, D.	INOR	1518	Yang, M.	PHYS	358	Yang, X.	POLY	345
Yang, D.	COLL	836	Yang, M.	CHED	103	Yang, X.	POLY	544
Yang, D.	MEDI	248	Yang, M.	BIOL	361	Yang, X.	CATL	579
Yang, D.	COLL	560	Yang, M.	PMSE	655	Yang, X.	MEDI	316
Yang, D.	COLL	100	Yang, M.	ENVR	827	Yang, X.	INOR	1393
Yang, D.	INOR	677	Yang, M.	INOR	925	Yang, X.	INOR	1501
Yang, D.	ENFL	148	Yang, M.	INOR	830	Yang, X.	CELL	371
Yang, D.	INOR	1178	Yang, M.	INOR	751	Yang, X.	PMSE	510
Yang, D.	CELL	501	Yang, M.	INOR	935	Yang, Y.	BIOT	646
Yang, D.D.	ENVR	51	Yang, M.	INOR	941	Yang, Y.	BIOT	547
Yang, E.X.	MEDI	361	Yang, M.	MEDI	77	Yang, Y.	CATL	368
Yang, F.	INOR	873	Yang, N.	PMSE	317	Yang, Y.	POLY	393
Yang, F.	BIOT	580	Yang, N.	PMSE	423	Yang, Y.	COLL	647
Yang, F.	ENVR	827	Yang, N.	POLY	630	Yang, Y.	ANYL	32
Yang, F.	PHYS	395	Yang, N.	CATL	162	Yang, Y.	COLL	215
Yang, F.	PMSE	19	Yang, N.	INOR	1517	Yang, Y.	COLL	451
Yang, F.	PMSE	345	Yang, P.	ANYL	5	Yang, Y.	PMSE	84

Yang, Y.	I&EC	44	Yapa, A.S.	INOR	1147	Yeh, T.	MEDI	482
Yang, Y.	MEDI	464	Yapa, A.S.	MEDI	420	Yeh, T.	PHYS	578
Yang, Y.	PHYS	358	Yarberry, F.M.	CHED	288	Yeh, W.	COLL	242
Yang, Y.	PMSE	465	Yarberry, F.M.	CHED	776	Yehdego, R.	COLL	344
Yang, Y.	CATL	454	Yarberry, F.M.	CHED	783	Yehezkeili, O.	CATL	266
Yang, Y.	ENVR	10	Yarberry, F.M.	CHED	786	Yeldell, S.	BIOT	581
Yang, Y.	ENVR	414	Yarberry, F.M.	CHED	1880	Yelton, W.G.	ENFL	31
Yang, Y.	POLY	120	Yarema, K.J.	CARB	83	Yelton, W.G.	GEOC	284
Yang, Y.	BIOL	173	Yarkony, D.R.	COMP	46	Yen, C.	MEDI	382
Yang, Y.	INOR	694	Yarlagadda, K.	MEDI	489	Yen, C.	COLL	663
Yang, Y.	POLY	17	Yaron, D.	CINF	7	Yen, G.	AGFD	204
Yang, Y.	POLY	200	Yaroslavtsev, A.	INOR	642	Yen, I.	MEDI	24
Yang, Y.	PMSE	656	Yasa, M.	POLY	360	Yen, R.	MEDI	401
Yang, Y.	CELL	309	Yasar, A.	MEDI	465	Yen, S.	INOR	922
Yang, Y.	CARB	30	Yashin, V.	POLY	510	Yen, T.	CHED	438
Yang, Y.	PMSE	76	Yasin, J.	ORGN	474	Yennawar, H.	ORGN	399
Yang, Y.	PMSE	492	Yassin, O.A.	POLY	353	Yeo, B.	CATL	640
Yang, Y.	POLY	285	Yates, C.M.	MEDI	343	Yeo, B.S.	CATL	74
Yang, Y.	PHYS	401	Yates, E.A.	CHED	1313	Yeo, B.S.	CATL	122
Yang, Y.	ENVR	667	Yates, J.R.	ANYL	286	Yeo, S.	GEOC	9
Yang, Y.	ENVR	726	Yates, M.A.	INOR	615	Yeo, S.	AGFD	27
Yang, Y.	ENVR	972	Yatison, M.	CHED	478	Yeom, B.	COLL	337
Yang, Y.	ENVR	1037	Yatvin, J.	COLL	432	Yeom, J.	COLL	229
Yang, Y.	GEOC	20	Yau, H.	COLL	856	Yeom, J.	COLL	630
Yang, Y.	GEOC	21	Yau, S.	MEDI	194	Yeom, S.	ENVR	845
Yang, Y.	GEOC	25	Yau, S.	MEDI	272	Yeon, J.	COLL	28
Yang, Y.	GEOC	50	Yavuz, A.	COLL	370	Yeon, S.	ENVR	837
Yang, Y.	GEOC	51	Yavuz, A.	COLL	615	Yeon, S.	ENVR	841
Yang, Y.	GEOC	54	Yavuz, C.T.	COLL	554	Yeon, S.	ENVR	842
Yang, Y.	GEOC	257	Yavuz, C.T.	ENFL	307	Yepez Castillo, F.	CHED	134
Yang, Y.	GEOC	288	Yavuz, C.T.	ENVR	375	Yépez-Mulia, L.	MEDI	44
Yang, Y.	BIOT	240	Yavuz, C.T.	INOR	784	Yermala, D.	MEDI	178
Yang, Y.	ENVR	329	Yavuz, C.T.	PMSE	657	Yess, M.	CINF	12
Yang, Y.	INOR	1193	Yavuz, C.T.	POLY	638	Yestrebsky, C.	ENVR	801
Yang, Y.	ENVR	64	Yazaydin, O.	GEOC	143	Yestrebsky, C.	ENVR	802
Yang, Y.	FLUO	49	Yazdani, S.	INOR	874	Yestrebsky, C.	ENVR	803
Yang, Y.	PMSE	392	Ye, C.	INOR	238	Yet, L.	MEDI	215
Yang, Z.	INOR	1154	Ye, C.	INOR	252	Yethiraj, A.	COMP	415
Yang, Z.	MEDI	339	Ye, C.	I&EC	129	Yeung, K.	BIOT	244
Yang, Z.	MEDI	349	Ye, G.	COLL	746	Yeung, K.	BIOT	382
Yang, Z.	PMSE	674	Ye, H.	COLL	788	Yeung, K.	CARB	56
Yang, Z.	COMP	221	Ye, J.	CATL	239	Yeung, K.	CATL	374
Yang, Z.	ORGN	296	Ye, L.	INOR	809	Yeung, K.	CATL	441
Yang, Z.	POLY	372	Ye, M.	COLL	660	Yeung, K.	CATL	594
Yang, Z.	INOR	693	Ye, Q.	BIOT	8	Yeung, K.	COLL	266
Yang, Z.	GEOC	218	Ye, Q.	BIOT	448	Yeung, K.	COLL	360
Yang, Z.	ORGN	399	Ye, Q.	ORGN	14	Yeung, K.	ENVR	64
Yang, Z.	MEDI	372	Ye, R.	CATL	551	Yeung, K.	ENVR	690
Yang, Z.	MEDI	405	Ye, R.	CATL	30	Yeung, K.	ENVR	772
Yang, Z.	ENVR	64	Ye, R.	ENFL	202	Yeung, K.	ENVR	822
Yanguas-Gil, A.	INOR	1414	Ye, S.	BIOL	332	Yeung, K.	ENVR	858
Yanjie, H.	ANYL	215	Ye, S.Y.	CHED	927	Yeung, K.	I&EC	97
Yankley, A.	CHED	941	Ye, T.	ENVR	1030	Yeung, K.	I&EC	98
Yan-Neale, Y.	MEDI	464	Ye, T.	ENVR	1031	Yeung, K.	I&EC	104
Yano, H.	CELL	32	Ye, X.	COLL	188	Yeung, K.	I&EC	107
Yano, H.	CELL	351	Ye, X.	AGFD	168	Yeung, K.	INOR	203
Yano, J.	CATL	195	Ye, X.	PMSE	172	Yeung, K.	INOR	1031
Yano, J.	INOR	210	Ye, Y.	PMSE	580	Yeung, M.	INOR	1078
Yano, J.	INOR	665	Ye, Y.	PMSE	632	Yeung, M.T.	INOR	1071
Yano, J.	INOR	1270	Ye, Z.	BIOT	30	Yeung, T.	CHED	1814
Yanow, S.	MEDI	169	Ye, Z.	BIOT	199	Yezerets, A.	CATL	276
Yanpeng, G.	ENVR	275	Ye, Z.	BIOT	667	Yeziarski, E.J.	CHED	8
Yao, B.	BIOT	394	Yeager, A.N.	COLL	455	Yeziarski, E.J.	CHED	140
Yao, B.	ANYL	463	Yeamans, C.	NUCL	16	Yeziarski, E.J.	CHED	174
Yao, B.	ENVR	116	Yeap, S.	MEDI	24	Yeziarski, E.J.	CHED	207
Yao, B.	ENVR	175	Yearty, K.	CHED	96	Yeziarski, E.J.	CHED	762
Yao, C.	INOR	803	Yeary, J.	BIOT	723	Yeziarski, E.J.	CHED	795
Yao, C.	CELL	108	Yedoyan, J.	ORGN	373	Yi Chan, X.	BIOT	625
Yao, K.	PHYS	482	Yee, D.	POLY	413	Yi, A.	ENFL	215
Yao, L.	ORGN	289	Yee, D.	ENVR	991	Yi, C.	COLL	451
Yao, S.Q.	ORGN	622	Yee, G.M.	INOR	64	Yi, G.	COLL	772
Yao, W.	ENVR	358	Yee, P.	ENFL	318	Yi, G.	COLL	774
Yao, X.	INOR	1178	Yee, P.	PMSE	432	Yi, G.	PMSE	134
Yao, X.	INOR	935	Yee, T.	COLL	837	Yi, G.	INOR	1571
Yao, Y.	PHYS	93	Yeh, A.	ENVR	718	Yi, J.	AGFD	140
Yao, Y.	CELL	360	Yeh, B.	BIOT	93	Yi, K.	CATL	340
Yao, Y.	INOR	129	Yeh, C.	ENVR	847	Yi, K.	CATL	341
Yap, G.P.	INOR	629	Yeh, I.	POLY	556	Yi, L.	BIOT	57
Yap, G.P.	INOR	958	Yeh, K.	INOR	627	Yi, L.	CELL	199
Yap, G.P.	INOR	1258	Yeh, S.	PHYS	258	Yi, L.	CHED	917



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Yi, S.	INOR	910	Yodh, A.G.	CHED	1608	Yoon, S.	ENFL	226
Yi, S.	INOR	915	Yoko, N.	MEDI	133	Yoon, S.	ENFL	236
Yi, S.	PMSE	206	Yokobayashi, Y.	BIOL	40	Yoon, S.	PMSE	25
Yi, S.	INOR	1057	Yokobayashi, Y.	BIOL	57	Yoon, S.	COLL	308
Yi, T.	INOR	70	Yokota, S.	CELL	77	Yoon, S.	I&EC	113
Yi, Y.	COLL	228	Yokota, S.	CELL	531	Yoon, S.J.	PHYS	552
Yi, Z.	ORGN	227	Yokoyama, H.	POLY	531	Yoon, T.P.	INOR	681
Yigzaw, Y.	BIOT	163	Yokoyama, K.	BIOT	427	Yoon, T.P.	ORGN	29
Yik, E.	BIOT	282	Yokoyama, K.	BIOT	429	Yoon, T.P.	PROF	12
Yildirim, E.	MEDI	62	Yokoyama, K.	BIOT	430	Yoon, W.	ENFL	225
Yildirim, E.	POLY	338	Yokoyama, K.	BIOT	481	Yoon, W.	ENFL	228
Yildirim, T.	COLL	148	Yokoyama, K.	CHED	524	Yore, A.	INOR	1024
Yildiz, A.	INOR	1122	Yokoyama, K.	COLL	172	York, A.M.	INOR	1581
Yildiz, M.	COLL	201	Yokoyama, K.	COLL	173	York, D.M.	COMP	143
Yildiz, Z.	PMSE	414	Yokoyama, K.	COLL	655	York, D.M.	COMP	279
Yilgor, E.	PMSE	658	Yokoyama, T.	CATL	96	York, D.M.	COMP	407
Yilgor, E.	POLY	3	Yokoyama, W.H.	AGFD	202	York, D.M.	PHYS	219
Yilgor, I.	PMSE	658	Yokoyama, Y.	PHYS	487	York, S.E.	PROF	40
Yilgor, I.	POLY	3	Yokozaawa, T.	ORGN	305	Yorke, B.A.	PHYS	83
Yilleng, M.T.	CATL	491	Yom, J.	ENFL	225	Yoshida, M.	CATL	103
Yilmaz, A.	COLL	370	Yom, J.	ENFL	228	Yoshida, E.	COLL	80
Yilmaz, E.S.	ORGN	748	Yonan, C.	BIOT	275	Yoshida, H.	CATL	272
Yilmaz, F.	BIOL	235	Yong Wei Ying, D.	CHED	1155	Yoshida, J.	CELL	117
Yilmaz, M.	CHED	579	Yong Wei Ying, D.	IAC	15	Yoshida, K.	CARB	8
Yilmaz, S.	CARB	81	Yong, P.K.	CHED	1824	Yoshida, M.	COLL	623
Yilmaz, T.	MEDI	62	Yonkey, M.	ORGN	744	Yoshikuni, Y.	BIOT	136
Yim, D.	CATL	311	Yoo, B.	INOR	1063	Yoshimoto, J.	CELL	322
Yim, J.	PMSE	25	Yoo, B.	ENVR	392	Yoshimoto, N.	BIOT	415
Yim, Y.	ENVR	861	Yoo, C.	INOR	62	Yoshimoto, N.	BIOT	498
Yin, B.	BIOT	115	Yoo, C.	INOR	329	Yoshimura, A.	ORGN	138
Yin, D.	POLY	80	Yoo, D.	COLL	299	Yoshimura, A.	ORGN	139
Yin, H.	COLL	328	Yoo, D.	MEDI	279	Yoshimura, F.	ORGN	479
Yin, H.	ENVR	9	Yoo, E.	ORGN	769	Yoshizawa, T.	MEDI	449
Yin, H.	ENFL	430	Yoo, H.	INOR	83	Yost, D.	PHYS	93
Yin, J.	CHED	530	Yoo, H.	INOR	1045	Yost, D.	INOR	1483
Yin, J.	CHED	1848	Yoo, J.	INOR	896	You, D.	ENVR	929
Yin, J.	COMP	25	Yoo, J.	GEOC	309	You, L.	ENVR	929
Yin, J.	PMSE	105	Yoo, J.	BIOT	60	You, M.M.	COLL	335
Yin, J.	MEDI	346	Yoo, J.	BIOT	128	You, M.M.	PMSE	553
Yin, L.	CATL	348	Yoo, J.	BIOT	153	You, W.	INOR	786
Yin, L.	ANYL	107	Yoo, K.	CATL	317	You, W.	PMSE	63
Yin, P.	INOR	82	Yoo, M.	CATL	282	You, W.	PMSE	241
Yin, P.	PHYS	240	Yoo, M.	CATL	288	You, W.	PMSE	559
Yin, P.	PHYS	454	Yoo, M.	CATL	323	You, W.	POLY	274
Yin, Q.	POLY	503	Yoo, M.	AGFD	101	You, W.	POLY	335
Yin, R.	ENVR	590	Yoo, M.	AGFD	104	You, Y.	ENVR	667
Yin, W.	INOR	1418	Yoo, M.	AGFD	104	You, Y.	ENVR	972
Yin, X.	ORGN	854	Yoo, S.	AGFD	30	You, Y.	ENVR	1037
Yin, Y.	COLL	17	Yoo, S.	ORGN	605	You, Y.	CATL	377
Yin, Y.	COLL	452	Yoo, S.	ORGN	690	You, Y.	INOR	1026
Yin, Z.	ENVR	163	Yoo, S.	ORGN	695	You, Y.	ORGN	64
Yin, Z.	CATL	460	Yoo, W.	INOR	921	Youn, S.	POLY	235
Yina, X.	ENVR	975	Yoo, W.	INOR	1527	Youmbi, P.	CHED	916
Ying, G.	CELL	115	Yoo, Y.J.	BIOT	551	Youn, H.	CARB	88
Ying, G.	CELL	116	Yoon, A.	CHED	1347	Youn, H.	CELL	135
Ying, H.	PMSE	656	Yoon, C.	ENFL	194	Youn, Y.	NUCL	103
Ying, J.	ORGN	157	Yoon, C.	ENFL	195	Younes, W.	NUCL	4
Ying, L.	CELL	107	Yoon, D.Y.	PMSE	115	Younes, W.	NUCL	8
Yingling, V.	ENVR	537	Yoon, D.Y.	POLY	170	Young, A.	CHED	1026
Yingling, Y.G.	CELL	23	Yoon, H.	ENVR	783	Young, A.	CHED	1193
Yingling, Y.G.	CELL	187	Yoon, H.	ENVR	784	Young, B.A.	BIOT	482
Yingling, Y.G.	CELL	188	Yoon, H.	ENVR	1035	Young, B.A.	CATL	144
Yingling, Y.G.	CINF	27	Yoon, H.	INOR	1571	Young, B.A.	COLL	146
Yingling, Y.G.	COLL	510	Yoon, H.	PHYS	117	Young, B.A.	INOR	1319
Yip, B.	MEDI	350	Yoon, J.	COMP	526	Young, C.	CHED	1403
Yip, H.	MEDI	21	Yoon, J.	ENVR	914	Young, C.	CHED	1725
Yip, H.	MEDI	349	Yoon, J.	ENVR	1025	Young, C.A.	CHED	1841
Yiu, A.	CHED	1713	Yoon, J.	AGFD	71	Young, C.A.	CHED	1841
Yiu, A.	CHED	1714	Yoon, M.	INOR	71	Young, D.	BIOL	270
Yliniemi, K.	CELL	205	Yoon, M.	INOR	1507	Young, D.	ANYL	178
Ynalvez, R.	CHED	666	Yoon, M.	COLL	327	Young, D.	ENVR	974
Ynfante-Corral, M.	COMP	263	Yoon, M.	INOR	782	Young, E.	ORGN	585
Yniguez, K.	BIOL	124	Yoon, N.	COLL	728	Young, E.	CHED	250
Yniguez, K.	MEDI	147	Yoon, S.	AGFD	72	Young, E.R.	CHED	1653
Yockell-Lelievre, J.	PMSE	637	Yoon, S.	I&EC	113	Young, E.R.	CHED	1658
Yocum, G.T.	MEDI	19	Yoon, S.	BIOT	6	Young, G.C.	ANYL	56
Yoder, B.	COLL	255	Yoon, S.	BIOT	42	Young, J.	CATL	263
Yoder, N.C.	MEDI	474	Yoon, S.	BIOT	117	Young, J.	CATL	557
Yoder, R.J.	CHED	902	Yoon, S.	BIOT	487	Young, J.	INOR	1343
Yoder, R.J.	MEDI	204	Yoon, S.	BIOT	703	Young, Jr., V.G.	INOR	139
			Yoon, S.	I&EC	125	Young, Jr., V.G.	INOR	370
			Yoon, S.	ENFL	224	Young, Jr., V.G.	INOR	371

Young, L.	ENVR	291	Yu, J.	COLL	387	Yuan, K.	ENFL	345
Young, L.	PHYS	191	Yu, J.	COLL	671	Yuan, K.	GEOC	332
Young, M.	ANYL	246	Yu, J.	INOR	1526	Yuan, L.	NUCL	127
Young, M.	CHED	1119	Yu, J.	MEDI	80	Yuan, M.	ENFL	297
Young, M.	MEDI	207	Yu, J.	ANYL	461	Yuan, M.	BIOT	94
Young, R.	ENVR	27	Yu, J.	ORGN	474	Yuan, N.Y.	MEDI	19
Young, R.	ENVR	213	Yu, J.	ORGN	57	Yuan, P.	CATL	39
Young, R.	GEOC	285	Yu, J.	ANYL	192	Yuan, P.	CATL	621
Young, R.	INOR	780	Yu, J.	ENVR	956	Yuan, P.	INOR	555
Young, S.M.	CINF	99	Yu, K.	ENVR	460	Yuan, P.	MEDI	253
Young, T.	ENFL	70	Yu, L.	ENVR	546	Yuan, Q.	AGFD	98
Young, T.M.	ENVR	50	Yu, L.	INOR	534	Yuan, Q.	ANYL	463
Young, T.M.	ENVR	101	Yu, L.	INOR	1412	Yuan, S.	PMSE	468
Young, T.M.	ENVR	108	Yu, L.	PMSE	166	Yuan, S.	INOR	168
Young, T.M.	ENVR	214	Yu, L.	PMSE	183	Yuan, S.	GEOC	129
Young, T.M.	ENVR	417	Yu, L.L.	AGFD	36	Yuan, T.	POLY	323
Young, T.M.	ENVR	553	Yu, L.L.	AGFD	231	Yuan, T.	CELL	297
Young, T.M.	ENVR	554	Yu, M.	BIOT	573	Yuan, T.	ENVR	343
Young, W.B.	MEDI	311	Yu, M.S.	PMSE	313	Yuan, W.	I&EC	137
Younger, N.	COMP	549	Yu, O.B.	CHED	1369	Yuan, X.	NUCL	110
Younger-Mertz, S.	INOR	1475	Yu, O.B.	MEDI	19	Yuan, X.	ENFL	458
Yount, J.R.	ANYL	170	Yu, P.	ORGN	296	Yuan, X.	AGFD	192
Yousef, M.	PHYS	438	Yu, P.	ORGN	817	Yuan, X.	AGFD	194
Yousefi, N.	CELL	455	Yu, P.	ANYL	202	Yuan, X.	AGFD	195
Youssef, K.	CATL	316	Yu, R.	COLL	634	Yuan, X.	GEOC	19
Youssef, M.	COLL	774	Yu, R.	COLL	199	Yuan, Y.	MEDI	104
Youtsey, S.	CHED	921	Yu, R.	COLL	244	Yuan, Y.	MEDI	179
Yoxtheimer, D.	GEOC	108	Yu, S.	ANYL	375	Yuan, Y.	MEDI	260
Yu, A.	ANYL	54	Yu, S.	POLY	141	Yuan, Y.	COMP	448
Yu, A.Z.	POLY	192	Yu, S.	COLL	67	Yuan, Y.	CHED	1344
Yu, A.Z.	POLY	464	Yu, S.	FLUO	42	Yuan, Y.	ENFL	447
Yu, B.	CINF	146	Yu, T.	PHYS	130	Yuan, Z.	POLY	449
Yu, C.	MEDI	237	Yu, W.	COLL	53	Yuan, Z.	POLY	617
Yu, C.	CARB	42	Yu, W.	COLL	823	Yuan, Z.	MEDI	17
Yu, C.	PMSE	466	Yu, W.	MEDI	112	Yuan, Z.	CATL	658
Yu, C.	COLL	143	Yu, W.	MEDI	248	Yu-chun, L.	BIOT	317
Yu, C.	INOR	1057	Yu, W.	MEDI	346	Yudin, A.K.	ORGN	396
Yu, C.	MEDI	24	Yu, W.	MEDI	23	Yue, B.	NUCL	154
Yu, C.	ANYL	128	Yu, X.	PMSE	507	Yue, B.	POLY	238
Yu, C.	ANYL	116	Yu, X.	ENFL	352	Yue, F.	CELL	252
Yu, C.	INOR	1176	Yu, X.	ANYL	279	Yue, Q.	ENVR	405
Yu, C.	INOR	1222	Yu, X.	COLL	762	Yue, X.	PMSE	484
Yu, C.	INOR	1432	Yu, X.	COLL	804	Yue, Y.	CATL	289
Yu, C.	ANYL	250	Yu, X.	MEDI	350	Yue, Y.	CATL	417
Yu, C.	ORGN	693	Yu, X.	ENFL	427	Yuen, A.	POLY	267
Yu, C.C.	ANYL	289	Yu, Y.	COLL	228	Yuen, M.	ORGN	13
Yu, D.	BIOT	428	Yu, Y.	PMSE	131	Yuen, P.	PMSE	588
Yu, D.	BIOT	678	Yu, Y.	PMSE	271	Yui, T.	CELL	467
Yu, D.	INOR	1049	Yu, Y.	ANYL	231	Yujie, M.	ENVR	460
Yu, E.	ORGN	761	Yu, Y.	INOR	179	Yujun, Z.	CATL	638
Yu, E.	BIOT	324	Yu, Y.	MEDI	298	Yukilevich, R.	AGFD	41
Yu, F.	ENFL	134	Yu, Y.	COLL	727	Yun, D.	INOR	831
Yu, F.	ENVR	827	Yu, Y.	ENVR	286	Yun, E.	PMSE	469
Yu, G.	ENVR	358	Yu, Y.	CATL	647	Yun, J.	INOR	833
Yu, G.	ENVR	617	Yu, Y.	COLL	235	Yun, J.	COLL	199
Yu, G.	ENFL	112	Yu, Y.	ENFL	283	Yun, J.	COLL	244
Yu, G.	PMSE	119	Yu, Y.	INOR	694	Yun, M.	CATL	317
Yu, H.	COMP	27	Yu, Y.	INOR	1124	Yun, S.	ENVR	371
Yu, H.	COMP	326	Yu, Y.	MEDI	300	Yun, S.	INOR	826
Yu, H.	COMP	377	Yu, Y.	CELL	433	Yun, W.	ANYL	479
Yu, H.	COMP	450	Yu, Y.	CATL	398	Yun, X.	ENFL	63
Yu, H.	ENVR	195	Yu, Y.	MEDI	112	Yun, Y.	CATL	135
Yu, H.	AGFD	192	Yu, Y.	COLL	442	Yun, Y.	COLL	475
Yu, H.	AGFD	194	Yu, Y.	ENVR	182	Yung, M.	CATL	201
Yu, H.	AGFD	195	Yu, Y.	ENVR	418	Yung, M.	ENFL	289
Yu, I.	INOR	797	Yu, Y.	ENVR	707	Yung, M.	ENFL	291
Yu, I.	CATL	489	Yu, Y.	ENVR	708	Yung, M.C.	BIOT	263
Yu, I.	CELL	380	Yu, Z.	CHED	828	Yungbluth, J.	CHED	1275
Yu, J.	ANYL	279	Yu, Z.	COLL	334	Yur, D.	BIOT	153
Yu, J.	COMP	469	Yu, Z.	PMSE	626	Yurasits, T.	CHED	1930
Yu, J.	PMSE	35	Yuan, C.	CATL	347	Yurchekfrodli, E.	CATL	646
Yu, J.	PMSE	92	Yuan, C.	ORGN	212	Yurdabak Karaca, G.	COLL	159
Yu, J.	PMSE	497	Yuan, C.	ENVR	1014	Yurdabak Karaca, G.	COLL	301
Yu, J.	PMSE	501	Yuan, G.	ANYL	151	Yurdabak Karaca, G.	COLL	849
Yu, J.	PMSE	87	Yuan, G.	ANYL	152	Yurdusen, A.	ENVR	455
Yu, J.	MEDI	478	Yuan, H.	BIOT	489	Yurdusen, A.	INOR	198
Yu, J.	MEDI	479	Yuan, H.	PHYS	150	Yurev, E.	I&EC	102
Yu, J.	PMSE	659	Yuan, H.	POLY	336	Yurkevicius, M.	AGFD	38
Yu, J.	POLY	6	Yuan, H.	PMSE	467	Yurkevicius, M.	AGFD	40
Yu, J.	POLY	367	Yuan, J.	CELL	98	Yurkevicius, M.	CHED	1850

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Yusa, S.I.	POLY	511	Zanette, C.	COMP	528	Zdrasil, B.	CINF	163
Yushin, G.	ENFL	68	Zang, N.	ORGN	875	Zdrasil, B.	COMP	139
Yusov, A.	GEOC	250	Zang, Y.	PMSE	440	Zdunich, C.	CHED	977
Yusta, I.	GEOC	55	Zang, Y.	COLL	853	Zeeshan, A.	PMSE	435
Yusuf, R.	COMP	548	Zang, Y.	ORGN	854	Zega, T.	PHYS	112
Yuwono, S.	COMP	211	Zanghi, A.	BIOT	40	Zegar, I.S.	PMSE	505
Yuyao, L.	PMSE	501	Zaniewski, T.	CHED	597	Zehnder, L.	MEDI	350
Yuzhen, G.	CATL	620	Zanirato, G.	MEDI	149	Zeinalipour-Yazdi, C.D.	CATL	599
Zaari, R.	COMP	128	Zanni, M.T.	ANYL	266	Zeinu, K.M.	ENVR	230
Zabet, M.	COLL	743	Zanni, M.T.	PHYS	11	Zelaya, L.	BIOL	221
Zabet, M.	PMSE	470	Zanni, M.T.	PHYS	208	Zelder, O.	BIOT	174
Zablocki, J.A.	MEDI	367	Zanos, P.	MEDI	250	Zeldes, B.	BIOT	654
Zabost, E.	COLL	562	Zapata, A.	MEDI	246	Zelenay, B.	INOR	1156
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Zade, V.	COLL	105	Zaragoza-Galán, G.	INOR	815	Zeller, C.	CHED	952
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Zadeh, K.	POLY	188	Zare, R.	ANYL	272	Zeller, M.	INOR	321
Zadrozny, J.	INOR	1176	Zare, R.	ENFL	453	Zeller, M.	INOR	322
Zadrozny, J.	INOR	1234	Zare, R.N.	ANYL	114	Zeller, M.	INOR	335
Zadrozny, J.	INOR	1404	Zare, R.N.	ANYL	143	Zeller, M.	INOR	1265
Zadrozny, J.	INOR	1432	Zare, R.N.	ANYL	191	Zeller, M.	NUCL	81
Zadrozny, J.	PHYS	245	Zare, R.N.	ANYL	229	Zeller, M.	NUCL	148
Zaera, F.	CATL	89	Zare, R.N.	ANYL	230	Zeller, M.	ORGN	14
Zaera, F.	CATL	116	Zare, R.N.	ANYL	440	Zeller, W.	AGFD	233
Zaera, F.	COLL	102	Zare, R.N.	ANYL	473	Zeman, C.	INOR	415
Zaera, F.	COLL	155	Zare, R.N.	BIOL	42	Zembo, N.	CHED	1823
Zafferani, M.	CHED	1205	Zare, R.N.	BIOT	195	Zemelis-Durfee, S.	CELL	234
Zagnoni, M.	COLL	44	Zare, R.N.	CATL	178	Zemke, J.	CHED	1401
Zagnoni, M.	ENVR	624	Zare, R.N.	INOR	808	Zemke, J.	CHED	1593
Zahn, A.	CHED	1090	Zare, R.N.	INOR	1171	Zemke, J.	CHED	1708
Zahn, N.M.	MEDI	19	Zare, R.N.	PHYS	59	Zemke, J.	CHED	2056
Zahner, B.	CELL	292	Zare, R.N.	PMSE	548	Zen, A.	COMP	234
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Zaiats, G.	COLL	805	Zargar, A.	BIOL	258	Zener, B.	PHYS	527
Zaibaq, P.	BIOL	255	Zargar, A.	BIOT	336	Zeng, E.	AGFD	262
Zaibaq, P.	CHED	1841	Zargar, K.	BIOT	179	Zeng, E.	ENVR	240
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Zakharov, R.	CINF	170	Zarrinbakhsh, N.	CELL	505	Zeng, K.	ANYL	147
Zakharov, R.	CINF	172	Zarrinmayeh, H.	MEDI	164	Zeng, L.	MEDI	276
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Zakutansky, P.	CHED	658	Zarzar, L.D.	COLL	662	Zeng, L.	ANYL	354
Zakutayev, A.	INOR	1116	Zarzycki, P.	GEOC	36	Zeng, M.	PMSE	533
Zalatan, J.	BIOT	191	Zarzycki, P.	GEOC	38	Zeng, W.	INOR	1123
Zaleski, C.M.	INOR	293	Zasada, S.J.	COMP	68	Zeng, X.C.	CATL	215
Zaleski, C.M.	INOR	321	Zaslavsky, L.	CINF	105	Zeng, Y.	PMSE	95
Zaleski, C.M.	INOR	322	Zaug, J.M.	NUCL	155	Zeng, Y.	PMSE	215
Zaleski, C.M.	INOR	324	Zauhar, R.J.	COMP	355	Zeng, Y.	ANYL	394
Zaleski, C.M.	INOR	1265	Zauscher, S.	COLL	510	Zeno, E.	CELL	131
Zalewski, A.	ORGN	527	Zauscher, S.	COLL	620	Zenobi, R.	COLL	552
Zalicki, P.	MEDI	194	Zauscher, S.	ENFL	316	Zenobi-Wong, M.	COLL	686
Zalicki, P.	MEDI	272	Zavadil, K.R.	ENFL	283	Zentel, R.W.	PMSE	628
Zalupski, P.R.	I&EC	86	Zavala, J.	POLY	543	Zentel, R.W.	POLY	106
Zaman, N.	ANYL	191	Zavala, J.	POLY	22	Zentz, S.	CHED	480
Zamkov, M.	COLL	89	Zavarin, M.	COLL	866	Zepp, R.G.	ENVR	672
Zamkov, M.	COLL	180	Zavarin, M.	GEOC	158	Zerbe, M.	CHED	995
Zamkov, M.	COLL	213	Zavarin, M.	GEOC	160	Zerbetto, F.	COLL	809
Zamkov, M.	COLL	338	Zavarin, M.	GEOC	187	Zerjav, G.	ENVR	194
Zamkov, M.	INOR	156	Zavarin, M.	GEOC	230	Zerjav, G.	ENVR	700
Zamkov, M.	INOR	819	Zavasnik, J.	ENVR	194	Zerk, T.	ORGN	190
Zamora, M.	CHED	1844	Zavorotinskaya, T.	MEDI	341	Zevgolis, A.	COMP	307
Zamora, R.	CELL	45	Zawaski, C.	POLY	248	Zevgolis, A.	ENFL	293
Zamora, R.M.	CHED	1863	Zawatzky, K.	ANYL	320	Zeyat, M.	ORGN	741
Zamora, R.M.	MEDI	246	Zawatzky, K.	ORGN	72	Zgurskaya, H.I.	MEDI	139
Zámostná, L.	FLUO	11	Zawistowski, J.	AGFD	121	Zha, R.H.	POLY	306
Zamperini, S.	NUCL	142	Zayas Ortiz, Y.	CHED	1301	Zha, S.	CATL	604
Zan, S.	MEDI	346	Zayat, Z.	CHED	850	Zhai, H.	CATL	643
Zanca, B.	CHED	1686	Zborowski, M.	BIOT	447	Zhai, J.	INOR	788
Zander, Z.	COLL	217	Zdilla, M.	COLL	714	Zhai, L.	SOCED	4

Zhai, Q.	INOR	471	Zhang, H.	ORGN	22	Zhang, L.	ENVR	484
Zhan, C.	MEDI	104	Zhang, H.	ORGN	84	Zhang, L.	POLY	299
Zhan, C.	MEDI	179	Zhang, H.	ORGN	449	Zhang, L.	ORGN	293
Zhan, C.	MEDI	260	Zhang, H.	ORGN	488	Zhang, L.	CATL	467
Zhan, C.	ENFL	159	Zhang, H.	ORGN	503	Zhang, L.	CHED	742
Zhan, C.	CELL	196	Zhang, H.	ORGN	504	Zhang, L.	INOR	1479
Zhan, N.	ENVR	772	Zhang, H.	ENVR	545	Zhang, L.	MEDI	91
Zhan, N.	I&EC	107	Zhang, H.	GEOC	314	Zhang, L.	NUCL	120
Zhan, S.	INOR	409	Zhang, H.	MEDI	41	Zhang, L.	PMSE	644
Zhan, W.	CATL	326	Zhang, H.	MEDI	42	Zhang, L.	BIOT	383
Zhan, W.	CATL	344	Zhang, H.	MEDI	43	Zhang, L.	BIOT	475
Zhan, W.	CATL	456	Zhang, H.	MEDI	349	Zhang, L.	CATL	124
Zhan, W.	CATL	547	Zhang, H.	ENFL	105	Zhang, L.	CATL	226
Zhan, W.	CATL	642	Zhang, H.	COLL	525	Zhang, L.	PMSE	473
Zhan, X.	PMSE	241	Zhang, H.	CATL	343	Zhang, L.	GEOC	13
Zhan, X.	PMSE	293	Zhang, H.	COLL	449	Zhang, L.	GEOC	297
Zhan, Y.	ANYL	158	Zhang, H.	CATL	244	Zhang, L.	ORGN	798
Zhanaidarova, A.	CATL	212	Zhang, H.	I&EC	43	Zhang, L.	CELL	465
Zhanaidarova, A.	INOR	38	Zhang, H.	GEOC	204	Zhang, L.	ANYL	461
Zhanaidarova, A.	INOR	1469	Zhang, H.	CATL	103	Zhang, L.	BIOT	352
Zhang, A.	MEDI	366	Zhang, H.	AGFD	35	Zhang, L.	COLL	499
Zhang, A.	POLY	499	Zhang, H.	COMP	36	Zhang, L.	ENFL	402
Zhang, A.	POLY	553	Zhang, H.	COLL	10	Zhang, L.	ENFL	436
Zhang, A.	POLY	646	Zhang, H.	BIOT	115	Zhang, L.	ENFL	437
Zhang, A.	BIOT	3	Zhang, H.	MEDI	18	Zhang, L.	CELL	134
Zhang, A.	ORGN	289	Zhang, H.	MEDI	349	Zhang, L.	ENVR	14
Zhang, B.	CELL	496	Zhang, H.	ENVR	688	Zhang, L.	ENVR	15
Zhang, B.	CHED	1701	Zhang, H.	BIOT	132	Zhang, L.	MEDI	349
Zhang, B.S.	BIOL	256	Zhang, J.	BIOT	132	Zhang, L.	GEOC	49
Zhang, C.	POLY	215	Zhang, J.	ANYL	364	Zhang, L.	CINF	82
Zhang, C.	ENVR	488	Zhang, J.	CATL	215	Zhang, L.	BIOT	298
Zhang, C.	ENVR	499	Zhang, J.	CATL	476	Zhang, L.	ANYL	165
Zhang, C.	MEDI	237	Zhang, J.	CINF	32	Zhang, L.	ANYL	166
Zhang, C.	AGFD	17	Zhang, J.	ENFL	305	Zhang, L.	COLL	166
Zhang, C.	ENFL	217	Zhang, J.	INOR	552	Zhang, L.	CATL	352
Zhang, C.	CATL	22	Zhang, J.	CHED	796	Zhang, L.	CATL	353
Zhang, C.	ENVR	1028	Zhang, J.	ENVR	160	Zhang, M.	INOR	1463
Zhang, C.	CELL	338	Zhang, J.	ENVR	789	Zhang, M.	COLL	426
Zhang, C.	CATL	589	Zhang, J.	ENVR	797	Zhang, M.	PHYS	456
Zhang, C.	BIOL	239	Zhang, J.	COLL	739	Zhang, M.	ENVR	978
Zhang, C.	CATL	364	Zhang, J.	PMSE	675	Zhang, M.	ENVR	980
Zhang, C.	CATL	636	Zhang, J.	ANYL	41	Zhang, M.	CATL	88
Zhang, C.	MEDI	293	Zhang, J.	ENFL	398	Zhang, M.	BIOT	323
Zhang, C.	ORGN	871	Zhang, J.	ENFL	415	Zhang, M.	BIOT	580
Zhang, C.	PMSE	630	Zhang, J.	MEDI	305	Zhang, M.	COMP	489
Zhang, C.	ENFL	450	Zhang, J.	ENVR	254	Zhang, M.	ENVR	827
Zhang, C.	I&EC	123	Zhang, J.	ENFL	417	Zhang, M.	PHYS	395
Zhang, C.	ENVR	930	Zhang, J.	INOR	1407	Zhang, M.	PMSE	19
Zhang, D.	ENVR	478	Zhang, J.	BIOT	196	Zhang, M.	PMSE	345
Zhang, D.	INOR	694	Zhang, J.	CATL	251	Zhang, M.	PMSE	461
Zhang, D.	PMSE	160	Zhang, J.	GEOC	62	Zhang, M.	PMSE	464
Zhang, D.	INOR	1027	Zhang, J.	PMSE	471	Zhang, N.	BIOT	422
Zhang, D.	PMSE	404	Zhang, J.	CHED	1435	Zhang, N.	NUCL	127
Zhang, D.	PHYS	447	Zhang, J.	ENFL	252	Zhang, N.	ENVR	524
Zhang, D.	POLY	374	Zhang, J.	MEDI	194	Zhang, P.	COLL	67
Zhang, D.	ANYL	234	Zhang, J.	MEDI	272	Zhang, P.	PHYS	378
Zhang, D.	CHED	2055	Zhang, J.	ENVR	174	Zhang, P.	CATL	334
Zhang, D.	BIOL	45	Zhang, J.	CATL	347	Zhang, P.	CATL	349
Zhang, D.	COLL	313	Zhang, J.	COMP	256	Zhang, P.	CATL	368
Zhang, F.	GEOC	61	Zhang, J.	ORGN	581	Zhang, P.	CATL	410
Zhang, F.	PHYS	129	Zhang, J.	PMSE	293	Zhang, Q.	INOR	551
Zhang, F.	PMSE	191	Zhang, J.	BIOT	126	Zhang, Q.	AGFD	43
Zhang, F.	PMSE	556	Zhang, J.Y.	BIOT	574	Zhang, Q.	CATL	29
Zhang, F.	ORGN	319	Zhang, J.Z.	CATL	454	Zhang, Q.	ENVR	399
Zhang, F.	CELL	130	Zhang, J.Z.	COLL	520	Zhang, Q.	ORGN	515
Zhang, F.	CATL	605	Zhang, J.Z.	ENFL	141	Zhang, Q.	INOR	1020
Zhang, F.	BIOL	299	Zhang, J.Z.	INOR	637	Zhang, Q.	PMSE	241
Zhang, F.	CARB	88	Zhang, K.	CELL	87	Zhang, Q.	PMSE	559
Zhang, F.	BIOT	28	Zhang, K.	CELL	343	Zhang, Q.	POLY	335
Zhang, F.	BIOT	227	Zhang, K.	ENVR	806	Zhang, Q.	CATL	473
Zhang, F.C.	COMP	369	Zhang, K.	BIOL	240	Zhang, Q.	COLL	13
Zhang, F.C.	COMP	371	Zhang, K.	COLL	736	Zhang, Q.	COLL	709
Zhang, G.	BIOL	237	Zhang, K.	PMSE	29	Zhang, Q.	ENFL	64
Zhang, G.	ENFL	430	Zhang, K.	PMSE	511	Zhang, Q.	ENFL	458
Zhang, G.	CATL	197	Zhang, K.	POLY	13	Zhang, Q.	COLL	682
Zhang, G.	ENVR	247	Zhang, K.	POLY	145	Zhang, Q.	COLL	833
Zhang, G.	ENVR	254	Zhang, K.	POLY	478	Zhang, Q.	ENVR	499
Zhang, G.	COLL	572	Zhang, K.	POLY	570	Zhang, Q.	BIOT	357
Zhang, G.	PMSE	167	Zhang, K.	ENVR	497	Zhang, Q.	CELL	188
Zhang, H.	MEDI	342	Zhang, K.	CHED	1421	Zhang, Q.	PHYS	384



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Zhang, Q.M.	POLY	284	Zhang, X.	BIOT	356	Zhang, Z.	COMP	256
Zhang, Q.M.	POLY	552	Zhang, X.	GEOC	37	Zhang, Z.	ENVR	53
Zhang, R.	CATL	50	Zhang, X.	GEOC	148	Zhang, Z.	MEDI	261
Zhang, R.	CHED	2000	Zhang, X.	GEOC	174	Zhang, Z.	PMSE	187
Zhang, R.	COMP	437	Zhang, X.	GEOC	208	Zhang, Z.	PMSE	451
Zhang, R.	INOR	397	Zhang, X.	BIOL	299	Zhang, Z.	POLY	97
Zhang, R.	INOR	559	Zhang, X.	BIOT	392	Zhang, Z.	ENVR	587
Zhang, R.	MEDI	25	Zhang, X.	WCC	18	Zhang, Z.	CATL	295
Zhang, R.	BIOL	345	Zhang, X.	INOR	1371	Zhang, Z.	CATL	313
Zhang, R.	COLL	239	Zhang, X.	ORGN	319	Zhang, Z.	BIOT	335
Zhang, R.	ORGN	811	Zhang, X.	PMSE	70	Zhang, Z.	CATL	402
Zhang, R.	INOR	795	Zhang, X.	ORGN	561	Zhang, Z.	COLL	669
Zhang, R.	PMSE	601	Zhang, X.	INOR	1559	Zhang, Z.	PHYS	575
Zhang, R.	CELL	132	Zhang, X.	POLY	351	Zhang, Z.	INOR	1337
Zhang, R.	ENVR	412	Zhang, X.	BIOT	414	Zhang, Z.	CATL	476
Zhang, S.	POLY	149	Zhang, X.	CHED	1690	Zhang, Z.	ENVR	759
Zhang, S.	POLY	203	Zhang, X.	INOR	1399	Zhang, Z.	BIOT	70
Zhang, S.	POLY	616	Zhang, X.	ORGN	699	Zhang, Z.	MEDI	310
Zhang, S.	POLY	635	Zhang, X.	AGFD	118	Zhang, Z.	GEOC	172
Zhang, S.	ORGN	398	Zhang, X.	PHYS	560	Zhang, Z.	GEOC	238
Zhang, S.	COLL	451	Zhang, X.	CELL	14	Zhang, Z.	ORGN	562
Zhang, S.	POLY	644	Zhang, X.	CELL	13	Zhang, Z.	GEOC	48
Zhang, S.	CATL	9	Zhang, X.	ENVR	973	Zhang, Z.	INOR	536
Zhang, S.	COLL	778	Zhang, Y.	CATL	139	Zhang, Z.	CATL	252
Zhang, S.	PMSE	35	Zhang, Y.	ENVR	302	Zhang-Hoover, J.	MEDI	112
Zhang, S.	PMSE	92	Zhang, Y.	ANYL	461	Zhao, A.	ENVR	791
Zhang, S.	PMSE	522	Zhang, Y.	CELL	361	Zhao, B.	MEDI	251
Zhang, S.	POLY	598	Zhang, Y.	MEDI	117	Zhao, B.	PMSE	678
Zhang, S.	ENVR	413	Zhang, Y.	MEDI	228	Zhao, B.	ORGN	643
Zhang, S.	COLL	366	Zhang, Y.	NUCL	110	Zhao, B.	AGFD	243
Zhang, S.	CATL	138	Zhang, Y.	COMP	502	Zhao, C.	ENFL	60
Zhang, S.	GEOC	11	Zhang, Y.	MEDI	290	Zhao, C.	ENFL	460
Zhang, S.	ENVR	965	Zhang, Y.	ORGN	534	Zhao, C.	COMP	401
Zhang, S.	PMSE	439	Zhang, Y.	COLL	129	Zhao, C.	PMSE	560
Zhang, T.	CATL	527	Zhang, Y.	COLL	361	Zhao, C.	ANYL	32
Zhang, T.	ENVR	13	Zhang, Y.	MEDI	315	Zhao, C.	COLL	215
Zhang, T.	POLY	29	Zhang, Y.	CELL	7	Zhao, C.	COLL	435
Zhang, T.	ENVR	1018	Zhang, Y.	ENVR	620	Zhao, C.	CELL	509
Zhang, T.	I&EC	121	Zhang, Y.	PMSE	216	Zhao, C.	CELL	460
Zhang, T.	PHYS	31	Zhang, Y.	MEDI	13	Zhao, C.	COLL	307
Zhang, T.	COLL	463	Zhang, Y.	ENVR	687	Zhao, C.	PMSE	234
Zhang, T.	ENVR	252	Zhang, Y.	CINF	63	Zhao, D.	CHED	1165
Zhang, T.Y.	ANYL	128	Zhang, Y.	ANYL	107	Zhao, D.	ENFL	252
Zhang, T.Y.	BIOT	614	Zhang, Y.	CELL	270	Zhao, D.	ENFL	419
Zhang, W.	MEDI	350	Zhang, Y.	MEDI	21	Zhao, D.	ENVR	504
Zhang, W.	CELL	231	Zhang, Y.	BIOT	601	Zhao, D.	INOR	1512
Zhang, W.	ENVR	534	Zhang, Y.	GEOC	302	Zhao, D.	ENVR	534
Zhang, W.	ENVR	247	Zhang, Y.	BIOT	280	Zhao, D.	INOR	49
Zhang, W.	BIOT	671	Zhang, Y.	BIOT	575	Zhao, E.	ENFL	68
Zhang, W.	CATL	183	Zhang, Y.	GEOC	48	Zhao, E.M.	BIOT	29
Zhang, W.	CATL	370	Zhang, Y.	PHYS	365	Zhao, E.R.	BIOT	660
Zhang, W.	CELL	141	Zhang, Y.	COLL	330	Zhao, H.	ENFL	273
Zhang, W.	INOR	1422	Zhang, Y.	ENVR	408	Zhao, H.	ENVR	46
Zhang, X.	PMSE	400	Zhang, Y.	COMP	28	Zhao, H.	COLL	634
Zhang, X.	POLY	353	Zhang, Y.	ANYL	33	Zhao, H.	BIOT	454
Zhang, X.	PHYS	331	Zhang, Y.	MEDI	21	Zhao, J.	ANYL	202
Zhang, X.	ENVR	670	Zhang, Y.	MEDI	349	Zhao, J.	BIOL	101
Zhang, X.	ENVR	675	Zhang, Y.	ENVR	219	Zhao, J.	BIOL	347
Zhang, X.	PMSE	116	Zhang, Y.	ENVR	11	Zhao, J.	ENVR	681
Zhang, X.	CATL	472	Zhang, Y.	ANYL	348	Zhao, J.	ENVR	626
Zhang, X.	CATL	475	Zhang, Y.	INOR	67	Zhao, J.	ENVR	967
Zhang, X.	CATL	528	Zhang, Y.	INOR	1193	Zhao, J.	ORGN	316
Zhang, X.	COLL	185	Zhang, Y.	MEDI	5	Zhao, J.	MEDI	387
Zhang, X.	ENFL	343	Zhang, Y.	ENVR	254	Zhao, J.	ANYL	364
Zhang, X.	ENFL	386	Zhang, Y.	AGFD	168	Zhao, J.	PMSE	213
Zhang, X.	ENFL	431	Zhang, Y.	ENFL	159	Zhao, J.	BIOL	299
Zhang, X.	ENFL	439	Zhang, Y.	CATL	53	Zhao, J.	ENFL	313
Zhang, X.	ENFL	444	Zhang, Y.	INOR	643	Zhao, J.	PHYS	437
Zhang, X.	POLY	545	Zhang, Y.	POLY	555	Zhao, J.	PMSE	508
Zhang, X.	I&EC	133	Zhang, Y.	PROF	27	Zhao, J.	PROF	45
Zhang, X.	CATL	369	Zhang, Y.	MEDI	365	Zhao, J.	BIOT	657
Zhang, X.	INOR	1426	Zhang, Y.	POLY	416	Zhao, J.	MEDI	60
Zhang, X.	ENVR	577	Zhang, Y.	ENVR	248	Zhao, J.	POLY	255
Zhang, X.	ENVR	339	Zhang, Y.	PHYS	417	Zhao, J.C.	ORGN	111
Zhang, X.	ORGN	69	Zhang, Y.	AGFD	139	Zhao, J.C.	ORGN	116
Zhang, X.	BIOT	39	Zhang, Y.	AGFD	140	Zhao, L.	BIOT	26
Zhang, X.	CATL	356	Zhang, Y.	ENVR	412	Zhao, L.	BIOT	8
Zhang, X.	PMSE	472	Zhang, Y.	BIOT	509	Zhao, L.	BIOT	45
Zhang, X.	ENVR	585	Zhang, Z.	ORGN	800	Zhao, L.	BIOT	409
Zhang, X.	ENVR	587	Zhang, Z.	ORGN	411	Zhao, L.	BIOT	414

Zhao, L.	BIOT	448	Zhao, Z.	CATL	604	Zhi, B.	CHED	2129
Zhao, L.	BIOT	452	Zhao, Z.	COMP	122	Zhi, B.	INOR	1521
Zhao, L.	BIOT	488	Zhao, Z.	GEOC	172	Zhi, J.	INOR	786
Zhao, L.	CATL	655	Zhao, Z.	PMSE	630	Zhi, M.	PHYS	185
Zhao, L.	ENVR	636	Zhdankin, V.V.	ORGN	138	Zhi, Y.	ENVR	620
Zhao, M.	CHED	1642	Zhdankin, V.V.	ORGN	139	Zhigilei, L.	PHYS	342
Zhao, M.	CELL	208	Zhen, X.	MEDI	36	Zho, C.	PHYS	71
Zhao, M.	ENFL	425	Zhen, X.	CHED	354	Zho, C.	PHYS	428
Zhao, M.	ENFL	384	Zheng, C.	MEDI	58	Zholobko, O.	PMSE	474
Zhao, P.	ORGN	423	Zheng, C.	INOR	576	Zholobko, O.	POLY	409
Zhao, P.	ORGN	755	Zheng, C.	ANYL	203	Zhong, B.	MEDI	346
Zhao, P.	MEDI	87	Zheng, C.	INOR	1407	Zhong, B.	BIOT	244
Zhao, Q.	GEOC	20	Zheng, F.	MEDI	104	Zhong, B.	BIOT	382
Zhao, Q.	GEOC	21	Zheng, F.	MEDI	260	Zhong, C.	GEOC	340
Zhao, Q.	GEOC	50	Zheng, F.	ENFL	77	Zhong, D.	PHYS	65
Zhao, Q.	GEOC	54	Zheng, H.	PHYS	42	Zhong, D.	PHYS	82
Zhao, Q.	COMP	507	Zheng, H.	COLL	627	Zhong, D.	PHYS	379
Zhao, Q.	ENFL	84	Zheng, H.	CATL	656	Zhong, G.	ENVR	541
Zhao, Q.	INOR	970	Zheng, H.	ENVR	572	Zhong, H.	ORGN	432
Zhao, Q.	INOR	1157	Zheng, J.	ENFL	353	Zhong, H.A.	MEDI	372
Zhao, S.	CATL	1	Zheng, J.	ENFL	398	Zhong, H.A.	MEDI	405
Zhao, S.	CATL	34	Zheng, j.	INOR	1144	Zhong, J.	ANYL	141
Zhao, S.	CATL	145	Zheng, J.	ANYL	364	Zhong, J.Z.	ORGN	212
Zhao, S.	GEOC	65	Zheng, J.	BIOT	323	Zhong, L.	ENFL	134
Zhao, S.	COLL	642	Zheng, J.	BIOT	580	Zhong, L.	ENFL	137
Zhao, S.	ENFL	339	Zheng, J.	COMP	489	Zhong, L.	FLUO	41
Zhao, S.	ENFL	402	Zheng, J.	ENVR	827	Zhong, M.	MPPG	20
Zhao, S.	ENFL	436	Zheng, J.	INOR	1516	Zhong, M.	POLY	243
Zhao, S.	ENFL	437	Zheng, J.	PHYS	395	Zhong, M.	POLY	255
Zhao, T.	INOR	35	Zheng, J.	PMSE	19	Zhong, Q.	MEDI	413
Zhao, W.	ANYL	240	Zheng, J.	PMSE	345	Zhong, W.	BIOT	465
Zhao, W.	CATL	17	Zheng, J.	PMSE	461	Zhong, W.	ANYL	334
Zhao, W.	CATL	125	Zheng, J.	PMSE	464	Zhong, Y.	ENVR	893
Zhao, W.	CATL	327	Zheng, J.	PHYS	366	Zhong, Y.	COLL	304
Zhao, W.	PMSE	688	Zheng, J.	MEDI	18	Zhong, Y.	COLL	305
Zhao, W.	ENVR	573	Zheng, J.	ANYL	63	Zhong, Y.	MEDI	342
Zhao, W.	INOR	208	Zheng, J.S.	ENVR	225	Zhou, A.	INOR	268
Zhao, X.	INOR	469	Zheng, J.S.	GEOC	144	Zhou, B.	COLL	572
Zhao, X.	INOR	473	Zheng, K.	MEDI	236	Zhou, B.	ORGN	300
Zhao, X.	INOR	478	Zheng, K.	MEDI	243	Zhou, B.	MEDI	265
Zhao, X.	INOR	479	Zheng, L.	PMSE	516	Zhou, B.	POLY	185
Zhao, X.	MEDI	342	Zheng, L.	BIOT	4	Zhou, B.	POLY	186
Zhao, X.	INOR	487	Zheng, L.	BIOT	325	Zhou, B.	POLY	619
Zhao, X.	CATL	343	Zheng, M.	ENFL	345	Zhou, C.	ENVR	72
Zhao, X.	CATL	352	Zheng, M.	ENVR	635	Zhou, C.	ENVR	989
Zhao, X.	POLY	337	Zheng, N.	ORGN	166	Zhou, D.	MEDI	106
Zhao, X.	PMSE	136	Zheng, N.	INOR	466	Zhou, D.	CATL	70
Zhao, X.	PMSE	555	Zheng, N.	INOR	472	Zhou, D.	ENVR	47
Zhao, X.	PMSE	501	Zheng, N.	INOR	487	Zhou, D.	ENVR	591
Zhao, X.	INOR	1369	Zheng, N.	INOR	555	Zhou, E.C.	BIOT	548
Zhao, X.	COMP	10	Zheng, N.	MPPG	2	Zhou, F.	ORGN	764
Zhao, Y.	CELL	530	Zheng, P.	ANYL	310	Zhou, F.	AGFD	247
Zhao, Y.	PMSE	136	Zheng, Q.	MEDI	163	Zhou, F.	ANYL	451
Zhao, Y.	PMSE	555	Zheng, Q.	MEDI	164	Zhou, F.	ENFL	317
Zhao, Y.	FLUO	26	Zheng, Q.	ENVR	607	Zhou, G.	ENFL	98
Zhao, Y.	BIOL	362	Zheng, S.	MEDI	413	Zhou, G.	ENVR	298
Zhao, Y.	ENFL	445	Zheng, S.	ORGN	706	Zhou, G.	MEDI	248
Zhao, Y.	ORGN	691	Zheng, S.	ENVR	506	Zhou, H.	MEDI	377
Zhao, Y.	ENVR	244	Zheng, S.	ENVR	532	Zhou, H.	INOR	714
Zhao, Y.	ORGN	115	Zheng, S.	ENVR	502	Zhou, H.	INOR	1237
Zhao, Y.	ORGN	252	Zheng, T.S.	COLL	335	Zhou, H.	ENVR	72
Zhao, Y.	COLL	93	Zheng, T.S.	PMSE	553	Zhou, H.	ENFL	302
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Zhao, Y.	AGFD	224	Zheng, X.	CATL	206	Zhou, H.	INOR	1226
Zhao, Y.	MEDI	349	Zheng, X.	ENFL	19	Zhou, H.	INOR	1509
Zhao, Y.	ENVR	148	Zheng, X.	COLL	388	Zhou, H.	PMSE	661
Zhao, Y.	INOR	466	Zheng, X.	ANYL	441	Zhou, H.	ENFL	70
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Zhao, Y.	INOR	1051	Zheng, Y.	PMSE	660	Zhou, H.	ENVR	946
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Zhao, Z.	CATL	496	Zheng, Y.	POLY	602	Zhou, J.	ENFL	403
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Zhao, Z.	CATL	655	Zheng, Y.	COLL	136	Zhou, J.	ANYL	152
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Zhao, Z.	PMSE	48	Zheng, Z.	CELL	388	Zhou, J.	BIOL	328
Zhao, Z.	COLL	59	Zheng, Z.	PMSE	347	Zhou, J.	ENFL	139
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Zhou, L.	BIOT	512	Zhu, G.H.	COLL	814	Zhu, Y.	INOR	1316
Zhou, L.	CATL	170	Zhu, H.	ANYL	82	Zhu, Y.	AGFD	82
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Zhou, M.	BIOL	348	Zhu, H.	CHED	1721	Zhu, Z.	ENFL	149
Zhou, M.	PMSE	634	Zhu, H.	CELL	38	Zhu, Z.	INOR	714
Zhou, M.	COLL	442	Zhu, H.	CATL	339	Zhu, Z.	INOR	1233
Zhou, P.	MEDI	60	Zhu, J.	INOR	509	Zhu, Z.	INOR	1237
Zhou, P.	ENVR	254	Zhu, J.	ENFL	191	Zhu, Z.	INOR	731
Zhou, S.	COLL	328	Zhu, J.	ENFL	344	Zhu, Z.	ENFL	278
Zhou, S.	ENVR	285	Zhu, J.	ENFL	303	Zhu, Z.	ANYL	279
Zhou, S.	MEDI	179	Zhu, J.	MEDI	350	Zhuang, M.	BIOL	346
Zhou, S.	MEDI	260	Zhu, J.	ORGN	451	Zhuang, X.	ENFL	175
Zhou, S.	CELL	445	Zhu, J.	MEDI	58	Zhukhovitskiy, A.V.	COLL	802
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Zhou, Y.	COMP	519	Zhu, P.	ORGN	451	Ziller, J.W.	MEDI	390
Zhou, Y.	GEOC	344	Zhu, Q.	CATL	322	Ziller, J.W.	PMSE	294
Zhou, Y.	GEOC	345	Zhu, Q.	CATL	611	Zimmer, J.	CELL	466
Zhou, Y.	MEDI	58	Zhu, Q.	ENVR	635	Zimmer, J.	CELL	185
Zhou, Y.	ENVR	20	Zhu, R.	CATL	533	Zimmer, J.	CELL	186
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Zhou, Y.	BIOT	642	Zhu, S.	BIOL	293	Zimmerer, J.	INOR	413
Zhou, Y.	ORGN	342	Zhu, T.	COMP	512	Zimmerman, G.H.	CHED	1628
Zhou, Y.	MEDI	132	Zhu, T.	COMP	540	Zimmerman, J.B.	ENFL	381
Zhou, Y.	INOR	790	Zhu, T.	PHYS	198	Zimmerman, J.B.	ENVR	533
Zhou, Z.	ENVR	79	Zhu, T.	ENVR	161	Zimmerman, J.B.	ENVR	610
Zhou, Z.	GEOC	285	Zhu, X.	ENVR	584	Zimmerman, J.B.	ENVR	611
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Zoppe, J.O.	CELL	328	Zuerch, M.W.	PHYS	443	Zweigenbaum, J.	CATL	262
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10:00 AM - 4:00 PM ..... 30 minute service  
4:00 PM - 7:00 PM ..... 15 minute service  
7:00 PM - 11:00 PM ..... 30 minute service

### MONDAY, APRIL 3

7:00 AM - 10:00 AM ..... 15 minute service  
10:00 AM - 4:00 PM ..... 30 minute service  
4:00 PM - 11:00 PM ..... 15 minute service

### TUESDAY, APRIL 4



7:00 AM - 10:00 AM ..... 15 minute service  
10:00 AM - 4:00 PM ..... 30 minute service  
4:00 PM - 11:00 PM ..... 15 minute service



### WEDNESDAY, APRIL 5

6:30 AM - 11:00 PM ..... 30 minute service

### THURSDAY, APRIL 6

7:00 AM - 6:00 PM ..... 60 minute service

 Route 1    Route 2    Walk

 Boarding Location    Pickup/Dropoff Location

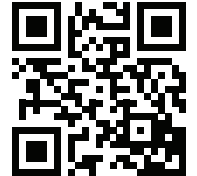


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# American Chemical Society

## Volunteer/National Meeting Attendee Conduct Policy

One of the key strengths of the ACS has been the enduring and varied contributions made by its thousands of dedicated volunteers.

Another unassailable strength of the ACS is its outstanding national meetings program. ACS national meetings are among the most respected scientific meetings in the world. ACS national meetings offer scientific professionals a legitimate platform to present, publish, discuss, and exhibit the most exciting research discoveries and technologies in chemistry and its related disciplines. Furthermore, ACS national meetings facilitate networking opportunities, career development and placement, and provide organizations with opportunities to exhibit products and services to targeted audiences.

The Society's Congressional Charter explicitly lists among its objectives "the improvement of the qualifications and usefulness of chemists through high standards of professional ethics, education and attainments..." The ACS expects its volunteers and national meeting attendees to display the highest qualities of personal and professional integrity in all aspects of their ACS-related activities. Indeed, every chemical professional has obligations to the public, to volunteer and staff colleagues, and to science.

Accordingly, and to foster a positive environment built upon a foundation of trust, respect, open communications, and ethical behavior, the ACS Board of Directors has issued this Conduct Policy. It applies to ACS Volunteers, i.e., it applies to individuals conducting the business and affairs of the ACS without compensation for that conduct. It also applies to attendees at ACS national meetings. Volunteers and national meeting attendees should at all times abide by this Conduct Policy. Specifically:

1. Volunteers should understand and support ACS's vision and mission.
2. Volunteers and national meeting attendees should contribute to a collegial, inclusive, positive, and respectful environment for their fellow volunteers and attendees, as well as for other stakeholders, including national meeting vendors and ACS staff.
3. Volunteers and national meeting attendees must avoid taking any inappropriate actions based on race, gender, age, religion, ethnicity, nationality, sexual orientation, gender expression, gender identity, marital status, political affiliation, presence of disabilities, or educational background. They should show consistent respect to colleagues, regardless of the level of their formal education and whether they are from industry, government or academia, or other scientific and engineering disciplines.
4. Volunteers and national meeting attendees should interact with others in a cooperative and respectful manner. Volunteers and national meeting attendees should refrain from using insulting, harassing, or otherwise offensive language in their ACS interactions. Disruptive, harassing, or inappropriate behavior toward other volunteers, stakeholders, or staff is unacceptable. Personal boundaries set by others must be observed. Harassment of any kind, including but not limited to unwelcome sexual advances, requests for sexual favors, and other verbal or physical harassment will not be tolerated.
5. Volunteers must obey all applicable laws and regulations of the relevant government authorities while acting on behalf of the ACS. Likewise, national meeting attendees must obey all applicable laws and regulations of the relevant government authorities while attending ACS national meetings. Volunteers and national meeting attendees alike should also ensure that they comply with all applicable safety guidelines relating to public chemistry demonstrations.
6. Volunteers and national meeting attendees should only use ACS's trademarks, insignia, name, logos, and other intellectual property in compliance with ACS regulations and directives as may be issued from time to time.
7. Violations of this Conduct Policy should be reported promptly to the ACS Secretary and General Counsel or to the Chair of the ACS Board of Directors. In cases of alleged persistent and/or serious violations of this Conduct Policy, the Board shall review the evidence and shall take such actions as may be appropriate, including but not limited to requiring volunteers to leave their volunteer position(s); precluding volunteers from serving in Society volunteer roles in the future; requiring national meeting attendees to leave the meeting; and, precluding meeting attendees from attending future ACS national meetings. ACS, through its Board of Directors, reserves the right to pursue additional measures as it may determine are appropriate.

Adopted by the Board of Directors 12/6/13