DOC Graduate Research Symposium
Boston College, July 15-18, 2010

THURSDAY, JULY 15

3:00 pm to 6:30 pm  Arrival and Dormitory Check-in at the 110 St Thomas More Hall
BC Welcome Center

5:30 pm - 6:30 pm  Registration and Dinner Merkert Foyer

THURSDAY EVENING  Presiding: P. Andrew Evans (The University of Liverpool)

6:30 pm - 7:15 pm  Amir H. Hoveyda
Boston College

Recent Adventures in Catalyst Discovery and Development

7:15 pm - 7:25 pm  Questions

7:25 pm - 7:45 pm  Brett P. Fors
Massachusetts Institute of Technology

Development of Pd Catalysts for C–N Cross-Coupling Reactions

7:45 pm - 7:50 pm  Questions

7:50 pm - 8:00 pm  Zarko V. Boskovic
University of California - Santa Barbara

A Shift In Regioselectivity of Copper Hydride Catalyzed Reductions: An Inroad to Chiral Allylic Alcohols

8:00 pm - 8:05 pm  Questions

8:05 pm - 8:25 pm  Ye Zhu
Texas A&M University

Asymmetric Hydrogenation of Acid Sensitive Vinyl Ethers with Iridium Catalyst and the Relative Metal Hydride Acidity Study

8:25 pm - 8:30 pm  Questions

8:30 pm – 8:40 pm  Aaron R. Thornton
Emory University

Metallonitrene/Alkyne Cascade Reactions: Development of a Versatile Process for Organic Synthesis

8:40 pm - 8:45 pm  Questions

8:45 pm - 9:05 pm  Erica L. Lanni
University of Michigan

Evidence for Ligand-Dependent Mechanistic Changes in Nickel-Catalyzed Chain-Growth Polymerizations

9:05 pm - 9:10 pm  Questions

9:10 pm – 11:45 pm  Reception Merkert Foyer
FRIDAY, JULY 16  Presiding: Gary Molander (University of Pennsylvania)

8:30 am - 9:00 am  Continental breakfast  
Merkert 129

9:00 am - 9:45 am  Anabella Villalobos  
Pfizer Pharmaceuticals  
Merkert 127

Medicinal Chemistry Design: Development of a CNS Multi Parameter Optimization (MPO) Design Tool

9:45 am - 9:55 am  Questions

9:55 am - 10:15 am  Trisha L. Andrew  
Massachusetts Institute of Technology  
Merkert 127

Structure-Property Relationships in the Design of Organic Chromophores

10:15 am - 10:20 am  Questions

10:20 am – 10:40 am  Coffee Break  
Merkert 129

10:40 am - 10:50 am  Gregory B. Kuzmanich  
University of California - Los Angeles  
Merkert 127

Photonic Amplification by a Singlet-State Quantum Chain Reaction in the Photodecarbonylation of Crystalline Diarylcyclopropenones

10:50 am - 10:55 am  Questions

10:55 am - 11:15 am  Semra Colak  
University of Massachusetts - Amherst  
Merkert 127

Novel Dually Functional Zwitterionic Polymers

11:15 pm - 11:20 am  Questions

11:20 pm – 11:30 am  Natalie J. Smith  
Boston College  
Merkert 127

Progress Toward Pentabenzocorannulene: A Potential Stepping Stone to Carbon Nanotubes

11:30 pm - 11:35 am  Questions

11:35 pm - Noon  Group Photograph  
Merkert Foyer

12:00 pm - 3:00 pm  Lunch and Poster Session 1  
Merkert Foyer

3:00 pm - 5:00 pm  WORKSHOP 1: Academic Life: P. Andrew Evans  
Larry Scott, Boston College  
Darla Henderson, ACS Publications  
John Schwab, NIGMS
FRIDAY EVENING  Presiding: Larry Scott (Boston College)

5:00 pm - 6:30 pm  Dinner  Walsh Function Room
6:30 pm - 7:15 pm  Suzanne Walker  Merkert 127  Harvard University

    New Targets for Antibiotics

7:15 pm - 7:25 pm  Questions
7:25 pm - 7:45 pm  Timothy A. Wencewicz  Merkert 127  University of Notre Dame

    Synthetic Utility and Application of Hydroxamic Acids in the Design and Development of New Antibiotics

7:45 pm - 7:50 pm  Questions
7:50 pm - 8:00 pm  Alison C. Donnelly  Merkert 127  The University of Kansas

    Engineering an Antibiotic to Fight Cancer

8:00 pm - 8:05 pm  Questions
8:05 pm - 8:25 pm  Michele R. Richards  Merkert 127  University of Alberta

    Conformational Analysis of Galactofuranosides

8:25 pm - 8:30 pm  Questions
8:30 pm – 8:40 pm  Pamela G. Cohn  Merkert 127  University of Florida

    Synthesis and Applications of Push-Pull Purines

8:40 pm - 8:45 pm  Questions
8:45 pm - 9:05 pm  Shane L. Mangold  Merkert 127  University of Wisconsin - Madison

    Design and Synthesis of Small Molecule Inhibitors of the Lectin DC-SIGN: Implications for the Inhibition of Pathogen Dissemination in Dendritic Cells

9:05 pm - 9:10 pm  Questions
9:10 pm – 11:45 pm  Reception  Merkert Foyer
SATURDAY, JULY 17  Presiding: P. Andrew Evans (The University of Liverpool)

8:30 am - 9:00 am  Continental breakfast  Merkert 129
9:00 am - 9:45 am  Alfredo Castro  Merkert 127
                  Infinity Pharmaceuticals
                  Harnessing Nature’s Hedgehog Pathway Inhibitor, Cyclopamine, to make a Drug
9:45 am - 9:55 am  Questions  Merkert 127
9:55 am - 10:15 am  Stephen S. Gonzales  Merkert 127
                   University of Pennsylvania
                   Synthetic Adventures with (+)-Nodulisporic Acid A
10:15 am - 10:20 am  Questions  Merkert 129
10:20 am – 10:40 am  Coffee Break  Merkert 129
10:40 am - 10:50 am  Fang Wang  Merkert 127
                   University of Southern California
                   Trifluoromethylation of Cinchona Alkaloids: Emergence of a New Conformational Stabilizer and Indicator
10:50 am - 10:55 am  Questions  Merkert 127
10:55 pm - 11:15 am  Douglas C. Friedman  Merkert 127
                     Northwestern University
                     A Light-Gated STOP–GO Molecular Shuttle
11:15 pm - 11:20 am  Questions  Merkert 127
11:20 pm – 11:30 am  David K. Bedke  Merkert 127
                     University of California - Irvine
                     Syntheses of Chlorosulfolipids
11:30 pm - 11:35 am  Questions  Merkert 127
11:35 pm - 11:55 am  Jason C. Green  Merkert 127
                     University of California - Santa Barbara
                     Synthesis of Cedrenes by Oxidative Dearomatization
11:55 am - Noon  Questions  Merkert 127
12:15 pm - 3:00 pm  Lunch and Poster Session 2  Merkert Foyer
3:00 pm – 5:00 pm  WORKSHOP 2: Industrial Life: Gary A. Molander  Merkert 127
                   Josephine S. Nakhla, Aldrich Chemical Co.
                   Elizabeth P. Cormier, FDA
                   Daniel D. Vanderlende, Dow Chemicals
6:00 pm - 22:30 pm  Boston-at-Night  Buses from Merkert
**SUNDAY, JULY 18**  *Presiding: Gary Molander (University of Pennsylvania)*

8:30 am - 9:00 am  Continental breakfast  Merkert 129

9:00 am - 9:45 am  **Richard D. Broene**  Merkert 127  
Bowdoin College  
*Ligand Control in Cobalt-Mediated alpha Olefin Dimerization.*

9:45 am - 9:55 am  Questions

9:55 am - 10:15 am  **Laura T. Kilman**  Merkert 127  
Boston College  
*Enantioselective Platinum-Catalyzed Diboration of Unsaturated Hydrocarbons: Versatile Tools for Synthesis*

10:15 am - 10:20 am  Questions

10:20 am – 10:40 am  Coffee Break  Merkert 129

10:40 am - 10:50 am  **Michael A. Ischay**  Merkert 127  
University of Wisconsin - Madison  
*Visible Light Photocatalysis of Cyclobutane-Forming Reactions*

10:50 am - 10:55 am  Questions

10:55 am - 11:15 pm  **Lei Liu**  Merkert 127  
University of Pittsburgh  
*Structurally and Stereochemically Diverse Tetrahydropyran Synthesis via Oxidative C–H Bond Cleavage*

11:15 pm - 11:20 pm  Questions

11:20 pm – 11:30 pm  **Vanessa M. Marx**  Merkert 127  
Dalhousie University  
*Recent Advances in the Interrupted Nazarov Cyclization of Allenyl Vinyl Ketones*

11:30 pm - 11:35 pm  Questions

11:35 pm - 11:55 am  **Yili Shi**  Merkert 127  
University of California - Irvine  
*Catalyzed Catalysis Using Lewis Acidic Gold and Lewis Basic Palladium: Synthesis of Substituted Butenolides and Isocoumarins*

11:55 am - Noon  Questions

12:00 pm - 2:00 pm  Lunch  Merkert Foyer

14:00  Depart
FRIDAY, JULY 16: POSTER SESSION 1

1. Alnasleh, Bassam K.; University of Kansas
   Formal Nucleophilic Substitution of Bromo Cyclopropanes

2. Baranczak, Aleksandra E.; Vanderbilt University
   Progress Toward the Total Synthesis of Dideoxy Lomaiviticinone

3. Chang, Jonah J.; University of California, Los Angeles
   Enantiospecific Formal Total Synthesis of (+)-Fawcettimine

4. Cong, Huan; Boston University
   Electron Transfer-Initiated Diels-Alder Cycloadditions of 2'-Hydroxychalcones

5. Devarie Baez, Nelmi O.; Washington State University
   Application of S-Nitrosothiols in Organic Synthesis.

6. Emerson, Christopher R.; Oregan State University
   The Role of Functionalized Chiral Carbenoids in Stereospecific Reagent Controlled Homologation: A Synthesis of Epibatidine

7. Finke, Aaron; University of Illinois at Urbana-Champaign
   N-AlkylDABCONium Trihalozincates: Privileged Scaffolds for Non-Centrosymmetric Solids

8. Hayden, Lauren E.; Georgia Tech.
   Conjugated Oligomers for Band Gap Manipulation in Organic Field Effect Transistors

9. Howell, Jennifer; Colorado State University
   Progress Towards the Total Synthesis of Tetrapetalone A

10. Kelley, Brandon; University of Pennsylvania
    Nucleophilic Ring-Opening of an Ethynyl Aziridine and its Application Towards Total Synthesis
11. Kelly, Brendan; Columbia University
   Development of a Novel Paradigm for Nucleophilic Substitution: Aromatic Cation
   Activation of Alcohols

12. Klauber, Eric; Rutgers University
   Development of Hydrogen-Bonding Catalysts as Anion Binders: Applied to the Kinetic
   Resolution of Amines

13. Krayer, Michael; North Carolina State University
   De Novo Synthesis of Stable Bacteriochlorins Including Bacteriochlorophyll
   Analogue

14. Li, Wei; University of Michigan
   New Strategies for Efficient and Selective Coupling Reactions

15. Lightburn, Thomas; Boston College
   Catalytic Scaffolding Ligands: An Efficient Strategy for Directing Reactions

16. Mundal, Devon; Northwestern University
   New Reactions from Under-Explored Compounds: The Chemistry of N-
   Allylhydrazones

   SATURDAY, JULY 17: POSTER SESSION 2

17. Nibbs, Antoinette; Northwestern University
   Catalytic Asymmetric Alkylation of Substituted Isoflavanones

18. Osman, Sami; University of Pittsburgh
   Studies on FR901464 and analogues

19. Park, Jongwoo; University of Florida
   Self-Assembled Dinuclear Salen Complexes through Hydrogen Bonding for
   Asymmetric Catalysis

20. Prokofjevs, Aleksandrs; University of Michigan
   Borenium Ions for C-H Bond Functionalization
21. Sharma, Indrajeet; Wayne State University
   Novel Methodologies for Peptide and Peptide Thioester Synthesis

22. Singh, Swapnil; Temple University
   An Efficient Asymmetric Synthesis of Silanediol Protease Inhibitors

23. Smith, Sean M.; University of Nebraska-Lincoln
   Catalytic Asymmetric Hydroboration: Remarkably Efficient Enantioswitching Strategies

24. Vieira, Erika; Boston College
   Development of a Catalytic Enantioselective Allylation of Imines

25. Wang, Lihong; University of Alberta
   Formation of Carbocycles by Intramolecular Conjugate Displacement: Scope and Mechanistic Insights

26. Wommack, Andrew J.; Boston College
   Bidirectional Synthesis of Ketones from Monomeric Formaldehyde by Catalytic C-H Insertion with Diazoalkanes

27. Wong, Douglas; Louisiana State University
   Synthetic Efforts Toward Aboa and Apoa, Two Amino Acids Characteristic of the Theonellamides

28. Young, Andrew; University of Illinois, Urbana-Champaign
   Intermolecular Allylic C-H Alkylation of Unactivated alpha-Olefins

29. Zhang, Su; Arizona State University
   Exploring the Functional Properties of Unnatural Nucleic Acids

30. Zhou, Quan; Brandeis University
   Synthetic Progress toward Parnafungins

31. Zottig, Victor; University of Virginia
   The Reactivity and Properties of Dihapto-Coordinated Phenols