2026

# Graduate Research Symposium


Division of Organic Chemistry
American Chemical Society

Graduate Research Symposium

July 23 - 26, 2026

# *DOC Graduate Research Symposium*

## *Emory University, Atlanta, GA, July 23-26, 2026*

**THURSDAY, JULY 23**

1:30 pm – 4:30 pm Registration and **Check-In – Student Center**

2:30 pm – 4:30 pm Industrial Poster Session **– Student Center**

4:30 pm – 5:45 pm Pizza Dinner – **Student Center**

**THURSDAY EVENING** ***Presiding: P. A. Evans – Queen's University*** **–Student Center**

5:45 pm – 6:00 pm **Welcome – P. Andrew Evans**

6:00 pm – 6:50 pm **David Sarlah – Rice University**

*Empowering Organic Synthesis: From Unique Methods to Complex Natural Products*

6:50 pm – 7:10 pm **Yilin Cao**

Scripps Research

*Alkyl Sulfonyl Fluorides as Ambiphiles in the Stereoselective Palladium(II)-Catalyzed Cyclopropanation of Unactivated Alkenes*

7:10 pm – 7:30 pm **Gerard Porter**

Massachusetts Institute of Technology

*Chemical Probes to Study Teichoic Acid Assembly and Dynamics*

7:30 pm – 7:50 pm **Emma Simmons**

Rice University

*Total Synthesis of Ineleganane Diterpenoids*

7:50 pm – 8:10 pm **Sean Calvert**

University of Michigan

*Direct Acylation of Alkyl and Aryl Bromides via Nickel-Catalyzed Aldehyde C–H Functionalization*

8:10 pm – 8:30 pm **Samirah Muhammad**

Clemson University

*Enantioselective Deoxygenative Upcycling of PET via Titanium Multicatalysis and SuFEx Mediated Deoxygenation of Alcohols*

8:30 pm – 11:30 pm Reception and **Poster Session 1 – Student Center**

**FRIDAY, JULY 24** ***Presiding: Simon Blakey, Emory University*** **– Student Center**

7:45 am – 9:00 am Breakfast (Students)

9:00 am – 9:40 am **Erika Milczek – Curie Co.**

*Regulatory Disruption as Opportunity: Where Chemists Will Create the Next Trillion-Dollar Markets*

9:40 am – 10:00 am **Sylvia Lou**
University of California, Irvine
*Lack of Evidence Supporting Widespread Use of 1,2-Dibromoethane as an Activator for Zinc: Alternative Stirring or TMSCl Activation*

10:00 am – 10:20 am **Estefania Armendariz**
Louisiana State University
*Building Complexity in Cyclic Scaffolds through Stereocontrolled Reactions*

10:20 am – 10:50 am Coffee Break

10:50 am – 11:40 am **Davita Watkins – The Ohio State University**
*Amphiphilic Dendritic Hybrid Block Copolymers (HBCs) for Theranostic Nanomedicine*

11:40 pm – 12:00 pm **Tyler Ball**
Cornell University
*Grafting Polymer Brushes from Nylon Surfaces via Hydrogen Atom Transfer*

12:00 pm – 12:15 pm **Group Photograph – TBA**

12:15 pm – 2:30 pm Lunch and **Poster Session 1 – Student Center**

**WORKSHOPS: *Presiding – P. Andrew Evans* – Queen's University**

**WORKSHOP 1: Academia and Entrepreneurship**

2:30 pm – 3:20 pm **Erick M. Carreira – ACS Publications**
*The Evolutionary Process of Writing a Scientific Paper*

3:20 pm – 3:50 pm **Chuck Frazier – Nurture Bio**
*Building from Scratch: Startups, Entrepreneurship, and Transforming Ideas into Successful Products*

3:50 pm – 4:10 pm Coffee Break

4:10 pm – 5:10 pm **WORKSHOP 2: Academic Life**
*Simon Blakey (Emory University), Erick Carreira (ETH), Christina Cooley (Trinity), P. Andrew Evans (Queen's University), David Sarlah (Rice University), Jonathan Scheerer (College of William and Mary), Davita Watkins (Ohio State University), Yang Yang (UCSB),*

5:15 pm – 6:30 pm Dinner – **Carlos Museum (Ackerman Hall)**

**FRIDAY EVENING *Presiding*: *Cooper Taylor,* Incyte – Student Center**

6:40 pm – 7:20 pm **Callie Bryan – J&J**
*Discovery of Small Molecule Inhibitors of Bfl-1*

7:20 pm – 7:40 pm **Duc Ly**
Emory University
*Asymmetric Synthesis of Axially Chiral Spiro[3.3]heptane by Site-Selective C–H Functionalization*

7:40 – 8:40 pm **WORKSHOP 3: Industrial Life**

*Please see the assignments in the tables at the end of the document.*

8:40 pm – 11:30 pm Reception and **Poster Session 2 – Location**

**SATURDAY, JULY 25** ***Presiding: Dani Schultz, Merck*** **– Student Center**

7:45 am – 9:00 am Breakfast (Students)

9:00 am – 9:50 am **Yang Yang – UC Santa Barbara**

*New Strategies for Stereoselective Radical Biocatalysis*

9:50 am – 10:10 am **Anna Cai**

Princeton University

*Radical Sampling Enabled Saturated N-Heterocycle Cyclization*

10:10 am – 10:30 am **Zackary Firestone**

Florida State University

*Total Synthesis of Two Aromatized Halicyclamines*

10:30 am – 10:50 am Coffee Break – **Location**

10:50 am – 11:30 am **Lauren Sirois – Genentech**

*Process Chemistry Problem Solving for a Scalable Synthesis of SHP2 Inhibitor GDC-1971*

11:30 am – 11:50 am **Carys Obertone**

University of Chicago

*Development and Mechanistic Investigations of Anomeric Amide Reagents*

11:50 am – 12:10 pm **Dyllan Ly**

UC Santa Barbara

*Stereoselective Reactions Enabled by Organolithium Aggregation: Recent Developments of Chiral Lithium Amides and Their Applications in Natural Product Total Synthesis*

12:10 am – 12:30 pm **Jessica Zhong**

Northwestern University

*Discovery of Cross-Organoboron Coupling and Carboxylic Acid–Boronic Acid Cross-Coupling Reactions*

12:30 pm – 2:30 pm Lunch and **Poster Session 2 – Student Center**

**SATURDAY AFTERNOON** ***Presiding: Mingji Dai, Emory University*** **– Student Center**

2:30 pm – 3:20 pm **Jonathan Scheerer – College of William and Mary**

*Domino Reaction Processes for the Synthesis of Heterocyclic Compounds*

3:20 pm – 3:40 pm **Poulami Mukherjee**

UCLA

*Integrated Experimental-Computational Strategies for Sustainable Synthesis: Enabling Pharmaceutical Building Blocks*

3:40 pm – 4:10 pm Coffee Break

4:10 pm – 4:30 pm **Michael Rodriguez**
UNC Chapel Hill
*Cobalt-Catalyzed Alkene Cyclohydrocarbonylations Promoted by Light*

4:30 pm – 4:50 pm **Parker Staub**
University of Minnesota Twin Cities
*Addressing Limitations in Alkene Hydroacylation with Chiral Transient Directing Groups*

4:50 pm – 5:10 pm **Suha Yacoob**
University of Wisconsin-Madison
*Complementary Electrochemical and Photochemical Approaches Towards Oxidation of Challenging C–H bonds Using Relatively Mild Oxidants*

5:10 pm – 5:30 pm **Avinash Choudhury**
Texas A&M University
*Bifunctional Aziridines from Photochemically Generated $FSO_2NH_2$ for SuFEx Diversification of Alkenes*

5:30 pm – 8:30 pm Dinner TBD

8:30 pm Drinks and Games: **Emory Conference Center Hotel Wisteria Lanes**

**SUNDAY, JULY 26** ***Presiding: Christina Cooley, Trinity Univ*** **– Student Center**

7:45 am – 9:00 am Breakfast (Students)

9:00 am – 9:40 am **Dahye Kang – Novartis**
*AI/ML-Powered Digital Workflows to Advance Med Chem Projects*

9:40 am – 10:00 am **Yetong Lin**
Stony Brook University
*Catalytic Control over Alkoxyl Radicals by Rational Design of Ti-LMCT Photocatalysis*

10:00 am – 10:20 am **Jordan Artzy**
University of Pennsylvania
*Biomimetic Synthesis of Natural Products via Non-Classical Carbocations*

10:20 am – 10:50 am Coffee Break

10:50 am – 11:10 am **Ramsey Goodner**
Yale University
*Group IX Metal-Catalyzed C–H Activation and Sequential Addition for the Synthesis of Complex Amines and Alcohols*

11:10 am – 11:30 am **Vivian Nguyen**
Colorado State University
*Advancing Halogen Transfer Chemistry to Establish a General Benzylic C–H Amination Platform*

11:30 am – 11:50 pm **Rene Garcia Del Valle**
UT Southwestern

*Diastereoselective Trifunctionalization of Alkenes via Bromoaminocyclization of Hetero-Ene Adducts*

11:50 pm – 1:00 pm Lunch – **Chemistry Commons, Atwood Chemistry Hall**

12:00 pm – 2:00 pm Check out and Depart

***THURSDAY PM & FRIDAY* – POSTER SESSION 1 – Student Center**

**1.** **Lillian Adams – St. Louis University**
*Multicomponent Opportunities Mediated by Iron β-diketiminato Complexes*

**2.** **Max Balderas – UT Southwestern Medical Center**
*Advances Toward the Ewing Sarcoma Cytotoxin — Altertoxin II*

**3.** **Summer Brown – University of Florida**
*Chiral Broadband-Emitting Phenazine Chromophores*

**4.** **Sean Burns – University of Michigan and British Columbia**
*Desulfurative Borylation of Carbon-Sulfur Bonds*

**5.** **Aidan Clarkson – University of North Carolina at Chapel Hill**
*Stereocontrolled Synthesis of Architecturally Challenging Molecules*

**6.** **Scott Dawson – Wake Forest University**
*Enzyme-Activated Hydrogen Sulfide Donors that Simultaneously Release a Therapeutic Payload*

**7.** **Andras Domokos – University of California, Davis**
*Clicks, Trips, and Psychedelics: Synthesis and Evaluation of Tools for Exploring Psychedelic Action*

**8.** **Mohamed Elsayed – The Ohio State University**
*Bimodal Reactivity of Geminal Dichlorides: From Carbene-Mediated C–H Functionalization to Bis-Nucleophilic Homologation*

**9.** **Savannah Familo – Vanderbilt University**
*Convergent Total Synthesis of (+)-Breynolide*

**10.** **Emily Fok – University of California, Berkeley**
*A Divergent C–H Functionalization Approach Toward the Total Synthesis of Delavatine A and Constitutional Isomers*

**11.** **Emmanuel Garcia Villatoro – Northwestern University**
*Switchable Dynamic Covalent Chemistry Controlling Polymer Network Viscoelasticity and Network Defect Correction*

**12.** **Maryam Ghazala – The Ohio State University**
*Strategic Design of NIR-II Amphiphiles for Theranostic Applications*

**13.** **Melisa Gonzalez – University of Florida**
*Total Synthesis of Nematide A and Analogs to Investigate the Role of a Fatty Acyl-AMP Ligase in Nemamide Biosynthesis*

**14.** **Allison Hands – UCLA**
*(2+2) Cycloadditions of Cyclic Allenes: Diradicaloid-Enabled Reactions*

**15.** **Brittney Haney – University of North Carolina at Chapel Hill**

*One-Pot Bioisosteric Replacement of Alkyl Carboxylic Acids via Organic Photoredox Catalysis*

**16.** **Partha Hazra – Indiana University**
*β-Selective C($sp^3$)H Functionalization of Alkyl Boronates using Photoredox Catalysis*

**17.** **Karla D Hernandez Gomora – Wake Forest University**
*Bridging Structure and Properties of [2.2]Paracyclophane Scaffolds*

**18.** **Deacon Herndon – University of Oklahoma**
*Theoretical Insights into Sulfenylnitrene and Sulfenylcarbene Mediated Skeletal Editing*

**19.** **Sovanneary Hok – Emory University**
*Carbonylative Macroketonization Strategies Toward the Total Synthesis of Jatrophatrione*

**20.** **Sheng-Hao Huang – Duke University**
*Dual Photoredox/Copper Catalyzed Enantioselective 1,3-Amino Oxygenation of Cyclopropanes*

**21.** **Myungeun Jeong – Princeton University**
*Total Synthesis of Hirocidins to Expand Their Anticancer Potential*

**22.** **Briana Krupinsky – University of Minnesota**
*Absorption Properties and Frontier Molecular Orbitals of N-Heterocyclic Carbene-Carbodiiimides (NHC-CDIs): A Systematic Study*

**23.** **Kalen Bradley Laybourn – University at Buffalo**
*A Toolbox Approach to Photocatalytic HAT+RPC*

**24.** **Andrew LeBlanc – Emory University**
*Unlocking Conformational Reactivity to Access Antimicrobial Natural Products*

***FRIDAY PM & SATURDAY*** **– POSTER SESSION 2 – Student Center**

**25.** **Adrian Matthews – University of Wisconsin-Madison**
*N-Regioselective Azole Alkylation via Alkenylthianthrenium Salts*

**26.** **Jaden McCane – Wake Forest University**
*Homogeneous Gold(I) Catalysis: Influences on Alkene Isomerization and Hydroamination*

**27.** **Matthew McGill – Northwestern University**
*Radical Borylation of Alkyl Bromides by Photoinduced Halogen-Atom Transfer*

**28.** **Alana Rose Meyer – University of Wisconsin-Madison**
*Development of Spin-Selective Photocatalytic Nitrene Reactivity*

**29.** **Emile Morin – UC Santa Barbara**
*Development of Tunable Benzopyrylium-Functionalized Polymers for Peroxynitrite Detection*

**30.** **Ebuka Onyeyilim – University of Iowa**
*Synthesis and Target Identification of Neuroprotective Limonoids and Analogs*

**31.** **Osasere Osayawe – Brigham Young University**
*Towards a Universal Strategy of Synthesizing Dehydroamino Acid-Containing Peptides*

32. **Daniel Ou – University of Toronto**
*Late-Stage Reactivity as a Strategy for Kinetic and Thermodynamic Control of Macrocyclic Conformations*

33. **Wesley Pullara – Emory University**
*Modular Synthesis of a Paracyclophane Derived Planar Chiral Catalyst for Asymmetric C–N Bond Forming Reactions*

34. **Abhishek Raj – Baylor University**
*ZrH-Catalyzed Reductive Two Fragment Couplings*

35. **Abhishek Roy – University of Rochester**
*Developing Photoswitchable GTP Analogs to Control Protein Assembly*

36. **Nobel Saab – ETH Zurich**
*Enantioselective Total Synthesis of (+)-Daphnenoid A*

37. **Brandon Sarrels – UC Irvine**
*Development of a Divergent Agarofuran Synthesis*

38. **Brady Slinger – Duke University**
*Catalytic Carbene Transfer Reactions Employing Diazirines as Carbene Precursors*

39. **Amy Su – Stanford University**
*A Convenient and Direct Transformation of Amides to Ketones*

40. **Colin Tichvon – University of Michigan**
*Oxidative Rearrangements and Stereoselective Methods for the Synthesis of Bufadienolide Steroids and Euphomilone Diterpenoids*

41. **Linda Ung – University of California, Davis**
*Remote Stereocontrol in Aryl/Alkyl C–H Insertion Reactions of Rhodium Carbenes: Assembly of Pseudorigidols A and B*

42. **Nicholas Wade – University of Illinois at Urbana-Champaigne**
*Boronic Ester Design Enables Rapid, Anhydrous Secondary B-Alkyl Suzuki-Miyaura Cross-Coupling*

43. **Hanna Warinner – Boston University**
*Studies Towards Ohioensin A and Congeners*

44. **Sophia Xu – University of California, Irvine**
*From Linear Feedstocks to Cyclic Unnatural Amino Acids*

45. **Joel Yoder – Baylor University**
*Pharmacophore-Directed Retrosynthesis Applied to the Antimicrobial Azaphilone Colletotrichone A*

46. **Yiran Zhang – Yale University**
*Solvent/Catalyst-Controlled Diastereodivergent Peptide Macrocyclization via Minisci Reaction*

47. **Tianyi Zhang – Princeton University**
*Understanding Effects of Oxidation and Spin State in Iron-Mediated C—H Functionalization*

## Industrial Workshop Panels – Organized by Student *Last* Name

| **Group A** (*Angeles*) | **Group B** (*Cooley*) | **Group C** (*Evans*) | **Group D** (*Blakey)* |
|---|---|---|---|
| ***Last Name:*** *Adams – Fok* | ***Last Name:*** *Garcia Del Valle – Lou* | ***Last Name:*** *Ly – Raj* | ***Last Name:*** *Rodriguez – Zhong* |
| *Location: MPR 1* | *Location: MPR 3* | *Location: Lecture Hall* | *Location: MPR 2* |
| Wei Zhao – Amgen | Joseph Kincaid – Pharmablock | Bilal Hoblos – BMS | Christiana Teijaro – BMS |
| Paul Armstrong – 3M | Anna Kaplan – Sanofi | Matthew Haley – Takeda | Matt Kraft – Gilead |
| Callie Bryan – J&J | Cooper Taylor– Incyte | Craig Zificsak – Adesis | Samantha Santana – Adesis |
| Ashlee Davis – Lilly | Kaitlyn Logan – Merck | Rush Scaggs – Lilly | Emma Edelstein – Merck |
| Dahye Kang – Novartis | Ving Lee – UDC | Erika Milczek – Curie Co. | Christina Na – Pfizer |
| Ryan Coombs – Takeda | Marchello Cavitt– J&J | Dani Schultz – Merck | Evan Hurlow – Cambrex |
| Bo Wei – Incyte | Anne Marie Schmitt – Lilly | Thomas Stratton – Gilead | Marek Buchman – Pharmablock |
| Lauren Sirois – Genentech | Jennifer Novotney – ACS | Ana Bulger – Amgen | Rosaura Padilla-Salinas – J&J |
| Angela Cleri – ACS | | Chuck Frazier – Nurture Bio | |

## Speakers

**Callie Bryan, Johnson & Johnson**
**Erick Carreira, ACS Publications**
**Chuck Frazier, Nurture Bio**
**Dahye Kang, Novartis**
**Erika Milczek, Curie Co.**
**David Sarlah, Rice University**
**Jonathan Scheerer, College of William & Mary**
**Lauren Sirois, Genentech**
**Davita Watkins, The Ohio State University**
**Yang Yang, University of California, Santa Barbara**

## Sponsors

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## Organizers

**Angie R. Angeles, Vertex Pharmaceuticals**
**Simon Blakey, Emory University**
**Christina Cooley, Trinity University**
**Mingi Dai, Emory University**
**P. Andrew Evans, Queen's University**