

47th National Organic Chemistry Symposium 2022 – La Jolla, California

47th National Organic Chemistry Symposium



American Chemical Society



47th National Organic Chemistry Symposium

La Jolla, California, USA

June 26-30, 2022

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WELCOME

On behalf of both the Executive Committee from the ACS Division of Organic Chemistry (DOC) and the Department of Chemistry & Biochemistry at the University of California at San Diego (UC San Diego), we are delighted to welcome you to the 47th National Organic Chemistry Symposium (NOS 2022). The NOS is the premier event sponsored by the DOC, with the primary objective to feature plenary lectures from distinguished speakers who have made significant and creative advances in organic chemistry.

The first National Organic Chemistry Symposium was held in December 1925 in Rochester, NY, under the auspices of the Rochester Section of the DOC. Historically, the NOS occurred every two years except for 1943 and 1945 (during WWII). These symposia resumed in 1947 in Boston and have since been held biennially. All the meetings since it was held in Rochester have been alternated between the eastern and western regions of the United States. Interestingly, many sites in California have not hosted a NOS – despite being one of the states that harbor many leading scientific institutions in academia and industry.

The 47th National Organic Chemistry Symposium is unique, given many recent events and developments since the previous 2019 meeting. This meeting is the first time the NOS will be held at a Southern California site (i.e., the first NOS in the State of California was held at UC Davis in 2017). Presented with the challenges brought by the recent COVID-19 pandemic in 2020, we pushed back the meeting to this year – which is a first for the NOS being on an “even” year. While it is traditional to host the conference at a local institution, namely, UC San Diego, the meeting will be held at the La Jolla Marriott in La Jolla, CA, because of these two factors.

The Roger Adams Award, established in 1959 and named after Professor Roger Adams, has featured in the NOS as one of the key plenary lectures since the 1955 meeting. The award is sponsored by Organic Synthesis, Inc. and Organic Reactions, Inc., which recognizes the recipient’s outstanding research contributions. This year we honor Professor Kendall Houk at the NOS 2022 and we are excited to hear him discuss his recent research. In 2018, Professor Frances Arnold from Caltech received the Nobel Prize and in 2021, Professor Benjamin List from Max-Planck-Institut für Kohlenforschung received the Nobel Prize (sharing this Prize with Professor David MacMillan). It is our pleasure that they will be two of our keynote speakers for this event, which will serve to inspire our young generation of organic chemists through their compelling stories on their scientific journeys. It is also a pleasure to have Professor K. Barry Sharpless (Nobel Prize laureate 2001 and Roger Adams Awardee 1997) attend the meeting. Lastly, the 47th NOS will feature 17 invited speakers to give plenary talks as leaders in their respective fields of organic chemistry, which represent ‘cutting-edge’ research within the last decade. The lectures will be presented at the morning and evening sessions in the La Jolla Marriott’s La Jolla Ballroom. The poster sessions will take place in the evenings of each day for the conference, between 8:00 to 11:00 PM.

In the spirit of the NOS, we have scheduled many events to spark young careers within organic chemistry. Lead by Industrial Sessions and Volunteers Chair, Mariel Cardenas, our dedicated organizers have scheduled a new event referred to as the Industrial Sessions. Occurring

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on Monday and Tuesday of the event from 1:00 to 5:00 PM, invited speakers from different facets of industry will present on their company insights and research pursuits with the goals to inspire those pursuing an industrial-based career. We invite all attendees to bring their CVs/resumes and questions to the event. We are also continuing the recent tradition of Undergraduate Context Sessions, as well as the Career Panels in Academia and Government on Wednesday afternoon for those seeking careers in those areas of organic research. Lastly, we encourage all our attendees to participate in organized academic tours to both San Diego State University and UC San Diego, as well as industrial tours to Janssen, Mirati, Takeda and Pfizer.

In the context of leisure for our guests (especially to those outside of California), our organizers have arranged several tours to embody San Diego. This includes social activities such as the San Diego Zoo, widely known to house more than 4,000 rare and fascinating animals and showcase the fascinating wildlife from this Southern California city. There are also opportunities for golfing at the infamous Torrey Pines Municipal Golf Course. Lastly, San Diego is known for its weather – so we highly encourage our guests to indulge into beach and coastline activities such as surfing at La Jolla Shores.

We thank our Sponsors and our Exhibitors for providing financial support for the Symposium. We also thank Ms. Carla Datanagan, Marketing and Program Manager of UC Davis Conference and Event Services. Further gratitude is shared towards Melarie Cardenas for creation of the NOS 2022 Logo and putting together the booklet. A sincere thank you goes out to all our additional hardworking volunteers, including our student volunteers, for assisting with the organization of this event. Finally, thank you for attending and being a part of the 47th National Organic Chemistry Symposium.



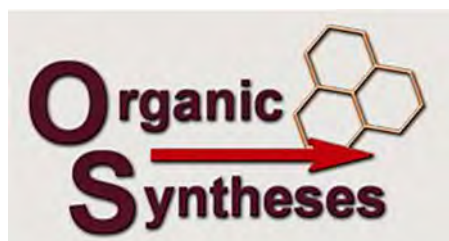
Dr. Angie R. Angeles
Executive Officer of the NOS 2022
Department of Process Chemistry
Gilead Sciences, Inc.



Professor Emmanuel A. Theodorakis
Local Chair of the NOS 2022
Department of Chemistry and Biochemistry
University of California San Diego

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We acknowledge and appreciate the generous financial support and sponsorship by the following organizations:



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2022 NOS SPONSORS (*continued*)



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2022 NOS SPONSORS (*continued*)



NOS POSTER AWARDS SPONSORS



Division of Organic Chemistry Membership Benefits

Awards and fellowships like SURF! 🏆🎓👩🔬

- ★ Technical Achievement Awards (TAOC)
- ★ Summer Undergraduate Research Fellowship (SURF)
- ★ Roger Adams, Arthur C. Cope, Gassman, and Leete Awards
- ★ JOC and OL Publication of the Year Awards
- ★ Organometallics Distinguished Author Award



SURF Research Fellowship Spotlight

"The SURF program allowed me to see how research is greatly needed... It affirmed my passion for chemistry."
Yelin Jung, 2019 SURF Fellow, Bryn Mawr College

"The SURF program was able to bridge the gap that the pandemic created between what we could access and what we had planned to pursue this summer... The culmination of this program with the opportunity to present my research... was an invaluable experience." — Olivia Langner, 2020 SURF Fellow, UC Santa Barbara

Discounts on books and access to videos and literature on the DOC website 📖📺

- ★ Discounts on books from Wiley, Oxford University Press & Thieme
- ★ Organic Syntheses & Organic Reactions
- ★ Links to organic chemistry resources
- ★ DOC Virtual Symposia Archives
- ★ Videos of eminent organic chemists



American Chemical Society Division of Organic Chemistry

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- ★ Graduate Research Symposium (GRS)
- ★ National Organic Chemistry Symposium (NOS)
- ★ Reaction Mechanisms Conference (RMC)
- ★ Sponsored Symposia at National & Regional ACS Meetings
- ★ Young Investigator Symposium (Academic & Industrial)
- ★ DOC Virtual Symposia, Co-sponsored by the CCHF
- ★ Empowering Women in Organic Chemistry (EWOC)

EWOC
Empowering Women in Organic Chemistry



NOS 2022

47th National Organic Chemistry Symposium
June 26-30, 2022
UC San Diego, La Jolla, CA

DOC membership supports poster sessions and networking at meetings 🗳️🗳️🗳️

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47th National Organic Chemistry Symposium



La Jolla, California



June 26 - June 30, 2022

American Chemical Society



SPEAKER AND EVENT SCHEDULE

All NOS Lectures, Panels and Workshops will be held in the La Jolla Ballroom. Breakfast will be provided in the Foyer of the La Jolla Ballroom. Lunch Vouchers are valid at Regents Park Row Food Court (Lettuce Head, L&L Hawaiian BBQ, Rubicon Deli, Spitfire Taco). Poster Sessions, Mixers, and Exhibitions will be held in the Soledad, Coronado Ballrooms, and The Fountain Court.

Sunday, June 26

3:00 pm – 11:00 pm	Registration	La Jolla Ballroom, Foyer
8:00 pm – 11:00 pm	Mixer, Poster Session, and Exhibitions	Soledad & Coronado Ballrooms, Fountain Court

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Monday, June 27

7:30 am – 12:00 pm	Registration	La Jolla Ballroom, Foyer
7:30 am – 8:30 am	Breakfast/Networking	
8:30 am – 9:00 am	Angie R. Angeles , <i>Gilead Sciences Inc.</i> (NOS Executive Officer) Emmanuel Theodorakis , <i>UC San Diego</i> (NOS Local Chair) Opening Remarks Session Chair: André K. Isaacs , <i>College of the Holy Cross</i>	
9:00 am – 10:00 am	Benjamin List , <i>Max-Planck-Institut für Kohlenforschung</i> 2022 NOS Keynote Lecture “Strong and Confined Acids: Universal Catalysts for Selective Synthesis?”	
10:00 am – 10:30 am	Break	
10:30 am – 11:20 am	Steven D. Townsend , <i>Vanderbilt University</i> “Application of Named Reactions to Glycosylation and Building Block Synthesis”	
11:20 am – 12:10 pm	Nicolai Cramer , <i>École Polytechnique Fédérale de Lausanne</i> “Chiral Cyclopentadienyl Ligands for Group 9 Metals Catalyzed Enantioselective C-H Functionalizations”	
12:10 pm – 1:30 pm	Lunch (Vouchers valid at Regents Row Food Court)	
1:00 pm – 4:00 pm	Mirati, Takeda and SDSU Tours	
1:00 pm – 5:00 pm	Industrial Session I Session Chair: Robert E. Maleczka, Jr. , <i>Michigan State University</i> (Treasurer, ACS Division of Organic Chemistry)	
6:00 pm – 6:50 pm	Sabine Hadida , <i>Vertex Pharmaceuticals Inc.</i> “Discovery of CFTR Modulators for the Treatment of Cystic Fibrosis”	
6:50 pm – 7:40 pm	Jeremiah A. Johnson , <i>Massachusetts Institute of Technology</i> “Deconstructing Macromolecules”	
7:40 pm – 7:50 pm	Jeffrey L. Gustafson , <i>San Diego State University</i> Poster Awards Announcement	

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8:00 pm – 11:00 pm	Mixer, Poster Session, and Exhibitions	Soledad & Coronado Ballrooms, Fountain Court
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Tuesday, June 28

7:30 am – 8:30 am	Breakfast/Networking	La Jolla Ballroom, Foyer
	Session Chair: Jeffrey L. Gustafson , <i>San Diego State University</i>	
8:30 am – 9:30 am	Frances H. Arnold , <i>California Institute of Technology</i> 2022 NOS Keynote Lecture “Innovation by Evolution: Bringing New Chemistry to Life”	
9:30 am – 10:20 am	Seth B. Herzon , <i>Yale University</i> “Structure and Function of Colibactin”	
10:20 am – 10:50 am	Break	
10:50 am – 11:40 am	Mingji Dai , <i>Purdue University</i> “Chemistry Innovation and Biological Discovery Through Natural Product Total Synthesis”	
11:40 am – 12:30 pm	Masayuki Inoue , <i>University of Tokyo</i> “Radical-Based Approach for Synthesis of Complex Natural Products”	
12:30 pm – 1:30 pm	Lunch (Vouchers valid at Regents Row Food Court)	
12:40 pm – 4:00 pm	Janssen and Pfizer Tours	
1:00 pm – 5:00 pm	Industrial Session II	
	The Roger Adams Award Ceremony	La Jolla Ballroom, Foyer
6:00 pm – 6:20 pm	P. Andrew Evans , <i>Queen’s University</i> (Editor-in-Chief, Organic Reactions®) Organic Reactions® Overview and The Roger Adams Award	
6:20 pm – 6:35 pm	John L. Wood , <i>Baylor University</i> (Treasurer, Organic Syntheses) Presentation of The Roger Adams Award	

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6:35 pm – 7:40 pm	Kendall N. Houk , <i>University of California, Los Angeles</i> 2021 Roger Adams Award Lecture “Pericyclic Reactions- Theory, Mechanisms, Dynamics and Role in Biology”
7:40 pm – 7:50 pm	Steven D. Townsend , <i>Vanderbilt University</i> (Board of Editors, Organic Reactions®) Poster Awards Announcement
8:00 pm – 11:00 pm	Mixer, Poster Session, and Exhibitions Soledad & Coronado Ballrooms, Fountain Court

Wednesday, June 29

7:30 am – 8:30 am	Breakfast/Networking	La Jolla Ballroom, Foyer
	Session Chair: Katherine N. Maloney , <i>Point Loma Nazarene University</i> (Councilor, ACS Division of Organic Chemistry)	
8:30 am – 9:20 am	Javier Read de Alaniz , <i>University of California, Santa Barbara</i> “Shining Light on Chemistry”	
9:20 am – 10:10 am	Charles Yeung , <i>Merck & Co., Inc.</i> “Disruptive Chemistry at Merck: Synthetic Innovations that Accelerate Drug Discovery via Academic/Industry Partnerships”	
10:10 am – 10:40 am	Break	
10:40 am – 11:30 am	Seble H. Wagaw , <i>AbbVie Inc.</i> “The Chemical Evolution to a Highly Effective Hepatitis C Virus (HCV) Treatment”	
11:30 am – 12:20 pm	Corinna S. Schindler , <i>University of Michigan</i> “New Cycloadditions of Imines and Carbonyls”	
12:20 pm – 1:30 pm	Lunch (Vouchers valid at Regents Row Food Court)	
1:00 pm – 4:00 pm	UCSD Tour	
1:30 pm – 2:45 pm	Undergraduate Round Table Discussion and Networking	
3:00 pm – 5:00 pm	Academic Career Panel and Networking	

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Session Chair: **Annaliese K. Franz**, *UC Davis* (Past Chair, ACS Division of Organic Chemistry)

6:00 pm – 6:50 pm

Michelle C. Chang, *University of California, Berkeley*
“Synthetic Biology Approaches to New Chemistry”

6:50 pm – 7:40 pm

Emily P. Balskus, *Harvard University*
“Gut Reactions: Exploring the Amazing Chemistry of the Human Microbiome”

7:40 pm – 7:50 pm

Ryan A. Shenvi, *Scripps Research*
(Advisory Editor, *Angewandte Chemie*)
Poster Awards Announcement

8:00 pm – 11:00 pm

Mixer, Poster Session, and Exhibitions Soledad & Coronado
Ballrooms, Fountain
Court

Thursday, June 30

7:30 am – 8:30 am

Breakfast/Networking

La Jolla Ballroom, Foyer

Session Chair: **Steven Silverman**, *Merck & Co., Inc.* (Program Chair, ACS Division of Organic Chemistry)

8:30 am – 9:20 am

Bradley S. Moore, *Scripps Institution of Oceanography*
“Taking Inspiration from Nature to Empower the Way We Make Molecules”

9:20 am – 10:10 am

Jeffrey Aubé, *University of North Carolina, Chapel Hill*
“New Tools and Therapeutics for the Treatment of Tuberculosis”

10:10 am – 10:40 am

Break

10:40 am – 11:30 am

Zhongxin Zhou, *Gilead Sciences, Inc.*
“Key Process Developments in Nucleoside/Nucleotide Analogs for Antiviral Therapeutics”

11:30 am – 12:20 pm

László Kürti, *Rice University*
“Exploiting the Versatile N-O Bond: Synthesis of Amines and N-Heterocycles”

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12:20 pm – 12:30 pm	Bradley S. Moore , <i>Scripps Institution of Oceanography</i> (Associate Editor, Organic Letters) Poster Awards Announcement
12:30 pm – 12:40 pm	Closing Remarks

ACS DOC EXECUTIVE COMMITTEE

2022 Chair:	Lamont Terrell, <i>GlaxoSmithKline</i>
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Past Chair:	Annaliese K. Franz, <i>UC Davis</i>
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Secretary:	Scott Sieburth, <i>Temple University</i>
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Program Chair Elect:	Emily C. McLaughlin, <i>Bard College</i>
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Alternative Councilors:	J. Michael Ellis, <i>Bristol-Myers Squibb</i> Stefan G. Koenig, <i>Genentech</i> Michelle Tran-Dube, <i>Pfizer</i> Scott Gilbertson, <i>University of Houston</i>
Members-at-Large:	Katelyn Billings, <i>Relay Therapeutics</i> M. Kevin Brown, <i>Indiana University</i> Diane Carrera, <i>Bolt Biotherapeutics</i> Cathleen Crudden, <i>Queen's University</i> Karen Draths, <i>Michigan State University</i> Nicole Knight, <i>Dow</i> Rita Majerle, <i>Hamline University</i> Jon T. Njardson, <i>University of Arizona</i> Michael Pirrung, <i>UC Riverside</i> Daisy Rosas Vargas, <i>Ithaca College</i> Iulia I. Strambeanu, <i>Janssen</i> Elizabeth Swift, <i>Janssen</i>
Regional Meeting Liaison:	Franklin A. Davis, <i>Temple University</i>
Graduate Research Symposium:	Angie R. Angeles, <i>Gilead Sciences, Inc.</i>
Graduate Research Symposium:	P. Andrew Evans, <i>Queen's University</i>
Graduate Research Symposium:	Gary Molander, <i>University of Pennsylvania</i>
Undergraduate Award Program:	Nancy Mills, <i>Trinity University</i>
Virtual Symposium:	Steven Silverman, <i>Merck</i>
Virtual Symposium:	Karl Hansen, <i>Praxis Precision Medicines, Inc.</i>
Virtual Symposium:	Scott Bagley, <i>Pfizer</i>
Lead Web Master:	Joseph S. Ward III, <i>University of Michigan</i>
Web Master:	Brian J. Myers, <i>Ohio Northern University</i>
Assistant Web Master:	Khoi Van, <i>ACS DOC</i>
Assistant Web Master:	Andrew Philip Freiburger, <i>University of Victoria</i>

47TH NOS SYMPOSIUM ORGANIZERS

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Symposium Executive Officer

Emmanuel Theodorakis, *University of California, San Diego*
Local Chair

Brian J. Myers, *Ohio Northern University*
Webmaster

Mariel Cardenas, *Vertex Pharmaceuticals Inc.*
Industrial Sessions and Volunteer Chair

Melarie Cardenas, *San Diego State University*
NOS Logo Designer and Program Booklet Organizer

Carla Datanagan, *University of California, Davis*
Conference Coordinator

Jeffrey L. Gustafson, *San Diego State University*
Session Chair and Judge Panel

Joseph S. Ward III, *University of Michigan*
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Scott Sieburth, *Temple University*
Secretary, ACS Division of Organic Chemistry

Robert E. Maleczka, Jr., *Michigan State University*
Treasurer, ACS Division of Organic Chemistry

Katherine Maloney, *Point Loma Nazarene University*
Undergraduate Context Session and Academic Panel Co-Chair

Emily McLaughlin, *Bard College*
Undergraduate Context Session and Academic Panel Co-Chair

Michelle Tran Dubé, *Pfizer*
Poster Session Coordinator and 2023 NOS Officer

Steven Silverman, *Merck*
Poster Session Coordinator and 2023 NOS Officer

THE ROGER ADAMS AWARD

The Roger Adams Award in Organic Chemistry is sponsored jointly by the American Chemical Society, Organic Reactions, Inc., and Organic Syntheses, Inc. The award recognizes the distinguished career of Roger Adams, who played a vital role in each of these three organizations. He was Chairman of the Board of Directors as well as President of the American Chemical Society, and he co-founded Organic Syntheses and Organic Reactions.

The award was established in 1959 and is made biennially to an individual, without regard to nationality, for outstanding contributions to research in organic chemistry. The award consists of a gold medal, a sterling silver replica of the medal, and an honorarium of twenty-five thousand dollars. It is presented at the biennial National Organic Chemistry Symposium of the Division of Organic Chemistry of the American Chemical Society. The awardee is a featured lecturer in the program of the symposium.

The recipient of this year's Roger Adams Award is Professor Kendall N. Houk of the University of California, Los Angeles in recognition of his outstanding contributions to research in organic chemistry. Professor Houk's Award Address, "Pericyclic Reactions – Theory, Mechanisms, Dynamics, and Role in Biology" will be delivered on Tuesday Evening.



Roger Adams Awardee

Professor Kendall N. Houk

University of California, Los Angeles
Los Angeles, California, USA
<http://www.chem.ucla.edu/houk/>

The Roger Adams Award will be presented to Professor Kendall N. Houk on Tuesday, June 28th at 6:00 PM in the Marriott La Jolla Ballroom with the Award lecture to follow at 6:30 pm.

NOS KEYNOTE SPEAKERS



Professor Frances H. Arnold

California Institute of Technology
Pasadena, California, USA

Innovation by Evolution: Bringing New
Chemistry to Life

Presenting Tuesday, June 28, 8:30 am



Professor Benjamin List

Max-Planck-Institut für Kohlenforschung
Mülheim an der Ruhr, Germany

Strong and Confined Acids: Universal
Catalysts for Selective Synthesis?

Presenting Monday, June 27, 9:00 am

NOS PLENARY LECTURERS



Professor Jeffrey Aubé
University of North Carolina, Chapel Hill
North Carolina, USA

New Tools and Therapeutics for the Treatment
of Tuberculosis

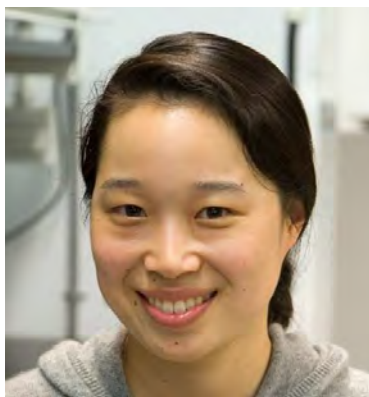
Presenting Thursday, June 30, 9:20 am



Professor Emily P. Balskus
Harvard University
Cambridge, Massachusetts, USA

Gut Reactions: Exploring the Amazing
Chemistry of the Human Microbiome

Presenting Wednesday, June 29, 6:50 pm



Professor Michelle C. Chang
University of California, Berkeley
Berkeley, CA

Synthetic Biology Approaches to New
Chemistry

Presenting Wednesday, June 29, 6:00 pm

NOS PLENARY LECTURERS (*continued*)



Professor Nicolai Cramer

École Polytechnique Fédérale de Lausanne
Lausanne, Switzerland

Chiral Cyclopentadienyl Ligands for Group 9
Metals Catalyzed Enantioselective C-H
Functionalizations

Presenting Monday, June 27, 11:20 am



Professor Mingji Dai

Purdue University
West Lafayette, Indiana, USA

Chemistry Innovation and Biological
Discovery Through Natural Product Total
Synthesis

Presenting Tuesday, June 28, 10:50 am



Dr. Sabine Hadida

Vertex Pharmaceuticals, Inc.
San Diego, California

Discovery of CFTR Modulators for the
Treatment of Cystic Fibrosis

Presenting Monday, June 27, 6:00 pm

NOS PLENARY LECTURERS (*continued*)



Professor Seth B. Herzon
Yale University
New Haven, Connecticut, USA

Structure and Function of Colibactin

Presenting Tuesday, June 28, 9:30 am



Professor Masayuki Inoue
University of Tokyo
Bunkyo-ku, Tokyo, Japan

Radical-Based Approach for Synthesis of
Complex Natural Products

Presenting Tuesday, June 28, 11:40 am



Professor Jeremiah A. Johnson
Massachusetts Institute of Technology
Cambridge, Massachusetts, USA

Deconstructing Macromolecules

Presenting Monday, June 27, 6:50 pm

NOS PLENARY LECTURERS (*continued*)



Professor László Kürti

Rice University
Houston, Texas, USA

Exploiting the Versatile N-O Bond: Synthesis
of Amines and N-Heterocycles

Presenting Thursday, June 30, 11:30 am



Professor Bradley S. Moore

Scripps Institution of Oceanography
La Jolla, California, USA

Taking Inspiration from Nature to Empower
the Way We Make Molecules

Presenting Thursday, June 30, 8:30 am



Professor Javier Read de Alaniz

University of California, Santa Barbara
Santa Barbara, California, USA

Shining Light on Chemistry

Presenting Wednesday, June 29, 8:30 am

NOS PLENARY LECTURERS (*continued*)



Professor Corinna S. Schindler
University of Michigan
Ann Arbor, Michigan, USA

New Cycloadditions of Imines and Carbonyls

Presenting Wednesday, June 29, 11:30 am



Professor Steven D. Townsend
Vanderbilt University
Nashville, Tennessee, USA

Application of Named Reactions to
Glycosylation and Building Block Synthesis

Presenting Monday, June 27, 10:30 am



Dr. Seble H. Wagaw
AbbVie Process Research and Development
North Chicago, Illinois, USA

The Chemical Evolution to a Highly Effective
Hepatitis C Virus (HCV) Treatment

Presenting Wednesday, June 29, 10:40 am

NOS PLENARY LECTURERS (*continued*)



Dr. Charles S. Yeung

Discovery Chemistry, Merck & Co., Inc.
Boston, Massachusetts, USA

Disruptive Chemistry at Merck: Synthetic
Innovations that Accelerate Drug Discovery
via Academic/Industry Partnerships

Presenting Wednesday, June 29, 9:20 am



Dr. Zhongxin Zhou

Gilead Sciences, Inc.
Edmonton, Alberta, Canada

Key Process Developments in
Nucleoside/Nucleotide Analogs for Antiviral
Therapeutics

Presenting Thursday, June 30, 10:40 am

NOS SPEAKER ABSTRACTS

“Pericyclic Reactions – Theory, Mechanisms, Dynamics and Role in Biology”

Professor Kendall N. Houk

University of California, Los Angeles, Los Angeles, California, USA

<http://www.chem.ucla.edu/houk/>

After briefly introducing Woodward and Hoffmann’s foundation and theory of pericyclic reactions, I will introduce the concepts of concerted, stepwise, and borderline mechanisms. My group studies mechanisms with quantum mechanics and molecular dynamics, providing a time-resolved picture of how reactions happen. Examples of ambimodal pericyclic transition states and polypericyclic reactions studied in our labs, building on Caramella’s concept of bispericyclic reactions, will be discussed. The concepts of dynamically concerted and stepwise reactions, and of entropic intermediates, will be described. We have discovered that high polarization by substituents can overcome the Woodward-Hoffmann Selection Rules for electrocyclic reactions, leading to formal violations of the Rules; torquoselectivity in such cases is governed by steric and torsional effects. Pericyclic reactions are well known in synthesis, but they are increasingly recognized in biosynthesis also: a new class of enzymes catalyzing pericyclic reactions – the pericyclases – has been defined in collaboration with my UCLA colleague, Yi Tang. Examples of cycloadditions, electrocyclizations, and sigmatropic shifts catalyzed by natural enzymes will be described.

“Innovation by Evolution: Bringing New Chemistry to Life”

Professor Frances H. Arnold

California Institute of Technology, Pasadena, California, USA

<http://fhalab.caltech.edu/>

Not satisfied with biology’s vast catalyst repertoire, I want to create new enzyme catalysts and expand the chemistry of life. We use the most powerful biological design process, evolution, to optimize existing enzymes and invent new ones, thereby circumventing our profound ignorance of how sequence encodes function. Evolution can innovate by exploiting the promiscuous catalytic activities of extant proteins to mold new enzymes. We are using this insight to explore chemistries that become available to enzymes in a new environment. I will illustrate with a few examples how ‘carbene transferase’ enzymes have been generated by directed evolution of Fe - heme proteins in the presence of abiological carbene precursors. These new - to - nature biocatalysts can exhibit remarkable selectivity for their targeted reactions, arising from macromolecular active sites that are readily tuned by evolution.

“Strong and Confined Acids: Universal Catalysts for Selective Synthesis?”

Professor Benjamin List

Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr, Germany

<https://www.kofo.mpg.de/en/research/homogeneous-catalysis->

Catalysis is not only a beautiful science but also a highly relevant technology for humankind. The speaker proposes that the majority of all chemical reactions that can be catalyzed in principle, can be catalyzed with acids. If true, this would suggest an enormous reactivity space that could be conquered with highly acidic and selective acid catalysts. Acid catalysis already enables key transformations, such as the Diels–Alder and Friedel–Crafts reactions, and various aldol, Mannich, and Michael reactions. Some of these processes are conducted on a multi-million ton scale. Consequently, substantial efforts have been directed towards the development of enantiopure acids, especially Lewis acids, which facilitate important asymmetric variations of such reactions. Despite the plethora of elegant catalysts and methodologies developed in this context however, a key limitation of enantioselective Lewis acid catalysis is the frequent need for relatively high catalyst loadings (10-20 mol%), which result from issues such as insufficient Lewis acidity, product inhibition, hydrolytic instability, and background catalysis.

Recently, we proposed a new design for asymmetric acid catalysis. We have developed in situ silylated organic acids, which address some of the above problems in various highly enantioselective reactions involving silicon-containing nucleophiles with unprecedentedly low catalyst loadings. As an example of asymmetric counteranion-directed catalysis (ACDC), these reactions proceed via silylation of an electrophile, generating a cationic reactive species that ion-pairs with an enantiopure counteranion and reacts with a silylated nucleophile. We are currently expanding this “silylium-ACDC” concept to, in principle, all types of Lewis acid catalyzed reactions, including those that do not involve silylated reagents. In my presentation, I will discuss how the concept of using very strong and confined acids has led to the development of novel, extremely active organic Lewis acid catalysts that enable asymmetric versions of highly challenging Diels–Alder reactions. The confined acids that form the basis of our latest catalyst design not only enable the utilization of small and unbiased substrates but, because of their high acidity, also the activation of previously inaccessible substrates for organocatalysis.

“New Tools and Therapeutics for the Treatment of Tuberculosis”

Professor Jeffrey Aubé

University of North Carolina, Chapel Hill, North Carolina, USA

<https://pharmacy.unc.edu/directory/jaube/>

Tuberculosis (TB) is a devastating mycobacterial infection that has been known since antiquity and continues to kill over a million people worldwide annually. Although drugs are available to treat TB, the challenges of lengthy therapies and emerging resistant strains require new treatments, such as drugs that act on novel mechanisms, and tools that enable the greater understanding of *Mycobacterium tuberculosis* (*Mtb*), the causative agent of the disease. This presentation will focus on recent collaborative efforts to fulfill these needs, including (1) the discovery of several classes of beta-lactams having anti-TB activity, (2) the search for inhibitors of phosphopantetheinyl phosphate, a newly-validated target against *Mtb*, and (3) studies of 5-amino-6-D-ribitylaminoouracil, an activator of musosal-associated invariant T cells.

“Gut Reactions: Exploring the Amazing Chemistry of the Human Microbiome”

Professor Emily P. Balskus

Harvard University, Cambridge, Massachusetts, USA

<https://www.microbialchemist.com/>

Microbes have amazing chemical capabilities, performing reactions unprecedented in organic synthesis and producing complex, biologically active molecules not easily accessed via other approaches. Microbial metabolism also plays important biological roles in complex microbial communities, including our own human gut microbiome. Recent advances in DNA sequencing technologies have delivered a wealth of microbial genomes and metagenomes that encode novel enzymes. The availability of this genomic data thus represents an unprecedented opportunity for the discovery of enzymes that have the potential to reveal new principles of catalysis, inspire the development of synthetic methodology, and uncover new biological insights. This talk will discuss our recent progress in using an understanding of enzyme chemistry and mechanism to guide the discovery of new enzymes from environmental and human-associated microbes. Functional and mechanistic characterization of these enzymes is uncovering reactivity with potential applications in biocatalysis and metabolic engineering, as well as implications for human health.

“Synthetic Biology Approaches to New Chemistry”

Professor Michelle C. Chang
University of California, Berkeley, Berkeley, CA
<http://www.cchem.berkeley.edu/mccgrp/>

Living systems have evolved the capacity to carry out many chemical transformations of interest to synthetic chemistry if they could be redesigned for targeted purposes. Our group is interested in using synthetic biology as a platform to study how enzymes function in vivo and to use this understanding to build new synthetic pathways for the production of pharmaceuticals, materials, fuels, and other chemicals using living cells. We have been exploring the biosynthesis of a terminal alkyne amino acid made by soil bacteria and its application to bioorthogonal chemistry and biocatalysis. This pathway includes several bioinorganic enzymes that carry out unusual transformations of amino acids. One of these enzymes has allowed us to identify a new family of BesD radical halogenases, which are Fe/ α -ketoglutarate-dependent enzymes that carry out the regio- and stereoselective halogenation of simple amino acid substrates. Further study has identified members with differing substrate selectivity and regioselectivity, enabling mechanistic studies to study reaction partitioning between hydroxylation and halogenation as well as substrate selectivity and regioselectivity. These studies enable the engineering of in vitro and in vivo pathways to make various halogenated products such as heterocycles, diamines, α -ketoacids, and peptides as well as non-canonical amino acids for introduction into proteins for downstream biorthogonal reactions.

“Chemistry Innovation and Biological Discovery Through Natural Product Total Synthesis”

Professor Mingji Dai
Purdue University, West Lafayette, Indiana, USA
<https://www.chem.purdue.edu/dai/index.html>

This talk will focus on our recent efforts in function and efficiency-driven total synthesis of medicinally important natural products. The target molecules include macrolides, alkaloids, and polycyclic diterpenoids. Novel and enabling synthetic strategies and methodologies toward these target molecules will be highlighted. Biological evaluation and target identification of the selected natural products and their analogs will be discussed as well. Overall, this talk will emphasize how we use natural product total synthesis to achieve chemistry innovation and biological discovery.

“Chiral Cyclopentadienyl Ligands for Group 9 Metals Catalyzed Enantioselective C-H Functionalizations”

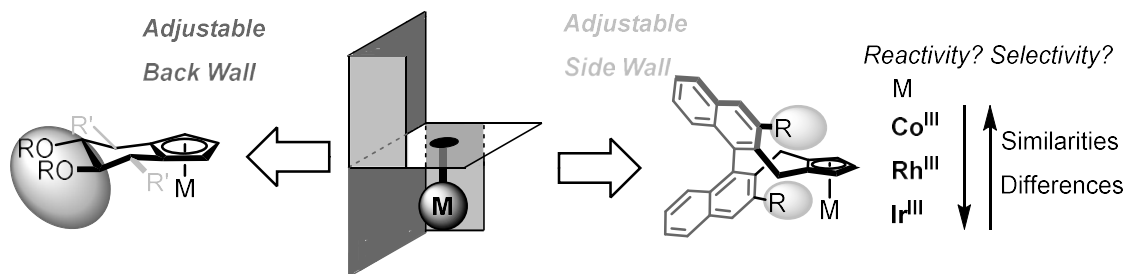
Professor Nicolai Cramer

École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

<https://www.epfl.ch/labs/lcsa/cramer/>

The immense advances in selective activations and subsequent functionalizations of C-H bonds opened the door to new disconnections strategies and streamlined synthetic routes. The progress in enantioselective C-H functionalization is remarkable. However, the development of new catalytic enantioselective transformations remains challenging. The organic ligands surrounding the central transition-metal atom of the complexes are the key contributors to boost reactivity and selectivity. In this respect, chiral cyclopentadienyl ligands provide robust complexes with high-valent group-9 metals and emerged as powerful tools in asymmetric catalysis.¹

The presentation will focus on recent developments of chiral cyclopentadienyls as ligands for rhodium,² iridium³ and cobalt⁴ and their application potential in enantioselective C-H activations for a streamlined access to relevant small molecules. Moreover, we seek to highlight differences and common reactivity between the triad and share struggles and successes to replace precious metal catalysts with their more abundant cobalt congener.⁵



1. J. Mas-Roselló, A. G. Herraiz, B. Audic, A. Laverny, N. Cramer, *Angew. Chem. Int. Ed.* **2021**, 60, 13198
2. B. Ye, N. Cramer, *Science* **2012**, 338, 504; B. Ye, N. Cramer, *J. Am. Chem. Soc.* **2013**, 135, 636.
3. Y.-S. Jang, M. Dieckmann, N. Cramer, *Angew. Chem. Int. Ed.* **2017**, 56, 15088; J. Mas-Rosello, T. Smejkal, N. Cramer, *Science* **2020**, 368, 1098.
4. K. Ozols, Y.-S. Jang, N. Cramer, *J. Am. Chem. Soc.* **2019**, 141, 5675.
5. K. Ozols, S. Onodera, L. Wozniak, N. Cramer, *Angew. Chem. Int. Ed.* **2021**, 60, 655.

“Structure and Function of Colibactin”

Professor Seth B. Herzon
Yale University, New Haven, Connecticut, USA
<http://www.herzongroup.org/>

The classical paradigm of large-scale production, isolation, and structure analysis has given us our understanding of almost all known natural products. Yet, advances in metabolomics and genetics suggest the existence of ultra-low abundance or cryptic metabolites that lie outside the scope of the traditional isolation–analysis approach. Analogous to the role of difficult-to-detect dark matter in shaping the universe in unanticipated ways, these dark metabolites may play significant roles in shaping human physiology and disease states. New approaches are required to find the structures and functions encoded here.

Here I'll describe how a synergistic combination of chemical synthesis, genetics, and enzymology revealed the structure of colibactin, a dark bacterial metabolite implicated in gut microbiome-associated colorectal cancer (CRC). Colibactin's presence was first detected in 2006, but because it is unstable and produced in vanishingly small quantities, its structure and mechanism of action could not be elucidated by classical approaches. We used techniques from a range of fields to infer the structure of colibactin and to construct a mechanistic model that explains its tumorigenic effects. This work provides a foundation to better understand gut microbiome-associated CRC and may provide strategies that are extensible to the elucidation of other dark natural products.

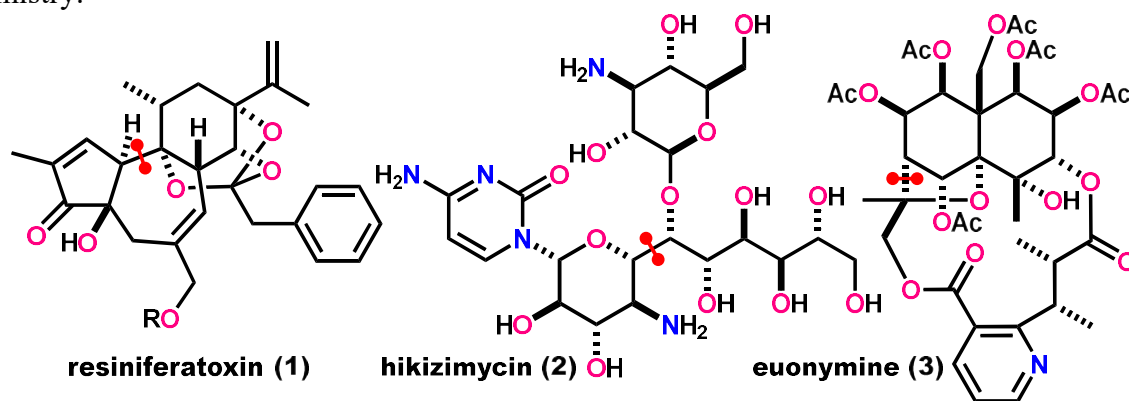
“Radical-Based Approach for Synthesis of Complex Natural Products”

Professor Masayuki Inoue

University of Tokyo, Bunkyo-ku, Tokyo, Japan

http://www.f.u-tokyo.ac.jp/~inoue/e_index.html

Natural products with a high ratio of sp^3 -hybridized atoms and oxygen-substituted stereogenic centers represent privileged structures for the development of pharmaceuticals and chemical probes. The multiple oxygen functionalities of these natural products endow their potent and selective biological activities, although they significantly heighten the challenge of their chemical assemblies.^[1] We focused on developing efficient strategies for the total syntheses of this biologically and chemically important class of molecules. Specifically, we have designed and devised radical-based strategies for assembling highly oxygenated natural products.^[2,3] In this lecture, we report the development of the radical coupling reactions and the synthetic routes to resiniferatoxin (1),^[4,5] hikizimycin (2),^[6] and euonymine (3)^[7] by applying the radical chemistry.



[1] Urabe, D.; Asaba, T.; Inoue, M. *Chem. Rev.* **2015**, *115*, 9207.

[2] Inoue, M. *Acc. Chem. Res.* **2017**, *50*, 460.

[3] Nagatomo, M.; Inoue, M. *Acc. Chem. Res.* **2021**, *54*, 595.

[4] Hirose, A.; Watanabe, A.; Ogino, K.; Nagatomo, M.; Inoue, M. *J. Am. Chem. Soc.* **2021**, *143*, 12387.

[5] Hikone, Y.; Kato, T.; Nagatomo, M.; Inoue, M. *Org. Lett.* **2022**, *24*, 929.

[6] Fujino, H.; Fukuda, T.; Nagatomo, M.; Inoue, M. *J. Am. Chem. Soc.* **2020**, *142*, 13227.

[7] Wang, Y.; Nagai, T.; Watanabe, I.; Hagiwara, K.; Inoue, M. *J. Am. Chem. Soc.* **2021**, *143*, 21037.

“Exploiting the Versatile N-O Bond: Synthesis of Amines and N-Heterocycles”

Professor László Kürti

Rice University, Houston, Texas, USA

<https://chemistry.rice.edu/people/laszlo-kurti>

Synthesis of highly substituted and strained nitrogenous molecules remains a challenging task since installing substituents on small ring systems gets increasingly difficult as the degree of substitution increases. Similarly, it is difficult to install nitrogen bridges onto highly substituted and electronically diverse unsaturated systems. In this presentation a number of synthetic routes to these valuable nitrogenous building blocks will be discussed: (1) The direct and stereospecific synthesis of *N*-H- and *N*-alkyl aziridines from unactivated olefins using both transition metal-catalyzed and organocatalytic approaches that proceed through very different *N*-transfer processes; (2) Fully-substituted *N*-acyl aziridines are produced in one-pot by the reaction of *N*-electrophilic iminomalonates with ketone enolates - this transformation is in essence an aza-quasi-Favorskii rearrangement reaction which proceeds *via* a 1,2-attack followed by a low-barrier intramolecular nitrenoid-insertion into a C-C bond and (3) Structurally diverse spiro N-H azetidines are formed in a single step during the Ti(IV)-mediated reaction between oxime ethers and alkyl-Grignard reagents or via a ligand-exchange process using terminal olefins - the overall transformation proceeds via a Kulinkovich-type mechanism: a titanacyclopropane intermediate is formed and serves as a 1,2- dialkyl anion equivalent, inserting into the 1,2-dielectrophilic oxime ether to ultimately give rise to the desired *N*-heterocyclic four-membered ring.

“Deconstructing Macromolecules”

Professor Jeremiah A. Johnson

Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

<http://web.mit.edu/johnsongroup/>

Polymers are arguably the most important materials on Earth. Despite a century of study, however, much remains unknown about how the molecular-scale features of polymers translate to their bulk properties, preventing predictive design of next-generation materials. This talk will highlight our efforts to leverage efficient synthetic methods to construct and deconstruct macromolecules, in combination with concepts from physical organic chemistry, to unveil previously hidden features of polymer structure and enable new material functions.

“Taking Inspiration from Nature to Empower the Way We Make Molecules”

Professor Bradley S. Moore

Scripps Institution of Oceanography, San Diego, California, USA

<https://bsmoore.scrippsprofiles.ucsd.edu/>

Nature is an extraordinary organic chemist. From small volatile molecules to large gene-encoded peptides, nature has been in the business of making specialized chemicals to solve important situations central to life. As natural products, they are broadly applied in medicine, agriculture, and nutrition. The rapid accumulation of genomic information has revealed that the metabolic capacity of virtually all organisms is vastly underappreciated. Pioneered mainly in bacteria and fungi, genome mining technologies are accelerating metabolite discovery in all life forms, including protists, plants, and animals. In this presentation, I will highlight our journey to illuminate the mining of genomes from marine life – microbes, algae, and sessile animals – to discover and engineer natural product molecules and biocatalysts important to our health. Examples will include the glioblastoma drug candidate salinisporamide A from a marine bacterium, the amnesic shellfish toxin domoic acid from planktonic microalgae, and the cosmetic anti-inflammatory agent pseudopterosin from corals. Each example will expand upon the challenges and opportunities of mixed omics approaches towards producing chemistry unique to the sea.

K. D. Bauman, V. V. Shende, P. Y.-T. Chen, D. B. B. Trivella, T. A. M. Gulder, S. Vellalath, D. Romo, and B. S. Moore. Enzymatic assembly of the salinosporamide g-lactam-b-lactone anticancer warhead. *Nat. Chem. Biol.*, 18, 538-546 (2022).

S. T. Lima, T. R. Fallon, J. L. Cordoza, J. R. Chekan, E. Delbaje, A. R. Hopiavuori, D. O. Alvarenga, S. M. Wood, H. Luhavaya, J. T. Baumgartner, F. A. Dörr, A. Etchegaray, E. Pinto, S. M. K. McKinnie, M. F. Fiore, and B. S. Moore. Biosynthesis of guanitoxin enables global environmental detection in freshwater cyanobacteria. *J. Am. Chem. Soc.*, DOI: 10.1021/jacs.2c01424 (2022).

I. Burkhardt, T. de Rond, P. Y.-T. Chen, and B. S. Moore. Ancient plant-like terpene biosynthesis in corals. *Nat. Chem. Biol.*, DOI: 10.1038/s41589-022-01026-2 (2022).

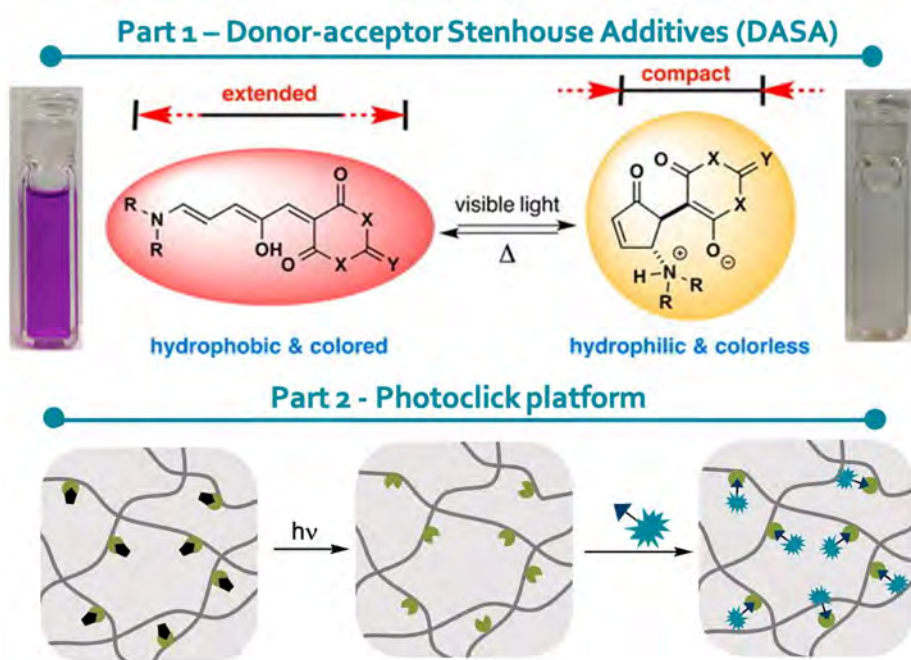
“Shining Light on Chemistry”

Professor Javier Read de Alaniz

University of California, Santa Barbara, Santa Barbara, California, USA

<https://www.chem.ucsb.edu/people/javier-read-de-alaniz>

Photons have multiple enabling advantages to control chemical reactions and stimuli-responsive materials. In this seminar, I will discuss our groups effort to design and develop a new class of negative photochromic molecules termed DASA, their incorporation into materials and subsequent effort to unlock their potential to convert light directly into mechanical work. Additionally, a new Diels–Alder based photoclick platform to enable bio-orthogonal chemistry with spatial control for biomaterial applications will be discussed.



“New Cycloadditions of Imines and Carbonyls”

Professor Corinna S. Schindler
University of Michigan, Ann Arbor, Michigan, USA
<https://www.schindlerresearchgroup.com/>

Four-membered nitrogen heterocycles such as azetidines possess unique properties that make them desirable for drug discovery and synthesis applications. However, synthesis of these compounds is challenging, limiting their applicability. While oxetanes and cyclobutanes are commonly synthesized by highly atom-economical light-mediated [2+2] reactions, this powerful methodology remains limited for the synthesis of azetidines via the aza Paternò-Büchi reaction. Herein we report the development of a visible-light mediated intermolecular aza Paternò-Büchi reaction, harnessing the triplet state of unique cyclic oximes, specifically 2-isoxazoline-3-carboxylates, as imine equivalents for the synthesis of unique azetidine products. Following energy transfer from an iridium photocatalyst, these cyclic oximes initiate [2+2] reactions with unactivated alkenes, allowing access to a broad range of azetidines with excellent yield. This method is mild, operationally simple, and broadly applicable. Importantly, these products can be easily converted to free monocyclic azetidines, offering a new approach to these desirable targets.

“Application of Named Reactions to Glycosylation and Building Block Synthesis”

Professor Steven D. Townsend
Vanderbilt University, Nashville, Tennessee, USA
<https://www.townsendchemistry.org/>

The need for efficient methods to synthesize well-defined oligosaccharides is a major bottleneck in the field of glycoscience. While novel strategies are continuously being developed, the synthesis of a complex oligosaccharide or glycoconjugate remains a challenging and critically vital task. This discussion will focus on the synthesis of anthracycline antibiotics and application of strong bond cleavage to modify monosaccharide building blocks.

“The Chemical Evolution to a Highly Effective Hepatitis C Virus (HCV) Treatment”

Dr. Seble H. Wagaw

Abbvie, North Chicago, Illinois, USA

<https://www.linkedin.com/in/seble-wagaw-b9914931/>

The hepatitis C virus (HCV) is a blood borne disease estimated to affect between 71 and 185 million people worldwide.ⁱ Persons infected with HCV can remain asymptomatic for decades; left untreated HCV can lead to liver failure, liver cancer and death. One of the challenges in developing treatments is the genetic heterogeneity of HCV, with six major genotypes identified. Fortunately, the development of combinations of direct acting antiviral agents in recent years has resulted in multiple treatment options that represent a curative therapy for all major HCV genotypes.ⁱⁱ Viekira Pak was AbbVie's first generation marketed therapy for HCV for the treatment of genotype 1 chronic HCV infection.

“Disruptive Chemistry at Merck: Synthetic Innovations that Accelerate Drug Discovery via Academic/Industry Partnerships”

Dr. Charles S. Yeung

Discovery Chemistry, Merck & Co., Inc., Boston, Massachusetts, USA

<https://www.linkedin.com/in/charles-yeung-14a1a845/>

The ability to synthesize molecules efficiently and effectively is foundational to both drug discovery and development, and thus, we continue to invest in fundamental advances in synthetic chemistry at Merck. We believe that proactively identifying tomorrow's unmet synthetic needs will improve human health outcomes. We coined the term *disruptive chemistry* as a broad descriptor for this investment, drawing on inspiration from the idea of disruptive innovation or disruptive technology from the business sector. To us, *disruptive chemistry* is an aspirational goal: we want rapid access to molecules of any necessary complexity for our medicinal campaigns (i.e., our creative designs are not limited by our ability to execute on their synthesis). To truly accelerate our quest toward new medicines, we have embraced a strategy of partnership with academics to take on the challenge of enabling broad and robust access to three-dimensionally rich and functionally complex bioactive molecules.

Under the umbrella of Merck Disruptive Chemistry, multiple success stories of synthetic enablement have been achieved where collaboration across the pharmaceutical industry and academia have led to inflections in our ability to make molecules. Our projects rely on modern tools that help us solve the challenging problems in front of us, including photochemical activation, reaction miniaturization, high-throughput experimentation, and computational modelling, to name a few. In this seminar, I will cover several topics of high interest to drug invention, including C–H activation, molecular editing, and heterocycle dearomatization.

“Key Process Developments in Nucleoside/Nucleotide Analogs for Antiviral Therapeutics”

Dr. Zhongxin Zhou

Gilead Sciences, Edmonton, Alberta, Canada

<https://www.linkedin.com/in/zhongxin-zhou-fcic-04392554/>

Key Nucleoside/nucleotide analogs are one of the largest class of small molecules for antiviral therapeutics developed in the past 60 years. Nucleoside and nucleotide analogs have formed the backbones for Gilead's antiHIV, HCV, HBV and SAR2-CoV-2 therapies. Examples that showcase the key development innovations enabled the commercial scale productions of active pharmaceutical ingredients (APIs) for TAF, SOF and RDV are discussed, focusing on the introduction of homochiral phosphoramidate center in TAF, convergent approach to homochiral phosphoramidate moieties in SOF and RDV, as well as stereoselective cyanation in the synthesis of RDV via both batch and continuous flow chemistry processes.

INDUSTRY SESSIONS

Chair: Mariel Cardenas

Volunteer Committee Members: Andrew Dinh, Deane Gordon, Amy Jackson, Tae Hwang

Location: La Jolla Ballroom

MONDAY, JUNE 27

1:00 pm – 1:25 pm	Chemjobber , <i>Chemjobber</i>
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1:25 pm – 1:50 pm	Jing Li , <i>Pharmablock</i>
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1:50 pm – 2:15 pm	Ben Turnbull , <i>Merck</i>
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2:15 pm – 2:30 pm	Break
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2:30 pm – 2:55 pm	Jeffrey Long , <i>FMC</i>
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2:55 pm – 3:20 pm	Joe Armstrong , Bo Qu , and Gopal Sirasani , <i>TCGGreenChem</i>
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3:20 pm – 3:35 pm	Break
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3:35 pm – 4:00 pm	Carin Seechurn , <i>SinoCompound</i>
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4:00 pm – 4:25 pm	Ajay Ohri , <i>FluorineNavin</i>
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4:25 pm – 5:00 pm	Meet-and-Greet Session / Networking
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TUESDAY JUNE 28

1:00 pm – 1:25 pm **Rami Nagola**, *Wuxi STA*

1:25 pm – 1:50 pm **Jade Bing**, *Corteva Agriscience*

1:50 pm – 2:15 pm **David Weinstein**, *Vividion Therapeutics*

2:15 pm – 2:30 pm Break

2:30 pm – 2:55 pm **David Snead**, *Mirati*

2:55 pm – 3:20 pm **Charles Heap**, *Relay*

3:20 pm – 3:35 pm Break

3:35 pm – 4:00 pm **Robynne Neff** and **Primali Navaratne**, *Amgen*

4:00 pm – 4:25 pm **Ieva Liepuoniute**, *IBM Quantum*

4:25 pm – 5:00 pm Meet-and-Greet Session / Networking

Wednesday Afternoon Sessions

Organizers:

Professor Emily McLaughlin, *Bard College*

Professor Katherine Maloney, *Point Loma Nazarene University*

Location: La Jolla Ballroom/Foyer

1:30 pm – 2:45 pm

Undergraduate Round Table Discussion and Networking

Description: Join us for this undergraduate-focused round table discussion and networking session. In small groups, you'll have a chance to meet with fellow undergraduates, discuss your favorite moments from the conference, talk about science, and get to know organic chemistry professionals from a variety of roles in industry, academia and more.

3:00 pm – 4:15 pm

Academic Career Panel

Moderators: Katherine Maloney, Point Loma Nazarene University
Emily McLaughlin, Bard College

Panelists: Leila Abrous, California State University, San Marcos
Emily Balskus, Harvard University
Jeffrey Gustafson, San Diego State University
André Isaacs, College of the Holy Cross
Megan Jacobson, College of Southern Idaho
Daisy Rosas Vargas, Ithaca College
Steven Townsend, Vanderbilt University

Description: Students and post-doctorates considering a career in academic won't want to miss the chance to hear from academics who have been there, including from all career stages, from research universities and primarily undergraduate institutions (PUIs). After the discussion, the panelists will be available for an informal networking/meet-and-greet session.

4:15 pm – 5:00 pm

Academic Careers Meet-and-Greet Session

2022 TRAVEL AWARD RECIPIENTS

The following 63 attendees are recognized for their achievements with a Division of Organic Chemistry Travel Award to the 2022 NOS Meeting.

Undergraduate Students

Marisol Ausec	The College of Wooster
Kara Greene	University of Michigan
Noah Grinde	University of Wisconsin-Stevens Point
Samuel Khasnavis	Pomona College
Kelvin Lee	Harvey Mudd College
Michelle Nguyen	Southwestern University
Forrest Wade	University of Evansville
Leah Zahn	Chapman University

PUI Faculty

Nathan Bowling	University of Wisconsin-Stevens Point
Ronald Brisbois	Macalester College
Katie Cartwright	Virginia Military Institute
Michael Gesinski	Southwestern University
André Isaacs	College of the Holy Cross
Jeffrey Katz	Colby College
Yu Liu	Northern Michigan University
Sara Martin	The College of Wooster
Jason Pflueger	Rose-Hulman Institute of Technology
Michael Slade	University of Evansville
Ralph Salvatore	Western Kentucky University
Sarah Tasker	Franklin and Marshall College
Elizabeth Valentin	Susquehanna University
David Vosburg	Harvey Mudd College

2022 TRAVEL AWARD RECIPIENTS (*continued*)

Graduate Students

Shubhangi Aggarwal	University of Southern California
Ali Hunain	University of Karachi
Ankush Chakraborty	Michigan State University
Winston Chow	UC Davis
Hillary Dequina	University of Wisconsin, Madison
Sarah Dishman	UC Davis
Clayton Donald	University of Houston
Brandon Frey	Texas A&M University
Ankush Gupta	Central University of Gujarat
Nazanin Haddadpour	Indiana University-Bloomington
Travis Hammerstad	University of Michigan
Jessica Hatt	University of Michigan
Abigail Horchar	University of North Carolina, Greensboro
Soumyadip Hore	Indian Institute of Technology Delhi
Md Mubarak Hossain	University of Arizona
Amy Jackson	Baylor University
Samuel Jacob	University of San Francisco
Rebecca Kehner	Baylor University
Roman Kleinmans	University of Münster
Kateryna Kostenkova	Colorado State University
Matthew Lasky	University of Michigan
Yiyang Liang	University of North Carolina, Chapel Hill
Emmanuel Maloba	Michigan State University
Aja Nicely	University of Texas at Austin
Thomas Oleskey	Michigan State University
Po-Kai Peng	University of Houston
Alexander Ramos	Brigham Young University
Pritam Roychowdhury	Texas A&M University
Katie Rykaczewski	University of Michigan
Andre Sanchez	University of California, Berkeley
Nathan Schmitt	UT Southwestern Medical Center
Jatinder Singh	Brigham Young University
Vani Singhanian	University of California, Santa Barbara
Mai-Jan Tom	Queen's University
Fuad Usman	Wayne State University
Taylor Vacala	New York University
Alexander Veatch	University of North Carolina, Chapel Hill
Gonzalo Villegas Rodriguez	University of Michigan
Emily Wearing	University of Michigan
Yuhao Yang	University of Louisville
Michael Ylagan	Queen's University

POSTER SESSION INFORMATION

Location: Coronado and Soledad Ballrooms, The Fountain Court

For each night's poster sessions, prizes for four-five best posters will be awarded. The Poster Awards are sponsored by the following:

- Sunday: **MDPI and ACS Publications** – Poster Awards will be presented at 7:40 pm – 7:50 pm on Monday by **Jeffrey L. Gustafson**, San Diego State University
- Monday: **Organic Reactions®** – Poster Awards will be presented at 7:40 pm – 7:50 pm on Tuesday by **Steven D. Townsend**, Vanderbilt University and Board of Editors, Organic Reactions®
- Tuesday: **Angewandte Chemie** – Poster Awards will be presented at 7:40 pm – 7:50 pm on Wednesday by **Ryan A. Shenvi**, Scripps Research and Advisory Editor, Angewandte Chemie
- Wednesday: **ACS Publications** – Poster Awards will be presented at 12:10 pm – 12:30 pm on Thursday by **Bradley S. Moore**, Scripps Institution of Oceanography and Associate Editor, Organic Letters

POSTER PRESENTATIONS

Sunday, June 26			
Poster #	Title	Authors (Presenting*)	Affiliation
1	Pd/Fe Co-catalyzed Aminoboration of Undirected, Simple Olefins	Brittany L. Gay*, Ya-Nong Wang, Shreeja Bhatt, Anika Tarasewicz, Daniel Cooke, Kami L. Hull	University of Texas at Austin
2	Kinetic and Mechanistic Insights into Microwave Assisted Hydrogenations with Frustrated Lewis Pairs	Elizabeth M. Valentin*, Allison Haggarty, James White	Saint Mary's College of California
3	Hydroamination of Allyl Amines and Homoallyl Amines for the Synthesis of 1,2-, 1,3-, and 1,4-Diamines	An T. Ho*, Evan P. Vanable, Seth C. Ensign, David Portillo, Gregory D. Kortman, and Kami L. Hull*	University of Texas at Austin; University of Illinois at Urbana-Champaign
4	Total synthesis of Phyllantidine and Formal Synthesis of Flueggeacosine B	Lin Liu*, Trevor Olson, Kyle M Lambert, Joshua B, Cox John L. Wood	Baylor University
5	Metal-free Oxoammonium Salt-Mediated C(sp ³)-H Oxidative Ugi-Azide Multicomponent Reaction	Niklas Lohmann*, Vesna Milovanovic, Dariusz G. Piekarski, Olga García Mancheño	University of Münster, Germany; University of Kragujevac, Serbia; Polish Academy of Sciences, Poland
6	Water Based Thioamidation Reaction by Direct Installation of Elemental Sulfur and Amine	Ankush Gupta*, Guddeangadi Gururaja Nagaraj	Central University of Gujarat, India
7	New Eyes on Old Frontiers	Kaitie C. Cartwright*, John P. Lagana III, Elias S. Tyson, Thomas J. Wiltshire, David M. Diaz	Virginia Military Institute
8	Radical Generation Enabled by Photoinduced N-O Bond Fragmentation	Edward J. McClain, Alan K. Wortman*, Corey R. J. Stephenson	University of Michigan

47th National Organic Chemistry Symposium 2022 – La Jolla, California

9	Synthesis of a novel cyclopropyl phosphonate nucleotide as a phosphate mimic	Erich F. Altenhofer*, Michael J. Lawler, Pankaj Kumar, Leo A. Joyce, Matthew Fowler-Watters, Tao Pei, and Zhen Li	Arrowhead Pharmaceuticals, Inc.
10	Mild and Efficient Synthesis of Diselenocarbamates and Diselenocarbonates using Cesium Bases	Ralph N. Salvatore*	Southeastern University; University of South Florida
11	Copper-Catalyzed Carboamination of Electron-Deficient Olefins	Aja M. Nicely*, Andrei G. Popov, Hannah C. Wendlandt, Grace L. Trammel, Daniel G. Kohler	University of Texas Austin
12	Regio- and stereoselective glycosylations via fluoride migration	Yishu Xu*, Timothy M. Emmel, John Montgomery	University of Michigan
13	A One-Pot Approach for the Synthesis of Nitrogen Containing Heterocycle Utilizing Quinone Methide as a Bifunctional Moiety	Rajat Pandey*, Gurdeep Singh, Vinod Gour, Ramasamy Vijaya Anand	Indian Institute of Science Education and Research Mohali
14	A two-pronged evolution of N-centered radical aminoarylation via substrate or reagent redesign	Efrey A. Noten*, Cody H. Ng, Bobby Wolessensky, Corey R. J. Stephenson	University of Michigan
15	Photoinduced oxygen transfer using nitroarenes for the anaerobic cleavage of alkenes	Dan Wise, Taylor Vacala*, Emma Gogarnoiu, Marvin Parasram	New York University
16	Discovery and development of an unprecedented organocatalyst for the conversion of nucleosides to furanoid glycals	Peter E. Maligres*, Cheol K. Chung, Zachary E. X. Dance, Yining Ji, Yu-hong Lam, Edna Mao, Keith A. Mattern, Eric M. Phillips, Marc Poirier, Kevin M. Sirk and Timothy J. Wright	Merck Process Research and Development
17	Diverse N-heterocyclic Compound Formation through Aziridinium Ylide Intermediates	Mahzad Dehghany*, Kate A. Nicastrì, Soren A. Zappia, Steve Schmid	University of Wisconsin-Madison
18	Developing Cyclopropenium Mediators for Anodic Fluorination Reactions	Sabrina Nobrega Carneiro*, Joshua Laffoon, Melanie Sanford	University of Michigan
19	Development of PINO-derived electrocatalysts for HAT reactions	Sahil Arora*, Corey Stephenson	University of Michigan

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20	Light and catalyst-promoted inherent and regioselective perfluoroalkylation of arenes and heteroarenes	Ashley Dang-Nguyen*, Connor T. McCarty, Jeffrey L. Gustafson	San Diego State University
21	Selective Fluorination of Highly Basic Anionic Species: A New Solution to An Old Problem	Yuhao Yang*, Gerald B. Hammond, Teruo Umemoto	University of Louisville
22	Leveraging Electron Donor-Acceptor Complexes for Photochemical C(sp ²)-H Pyridination	Matthew R. Lasky*, Tolani K. Salvador, Sukrit Mukhopadhyay, Matthew S. Remy, Thomas P. Vaid, Melanie S. Sanford	University of Michigan; The Dow Chemical Company
23	Photomediated ring contractions of saturated heterocycles: Insights into enantioselectivity and expanded reactivity	Sojung F. Kim, Justin Jurczyk, Jordan P. Liles, Michaelyn C. Lux, Yasuki Soda, Charles S. Yeung, Matthew S. Sigman, Richmond Sarpong	University of California, Berkeley; University of Utah; Merck & Co. Inc.
24	A Strategy to Reduce Pyridines to Piperidines in Complex, Drug-Like Molecules	Celena Josephitis*, Andrew McNally	Colorado State University
25	Catalytic Radical-Polar Crossover Ritter Reaction	Riley E. Cooper*, Eric E. Touney, Sarah E. Bredenkamp, David T. George, Sergey V. Pronin	University of California, Irvine
26	Palladium-catalyzed decarbonylative fluoroalkylation using fluorocarboxylic acid derivatives as electrophiles	Alexander W. Bunnell*, Naish Laloo, Conor E. Brigham, Melanie S. Sanford	University of Michigan
27	Photocatalytic α -arylation of carbonyl compounds	Md Mubarak Hossain*, Aslam C. Shaikh, Jules Moutet, Thomas L. Gianetti	The University of Arizona
28	Assembly of Complex Polycyclic Scaffolds by an Enantioselective Dearomatization Strategy	Kimberly A. Alley*, Jacob G. Robins, Ayaka Uehara, Jeffrey S. Johnson	University of North Carolina at Chapel Hill
29	Synthesis of Isobutylhydrazine in Flow	Sara Mason*, Grace Russell, Eric Rang, James Clark, Rob Walton, Jensen Verghese, Nick Desrosiers	Snapdragon Chemistry; Pfizer Process Chemistry
30	One Pot Synthesis and Synthetic Applications of Geminal Acyl-Alkoxy Tetrasubstituted Allenes	Garrett Toth-Williams*, Benjamin D. Bergstrom, Jeffrey W. Toman, Anna Lo, James C. Fettingner, Jared T. Shaw	University of California, Davis

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31	Synthesis and Evaluation of Potential LPS Antagonists	Saroj Kafle*, Kapur B. Dhami, Michael R. Nichols, Christopher D. Spilling	Department of Chemistry and Biochemistry, University of Missouri St. Louis
32	Photochemical methodology toward 2-azanorbornanes	Annika Tharp*, Anthony Allen, Prof. Corey Stephenson	University of Michigan
33	Carbon Centers Synthesized by Direct Substitution of Unfunctionalized Propargylic Alcohols with Boronic Acids/GaCl ₃ and Thermal 2+2 Cycloadditions From anti-Bredt Alkenes	Clayton P. Donald*, Amy Boylan, Truong N. Nguyen, Po-An Chen, Renan, V. Viesser, Judy I. Wu, and Jeremy A. May	University of Houston; Wilmington PharmTech; Pfizer; AnHorn Medicines Co., Taipei, Taiwan
34	Site-Selective C-H Functionalization by Photoinduced Pyridine N-oxide Based HAT Catalyst	Yongming Deng*, Ban Wang, Cristina Ascenzi Pettenuzzo, Jujhar Singh, Gavin E. McCabe, Logan Clark	Indiana University-Purdue University Indianapolis
35	ThioCORMates: Tunable and Cost-Effective Carbon Monoxide-Releasing Molecules	Katie DeSimone, Lyla Naqvi, Sarah Tasker*	Franklin and Marshall College
36	Exploring Uncharted Chemical Space: Access to Pharmaceutically Relevant Novel Bioisosteres	Jet Tsien*, Yangyang Yang, Jonathan M. E. Hughes, Byron. K. Peters, Rohan Merchant, and Tian Qin	University of Texas Southwestern Medical Center; Merck
37	Electrochemical Deconstructive Functionalization of Cycloalkanols via Alkoxy Radicals Enabled by Proton-Coupled Electron Transfer	Mishra Deepak Hareram, Albara A. M. A. El Gehani*, James Harnedy, Alex C. Seastram, Andrew C. Jones, Matthew Burns, Thomas Wirth, Duncan L. Browne, and Louis C. Morrill*	Cardiff University; AstraZeneca; University College London
38	Efforts Toward Intercepting the HexaDehydro Diels-Alder Reaction With Isonitriles	Forrest Wade*, Michael C. Slade	University of Evansville
39	Efforts Toward Developing a Novel Polymerization of Donor-Acceptor Cyclopropanes	Quentin Yoder, Michael C. Slade	University of Evansville
40	Oxidative Dearomatization Reactions toward Total Synthesis of KB343	Marian N Aziz, Delphine Gout, Carl J Lovely	University of Texas Arlington

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41	Decarbonylative Cross Coupling via Aryl Anhydrides	Bobby Wolessensky*, Brooke Dunnery, Frances Gu, Alexander Bunnell, Melanie Sanford	University of Michigan
42	Catalyst-Free Transfer Hydrogenation of Activated Alkenes Exploiting Isopropanol as the Sole Reductant	Agustin M. Rodriguez Treviño*, Tamal Kanti Das, Sanjay Pandiri, Sara M. Rodriguez, Muhammed Yousufuddin, László Kürti	Rice University; The University of North Texas at Dallas
43	Strategies to Reduce Pyridines to Piperidines in Complex Drug- Like Molecules	Celena Josephitis*, Andrew McNally	Colorado State University
44	Methods for Anodic Imination of Low-Valent Sulfur	Martin Klein*, Siegfried R. Waldvogel	Johannes Gutenberg University Mainz, Germany
45	Intramolecular, Visible Light- Mediated Aza Paternò-Büchi Reactions of Unactivated Alkenes	Stephen Chamness*, Dominique Blackmun, Corinna Schindler	University of Michigan, Ann Arbor
46	Dual Photoredox/Nickel- Promoted Alkylation of Heteroaryl Halides with Redox- Active Esters	Nicole Erin Behnke*, Zachary S. Sales, Minyan Li, Aaron T. Herrmann	Janssen Discovery Chemistry, Janssen Discovery Process Research, Treeline Biosciences
47	Intermolecular $[2\pi+2\sigma]$ - photocycloaddition enabled by triplet energy transfer	Roman Kleinmans, Tobias Pinkert, Subhabrata Dutta, Tiffany O. Paulisch, Hyeyun Keum, Constantin G. Daniliuc & Frank Glorius*	Westfälische Wilhelms-Universität Münster, Münster, Germany; Korea Advanced Institute of Science and Technology; Center for Catalytic Hydrocarbon Functionalizations, Institute for Basic Science, South Korea
48	In situ ortho- lithiation/functionalization of pentafluorosulfanyl arenes	Thanh V. Le*, Olafs Daugulis	University of Houston
49	Strong Base Mediated Intramolecular Cyclopropanation	Andrew Martinez*, Olafs Daugulis	University of Houston
50	Electrophilic Sulfur Reagent Design Enables Directed Catalytic Carbosulfenylation of Unactivated Alkenes	Ziqi Li*, Yilin Cao, Taeho Kang, Wenji He, Huiqi Ni, Keary M. Engle	Scripps Research

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51	Substituted Dihydropyridine Synthesis by Dearomatization of Pyridines	Arne Heusler*, Julian Fliege, Tobias Wagener, Frank Glorius	University of Münster
52	Csp ³ -H Etherification via Photoredox-Catalyzed Formal Hydride Abstraction	Nicholas Fitzpatrick*, Leila Zamani, Mrinmoy Das, Patricia Musacchio	Worcester Polytechnic Institute
53	In Situ Generation and Turnover of Zirconium Hydride Catalysts	Rebecca A. Kehner*, Matthew C. Hewitt, Liela Romero	Baylor University
54	Nickel-Catalyzed 1,2-Carboamination of Alkenyl Alcohols	Taeho Kang*, Nana Kim, Keary M. Engle	The Scripps Research Institute
55	Cooperative Iodine-Iodine Bonding in Isolable Iodanyl Radicals Enables Efficient Metal-Free C-N Bond-Forming Electrocatalysis	Brandon L. Frey*, Matthew T. Figgins, Gerard P. Van Trieste III, Raanan Carmieli, and David C. Powers	Texas A&M University; Weizmann Institute of Science, Rehovot, Israel
56	Overcoming the constraints of aromaticity in 1,3-dipolar cycloaddition	Shubhangi Aggarwal*, Alexander Vu, Valery V. Fokin	University of Southern California
57	1,2-Diamination of alkenes via cycloaddition with azides or azidium ions	Setareh Saryazdi, Robert B. Grossman*	University of Kentucky
58	Tandem chemoenzymatic catalysis enabled by aqueous micellar media	Vani Singhania*, Margery Cortes-Clerget, Bhornrawin Akkachairin, Jade Dussart-Gautheret, Julie Yu, Nnamdi Akporji, and Bruce H. Lipshutz	University of California, Santa Barbara; Chulabhorn Graduate Institute, Bangkok, Thailand
59	Oxidative alkene functionalization via photoredox generated 1,3-dicarbonyl radicals	Lucien C. Delgutte*, Kian M. Shamskhov, Jeffrey S. Cannon	Occidental College
60	O-Cyclopropyl Hydroxylamines: Convenient Reagents for the Synthesis of N-Heterocycles	Zachary Grimm*, Arghya Ghosh and Laszlo Kürti	Rice University
61	Boron enabled photosensitized [2+2] cycloadditions	Yanyao Liu*, Dongshun Ni, Bernard G. Stevenson, John R. Swierk, and M. Kevin Brown	Indiana University; Binghamton University
62	Cobalt-Nitrenoid Insertion-Induced Structural Diversity	Jeonghyo Lee, Bora Kang, Dongwook Kim, Sukbok Chang	Institute for Basic Science; Korea Advanced Institute of Science and Technology

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63	Isocyanate hydroboration by a carbodiphosphorane catalyst	Ben Janda*, Allegra Liberman-Martin	Chapman University
64	Accessing α -silyl- β -hydroxycycloalkanones and α -silylalkanals by [1,2]-carbon-to-carbon silyl migration	Emmanuel W. Maloba*, Luis M. Mori-Quiroz, Maria Del Rosario I. Amado-Sierra, Nagham Al Masraf and Robert E. Maleczka, Jr.	Michigan State University
65	Optimization and synthetic study toward thiazol-2-amine thioethers from thiols and 2-amino-5-bromothiazoles	Finn Reil*, Krissada Norseeda, Sheyanne Mendez, Charles J. Simmons, Dianqing Sun	University of Hawaii at Hilo, Hawaii
66	Peptide Stapling by Lewis Base-Brønsted Acid Catalyzed Sulfenylation of Tryptophan	Zachary E. Brown*, Joseph J. Hatton, Hanne H. Henriksen, Jeffrey L. Gustafson	San Diego State University
67	Formylation of gem-Diboronates in the Synthesis of Aldehydes: Efficient Homologation of Ketones to Aldehydes	Hannah N. Stuebe, Mary Margaret Warren, Larisa P. Pop, Ciara Dempsey, Khanh Tran, Alexander Burtea, Indrawan McAlpine, Ryan Patman, Sajiv K. Nair, Timothy B. Clark	University of San Diego; Pfizer
68	Ir Catalyzed C-H 1,2-Diborylation and 1,2,3-Triborylation of Arenes Through the Use of Pyrazine Based Ligands	Thomas J. Oleskey*, Chathurika R. K. Jayasundara, Milton R. Smith, III, Robert E. Maleczka, Jr.	Michigan State University
69	Synthesis of Functionalized Pyrrolines via Microwave-Promoted Iminyl Radical Cyclizations	Jatinder Singh*, Tanner Nelson, Sam Mansfield, Daniel Ess, Steven Castle	Brigham Young University
70	Chemoselective photochemical hydrogenation reactions	Souvik Adak*, Sarah E. Braley, M. Kevin Brown	Indiana University Bloomington
71	Enantioselective Nickel-Catalyzed Mizoroki-Heck Reactions of Amides	Daniel J. Nasrallah*, Ana S. Bulger*, Arismel Tena-Meza*, Neil K. Garg	University of California Los Angeles
72	Sulfamoyl Fluoride Functionalization of Temozolomide	Katerina Aris*, Min Kim*, Cade Novara, Nathan Friede, Dr. Ryan Cammarota and Prof. Nicholas D. Ball	Pomona College

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73	Photocatalytic Sulfonyl Fluorination of Organotrifluoroborates	Cooper A. Vincent*, Maria Irina Chiriac, Ludovic Troian-Gautier, Uttam K. Tambar	University of Texas Southwestern Medical Center; Discovery Chemistry, Merck & Co., Inc.; Université Catholique de Louvain
74	Live-cell RNA imaging with metabolically incorporated fluorescent nucleosides	Danyang Wang, Ana Shalamberidze*, A. Emilia Arguello, Byron W. Purse, Ralph E. Kleiner	Princeton University; San Diego State University, San Diego, California
75	Cycloaddition Cascades of Strained Alkynes and Oxadiazinones	Melissa Ramirez, Evan Darzi, Joyann Donaldson, Kendall N. Houk, Neil K. Garg	University of California, Los Angeles
76	Progress Toward the Total Synthesis of Dodecahedrane	Luca McDermott*, Jason V. Chari, Neil K. Garg	University of California, Los Angeles
77	Pd-Catalyzed Regiodivergent Annulations of Strained Cyclic Allenes	Dominick C. Witkowski*, Matthew S. McVeigh, Georgia M. Scherer*, Sarah M. Anthony, Neil K. Garg	University of California, Los Angeles
78	Progress Toward the Total Synthesis of (–)-Keramaphidin B	Milauni Mehta*, Jordan Gonzalez*, Logan Bachman, Neil K. Garg	University of California, Los Angeles
79	Intercepting Fleeting Cyclic Allenes with Transition Metal Catalysis	Andrew V. Kelleghan*, Michael M. Yamano, Qianzhen Shao, Maude Giroud, Bryan J. Simmons, Bo Li, Shuming Chen, Dominick C. Witkowski, Matthew S. McVeigh, K. N. Houk, and Neil K. Garg	University of California, Los Angeles
80	Heterocyclic Aryne Annulations as a Mode for Accessing Conjugated, Nitrogen-Containing Frameworks	Katie A. Spence,* Jason V. Chari, Robert B. Susick, and Neil K. Garg	University of California, Los Angeles
81	Synthesis of Azacyclic Allene Precursors and Their Application in Diels–Alder Cycloadditions	Laura G. Wonilowicz*, Nathan J. Adamson*, Francesca M. Ippoliti, Evan R. Darzi, Joyann S. Donaldson, Neil K. Garg	University of California, Los Angeles

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82	Electrochemical Functionalization of Polystyrene Aryl C-H Bonds as Sulfonium Salts	Maribel Clerk*, Nathan Romero	University of California San Diego
83	Nickel-Catalyzed Tandem Ueno- Stork Cyclization: Stereoselective 1,2- Dicarbofunctionalization of Cyclic Alkenes	Pedro de Andrade Horn*, Hunter Scott Sims, Mingji Dai	Purdue University
84	Chiral Hypervalent Iodine- Catalyzed Intermolecular Oxyamination of Alkenes	Akanksha Chhikara*	University of Toledo

Monday, June 27			
Poster #	Title	Authors (Presenting*)	Affiliation
1	Developing Atroposelective Nucleophilic Substitutions to Access Pharmaceutically Relevant N-Heterocyclic Scaffolds	Mariel M. Cardenas*, Mirza A. Saputra, Deane A. Gordon*, Jeffrey L. Gustafson	San Diego State University
2	Turn-on fluorescent acidic pH probes with a syn-bimane core	Joy Karmakar and Flavio Grynszpan*	Ariel University, Israel
3	New methods for amide arylation and alkylation	Robert Bradley, Jason Hibbard, Ana Bahamonde*	University of California Riverside
4	Pd-Catalyzed Oxidative Amination of Indoles	Shreeja Bhatt*, Ya-Nong Wang, Hoang Pham, Kami L. Hull.	University of Texas at Austin
5	Catalytic Enantioselective Halenium-ion Induced Spiroketalization Catalyzed by VANOL-derived imidodiphosphoramidate (VIP) Catalyst: A Journey of Structure-guided Catalyst Design	Ankush Chakraborty, Aliakbar Mohammadlou, Mitchell Maday, Xiaopeng Yin, Li Zheng, Gholami Hadi, Kumar Ashtekar, Richard Staples, William D. Wulff*, Babak Borhan*	Michigan State University
6	Degradation of Highly Reducing Organic Photocatalysts	Alexander R. Green*, Garret M. Miyake	Colorado State University
7	Selective N1/N4 1,4-cycloaddition of 1,2,4,5-tetrazines: Development, scope, and mechanism	Zixi Zhu, Dale L. Boger	The Scripps Research Institute
8	Let's Do The Twist: Helicene Based Lemniscates	Leah E. M. White*, Dr Fabienne Pradaux-Caggiano, Prof. Henry S. Rzepa, Prof. Christian Johannesen, Dr G. Dan Pantos, and Dr Dave R. Carbery	University of Bath; Imperial College London; University of Antwerp
9	Synthesis of Carbamoyl Protected Pyrroles from Modified Paal-Knorr Synthesis	Jodie Hann*, Dr Simon Lewis	University of Bath
10	Organocatalyzed Birch Reduction Driven By Visible Light	Simone Bernstein*, Garret Miyake	Colorado State University

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11	New quinolin-3-yl-N-hydrazinecarbothioamides in the synthesis of thiazoles and thiazines	Mohammed B. Alshammari*, Asmaa H. Mohamed, Ashraf A. Aly*, Md Afroz Bakht, and Essmat M. El-Sheref	Prince Sattam bin Abdulaziz University, Al-Kharij, Saudi Arabia; Minia University, El-Minia, Egypt
12	Enantioselective vinylogous-Mukaiyama-type dearomatisation by anion-binding catalysis	Leon Hoppmann*, Kirandeep Kaur, Jorge Humbrias-Martín, Jose A. Fernández-Salas, Constantin G. Daniliuc, José Alemán, Olga García Mancheño	University of Münster, Germany; Universidad Autónoma de Madrid, Spain
13	Easy access to drug building-blocks through benzylic C-H functionalization of phenolic ethers by photoredox catalysis	Tobias Brandhofer, Martin Stinglhamer*, Volker Derdau, María Méndez, Christoph Pöverlein, Olga García Mancheño	Westfälische-Wilhelms University Münster; Sanofi-Aventis Deutschland GmbH, R&D Integrated Drug Discovery, Industriepark Höchst, Frankfurt am Main
14	Asymmetric Vinylogous Michael Addition of 3-Cyano-4-methylcoumarin to N-Substituted Maleimide	Sanjay Singh*, Ravi Saini, Ravi P Singh	Indian Institute of Technology, New Delhi, India
15	Synthesis of 1- and 2-Azetines via Visible-Light-Mediated [2+2]-Cycloadditions	Emily R. Wearing*, Dominique E. Blackmun, Marc R. Becker, Corinna S. Schindler	University of Michigan
16	Detection of Synthetic Cannabinoid Receptor Agonists using Synthetic and Analytical Methods	Rachael C. Andrews*, Benedict May, Federico J. Hernández, Piers A. Townsend, Oliver B. Sutcliffe, Thomas S. Fincham-Haines, Tom P. Freeman, Jennifer Scott, Stephen M. Husbands, Ian S. Blagbrough, Richard W. Bowman, Simon E. Lewis, Matthew N. Grayson, Rachel Cre-spo-Otero, Dave Carbery and Christopher R. Pudney	University of Bath; Queen Mary University of London; Manchester Metropolitan University

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17	Universal Crosslinkers for On-Demand Upgrading of Polymer Properties	Jeremy E. Wulff*	University of Victoria
18	The Organic Chemistry Data Website	Khoi Van, Brian Myers*, Joe Ward, Andrew Freiburger	ACS Organic Division
19	Catalytic Decarbonylative (Fluoro)alkylation of Arenes via C-H Activation	Frances Gu,* Naish Laloo, Melanie Sanford	University of Michigan
20	Stereoselective Desymmetrizations of Dinitriles via a Pinner Reaction to Form Lactones	Joshua A. Frost*, Kimberly S. Petersen	The University of North Carolina at Greensboro
21	Heterogeneous catalysis: Cyclization method via self-assembled monolayers	Abigail Horchar*, Kimberly S. Petersen	The University of North Carolina at Greensboro
22	Controlling Rotational Isomerism in Simple Arylene Ethynylenes via π - π stacking	Nathan Bowling*, Chloe Gulbranson, Megan Rammer, Marcie Nelson	University of Wisconsin-Stevens Point
23	Visible-Light-Enabled Cycloaddition Reactions for the Synthesis and Applications of Strained Heterocycles	Katie A. Rykaczewski*, Marc R. Becker, Manasi J. Anantpur, Jesse J. Sabatini, Corinna S. Schindler	University of Michigan; U.S. Army Research Laboratory
24	Tools for Attenuating Reactivity of Glycosyltransferases	Coco Liu, Matthew Mahoney-White, Ian Mundy, Mary Payne, Anna Schroeder, Regan Szalay, Marisol Varela Ausec, Rada Zurich, Carrie Salmon, Sara E.S. Martin*	The College of Wooster, Ohio
25	Design and Synthesis of Carbonucleoside Inhibitors of PRMT5 for the Treatment of Cancer: A Desymmetrization Approach	Michelle Tran-Dubé*, Ryan L. Patman, Indrawan J. McAlpine, Louise Bernier, John Braganza, Kristen Jensen-Pergakes, Robert Kumpf, Karen Maegley, Michele McTigue, Eugene Rui, Neal Sach, Noah Spiegel, John Tatlock, Fen Wang, Zhenxiong Wang, Shinji Yamazaki, Martin J. Wythes	Pfizer Medicine Design, La Jolla

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26	Modification of Nitrogen Heterocycles by One Carbon Atom Deletion	George Logan Bartholomew*, Filippo Carpaneto, Richmond Sarpong	University of California, Berkeley
27	Synthesis of 7-substituted quinoline-2(1H)-ones from meta-substituted anilines.	Marisol Varela Ausec*, Mary Payne,* Carrie Salmon, Sara E.S. Martin	The College of Wooster, Ohio
28	Organocatalyzed Enantioselective Conjugate Addition in a Synthesis of 1) Chiral Cyclohexenones and 2) Acyclic all-carbon Quaternary Center	Po-Kai Peng, Jeremy May	University of Houston
29	Atypical Site-Selectivity in Palladium Catalyzed Cross-Couplings of Dichloroheteroarenes under Ligand-Controlled and Ligand Free Systems with Mechanistic Insight	Nathaniel Larson*, Jacob Norman, Emily Entz, Sharon Neufeldt	Montana State University
30	Acyclic Stereocontrol of 1,2 a-Chiral Alkoxy N-Tosyl Aldimines with Prochiral Nucleophilic Alkenes	David Gutierrez*, James Fettingner, K. N. Houk, Kaori Ando, and Jared T. Shaw	University of California Davis; University of California Los Angeles; Gifu University, Japan
31	Stereoselective Synthesis of the IDO Inhibitor Navoximod	Katarzyna A. Piechowicz*, Frédéric St-Jean, Rémy Angelaud, Diane E. Carrera, Travis Remarchuk, Haiyun Hou, Lauren E. Sirois, Jie Xu and Francis Gosselin, Stephan Bachmann, Katrin Niedermann, Hans Iding, Roland Meier, Martin Olbrich, Pankaj Rege, Maud Guillemot-Plass	Genentech; Roche Basel
32	Ugi-4CR/[3+2] cascades to triazolodiazepines	Celine D. Wang, Kelvin L. Lee*, Keo Z. Chui, David Vosburg	Harvey Mudd College
33	Electronically Activated Cycloalkynes for Strain-Promoted Click Cycloadditions	Namrata Khanal, Michael Holzmann, Brian Gold	University of New Mexico

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34	Asymmetric Synthesis of the tricyclic core in RORgt inhibitor (BMS-985251) through radical mediated heptafluorination and highly diastereoselective annulation reactions.	William P. Gallagher*, John R. Coombs, Carlos A. Guerrero, Eric M. Simmons, and Francisco Gonzalez-Bobes	Bristol Myers Squibb, Chemical and Process Development
34	Rhodium-Catalyzed Enantioselective Pauson-Khand Reaction of 1,6-Chloroenynes with 1,1-Disubstituted Olefins	Ridge Michael P. Ylagan*, Eric Jaewon Lee, Bohyun Park, Haram Ryu, Mu-Hyun Baik, P. Andrew Evans	Queen's University, Canada; Korea Advanced Institute of Science and Technology, Republic of Korea; Center for Catalytic Hydrocarbon Functionalizations; Institute for Basic Science, Republic of Korea
36	Regioselective and Stereospecific Allylic Cyanomethylation: Construction of Acyclic Beta-Quaternary Stereogenic Nitriles	Mai-Jan Tom*, P. Andrew Evans	Queen's University
37	Synthesis of Heterohelicenes and Heterophenacenes using Acetylene-Activated SNAr Reactions	Samuel M. Hoenig, Emily A. Dougherty, Lucas S. Gomez, Yusheng Hu, Christopher K. Lee, Sava Petovic, James Gilmore, Daeseong Hwang, Jack M. Crissy, James M. Mercado- Rodríguez, Jeffrey L. Katz*	Colby College
38	Divergent Stereochemical Outcomes in the C,ÄiH Insertion of Donor/Donor Carbenes into Stereogenic Centers and the Asymmetric Synthesis of Dihydrobenzoxanthenes	Sarah N. Dishman*, Croix J. Laconsay, Andy Hsieh, Christine A. Dimirjian, James C. Fettingier, Dean J. Tantillo, and Jared T. Shaw	University of California, Davis
39	Synthesis of enantioenriched tetrahydropyrimidinones via Ag-catalyzed intramolecular nitrene transfer	Emily E. Zerull*, Yun Hu, Jennifer M. Schomaker	University of Wisconsin Madison
40	Synthesis of 5,5'-bis-1,2,3-trizoles	Ronald Brisbois*, Caitlin Panos, Seb Sanchez	Macalester College

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41	Titanium Mediated Synthesis of Cyclobutanones	Michelle Nguyen*, Neha Momin, Sydney Seavey, Aimee Rodriguez, Michael R. Gesinski	Southwestern University
42	Acridine Radical Catalyzed Ketone-Olefin Coupling	Nicholas J. Venditto, Yiyang S. Liang*, Roukaya K. Elmokadem, David A. Nicewicz	University of North Carolina, Chapel Hill
43	Organocatalytic Stereoconvergent Reactions Enabled by Crystallization	William R. Cassels*, Pedro de Jesús Cruz, Chun-Hsing Chen, Jeffrey S. Johnson	University of North Carolina at Chapel Hill
44	Cyclic/Aromatic and Linear/Branched Hydrocarbons Separation with Tringlimine	Maryam Yaghmour*, Gegngwu Zhang, Basem Moosa, Nivine Khachab	King Abdullah University of Science and Technology
45	Gold(I)-Catalyzed Synthesis of Naphthoquinones and Isoquinolines	Nathaniel Blake*, Yasmin Sebastiany*, Chelsey Southwell*, Sean J. Calvert, Michael R. Gesinski	Southwestern University
46	Thiourea fused γ -amino alcohol organocatalyst for asymmetric Mannich reaction of β -ketoesters with imines	Miku Nomura*, Taro Imamaeda, Zubeda Begum, Chigusa Seki, Yuko Okuyama, Eunsang Kwon, Koji Uwai, Michio Tokiwa, Suguru Tokiwa, Mitsuhiro Takeshita, Hiroto Nakano	Muroran Institute of Technology; Tohoku Medical and Pharmaceutical University; Tokiwakai Group
47	Regioselective asymmetric allylic alkylation by merging Pd/Photoredox dual catalysis using silicon as a directing group	Smita Mandal*, Thomas N. Snaddon	Indiana University
48	Photo-Induced Synthesis of Piperidines and Pyrrolidines by Nitrogen-Centered Radicals	Jeewani P. Ariyaratna, Prabagar Baskaran*, Akanksha Chhikara, Navdeep Kaur, Alex M. Nguyen, Shashini Premithilaka, Michelle M. Huynh, and Wei Li	The University of Toledo
49	Rhodium Catalyzed Asymmetric Allylic Fluorination	Fuad O. Usman*, Achyut Gogoi, Osvaldo Gutierrez, & Hien M. Nguyen	Wayne State University; Texas A&M University
50	Traceless Amination via Bifunctional N-Aminopyridinium Intermediates	Pritam Roychowdhury, Roberto Herrera, Asim Maity, Hao Tan, David C Powers	Texas A&M University

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51	Progress Towards the Asymmetric Conjugate Addition of Carbon Nucleophiles to Vinyl Diazonium Ions	Avery Peck*, Isabelle Petrucci, Matthias Brewer	University of Vermont
52	Diastereoselective Radical Iminoacylation of Olefins through N-Heterocyclic Carbene Catalysis	Wen-Deng Liu, Woojin Lee*, Hanyu Shu, Chuyu Xiao, Xiangyang Chen, K. N. Houk, and Jiannan Zhao	University of California, Los Angeles; Dalian University of Technology
53	Synthesis Studies of Cyathane Diterpenoids	Nazanin Haddadpour, David R. Williams	Indiana University, Bloomington
54	Atroposelective Methodology for Developing Pharmaceutically Relevant Pyrazolopyrimides and Synthesis of RET Degraders	Mariami Basilaia*, Ronnesha Johnson*, Vivian Ferrell*	San Diego State University
55	Tricarbonyl(tropone)iron as a platform for the synthesis of bridged azapolycycles	Aaron Shoemaker, Zaki Phelan, Elizabeth Foker, Daniel Griffith*	Lafayette College
56	Catalytic Enantioselective Synthesis of Quaternary β -aryl δ -lactams: An Efficient Asymmetric Synthesis of (-)-Picenadol	Doohyun Baek*, Huijeong Ryu, Hyungwoo Hahm, Junseong Lee, and Sukwon Hong	Gwangju Institute of Science and Technology
57	Enantioselective desymmetrisation of prochiral four-membered rings towards cyclopentanones	Marius Tenberge*, Jan Sietmann, Johannes M. Wahl	Johannes Gutenberg-Universität Mainz, Germany; Westfälische Wilhelms-Universität, Germany
58	Dynamic kinetic resolution of transient hemiketals: a strategy for the desymmetrisation of prochiral oxetanols	Alexander Sandvoß*, Henning Maag, Constantin G. Daniliuc, Dieter Schollmeyer, Johannes M. Wahl	Westfälische Wilhelms-Universität, Germany; Johannes Gutenberg-Universität, Germany
59	Development of an Efficient Aminopyrazole Synthesis en Route to a Kilogram-Scale Preparation of the JAK1 Inhibitor GDC-4379	Andreas Stumpf, Johannes Burkhard*, Di Xu, Andreas Marx, David Lao, Miriam Ochsenbein, Rohit Ranjan, Remy Angelaud, Francis Gosselin	Department of Small Molecule Process Chemistry, Genentech, Inc., CA
60	Cyclic (amino)(barrelene) carbenes: Redesigning the cyclic (alkyl)(amino) carbene framework	Melinda R. Serrato, Mohand Melaimi and Guy Bertrand*	University of California San Diego

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61	The Crystalline Sponge Method: Enhancing the Technique for Small Molecule Structural Elucidation	Timothy R. Ramadhar*, Ashley D. Cardenal, Shao-Liang Zheng, Yu-Sheng Chen, Jon Clardy	Howard University; Harvard University; Argonne National Laboratory; Harvard Medical School
62	A Photoredox-Catalyzed Approach for Formal Hydride Abstraction to Enable Csp ³ -H Fluorination with Nucleophilic Fluoride	Yufei Zhang, Nicholas A. Fitzpatrick, Mrinmoy Das, Ishani P. Bedre, Patricia Z. Musacchio	Worcester Polytechnic Institute
63	Pyrrolidine synthesis through halogen bond induced nitrogen centered radicals	Ariyaratna, Jeewani; Baskaran, Prabagar; Chhikara, Akanksha; Kaur, Navdeep; Nguyen, Alex*; Premathilaka, Shashini; Huynh, Michelle; Li, Wei	University of Toledo
64	Applying a Medicinal Chemistry Approach to Energy Storage	Adam Pancoast, Shelby Galinat, Sara McCormack, Matthew Sigman	University of Utah; Joint Center for Energy Storage Research
65	A Seasonal Congener-Specific Survey for Polychlorinated Biphenyls in Sediments of South-Western Rivers, Nigeria: Occurrence, Sources and Ecotoxicological Risks	Abiodun Oyewunmi Apata*, Isaac Ayodele Ololade, Adenike Bosede Alabi, Oluwaranti Olubunmi. Ololade	Adekunle Ajasin University, Nigeria, PUGENT Sound Naval Shipyard, Washington
66	Catalytic Photochemical Enantioselective α -Alkylation with Pyridinium Salts	Santhivardhana R. Yetra, Nathan Schmitt*, Uttam K. Tambar	University of Texas Southwestern Medical Center
67	High-Level Data Fusion Enables the Chemoinformatically-Guided Discovery of Chiral Disulfonimide Catalysts for Atropselective Iodination of 2-Aminopyridines	Jacob C. Timmerman*, Brennan T. Rose, Seth A. Bawel, Steven Chin, Haiming Zhang, Scott E. Denmark	Genentech Inc.; University of Illinois Urbana-Champaign
68	Bifunctional phosphine ligands bearing oxygenated substituents and their Pd, Pt and Ni complexes	Elguja Gojiashvili*, Benjamin Fishler*, Douglas B Grotjahn	San Diego State University
69	Practical Asymmetric Synthesis of a Bicyclic Pyrrolidinol	Wenxing Guo, Tawfik Gharbaoui, Joseph Lizza, Yuanxian Wang, Fanfan Meng, Jing Li*, Cheng Yi Chen	Mirati Therapeutics, San Diego, California; PharmaBlock USA, Pennsylvania; PharmaBlock Sciencem, China

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70	Atroposelective Indole Ring expansion to afford stable quinolines	Ryan Zanolini, Jeffrey Gustafson	San Diego State University
71	Enantioselective and Site-selective Functionalization of Carbon-Hydrogen Bond	Xue Xu, Xin Cui	Mississippi State University
72	Ligand-enabled Pd-catalyzed desymmetrizing C(sp ³)-H activation of thioethers involving two distinct stereomodels	Nikita Chekshin*, Tyler G. Saint-Denis, Nelson Y. S. Lam, Paul F. Richardson, Jason S. Chen, Jeff Elleraas, Kevin D. Hesp, Daniel C. Schmitt, Yajing Lian, Chan Woo Huh, Jin-Quan Yu	The Scripps Research Institute, La Jolla, California; Pfizer Global Research and Development, San Diego, California
73	Enantioselective α -Allylation of Acyclic Esters Bearing Sulfur at the α -position	Eric Dobias, Sarah Wilder, Smita Mandal, Rush Scaggs, Zoë Punske	Indiana University Bloomington
74	Organic Chemistry: Amino Acid, Peptide, Linker and More	Crystal Lee and Yonggang Chen	ChemScene LLC
75	Electrochemical Fluorination of Vinyl Boronates through Donor Stabilized Vinyl Carbocation Intermediates	Benjamin Wigman*, Woojin Lee, Wenjing Wei, K. N. Houk, Hosea Nelson	University of California, Los Angeles
76	The First Total Synthesis of Havellockate	Melinda Chan*, Nicholas Hafeman, Tyler J. Fulton, Eric J. Alexy, Steven A. Loskot and Brian M. Stoltz	California Institute of Technology
77	Nitrile to terminal vinyl transformation at halo substituted pyrazolyl N site for novel DGAT2 inhibitors	Harshit Arora*, Krupal P. Jethava, Gaurav Chopra	Purdue University
78	Synthesis and Stereochemical Determination of Novo29, a New Peptide Antibiotic	Maj Krumberger*, Xingyue Li, Adam G. Kreutzer, Aaron J. Peoples, Anthony G. Nitti, Andrew M. Cunningham, Chelsea R. Jones ¹ , Dallas E. Hughes ³ , James S. Nowick ^{1,2}	University of California, Irvine; NovoBiotic Pharmaceuticals
79	Divergent Catalysis: Mechanism-Directed Reaction Development	Kaylin Flesch*, Alexander Cusumano, Ruby Chen, Christian Strong, Emily Du, Brian Stoltz	California Institute of Technology
80	Adesis chemistry capabilities	Zhenzhen Dong	Adesis Inc

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81	Synthetic and Biological Studies of Carbasugar SGLT2 Inhibitors	Wai-Lung Billy Ng*, V.K.-M. Lau, J.Y.-W. Chan, C.B.-S. Lau, S.L. Buchwald, and T.K.M. Shing	The Chinese University of Hong Kong, Hong Kong; Massachusetts Institute of Technology
82	Enantiospecific Heteroatom-Tethered 1,6-Enyne Cycloisomerizations and Their Utilization in Natural Product Total Synthesis	Haofan Ji*, Phil C. Knutson, Eric M. Ferreira	University of Georgia
83	Bridge Heteroarylation of Bicyclo[1.1.1]pentane Derivatives via Photochemical Minisci Reaction	Joseph M. Anderson*, Darren L. Poole, Nicholas D. Measom, John A. Murphy	GlaxoSmithKline (Medicinal Chemistry); University of Strathclyde, Glasgow

Tuesday, June 28			
Poster #	Title	Authors (Presenting*)	Affiliation
1	The antimycobacterial, cytotoxic and hepatoprotective effects of some Menispermaceae species	R.T. Akande*, S. Nkadimeng1, L.J. McGaw	University of Pretoria, South Africa
2	Selective Synthesis of Novel PAC1R Small Molecule Antagonists	Rebecca Bogart*, Jianing Li, Sayamwong Hammack, Victor May, Matthias Brewer	University of Vermont
3	Copolymerization of Ethylene and Polar Monomers by Transition Metal Catalysts	Zeinab Saki*, Claudio Pelleccia	University of Salerno, Italy
4	Efficient Non-doped Deep Red Material for Solution-processed Organic Light-emitting Diodes Based on Hot Excitons Process	Patteera Funchien*, Nuttapon Chantanop, Taweesak Sudyoasuk and Vinich Promarak	Vidyasirimedhi Institute of Science and Technology, Thailand
5	Mechanistic Investigation of Cu-Catalyzed Three-Component Carboamination of Alkenes	Byung Joo Lee, Tam D. Ho*, Travis L. Buchanan	University of Texas at Austin; University of Illinois at Urbana Champaign
6	Highly efficient deep-blue organic light-emitting diodes based on anthracene and chrysene cores with CIEy ≤ 0.06	Ruttapol Malatong*, Taweesak Sudyoasuk, Vinich Promarak	Vidyasirimedhi Institute of Science and Technology, Thailand
7	The effect of size of oligocarbazole-end capping on non-doped solution processed OLED device	Pattarawadee Therdkatanyuphong*, Taweesak Sudyoasuk, Vinich Promarak	Vidyasirimedhi Institute of Science and Technology, Thailand
8	Metal- and additive-free C-H oxygenation of alkylarenes by visible-light photoredox catalysis	Jan Hendrik Kuhlmann*, Mustafa Uygur, Maria del Carmen Pérez-Aguilar	Westfälische Wilhelms University Muenster
9	Metal Coordination in the Efficient Assembly of Molecular Turnstiles and Switches	Noah Grinde*, Nathan Bowling	University of Wisconsin-Stevens Point
10	Isolation and Structural Diversification of Novel Metabolite for Further Insight into Rare Biocatalytic Cope Rearrangement and Synthesis of Indole Alkaloid Natural Products	Nikki R. Keramati *, Robert M. Hohlman, David H. Sherman	University of Michigan
11	Homemade chitosan synthesis and three biological applications	Laura Solórzano*, Mayra Tichabaj, Alejandro Reyes	Universidad de San Carlos de Guatemala

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12	Chemistry Problem Solving through Continuous Reactor Design	Michaella Caporello*, David Ford, Adrian Amador	Snapdragon Chemistry, Inc
13	Sialic acid as target saccharide for metabolic glycoengineering	Juergen Mu*, Sabine Reising, Stephan Altmann, Prof. Dr. Regina Ebert, Prof. Dr. Juergen Seibel	Institute of Organic Chemistry, Julius-Maximilians-University Würzburg, Germany
14	Tandem Borylation/Radio-fluorination of Aryl-X	Taylor E. Spiller*, Karsten Donabauer, Allen Brooks, Jason Witek, Peter J. Scott, Melanie S. Sanford	University of Michigan
15	Humidity Resistant and Mechanically Enhanced Graphene Oxide (GO)/Poly(ionic liquid) (PIL) Composite Films	Jian Chang*, Miao Zhang, Qiang Zhao, Liangti Qu, Jiayin Yuan	Stockholm University, Sweden; Huazhong University of Science and Technology, Wuhan, China; Tsinghua University, Beijing, China
16	Efforts to Minimize Epimerization in Liquid Phase Coupling of Peptide Fragments	Neil J. Kallman,* Andrew G. Feng, Michael O. Frederick, Jennifer McClary Groh, Stephen R. Groskreutz, Richard D. Miller, Vineeta Rustagi, Fareed Bhasha Sayyed	Eli Lilly and Company; University of Illinois Urbana-Champaign
17	Development of Selective Amination Strategies to Access a Highly Substituted Aminobromopyridine	Jeff Shen*, Nicholas A. White, Lauren E. Sirois, Haiming Zhang, Qingping Tian, and Francis Gosselin	Genentech
18	A Search for Novel, Crystalline Nicotine Salts and Cocrystals	Gary M. Dull*, Andrew Carr, and Emma Sharp	RAI Services Company, Winston-Salem, NC; Charles River Laboratories, Essex, UK; Johnson Matthey Pharmorphix, Cambridge, UK
19	Aromatic Donor-acceptor Interaction Based Organocatalyst Assembly for Asymmetric Aldol Reactions	Yu Liu*, Garrett Meso, David Gregorich, Sam Smith, Derek Baluyut, Natalia Correa, Jacob Cortez, Ender Harris	Northern Michigan University
20	Pfizer's Adoption of Green Chemistry Principles in API Research & Development	Rebecca Watson, Philipp Roosen	Pfizer Process Chemistry

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21	Ubiquinone-2 Adopts a Folded, U-Shaped Conformation in the Respiratory Complex	Kateryna Kostenkova*, Margaret Braasch-Turi, Jordan T. Koehn, Jacob Ives, Heide Murakami, Dean Crick, Debbie C. Crans	Colorado State University, Fort Collins, CO
22	Synthesis and Evaluation of Silyl Amphiphilic Lactones as Mimics of Bacterial Cell-to-Cell Signals	Linnea S. Dolph*, Emma Santa, Kelsey M. Mesa, Dr. Helen Blackwell, Dr. Annaliese Franz	University of California, Davis; University of Wisconsin, Madison
23	Click-and-release using S-, N-, O-containing heterocyclic cyclooctynes for bioorthogonal labeling.	Yun Hu*, Ken Lee, Rachel Spiegelhoff, Jennifer Schomaker	University of Wisconsin-Madison
24	Facile amide bond formation with TCFH-NMI in an organic laboratory course	Gregory L. Beutner, David A. Vosburg*	Bristol Myers Squibb; Harvey Mudd College
25	Multicomponent synthesis of lidocaine in an organic laboratory course	Michelle Lee, Nathan J. Vosburg, David A. Vosburg*	Harvey Mudd College
26	Investigation of Bis-cationic Quaternary Phosphonium Compounds (QPCs) as Soft Antimicrobial Agents	Samantha Braytona*, Zachary Toles, Laura Thierer, William M. Wuest and Kevin P.C. Minbiole	Villanova University
27	Bioorthogonal Labeling of Sterols to Profile Plant and Microbial Glycolipids	Matthew Orellana*, Jacquelyn Gervay-Hague	University of California, Davis
28	Synthesis and pharmacological evaluation of N-substituted 6,7-benzomorphans	Madhurima Das*, Agnieszka Sulima, Thomas E Prinszano, Dan Luo, Arthur Jacobson, Kenner C Rice	National Institutes of Health; University of Kentucky
29	Design and Synthesis of New Modulators for the Downregulation of Nuclear Receptor Liver Receptor Homolog-1	Michael L. Cato, Jeffery L. Cornelison, Nathan T. Jui, Eric A. Ortlund	Emory University
30	Utilizing Conformational Control to Obtain Selective Kinase Inhibitors	Bahar S. Heydari, Beeta S. Heydari, Sean T. Toenjes, Jeffrey L. Gustafson	San Diego State University; Stanford University
31	Nitro-Directed Ortho C-H Borylation of Arenes	Olamide O. Idowu,* Max E. Balderas, Chris Mauhay, Raphael S. Kim, Timothy B. Clark, Donald A. Watson	University of Delaware; University of San Diego

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32	Synthesis of Diastereomeric C9-Alkyl 5-Phenylmorphane Agonists and Antagonists	Dana R. Chambers*, Eugene S. Gutman, Joshua A. Lutz, Agnieszka Sulima, Dan Lao, Tomas E. Prisinzano, Carol A. Paronis, Jack Bergman, Dana E. Selley, S. Stevens Negus, Arthur E. Jacobson, Kenner C. Rice	NIDA, National Institutes of Health; University of Kentucky; Harvard University; Virginia Commonwealth University
33	Synthesis of C9 Hydroxyalkyl 5-Phenylmorphane Derivatives as Selective Potent Partial MOR Agonists	Joshua A. Lutz*, Eric Bow, Eugene S. Gutman, Agnieszka Sulima, Dan Luo, Thomas E. Prisinzano, Arthur E. Jacobson, Kenner C. Rice	National Institute on Drug Abuse (NIDA); University of Kentucky
34	Systematic design of heteroarylpyridinium electrolytes containing cationic N-substituents for nonaqueous organic redox flow batteries	Jin Hyeok Jang*, Seongmo Ahn, Jisu Kim, Hye Ryung Byon, Jung Min Joo	Pusan National University; Korea Advanced Institute of Science and Technology (KAIST) Republic of Korea
35	Computational Investigation on origin of intramolecular macrocyclization chemoselectivity and product stereoselectivity in "CyClick" reaction to form cyclic peptides	Huiling Shao*, Victor Adebomi, Monika Raj, Kendall Houk	University of California Los Angeles; Emory University
36	Epoxomicin Regulates TLR Signaling Pathways	Hyung-Sun Youn*, Seokwon Shin, Ye Eun Lee, Hanbin Ko, So Yeon Lee	SoonChunHyang University, Republic of Korea
37	Substrate-selective catalysis for azaphilone synthesis	Katherine J. Torma*, Ye Wang, Joshua B. Pyser, and Alison R. H. Narayan	University of Michigan, Ann Arbor
38	Synthesis of Rapidly Dissoluble and Stable Quinone Mediators as Electrochemical Sensors	Woohyeong Lee*, Ponnusamy Nandhakumar, Haesik Yang, Jung Min Joo	Pusan National University
39	Abrocitinib (JAK1, PF-04965842) Commercial Route Development	Christina G. Connor*, Nga M. Do, Jacob DeForest, Brian Jones, Emma McInturff, Rajesh Kumar, Chris McWilliams	Pfizer Process Chemistry, Groton, CT
40	Acyl-Homoserine Lactone Analogs as Potential Inhibitors of Quorum Sensing	Adrian Blancas*, Laura C. Miller Conrad	San Jose State University

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41	Stereoselective Synthesis of Deoxycholic Acid Derivatives for Chiral Recognition	Robert C. Till*, Michael R. Krout, Sophie Kong, Timothy G. Strein, David S. Rovnyak	Bucknell University
42	Computational elucidation of selective template-assisted C-H activation of quinoline	Xiangyang Chen*, Zhoulong Fan, Jonathan Wong, Jin-Quan Yu, and K. N. Houk	University of California Los Angeles; The Scripps Research Institute
43	Development of CD47 mimetic peptides for the inhibition of phagocytosis & Far-Red Light Triggered Photocatalytic Bioorthogonal Chemistry for Intracellular Uncaging	Yixin Xie*, Xiaoyi Wang, Julia Rosenberger, Joel Schneider, Joseph Fox	National Cancer Institute; University of Delaware
44	Kinetic Analysis of Asymmetric Chlorofunctionalization	Jiaojiao Wang*, Aritra Sarkar, Daniel Steigerwald, Daniel Holmes, Li Xie, James E. Jackson, Babak Borhan.	Michigan State University
45	Calculation Investigation of the Enzyme Catalysed Construction of Chiral Amides	Pengcheng Ma, Arkajyoti Sengupta, Ledong Zhu, Kendall N. Houk*	University of California, Los Angeles
46	N-Capped Tripeptides as Potential Medicinal Agents	Hunain Ali*, Almas Jabeen, Asmat Salim, Rukesh Maharjan, Irfan Khan, Salma Nazir I Hibba Warraich, Rida-e-Maria Qazi, Hamza Olleik, Marc Maresca and Farzana Shaheen	University of Karachi, Pakistan; Aix Marseille Univ., France; American University of Beirut, Lebanon
47	Assessment on Analysis of Water Pollution by Phosphate	Dr akeem Abayomi, Prof. Asekun Olayinka, Dr Adebayo Akinbulu	University of Lagos
48	Synthesis of disubstituted bicyclo[2.1.1]hexane building block.	Shashwati Paul*, Daniel Adelfinsky, M. Kevin Brown	Indiana University, Bloomington
49	[2]-Ladderane Building Blocks as Meta-Substituted Aromatic Ring Isosteres and Rigidified Cyclohexanes	Rachel Epplin* Shashwati Paul, Loic Herter, Christophe Salome, Erin Hancock, Jay F. Larrow, Erich W. Baum, David Dunstan, Thomas Fessard, and M. Kevin Brown	Indiana University; SpiroChem, Switzerland; Novartis Institutes for BioMedical Research, Cambridge
50	Properties of Sulfonyl Fluorides Under Electroreductive Conditions	Nathan C. Friede, Madison Hesse, Avishka Silva, Nicholas Ball	Pomona College

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51	1st and 2nd Process Routes to Head Part of Fungicide Adavelt Active	Nakyeon Choy*, Kenneth E. Stockman, Nicholas R. Babij, James M. Renga, Gregory T. Whiteker	Corteva Agriscience
52	Three-step Synthesis of Iso-bile Acids	Yongxin (Connie) Chen, Michael Krout	Bucknell University
53	Chiral Phosphoric Acid Catalyzed Conversion of Epoxides into Thiiranes: Mechanism, Stereochemical Model, and New Catalyst Design	Meng Duan*, Christian David Díaz-Oviedo, Yang Zhou, Xiangyang Chen, Peiyuan Yu, Benjamin List, Kendall N. Houk, and Yu Lan	Zhengzhou University, China; University of California, Los Angeles; Max-Planck-Institut für Kohlenforschung, Germany; Southern University of Science and Technology, China
54	Development of heparin sulfate mimetics as heparanase inhibitors	Joseph Wakpal*, Ravi S. Loka, Hien M. Nguyen	Wayne State University
55	Rational Design of D- π -A Architectures towards Zeptomolar Cu(I)-Selective Fluorescent Probe	Jiyao Yu*, M. Thomas Morgan, Christoph Fahrni	Georgia Institute of Technology
56	Development of an RyR2 Selective Inhibitor	Madelaine P. Thorpe* & Jeffrey N. Johnston	Vanderbilt University
57	Self-Immolative DNA-Alkylating Agents with a Tunable “Off-Switch”	Samuel A. Jacobo*, Herman Nikolayevskiy	University of San Francisco
58	Synthesis of Sodium, Potassium-ATPase Inhibitors for Migraine Studies	Veronica B. Hubble*, Isabel de la Torre Roehl, Andrea Rogando, Chenchen Xia, Xianghong Arakaki, Alfred N. Fonteh, Brian M. Stoltz	California Institute of Technology; Huntington Medical Research Institutes, California
59	Development of Small Molecule Ligands for RNA	Ahlan M. Armaly*, Keli Li, Meredith J. Zeller, Oleg Favorov, Ashok Nuthanakantid, Dina Hussein, Auréliane Michaud, Daniel A. Lafontaine, Steven Busan, Alexander Serganov, Kevin M. Weeks, Jeffrey Aubé	University of North Carolina at Chapel Hill; New York University School of Medicine; University of Sherbrooke

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60	Vibrational fine structure in the spectra of a fluorescent nucleobase analogue as a probe for base pairing and stacking	Dana B. Rosansky*, Kristine L. Teppang, Raymond W. Lee, Dillon D. Burns, M. Benjamin Turner, Melissa E. Lokensgard, Andrew L. Cooksy, and Byron W. Purse	San Diego State University
61	Single crystal growth mediated by host-guest interactions	Mikayla L. Horvath, Robert D. Pike, Brian J. Smith, Hasan Arslan*	Bucknell University
62	Progress Towards Vicinal Frustrated Lewis Pair Polymers	Emily Latif*, Virginia Williams, Nathan Romero	University of California, San Diego
63	Discovery of Antibiotic Natural Products to Treat Citrus Greening Disease	Andrew K. Kamemoto*, Amanda G. Koontz*, Katherine N. Maloney	Point Loma Nazarene University
64	Online UHPLC as PAT for Continuous Process Development and Manufacturing	Max Hecht*, Doug Fraser*, Grace Russell	Snapdragon Chemistry
65	Optimization of Orally Bioavailable Inhibitors of Defective in Cullin Neddylation 1	Leah Kovalic*, Tucker Moseley*, Ho Shin Kim, Jared T. Hammill, Daniel C. Scott, Kristen Begley, Bhuvanesh Singh, Brenda A. Schulman, R. Kiplin Guy	University of Kentucky, Lexington; St. Jude Children's Research Hospital, Memphis, Tennessee; Memorial Sloan Kettering Cancer Center; Max Planck Institute of Biochemistry, Martinsried, Germany
66	Beta-testing of a new green amide synthesis project-based lab for MSU's large enrollment undergraduate organic chemistry laboratory	Mengqi Zhang, Robert E. Maleczka, Jr.*	Department of Chemistry, Michigan State University
67	Optimization of Orally Bioavailable Inhibitors of Defective in Cullin Neddylation	Leah Kovalic*, Tucker Moseley*, Ho Shin Kim, Jared T. Hammill, Daniel C. Scott, Kristen Begley, Bhuvanesh Singh, Brenda A. Schulman, R. Kiplin Guy	University of Kentucky, Lexington; St. Jude Children's Research Hospital, Tennessee; Memorial Sloan Kettering Cancer Center; Max Planck Institute of Biochemistry, Martinsried, Germany

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68	Applying Data Science Tools to Predict Outcomes in Sulfur-Fluoride Exchange Reactions	Theo Yassa*, Ryan Cammarota, Nicholas Ball	Pomona College
69	From Tryptophan to Toxin: Nature's Convergent Biosynthetic Strategy to Aetokthonotoxin	Sanjoy Adak*, April L. Lukowski, Rebecca J. B. Schaefer, Bradley S. Moore	Scripps Institution of Oceanography
70	Biosynthesis of algal chlorosulfolipids	Rebecca J. B. Schaefer*, Bradley S. Moore	Scripps Institution of Oceanography
71	The Biosynthetic Origin of Octocoral Terpenoids	Immo Burkhardt*, Tristan de Rond, Percival Yang-Ting Chen, Bradley S. Moore	Scripps Institution of Oceanography - University of California San Diego; Skaggs School of Pharmacy - University of California San Diego
72	Enzyme Evolution and Immobilization Engineering for Continuous Flow Biocatalysis	Xuecheng Jiao, Na Zhang, Xuewu Dong, Vyasa Williams, Yuxia Cui, Yulei Ma and Yi Hsiao	Asymchem
73	An Expedient Synthesis of Tropane Alkaloids Through a Vinyl-Aziridine Rearrangement	Winston L. Chow*, Monica A. Gonzalez, Phillip W. Gingrich, Amy Cheung, Elya M. Kandahari, Dean J. Tantillo, and David E. Olson	University of California Davis
74	Unified strategy for the Synthesis of Bipolamine Alkaloids	Paulo Machicao*, Jun Xuan, Karl Haelsig	University of California Berkeley
75	Design and Synthesis of a New Chiral Dirhodium Catalyst, and Total Synthesis of Brazilide A	Hossein Barzegar*, Jiun-Le Shih, Davis Plasko and Jeremy A. May	University of Houston
76	Trifluoromethylsulfonylation of Sterically Bulky Palladium Complexes for Synthesis of Fluorocarbon Compounds	Joshua Thedford, Melanie Sanford	University of Michigan
77	Development of a Scalable Route for the Synthesis of KRAS Inhibitor ARS-1620	Zachary Sales*, Neelakandha Mani, Brett Allison, and Jimmy Liang	Janssen Pharmaceutical R&D
78	Ruthenium water oxidation catalysts with hybrid active site	Jake T. Kerkhof*, Colton J. Breyer, Greg Elliott, Milan Gembicky, Diane K. Smith, Douglas B. Grotjahn	San Diego State University and University of California San Diego

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79	Accelerated Reactivity Mechanism and Interpretable Machine Learning Model of N-sulfonylimines Towards Fast Multicomponent Reactions	Krupal P. Jethava*, Jonathan Fine, Yingqi Chen, Ahad Hossain, and Gaurav Chopra	Purdue University
80	Preparation of Functionalized Alkenyl Trifluoroborate Compounds via Hydroboration of Terminal Alkynes and Applications to Cross-Coupling Reactions	Stephanie Pinedo*, Khawlah Alanqari, Tawny Anderson, Dr. Gregory Elliot, and Dr. Thomas Cole	San Diego State University
81	A Nucleophilic Deprotection of Carbamate Mediated by 2-Mercaptoethanol and Application to the production of Adagrasib	Thomas Scattolin*, Tawfik Gharbaoui, Cheng-yi Chen	Mirati Therapeutics, Inc.
82	The Complete Mechanism of an Aldol Condensation in Water	Charles L Perrin*, Jiwoo Kim	Universtiy of California, San Diego
83	Lead-Halide Perovskites for Photocatalytic Organic Transformations	Jovan San Martin, Yixiong Lin, Nhu Dang, Ramon Martinez, Yong Yan*	San Diego State University
84	Synthesis of the DEAtC ribonucleoside for fluorescence turn-on detection of base pairing in RNA	Jacqueline D. Johnson *, Ana Shalamberdize, Esteban Mora, Byron W. Purse	San Diego State University

Wednesday, June 29			
Poster #	Title	Authors (Presenting*)	Affiliation
1	Bidirectional Total Synthesis of Phainanoid A via Strategic Use of Ketones	Jiaxin Xie*, Xin Liu, Nan Zhang, Shinyoung Choi, Guangbin Dong	University of Chicago
2	Synthesis of Ambuic Acid Analogues	Abraham Ustoyev*, Philip M. West, Mitchell P. Croatt	University of North Carolina, Greensboro
3	Oxidative Three-Component Carboamination of Vinylarenes with Alkylboronic Acids	Samuel N. Gockel, SangHyun Lee*, Brittany L. Gay	University of Illinois at Urbana Champaign; The University of Texas at Austin
4	Polarity-Reversal Strategy for Functionalization of Strained Molecules	Michał Ociepa, Aleksandra J. Wierzba, Aleksandra Potrzęsaj, Joanna Turkowska, Dorota Gryko	Institute of Organic Chemistry Polish Academy of Sciences
5	Biomimetic Total Synthesis of Enterocin	Lilla Koser*, Vivian Miles Lechner, Thorsten Bach	Technical University of Munich
6	Concise Total Synthesis of Agarozizanol B via a Strained Photocascade Intermediate	Niklas Rauscher*, Dr. Line Næsborg, Dr. Christian Jandl, Prof. Dr. Thorsten Bach	Technical University of Munich
7	copolymerization of ethylene and polar monomers by late transition metals	Zeina Saki, Claudio Pellecchia	University of Salerno, Italy
8	Palladium-Catalyzed C-N Bond Forming Alkene Difunctionalization of Alkenyl Triflates to Form Methylene Cyclobutanes	Jessica Hatt*, James Shepich, Evan C. Bornowski, John P. Wolfe	University of Michigan
9	Progress towards the total synthesis of nogalamycin and other anthracycline glycosides	Hillary J. Dequina*, Logan E. Vine, Joseph Robey, Prof. Jennifer M. Schomaker	University of Wisconsin-Madison
10	Nickel-Catalyzed Heteroaromatic C-H Alkylation via Ligand-to-Ligand Hydrogen Transfer (LLHT)	Mo Chen*, John Montgomery	University of Michigan
11	Symmetry Driven Total Synthesis of Myrioneurinol	Jake Aquilina*, Myles Smith	UT Southwestern Medical Center

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12	Suzuki-Miyaura cross-couplings at low palladium loadings	Maria T. Morales Colon*, Douglas C. Bland, Melanie S. Sanford	University of Michigan; Process Sciences & Technology, Corteva Agriscience
13	Development of selective nickel-catalyzed Suzuki-Miyaura cross-coupling reactions of aminopyralid derivatives	Geraldo Duran-Camacho*, Douglas C. Bland, Melanie S. Sanford	University of Michigan; Process Sciences & Technology, Corteva Agriscience
14	From Mechanistic Study to Electrocatalyst Design Developing PINO-derived HAT catalyst for lignin oxidation	Cheng Yang,* Luke A. Farmer, Sahil Arora, Elvis M. McFee, Derek A. Pratt, Stephen Maldonado, and Corey R. J. Stephenson	University of Michigan; University of Ottawa
15	Ruthenium-Catalyzed Upgrading of Feedstock Alcohols	Alex M. Davies* Zhong-Yuan Li, Kara H. Greene, Corey R. J. Stephenson, Nathaniel K. Szymczak	University of Michigan
16	Studies of the electrostatic effects of anionic groups near a catalyst active site	Nilay Kanova*, Colton J. Breyer, Diane K. Smith, Douglas B. Grotjahn	San Diego State University
17	Leveraging persistent radicals in the formation of high order resveratrol oligomers	Bec Roldan*, Corey Stephenson	University of Michigan
18	Palladium-Catalyzed Alkene Difunctionalization Reactions Involving Nitriles	Alma Perez, Evan Bornowski, Chen Lei, John P. Wolfe	University of Michigan
19	Ruthenium-Catalyzed Small Molecule Functionalization with Feedstock Alcohols	Kara H. Greene*, Alex M. Davies, Corey R. J. Stephenson, Nathaniel K. Szymczak	University of Michigan
20	Development of a Shapeshifting Platform for the Total Synthesis of Complex Molecules	Andre Sanchez*, Thomas J. Maimone	University of California-Berkeley
21	Chemical Development of Adagrasib (MRTX-849), a Novel KRASG12C Inhibitor	Thomas Scattolin, Yonghong Gan, David Snead, Michal Achmatowicz, Tawfik Gharbaoui, Duane Rudisill, Zhichao Lu, Chengsheng Chen*, and Cheng Yi Chen	Mirati Therapeutics, Inc.

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22	Chemoselectivity of Ligand-Free Pd-Catalyzed Suzuki-Miyaura Cross-Coupling	Grace Ibsen*, James Pettigrew, Sharon Neufeldt	Montana State University
23	A Click Chemistry Approach to N-Heterocycles	Andre Isaacs*, Matthew Floyd, Josie Ascione, Kathleen Segal, David Schneider	College of the Holy Cross
24	Total Synthesis of an All-1,2-cis-Linked Repeating Unit from the <i>Acinetobacter baumannii</i> D78 Capsular Polysaccharide	Dancan K. Njeri* and Justin R. Ragains	Louisiana State University
25	Unsaturated beta-beta disubstituted carbonyl synthesis via Negishi reaction	Seoyeon Kim*, Cameron Berlin, Prof Michael Krout	Bucknell University; University of Pennsylvania
26	Counterion Effects on Calcium-Based Lewis Acid Catalysis	Leah Zahn*, Dr. O. Maduka Ogba	Chapman University
27	Cobalt boride-mediated conversion of nitriles to alcohols	Jason J. Pflueger*, Kara N. Skorge, Benjamin French, Jada Anglin, Jack Raker, Michael DeBrot	Rose-Hulman Institute of Technology
28	Stereocontrol Tactics for 1,3- and 1,5-Polyols in an Approach to Bastimolide A	Lucas W. Howell*, Gregory K. Friestad	University of Iowa
29	Merging Chemical Catalysis with Bioactive Natural Product Synthesis- A Case Study in the Total Synthesis of a Prostaglandin D2 Metabolite	Hunter S. Sims*, Pedro de Andrade Horn, Ryota Isshiki, Melissa Lim, Yan Xu, Robert H. Grubbs, Mingji Dai	Purdue University; Waseda University; California Institute of Technology
30	Isolating High-Valent Ni Intermediates in 8-aminoquinoline Directed C-H Activation	Emily Nolan*, Melanie Sanford	University of Michigan
31	Gold(I)-Catalyzed Synthesis of 1H-Isochromenes	Julianna M. Mouat, Zachary A. Grimm, Dakota D. Butler, Caitlin R. Lacker, Michael R. Gesinski	Southwestern University
32	Mechanistic Insights and Redesign of Calcium Mediated Sulfur Fluoride Exchange to instigate Catalysis	Samuel Khasnavis*, Nicholas Ball, Maduka Ogba, Brian Han, Matthew Nwerem, Michael Bertagna	Pomona College; Chapman University
33	A concise total synthesis of perhydrohistrionicotoxin	Young-Do Kwon*, Ana V. Serna, Nicole Behnke, Juha H. Siitonen, Laszlo Kurti	Rice University; Aalto University

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34	Atroposelective Total Synthesis of Darobactin A	You-Chen Lin, Fabian Schneider, Kelly J. Eberle*, Debora Chiodi, Hugh Nakamura, Solomon H. Reisberg, Jason Chen, Masato Saito, and Phil S. Baran	Scripps Research
35	Organic Chemistry Experiences During the Lockdown in Guatemala	Adrian Camilo García Flores*	Universidad de San Carlos de Guatemala
36	Synthesis of Pyridine-pyridone α -Helix Mimics Enabled by Pyridine-directed Selective C-H Activations	Dong Xiao,* Zhiguo J. Song, Zhiyan Song	Merck & Co., Inc. and Pharmaron Beijing Co., Ltd.
37	Homemade experiments as alternative laboratory practices for basic organic chemistry.	José David Aguilar-Polo, María Fernanda Figueroa-Estrada, Emerson Orlando Pérez-Valdez	Universidad de San Carlos de Guatemala
38	Chemoenzymatic Synthesis of Chaetosemin B	Gonzalo J. Villegas Rodriguez*, Evan O. Romero, Alison R. H. Narayan	University of Michigan, Ann Arbor
39	Alkenylation of Metallocenes via Palladium-Catalyzed C-H Functionalization	Sven Mueller*, Jaeyeong Song, Woohyeong Lee, Seojin Yun, Jungmin Joo	Pusan National University; Friedrich-Alexander University Erlangen-Nuremberg
40	Total synthesis of 13-hydroxypatchoulol through a C-C bond cleavage/vinylation/Heck cascade	Christina Na*, Richmond Sarpong	University of California, Berkeley
41	Biomimetic synthesis of oligomeric resveratrol natural products enabled by free radicals	Travis Hammerstad*, Bec Roldan, Matt Galliher, Corey Stephenson	University of Michigan, Ann Arbor
42	Room Temperature and Visible Light Promoted Hydrogen Borrowing Enolate Alkylation Reactions	Elliot P. Bailey*, Timothy J. Donohoe, Martin D. Smith	University of Oxford
43	Chemoenzymatic Synthesis of Sepedonin	Brooke S. Dunnery*, Kendrick L. Smith, Alison R. H. Narayan	University of Michigan, Ann Arbor
44	Copper-catalyzed fluoroalkylations of aryl bromides	Jonathan R. Hall, Isaac M. Blythe, Dr. Liam S. Sharninghausen, Prof. Melanie Sanford	University of Michigan Ann Arbor

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45	Accessing N-oxy-2,5-diketopiperazine Natural Products: Total Synthesis of (+)-Raistrickindole A	Amy C. Jackson*, Taehwan Hwang, Professor John L. Wood	Baylor University
46	Catalytic Carbonylations of Aryl Electrophiles and Alkenes	Alexander M. Veatch*, Erik J. Alexanian	University of North Carolina at Chapel Hill
47	Homogeneous Iron-Catalyzed Spiro-Indolenine and Quinoline Synthesis and Molecular Heterogeneous Ruthenium Catalysis in Confiend Geometries	Marina Fuhrer*, Bernd Plietker	Technische Universität Dresden
48	Electron-poor bifunctional ligands and their use in catalysis	Daniel Sattler*, Jake Bailey, Douglas Grotjahn	San Diego State University; University of California, San Diego
49	Bioinspired 3D Printing of Complex Marine Natural Scaffold for Anticancer Lead Discovery	Yaoqiu Zhu* Elkin L. Romero, Kolluru Srinivas, Elizabeth Noriega, Denisse A. Gutierrez, Renato Aguilera, Xin Yu, Anyi Wang, Jin Wang	University of Texas at El Paso; Baylor College of Medicine, Houston
50	Arylboration of Silyl-Substituted Dienes via Cu/Pd Synergistic Catalysis	Phillip Crook*, Alan Lear, M. Kevin Brown	University of Indiana Bloomington
51	Total Synthesis with Retrosynthetic Algorithms	Yingfu Lin*, Tim Cernak	University of Michigan, Ann Arbor
52	Synthetic Studies Toward Conipyridoin E	Mingzhe Zhang*, Demmy M. Yu, Shrinav N. Bhakta, Dylan W. Snelson, Emmanuel A. Theodorakis	University of California, San Diego
53	C-H Borylation and Oxidative Homocoupling of Aryl Phosphonates	Mark W. Mouch,* Natalie M. Zachariou, Taybor A. Rich,* Marin R. Auth, Raphael S. Kim, Donald A. Watson, Timothy B. Clark	University of San Diego; University of Delaware
54	Direct C,ÄiP Cross Coupling of Aryl Boronate Esters with Dialkyl Phosphites	Jack T. Hemphill,* Stephen C. Gaylor, Sarah Petty, Timothy B. Clark*	University of San Diego
55	Leveraging Dihedral Angle Control as a Strategy to Synthesize Selective Kinase Inhibitors	Beeta S. Heydari, Bahar S. Heydari, Sagar D. Vaidya, Sean T. Toenjes, Jeffrey L. Gustafson	San Diego State University; Stanford University

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56	Milvexian - Synthetic Journey of a FXIa Binder	Subha Mukherjee*, Nicolas Cuniere, Sergei Kolotuchin, Bin Zheng, Scott Savage, Antonio Ramirez, Kenneth Fraunhoffer, Chris Sfougataakis, Venkat Vuyyuru, Rajaram Ayothiraman, Souvik Rakshit, Dimitri Skliar, Christopher Wood, Martin Eastgate	Chemical Process Development, Bristol Myers Squibb; Chemical Development and API Supply, Biocon Bristol Myers Squibb Research and Development Center, India
57	Bifunctional phosphines bearing oxygenated substituents, and their Pd and Ni square planar complexes	Elguja Gojiashvili*, Benjamin Fishler, Douglas Grotjahn	San Diego State University
58	Decarboxylative Allylic Alkylation of Phthalides: Stabilized Benzylic Nucleophiles for sp ³ -sp ³ Coupling	Timothy J. McClure, Connor Saludares, Gisela Martinez, Cheyenne Orozco, and Raul Navarro*	Occidental College
59	Progress Towards the Total Synthesis of Virosinine A	Alexander Ramos*, Jatinder Singh, Steven Walter, Kai Hang Ho, Steven Castle	Brigham Young University
60	Towards the total synthesis of bacteriochlorophyll a	Khiem Chau Nguyen*, Duy T. Chung, Kathy-Uyen Nguyen, Jonathan S. Lindsey	North Carolina State University
61	Total Syntheses of Dracocephalone A and Dracocequinones A and B	Taehwan Hwang, Joseph P. Tuccinardi, Alexandra A. Beard, Min J. Jung, and John L. Wood	Baylor University
62	Progress Toward the Total Synthesis of Phorbasone A	Stephen R. Sardini,* Jaida Osman, Brian M. Stoltz	California Institute of Technology
63	Real-world Continuous Flow Manufacturing Applications	Jon Brice, Denghui Bao, Curong Chen, Long Yuan, Jian Tao, Jian Tao, Jiuyuan Li, Jiangping Lu, Xuecheng Jaio, Na Zhang, Xuewu Dong, Vyasa Williams, Yucla Cui, Yulei Ma, Yi Hsaio	Asymchem

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64	Rhodium-Catalyzed Hydroformylation of Olefins	Ruth Figueroa*, Souvagya Biswas, Heather Spinney, Mick Brammer, Rob Froese, Varinia Bernales	Chemical Science, Core R&D, MI; Dow Industrial Solutions, TX; The Dow Chemical Company
65	Flow Chemistry-Enabled Divergent and Enantioselective Total Syntheses of Massarinolin A, Purpurolicides B, D, E	Ye-Cheng Wang*, Chengsen Cui and Mingji Dai*	Purdue University
66	Total Synthesis of Complex Furanocembranoids	Joseph P. Tuccinardi*, John L. Wood	Baylor University
67	One-Carbon Insertion and Polarity Inversion Enabled a Pyrrole Strategy to the Total Syntheses of Pyridine-Containing Lycopodium Alkaloids: Compladine A and Lycodine	Donghui Ma*, Brandon S. Martin, Katelyn S. Gallagher, Takeru Saito, and Mingji Dai	Purdue University, West Lafayette, Indiana
68	Further studies on the effects of electron-donating and -withdrawing groups on water oxidation catalysts with phenanthroline-sulfonate and terpyridine ligands on ruthenium	Miguel Ibanez, Colton Breyer, Carlamarina Osuna Alvarez, Diane Smith, Douglas Grotjahn	San Diego State University
69	Regioselective C-H Alkenylation of Pyrroles and Thiophenes by a Pyrazolonaphthyridine Ligand	Eunsu Kang*, Ju Eun Jeon, Siyeon Jeong, and Jung Min Joo	Pusan National University, Busan, Korea
70	Enantioselective Hydroalkenylation and Hydroalkynylation of Alkenes Enabled by a Transient Directing Group	Amit Kumar Simlandy*, Johnny M. Nguyen, Lucas J. Oxtoby, Quynh Nguyen Wong, Jason S. Chen and Keary M. Engle	Scripps Research
71	Targeting enhanced fluorescence with azetidine groups in nucleobase analogues	Christina Rivera*, Julian Cizmiciu, Byron W. Purse	San Diego State University
72	Metal- and catalyst-free, a green and eco-friendly synthesis of pharmaceutically relevant N-phenylacetamides and N-alkylacetamides	Muhammad Sharif, Aneela Maalik*	Leibniz-Institut für Katalyse e.V. an der Universität Rostock Albert-Einstein-Str., Germany; University Islamabad Campus, Pakistan
73	Synthesis and target annotation of the alkaloid GB18	Stone Woo* and Ryan Shenvi	Scripps Research

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74	Concise syntheses of GB22, GB13, and himgaline by cross-coupling and complete reduction	Eleanor Landwehr*, Meghan Baker, Takuya Oguma, Hannah Burdge, Takahiro Kawajiri and Ryan Shenvi	Scripps Research
75	Asymmetric syntheses of (+)- and (–)-collybolide enable reevaluation of <i>kappa</i> -opioid receptor agonism	Sophia L. Shevick, Stephan M. Freeman*, Guanghu Tong, Robin J. Russo, Laura M. Bohn, Ryan A. Shenvi	Scripps Research

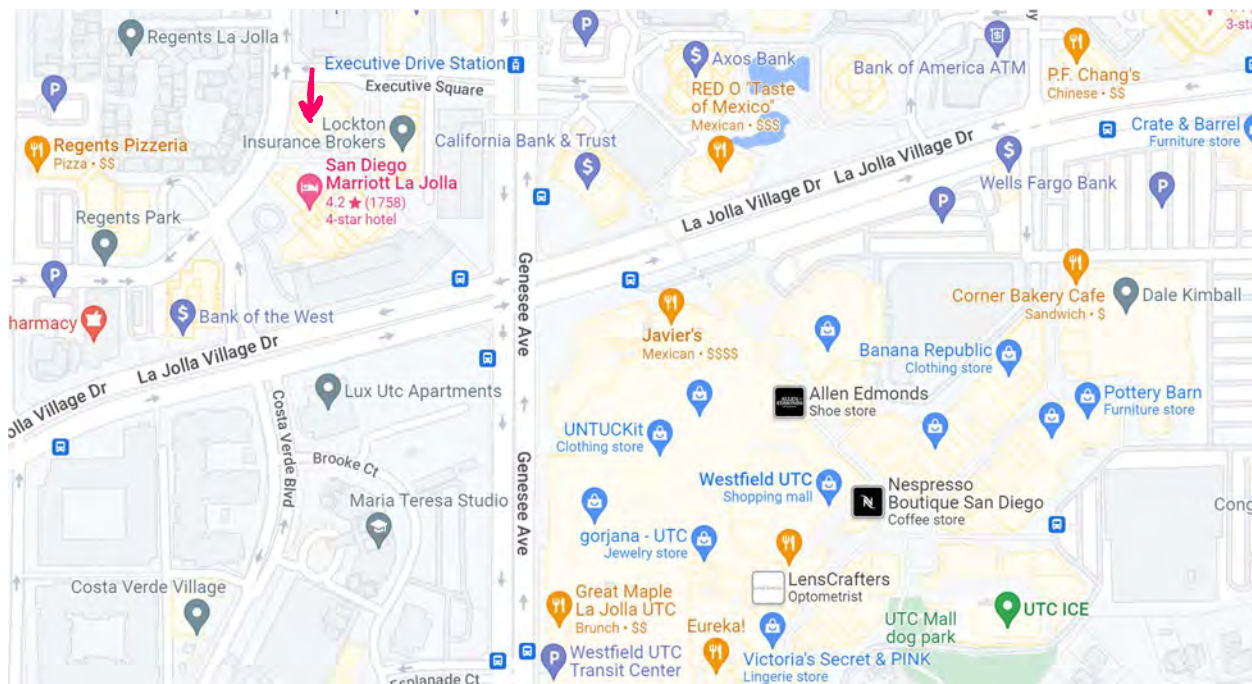
NOS ACTIVITIES

Things to do in La Jolla

Outside of the [weather](#) and world-famous beaches and coastline, San Diego has many other attractions including the San Diego Zoo, Torrey Pines Golf Course, Tours of Midway Aircraft Carrier, the Birch Aquarium, Petco Park (home of the San Diego Padres), the Gaslamp District downtown, and over 150 craft beer breweries. During the conference, we are looking to organize both professional and social tours such as touring a local pharmaceutical company or the zoo.

Dining: [Over 50 restaurants in La Jolla](#) to choose from. Ask a volunteer if you need help deciding. Some nearby options include:

- **Regents Market Place:** Food Court across from the Marriott La Jolla hotel (4150 Regents Park Row La Jolla, CA 92037)
 - Rubicon Deli, L&L Hawaiian Barbecue, Earlybird Breakfast Burritos, Micheline's Pita House, Head Lettuce, Regents Pizzeria, Spitfire Tacos, Nozomi Sushi & BBQ in La Jolla
- **Lunch vouchers provided** are valid at the following restaurants at the Regents Park Row Food Court: **Please see map on the bottom of the page**
 - Rubicon Deli, L&L Hawaiian Barbecue, Head Lettuce and Spitfire Tacos
- **Westfield University Town Center (UTC):** [Mall Food Court](#) (4545 La Jolla Village Drive)
 - Seasons 52, Thai Kitchen, Rising Sun Sushi, Blue Bottle Coffee, Bottega Italiana Gelato, Brazille, De Nunno, Corner Bakery, Din Tai Fung, Lemonade, Pacific Catch and many more



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The Beach: La Jolla Shores is the closest nice beach and has kayak and paddleboard rentals and surf lessons, and about a mile long white, sandy beach. [La Jolla Shores Beach Highlight & Ultimate Guide | LaJolla.com](#)

Mission Bay: You can find boat & paddleboard rentals along with options of taking surf lessons. You can also find other fun attractions like SeaWorld San Diego, Aqua Adventures and Belmont Park. [Discover Mission Bay](#)

Torrey Pines Golf Course: Book a reservation at Torrey Pines North or Torrey Pines South. All players must check in at least 30 minutes prior to their tee time. Cancellations must be made at least 48 hours prior to your tee time. [Torrey Pines Golf Course](#)

Downtown La Jolla: Also known as The Village, La Jolla's Downtown contains lots of nice shops and restaurants complete with a beautiful shoreline with places to see seals and sealions.

The Birch Aquarium: With a variety of different animals and exhibits to check out, the Birch Aquarium is a lovely visit option. Reservations are required, so ensure that you buy your tickets before stopping by. [Birch Aquarium](#)

Useful Links:

[Organized NOS 2022 Activities and Pharma/Biotech Site Tours](#)

[The San Diego Tourism Authority](#)

[The San Diego Brewers Guild](#)

[Explore La Jolla at the Tourism Authority](#)

Local Travel:

[San Diego Metropolitan Transit System](#)

[UCSD Campus Map](#)

[SDSU Campus Map](#)

ORGANIZED TOURS

Mirati R&D Site Tour



Site tour of Mirati R&D in La Jolla, CA. Priority will be given to students and post-docs. Bus will shuttle attendees to and from the event. See time below.

Located 10 min away by bus

Maximum Number of Attendees: 28

Date: Monday, June 27, 2022

Times: 1 pm – 4 pm

Takeda R&D Site Tour



Site tour of Mirati R&D in La Jolla, CA. Priority will be given to students and post-docs. Bus will shuttle attendees to and from the event. See time below.

Located 10 min away by bus

Maximum Number of Attendees: 28

Date: Monday, June 27, 2022

Times: 1 pm – 4 pm

Janssen R&D Site Tour



Site tour of Janssen R&D in La Jolla, CA. Priority will be given to students and post-docs. Bus will shuttle attendees to and from the event. See time below.

Located 10 min away by bus

Maximum Number of Attendees: 28

Date: Tuesday, June 28, 2022

Times: 12:40 pm – 4 pm

Pfizer R&D Site Tour



Site tour of Pfizer R&D in La Jolla, CA. Priority will be given to students and post-docs. Bus will shuttle attendees to and from the event. See time below.

Located 10 min away by bus

Maximum Number of Attendees: 28

Date: Tuesday, June 28, 2022

Times: 12:40 pm – 4 pm

UCSD Campus Tour



A [campus tour of UCSD](#) will commence as attendees will be able to check out the [Price Center](#), [Geisel Library and Stuart Collection](#). Guests will also be partaking in a site tour of the [Department of Chemistry and Biochemistry](#). Visit the laboratories and facilities of the new Tata Hall building as well as the adjacent Pacific Hall, Urey Hall, and Natural Sciences buildings. Meet with various faculty members and students of the Department. See time below.

Located 10 min away by bus

Maximum Number of Attendees: 28

Date: Wednesday, June 29, 2022

Times: 1:00 pm – 4 pm

SDSU Campus Tour



Visit the laboratories and facilities of the Chemistry department and our new Engineering Interdisciplinary Sciences building. Meet with various faculty members and students of the Department. The tour will be of the chemistry building, as well as the new engineering/interdisciplinary sciences building which also houses a few chemists. SDSU will also offer short campus tours for those that want a little bit of a walk around the scenic campus. Faculty and students will be around to talk about SDSU and SDSU research, and there will be a small outdoor reception with light refreshments hosted by the [Chemistry Graduate School Association](#). See time below.

Located 10 min away by bus

Maximum Number of Attendees: 28

Date: Monday, June 27, 2022

Times: 1 pm – 4 pm

San Diego Zoo



[Check out the world-famous San Diego Zoo!](#) Get up close and personal with animals like the Fossa found only in Madagascar, the Gelada primate from the mountains of Ethiopia and the Snow Leopard, while exploring a few botanical wonders from other continents. Transportation, afternoon snack and one museum admission are included.

Price: \$65

Maximum Number of Attendees: 50

Date: Monday, June 27 – Wednesday, June 29 (Please inquire at the information desk.)

Local Brewery Tours



[Come for a tour, a taste, or to fill a growler!](#) Explore San Diego's thriving craft beer culture at some of the top producers in town. Transportation, boxed lunch, afternoon snacks and tasting fees are included.

Price: \$120

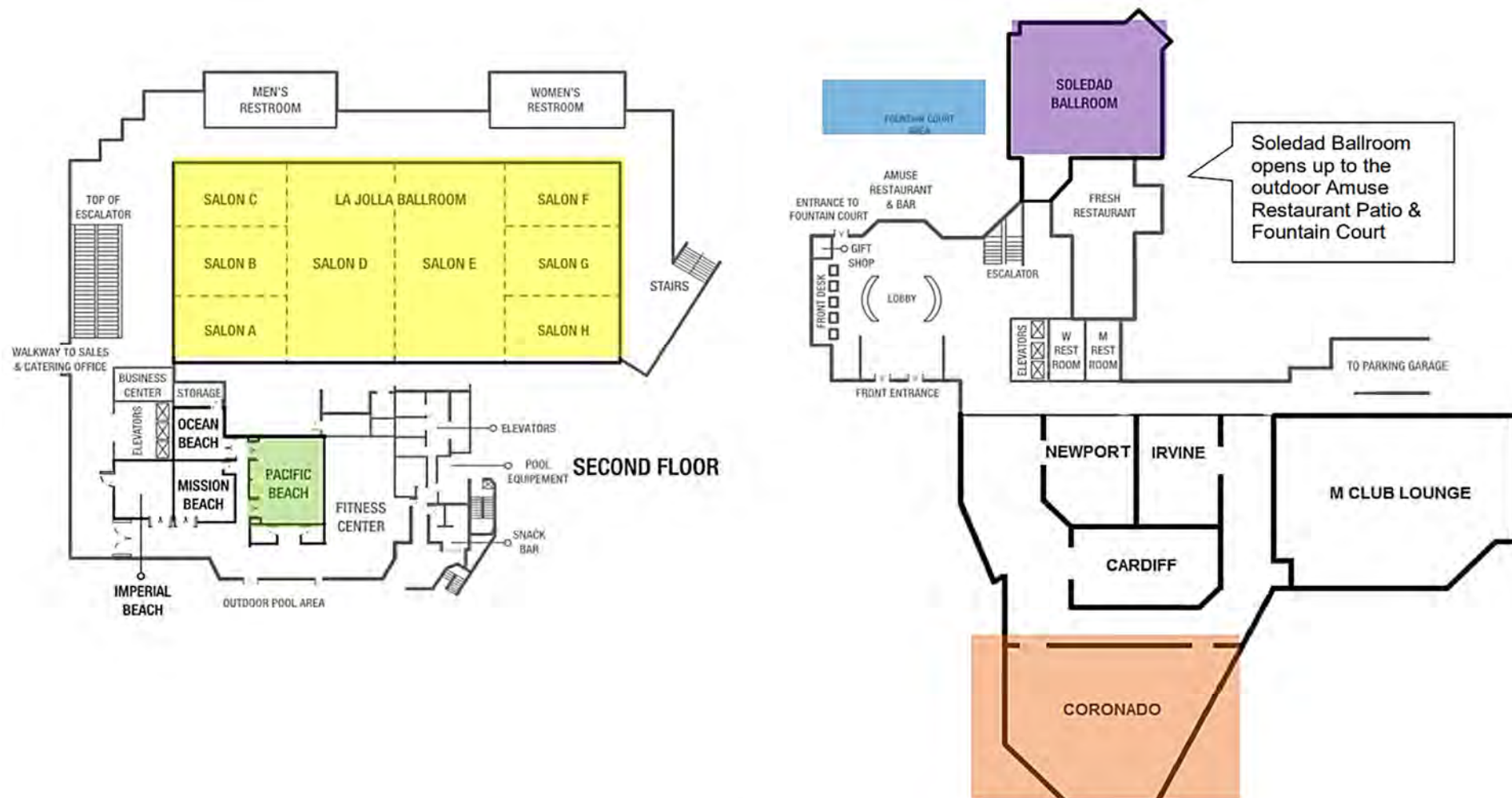
Maximum Number of Attendees: 50

Date: Monday, June 27 – Wednesday, June 29 (Please inquire at the information desk.)

Time: 1:00 pm – 5:00 pm

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FUNCTION SPACE LAYOUT



LEGEND	
	General Session
	Breakout
	Poster Board Session
	Poster Board Session
	Poster Board Reception