**DOC Graduate Research Symposium**  
*University of California, Irvine, July 24-27, 2014*

**THURSDAY, JULY 24**

3:00 pm - 6:30 pm  
Arrival and Dormitory Check-in at Housing Office  
Mesa Court

5:15 pm - 6:15 pm  
Registration and Dinner  
Beckman Center - Atrium

**THURSDAY EVENING** *Presiding: Gary A. Molander, University of Pennsylvania*

6:15 - 6:30 pm  
Welcome

6:30 pm - 7:15 pm  
Alanna Shepartz, Yale University  
BC - Auditorium  
*Moving Molecules Through the Plasma Membrane*

7:15 pm - 7:25 pm  
Questions

7:25 pm - 7:45 pm  
Jennifer Alleva  
Princeton University  
BC - Auditorium  
*Enantioselective α-Arylation of Aldehydes via Cu(II) and Amine Catalysis*

7:45 pm - 8:05 pm  
Patrick Montgomery  
University of Texas at Austin  
BC - Auditorium  
*Iridium Catalyzed Carbon-Carbon Bond Formation: Evolution of Carbonyl Allylations to Include β-(Substituted) Allyl Donors*

8:05 pm - 8:25 pm  
Niki Patel  
Lehigh University  
BC - Auditorium  
*On the Mechanism of Silver-Catalyzed Decarboxylative Fluorination*

8:25 pm – 8:45 pm  
Christopher Adams  
University of Wisconsin  
BC - Auditorium  
*Complete Stereodivergence in the Synthesis of 2-Amino-1,3-Diols from Allenes: Development and Synthetic Applications*

8:45 pm - 9:05 pm  
Alan Cherney  
California Institute of Technology  
BC - Auditorium  
*Nickel-Catalyzed Asymmetric Reductive Cross-Coupling of Benzyl Chlorides*

9:15 pm – 11:45 pm  
Reception  
Beckman Center - Atrium

**FRIDAY, JULY 25** *Presiding: P. Andrew Evans, Queen’s University*

8:15 am - 9:00 am  
Continental Breakfast  
BC - Atrium

9:00 am - 9:45 am  
Lisa Marcaurelle, H3 Biomedicine  
BC - Auditorium  
*Diversity-Oriented Synthesis for Oncology Drug Discovery*

9:45 am - 9:55 am  
Questions

9:55 am - 10:15 am  
Joel Smith  
University of California, Los Angeles  
BC - Auditorium
**Total Synthesis of the Akuammiline Alkaloid Picrinine**

10:15 am – 10:40 am  **Coffee Break**  
10:40 am - 11:00 am  **DaWeon Ryu**  
University of Pennsylvania  
*Synthesis of α-Trifluoromethylated Alkylborons*  
11:00 am - 11:20 am  **Xin Hong**  
University of California, Los Angeles  
*Origins of Switchable Chemoselectivity of Ni-Catalyzed C-O Activations of Aryl Esters with Phosphine Ligands*  
11:20 am – 11:40 am  **Matthew Golder**  
Boston University  
*Bottom-Up Synthesis of Carbon Nanotube Fragments*  
11:40 am – 12:00 pm  **Group Photograph**  
12:00 pm - 2:30 pm  **Lunch and Poster Session 1**  
2:30 pm - 5:00 pm  **WORKSHOP 1: Academic Life:** Gary Molander  
Robert Lees, NIGMS  
Sonja Krane, ACS Publications  
Andrew Evans, Queen’s University  
*Timothy Clark, University of San Diego, Vy Dong, University of California, Irvine, Tim Swager, MIT, Alanna Shepartz, Yale*  

**FRIDAY EVENING**  
*Presiding: Gary A. Molander, University of Pennsylvania*

5:00 pm - 6:30 pm  **Dinner**  
6:30 pm - 7:15 pm  **Tim Swager, MIT**  
*Organic Electronics for Chemical Sensors*  
7:15 pm - 7:25 pm  **Questions**  
7:30 - 9:30 pm  **WORKSHOP 2: Industrial Life**  
*Group A (Gary Molander)*  
John Flygare, Genentech  
John Chan, Aspira Scientific  
Margaret Faul, Amgen  
Neal Sach, Pfizer  
Phieng Siliphaivanh, Merck  
Tyler Wilson, Gilead  
Daniel Caspi, AbbVie  
Ian Davies, Merck  
*Group B (P. Andrew Evans)*  
Lisa Marcaurelle, H3 Biomedicine  
David St. Jean, Amgen  
Ben Graetz, Gilead  
Benjamin Sherry, Merck  
Jason Spruell, Milliken  
Rob Todd, Sigma-Aldrich  
Lamont Terrell, GlaxoSmithKline  
9:30 pm – 11:45 pm  **Reception**
SATURDAY, JULY 26  Presiding: Vy Dong, University of California, Irvine

8:30 am - 9:00 am  Continental Breakfast  
BC - Atrium

9:00 am - 9:45 am  Margaret Faul, Amgen  
Challenges in Pharmaceutical Process Development  
BC - Auditorium

9:45 am - 9:55 am  Questions

9:55 am - 10:15 am  Stephen Murphy  
University of Toronto  
A Metal-Organic Cooperative Catalysis Strategy for Transfer Hydroformylation  
BC - Auditorium

10:15 am – 10:40 am  Coffee Break  
BC - Atrium

10:40 am - 11:00 am  Yufan Liang  
California Institute of Technology  
Catalytic Asymmetric Synthesis of Tertiary Alkyl Fluorides: Negishi Cross-Couplings of Racemic α,α-Dihaloketones  
BC - Auditorium

11:00 am - 11:20 am  Alina Borovika  
University of Michigan  
Advances in Bronsted Acid Catalysis: Reactions of Oxocarbenium Ions  
BC - Auditorium

11:20 pm – 11:40 am  Zhongda Pan  
University of Minnesota  
Metal-Free Intramolecular Aminocyanation of Alkenes via N-CN Bond Cleavage  
BC - Auditorium

11:40 pm - 12:00 pm  Michael Harris  
University of California, Irvine  
Enantioselective Synthesis of Methyleneocyclopentanes by Intramolecular Nickel-Catalyzed Alkyl Heck Reactions  
BC - Auditorium

12:00 pm – 2:30 pm  Lunch and Poster Session 2  
BC - Atrium

SATURDAY, AFTERNOON  Presiding: Gary A. Molander, University of Pennsylvania

2:30 pm - 3:15 pm  Vy Dong, University of California, Irvine  
A Few of My Favorite Rings: Catalytic Cycles Inspired by Macrocycles  
BC - Auditorium

3:15 pm – 3:25 pm  Questions

3:25 pm – 3:45 pm  Wei Zhao  
Pennsylvania State University  
Phosphorus(III)-Mediated Geminal Difunctionalization of 1,2-Dicarbonyl Compounds  
BC - Auditorium

3:45 pm – 4:10 pm  Coffee Break  
BC - Atrium

4:10 pm – 4:30 pm  Patrick Fier  
University of California, Berkeley  
Site-Selective C-H Fluorination of Pyridines and Diazines: Development and Applications  
BC - Auditorium

4:30 pm – 4:50 pm  Joseph Awino  
BC - Auditorium
Iowa State University

Protein-Mimicking Moleculary Imprinted Nanoparticles (MINPs) with Tailored, Functionalized, Modifiable Binding Pockets

4:50 pm – 5:10 pm   **Phillip Milner**  
Massachusetts Institute of Technology

The Palladium-Catalyzed Fluorination of Aryl (Pseudo)Halides

5:10 pm – 5:30 pm   **Anthony DiLauro**  
Pennsylvania State University

The Design and Synthesis of Depolymerizable Polymers

5:45 pm - 10:30 pm  Dinner in Newport Beach

SUNDAY, JULY 27  **Presiding: P. Andrew Evans, Queen’s University**

8:15 am - 9:00 am  Continental Breakfast  
BC - Atrium

9:00 am - 9:45 am   **Timothy Clark**  
University of San Diego

Amine- and Phosphine-Directed C-H Borylation Reactions: from Glucose Sensors to Organocatalysts

9:45 am - 9:55 am  Questions

9:55 am - 10:15 am  **Michael Melicher**  
Yale University

Designing Saccharide Binding beta-Peptide Bundles

10:15 am – 10:40 am  Coffee Break  
BC - Auditorium

10:40 am - 11:00 am   **Njamkou Noucti**  
University of North Carolina at Chapel Hill

Stereoselective Cycloadditions of Ene–Allenes

11:00 am - 11:20 am  **James Checco**  
University of Wisconsin Madison

Peptide Foldamer Mimicry of the Z-Domain Scaffold: Targeting Topologically Complex Protein Surfaces using α/β-Peptides

11:20 am – 11:40 am   **Timothy Gehan**  
University of Massachusetts Amherst

From Molecular to Mesoscale: Self-Assembly of Organic Semiconducting Spheres for Organic Photovoltaics

11:40 am - 12:00 pm  **Ryan Spencer**  
University of California, Irvine

Amyloid Origami: Supramolecular Assemblies of Amyloidogenic Peptides

12:00 pm - 1:00 pm  Lunch  
BC - Atrium

1:30 pm  Depart
FRIDAY, JULY 25: POSTER SESSION 1

1. Thomas Ghebreghiorgis, University of Florida
   Comparative and Mechanistic Studies of Au-Catalyzed Dehydrative Cyclizations of Monoallylic Diols

2. Raghida Bou Zerdan, University of Florida
   Structure-Property-Function Relationships of “Information-Rich” π-Conjugated Molecules for Organic Electronics

3. Tomass Baikstis, University of Liverpool
   Synthetic Studies Towards Sesquiterpene Lactone Repin and Rhodium-Catalysed [(3+2)+2] Carbocyclisation of Silyl Substituted Alkenes

4. Scott Hickey, UC Berkeley
   Synthesis of S-Adenosylmethionine (SAM) Analogs and Development of High-Throughput Screens to Target SAM-I Riboswitches

5. Carissa Hampton, University of Missouri-Columbia
   Mechanistic Studies and Scope of the Regiodivergent Synthesis of 1- and 2- Arylsulfonyl 1,3-Dienes

6. Nandini Vallavoju, North Dakota State University
   Enantioselective intramolecular [2+2] Photocycloaddition of Coumarin Derivatives Mediated by Thiourea Organo-Photocatalysis.

7. Joshua Fishman, UW-Madison
   Polyoxazinones: The First Degradable and Functionalizable ROMP Polymer

8. Megha Karki, University of Idaho
   New DMSO-based Oxidative Synthetic Methods

9. Rob Ziegler, Boston University
   Development of an Enantioselective Alkaloid-Pyrone Annulation: Synthesis of Pleiomaltinine

10. Russell Winkel, University of Florida

11. Wesley Farrell, University of Maryland
    On-Demand Synthesis and Utilization of Isothiocyanates (S=C=NR) via Molybdenum Catalyzed Sulfur-Atom Transfer

12. Jesse McAtee, University of Delaware
    Allylsilanes in High Yield from Terminal Alkenes Using a Second-Generation Silyl-Heck Catalyst.
SATURDAY, JULY 26: POSTER SESSION 2

13. Travis Blum, University of Wisconsin-Madison
   Photocatalytic Synthesis of Dihydrobenzofurans by Oxidative [3+2] Cycloaddition of Phenols

14. Khanh Ha, University of Florida
   Development of Strategies for Difficult Coupling and Macro-Cyclization of Peptides

15. Ashley Jolly, The University of Alabama
   Probing the Binding Properties of Polyelectrolytes as Supramolecular Hosts

16. Lindsey Cullen, University of Illinois at Urbana-Champaign
   Development of an Asymmetric Phase Transfer Catalyzed [2,3]-Wittig Rearrangement Using Computer Guided Catalyst Design

17. Jacob MacDonald, University of California, Davis
   The Synthesis of a Diverse Oxindole Library and Counterion Effects in the Catalytic Stereoselective Synthesis of 2,3'-Pyrrolidinyl Spirooxindole

18. Fanke Meng, Boston College
   Cu–Catalyzed Synthesis of 2-Boron-Substituted Allylcopper Complexes and their in situ Additions to Carbonyls

19. Brian Leon, University of California, Santa Cruz
   Abyssomicin II Reactivates Latent HIV-1 by a PKC and HDAC- Independent Mechanism

20. Zachary Miller, University of Michigan
   Advances in Regioselective Allene Coupling Reactions

21. Gidget Tay, University of California, Irvine
   Silyl Enol Ether Prins Cyclization: Diastereoselective Formation of Highly Substituted Tetrahydropyran-4-one

22. Jennifer Pitzen, University of California, Irvine
   Progress Towards the Total Synthesis of Welwitindolinone C

23. Gregg Schwarzwalder, University of California, Irvine
   Progress Toward the Synthesis of Exiguaquinol

24. Qi Zhou, University of Delaware
   Nickel-Catalyzed Enantiospecific Carbon-Carbon/Carbon-Boron Bond Formation via Carbon-Oxygen Bond Activation