Eric M. Ferreira

University Address:
Department of Chemistry
University of Georgia
140 Cedar Street
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2035 Timothy Road, #I302
Athens, GA 30606
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Position

University of Georgia, Athens, GA
Associate Professor of Chemistry, August 2014 to present

Education

Stanford University, Stanford, CA
American Cancer Society Postdoctoral Fellow, July 2005 to August 2008

California Institute of Technology, Pasadena, CA
Ph.D., Organic Chemistry, May 2005

Massachusetts Institute of Technology, Cambridge, MA
S.B., Chemistry, June 2000
Concentration in Writing: Exposition and Rhetoric

Professional and Research Experience

Associate Professor of Chemistry: University of Georgia, Athens, GA
August 2014 to present
• Oversight of research group in the general areas of synthetic methodology, catalysis, and natural product synthesis.

Assistant Professor of Chemistry: Colorado State University, Fort Collins, CO
August 2008 to August 2014
• Oversight of research group in the general areas of synthetic methodology, catalysis, and natural product synthesis.

Postdoctoral Research Associate: Stanford University, Stanford, CA
July 2005 to August 2008
• Studied ruthenium-catalyzed cycloisomerization reactions for the formation of polycyclic compounds under the direction of Professor Barry Trost.

Graduate Research Assistant: California Institute of Technology, Pasadena, CA
August 2000 to May 2005
• Developed novel oxidation systems using palladium catalysis as a graduate student under the direction of Professor Brian Stoltz.

Undergraduate Research Assistant: Massachusetts Institute of Technology, Cambridge, MA
May 1998 to September 1999
• Assisted in the development of copper-catalyzed asymmetric conjugate reductions in the research group of Professor Stephen Buchwald.

Undergraduate Research Assistant: Oregon State University, Corvallis, OR
June 1997 to August 1997
• Investigated the use of procyanidins and anthocyanins as natural colorants in food products in the group of Professor Ronald Wrolstad.

Research Publications

45. Synthesis of 1,3-Diynes Via Cadiot-Chodkiewicz Coupling of Volatile, in Situ-Generated Bromoalkynes. Phil C. Knutson, Haleigh E. Fredericks, and Eric M. Ferreira. *Org. Lett*. **2018**, *20*, 6845-6849.

44. Detection of an Energy-Transfer Pathway in Cr-Photoredox Catalysis. Robert F. Higgins, Steven M. Fatur, Niels H. Damrauer, Eric M. Ferreira, Anthony K. Rappé, and Matthew P. Shores. *ACS Catal.* **2018**, *8*, 9216-9225.

43. Cyclopentene Annulations of Alkene Radical Cations with Vinyl Diazo Species Using Photocatalysis. Francisco J. Sarabia, Qiankun Li, and Eric M. Ferreira. *Angew. Chem. Int. Ed.* **2018**, *57*, 11015-11019.

42. Establishment of Novel Biosynthetic Pathways for the Production of Salicyl Alcohol and Gentisyl Alcohol in Engineered *Escherichia coli*. Xiaolin Shen, Jia Wang, Bradley K. Gall, Eric M. Ferreira, Qipeng Yuan, and Yajun Yan. *ACS Synth. Biol.* **2018**, *7*, 1012-1017.

41. Engineering a Bacterial Platform for Total Biosynthesis of Caffeic Acid Derived Phenethyl Esters and Amides. Jian Wang, Monika Mahajani, Sheneika L. Jackson, Yaping Yang, Mengyin Chen, Eric M. Ferreira, Yuheng Lin, and Yajun Yan. *Metab. Eng.,* **2017**, *44*, 89-99.

40. Meta-Selective C–H Arylation of Aromatic Alcohols with a Readily Attachable and Cleavable Molecular Scaffold. Qiankun Li and Eric M. Ferreira. *Chem. Eur. J.* **2017**, *23*, 11519-11523.

39. Radical Cation Cyclopropanations via Chromium Photooxidative Catalysis. Francisco J. Sarabia and Eric M. Ferreira. *Org. Lett.* **2017**, *19*, 2865-2868.

38. A Boron-Based Ireland-Claisen Approach to the Synthesis of Pordamacrine A. Curtis A. Seizert and Eric M. Ferreira. *Tetrahedron* **2017**, *73*, 4186-4194. (Invited contribution to the Tetrahedron Symposium-in-print on New Advances in Pericyclic Reactions.)

37. Platinum-Catalyzed α,β-Unsaturated Carbene Formation in the Formal Syntheses of Frondosin B and Liphagal. Khoi Q. Huynh, Curtis A. Seizert, Tarik J. Ozumerzifon, Paul A. Allegretti, and Eric M. Ferreira. *Org. Lett.* **2017**, *19*, 294-297.

36. Chromium Photocatalysis: Accessing Structural Complements to Diels-Alder Adducts with Electron-Deficient Dienophiles. Susan M. Stevenson, Robert F. Higgins, Matthew P. Shores, and Eric M. Ferreira. *Chem. Sci.* **2017**, *8*, 654-660.

35. C–C Bond Migration in the Cycloisomerization of 1,6-Enynes. Susan M. Stevenson, Eric T. Newcomb, and Eric M. Ferreira. *Org. Chem. Front.* **2016**, *3*, 1228-1235. (Invited contribution to the 2016 themed collection Celebrating the 75th Birthday of Professor Barry Trost; featured on cover image.)

34. Palladium(II)-Catalyzed *ortho*-Arylation of Aromatic Alcohols with a Readily Attachable and Cleavable Molecular Scaffold. Qiankun Li, Brian J. Knight, and Eric M. Ferreira. *Chem. Eur. J.* **2016**, *22*, 13054-13058. Featured as an article on the ChemistryViews website: http://www.chemistryviews.org/details/ezine/9692891/Directed_Route_to_Biaryls.html.

33. Uncovering the Roles of Oxygen in Cr(III) Photoredox Catalysis. Robert F. Higgins, Steven M. Fatur, Samuel G. Shepard, Susan M. Stevenson, David J. Boston, Eric M. Ferreira, Niels H. Damrauer, Anthony K. Rappé, and Matthew P. Shores. *J. Am. Chem. Soc.* **2016**, *138,* 5451-5464.

32. The Design of a Readily Attachable and Cleavable Molecular Scaffold for *ortho*-Selective C–H Alkenylation of Arene Alcohols. Brian J. Knight, Jacob O. Rothbaum, and Eric M. Ferreira. *Chem. Sci.* **2016**, *7*, 1982-1987.

31. Total Synthesis of Gelsenicine via a Catalyzed Cycloisomerization Strategy. Eric T. Newcomb, Phil C. Knutson, Blaine A. Pedersen, and Eric M. Ferreira. *J. Am. Chem. Soc.* **2016**, *138*, 108-111. For commentary on this paper, see *Synfacts* **2016**, *12*, 221. (Selected as *Synfact of the Month*.)

30. Lewis Acid Mediated Vinylogous Additions of Enol Nucleophiles into an α,β-Unsaturated Platinum Carbene. Paul A. Allegretti, Khoi Huynh, Tarik J. Ozumerzifon, and Eric M. Ferreira. *Org. Lett.* **2016**, *18*, 64-67.

29. An Analysis of the Complementary Stereoselective Alkylations of Imidazolidinone Derivatives toward α-Quaternary Proline-Based Amino Amides. Brian J. Knight, Erin E. Stache, and Eric M. Ferreira. *Tetrahedron* **2015**, *71*, 5814-5823. (Invited contribution to the 2014 Tetrahedron Prize for Creativity in Organic Chemistry in honor of Prof. Barry M. Trost.)

28. Photooxidizing Chromium Catalysts for Promoting Radical Cation Cycloadditions. Susan M. Stevenson, Matthew P. Shores, and Eric M. Ferreira. *Angew. Chem., Int. Ed*. **2015**, *54*, 6506-6510.

27. An Analysis of the Influences Dictating Regioselectivity in Platinum-Catalyzed Hydrosilylations of Internal Alkynes. Douglas A. Rooke, Zachary A. Menard, and Eric M. Ferreira. *Tetrahedron* **2014**, *70*, 4232-4244. (Invited contribution to the 2014 Tetrahedron Young Investigator Award in honor of Prof. Sarah E. Reisman.)

26. An Examination of the Scope and Stereochemistry of the Ireland-Claisen Rearrangement of Boron Ketene Acetals. Curtis A. Seizert and Eric M. Ferreira. *Chem. Eur. J.* **2014**, *20*, 4460-4468.

25. Complementary Stereochemical Outcomes in Proline-Based Self-Regenerations of Stereocenters. Brian J. Knight, Erin E. Stache, and Eric M. Ferreira. *Org. Lett*. **2014**, *16*, 432-435.

24. C–C Bond Migration in the Cycloisomerization of Oxygen-Tethered 1,6-Enynes. Susan M. Stevenson, Eric T. Newcomb, and Eric M. Ferreira. *Chem. Commun*. **2014**, *50*, 5239-5241. (Contribution to the *ChemComm Emerging Investigators Issue 2014*.)

23. Vicinal Bisheterocyclizations of Alkynes via Nucleophilic Interception of a Catalytic Platinum Carbene. Paul A. Allegretti and Eric M. Ferreira. *J. Am. Chem. Soc*. **2013**, *135*, 17266-17269. For commentary on this paper, see *Synfacts* **2014**, *10*, 182. Featured in the Organic Chemistry Portal: http://www.organic-chemistry.org/Highlights/2014/14April.shtm.

22. Stereoselective Synthesis of Tetrasubstituted Olefins via Halogen-Induced 1,2-Silyl Migration. Nicholas T. Barczak, Douglas A. Rooke, Zachary A. Menard, and Eric M. Ferreira. *Angew. Chem., Int. Ed.* **2013**, *52*, 7579-7582. Selected as a "Hot Paper" by *Angew. Chem*. For commentary on this paper, see *Synfacts* **2013**, *9*, 1111.

21. Highly Enantiospecific Platinum-Catalyzed Cycloisomerizations: Synthesis of Enantioenriched Oxabicycloheptene Derivatives. Eric T. Newcomb and Eric M. Ferreira. *Org. Lett.* **2013**, *15*, 1772-1775. For commentary on this paper, see *Synfacts* **2013**, *9*, 748.

20. Platinum-Catalyzed Cyclizations via Carbene Intermediates: Syntheses of Complementary Positional Isomers of Isoxazoles. Paul A. Allegretti and Eric M. Ferreira. *Chem. Sci*. **2013**, *4*, 1053-1058.

19. Palladium-Catalyzed Hiyama Couplings of α-Silylenoates and α-Silylenamides. Douglas A. Rooke and Eric M. Ferreira. *Org. Lett*. **2012**, *14*, 3328-3331. For commentary on this paper, see *Synfacts* **2012**, *8*, 1134.

18. Molecular Scaffolds with Remote Directing Groups for Selective Palladium-Catalyzed C–H Bond Functionalizations. Erin E. Stache, Curtis A. Seizert, and Eric M. Ferreira. *Chem. Sci*. **2012**, *3*, 1623-1628. Featured in the Chemical Science blog: http://blogs.rsc.org/sc/2012/02/29/.

17. Platinum-Catalyzed Hydrosilylations of Internal Alkynes: Harnessing Substituent Effects to Achieve High Regioselectivity. Douglas A. Rooke and Eric M. Ferreira. *Angew. Chem., Int. Ed*. **2012**, *51*, 3225-3230.

16. Generation of α,β-Unsaturated Platinum Carbenes from Homopropargylic Alcohols – Rearrangements to Polysubstituted Furans. Paul A. Allegretti and Eric M. Ferreira. *Org. Lett*. **2011**, *13*, 5924-5927. Featured in the Organic Chemistry Portal: http://www.organic-chemistry.org/Highlights/2012/09July.shtm.

15. Stereoselective Syntheses of Trisubstituted Olefins via Platinum Catalysis: α-Silylenones with Geometrical Complementarity. Douglas A. Rooke and Eric M. Ferreira. *J. Am. Chem. Soc*. **2010**, *132*, 11926-11928. Featured in the Organic Chemistry Portal: http://www.organic-chemistry.org/abstracts/lit3/013.shtm.

(*Publications prior to independent career.*)

14. Use of a Palladium(II)-Catalyzed Oxidative Kinetic Resolution in Synthetic Efforts toward Bielschowskysin. Michael E. Meyer, John H. Phillips, Eric M. Ferreira, and Brian M. Stoltz. *Tetrahedron* **2013**, *69*, 7627-7635.

13. Differential Reactivities of Enyne Substrates in Ruthenium- and Palladium-Catalyzed Cycloisomerizations. Barry M. Trost, Alicia C. Gutierrez, and Eric M. Ferreira. *J. Am. Chem. Soc*. **2010**, *132*, 9206-9218.

12. The Palladium-Catalyzed Aerobic Kinetic Resolution of Secondary Alcohols: Reaction Development, Scope, and Applications. David C. Ebner, Jeffrey T. Bagdanoff, Eric M. Ferreira, Ryan M. McFadden, Daniel D. Caspi, Raissa M. Trend, and Brian M. Stoltz. *Chem. Eur. J*. **2009**, *15*, 12978-12992.

11. Ruthenium- and Palladium-Catalyzed Enyne Cycloisomerizations: Differentially Stereoselective Syntheses of Bicyclic Structures. Barry M. Trost, Eric M. Ferreira, and Alicia C. Gutierrez. *J. Am. Chem. Soc*. **2008**, *130*, 16176-16177. For a commentary on this paper, see *Chem. Eng. News* **2008**, *86*, 55.

10. C-H Bond Functionalizations with Palladium(II): Intramolecular Oxidative Annulations of Arenes. Eric M. Ferreira, Haiming Zhang, and Brian M. Stoltz. *Tetrahedron* **2008**, *64*, 5987-6001.

9. Convergency and Divergency as Strategic Elements in Total Synthesis: The Total Synthesis of (–)-Drupacine and the Formal Total Synthesis of (±)-Cephalotaxine, (–)-Cephalotaxine, and (+)-Cephalotaxine. Qi Liu, Eric M. Ferreira, and Brian M. Stoltz. *J. Org. Chem.* **2007**, *72*, 7352-7358.

8. The Synthesis of C-3β Functionalized Indoles Via a Hydroboration/Suzuki-Miyaura Coupling Sequence. Eric M. Ferreira and Brian M. Stoltz. *Tetrahedron Lett*. **2006**, *47*, 8579-8582.

7. 2-Diazoacetoacetic Acid, an Efficient and Convenient Reagent for the Synthesis of α-Diazo-β-Ketoesters. Michael E. Meyer, Eric M. Ferreira, and Brian M. Stoltz. *Chem. Commun.* **2006**, 1316-1318.

6. Direct Oxidative Heck Cyclizations: Intramolecular Fujiwara-Moritani Arylations for the Synthesis of Functionalized Benzofurans and Dihydrobenzofurans. Haiming Zhang, Eric M. Ferreira, and Brian M. Stoltz. *Angew. Chem., Int. Ed*. **2004**, *43*, 6144-6148.

5. Catalytic C-H Bond Functionalization with Palladium(II): Aerobic Oxidative Annulations of Indoles. Eric M. Ferreira and Brian M. Stoltz. *J. Am. Chem. Soc*. **2003**, *125*, 9578-9579.

4. Palladium-Catalyzed Oxidative Wacker Cyclizations in Nonpolar Organic Solvents with Molecular Oxygen: A Stepping Stone to Asymmetric Aerobic Cyclizations. Raissa M. Trend, Yeeman K. Ramtohul, Eric M. Ferreira, and Brian M. Stoltz. *Angew. Chem., Int. Ed*. **2003**, *42*, 2892-2895.

3. Palladium-Catalyzed Enantioselective Oxidation of Alcohols: A Dramatic Rate Acceleration by Cs_2CO_3/*t*-BuOH. Jeffrey T. Bagdanoff, Eric M. Ferreira, and Brian M. Stoltz. *Org. Lett*. **2003**, *5*, 835-837.

2. The Palladium-Catalyzed Oxidative Kinetic Resolution of Secondary Alcohols with Molecular Oxygen. Eric M. Ferreira and Brian M. Stoltz. *J. Am. Chem. Soc*. **2001**, *123*, 7725-7726. For commentaries on this paper, see: (a) *Chem. Ind. (London)* **2001**, 588. (b) *Chem. Eng. News* **2001**, *79*, 40. (c) Nicholas, K. M. *Chemtracts-Organic Chemistry* **2001**, 654. (d) *Org. Process. Res. Dev*. **2001**, *5*, 554.

1. Asymmetric Conjugate Reduction of α,β-Unsaturated Esters Using a Chiral Phosphine–Copper Catalyst. Daniel H. Appella, Yasunori Moritani, Ryo Shintani, Eric M. Ferreira, and Stephen L. Buchwald. *J. Am. Chem. Soc*. **1999**, *121*, 9473-9474.

Additional Publications

5. Decoration of Molecules Made Easy. Eric M. Ferreira. *Nature* **2019**, *567*, 184-185.

4. C–H Activation: A Surrogate for Selectivity. Eric M. Ferreira. *Nat. Chem*. **2014**, *6*, 94-96.

3. Di-μ-chlorodichlorobis(η2-ethene) diplatinum (Zeise's dimer). Andrew J. Phillips, Paul A. Allegretti and Eric M. Ferreira. *e-EROS: Encyclopedia of Reagents for Organic Synthesis*. **2014**, 1-6.

2. 8-Hydroxyquinoline. Eric M. Ferreira. *Encyclopedia of Reagents for Organic Synthesis [Online]*. John Wiley & Sons Ltd., http://onlinelibrary.wiley.com/book/10.1002/047084289X.

(*Publication prior to independent career.*)

1. Oxidative Heck-type Reactions (Fujiwara-Moritani Reactions). Eric M. Ferreira, Haiming Zhang, and Brian M. Stoltz. In *The Heck Reaction*. Martin Oestreich, Ed. Wiley & Sons: Chichester, UK, 2009; Ch. 9.

Patents

4. Methods for *meta*-Arylation of Aromatic Alcohols. Eric M. Ferreira and Qiankun Li. US Patent 10,099,981, October 16, 2018.

3. Method for Directed Catalytic Functionalization of Alcohols. Eric M. Ferreira, Brian J. Knight, and Qiankun Li. US Patent 10,005,719, June 26, 2018.

2. Homo- and Heteroleptic Photooxidizing Chromium Catalysts for Promoting Cycloadditions. Eric M. Ferreira, Matthew P. Shores, and Susan M. Stevenson. Provisional Patent, Application No. 62/118,056, 2015.

(*Patent prior to independent career.*)

1. Methods and Compositions for Enantioselective Oxidation Reactions. Eric M. Ferreira and Brian M. Stoltz. Worldwide Patent WO 02/72514, 2002.

Research Support

NIH: 1-R01-GM110560-01 (sole PI)
Building Molecular Complexity through Alkyne Transformations
Amount: $1,354,491
Duration: 4/1/2014 – 2/28/2020
Awarded to support the application of metal catalysis for alkyne activation in the synthesis of structurally complex bioactive molecules.

NSF/EPA: CHE-1339674 (co-PI)
NSMDS: Computational Design and Synthetic Exploitation of Earth-Abundant-Sourced Photocatalysts for C-X Activation
Amount: $5,000,000
Duration: 9/15/13 – 9/14/2019
Other Principal Investigators: Niels Damrauer, Anthony Rappé, Tomislav Rovis, and Matthew Shores
Awarded to support the design and development of photocatalysts capable of activating C=X bonds for the generation of unique intermediates and investigation of their reactivity profile.

ACS-PRF: 49072-DNI1 (PI)
Ligand-Linked Catalysis: Metal-Catalyzed Functionalization via Transient Directing Group Installation
Amount: $100,000
Duration: 1/1/2009 – 8/31/2012
Awarded to support the development of molecular frameworks that can covalently attach to molecules and induce catalytic functionalizations.

Presentations

81. Cycloadditions using Photocatalysis Based on Earth-Abundant Metals. Invited seminar, International Conference on Organometallics and Catalysis (ICOC 2018), Goa, India, December 2018.

80. Synthetic Advances in Cyclizations via Transition Metal Catalysis. Invited seminar, IIT Bombay Symposium on Chemical Synthesis, Mumbai, India, December 2018.

79. Cycloadditions using Photocatalysis Based on Earth-Abundant Metals. Invited seminar, Inter-Disciplinary Explorations in Chemistry (I-DEC 2018), IISER Bhopal, Bhopal, India, December 2018.

78. Synthetic Advances in Cyclizations and Cycloadditions via Transition Metal Catalysis. Invited academic seminars, 2018-2019: Florida State University.

77. Cycloadditions using Photocatalysis Based on Earth-Abundant Metals. Seminar at the 2018 Florida Heterocyclic and Synthetic Conference. Gainesville, FL, March 2018.

74-76. Synthetic Advances in Cyclizations and Cycloadditions via Transition Metal Catalysis. Invited academic seminars, 2017-2018: Louisiana State University, Clemson University, University of Delaware.

71-73. Synthetic Advances in Cyclizations and Cycloadditions via Transition Metal Catalysis. Invited seminars; Bristol-Myers Squibb; New Brunswick, NJ, Lawrenceville, NJ, and Wallingford, CT, June 2017.

66-70. Synthetic Advances in Cyclizations and Cycloadditions via Transition Metal Catalysis. Invited academic seminars, 2016-2017: North Carolina State University, University of West Florida, Oregon State University, Georgia Institute of Technology, University of South Florida.

65. Cyclizations and Cycloisomerizations via Metal-Catalyzed Alkyne Activation. Poster presentation at the 2016 Heterocyclic Compounds Gordon Research Conference. Newport, RI, June 2016.

64. Metal-Catalyzed Alkyne Activation: Cyclizations and Cycloisomerizations. Seminar presented at the 92nd Florida Annual Meeting and Exposition (FAME). Tampa, FL, May 2016.

63. Metal-Catalyzed Alkyne Activation: Cyclizations and Cycloisomerizations. Plenary seminar presented at the 2nd Anatolian Conference in Synthetic Organic Chemistry (ACSOC II). Kusadasi, Aydin, Turkey, March 2016.

62. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited academic seminar: University of North Carolina-Wilmington, October 2015.

61. The Total Synthesis of Gelsenicine via Platinum-Catalyzed Cycloisomerization. Short talk presented at the 25th International Society of Heterocyclic Chemistry Congress. Santa Barbara, CA, August 2015.

60. Total Synthesis of Gelsenicine via Platinum-Catalyzed Cycloisomerization. Poster presentation at the 2015 Natural Products Gordon Research Conference. Andover, NH, July 2015.

59. Attachable and Cleavable Molecular Scaffolds for the Directed Functionalizations of Alcohols. Poster presentation at the 2015 Heterocyclic Compounds Gordon Research Conference. Newport, RI, June 2015.

57-58. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited academic seminars, 2014-2015: Auburn University, Georgia State University.

56. The Design of Molecular Scaffolds for Metal-Catalyzed Directed C–H Functionalizations. Poster presentation at the 2014 Heterocyclic Compounds Gordon Research Conference. Newport, RI, June 2014.

55. Total Synthesis of Gelsemium Alkaloids via Platinum-Catalyzed Cycloisomerization. Invited poster seminar presented at the 2014 Heterocyclic Compounds Gordon Research Conference. Newport, RI, June 2014.

46-54. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited academic seminars, 2013-2014: Montana State University, University of Wisconsin Pharmacy, Brigham Young University, University of Utah, Colorado State University, University of Georgia, University of Houston, University of Texas-Austin, Baylor University.

45. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited seminar to be presented at the Journal of Organic Chemistry and Organic Letters Lectureship Symposium at the Fall 2013 National ACS Meeting. Indianapolis, IN, September 2013.

44. Platinum-Catalyzed Syntheses of Heterocycles via an α,β-Unsaturated Carbene. Poster presentation at the 2013 Natural Products Gordon Research Conference. Andover, NH, July 2013.

43. Platinum Catalysis toward the Synthesis of Natural Products. Invited seminar presented at the 2013 Natural Products Gordon Research Conference. Andover, NH, July 2013.

42. Platinum Catalysis toward the Synthesis of Natural Products. Invited seminar presented at the 3rd International Symposium on Molecular Activation. Steamboat Springs, CO, July 2013.

41. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited industry seminar at Eli Lilly & Company. Indianapolis, IN, July 2013.

40. Platinum-Catalyzed Syntheses of Heterocycles via an α,β-Unsaturated Carbene. Poster presentation at the 2013 Heterocyclic Compounds Gordon Research Conference. Newport, RI, June 2013.

39. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited industry seminar at Materia, Inc. Pasadena, CA, May 2013.

14-38. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited academic seminars, 2012-2013: The Scripps Research Institute-Florida, University of Texas Southwestern Medical Center, Texas A&M University, Ohio State University, University of Iowa, Iowa State University, University of Colorado Boulder, University of Pennsylvania, University of North Carolina, Vanderbilt University, Pennsylvania State University, University of Rochester, University of California-Irvine, University of California-Los Angeles, University of California-Santa Barbara, University of Michigan, Wayne State University, Brandeis University, Boston University, Boston College, Dartmouth College, Princeton University, University of Illinois-Chicago, University of California-Davis, California Institute of Technology.

13. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited seminar at the 2012 Rocky Mountain Regional ACS Meeting. Westminster, CO, October 2012.

12. Platinum-Catalyzed Cycloisomerizations toward Natural Product Synthesis. Poster seminar and presentation at the Stereochemistry Gordon Research Conference, Newport, RI, July 2012.

11. Platinum-Catalyzed Cycloisomerizations toward Natural Product Synthesis. Poster presentation at the Natural Products Gordon Research Conference, Andover, NH, July 2012.

10. The Design of Novel Molecular Scaffolds for Selective C–H Bond Functionalizations. Invited seminar at the CHIRALITY Conference, Fort Worth, TX, June 2012.

9. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited seminar at the Organic Reactions and Processes Gordon Research Conference, Smithfield, RI, July 2011.

8. Accessing and Harnessing Metalated Intermediates toward Synthetic Utility. Invited seminar at the Heterocyclic Compounds Gordon Research Conference, Newport, RI, June 2011.

7. The Design and Development of New Methodology Based on Late Transition Metal Catalysis. Invited seminar. University of Northern Colorado, Greeley, CO, April 2011.

6. The Design and Development of New Methodology Based on Late Transition Metal Catalysis. Invited seminar. University of Denver, Denver, CO, March 2011.

5. Metal-Catalyzed Functionalization via Transient Covalent Attachment. Poster presented at the Organic Reactions and Processes Gordon Research Conference, Smithfield, RI, July 2010.

4. Metal-Catalyzed Functionalization via Transient Covalent Attachment. Poster presented at the Heterocyclic Compounds Gordon Research Conference, Newport, RI, June 2010.

3. Metal-Catalyzed Functionalization via Transient Covalent Attachment. Poster presented at the DOE Meeting of the Catalysis Science Program, Annapolis, MD, June 2010.

2. Alkynophilic Metal-Catalyzed Rearrangements: Facile Entries into Reactive Species. Poster presented at the Heterocyclic Compounds Gordon Research Conference, Newport, RI, July 2009.

1. Ruthenium Catalysis in the Synthesis of Polycyclic Compounds. Invited seminar. Fort Lewis College, Durango, CO, October 2008.

Honors and Awards:

- Thieme Chemistry Journal Award, 2011
- Stille Professorship in Chemistry, 2008-2011
- American Cancer Society Postdoctoral Fellowship, 2005-2008
- Bristol-Myers Squibb Graduate Fellowship in Synthetic Organic Chemistry, 2004-2005
- National Science Foundation Graduate Fellowship, 2001-2004
- Merck Index Award (for outstanding academic achievement), May 2000

Research Supervised

Postdoctoral Scholars:

2011-2012	Nicholas Barczak
2014-2016	Khoi Huynh
2015-2017	Qiankun Li
2018-2019	Ramkrishna Laha

Graduate Students:

2008-2014	Paul Allegretti	Ph.D. dissertation: The Formation and Reactivity of α,β-Unsaturated Platinum Carbenes: New Approaches to Heterocycle Synthesis (Postdoctoral scholar at Stanford Univ. in ChEM-H Program; Research scientist at Theravance Biopharma)
2008-2009	Bryce Gode	
2008-2013	Douglas Rooke	Ph.D. dissertation: Utilizing Silicon for the Synthesis of Stereodefined Tri- and Tetrasubstituted Alkenes (M.D. Program at Anschutz Medical Campus, CU-Denver; Resident at University of Washington)
2008-2011	Erin Stache	Masters thesis: The Development of Ligands for C–H Functionalization Utilizing Amino Acid Derived Directing Groups (Development engineer at HRL Laboratories; Ph.D. program at Princeton Univ.)
2009-2011	Jacob Lowring	Masters degree (at ADA Carbon Solutions, Coushatta, Louisiana)
2009-2014	Eric Newcomb	Ph.D. dissertation: Studies Concerning Platinum-Catalyzed 1,6-Enyne Cycloisomerizations: A Unified Synthetic Approach to the Gelsemium Alkaloids (Postdoctoral scholar at Stanford Univ. with Prof. Robert Waymouth; Research scientist at Arcus Biosciences)
2009-2014	Curtis Seizert	Ph.D. dissertation: The Application of New Methodology to Complex Molecule Synthesis: Studies toward the Synthesis of Pordamacrine A and Liphagal
2010-2016	Brian Knight	Ph.D. dissertation: The Development of Traceless and Transient Directing Group Strategies and Complementary Diastereoselective Alkylations of Imidazolidinones

		(Postdoctoral scholar at Univ. of Florida with Prof. Leslie Murray; Postdoctoral scholar at Florida St. Univ. with Prof. Joel Smith)
2011-2014	Timothy Dreier	
2011-2016	Susan Stevenson	Ph.D. dissertation: The Discovery of Chromium Photocatalyzed Radical Cation Reactions and Exploits in 1,6-Enyne Cycloisomerization (Postdoctoral scholar at Caltech with Prof. Sarah Reisman; Assistant Professor at Carthage College)
2012-2014	Tarik Ozumerzifon	
2013-	Philip Knutson	
2013-2018	Francisco Sarabia	Ph.D. dissertation: The Development of Radical Cation Cyclopropanations & Cyclopentene Annulations with Diazo Species Using Photocatalysis (Postdoctoral scholar at the National Institutes of Health with Dr. Kenner Rice)
2015-	Jeff Costello	
2015-	Sheneika Jackson	
2015-2017	Tyler Nungesser	
2016-	Bradley Gall	
2016-	Christopher Harrington	
2016-2017	DeMichael Winfield	

Undergraduate Students:

2010-2011	Tyler Miller	Technician, Hach Company
2011-2012	Angella Greenawalt	Technician, Hach Company
2011	Philip Knutson (REU)	Ph.D. Program, UGA Department of Chemistry
2011-2013	Zachary Menard	Masters Program, CSU College of Engineering; Baxalta
2012-2014	Blaine Pedersen	Ph.D. Program, Yale University Department of Chemistry
2014-2016	Jacob Rothbaum	Ph.D. Program, Northwestern University Department of Chemistry
2015-2017	Sang Lee	Ph.D. Program, University of Texas Southwestern Medical School Department of Biochemistry
2016-2017	Haleigh Fredericks	
2017	Dawson Horah	
2018-	Zachary Tolchin	

Teaching Experience:

CHEM 2312H/2412: Advanced Organic Chemistry II: University of Georgia
Undergraduate level second semester organic chemistry course (honors/majors section)
Spring 2017, 2019

CHEM 8310: Reaction Mechanisms in Organic Chemistry: University of Georgia
Graduate level organic chemistry mechanism course
Fall 2015-2017

CHEM 4100/8390: Transition Metal Catalysis and Synthetic Applications: University of Georgia
Graduate level special topics course
Spring 2015, 2016, 2018, Fall 2018 (co-listed undergraduate course)

CHEM 341: Modern Organic Chemistry I: Colorado State University
Undergraduate level first semester organic chemistry course (large, non-majors section)
Fall 2010, 2012

CHEM 346: Organic Chemistry II: Colorado State University

Undergraduate level second semester organic chemistry course (majors section)
Spring 2010, 2012, 2014
Created Honors Breakout Section in Spring 2012, carried on in Spring 2014

CHEM 545: Synthetic Organic Chemistry I: Colorado State University
Graduate level organic synthesis course
Fall 2008-2011, 2013

CHEM 641: Organic Reaction Mechanisms: Colorado State University
Graduate level organic mechanism course
Spring 2009, 2010

Service Activities (External)

Conference Organizer

• 71st Southeastern Regional Meeting of the American Chemical Society (SERMACS 2019) - Session Organizer: "Strategy and Methods for Complex Molecule Synthesis." October 2019.
• Gordon Research Conference on Heterocyclic Compounds - Chair, 2019; Vice Chair, 2018.
• 17th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS 17) – Local Organization Committee Member. Fort Collins, CO, July 2013.
• 3rd International Symposium on Molecular Activation (ISMA-3) – Local Organizer. Steamboat Springs, CO, July 2013.

Journal Referee

Nature, Journal of the American Chemical Society, Angewandte Chemie, International Edition, Chemical Science, Nature Chemistry, Organic Letters, Chemical Communications, ACS Catalysis, Chemistry – A European Journal, Organic and Biomolecular Chemistry, Organometallics, Journal of Organic Chemistry, Chemical Reviews, Accounts of Chemical Research, ChemCatChem, ChemElectroChem, Tetrahedron, Tetrahedron Letters, Organic Process Research & Development, Synlett, Synthesis, European Journal of Organic Chemistry, Asian Journal of Organic Chemistry, Beilstein Journal of Organic Chemistry, Organic Chemistry Frontiers, Israel Journal of Chemistry, Journal of Chemical Education.

Grant Reviewer

National Institutes of Health
Special Emphasis Panel ZGM1 TRN-4 MIRA, March 2019
Special Emphasis Panel ZGM1 TRN-4 MIRA, March 2018
Special Emphasis Panel ZRG1 CB-N MIRA, March 2017
Fellowship Study Section F04A, March 2017, July 2017
Synthetic and Biological Chemistry A Study Section (Temporary Member), October 2014
National Science Foundation
Division of Chemistry Grant Review Panel, February 2017
Graduate Research Fellowship Program Panel, January 2017
Division of Chemistry Grant Review Panel, February 2015
American Chemical Society – Petroleum Research Fund
James and Esther King Biomedical Research Program
Bankhead-Coley Cancer Research Program
Department of Energy Graduate Fellowships
Fonds Wetenschappelijk Onderzoek
European Research Council Consolidator Grant Program
US-Israel Binational Science Foundation

Service Activities (Internal)

Departmental

Executive Committee (2016-current)
Graduate Recruiting and Admissions Committee (2014-2018)
Research Instrumentation Committee (chair, 2016-2018)
Website Development Committee (2014-2018)
Departmental Operations Officer Search Committee (2017)
Organic Division Seminar Coordinator (2015, 2017-2018)
Organic Faculty Search Committee (chair, 2018-current)

University

Research Safety Committee (2017-current)
Safety Task Force for Development of Chemical Hygiene Plans (vice chair, 2016-2017)
Interdisciplinary STEM Research Building Steering Committee (2017-current)
Interdisciplinary STEM Research Building Safety and Chemical Load Committee (2018-current)