48th National Organic Chemistry Symposium

University of Notre Dame

July 9-13, 2023

48th National Organic Chemistry Symposium

University of Notre Dame
Notre Dame, Indiana, USA
July 9 – 13, 2023

Table of Contents

Welcome

On behalf of the Executive Committee of the Division of Organic Chemistry of the American Chemical Society and the Department of Chemistry and Biochemistry at the University of Notre Dame, we welcome you to the 48th National Organic Chemistry Symposium (NOS). The goal of this biennial event is to present a roster of distinguished speakers that represent the breadth and creative advances of organic chemistry worldwide.

The first National Organic Chemistry Symposium was held December 1925 in Rochester NY under the auspices of the Rochester Section of the Division of Organic Chemistry. Subsequent meetings were held every two years until WWII. The symposia resumed in 1947 in Boston and have been held biennially since. The National Organic Chemistry Symposium is the premier event sponsored by the Division of Organic Chemistry. In 1959, the Roger Adams Award was established and the Roger Adams Award Address has become a key focus of the symposium. This 48th National Organic Chemistry Symposium consists of 20 invited speakers, including the 2023 Roger Adams Awardee – Carolyn Bertozzi of Stanford.

The lectures will be presented during morning and evening sessions in the Leighton Concert Hall in the DeBartolo Performing Arts Center. The poster sessions, featuring over 300 contributions from across academia and industry, will be held in the Downes Ballroom in Notre Dame Stadium from approximately 8:00-11:00 PM Sunday through Wednesday evening. An informal dinner before the Roger Adams Award ceremony will be held Tuesday on the southeast corner of Notre Dame Stadium. We're excited to welcome over 400 attendees to the meeting!

The University of Notre Dame is located in beautiful northern Indiana. The organizers have arranged tours to experience local attractions, including a national park and wine tasting. We also encourage you to take advantage of the numerous regional activities listed at the end of this program. In addition to continuing the recent traditions of Undergraduate Context and Industrial Sessions, we have expanded this NOS to include a science communication workshop, as well as the inaugural Organic Process Research & Development Outstanding Publication of the Year Award.

We thank our Sponsors and our Exhibitors for providing financial support for the Symposium. We also thank the University of Notre Dame for the many hours of support in planning this NOS; special thanks go to Katie Cybulski, Amber Kirk, Mari Garza and our student volunteers for assisting with the organization of this event. Finally, thank you for attending and being a part of the 48th National Organic Chemistry Symposium.

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48th NOS Executive Officer
Pfizer

Steven Silverman
48th NOS Executive Officer
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Olaf Wiest
48th NOS Local Organizer
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Juan Del Valle
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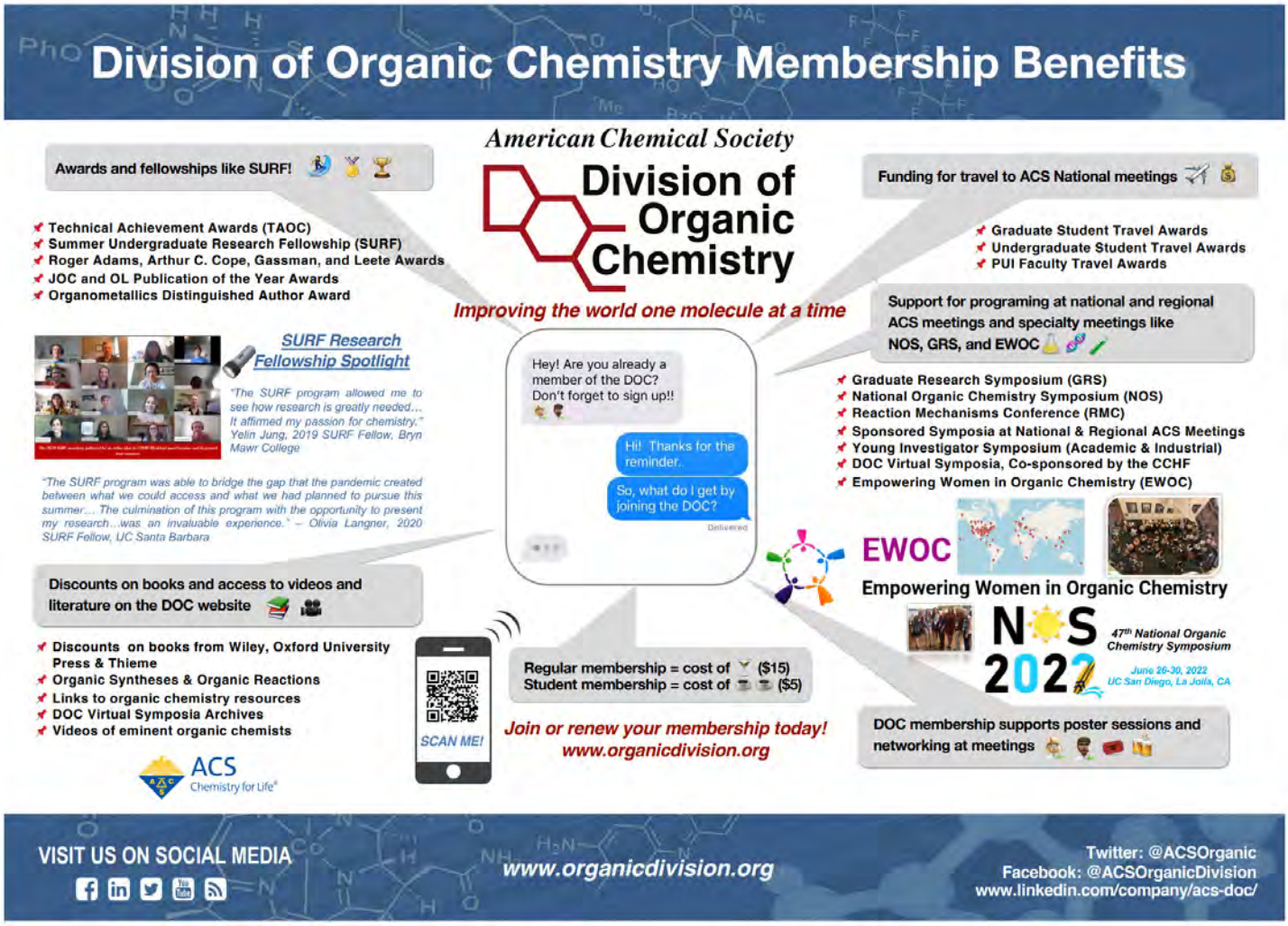
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JOC and OL Publication of the Year Awards
Organometallics Distinguished Author Award
SURF Research Fellowship Spotlight
"The SURF program allowed me to see how research is greatly needed... It affirmed my passion for chemistry." Yelin Jung, 2019 SURF 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
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SPEAKER AND EVENT SCHEDULE

All lectures will be held in the Leighton Concert Hall in the DeBartolo Performing Arts Center. Posters sessions will be held in the Downes Ballroom in Notre Dame Stadium. The Roger Adams Conference Dinner will be held on the southeast corner of ND Stadium. The social media workshop, industry and academic sessions will be held in DeBartolo Hall, Room 155.

SUNDAY, JULY 9th

3:00 PM – 11:00 PM	Registration	Downes Ballroom
8:00 PM – 11:00 PM	Reception, Poster Session & Exhibitors	Downes Ballroom

MONDAY, JULY 10th

7:30 AM – 12:00 PM	Registration	DeBartolo Performing Arts Center
7:30 AM – 8:30 AM	Refreshments	DeBartolo Performing Arts Center
8:30 AM – 9:00 AM	Opening Remarks	Leighton Concert Hall

Steven Silverman *(Merck)* and **Michelle Tran-Dubé** *(Pfizer)*
2023 NOS Co-Chairs

Olaf Wiest and **Juan Del Valle** *(University of Notre Dame)*
NOS Local Co-Chairs

Session Chair: **Katherine Maloney,** *Point Loma Nazarene University*

9:00 AM – 9:50 AM **Guangbin Dong,** *University of Chicago*

	"Merging C−C and C−H Activation: Palladium/Norbornene Cooperative Catalysis"	
9:50 AM – 10:00 AM	Presentation of Poster Awards	
10:00 AM – 10:20 AM	Break	
10:20 AM – 11:10 AM	**Kami Hull,** *University of Texas at Austin* "Transition-Metal Catalyzed Alkene Functionalization"	
11:10 AM – 12:00 PM	**Dean Toste,** *University of California, Berkeley* "Supramolecular Hosts as Enzyme Mimics"	
12:00 PM – 1:00 PM	Lunch	
1:00 PM – 5:00 PM	Social Media Workshop / Industry Session	DeBartolo Hall Room 155
	Social Media Workshop: **Shahir Rizk**, *Indiana University*, **Maggie Fink**, *University of Notre Dame* "Communicating Your Research in a World of Misinformation"	
1:00 PM	Bus to Indiana Dunes National Park	Performing Arts Center
Session Chair: **Annabel Ansel**		Leighton Concert Hall
6:00 PM – 6:50 PM	**André Isaacs**, *College of the Holy Cross* "A Click Chemistry Approach to Nitrogen Heterocycles"	
6:50 PM – 7:00 PM	**Kai Rossen**, OPRD Outstanding Publication Award Introduction	
7:00 PM – 7:50PM	**Jason Stevens,** *Bristol Myers Squibb* "Leveraging High-Throughput Experimentation to Drive Pharmaceutical Route Invention: A Four-Step Commercial Synthesis of Branebrutinib"	
8:00 PM – 11:00 PM	Reception, Poster Session & Exhibitors	Downes Ballroom

TUESDAY, JULY 11th

7:30 AM – 8:30 AM	Refreshments	DeBartolo Performing Arts Center
Session Chair: **Richard Broene**, *Bowdoin College*		Leighton Concert Hall

8:30 AM – 9:20 AM	**Annaliese Franz,** *University of California, Davis* "Chiral Silanes and Silanols in Enantioselective Catalysis"	
9:20 AM – 10:10 AM	**Song Lin,** *Cornell University* "Amping Up Organic Synthesis Using Electrochemistry"	
10:10 AM – 10:30 AM	Break	
10:30 AM – 11:20 AM	**Vy Dong,** *University of California, Irvine* "Choose Your Own Adventures in Metal-Hydride Catalysis"	
11:20 AM – 12:10 PM	**Timothy Newhouse,** *Yale University* "Computationally Augmented Total Synthesis"	
12:10 PM – 1:15 PM	Lunch	
1:15 PM – 4:30 PM	Industry Session	DeBartolo Hall, Room 155
4:30 PM – 6:15 PM	Roger Adams Dinner	Notre Dame Stadium, SE Corner
The Roger Adams Award Ceremony		Leighton Concert Hall
6:15 PM – 6:35 PM	**Scott Denmark**, *University of Illinois Urbana-Champaign* (Board of Directors, Organic Syntheses) "Organic Syntheses: A Century of Setting the Gold Standard for Reproducible Experimentation"	
6:35 PM – 6:50 PM	**Angie Angeles**, *Vertex* (Board of Directors, Organic Reactions and ACS Division of Organic Chemistry, Chair-Elect) Organic Reactions Overview and Presentation of the Roger Adams Award	
6:50 PM – 7:50 PM	**2023 Roger Adams Award Lecture: Carolyn R. Bertozzi**, *Stanford University* "Bioorthogonal Chemistry, from Basic Science to Clinical Translation"	
7:50 PM – 8:00 PM	Presentation of Poster Awards	
8:00 PM – 11:00 PM	Reception, Poster Session & Exhibitors	Downes Ballroom

WEDNESDAY, JULY 12th

7:30 AM – 8:30 AM	Refreshments	DeBartolo Performing Arts Center

Session Chair: **Rich Taylor,** *University of Notre Dame* Leighton Concert Hall

8:30 AM – 9:20 AM **Tianning Diao,** *New York University*
"Nickel-Mediated Radical Pathways and Applications to Organic Synthesis"

9:20 AM – 10:10 AM **Luis Martinez Alsina,** *Pfizer*
"Combined Efforts Counts for Success: Synthesis of MC4R Antagonist PF-07258669"

10:10 AM – 10:30 AM Break

10:30 AM – 11:20 AM **Ryan Shenvi,** *Scripps Research*
"Natural Product Synthesis Through the Lens of Informatics"

11:20 AM – 12:10 PM **David Thaisrivongs,** *Merck*
"The Largest Small Molecule: How Chemistry Enabled the Discovery and Development of PCSK9 Inhibitor MK-0616"

12:10 PM – 1:15 PM Lunch

1:15 PM – 5:00 PM Undergraduate Context Session

1:15 PM Bus departs for wine tasting tour Performing Arts Center

Session Chair: **Brandon Ashfeld**, *University of Notre Dame* Leighton Concert Hall

6:00 PM – 6:50 PM **Alanna Schepartz**, *University of California, Berkeley*
"Genetically Encoded Protein Editing, *in vitro* and *in vivo"*

6:50 PM – 7:40 PM **Barry Trost**, *Stanford University*
"A Challenge for Total Synthesis of Bioactive Targets: Atom and Step Economy"

7:40 PM – 7:50 PM Presentation of Poster Awards

8:00 PM – 11:00 PM Reception, Poster Session & Exhibitors Downes Ballroom

THURSDAY, JULY 13th

7:30 AM – 8:30 AM Refreshments DeBartolo Performing Arts Center

Session Chair: **Edward Fenlon,** *Franklin & Marshall College* Leighton Concert Hall

8:30 AM – 9:20 AM **Janine Cossy,** *ESPCI Paris*

	"Natural Products: Opportunities to Develop Efficient Synthetic Methods"
9:20 AM – 10:10 AM	**Mary Watson,** *University of Delaware* "Deaminative Cross-Couplings"
10:10 AM – 10:30 AM	Break
10:30 AM – 11:20 AM	**Connor Coley,** *Massachusetts Institute of Technology* "Predictive Chemistry & Data-Driven Discovery"
11:20 AM – 12:10 PM	**Gunda Georg,** *University of Minnesota* "The Male Pill: Are We there Yet?"
12:10 PM – 12:20 PM	Presentation of Poster Awards
12:20 PM – 12:30 PM	**Edward Fenlon,** *Franklin & Marshall College* Closing Remarks

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The NOS organizers would like to thank the following volunteers from the ND Department of Chemistry:

Patricia Ayson
Chengkai Fan
Ginny Kim
Carmen Magestro
Van Thi Nguyen
Jason Payne
Jacquelin Zak
Michael Zeiler

The Roger Adams Award in Organic Chemistry

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 Carolyn R. Bertozzi of Stanford University for the invention of bioorthogonal chemistry, the set of chemical reactions that can be performed in living organisms, and applying it to diagnostics, imaging, and therapeutic development. Professor Bertozzi's award address, titled *Bioorthogonal Chemistry, from Basic Science to Clinical Translation* will be delivered on Tuesday evening.

Roger Adams Awardee

Professor Carolyn R. Bertozzi

Department of Chemistry
Stanford University

https://bertozzigroup.stanford.edu/

The Rogers Adams Award will be presented to Professor Bertozzi on Tuesday, July 11th at 6:15 pm in the Leighton Concert Hall with the award lecture to follow at 6:50 pm.

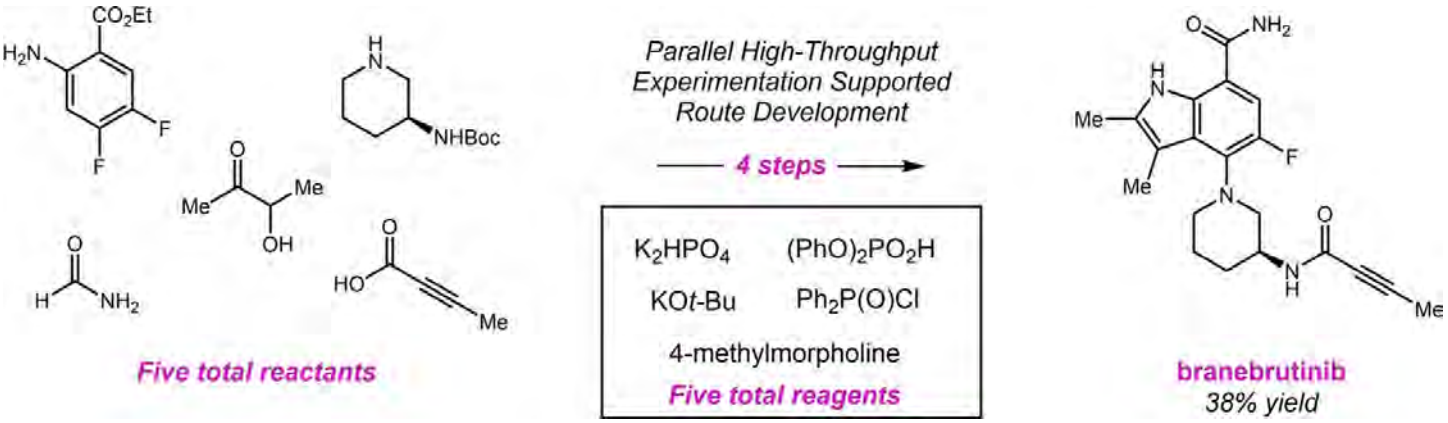
Abstract: Bioorthogonal chemistry has opened new avenues for biological research and therapeutic science. Here I will present the origin story of bioorthogonal chemistry as a tool for molecular imaging of cell surface glycans, advances in reaction development, and recent translational work leading to clinical drug candidates.

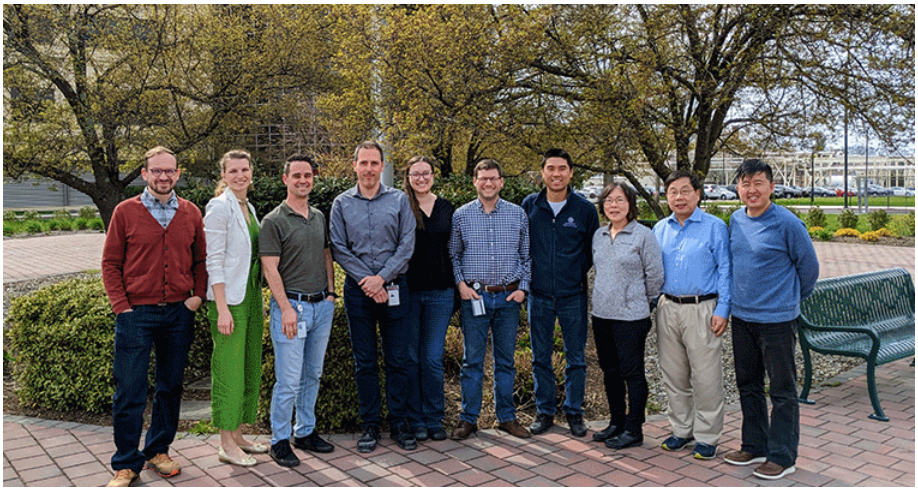
2023 Organic Process Research & Development Outstanding Publication of the Year Award

The American Chemical Society journal *Organic Process Research & Development* in partnership with the ACS Division of Organic Chemistry sponsors the annual Outstanding Publication of the Year Lectureship Award to honor the research team behind an exceptional article published in an issue of *Organic Process Research & Development* in the preceding year that demonstrates creativity and impact in the field of process chemistry and related disciplines associated with reaction scale-up with an emphasis on early-career researchers.

Launched this year, the inaugural recipients are Jason M. Stevens and colleagues at Bristol Myers Squibb, Janssen Research and Development, and Merck & Co., who are recognized for their article, Leveraging High-Throughput Experimentation to Drive Pharmaceutical Route Invention: A Four-Step Commercial Synthesis of Branebrutinib (BMS-986195), which outlines a powerful strategy for rapid identification of highly efficient synthetic routes to prepare active pharmaceutical ingredients..

Abstract: The invention of a commercial route to the Bruton's tyrosine kinase inhibitor branebrutinib in four chemical steps is described. The execution of high-throughput experimentation (HTE) coupled with a first-principles approach across the proposed synthetic route enabled the identification of a novel indolization reaction that rapidly generated synthetic complexity, as the centerpiece of the synthesis. A parallel HTE strategy during route design enabled the efficient and rapid evaluation of multiple synthetic routes within a compressed timeframe to complete rigorous process development while mitigating the risks associated with implementing new chemistry. Future evolutions of parallelized HTE leveraging machine learning and artificial intelligence will be discussed.





Finalists for the 2023 Lectureship include:

Merck:
Cecilia Bottecchia, Dan Lehnherr, and colleagues for their article Kilo-Scale Electrochemical Oxidation of a Thioether to a Sulfone: A Workflow for Scaling up Electrosynthesis

GSK:
Jennifer M. Elward, Matthew S. Sigman, Janelle E. Steves, and colleagues for their article Impact of Phosphine Featurization Methods in Process Development

Amgen:
Andrew T. Parsons and colleagues for their article Development of a Commercial Manufacturing Process for Sotorasib, a First-in-Class KRASG12C Inhibitor
James I. Murray, Liang Zhang, and colleagues for their article Kinetic and Mechanistic Investigations to Enable a Key Suzuki Coupling for Sotorasib Manufacture—What a Difference a Base Makes

NOS Plenary Lecturers and Speaker Abstracts

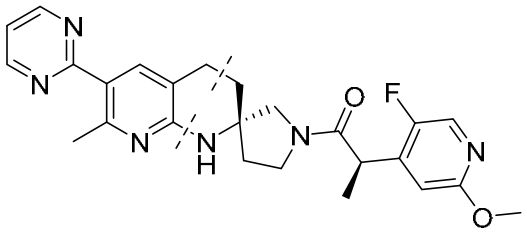
Luis Martinez-Alsina

Pfizer Worldwide Research, Development, and Medical, Groton, CT

https://www.linkedin.com/in/luis-martinez-alsina-8664557/

Combined Efforts Counts for Success: Synthesis of MC4R Antagonist PF-07258669

Cachexia, or wasting syndrome, is characterized by loss of weight, muscle atrophy, fatigue and weakness accompanied by significant loss of appetite seen in geriatrics, patients with cancer and other diseases. Inhibition of central MC4R signaling is expected to increase food intake in cachectic patients with underlying chronic disease, leading to increased body weight and functional lean mass. Recently Pfizer has disclosed the discovery of MC4R antagonist PF-07258669, possessing a spirocyclic core to lock the bioactive conformation and optimize MC4R potency. This presentation will describe the evolution of the chemical matter that led the team to the novel spirocyclic core and the synthetic routes to PF-07258669 with a focus on our team experience to solve the many challenges encountered and the solutions identified.



PF-07258669 (**1**)

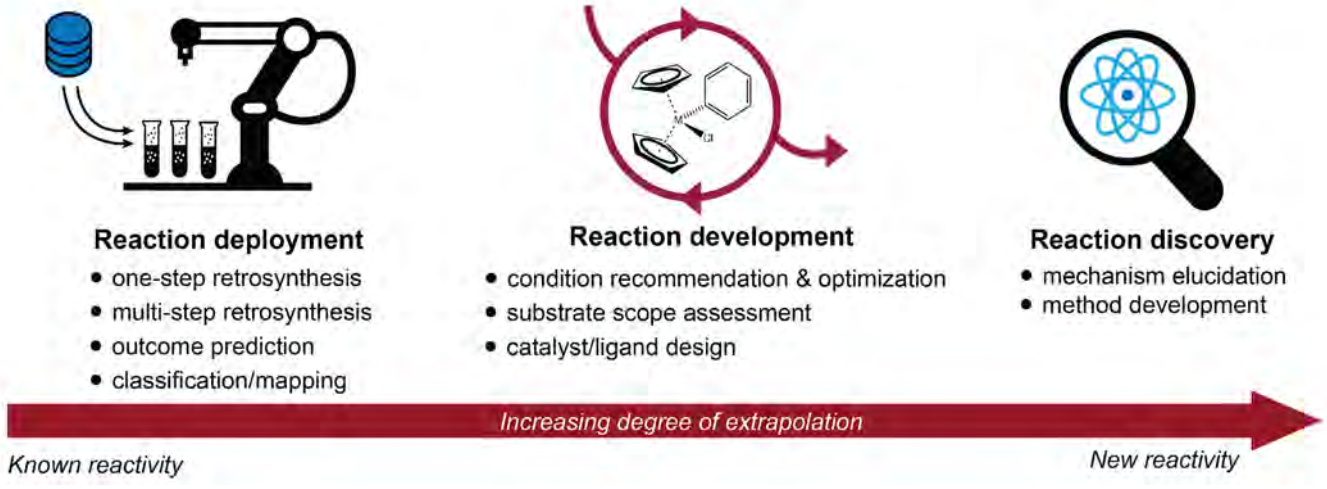
Professor Connor Coley

Department of Chemical Engineering and the College of Computing
Massachusetts Institute of Technology
Cambridge, MA

https://coley.mit.edu/

Predictive Chemistry & Data-Driven Discovery

The process of discovering a new functional molecule is a search in a vast chemical space, where we iteratively design molecular compounds, synthesize them, and test their performance. The chemical spaces we are able access, i.e., the molecules we are able to make, are dictated by our synthetic toolbox and ability to design synthetic pathways. Advances in both automation and data science techniques provide an opportunity to transform the nature of experimentation and modeling by offloading decision-making from expert humans to algorithmic processes. This talk will provide an overview of the field of "predictive chemistry", and the many ways that data-driven methods (including machine learning) can learn patterns of chemical reactivity. Underpinning these efforts is the availability of structured reaction data, which we aim to advance through the Open Reaction Database initiative. We will discuss the impressive progress made in recent years that has enabled data-driven models to learn how molecules interact and react, including and beyond the classic task of computer-aided retrosynthesis. We aim not only to apply existing reaction knowledge in new ways, but also tackle more ambitious goals that advance the frontier of chemistry. An emphasis will be placed on the much-needed transition from qualitative to quantitative predictions, and from retrospective to prospective validation.



Professor Janine Cossy

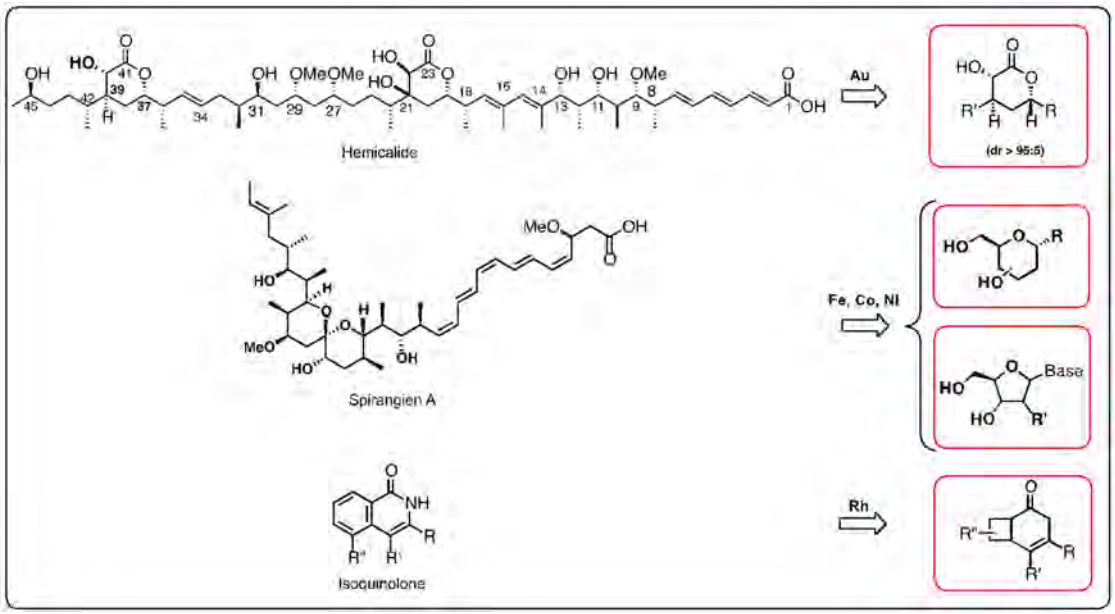
Molecular, Macromolecular and Material Chemistry, ESPCI
Paris, France

https://www.lco.espci.fr/-Prof-Janine-Cossy

Natural Products: Opportunities to Develop Efficient Synthetic Methods

Natural products are complex molecules, that may have interesting biological properties but, unfortunately, they are produced in small quantities. One way to obtain these compounds in large quantities is to perform their synthesis or hemi-synthesis. However, the main challenge in the synthesis of biologically interesting molecules is the design of concise strategies and the use of efficient and selective methods.

For us, hemicalide (antitumoral), spirangien A (antitumoral and antifungal), and isoquinolones (antitumoral and immunosupressive agents) were good starting points to develop selective methods that subsequently allowed us to access highly functionalized δ-lactones, C-glycosides and nucleosides, as well as compounds possessing strained rings. The methods, that have been developed to access these compounds, will show the power of transition metal catalysts.



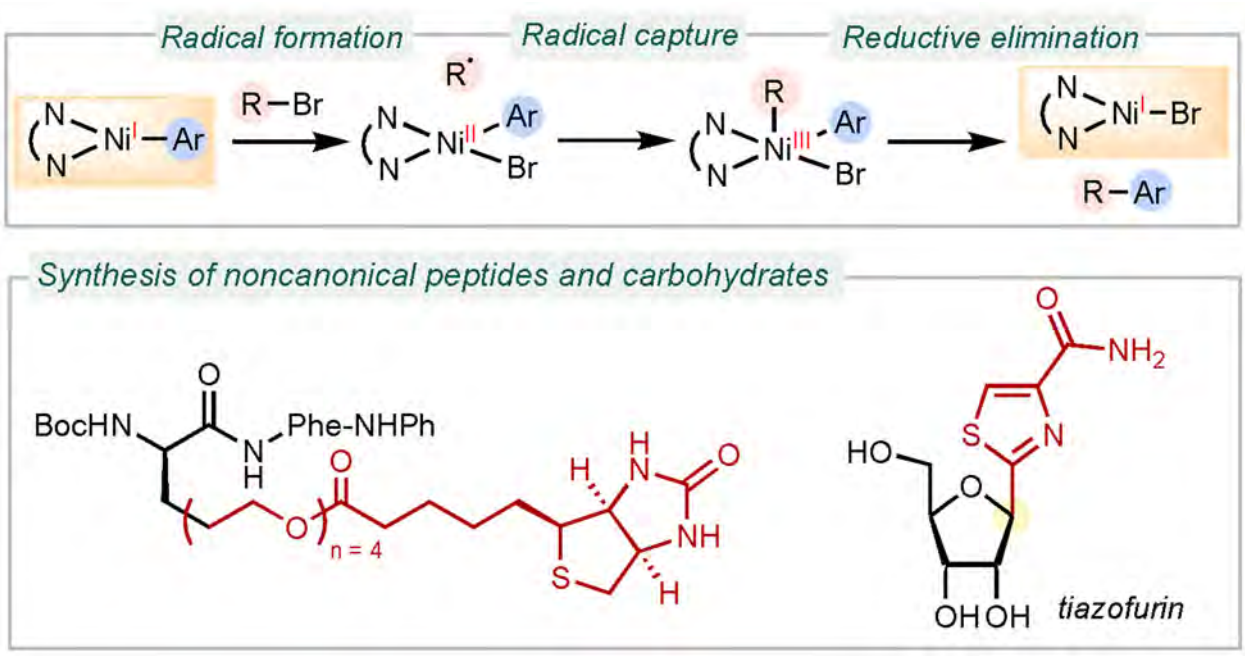
Professor Tianning Diao

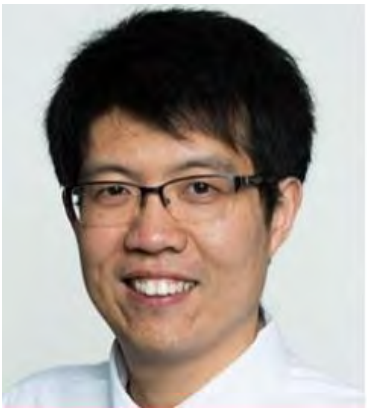
Department of Chemistry
New York University
New York, NY

https://www.diaogroup.org/

Nickel-Mediated Radical Pathways and Applications to Organic Synthesis

Reactions involving organic radical intermediates have traditionally been regarded as overly reactive and unselective. Nickel complexes have the capability to capture a radical and modulate the reactivity and control the selectivity of reactions involving radical intermediates. Our mechanistic studies provide answers to fundamental questions, such as "how do nickel complexes initiate radical formation from various precursors?", "how do radicals interact with nickel complexes?", and "how do ligands stabilize open-shell intermediates and facilitate catalytic reactions?" Our mechanistic insights have paved the way for innovative methods in synthesizing non-canonical peptides and carbohydrates through radical coupling reactions, which are critical to drug discovery.





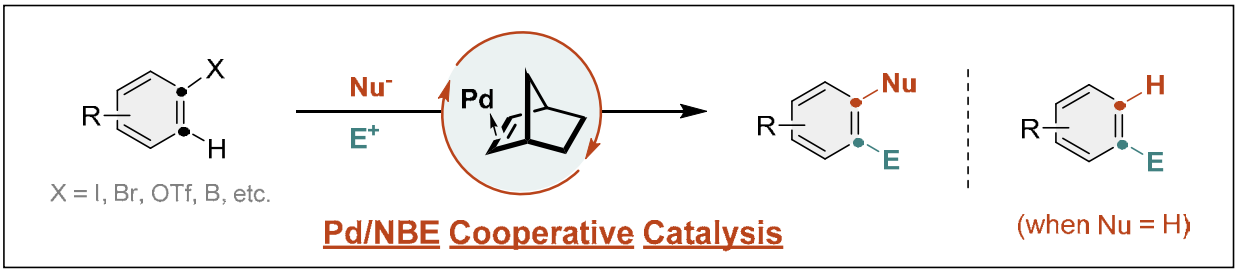
Professor Guangbin Dong

Department of Chemistry
University of Chicago
Chicago, IL

https://voices.uchicago.edu/donggroup/

Merging C−C and C−H Activation: Palladium/Norbornene Cooperative Catalysis

Achieving site-selectivity in arene functionalization that is complementary to the one from electrophilic aromatic substitution (EAS) reactions has been a long-standing quest in organic synthesis. The palladium/norbornene (Pd/NBE) cooperative catalysis potentially offers a unique approach to this problem, but its usage has been hampered by “three constraints”: the electrophile constraint, the arene-substrate constraint, which is the requirement of using aryl iodides, and the “ortho constraint”, which is the requirement of an ortho substituent for mono ortho functionalization of haloarenes. Here, we show that all these three constraints could be addressed through designing the electrophiles, phosphine ligands and norbornene ligands. Besides Catellani-type ortho alkylation and arylation, new ortho functionalization methods, such as ortho amination, acylation, carboxylation, thiolation and annulation, have been realized. In addition, using a unique phosphine system, various aryl bromides can be employed as the arene substrates. Moreover, a new class of bridgehead-modified NBEs overcomes the “ortho” constraint, thereby enabling a broadly useful strategy for arene functionalization with complementary site-selectivity to EAS reactions. A range of ortho-unsubstituted aryl iodides, previously problematic substrates, now can be employed to provide mono ortho functionalized products effectively. These methods are applicable for late-stage functionalization of complex bioactive molecules at positions that are difficult to be reached by conventional approaches. Beyond arene substrates, we also realized a non-intuitive transformation, that is to migrate ketone carbonyl to its adjacent position in one-pot through α-amination of alkenyl triflate. Conventionally, carbonyl 1,2-migration is a very tedious and less selective process, and generally takes 4-6 steps. This method not only provides a straightforward approach to access oxygen-transposed analogues, but also opens the door for a completely new type of carbonyl transformations.



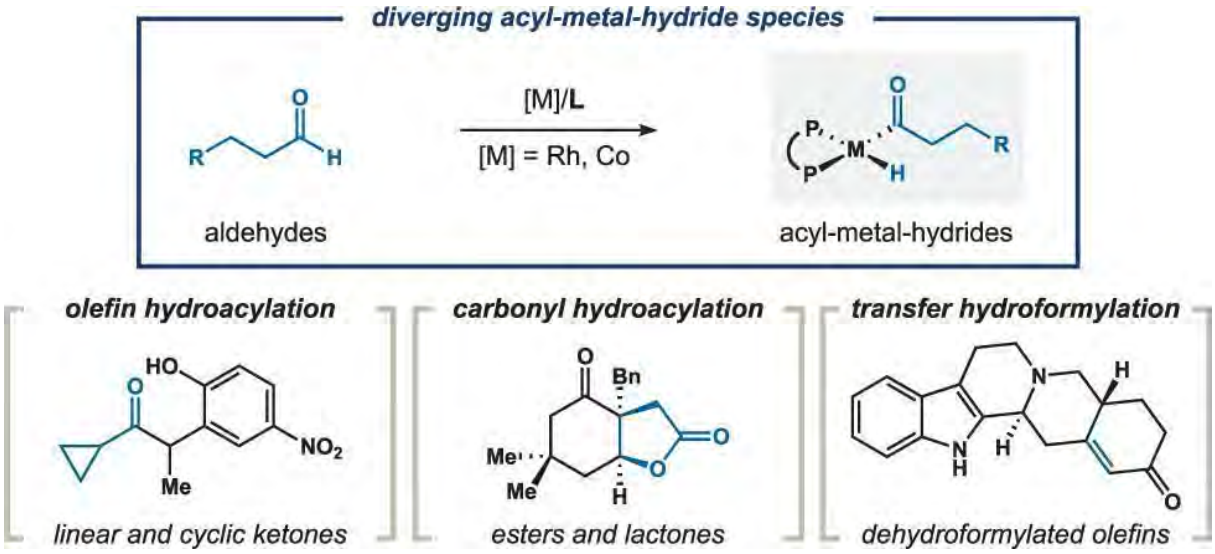
Professor Vy M. Dong

Department of Chemistry
University of California, Irvine
Irvine, CA

https://sites.google.com/uci.edu/vydonggroup

Choose Your Own Adventures in Metal-Hydride Catalysis

Metal hydrides promote a wide-range of organic transformations that include both C-C bond making and C-C bond breaking processes. This lecture will highlight the development of transition-metal catalysts for use in enantioselective hydrofunctionalizations (e.g., hydroacylation, hydroamination, and hydrothiolation). In addition, a unique transfer hydroformylation will be described that allows conversion of aldehydes/alcohols to olefins. The presentation emphasizes mechanistic studies that showcase the role of counter-ions for controlling selectivities. Lastly, we disclose applications of these catalysts for transforming feedstocks into more complex building blocks and natural products.



[1] Ryan T. Davison, Erin L. Kuker, and Vy M. Dong, *Accounts of Chemical Research* **2021** 54 (5), 1236-1250. DOI: 10.1021/acs.accounts.0c00771

Professor Annaliese Franz

Department of Chemistry
University of California, Davis
Davis, CA

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Chiral Silanes and Silanols in Enantioselective Catalysis

Organosilicon chemistry provides rich opportunities for methodology and enantioselective catalysis as well as novel synthetic targets for medicinal chemistry and nanomaterials. This talk will present enantioselective synthesis and molecular recognition components using both metal-catalyzed and organocatalytic methods to access chiral-at-silicon molecules and design of new catalyst systems. Silanol compounds contain a unique Si−OH functional group to explore opportunities to design new ligands for asymmetric catalysis. We have synthesized novel chiral metal-chelating ligands combining amide and silanol motifs. The catalytic properties of these novel silanol ligands have been demonstrated through a copper-catalyzed enantioselective N−H insertion reaction. Structural, mechanistic, kinetics and molecular binding studies will be included to provide insight for method development, catalyst activity and design.

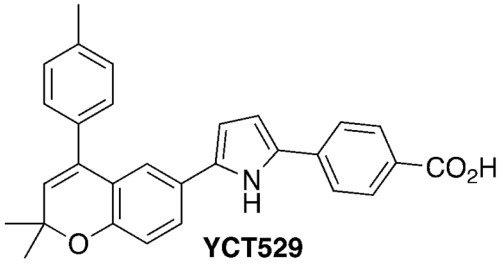
Professor Gunda Georg

Department of Medicinal Chemistry
Institute for Therapeutics Discovery and Development
University of Minnesota
Minneapolis, MN

https://sites.google.com/a/umn.edu/georggroup

The Male Pill: Are We there Yet?

To provide couples with additional safe and reversible options for contraception, the development of non-hormonal contraceptives for both men and women is highly desirable to assist with family planning and reducing unintended pregnancies. The talk will provide an overview of the current state of hormonal and non-hormonal male contraceptive drug discovery and development with an emphasis on the discovery and development of retinoic acid receptor alpha antagonists, including preclinical efficacy studies of our preclinical candidate YCT529 in mouse and non-human primates.



YCT529

	α	β	γ
IC_{50} (nM)	9.7	> 3500	>35000

no agonist activity

Nominated for the 2022 Molecule of the Year competition (Drug Hunter)

Professor Kami L. Hull

Department of Chemistry
University of Texas at Austin
Austin, TX

https://sites.google.com/utexas.edu/thehullgroup/kami-l-hull

Transition-Metal Catalyzed Alkene Functionalization

Given our current knowledge, organic chemists have the ability - granted unlimited time and resources – to make almost any organic scaffold. Thus, the fundamental motivations in modern chemistry have shifted to the development of efficient processes that accelerate synthesis and reduce associated waste. This talk will present recent research in the Hull group that focuses on the development and mechanistic evaluation of transition metal-catalyzed methodologies with the direct goal of reducing the time and waste associated with the synthesis of biologically active molecules. Despite the prevalence of C–N bonds in pharmaceuticals, their selective incorporation into organic compounds is often both time-and resource-consuming. The selective addition of nitrogen to a C=C multiple bond would allow for the single step installation of diverse functionalities from readily available starting materials. Our work towards the development of regio-, chemo-, and stereoselective olefin amination reactions will be presented.

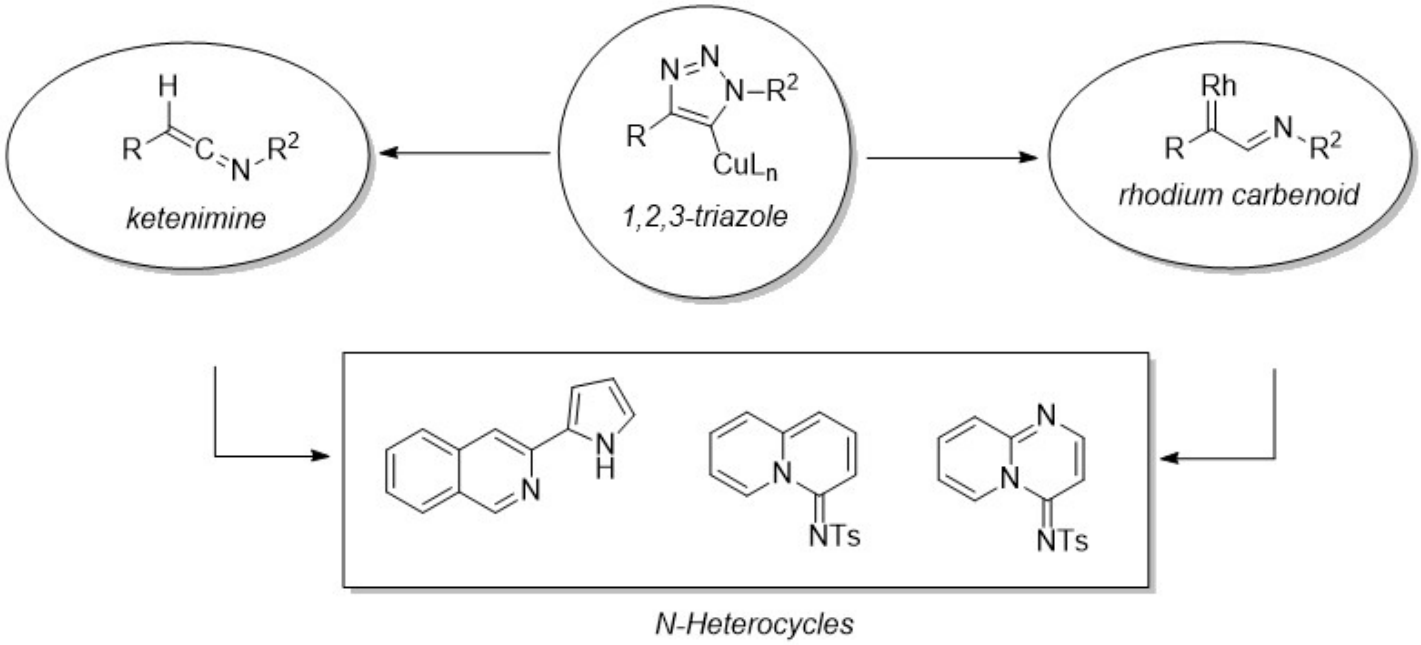
Professor André Isaacs

Department of Chemistry
College of the Holy Cross
Worcester, MA

https://www.isaacslab.com/

A Click Chemistry Approach to Nitrogen Heterocycles

Our research interests are centered on a very reliable organic reaction - the copper-catalyzed cycloaddition of sulfonyl azides and terminal alkynes (CuAAC). Differential fragmentation of the resulting 1,2,3-triazole generates ketenimines or rhodium carbenoids which readily engage with a variety of nucleophiles to gain access to heterocycles of interest to the synthetic community. We demonstrate the utility of click chemistry in the synthesis of N-Heterocycles such as indolizines, dihydroisoquinolines and beta-lactams.



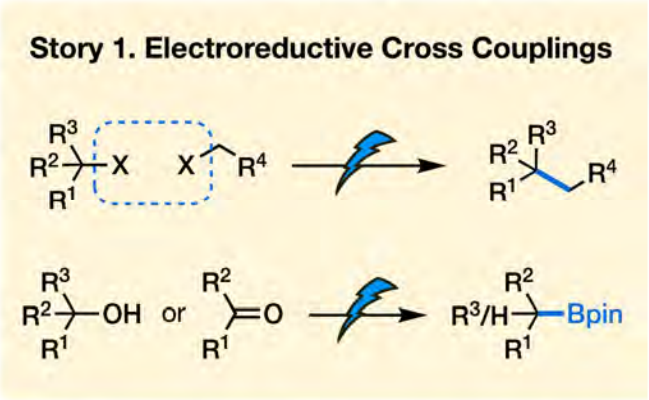
Professor Song Lin

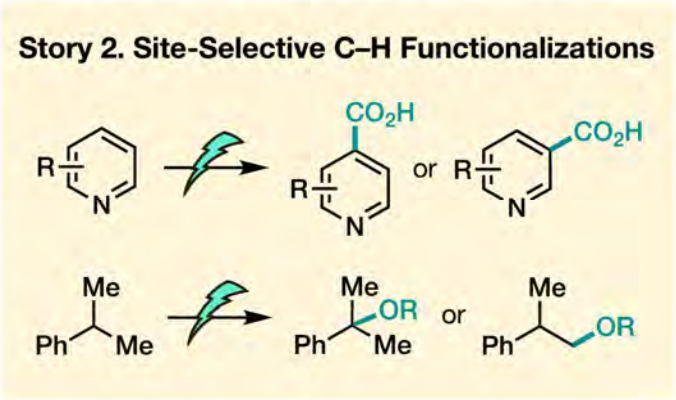
Department of Chemistry and Chemical Biology
Cornell University
Ithaca, NY

https://songlin.chem.cornell.edu/

Amping Up Organic Synthesis Using Electrochemistry

Owing to its many distinct characteristics, electrochemistry represents an attractive approach to discovering new reactions and meeting the prevailing trends in organic synthesis. In the past several years, we have showcased a new reaction approach that combines electrochemistry and redox-metal catalysis for the functionalization of alkenes to access a diverse array of vicinally functionalized structures. Moving beyond alkene difunctionalization, we recently expanded the scope of our electrochemical reaction discovery to two-component and three-component cross electrophile coupling reactions for the formation of C–C, C–Si, and C–B bonds. In addition, using either electrooxidation or electroreduction, we achieved the site-selective functionalization of aliphatic and aromatic C–H bonds, respectively. This talk details our design principle underpinning the development of these new electrochemical transformations with a focus on applications in the synthesis of medicinally relevant compounds. In addition, this talk will discuss a parallel effort in the development of new electrochemical high-throughput reactors that can drastically improve the efficiency of reaction discovery and optimization.





Professor Timothy Newhouse

Department of Chemistry
Yale University
New Haven, CT

https://campuspress.yale.edu/newhousegroup/

Computationally Augmented Total Synthesis

Efficient syntheses of complex small molecules often involve speculative experimental approaches. The central challenge of such plans is that experimental evaluation of high-risk strategies is resource intensive, as it entails iterative attempts at unsuccessful strategies. This presentation describes a complementary strategy that combines creative human-generated synthetic plans with robust computational prediction of synthetic feasibility. This talk describes the development of several computational methodologies and strategies for complex small molecule synthesis.

Professor Alanna Schepartz

College of Chemistry
University of California, Berkeley
Berkeley, CA

https://schepartzlab.com/

Genetically Encoded Protein Editing, *in vitro* and *in vivo*

One can imagine three different strategies to exploit the translational apparatus to generate sequence-defined biopolymers that are not strictly L-alpha-amino acid oligomers–proteins and polypeptides with purposefully edited backbones. This lecture will describe the recent validation of at least two of these different approaches, neither of which require remodeled or re-engineered ribosomes.

Professor Ryan Shenvi

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Scripps Research
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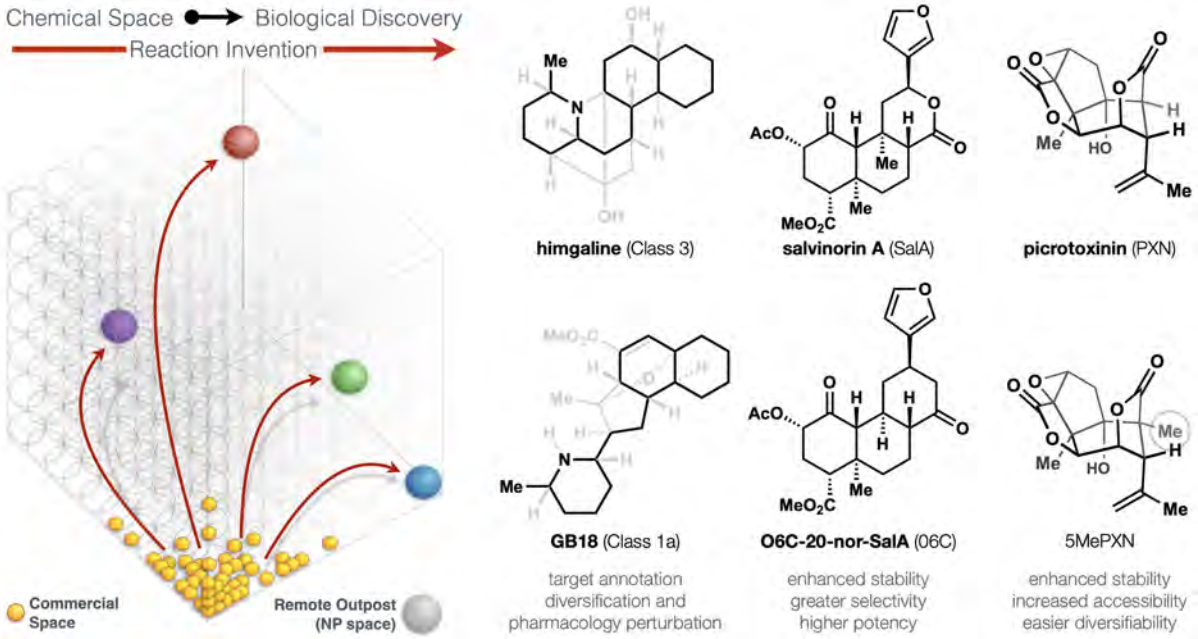
Natural Product Synthesis Through the Lens of Informatics

Natural products (NPs) often populate areas of chemical space that are remote from commercial compounds and thus challenging to access, study and modify. Therefore, our group develops new chemistry to accelerate access to nodes in NP space. These syntheses can be leveraged to assign mechanism of action, remove structural liabilities and perturb target selectivity. Recently, we developed new cross-coupling methods to access two alkaloids from *Galbulimima*. These syntheses led to the identification of potent ligands for the κ- and μ-opioid receptors, and optimization of NP pharmacology.[1,2] This work extended our research in naturally occurring psychotropics,[3] including salvinorin A.[4] We identified two scaffold mutations that were predicted to stabilize the salvinorin scaffold, maintain target affinity, maintain gross physicochemical properties yet increase our ability to diversify and optimize the natural product,[4] recently delivering analogs with increased potency, selectivity, stability and functional bias for G protein signaling.[5] An identical workflow led to 5-methyl-picrotoxinin, a more complex analog of picrotoxinin (PXN) that simplified synthetic access, stabilized the scaffold and allowed diversification to probe selectivity among ligand-gated ion channels (LGICs).[6]



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[2] Landwehr, E. M.; Baker, M. A.; Oguma, T.; Burdge, H. E.; Kawajiri, T.; Shenvi, R. A.* "Concise syntheses of GB22, GB13 and himgaline by cross-coupling and complete reduction" *Science*, **2022**, *375*, 1270–1274.
[3] Shevick, S. L.; Freeman, S.; Tong, G.; Russo, R. J.; Bohn, L. M.; Shenvi, R. A.* "Asymmetric syntheses of (+)- and (–)-collybolide enable re-evaluation of *kappa*-opioid receptor agonism" *ACS Cent. Sci.* **2022**, *8*, 948–954.
[4] Roach, J. J.; Sasano, Y.; Schmid, C. L.; Zaidi, S.; Katrich, V.; Stevens, R. C.; Bohn, L. M.; Shenvi, R. A.* "Dynamic Strategic Bond Analysis Yields a 10-step Synthesis of 20-nor-SalA, a Potent K-OR Agonist" ACS Central Science, **2017**, *3*, 1329–1336
[5] Hill, S. J.†, Dao, N.;† Dang, V. Q.; Stahl, E.; Bohn, L. M.; Shenvi R. A. "A route to potent, selective and biased salvinorin chemical space" **2023** Chemrxiv-2023-h7h38
[6] Tong, G.; Griffin, S.; Sader, A.; Crowell, A. B.; Beavers, K.; Watson, J.; Buchan, Z.; Chen, S.; Shenvi, R. A.* "C5 Methylation Confers Accessibility, Stability and Selectivity to Picrotoxinin" **2022,** Chemrxiv-2022-0l4nt

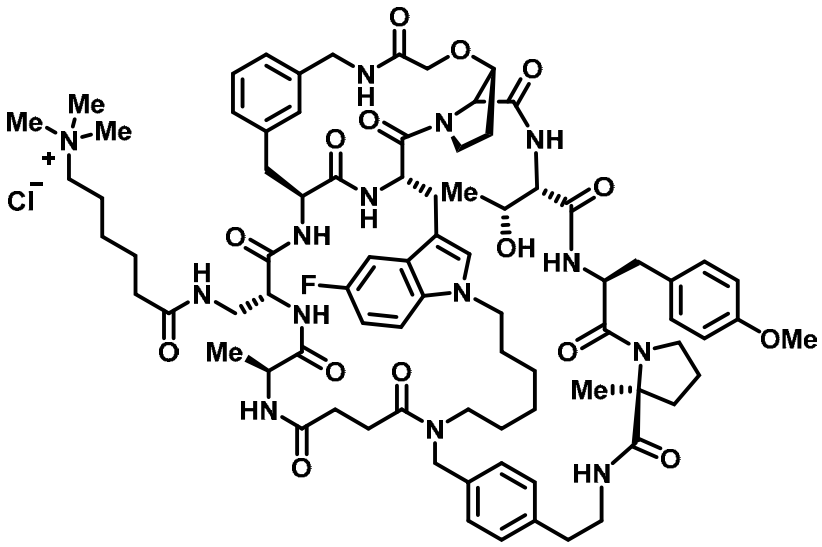
Dr. David Thaisrivongs

Director, Process Research & Development
Merck & Co., Inc.
Rahway, NJ

https://www.linkedin.com/in/david-thaisrivongs-08313777

The Largest Small Molecule: How Chemistry Enabled the Discovery and Development of PCSK9 Inhibitor MK-0616

Atherosclerotic cardiovascular disease is a leading cause of mortality globally. Inhibiting PCSK9, a validated therapeutic target in hypercholesterolemia, has been shown to significantly reduce low-density lipoprotein cholesterol (LDL-C) in patients and improve cardiovascular outcomes, but with no marketed oral PCSK9 inhibitors there has been limited real work clinical use of the three marketed injectable medicines. MK-0616 is a novel macrocyclic peptide that has demonstrated oral bioavailability and significant reductions in LDL-C in Phase 2b trials in line with the approved therapies, and will initiate Phase 3 trials later this year. This talk will cover how chemistry enabled the discovery and development of MK-0616, a unprecedentedly large “small” molecule.



MK-0616

Professor F. Dean Toste

Department of Chemistry
University of California, Berkeley
Berkeley, CA

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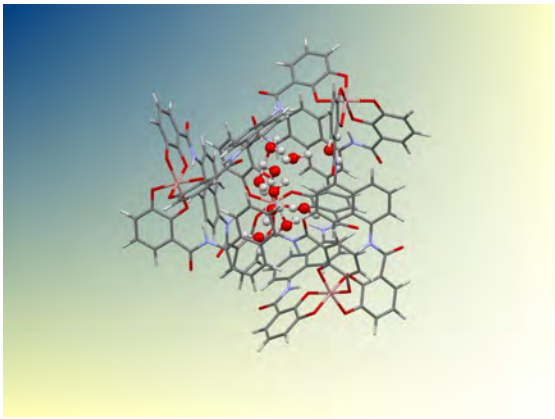
Supramolecular Hosts as Enzyme Mimics

Modern organic synthesis relies heavily on selective reactions to enable sustainable access to fine chemicals and pharmaceuticals. In enzymatic catalysis, nature employs various mechanisms to achieve the desired selectivity and activity. Similarly, we have explored organic and organometallic reactions catalyzed by self-assembled water-soluble supramolecular clusters. These supramolecular hosts offer a confined environment that can enhance selectivity and accelerate reaction rates, as well as enable new product formation not achievable by uncatalyzed processes. The lecture will focus on the research in the field of supramolecular catalysis, discussing the reactions promoted by encapsulation, the underlying interactions enabling catalysis, and the mechanisms involved.



Professor Barry Trost

Department of Chemistry
Stanford University
Stanford, CA

https://web.stanford.edu/group/bmtrost/

A Challenge for Total Synthesis of Bioactive Targets: Atom and Step Economy

A major challenge for synthesis is the enhancement of efficiency. While most attention has focused on selectivity, the question of how much of what goes into the pot actually ends up as product, which I refer to as atom economy, is equally significant. This goal addresses the twin issues of better use of raw materials in order to conserve valuable resources and minimization of the generation of waste to reduce disposal issues. There are two strategic aspects. In one, efforts are made to improve existing processes. A second and, even more challenging one, is to invent new processes. This latter alternative also has the advantage of providing for new strategic concepts for constructing complex molecules that could further streamline syntheses.

The first step is to invent reactions that theoretically are capable of having maximal atom economy or nearly so. The ideal reaction is an addition. A description of a research program that asks the question of whether new addition reactions can be rationally invented is explored. A key element is the utilization of catalysis involving alkynes as key building blocks. The chemistry largely involves simple additions wherein anything else is needed only catalytically. Using a mechanism based approach, a number of new catalytic reactions is under development. The applications of some of these to interesting biomolecular targets is the mechanism to illustrate the utility of these processes. The focal point is the new strategic approach that becomes possible and its ability to lead to concise total syntheses.

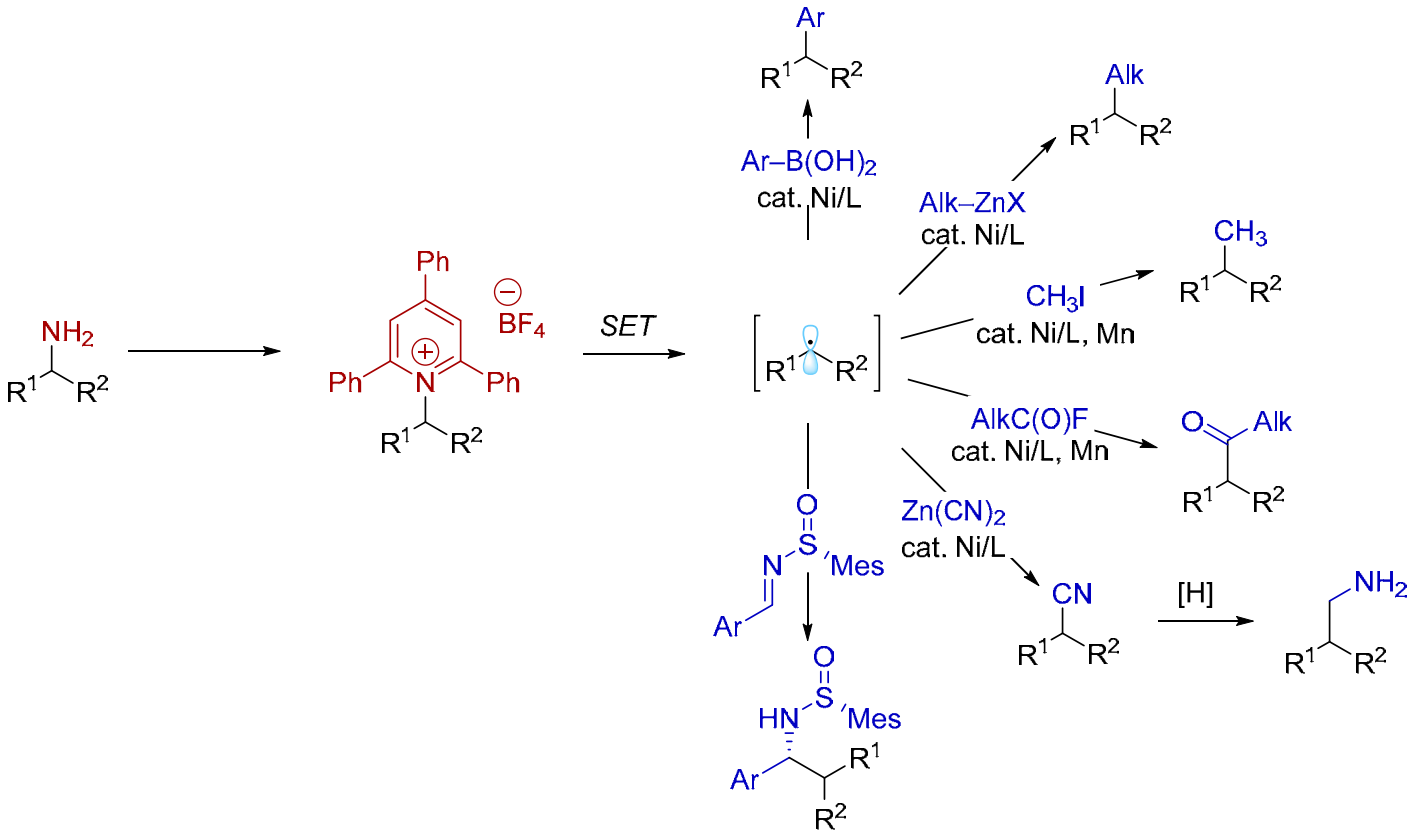
Professor Mary Watson

Department of Chemistry and Biochemistry
University of Delaware
Newark, DE

https://sites.udel.edu/mpwatson-lab/

Deaminative Cross-Couplings

Alkyl amines are widely available in both simple building blocks and late-stage intermediates. In addition, the amino group (NH_2) can be carried through multi-step syntheses in protected form, and enables straightforward purification. These features are well appreciated in the use of alkyl amines for the preparation of nitrogen-containing products. We are expanding the toolkit of reactions of alkyl amines by developing cross-coupling reactions of alkyl amine derivatives via cleavage of their carbon–nitrogen bonds. These reactions rely on the use of nickel catalysts to efficiently convert alkyl amine derivatives, specifically Katritzky pyridinium salts, into a variety of products, and provide new opportunities for the use of amines in synthesis, including in peptide substrates.



NOS Travel Awards

The following 63 attendees are recognized for their achievements with a Division of Organic Chemistry Travel Award to the 2023 NOS Meeting.

Undergraduate Travel Award Recipients

Pria Parker	Smith College
Chuhang Luo	Smith College
Xiuqi Xu	Colby College
Ciara Gillen	Occidental College
Isabelle Oberhauser	Pennsylvania State University
Matthew Politeski	Pennsylvania State Behrend
Susanna Angles	Illinois State University
Richard Rodriguez	Southwestern University

PUI Faculty Travel Awards

Sarah Zingales	University of Saint Joseph
Kaitie Cartwright	Virginia Military Institute
Todd Eckroat	Pennsylvania State Behrend
Andy Mitchell	Illinois State University
Michael Gesinski	Lawrence University
Marc MacKinnon	University of Regina
Ronald Brisbois	Macalester College
Daniel Griffith	Lafayette College
Ralph Salvatore	Southeastern University
James Vyvyan	Western Washington University
Jay Wackerly	Central College
Michael Wentzel	Augsburg University

Graduate & Post-Doc Travel Award Recipients

Mihai Popescu	Colorado State University
SangHyun Lee	University of Texas – Austin
Ignacio Camarero Temino	University of Rochester
Andrei Popov	University of Texas – Austin
Medina Afandiyeva	University of Rochester
Darean Bague	George Washington University
Brendan Wall	Iowa State University
Faith Aynekulu	University of Missouri – Columbia
Victor Jonathan	Tennessee Tech University
Prasadanie Adhihetty	University of Louisville
Mariko Morimoto	Stanford University
Brenden Fay	University of Guelph
Seth Corrie	Illinois State University
Giuliana Pavaneli	Federal University of Paraná
Zichuan Chen	University of Ottawa
Michael Doyle	University of Alberta
Angus Keto	University of Queensland
Mingxin Liu	Purdue University
Duong Ngo	Ohio State University
Tian Lan	University of Minnesota
Long Dinh	Ohio State University
Jacob Garber	University of Georgia
Yuan-Shin Shiue	University of California – Davis
Andrian Basargin	University of California – Davis
Hunter Warren	University of California – Davis
Cody Ng	University of Michigan
Qin Han Teo	University of Hong Kong
Bernard Adjei	University of Louisville
Ifeanyichukwu Promise	Illinois State University
Marymoud Erzuah	Illinois State University
Suh Hyun Kang	University of California – Berkeley
Minji Kim	University of Wisconsin
Madeline Rotella	University of Pennsylvania
Anshu Yadav	Michigan State University
Victoria Lehman	William & Mary
Favour Eze	Baylor University
Emily O'Brien	Iowa State University
Alana Duke	New York University

Salina Som	University of Central Florida
Andrea Stegner	California Institute of Technology
Arzoo Chhabra	Michigan State University
Jean Bray	Old Dominion University
Shayne Weierbach	Old Dominion University

48th National Organic Chemistry Symposium Poster Sessions

University of Notre Dame
Downes Ballroom

For each night's poster sessions, prizes for the best graduate student/ postdoc posters and for the best undergraduate posters will be awarded.

Sunday: Poster Awards will be presented Monday morning by Katherine Maloney, (ACS Division of Organic Chemistry Chair), *Point Loma Nazarene University*

Monday: Poster Awards will be presented Tuesday evening by Ryan Shenvi, *Scripps Research*

Tuesday: Poster Awards will be presented Wednesday evening by Brandon Ashfeld, *University of Notre Dame*

Wednesday: Poster Awards will be presented Thursday morning by Edward Fenlon (NOS Executive Officer-Elect), *Franklin & Marshall College*

Sunday, July 9th			
Poster #	**Title**	**Authors (Presenting*)**	**Affiliation**
1	Rh-catalysed Intermolecular C–H silylation of Arenes and Heteroarenes with $HSiMe_2(OEt)$ to Access Functional Arylalkoxysilanes	Salina Som*, Dr. Jongwook Choi., Dr. Dimitris Katsoulis, Dr. Kangsang Lee	University of Central Florida; Dow Chemical Company
2	Intramolecular vinylidene addition to alkyne by zinc transmetalation	Sourish Biswas*, Abigail Soliven, Christopher Uyeda	Purdue University
3	Di(2-picolyl)amines as Modular and Robust Ligands for Nickel-Catalyzed $C(sp^2)$-$C(sp^3)$ Cross-Electrophile Coupling	Alexander J. Rago*, Aristidis Vasilopoulos, Amanda W. Dombrowski, and Ying Wang	AbbVie Inc.
4	Kinetic and Mechanistic Studies Guide Development of a Scalable Sulfonamide Synthesis by the Direct Coupling of a Nitroarene and a Sulfinate Salt	Diana Lieberman*, Krista Dong, Morgan Walker, James Murray, Ikenna Ndukwe, Maria Silva Elipe, Sebastien Caille	Amgen
5	Lewis acid-catalyzed diastereoselective carbofunctionalization of	Avishek Guin*, Subrata Bhattacharjee, and Akkattu T. Biju	Indian Institute of Science

	bicyclobutanes employing naphthols		
6	Anaerobic Hydroxylation of C(sp^3)–H Bonds Enabled by the Synergistic Nature of Photoexcited Nitroarenes	Joshua M. Paolillo, Alana D. Duke*, Emma S. Gogarnoiu, Dan E. Wise, and Marvin Parasram	New York University
7	Copper Catalyzed sp^3 C-H Alkenylation	Ting-An Chen*, Timothy H. Warren	Michigan State University; Georgetown University
8	Copper-Catalyzed Self-Condensation of Benzamide: Domino Reactions towards Quinazolinones	Baji Baba Shaik*, Nisar Sayyad, Rajshekhar Karpoormath	University of KwaZulu-Natal (Westville Campus), South Africa.
9	Pre-assembled Air Stable Iridium Catalyst for Regioselective Amidine Directed C(sp^3)–H Borylation	Anshu Yadav*, Milton R. Smith, III, Robert E. Maleczka, Jr.	Michigan State University
10	Inter- and intramolecular (4+3) cycloadditions with epoxy allylsilanes as dienophiles	Qin Han Teo* and Pauline Chiu	The University of Hong Kong
11	Nucleophilic Carbenes Derived from Dichloromethane	Mingxin Liu*, Nguyen Le, Christopher Uyeda	Purdue University
12	New Developments in Catalytic Carbonyl-Olefin Metathesis	Timothy J. McClure*, Corinna S. Schindler	University of Michigan
13	Developing a Trifluoromethylation Strategy of Alcohols and Amines for the Synthesis of New Therapeutics and Agrochemicals	Makaya Robinson*, Sarah Leddy*, and Dr. Elsa Hinds	Saint Mary's College, Notre Dame
14	The Dichotomous Behavior of Allylsilanes in the Additions to Platinum a,b-Unsaturated Carbenes	Khoi Q. Huynh, Jeff P. Costello, Jacob P. Garber*, Eric M Ferreira	University of Georgia
15	Highly Regio-, Stereo- and Enantiocontrolled Organocatalytic Heterodihalogenation of Unsaturated Systems	Alexandra E. Lubaev, Manjula D. Rathnayake, Favour Eze*, and Liela Bayeh-Romero	Baylor University
16	Leveraging Chembead Enabled High Throughput Experimentation for Condition Optimization and Methodology Exploration.	Ana L. Aguirre*, Amanda Dombrowski, Noah P. Tu, Nathan L. Loud, Keywan A Johnson, Daniel J. Weix, Ying Wang	University of Wisconsin-Madison
17	Diastereoselective Synthesis of Cyclopropanes via the Dication Pool Strategy	Min Ji Kim*, Diana J. Wang, Karina Targos, Uriel A. Garcia, Alison F. Harris,	University of Wisconsin-Madison

		Dylan E. Holst, Ilia A. Guzei, and Zachary K. Wickens	
18	Aromatization-driven Ring Opening Functionalization of Unstrained Cycloalkanones	Enoch Kudoahor, Elvis Boateng, Nan Zheng	University of Arkansas
19	Metal-Free Addition of Alkyl Bromides to Access 3,3-Disubstituted Quinoxalinones Enabled by Visible Light Photoredox Catalysis	David Hunter*, Jennie Liao, Cheng Wang, Ugochinyere Nancy Oloyede, Joseph McLaughlin, Ab-dellatif El Marrouni	Discovery Chemistry, Merck & Co., Inc.;Process Research & Development, Merck & Co., Inc.
20	Visible-Light-Mediated [2+2]-Cycloadditions for the Formation of Macrocyclic Dimers	Cody H. Ng*, Scott L. Kim, Ilia Kevlishvili, Gianmarco Terrones, Emily R. Wearing, Heather J. Kulik, Corinna S. Schindler	University of Michigan; Massachusetts Institute of Technology
21	Leveraging Benzyne Chemistry for the Development of 1,2-cis-Selective O-Glycosylation	Tiffany Duong*, Erik Alvarez, Justin Ragains	Louisiana State University
22	Visible-Light Induced Activation of Selenoglycosides for O-Glycosylation	Erik Alvarez Valenzuela*, Tiffany Duong, Justin Ragains	Louisiana State University
23	Catalytic Cyclopropanation via Unstabilized Carbenes	Duong T. Ngo*, Jacob J. Garwood, David A. Nagib	The Ohio State University
24	Exploration of Oxoammonium Salt Reagents in Organic Synthesis	Jennifer C. Burdette*, Jean M. Bray, Aleksander I. Goranov, and Kyle M. Lambert	Old Dominion University
25	Silyloxypyrone-based (5+2) Cycloadditions: Old Roads, New Pathways	Susanna N Angles, Jacob J Bulandr, Seth I Corrie, Jacob P Grabowski, Chunyin M Law, Wentao Guo, Aaron C Pearce, Kee A Randolph, Samantha N Rokey, Jessica L Shaw, Qing Sun, Adam J Youman, John R Goodell, Dean J Tantillo, T Andrew Mitchell	Illinois State University; University of California, Davis
26	Photoinduced carbon radical generation from boronic acid by bifunctional Pyridine N-Oxide catalyst	Cristina Ascenzi Pettenuzzo*, Juliet Nganda, Yongming Deng	IUPUI
27	Applications of [5+2] Cycloadditions Towards Cleavable Tethers	Susanna Angles*, T. Andrew Mitchell, John Goodell	Illinois State University
28	Stereoconvergent and -divergent Synthesis of Tetrasubstituted Alkenes by Nickel-Catalyzed Cross-Couplings	Daniel Zell*, Cian Kingston, Janis Jermaks, Sleight Smith, Natalie Seeger, Jana Wassmer, Lauren Sirois,	Department of Small Molecule Process Chemistry,

		Chong Han, Haiming Zhang, Matthew S. Sigman, Francis Gosselin	Genentech, Inc.; University of Utah
29	Explorations into New Direct Aminoacylation Strategies	Kaitie C. Cartwright*, Elias Tyson, Thomas Wiltshire	Virginia Military Institute
30	Utilizing sulfinamide derived nitrogen centered radicals in methodology development	Mark Glossbrenner*, Sergio Gonzalez Granda, Cole Balintfy, Efrey Noten, Corey Stephenson	University of Michigan, Ann Arbor
31	A Transient Dearomatization Strategy for the Tandem C/N-Difunctionalization of Nitroarenes	Gen Li, Marissa N. Lavagnino*, Siraj Z. Ali, Shicheng Hu, Alexander T. Radosevich	Department of Chemistry, Massachusetts Institute of Technology
32	Boron-Mediated [5+2] Cycloadditions	Seth Corrie*, Andy Mitchell	Illinois State University
33	Selective electrochemical aromatic C–H amination enabled by charge-transfer mechanism	Eva Maria Alvarez*, Mohammed Ullah, Griffin M. Stewart, Christian A. Malapit.	Northwestern University
34	Multiple Site Hydrogen Isotope Labeling of Pharmaceuticals via Dual-Mode Hydrogen Atom Transfer (HAT)	Rajendra Maity*, Otto Dungan, Daohua Liu, Jingwei Li, Sumei Ren, Dan Lehnherr, Zheng Huang, Eric M. Phillips, Long Luo	Wayne State University; Department of Process Research and Development, Merck & Co., Inc.
35	Syntheses and Characterisation of Novel Solvatochromic Azomethine Ylides by Rhodium Carbene Catalysis	Yujie Luo*, Jack C. Sharland, Huw M. L. Davies	Emory University
36	Electrochemical Hydrogen Isotope Exchange of Amines Controlled by Alternating Current Frequency	Nibedita Behera*, Disni Gunasekera, Jyoti Mahajan, Joseph Frimpong, Zhen-Fei Liu and Long Luo	Wayne State University
37	Metal catalyst-free photo-induced C(sp^3)-H Borylation	He, Jiachen*, Silas P.Cook	Indiana University Bloomingdon
38	Boron Enabled Photosensitized [2+2] Cycloadditions and Synthetic Applications	Yanyao Liu*, Dongshun Ni, Bernard G. Stevenson, John R. Swierk, Vikrant Tripathy, and M. Kevin Brown	Indiana Univerisity; Binghamton University
39	Transition metal-free Alkyne-Aldehyde Reductive C-C coupling via Cascade Borylation/Olefin Isomerization	Imran Khan*, Kostiantyn Marichev	Georgia State University
40	Efforts Toward the Reductive Silylation of Cambiarenes	Marcus Devries*	Central College
41	Copper Mediated (Bis)Trifluoromethylation–Cyclization Cascade Reaction	Tongyun Zhao*, Silas Cook	Indiana University

42	Photochemical SNAr Amination of Aryl Halides with Nitrogen Nucleophiles	Sabrina Reich*, Matthew Lasky*, Matt Remy*, Melanie Sanford*	University of Michigan; DOW Chemical
43	Straightforward pentafluorosulfanylation for molecular design	Tim Gatzenmeier*, Yue Liu, Misato Akamatsu, Takashi Okazoe, Kyoko Nozaki	University of Tokyo; AGC Inc.
44	Exploring the Effectiveness of Novel Directing Groups for Rhodium-Catalyzed Decarbonylation	Bryan J. Forrest*, Isabelle M. Klanseck*, Jeffrey B. Johnson	Hope College
45	Product Distribution in the Rhodium-Catalyzed Decarbonylation of Alkyl Ketones	Jordan K. Montgomery*, Jenna R. Mustapha*, Jeffrey B. Johnson	Hope College
46	Synthesis of Welwitindolinone Alkaloid Core Scaffold	Jiyoon Kim, Kaitlyn Eckert, Kevin Rodriguez	University of Notre Dame
47	Synthesis of a highly functionalized rare natural product 6H-1,3-oxazin-6-one core from an N-tosyloxy β-lactam	Kate Marshall*, Allen Oliver, Marvin J. Miller	Montana State University; University of Notre Dame
48	sp^3-sp^3 C-C Bond Formation in Dihydroquinazolines via Unprecedented Elimination of Carbon-Bound tert-Butyl Groups During a Hypervalent Iodine Mediated CDC Reaction	Abigail R. Marshall, Haley M. Carlson, Kaylin M. Burton, R. Adam Mosey*	Lake Superior State University
49	Biomimetic Formal Total Synthesis of (+)-Artemisinin via a Simple, Regioselective Deprotonation of Amorphadiene	Nicolas A. Wilson, Nicholas A. Clanton, Eliezer Ortiz, Shawn L. Blumberg, Doug E. Frantz	University of Texas at San Antonio, Southwest Research Institute
50	New Developments in Interrupted Carbonyl-Olefin Metathesis Reactions	Sean Burns*, Corinna Schindler	University of Michigan
51	Utilizing Carbenoids for The Synthesis of a Diverse Collection of DYRK1A Inhibitors	Harrison Hill,* Zachary Tucker, Kevin Rodriguez, Francisco Huizar, Jenna Kautzky, Emily Bacher, Katelyn Eckert, Eva Gulotty, Monimoy Banerjee, Haining Liu, Olaf Wiest, Jeremiah Zartman, and Brandon Ashfeld	University of Notre Dame
52	Controlling 4π-Electrocyclizations of N-Alkenylnitrones – Diastereo- and Torquoselective Synthesis of Azetidine Nitrones	Laura Alonso*, Michael Shevlin, Laura L. Anderson	University of Illinois at Chicago; Merck & Co., Inc.
53	Stereodivergent, Kinetically Controlled Isomerization of	Camille Z. Rubel, Anne K. Ravn*, Shenghua Yang, Zi-Qi	The Scripps Research Institute; Université Lyon

	Terminal Alkenes via Nickel Catalysis	Li, Keary M. Engle, Julien C. Vantourout	
54	Exploration of photoredox reactivity of aryl dabconium salts	Mohammed Ullah*, Eva Maria Alvarez-Pari, Christian A. Malapit	Northwestern University
55	Design and Synthesis of Open-ring Analogs of Ipomoeassin F	Robert Sammelson*, Arman Khosravi, Wei Shi	Ball State University
56	Synthetic Studies Towards Corylifol A and Related Natural Products	Kaitlyn Breault*, Dr. Lauren Irwin, Dr. Mathew Piotrowski, Prof. Jakob Magolan	McMaster University
57	Carbonyl Homologation via Vinyl Sulfide Intermediates	Lara Lima*, Meghan Fragis, Jakob Magolan	McMaster University
58	C–F bond activation by an organic photoredox catalyst	Xin Liu, Alexander Green, Nicholas F. Pompetti, Arindam Sau, Yingzi Li, Yucheng Zhao, Robert S. Paton*, Niels H. Damrauer*, and Garret M. Miyake*	Colorado State University
59	Efforts Toward Merging Interceptive Decarboxylative Allylation and HexaDehydro Diels-Alder Chemistry	Eli Phillips*, Ali Scott*, Michael Slade	University of Evansville
60	Efforts Toward Synthesis and Characterization of Novel Donor-Acceptor Stenhouse Adducts	Lincoln Smith, Michael Slade	University of Evansville
61	Transition Metal Catalyzed Aza-Piancatelli Type Reaction	Megha Khandelwal*, Dr. Laina M Geary	University of Nevada Reno
62	Ni-Catalyzed 1,1- and 1,3-Aminoboration of Unactivated Alkenes	Mao-Yun Lyu,* Gabriel N. Morais, Shuming Chen, and M. Kevin Brown	Indiana University;. Oberlin College
63	Boron Enabled Photochemical Cycloadditions Reactions	Souvik Adak*, Partha S. Hazra, Carter Fox and M. Kevin Brown	Indiana University, Bloomington
64	Synthesis of Borylated Carbocycles by [2+2]-Cycloaddition and Photo Ene	Jarett M Posz*, Christohpe Salome, Thomas Fessard, and M. Kevin Brown	Indiana University; SpiroChem AG
65	Arylboration of Enecarbamates for the Synthesis of Borylated Saturated N-Heterocycles	Grace L. Trammel, Prashansa B. Kannangara*, Dmytro Vasko, Oleksandr Datsenko, Pavel Mykhailiuk, M. Kevin Brown	Indiana University; Enamine Ltd.
66	Synthesis of 2-Azanorbornanes via Strain-Release [2π + 2σ] Cycloadditions Initiated by Energy Transfer	Yu-Che Chang*, Christophe Salome, Thomas Fessard, and M. Kevin Brown	Indiana University; SpiroChem AG
67	Photosensitized [4+2] and [2+2] Cycloaddition Reactions of N-Sulfonylimines	Wang Wang*, M. Kevin Brown	Indiana University

68	Viisible Light Induced Trifluoromethylation of Glycal Substrates	Connor English, Chun-Xiao Li, Hien Nguyen	Wayne State University
69	(Radio)Fluorination and Cyanation enabled by Organic Photoredox Catalysis	Zhengbo Zhu*, David Nicewicz and Zibo Li	University of North Carolina
70	A Highly Stereoselective Thiophosphoramidation for the Synthesis of Antiviral Prodrugs	Peter Rose*, Cavan Bligh	Vertex Pharmaceuticals Incorporated
71	Pd-Catalyzed Rearrangement of 2-Benzyloxyfurans into Substituted Butenolides.	Jyoti Shah Gupta*, Doug E. Frantz	University of Texas at San Antonio
72	Development and Application of Computational Methods for the study of Protein and Transition State Dynamics	Mikaela Farrugia, Himani Patel, Taylor Quinn, Brandon Haines, Paul Helquist, Olaf Wiest	Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, Indiana 46556 2Department of Chemistry, Westmont College, Santa Barbara, California 93108

Monday, July 10th			
Poster #	**Title**	**Authors (Presenting*)**	**Affiliation**
1	**Electrochemistry in Flow: From Lab Development to Kg Scale** ***2023 Organic Process Research & Development Outstanding Publication of the Year Award Finalist***	Cecilia Bottecchia*, Dan Lehnherr, François Lévesque, Mikhail Reibarkh, Yining Ji Vailankanni L. Rodrigues, Heather Wang, Yu-hong Lam, Thomas P. Vickery, Brittany M. Armstrong, Keith A. Mattern, Kevin Stone, Michael K. Wismer, Andrew N. Singh, Erik L. Regalado, Kevin M. Maloney, Neil A. Strotman	Process Research & Development, Merck & Co., Inc.; Analytical Research and Development, Merck & Co., Inc.; Computational and Structural Chemistry, Merck & Co., Inc.; Scientific Engineering and Design, Merck & Co., Inc.
2	Total Synthesis of Hydroxylated Members of the	Kevin Seipp.*, Claudia M. Kammler., Nils O. Rossdam., Dorota	Johannes Gutenberg-Universität Mainz;.

	Oxacyclododecindione Family and their Anti-Inflammatory Potential	Ferenc., Anna M. Kiefer., Gerhard Erkel., Till Opatz.	University of Kaiserslautern
3	Synthetic optimization of a small-molecule ATG14L-Beclin 1 protein-protein interaction inhibitor for selective autophagy inhibition	Ryan S. Hippman*, Andrea C. Arrieche Suarez, Victoria A. Soliz, Qiwen Gao, Ivan Pavlinov, Gautami R. Sonarikar, and Leslie N. Aldrich.	University of Illinois Chicago
4	Structural Re-engineering of Rifamycin Antibiotics against Drug-Resistant Mycobacteria	Tian Lan*, Uday S. Ganapathy, Amir George, Yong-Mo Ahn, Sachin Sharma, Matthew Zimmerman, Vadim Molodtsov, Richard Ebright, Véronique Dartois, Joel S. Freundlich, Thomas Dick, Courtney Aldrich.	University of Minnesota; Center for Discovery and Innovation, Hackensack Meridian Health; Rutgers University; Waksman Institute, Rutgers University
5	Development of autophagy modulators that target the ATG5-ATG16L1 protein-protein interaction	Philip J. Mickel*, Zoe A. Petros, Andrew Dobria, Maryna Salkovski, and Leslie N. Aldrich	University of Illinois at Chicago
6	Progress towards target identification and validation for small-molecule autophagy modulators that improve neurodegenerative disease phenotypes.	Petros, Z. A.*, Salkovski, M., Hippman, R. S., Nguyen, T., Gowrishankar, S., Cologna, S. M., Aldrich, L. N.	University of Illinois at Chicago
7	Synthesis and optimization of autophagy modulators for evaluation in Niemann-Pick type C disease	Andrea C. Arrieche Suarez*, Qiwen Gao, Maryna Salkovski, Zoe A. Petros, Ryan S. Hippman, Leslie N. Aldrich	University of Illinois at Chicago
8	Synthesis of Novel Autophagy Inducers as Potential Therapeutics for Alzheimer's Disease	Andrew Dobria*, Ryan S. Hippman, Thomas E. Whitmarsh-Everiss, Tino Petersson, Amanda Snead, Sruchi Patel, Swetha Gowrishankar, Leslie N. Aldrich	University of Illinois Chicago; Danmarks Tekniske Universitet, Lyngby, Denmark
9	Stereoselective synthesis of (+) and (-)-cananodine	Haley M. Holliday, Kendelyn Bone, Rhemrose Sabio, James R. Vyvyan*	Western Washington University

10	Design, Synthesis, and Evaluation of Novel Psychoplastogens	Hunter T. Warren*, Winston L. Chow, Hannah N. Saeger, David. E. Olson	University of California, Davis; University of California, Davis Institute for Psychedelics and Neurotherapeutics
11	Synthesis of Bacterial Glycerophospholipids for Biomembrane Model Studies: A means to Advanced Biofuels	Felix Adulley*, Joshua O. Aggrey, Opeyemi O. Tade, John H. Teye-Kau, Enoch Asimbisa, Robert F. Standaert	East Tennessee State University
12	Amr M. El-Araby, Eva Jiménez-Faraco, Rhona Feltzer, Jose M. Martin-Garcia, Bhaskara Rao Karri, Balajee Ramachandran, Choon Kim, Jed F. Fisher, Juan A. Hermoso and Shahriar Mobashery	Andrian G. Basargin*, John D. McCorvy, David E. Olson	University of California; Medical College of Wisconsin
13	Function-Oriented Synthesis of LSD	Andrian Basargin*, John D. McCorvy, David E. Olson	University of California, Davis; Medical College of Wisconsin
14	Accessing Highly Oxidized Imidazolidinone Cores via Curtius Rearrangement: Total Synthesis of Colensolide A	Evan Savelson*, Jetze Tepe	Michigan State University
15	Harnessing Hydroxylating Enzymes for the Synthesis of Natural Products and their Analogues with Relevance to Dementia	Yi Ni Ong* and Prof. Jeremy Robertson	Department of Chemistry, University of Oxford
16	Application of 1,2,4 triazine precursor to the construction of onychine and related alkaloids	Victoria Lehman*, Yun Ma, Peyton Hayes, Johnathan Scheerer	William & Mary
17	Expanding the Toolbox of Ribosomal Synthesis: 1. Thioadenosine PTC Engineering & 2. Peptidyl Minisci Couplings	Dr. Jacob Robins*, Dr. Alexandra Kent, Dr. Chandrima Majumdar, Isaac, Knudson, Taylor Dover, Prof. Jamie Cate, Prof. Scott Miller	Yale University; University of California, Berkeley
18	Total Synthesis of (+)-Raistrickindole A and Synthetic Studies Towards (-)-Haenamindole	Yongsun Cho*, Taehwan Hwang, Amy C. Jackson, John L. Wood	Baylor University
19	Enantioselective Total Synthesis of (+)-Alterbrassicicene C and Progress Towards the Total Synthesis of (-)-Alterbrassicicene B	Weston C. Bonnet*, Noah J. Sims, Danielle M. Lawson, Joey P. Tuccinardi, John L. Wood	Baylor University
20	The Total Synthesis of (±)-Flueggeacosine C	Lin Liu, Trevor L. Olson*, John L. Wood.	Baylor University

21	Progress in the Total Synthesis of Tulongicin and its Related Analogues	Kyra Dvorak*, Jetze Tepe	Michigan State University
22	Synthesis and Computational Docking Investigations of a Purine Scaffold Inhibitor with E. coli AcrB Multidrug Efflux Pump	Aidan Montoure*, Roslyn Lampkins	University of Evansville
23	Cycloaddition Strategies Towards Monoterpenoid Quinoline Alkaloids	Shayne M. Weierbach*, Kyle M. Lambert*	Old Dominion University
24	Cycloaddition strategies towards chevalinulins A and B	Jean M. Bray*, Karen Vargas, Gessica M. Adornato, Kyle M. Lambert	Old Dominion University
25	Development of a C-C Bond Cleavage/Vinylation/Mizoroki-Heck Cascade Reaction: Application to 14- and 15-Hydroxypatchoulol Synthesis	Suh Hyun Kang*, Christina G. Na, Sierra Hart, Lucy van Dijk, Matthew Sigman, Richmond Sarpong	University of California, Berkeley; University of Utah
26	Linear (–)-Zampanolide: Flexibility in Conformation-Activity Relationships	Christian A. Umaña, Jeffrey L. Henry, Claire T. Saltzman, Dan L. Sackett, Lisa M. Jenkins, and Richard E. Taylor*	University of Notre Dame; Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health; Center for Cancer Research, National Cancer Institute
27	Design and Synthesis of Clickable Photoaffinity Probes for Binding Sites Identification on Yellow Fever Virus NS4B Target Built upon a Benzodiazepine Antiviral	Zhengyuan Jiang*, Sumangala Darsandhari, Fuxuan Wang, Nicky Hwang, Anilkumar Karampoori, Ju-Tao Guo, Jinhong Chang, Yanming Du	Baruch S. Blumberg Institute
28	Synthesis and In Silico Analysis of a Nucleobase Scaffold Ligand with Biological Receptors of Burkholderia Pseudomallei	Ellie Geittmann*, Roslyn Lampkins	University of Evansville
29	Synthesis and Computational Analysis of a Modular Purine Ligand with Francisella Tularensis Biological Receptors	Giulia Cardona*, Roslyn Lampkins	University of Evansville
30	Sensitization of Aminoglycoside Activity against Acinetobacter baumannii with the use of 2-aminoimidazole Adjuvants	Ashley N. Crotteau*, Veronica Hubble, Santiana Marrujo, Roberta Melander and Christian Melander	University of Notre Dame

31	Total Synthesis of Nagelamide W: A Cyanamide Bromide Approach for the Construction of the 2-Aminoimidazoline core	Dare E. George*, Jetze J. Tepe.	Michigan State University
32	Synthesis and In Silico Analysis of a Modular Nucleobase Ligand with Biological Receptors from Yersinia Pestis	Theresa Stark*, Roslyn Lampkins	University of Evansville
33	Biocatalytic Aza-Michael Addition of Aromatic Amines to Enone Using α-Amylase in Water	Sunil Dutt*	Thapar institute of engineering and technology, Deemed to be University Patiala
34	Progress toward the asymmetric synthesis of alopecurone C, F, and L featuring C−H insertion reactions with donor/donor rhodium carbenes	Yuan-Shin Shiue*, Matthew Dyer, Jared Shaw	University of California, Davis
35	Synthesis of Hyrtinadines C and D	Matthew, D. Politeski*, Todd, J. Eckroat	Penn State Behrend
36	Tumor-Immune Cell Targeting Chimeras (TICTACs): Targeted Immune Reprogramming of the Tumor Microenvironment	Mariko Morimoto*, Nicholas Till, Carolyn Bertozzi	Stanford University
37	Synthesis and Biochemical Activity of Isatin-Based Cholinesterase Inhibitors	Isabelle Oberhauser*, Todd Eckroat	Penn State Behrend
38	Progress towards the total enantioselective synthesis of Hamigeromycin B	Victor C. Jonathan* Drew S. Byrum, Jesse D. Carrick.	Tennessee Tech University
39	Catalytic Process of Anhydro-N-Acetylmuramic Acid Kinase (AnmK) from Pseudomonas aeruginosa	Amr M. El-Araby1, Eva Jiménez-Faraco2, Rhona Feltzer1, Jose M. Martin-Garcia2, Bhaskara Rao Karri1, Balajee Ramachandran1, Choon Kim1, Jed F. Fisher1, Juan A. Hermoso2 and Shahriar Mobashery1	University of Notre Dame; Instituto de Química-Física “Rocasolano”, Consejo Superior de Investigaciones Científicas, Madrid, Spain
40	DNA-Conjugated Small Molecule Catalysts for Targeted Drug Delivery	Chuhang Luo*, Laura Bickart, Emma Whittemore, Jingyi Sze, David Gorin	Smith College
41	Efforts Towards Optimizing the Synthesis of Cambiarenes	Kenna Burgess*	Central College
42	Leveraging a Ni-catalyzed cross electrophile coupling for the convergent synthesis of isodocarpin	Andrea Stegner*, Dr. David Charboneau, Alex Shimozono, Sarah Reisman	California Institute of Technology

43	Synthetic Studies Toward Bipolarolides A and B	Cheng Peng, Seth Freedman, Bryan Reynolds, and Scott Snyder	The University of Chicago
44	Discovering Avenolide-Type Hormone Inducers of Cryptic BGCs using Bioinformatics and Organic Synthesis	Namuunzul Otgontseren*, Christina Martinez-Brokaw, Noor Owayni, Elizabeth Parkinson	Purdue University; Purdue University
45	Total Synthesis of Pargamicin A	Taylor A. Gerrein*, Yassin M. Elbatrawi, Avraz F. Anwar, Kamlesh M. Makwana, David Degen, Richard H. Ebright, Juan R. Del Valle	University of Notre Dame; Rutgers University
46	Synthesis of Silyl Amphiphilic Lactones and their Evaluation as Modulators of Bacterial Cell-to-Cell Communication	Linnea S. Dolph1.* Emma E. Santa2., Dr. Helen E. Blackwell2., and Dr. Annaliese K. Franz1.	University of California, Davis; University of Wisconsin–Madison
47	Efforts Toward the Reductive Silylation of Cambiarenes	Brock Jackson*, Marcus Devries*	Central College
48	Synthesis and Biological Evaluation of the Circumdatin Natural Products as 20S Proteasome Activity Modulators	Sydney Cobb*, Jetze Tepe	Michigan State University
49	Nitroreductase Responsive Probes for Tumor Hypoxia Imaging	Zhumin Zhang*, Hailey Sanders, Janeala Morsby, and Prof. Bradley Smith	University of Notre Dame
50	A Platform for the Synthesis of Corynantheine-type Corynanthe Alkaloids	Yunchan Nam, Eric R. Miller, Anthony T. Tam*, Allison N. Devitt, and Karl A. Scheidt	Northwestern University
51	Progress towards selective pyrimidine recognition in ncRNA via peptide nucleic acid triplex forming oligonucleotides	Grant D. Walby*, Kyle J. Hess, James A. MacKay	Elizabethtown College
52	Chemoenzymatic Synthesis of Mycophenolic Acid	Diego Rojas*, Gonzalo Villegas Rodriguez, Alison Narayan	University of Michigan
53	Biocompatible Hydrodehalogenation and Nitroreduction	Erica E. Schultz*, Karen P. Gomez, Anna K. Garry, Diana A. Rosiles-Dueñas, Emma Clay-Barbour, Giselle Z. Schiet	Lake Forest College

54	Extraction, Purification, and Characterization of Potential Bioactive Compounds Produced by Janthinobacterium lividum TAJX1901	Andy E. Agbakpo*, Amonah T. Arije, Sean Fox, Abbas G. Shilabin	East Tennessee State University
55	Rigidification of medium size ring systems to enable medicinal chemistry.	Shashwati Paul*, Daniel Adelfinsky, Rachel Epplin, Christophe Salome, Thomas Fessard, M. Kevin Brown	Indiana University; SpiroChem AG
56	Progress Towards the Total Synthesis of Cochlearenine	Sven Richter*, Raymond Turro, Philip Böhm, Sarah Reisman	California Institute of Technology
57	Design and Development of heterospirocyclic 20S proteasome activators	Daniel Colombani-Garay, Jetze Tepe	Michigan State University
58	8(meso)-Pyridyl-BODIPYs: Effects of 2,6-substitution with Elec-tron-Withdrawing Nitro, Chloro, and Methoxycarbonyl Groups	Caroline Ndung'U*, Petia Bobadova-Parvanova, Daniel LaMaster, Dylan Goliber, Frank R. Fronczek, Maria da Graça H. Vicente	Louisiana State University; Appalachian State University
59	Towards total synthesis of Napyradiomycin A1 via catalytic asymmetric halofunctionalization	Behrad Masoudi*, Saeedeh Torabi Kohlbouni, Nastaran Salehi Marzijarani, Arvind Jaganathan, Olivia Diakantonis, Babak Borhan	Michigan State University
60	Computer-aided key step generation in alkaloid total synthesis	Yingfu Lin*, Rui Zhang, Di Wang, Tim Cernak	University of Michigan
61	Total Synthesis of Clausanisumine, a Prenylated Bicarbazole made using Alumina-Directed Ortho-Allylation	Princeton Luong*, Valeria Vergine, Mathew Piotrowski, Lauren Irwin, Eric Pettipiece, Jakob Magolan	McMaster University; Sapienza Università di Roma
62	Strongly Enhanced Stereoselectivity in the Reduction of Substituted Adamantanones by Substitution of C-5 by Positive Nitrogen and Increased Stereoselectivity in the Captures of a 5-Substitutited 2-Adamantyl Radical by Substitution of C-5 by Negative Boron	Ralph N. Salvatore* Isaiah J. Nelson, William J. le Noble, and Andrzj S. Cieplak	Southeastern University; The University of South Florida; SUNY Stony Brook

63	Investigating the Role of Conformation in Target Specificity of Polyketide ATPase Inhibitors	Bryce M. Dye*, Richard E. Taylor	University of Notre Dame
64	Design and Synthesis of Taccalonolide Bioconjugates for Preclinical Evaluation	Kayylen Fernandez*, Seth Brown, Nicholas A. Clanton, Doug E. Frantz, April L. Risinger	The University of Texas at San Antonio; UT Health San Antonio
65	Need Driven Technologies	Zhenzhen Dong*	Pharmablock
66	Synthesis of pro-drugs as Cancer Immunotherapy	Antoinette Antonucci*, Hannah Slocumb, Thoamy Thuy Vo, Vy Dong PhD, Thomas Burke PhD	University of California Irvine
67	Design and Development of Small Molecule Analogs Inspired by Taccalonolides for the Treatment of Women's Cancers	Isa Hernandez*, Kayylen Fernandez, Nicholas A. Clanton, Doug E. Frantz, April L. Risinger	The University of Texas at San Antonio; UT Health San Antonio

Tuesday, July 11th			
Poster #	**Title**	**Authors (Presenting*)**	**Affiliation**
1	Rh and Co catalyzed C–H functionalization of electron-rich alkenes and alkynes: Application to the total synthesis	Yujie Cao*, Andy Trinh, Kevin Kou	University of California, Riverside
2	Enantioselective Cobalt-Catalyzed Ring-Opening of Unstrained Heterocyclic Alkenes	Vibha Kanale*, Courtney Nuyen, Christopher Uyeda.	Purdue University
3	Hydroxy-directed iridium-catalyzed enantioselective formal β C(sp2)–H allylic alkylation of α,β-unsaturated carbonyls	Sankash Mitra*, Rahul Sarkar, Aditya Chakrabarty, Santanu Mukherjee	Indian Institute Of Science, Bengaluru
4	N-Heterocyclic Carbene-Catalyzed Aza-Michael−Mannich−Lactamization Cascade for the Enantioselective Synthesis of Pyrazoloquinolin-3-ones	Sayan Shee*, Deeptanu Sarkar, Akkattu T. Biju	Indian Institute of Science, Bangalore
5	Discovery of β-cyclocitral-derived mono-carbonyl curcumin analogs as anti-hepatocellular carcinoma agents via suppression of MAPK signaling pathway	Haoyi Han, Ali Mohammed Mohammed Alsayed, Yi Wang, Qi Yan, Ancheng Shen, Jianxia Zhang, Yanfei Ye, Zhiguo Liu,* Kun Wang,* Xiaohui Zheng*	Wenzhou Medical University, China
6	Protodemetalation of (Bipyridyl)Ni(II)–Aryl Complexes Shows Evidence for	Paige E. Piszel, Brandon J. Orzolek, Alyssa K. Olszewski, Madeline E.	Department of Chemistry, University of

	Five-, Six-, and Seven-Membered Cyclic Pathways	Rotella*, Amanda M. Spiewak, Marisa C. Kozlowski, and Daniel J. Weix	Wisconsin-Madison; Department of Chemistry, University of Pennsylvania
7	What are the redox potentials of Zn and Mn in organic solvents? How do these values impact cross-electrophile coupling?	Zhi-Ming Su*, Ruohan Deng, Shannon S. Stahl	University of Wisconsin-Madison
8	Titanium-Mediated Synthesis of Cyclobutanones	Richard S. Rodriquez*, Natalie A. Zequeira, Michelle N. Nguyen, Sydney F. Seavey, Aimee M. Rodriquez, Michael R. Gesinski	Southwestern University
9	Gold(I) Catalyzed Synthesis of 1H-Isochromenes	Zachary T. Logan*, Sophia A. Karim, Julianna M. Mouat, Zachary A. Grimm, Dakota M. Butler, Caitlin R. Lacker, Michael R. Gesinski	Southwestern University
10	Gold(I)-Catalyzed Synthesis of Naphthoquinones and Isoquinolines	Luca C. Cipleu, Sean J. Calvert, Chelsey C. Southwell, Nathaniel J. Blake, Michael R. Gesinski*	Southwestern University
11	Chiral Addition of Phenols to Epoxides using Salen Complexes	Suzanne M.Opalka, Wenli Liang, Tae Correia, Thomas Nanninga*, Nancy Wicnienski	Biogen Company; Bridge Organics Company
12	Cambiarenes: A New Class of Macrocycles for Supramolecular Applications	Jay Wackerly*	Central College
13	Cu-Catalyzed Three-Component Strategies for 1,2- and 1,5-Carboaminaton of Olefins	Andrei G. Popov*, Aja M. Nicely, Hannah C. Wendlandt, Vincent R. Viviani, Piotr Skumiał, Grace L. Trammel, Daniel G. Kohler, Samer G. Salman, Theodore L. Jefferson, Kami L. Hull	University of Texas at Austin; University of Illinois at Urbana-Champaign
14	N-Phthalimide as a Site-protecting and Stereodirecting Group in Rhodium-Catalyzed C–H Functionalization with Donor/Acceptor Carbenes	Ziyi Chen*, Qinyan Cai, Huw M. L. Davies	Emory University
15	Brønsted Acid-Catalyzed Enantioselective Lactamization of Diesters	Abigail Horchar*, Jonathan Dean, Alec Lake, Jessica Carsley,	University of North Carolina at Greensboro

		Kimberly S. Petersen, PhD.	
16	Copper(I)-mediated Atom Transfer Radical Polymerization of Synthetic Co-block Polymers	Shruti Kumta*, Adrian Amador	Snapdragon Chemistry, Inc. (A Cambrex Company)
17	Chan-Evans-Lam Oxidative O-Alkylation	Pria Parker, Angela Chavez, Danny Joubran, Abby Perce, Liangnuo Zhang, and David J. Gorin*	Smith College
18	Enzyme-Catalyzed Enantioselective Hydrolysis of 3-Substituent-2,6-piperidinedione: an important approach to the preparation of chiral key building block of PROTACs	Joanna Dai*, Jie Li, Fenglai Sun, Bingyao Sun, He Li	API Early Phase Development, WuXi STA
19	Synthesis of α-vinylboronates through Pd-catalyzed regioselective Mizoroki-Heck Reaction	Zichuan Chen*, Eric S. Isbrandt, and Stephen G. Newman	University of Ottawa
20	Rh-Catalyzed Decarbonylative Cross-Coupling between o-Carboranes and Twisted Amides	Chun-Xiao Li*, Qian Ning, Wenxuan Zhao, Hong Yan	Nanjing University
21	Organonickel Complexes as General Platforms for Electroreductive Aryl-Alkyl Couplings	Long Dinh*, Hunter Starbuck, Taylor Hamby, Matthew LaLama, Cyndi He, Dipannita Kalyani, Christo Sevov	The Ohio State University; Merck & Co.
22	Organocobaltoxime-facilitated rearrangements	River Carroll*, Owen Ahrens, Dr. Cartwright	Virginia Military Institute
23	Cobaloximes Facilitated Cycloaddition	Alexander M. Kulesa*, John P. Lagana, Kaitie Cartwright	Virginia Military Institute
24	Computationally guided design and synthesis of point chiral oxygen-containing molecules	Mihai Popescu*, Owen Smith, Madeleine Hindson, Jonathan Burton, Martin Smith, Robert Paton	Colorado State University; University of Oxford
25	Amine dehydrogenation catalyzed by a ruthenium electrochemical approach.	Ignacio Camarero Temino*, Mikhaila D. Ritz and William D. Jones.	University of Rochester
26	A novel approach to the stereoselective synthesis of indolizidine alkaloids	Ciara Gillen*, Daniel Essayan, Clarissa Kiyomura, Jeffrey Cannon	Occidental College
27	Nature-Inspired [Ni] Pyridone Complexes for Cooperative Catalysis and Mechanistic Insight	Medina Afandiyeva*, Xijue Wu, Abhishek Kadam, Rose Kennedy	University of Rochester
28	Oxidative Three-Component Carbofunctionalizations via Lewis-Base Activation of Boronic Acids	SangHyun Lee*, Samuel N. Gockel, Brittany L. Gay, Kami L. Hull;	University of Texas at Austin; University

		SangHyun Lee*., Jianyang D. Yu, Alex Kami L. Hull	of Illinois Urbana Champaign
29	Enantioselective Synthesis of Planar Chiral Macrocyclic Metacyclophanes by Pd-Catalyzed C–O Cross-Coupling	Shengkai Wei*, Liang-Yu Chen, Junqi Li	Iowa State University
30	Site - and Enantioselective Amination of Activated and Electron Deficient C–H Bonds	Emily E. Zerull, Jed Kim, Yue Fu, Wentan Liu, Peng Liu, Jennifer M. Schomaker	University of Wisconsin-Madison; University of Pittsburgh
31	A C-to-B atom swap on coumarins and dibenzolactones enabled by Ni-catalyzed decarbonylative borylation	Quang H. Luu, Tian You*, Vikas Verma, Junqi Li	Iowa State University
32	Enantioselective olefin hydrogenation by Fe- and thiol- cooperative hydrogen atom transfer (cHAT): Mechanistic insights to inform method development	Savannah M. Mason*, Sarah R. Buzsaki, Patrick L. Holland, Scott J. Miller, Julian G. West.	Yale University; Rice University
33	Caged HMG-CoA for Time Resolved Crystallography	Ryan O'Connell*, Paul Helquist, Olaf Wiest, Cynthia V. Stauffacher, Calvin N. Steussy	University of Notre Dame; Purdue University
34	A Hydrazone-Boronate Ligand for Iridium-Catalyzed C–H Borylation: Selectivity for Kinetic Products of Arenes and Pyridines Bearing CN and F Substituents	Christopher D. Peruzzi, Susanne L. Miller, Jonathan E. Dannatt, Behnaz Ghaffari, Robert E. Maleczka, Jr,* and Milton R. Smith, III	Michigan State University
35	Carbonyl Reduction via Photoredox Catalysis	Chris Boeke*, Gahan Lahiri, Aerin Mellott, Jeffrey Cannon	Occidental College
36	HTE at the University of Delaware	Jessica Sampson*	University of Delaware
37	Multi-objective optimization of a Ni-catalyzed stereoconvergent reduction of tetrasubstituted alkenes	Natalie P. Romer*, Matthew S. Sigman, Daniel Min, Abigail G. Doyle, Daniel Zell, Lauren E. Sirois, Francis Gosselin	University of Utah; University of California, Los Angeles; Genentech Inc., Small Molecule Process Chemistry
38	Mechanistic Studies of Photoredox Activation of Peroxides Using a Family of Alkoxy Radical Clocks	Amber Schuster*, Dr. Boone Evans	University of Nebraska-Lincoln
39	New Developments in Visible Light-Mediated Aza Paternò-Büchi Reactions	Emily Wearing, Seren Parikh, Yu-Cheng Yeh, Gianmarco G. Terrones, Ilia Kevlishvili, Heather J. Kulik, Corinna Schindler	University of Michigan, Ann Arbor; Massachusetts Institute of Technology

40	A Tandem Reaction Sequence for the Radiofluorination of Aryl Halides	Abdias Noel*, Taylor E. Spiller, Karsten Donabauer, Allen Brooks, Jason Witek, Peter J. Scott, Melanie S. Sanford	University of Michigan
41	Reductive homoaldol addition using dual photoredox and titanium catalysis	Songhee Lee, Allison Shao, Haeyoon Kim, Allison Bello, Jeffrey Cannon*	Occidental College
42	Building a P,N Ligand Library: Computationally-assisted Reaction Optimization	Sierra Hart*, Christoph Schotes, Jordan Dotson, Lucy van Dijk, Michael Edmund Beck, Matthew S. Sigman	University of Utah; Bayer
43	Computational and Synthetic Investigation of Allenyl Sulfenates	Matthew Smith*, Michelle Michalski, Adrian Schwan	University of Guelph
44	Photochemical synthesis of symmetric aliphatic anhydrides using copper catalysis	Pinku Tung*, Neal P. Mankad	University of Illinois at Chicago
45	Transition-Metal Catalyzed Selective Migratory C-H Functionalization of Indole-3-Carboxamide via Metal-Carbenoid Insertion	Kuang Gu*, Gregory M. Durling, Brandon L. Ashfeld	University of Notre Dame
46	Expansive Brønsted acid organocatalyst chemical space accessed by exploiting local chemical diversity in new catalyst architecture.	Andrew Smith*, Dean Toste.	University of California, Berkeley
47	Dianiline Squaraines: Synthetic and Non-synthetic Applications	Raïssa Twiringiyimana*, Emily Bacher, Brandon L. Ashfeld	University of Notre Dame
48	Nickel-Mediated Cross-Electrophile Coupling of Alkenyl Carboxylic Acids	Sileen Alomari*, Omar M. Beleh, Daniel J. Weix	University of Wisconsin-Madison
49	Rh-Catalyzed Decarbonylative Cross-coupling Between o-Carboranes and Twisted Amides: A Regioselective, Additive-free and Concise Late-stage Carboranylation	LI Chun-Xiao, NING Qian, ZHAO Wen-Xuan, LIANG Yong*, YAN Hong*	Nanjing University
50	Enantio- and Regioselective Hydroacylation of Azetines	Camryn Wallace*, Erin Kuker, Vy Dong	University of California Irvine
51	Advantages and Challenges of PROTAC Research, Development and Manufacturing	Liu Liu*	Pharmablock
53	Synthesis of Amino-Based Bifunctional Probes for Biological and Biomedical Applications	Jesbaniris Bas Concepcion, Duncan J. Wardrop, Lawrence Miller	University of Illinois Chicago

54	Progress towards the Synthesis of Unsymmetric Pyridyl-1,2,4-Complexants for Application to Minor Actinide Separations	Bolade R. Ajibola* and Jesse D. Carrick	Tennessee Technological University
55	Synthetic Access to Unsymmetric, Pyridyl-1,2,4-Triazine Complexant Scaffolds via an Oxidative / Condensation Sequence from Heteroaryl Carbaldehydes	Eric A. Agyei* and Jesse D. Carrick	Tennessee Technological University
56	Synthesis of Pyridyl-1,2,3-triazoles via an Intramolecular, DBU-mediated Cyclization from N-Tosylhydrazones	Orume J. Edirin* and Jesse D. Carrick	Tennessee Technological University
57	Progress towards the Enantioselective Total Synthesis of Hamigeromycin B, Part 1: Polyketide Synthon	Victor C. Jonathan, Alexander H. Cleveland, Jacob W. Cleveland, Ryan P. Downs, John W. Kirby, and Jesse D. Carrick	Tennessee Technological University
58	Synthesis of Ester-Functionalized Symmetric Bis-(1,2,4)-triazinyl Pyridine (BTP) Complexants towards Minor Actinide Separations from Spent Nuclear Fuel (SNF)	Samiat O. Olayiwola* and Jesse D. Carrick	Tennessee Technological University
59	Progress towards the Enantioselective Total Synthesis of Hamigeromycin B, Part 2: Aromatic Synthon	Drew S. Byrum, M. Scott Probasco, Jacob W. Cleveland, and Jesse D. Carrick	Tennessee Technological University, Cookeville, TN USA
60	Progress towards the Convergent Synthesis of Unsymmetric, Pyridyl Imid- and Oxazoles via Oxidative Cyclization of Amidines and Amides with Propargyl Sulfonates	C. Blake Hudak* and Jesse D. Carrick	Tennessee Technological University, Cookeville, TN USA
61	Progress towards the Convergent Synthesis of Unsymmetric Pyridyl-1,2,4-Triazines via an Intermolecular Aza-Michael / Condensation Sequence	Connor D. Voiles* and Jesse D. Carrick	Tennessee Technological University, Cookeville, TN USA
62	Access to C(sp3) Borylated and Silylated Cyclic Molecules: Hydrogenation of Corresponding Arenes and Heteroarenes	Arzoo Chhabra*, Sabrina Reich, Timothy M. Shannon, Robert E. Maleczka Jr., Milton R. Smith, III	Michigan State University
63	Computational Simulations and Biophysical Approaches Reveal Determinants of Ebola virus VP40 Oligomerization	Yogesh B. Narkhede*, Balindle Motsa, Roopashi Saxena, Tej Sharma, Prem Chapagain, Robert V. Stahelin, and Olaf Wiest	University of Notre Dame; Purdue University; Florida International University

Wednesday, July 12th			
Poster #	**Title**	**Authors (Presenting*)**	**Affiliation**
1	Implementation of analytical quality by design and green chemistry principles to develop a ultra-high performance liquid chromatography method for the determination of Fluocinolone Acetonide impurities from its drug substance and topical oil formulations	Siva Krishna Muchakayala*, Naresh Kumar Katari, Vishnu Murthy Marisetti	GITAM University and Sciegen Pharmaceutical
2	Accessing Homochiral, Isotopically Labelled α-Amino Acids via Chiral Aldehyde Catalysis	Michael G. J. Doyle*, Odey Bsharat, Maxime Munch, Braeden A. Mair, Christopher J. C. Cooze, Volker Derdau, Armin Bauer, Duanyang Kong, Benjamin H. Rotstein, Rylan J. Lundgren	University of Alberta; University of Ottawa; University of Ottawa Heart Institute; Sanofi-Aventis Deutschland GmbH, R&D, Integrated Drug Discovery, Isotope Chemistry
4	Origin of luminescence in solution processed functionalized GQDs	Ali Hassan*, Abbas Ahmad Khan, Muhammad Azam, Umar Farooq, Muhammad Zubair, Yu Cao	China International Science & Technology Cooperation Base for Laser Processing Robotics, Wenzhou University, China; Zhejiang provincial Key laboratory of Laser Processing Robotics, College of Mechanical and Electrical Engineering, Wenzhou University, China; Department of Physics and Department of Energy Systems Research, Ajou University, Suwon, Korea; Department of Physics, Faculty of Sciences, University of Central Punjab, Pakistan; Key Laboratory of the Ministry of Education for Advanced Catalysis Materials, Department of

			Chemistry, Zhejiang Normal University, China; Centre for Advanced Material Application CEMEA, Slovak Academy of Sciences, Bratislava, Slovak Republic
5	Thioimidates: An Obscure Functional Group Provides General Access to Peptide Bond Isosteres	Brett VanVeller	Iowa State University
6	Discovery of β-cyclocitral-derived mono-carbonyl curcumin analogs as anti-hepatocellular carcinoma agents via suppression of MAPK signaling pathway	Haoyi Han, Ali Mohammed Mohammed Alsayed, Yi Wang, Qi Yan, Ancheng Shen, Jianxia Zhang, Yanfei Ye, Zhiguo Liu ***, Kun Wang **, Xiaohui Zheng	Chemical Biology Research Center at School of Pharmaceutical Sciences, Wenzhou Medical University, 1210 University Town, Wenzhou, Zhejiang 325035, China
7	General Insertion of Amidines along the Peptide Backbone via Solid-Phase and their effects on the Secondary Structure	Emily O'Brien*, Jacob Byerly-Duke, Krishna Sharma, and Brett VanVeller	Iowa State University
8	Harnessing the Divergent Reactivity of Aziridinium Ylides for Rapid Synthesis of Azetidine and Piperidine Scaffolds	Mahzad Dehghany, Giuliana Pavaneli*, Jacob W. Kailling, Ilia Guzei, Israel Fernández, Caroline D. R. M. D'Oca, Jennifer M. Schomaker	University of Wisconsin; Universidade Federal do Paraná, Curitiba, PR, Brazil; Departamento de Química Orgánica I and Centro de Innovación en Química Avanzada (ORFEO-CINQA), Facultad de Ciencias Químicas, Universidad Complutense de Madrid, Spain
9	Synthesis of complex alkaloid-like scaffolds from tropone	Sarah K. Beitel, Elizabeth A. Foker, Aaron H. Shoemaker, Daniel R. Griffith*	Lafayette College
10	Mechanistic investigations of palladium, iron, and nickel catalyzed reactions	Chetan Joshi*; Juliet Macharia; Joe Izzo; Victor Wambua; Jennifer S. Hirschi; Mathew J. Vetticatt, Chetan Joshi1*; Patricia Lin; Tristan	Binghamton University; University of California, Irvine

		McGinnis; Jennifer S. Hirschi; Elizabeth Jarvo	
11	Synthesis of 1,2,3-Triazole-containing Fluorophores and Colorimetric Sensors	Ronald Brisbois*, Seb Sanchez,* Isabella Hackerman, Fuxuan Liu, Lizzie Nelson	Macalester College
12	alpha-Allylation of Phenolic Polycyclic Aromatic Hydrocarbons: A New Strategy for the Synthesis of Luminescent Molecular Liquids and Soft Materials	Jenna Merk, Marc R. MacKinnon	University of Regina
13	Synthesis and Derivatization of Strained Heterocycles via Photocatalysis	Elvis McFee*, Katie Rykaczewski, Corinna Schindler	Univeristy of Michigan
14	Acyliminium route to a combined isoindoline-indolizidine scaffold	Bernard Louis Adjei* and Frederick A. Luzzio.	University of Louisville, Kentucky.
15	Umpolung Biginelli: a potential new multicomponent reaction	Dr. Sarah Zingales*, Dr. Michael Wentzel*	University of Saint Joseph; Augsburg University
16	Birds of a feather do chemistry together: Organic Chemistry Research Collaborations across PUIs	Dr. Michael Wentzel*, Dr. Sarah Zingales*	Augsburg University; University of Saint Joseph
17	Attached Nitrogen Test by 13C–14N Solid-State NMR Spectroscopy for the Structure Determination of Heterocyclic Isomers	Brendan J. Wall*, Rick W. Dorn, Sarah B. Ference, Sean R. Norris, Joseph W. Lubach, Aaron J. Rossini, Brett VanVeller	Iowa State University; Ames Laboratory, U.S. Department of Energy; Genentech, Inc.
18	Dearomative Oxydopyrylium-Based [5+2] Cycloaddition Reaction	Marymoud Erzuah*, Ifeanyichukwu Promise, Andy Mitchell	Illinois State University
19	Amide Assisted [5+2] Oxidopyrylium Dearomative Cycloadditions.	Marymoud Erzuah*	Illinois State University.
20	Enhanced Thermoelectric Performances of Carbon Nanotube-Based Organic Hybrids Enabled by Energy Level Control	Tae-hoon Kim, Jong-In Hong*	Seoul National University
21	Towards the Synthesis of Sulfur-Containing Curcuminoids	Brenden C. Fay*, Adrian L. Schwan	University of Guelph
22	Utilizing DFT to gain mechanistic insight into nickel sp2-sp3 catalysis and [4+1] cycloadditions	Michael Maloney*, Eva Gulotty, Brandon Ashfeld, Paul Helquist, Olaf Wiest	University of Notre Dame

23	Synthesis of Oxacalixarenes That Incorporate Pyridine N-Oxides and 1,5-Dihydroxynaphthalenes	Xiuqi Xu*, Kevin Lucio-Acero, Jeffrey L. Katz	Colby College
24	Synthesis of Imidazolidinethiones	Todd J. Eckroat*, Isabelle A. Oberhauser, Matthew D. Politeski	Penn State Behrend
26	Machine Learning Based Reaction Prediction of Diels–Alder and other Pericyclic Reactions	Angus Keto, Taicheng Guo, Xiangliang Zhang, Elizabeth Krenske and Olaf Wiest	University of Queensland; University of Notre Dame;
27	FR900098 a,B-Unsaturated O-linked Analogs as Inhibitors of the MEP Pathway	Darean Bague*, Robin D. Couch, Helena I. Boshoff, Dana Hodge, Audrey R. Odom John, and Cynthia S. Dowd	The George Washington University; George Mason University; Tuberculosis Research Section, LCIM, NIAID/NIH; Children's Hospital of Philadelphia: Division of Infectious Diseases
28	Surface-Functionalized Au-MPCs Chemiresistive Films to Exploit H-Bonding, Cation-π, and Metal-Halide Interactions	Prasadanie K. Adhihetty, Sujoy Halder, Zhenzhen Xie, Mandapati V. Ramakrishnam Raju, Xiao-An Fu* , Michael H. Nantz*	University of Louisville
29	Study of lipid binding interactions to phenyl-pyridinium receptors in cucubit[8]uril CB[8]	Faith Aynekulu*, Anusha Bade, Ming Xu, Timothy E. Glass	University of Missouri-Columbia
31	Photophysical Properties of Hybrid Porphyrin-Natural Product Compounds	Jason Stewart*, Holly McAnlis, Sean Steinke, Claudia Turro, Paul Bonvallet	College of Wooster; The Ohio State University
32	[13]Graphanyl-X, Expanding the 3D Saturate Space	Alex Kwok Hei Chu*, Antonio Rizzo, Pauline Chiu	The University of Hong Kong
33	Assembly of spirobenzo[f]chromeneisoindolinones from anilines, 2-acetylbenzoic acid and 2-naphthol Mannich bases	Aditya Vardhan, Ahmad Imran, Katherine Baxter, and Amitabh Jha*	Acadia University, Wolfville, Canada
34	N-Aminoglycine and Its Derivatives Stabilize PPII Secondary Structure	Benjamin H. Rajewski, Madison M. Wright*, Taylor A. Gerrein, and Juan R. Del Valle*	University of Notre Dame

35	Total synthesis and chemical stability of pseudouridimycin and analogs	Avraz F. Anwar*,Christopher F. Cain, Michael J. Garza, David Degen, Richard H. Ebright, Juan R. Del Valle	University of Notre Dame; Rutgers University
36	Probing Post-Transition State Bifurcations in Reactions Between Boroles and Unsaturated Hydrocarbons	Sam (Ngan) Le, Aziz Mohammed, Shuming Chen*	Oberlin College
37	Learning from nanomole-scale HTE datasets using the kraken monosphosphine ligand library	Jamie A. Cadge*, Neal W. Sach and Matthew S. Sigman	University of Utah; Pfizer
38	Isolation and Structural Determination of Bioactive Metabolites from the Soil Bacterium, Arthrobacter sp. TAJX1902	Amonah Arije*, Andy Agbakpo, Sean Fox, Abbas G. Shilabin	East Tennessee State University
39	Elimination Reactions of beta-Borosulfoxides: A Computational Investigation of Mechanism and Stability	Eric A. Nicol, Adrian L. Schwan*	University of Guelph
40	Synthesis of indole-fused sulfur-containing polycyclic heterocycles	Naomi Suitor, Mukund Jha*	Nipissing University, Ontario, Canada
41	Cucurbit[7]uril Encapsulation of N,N-Dimethylamino Azobenzenes in Water	Kejia Shi*, Sai Shradha Reddy Kommidi, Bradley D. Smith	University of Notre Dame
42	Efforts towards the sulfonation of cambiarenes	Jaxon Thompson*, Bronwyn Metcalf, Jay Wm. Wackerly	Central College
43	First Steps toward New 4-Substituted Long-Wavelength Boron-Difluoride-bridged Quinolinyl Phenyl Azo Dyes	Jane E DeGroot*, Lucas Khemache*, Lauren M Tucker*, Ali J Bache, Eli S Arrondo, Thomas DW Cygan, Colin D Bradley, Jason G Gillmore	Hope College
44	Thionation of Pyromellitic and Mellophanic Diimides	Eliza Anderson-Lefort*, Dennis Cao	Macalester College
45	Robust Aromatic Dihydrazides	Sam Mamicha and Dennis Cao	Macalester College
46	Cycloaddition Approach for the Synthesis of Acene Ortho-Diimides and their Characterization	Xavier Alexander Calicdan*, and Dennis Cao	Macalester College
47	Iron and Thiol Co-Catalysis in Site-Selective Olefin Hydrogenation	Hanin Sarhan*, Patrick L. Holland, Scott J. Miller	Yale University

48	Cesium Mediated Regioselectivity of Nucleophilic Addition to 1,2,3-Triazine 1-Oxides	William Hughes*, Soumen Biswas, Luca De Angelis, Graham Haug, Ramon Treviño, Oleg Larionov, Michael P. Doyle	The University of Texas at San Antonio
49	Synthesis of 3-alkylamide-2-amino-4-quinazolinones as potential antiparasitic agents	Kelly E. Kim*, Jason R. Comber, Alex Pursel, Grant C. Hobby, Carter J. McCormick, Matthew F. Fisher, Kyle M. Marshall	University of Washington Tacoma
50	Cycloaddition of Maleimides and Arynes toward Ortho-Diimides	Daniela Castellanos*, Dennis Cao	Macalester College
51	Synthesis of 7-substituted quinoline-2(1H)-ones from meta-substituted anilines.	Marisol Varela Ausec*, Olivia Galando*, Mary Payne, Eliott Wright, Sara Martin	The College of Wooster
52	Exploration and synthesis of azaacene tetraimides; potential molecular semiconductors	Baela Funk*, Dennis Cao	Macalester College
53	Synthesis of Pyridine Derivatives: Cycloaddition/Cycloreversion of 1,4-Oxazinone Intermediates	Jonathan Scheerer, Adrianne Kinsey, Zannatul Shahla, Lynleigh Young	College of William and Mary
54	Biocatalytic cross-coupling of phenols and quinolones	Erica Ko*, Casey Roos, Lauren Murray, Angela Cheong, Alison Narayan	University of Michigan
56	Synthesis of Argemone mexicana-Inspired Antimicrobial Agents	Hannah Bhakta*, Jessica Villegas, Juan Ostos-Hernandez, Danielle Orozco-Nunnelly, Jeffrey Pruet	Valparaiso University
57	Identification of Activity Hotspots by Multi-Threshold Analysis	Austin LeSueur*, Ellie Peters, Hanna Clements, Maria Adrover Castellano, David Sherman, Matthew Sigman	University of Utah; University of Michigan
58	Experimental Evidence of Nucleophile Assisted Alkene Activation	Mitchell Maday*, Kumar Dilip Ashtekar, Richard J. Staples, James E. Jackson, Babak Borhan	Michigan State University
59	Mechanistic Insights into the O-Selective Alkylation of Ambident 2-Quinolinone Nucleophiles	Cody Phillips*, Roberto Silva	The University of Texas at San Antonio

		Villatoro, Doug E. Frantz	
60	An Olefinic Cofactor for Halogen Bonding Catalysis	Ernest Wolke, Chloe Villa*, and Dr. Wei Li	The University of Toledo
61	Tunable [3+2] and [4+2] annulations for pyrrolidine and piperidine synthesis	Jeewani P. Ariyarathna, Prabagar Baskaran, Akanksha Chhikara, Navdeep Kaur, Alex M. Nguyen,* Shashini M. Premathilaka, Michelle M. Huynh, Jonathon T. Truong, and Wei Li	The University of Toledo
62	Regiodivergent Synthesis of O- and N-Containing Heterocycles: Applicable to Hypervalent Iodine Catalysis	Akanksha Chhikara* and Wei Li	The University of Toledo

INDUSTRY SESSIONS

Description: The success of the NOS has been due in large part by the generous contributions by organizations across a variety of industries. The afternoon Industry Sessions offers a unique opportunity to connect with representatives from different facets of industry and spark young careers within organic chemistry. Join us and learn about these companies and their available opportunities!

Co-Chairs: Jacqui Hoffman and Tejas Shah
Location: DeBartolo Hall, Room 155

Monday, July 10th

1:00 – 3:00 pm **Science Communication Workshop**
Shahir Rizk, *Indiana University South Bend*

"Communicating your research in a world of misinformation" The workshop uses interactive games to train PhD students, postdocs, and early career scientists on how to engage the public in meaningful conversations about research. The activities are designed to help the participants identify their strengths and expertise with a focus on how to address the rising public distrust in science. We provide techniques on how to effectively communicate ideas in-person, or through writing (blogs, op-eds, etc), and how to use art and storytelling to create interest and engage a wider audience.

3:00 – 3:15 pm **Break**

3:15 – 3:45 pm **2023 OPRD Outstanding Publication of the Year Finalist –** James Murray, ***Amgen***

3:45 – 4:00 pm Jeff Kallemeyn and Ben Bergstrom, ***Abbvie***

4:00 – 4:15 pm Will Lau, ***Novartis***

4:15 – 4:30 pm Michael Mandler, ***BMS***

4:30 – 5:00 pm **Networking**

Tuesday, July 11th

1:30 – 1:45 pm David Ford, ***Snapdragon Chemistry***

1:45 – 2:00 pm Brett Hopkins, ***Corteva***

2:00 – 2:15 pm Michael Achmatowicz, ***Mirati***

2:15 – 2:30 pm Zhenzhen Dong, ***PharmaBlock***

2:30 – 2:45 pm	Mary Mader, ***Indiana Biosciences Research Institute*** **(IBRI)**
2:45 – 3:00 pm	**Break**
3:00 – 3:15 pm	Jacqui Hoffman, ***Pfizer***
3:15 – 3:30 pm	Ravi Rai, ***Curia***
3:30 – 3:45 pm	Gilmar Brito, ***Merck***
3:45 – 4:00 pm	Stan Kolis, ***Eli Lilly*** **& Company**
4:00 – 5:00 pm	**Networking**

ACADEMIC SESSION

Chairs: Jeff Katz (Colby College), Ronald Brisbois (Macalester College), Richard Broene (Bowdoin College)

Location: DeBartolo Hall, Room 155

Wednesday, July 12th

1:00 – 5:00 pm Undergraduate Context Session

Increasing numbers of undergraduate chemists have been participating in the National Organic Symposium. Although undergraduate participants can most often grasp the overarching issue(s) of seminar and poster presentations, their backgrounds do not always permit them to instantaneously register understanding of such things as named reactions and experimental techniques invoked.

This undergraduate Context Session provides a collegial venue in which undergraduate participants can ask the kinds of clarifying questions—from simple definitional aspects to reaction mechanisms to spectroscopic methods to people and chemical history—they would not feel comfortable asking from the floor of an NOS session. The Context Session is moderated by faculty who solicit a list of questions from undergraduates in attendance.

In an effort to enhance connections between the undergraduates attending the Context Session, the first opportunity to "go to the board" and provide an explanation to any question is offered to undergraduates with background in those specific areas. The faculty moderators, and other advanced students and faculty who are present, weigh in with further comments only after undergraduates have had the chance to edify each other as a function of their different backgrounds. We welcome and encourage participation from undergraduates, graduate students, postdoctoral researchers, scientists from industry, and faculty at all levels.

NOS Activities

Organized Activities

Indiana Dunes National Park (Monday):

Indiana Dunes National Park was redesignated as the nation's 61st national park on February 15, 2019. Lake Michigan's might has influenced Indiana Dunes for millennia. Wind and waves have shaped the land, leaving a rich mosaic of habitats along these 15 miles of Indiana coast. Over 50 miles of trails lead through shifting sand dunes, quiet woodlands, sunny prairies and lush wetlands. Known for its striking plant and bird diversity, it's easy to find inspiration throughout the park's 15,000 acres.

Located 45 min away by bus
Number of Attendees: 50
Date: Monday, July 10
Website: https://www.nps.gov/indu/index.htm

Michigan Wineries (Lemon Creek, Round Barn, Hickory Creek):

Local wineries located 30 minutes from Notre Dame. Bus will shuttle attendees to the wineries, where tastings are offered.

Fee: Cost of tastings
Number of Attendees: 50 (must be 21 or older)
Date: Wednesday, July 12
Website: https://www.lemoncreekwinery.com/, https://roundbarn.com/, https://www.hickorycreekwinery.com/

Things to do in / near South Bend

Potato Creek State Park: Potato Creek is in north-central Indiana about 12 miles southwest of South Bend. The park features a wide array of activities and facilities for year-round enjoyment. Making reservations is advisable to enjoy some of this popular park's facilities.

A variety of natural habitats await, including the 327-acre Worster Lake, old fields, mature woodlands, restored prairies, and diverse wetlands. Each offers unique opportunities for plant and wildlife observation.

Website: https://www.in.gov/dnr/state-parks/parks-lakes/potato-creek-state-park/

Studebaker Museum: https://www.studebakermuseum.org/

The Studebaker National Museum is devoted to sharing the story of the automotive and industrial history of South Bend and the greater region through the display and interpretation of Studebaker vehicles along with related industrial artifacts. The Collection also includes seven objects designated as “National Treasures” including the carriage Abraham Lincoln rode to Ford’s Theatre the night of his assassination, and a carriage used by the Marquis de Lafayette during his farewell tour of United States in 1824.

The Studebaker-Bendix Heritage Trail takes you on a path highlighting some of South Bend's influential titans of industry. Their successful endeavors employed thousands of people and impacted the community from the factories and homes they built to the churches they funded.

Canoeing on the St. Joe River: https://eastracewaterway.com/ or http://www.sjcparks.org/1865/Ferrettie-Baugo-Creek-Canoe-Kayak

Guided Tour of Campus: Explore the Notre Dame campus with daily guided tours leaving from Visitor Center M-F 10 am, 1 pm, 3 pm.

Libations (All local brewery and distilleries):

Crooked Ewe
1047 Lincolnway E, South Bend, IN 46601
Website: http://crookedewe.com/

South Bend Brew Werks
321 S Main St Suite 105B, South Bend, IN 46601
Website: https://www.southbendbrewwerks.com

Evil Czech
3703 N Main St, Mishawaka, IN 46545
Website: http://www.evilczech.com/

Danny Boy Draft Works
54721 Burdette St, South Bend, IN 46637
Website: https://dannyboysb.com/

Iron Hand Wine Bar
1025 Northside Blvd, South Bend, IN 46615
Website: http://ironhandvineyard.com/

Running:

There are several trails and running routes to accommodate different distances, many of which run along the St. Joseph River for a scenic distraction.
Website: https://www.visitsouthbend.com/blog/post/south-bend-running-routes/

Golf:

Notre Dame has two golf courses on or near campus. Book your tee time in advance!

Warren Golf Course
Warren Golf Course Clubhouse, 110, Notre Dame, IN 46556
Website: https://warrengolfcourse.com/

Burke Golf Course
46 Dorr Rd, Notre Dame, IN 46556
Website: https://burkegolfcourse.nd.edu/

Dining

There are dozens of restaurants in South Bend to choose from! Ask a volunteer if you need help deciding!

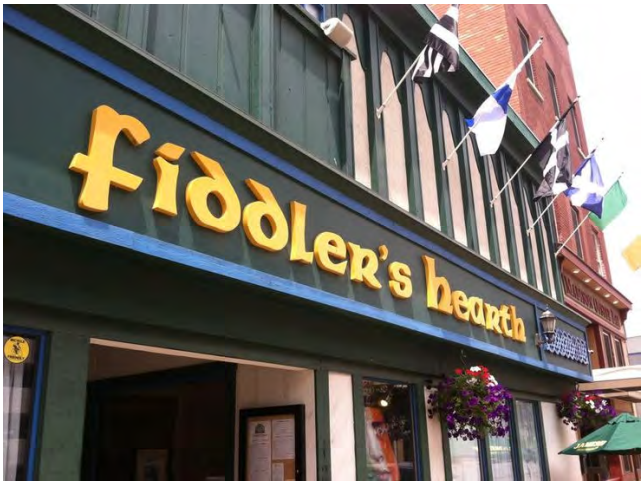
South Bend Chocolate Café (Chocolate, cakes and ice cream)
122 S Michigan St, South Bend, IN 46601
Website:http://www.sbchocolate.com/

LaSalle Grill (Steakhouse)
115 W Colfax Ave, South Bend, IN 46601
Website: https://lasallegrill.com/

Roselily (New American)
701 S Main St, South Bend, IN 46601
Website: http://roselilysouthbend.com/

Cafe Navarre (New American)
101 N Michigan St, South Bend, IN 46601
Website: http://cafenavarre.co/

Fiddler's Hearth (Irish Pub)
127 N Main St, South Bend, IN 46601
Website: https://fiddlershearth.com/



Fatbird (Southern Food, Cocktails)
103 W Colfax Ave, South Bend, IN 46601
Website: http://www.fatbird-sb.com/

Dainty Maid Food Hall
231 S Michigan St, South Bend, IN 46601
Website: http://daintymaid.co/

The Lauber
504 E Lasalle Ave, South Bend, IN 46617
Website: http://www.thelauber.com/

Howard Park Public House
602 E Jefferson Blvd, South Bend, IN 46617
Website:https://howardparkpublichouse.com/

Restaurants within walking distance (good for lunch)

The Eddy Street Commons: Across from the Performing Art Center, has various chain restaurants such as Chipotle, Blaze Pizza, Five Guys and Brothers Bar & Grill

Rohr’s at the Morris Inn: American

Duncan Student Center: Food court with Chick-fil-A, Modern Market and Hagerty Family Café

O'Rourke's Public House: Irish Pub Food

Bru Burger

Campus Map

Roger Adams Tailgate Dinner – Stadium Concourse

Poster Sessions & Reception – Downes Ballroom

Industry & Academic Sessions

Fairfield Inn & Embassy Suites