

C U R R I C U L U M V I T A E

GREGORY R. COOK

PROFESSOR AND CHAIR

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

NORTH DAKOTA STATE UNIVERSITY

FARGO, NORTH DAKOTA 58105-5516

Academic Background

- ▶ 1988 B.A. (Honors), Chemistry and Math, Olivet College, Olivet, MI.
- ▶ 1990 M.S., Chemistry, Michigan State University, East Lansing, MI.
Mentor: Dr. John R. Stille
- ▶ 1994 Ph.D., Chemistry, Michigan State University, East Lansing, MI.
Mentor: Dr. John R. Stille
- ▶ 1994 - 1996 NIH Postdoctoral Research Associate, Stanford University, Stanford, CA.
Mentor: Prof. Barry M. Trost

Academic Experience/Employment History

- ▶ 2009 - Present Chair, Department of Chemistry and Biochemistry
- ▶ 2008 - Present Full Professor
- ▶ 2007 - 2009 Walter F. and Verna Gehrts Endowed Professor, North Dakota State University, Fargo, ND.
- ▶ 2002 - 2008 Associate Professor, North Dakota State University, Fargo, ND.
- ▶ 1996 - 2002 Assistant Professor, North Dakota State University, Fargo, ND.
- ▶ 1994 - 1996 NIH Postdoctoral Research Associate, Stanford University, Stanford, CA.
Mentor: Prof. Barry M. Trost

Other Professional Experience

- ▶ 2014 NIH SBCB Study Section
- ▶ 2014 Member Board of Directors, North Dakota Grape and Wine Association
- ▶ 2013 Expert consultant for Federal Public Defender, Fargo, ND.
- ▶ 2013 Board of Advisors, McGraw Hill Hartwig Organic Chemistry textbook
- ▶ 2012 - Present Advisor, Core Synthesis Laboratory, Center for Protease Research, Fargo, ND.
- ▶ 2011 Review Panel, NSF Chemistry Division
- ▶ 2010 - Present Editorial Board, ISRN Organic Chemistry
- ▶ 2010 NIH SBCA Study Section
- ▶ 2009 NSF Review Panel
- ▶ 2008 Chair, Gordon Research Conference on Organic Reactions and Processes
- ▶ 2007 - 2012 Director, Core Synthesis Laboratory, Center for Protease Research, Fargo, ND.
- ▶ 2007 Vice Chair, Gordon Research Conference on Organic Reactions and Processes
- ▶ 2006 Review Panel Member for State of Michigan 21st Century Jobs Fund applications
- ▶ 2006 External PhD Examiner, University of British Columbia
- ▶ 2005 Consultant, Pfizer
- ▶ 2005 External PhD Examiner, University of Windsor
- ▶ 2004 - 2009 Mentor for NIH INBRE faculty at Minot State University
- ▶ 2004 External PhD Examiner, Indian Associate for the Cultivation of Science, Jadavpur, Calcutta, India
- ▶ 2004 Reviewer for State of Michigan AAAS Fund applications
- ▶ 2003 - 2006 Member, NIH Fellowships Study Section
- ▶ 2000 Consultant, Merck & Co.
- ▶ 2000 Co-Organized "Organic Chemistry for the 21st Century" symposium, ACS Regional Meeting, Fargo, ND
- ▶ 1999 Consultant, NSC Technologies
- ▶ 1998, 2000 Consultant, Affymax

Awards and Honors

- ▶ 2011 Robert Odney Award for Excellence in Teaching
- ▶ 2008 Promotion to Full Professor
- ▶ 2008 Chair, Gordon Research Conference on Organic Reactions and Processes
- ▶ 2007 Walter F. and Verna Gehrts Endowed Professorship
- ▶ 2007 Vice Chair, Gordon Research Conference on Organic Reactions and Processes
- ▶ 2006 College of Science and Math award for Excellence in Teaching
- ▶ 2003 College of Science and Math award of appreciation for excellence in Teaching and Research
- ▶ 1999 National Science Foundation CAREER Award
- ▶ 1994-1995 National Institutes of Health Postdoctoral Fellowship

Peer Reviewed Publications (work prior to NDSU)

1. "Preparation and 3-Aza-Cope Rearrangement of *N*-Alkyl-*N*-allyl Enamines" Cook, G. R.; Stille, J. R. *J. Org. Chem.* **1991**, *56*, 5578-5583.
2. "Lewis Acid-Promoted 3-Aza-Cope Rearrangement of *N*-Alkyl-*N*-allylenamines" Cook, G. R.; Barta, N. S.; Stille, J. R. *J. Org. Chem.* **1992**, *57*, 461-467.
3. "Studies of the Regiospecific 3-Aza-Cope Rearrangement Promoted by Electrophilic Reagents" Barta, N. S.; Cook, G. R.; Landis, M. S.; Stille, J. R. *J. Org. Chem.* **1992**, *57*, 7188-7194 .
4. "Stereochemical Consequences of the Lewis Acid-Promoted 3-Aza-Cope Rearrangement of *N*-Alkyl-*N*-allyl Enamines" Cook, G. R.; Stille, J. R. *Tetrahedron* **1994**, *50*, 4105-4124.
5. "Aza-Annulation as a Route To Hydroxylated Alkaloid Lipids. The Synthesis of (±)-Prosopinine" Cook, G. R.; Beholz, L. G.; Stille, J. R. *Tetrahedron Lett.* **1994**, *35*, 1669-1672.
6. "Construction of Hydroxylated Alkaloids (±)-Mannonolactam, (±)-Deoxymannojirimycin, and (±)-Prosopinine through Aza-Annulation" Cook, G. R.; Beholz, L. G.; Stille, J. R. *J. Org. Chem.* **1994**, *59*, 3575-3584.
7. "An Asymmetric Synthesis of (-)-Epibatidine" Trost, B. M.; Cook, G. R. *Tetrahedron Lett.* **1996**, *37*, 7485-7488.

Peer Reviewed Publications (work from NDSU)

8. "Palladium-Catalyzed Formation and Stereoselective Isomerization of 5-Vinyloxazolines. Application to the Formal Synthesis of (S,S)-4-Amino-3-hydroxy-5-phenylpentanoic Acid" Cook, G. R.; Shanker, P. S. *Tetrahedron Lett.* **1998**, *39*, 3405-3408.
9. "Chloride Effect on the Palladium-Catalyzed Allylic Substitution vs Elimination of Cyclic Vinyloxazolidinones and Oxazolines" Cook, G. R.; Shanker, P. S. *Tetrahedron Lett.* **1998**, *39*, 4991-4994.
10. "Palladium Mediated Dynamic Kinetic Resolution. Stereoselective Synthesis of Vicinal Diamines" Cook, G. R.; Shanker, P. S.; Pararajasingham, K. *Angew. Chem.* **1999**, *111*, 226; *Angew. Chem. Int. Ed.* **1999**, *38*, 110-113.
11. "Enantioselective Reduction of Ketones. Examination of Bifunctional Ligands." Sibi, M. P.; Cook, G. R.; Liu, P. *Tetrahedron Lett.* **1999**, *40*, 2477-2480.
12. "Reversal of Stereochemistry in Diethylzinc Addition to Aldehydes by a Simple Change of the Backbone Substituent in L-Serine Derived Ligands" Sibi, M. P.; Chen, J.-x.; Cook, G. R. *Tetrahedron Lett.* **1999**, *40*, 3301-3304.
13. "Asymmetric Synthesis of the Balanol Heterocycle via a Palladium-Mediated Epimerization and Olefin Metathesis" Cook, G. R.; Shanker, P. S.; Peterson, S. L. *Org. Lett.* **1999**, *1*, 615-618.
14. "Stereoselective Synthesis of MeBmt and (4R,5S)-2-Phenyl-4-(methoxycarbonyl)-5-isopropylloxazoline by a Pd-Catalyzed Equilibration" Cook, G. R.; Shankar, P. S. *J. Org. Chem.* **2001**, *66*, 6818-6822.

15. "Palladium-Mediated Regiodivergent Kinetic Resolution" Cook, G. R.; Sankaranarayanan, S. *Org. Lett.* **2001**, *3*, 3531-3533.
16. "Stereoselective Synthesis of D- erythro - and L- threo -Sphinganine via Palladium-Catalyzed Equilibration and Suzuki Coupling" Cook, G. R. and Pararajasingham, K *Tetrahedron Letters* **2002**, *43*, 9027-9029.
17. "Hydrogen Bond Directed Highly Regioselective Palladium-Catalyzed Allylic Substitution" Cook, G. R.; Yu, H.; Sankaranarayanan, S.; Shanker, P. S. *J. Am. Chem. Soc.* **2003**, *125*, 5115-5120.
18. "Highly Diastereoselective Indium-Mediated Allylation of Chiral Hydrazones" Cook, G. R.; Maity, B.; Kargbo, R. *Org. Lett.* **2004**, *6*, 1741-1743.
19. "Nitrogen Heterocycles via Palladium-Catalyzed Carbocyclization. Formal Synthesis of (+)-a-Allokainic Acid" Cook, G. R.; Sun, L. *Org. Lett.* **2004**, *6*, 2481-2484 .
20. "Synthesis and Evaluation of Novel Oxazoline MMP Inhibitors" Cook, G. R.; Manivannan, E.; Underdahl, T.; Lukacova, V.; Zhang, Y.; Balaz, S. *Biorg. Med. Chem. Lett.* **2004**, *14*, 4935-4939.
21. "Catalytic Enantioselective Indium-Mediated Allylation of Hydrazones" Cook, G. R.; Kargbo, R.; Maity, B. *Org. Lett.*, **2005**, *7*, 2767-2770.
22. "Hydrogen Bond Directed Palladium-Catalyzed Allylic Substitution of Cyclic Substrates" Cook, Gregory R.; Saraswathamma, Manjusha *Tetrahedron Lett.* **2005**, *38*, 6491-6494.
23. "Tandem Palladium-Catalyzed Allene Arylation and Oxazoline Formation " Cook, Gregory R. and Xu, Wei *Heterocycles* **2006**, *67*, 215-232. in the Special Edition Honoring Prof. Trost
24. "Atom Transfer Cyclization Catalyzed by InCl₃ via Halogen Activation" Cook, Gregory R. and Hayashi, Ryuji *Org. Lett.* **2006**, *8*, 1045-1048.
25. "Drug-membrane Interactions Studied in Phospholipid Monolayers Adsorbed on Non-porous Alkylated Microspheres" Lukacova, V.; Peng, M.; Fanucci, G.; Tandlich, R.; Hinderliter, A.; Maity, B. Manivannan, E.; Cook, Gregory R.; Balaz, S. *J. Biomolecular Screening* **2007**, *12*, 186-202.
26. "Remarkably Mild and Efficient Intramolecular Friedel-Crafts Cyclization Catalyzed by In(III)" Hayashi, R.; Cook, G. R. *Org. Lett.* **2007**, *9*, 1311-1314.
27. "Readily Accessible, Modular and Tuneable BINOL 3,3'-Perfluoroalkylsulfones: Highly Efficient Catalysts for Enantioselective In-Mediated Imine Allylation" Robert Kargbo, Yoko Takahashi, Santosh Bhor, Gregory R. Cook, Guy C. Lloyd-Jones, Ian R. Shepperson, *J. Am. Chem. Soc.* **2007**, *129*, 3846-3847.
28. "Intermolecular Friedel-Crafts Reaction Catalyzed by InCl₃" Kaneko, M.; Hayashi, R.; Cook, G. R. *Tetrahedron Lett.* **2007**, *48*, 7085-7087.
29. "Synthesis and Evaluation of Novel Heterocyclic MMP Inhibitors" Hayashi, R.; Jin, X., Cook, G. R. *Bioorg. Med. Chem. Lett.* **2007**, *17*, 6864-6870.
30. "Bi(OTf)₃-Catalyzed 5-exo-trig Cyclization via Halide Activation" Hayashi, R.; Cook, G. R. *Tetrahedron Lett.* **2008**, *49*, 3888.
31. "Binding of Matrix Metalloproteinase Inhibitors to Extracellular Matrix: 3D-QSAR Analysis" Zhang, Y.; Lukacova, V.; Bartus, V.; Nie, X.; Sun, G.; Manivannan, E.; Ghorpade, S. R.; Jin, X.; Manyem, S.; Sibi, M. P.; Cook, G. R.; Balaz, S. *Chem. Biol. Drug Des.* **2008**, *72*, 237-248.
32. "Asymmetric Synthesis of Aminochromanes via Intramolecular Indium-Mediated Allylation of Chiral Hydrazones" Samanta, D.; Kargbo, R. B.; Cook, G. R. *J. Org. Chem.* **2009**, *74*, 7183-7186.
33. "Coumarin-suberoylanilide hydroxamic acid as a fluorescent probe for determining binding affinities and off-rates of histone deacetylase inhibitors" Singh, R. K.; Mandal, T.; Balasubramanian, N.; Cook, G. R.; Srivastava, D. K. *Anal. Biochem.* **2011**, *408*, 309-315.
34. "Histone Deacetylase Activators: N-acetylthioureas serve as highly potent and isozyme selective activators for human histone deacetylase-8 on a fluorescent substrate" Sing, Raushan K.; Mandal, Tanmay; Balasubramanian, Narayanaganesh, Viaene, Taja; Leedahl, Travis; Sule, Nitesh; Cook, Gregory; Srivastava, D. K. *Biorg. Med. Chem. Lett.* **2011**, *21*, 5920-5923.

35. "Kinetic and Thermodynamic Rationale for SAHA Being a Preferential Human HDAC8 Inhibitor as Compared to the Structurally Similar Ligand, TSA" Raushan K. Singh*, Naveena Lall, Travis S. Leedahl, Abigail McGillivray, Tanmay Mandal, Manas K. Halder, Sanku Mallik, Gregory Cook, and D. K. Srivastava* *Biochemistry* **2013**, *52*, 8139-8149.
36. "Bi(OTf)₃ as a Dual Role Catalyst. Synthesis of Substituted Morpholine Derivatives via Catalytic O-Alkylation" Ryuji Hayashi, Jin-A Park, and Gregory R. Cook* *Heterocycles* **2014**, *88*, 1477-1489.
37. "Thermodynamics of Binding of Structurally Similar Ligands to Histone Deacetylase 9 Sheds Light on Challenges in Rational Design of Potent and Isozyme-selective Inhibitors of the Enzyme" Singh, R. K.; Suzuki, T.; Mandal, T.; Balasubramanian, N.; Halder, M. K.; Mueller, D. J.; Strode, J. A.; Cook, G. R.; Mallik, S.; Srivastava, D. K.* *Biochemistry*, **2014**, *53*, 7445-7458.
38. "Highly Diastereoselective Palladium-Catalyzed Indium-Mediated Allylation of Chiral Hydrazones" Balasubramanian, N.; Mandal, T.; Cook, G. R.* *Org. Lett.* **2015**, *17*, 314-317.
39. "N-Boc-glycine-assisted indium-mediated allylation reaction: A sustainable approach" Vemula, S. R.; Kumar, D.; Cook, G. R.* *Tetrahedron Lett.* **2015**, *56*, in press. Invited paper for special edition in honor of Prof. Harry Wasserman.
40. "Mechanism of N-acylthiourea Mediated Activation of Human Histone Deacetylase 8 (HDAC8) at Molecular and Cellular Levels" Singh, R. K.; Cho, K.; Padi, S. K. R.; Yu, J.; Halder, M.; Mandal, T.; Yan, C.; Cook, G. R.; Guo, B.; Mallik, S.; Srivastava, D. K.* *J. Biol. Chem.* **2015**, *290*, 6607-6619.
41. "Highly chemo- and regioselective allylic substitution with tautomerizable heteroarenes" Kumar, D.; Vemula, S. R.; Cook, G. R.* *Green Chem.* **2015**, *17*, 4300-4306.
42. Indium-Mediated Stereoselective Allylation Dinesh Kumar, Sandeep R. Vemula, Balasubramanian Narayanaganesh, and Gregory R. Cook* *Acc. Chem. Res.* **2016**, *49*, 2169-2178.
43. Palladium-Catalyzed Allylic Amidation with N-Heterocycles via sp³ C-H Oxidation Sandeep R. Vemula, Dinesh Kumar, and Gregory R. Cook *ACS Catalysis* **2016**, *6*, 5295-5301.
44. Recent advances in the catalytic synthesis of α -ketoamides Dinesh Kumar, Sandeep R. Vemula, Gregory R. Cook* *ACS Catalysis* **2016**, *6*, 4920-4945.
45. Merging C-H Bond Functionalization with Amide Alcoholysis: En Route to 2-Aminopyridine Dinesh Kumar, Sandeep R. Vemula, and Gregory R. Cook* *ACS Catalysis* **2016**, *6*, 3531-3536.

Reviews, Book Chapters and Other Contributions (from NDSU)

46. "Transition Metal-Mediated Kinetic Resolution" Cook, G. R. *Curr. Org. Chem.* **2000**, *4*, 869-885.
47. "Enantioselective Reduction of Ketones Using Oxazaborolidines." Sibi, M. P.; Liu, P.; Cook, G. R. in *Catalysts for the Fine Chemical Industry* Roberts, S. M., Ed., Wiley, Oxford, **2000**.
48. "Copper Lewis Acids in Organic Synthesis" Sibi, M. P.; Cook, G. R. in *Handbook of Lewis Acids*; Yamamoto, H., Ed., Wiley-VCH, **2000**.
49. "Three Carbon-Heteroatom Bond: Amides and Derivatives; Peptides; Lactams" Chapter 21.1.4 "Synthesis from Amines" Cook, G. R.; *Science of Synthesis*, Vol 21, S. Weinreb, Ed.; **2005**, Goerg Thieme Verlag KG, Stuttgart (22 published pages).
50. "2,2,6-Trimethyl-4H-1,3-dioxin-4-one" Cook, G. R.; Hayashi, R. *Encyclopedia of Reagents for Organic Synthesis* **2006**, John Wiley & Sons, Ltd.
51. "Copper (II) Acetylacetonate" Cook, G. R.; Hayashi, R. *Encyclopedia of Reagents for Organic Synthesis* **2006**, John Wiley & Sons, Ltd.
52. "Stereoselective Indium-Mediated Organic Reactions" Cook, G. R.; Kargbo, R., *Current Organic Chemistry* **2007**, *11*, 1287-1309.
53. "Chapter 21. Ring Closing Friedel-Crafts Reactions" Hayashi, R.; Cook, G. R. in "Handbook of Cyclization Reactions" Ma, S., Ed.; **2010**, Wiley-VCH. ISBN: 978-527-32088-2

Patents

1. Srivastava, D. K.; Cook, G. R.; Singh, R.; Mueller, D.; Mandal, T.; Balasubramanian, N. Provisional Application No. 62/058,923. 2014. (Note: University declined to move forward with full patent)

Theses and Dissertations

1. "Regioselectivity studies 5-vinyloxazolidinones" Yu, Hui. North Dakota State University 2001. M.S. Thesis
2. "Indium-Mediated Allylation of Aldehydes: Umpolung of Cyclic pi-Allylpalladium Complexes by Indium" Hallman, Jason. North Dakota State University 2003. M.S. Thesis
3. "Synthesis of Novel N-Heterocycles for MMP and HDAC Inhibitors" Jin, Xiaomin. North Dakota State University 2005. M.S. Thesis
4. "Asymmetric addition of organoindium reagent to hydrazones" Kargbo, Robert B. North Dakota State University, ProQuest, UMI Dissertations Publishing, 2008. 3308964. Ph.D. Dissertation
5. "Reactions driven by activation of allylic halides" Hayashi, Ryuji. North Dakota State University, ProQuest, UMI Dissertations Publishing, 2008. 3308547. Ph.D. Dissertation
6. "Bismuth-mediated Barbier-type asymmetric allylation" Song, Xixi. North Dakota State University 2008. M.S. Thesis
7. "Preparation of chiral amines via catalytic enantioselective indium-mediated allylation" Takahashi, Yoko. North Dakota State University, ProQuest, UMI Dissertations Publishing, 2010. 3414146. Ph.D. Dissertation
8. "Stereoselective carbon-carbon bond construction using indium and bismuth: New methods in green chemistry" Balasubramanian, Narayanaganesh. North Dakota State University, ProQuest, UMI Dissertations Publishing, 2012. 3541507. Ph.D. Dissertation
9. "Attempted total synthesis of a novel lycopodine-class alkaloid and (R)-myricanol, compounds for the treatment of Alzheimer's disease" Ostlund, Anthony John. North Dakota State University, ProQuest, UMI Dissertations Publishing, 2013. 3587544. Ph.D. Dissertation

Presentations and Abstracts at Meetings (research prior to NDSU)

1. "The Preparation and Charge Promoted 3-Aza-Cope Rearrangement of N-Alkyl-N-Allylenamines." Cook, G. R.; Stille, J. R., Thirty Second National Organic Chemistry Symposium, Minneapolis, MN, 1991. (poster presentation)
2. "Asymmetric Induction and Ring Expansion Reactions in the Charge Promoted 3-Aza-Cope Rearrangements." Cook, G. R.; Stille, J. R., 204th American Chemical Society National Meeting, Washington, DC, 1992. (oral presentation)

Presentations and Abstracts at Meetings (research from NDSU)

3. "Palladium-Catalyzed Allylic Substitution of Vinyl Oxazolidinone Substrates." Cook, G. R.; Shanker, P. S., ND/SD EPSCoR Conference, Brookings, SD, September 26-27, 1997. (oral presentation)
4. "Palladium-Catalyzed Ring Opening of 5-Vinyloxazolidinones. Synthesis and Utility of Vinyloxazolines." Cook, G. R.; Shanker, P. S., 215th American Chemical Society National Meeting, Dallas, TX, 1998. (oral presentation)
5. "Ligand Effects in Palladium-Catalyzed Reactions" Gregory R. Cook Organic Reactions and Processes Gordon Research Conference, New England College, Henniker, New Hampshire, July 12-17, 1998. (poster presentation)
6. "Palladium-Mediated Dynamic Kinetic Resolution. A Stereoselective Synthesis of 1,2-Diamines" Gregory R. Cook Organic Reactions and Processes Gordon Research Conference, New England College, Henniker, New Hampshire, July 12-17, 1998. (oral presentation)

7. "Utility of Pd-Mediated Dynamic Kinetic Resolution and Thermodynamic Equilibration for the synthesis of natural products" Gregory R. Cook, P. Sathya Shanker, and Scott L. Peterson, 217th American Chemical Society National Meeting, Anaheim, CA, March 21-25, 1999. (oral presentation)
8. "Palladium-Mediated Equilibration of 5-Vinyloxazolines with Terminal Substitution" Gregory R. Cook, P. Sathya Shanker, and Ketheeswaran Pararajasingham, Heterocyclic Compounds Gordon Research Conference, Salve Regina University, Newport, Rhode Island, June 27-July 2, 1999. (poster presentation)
9. "Utility of the Palladium-Mediated Epimerization and Allylic Substitution of 5-Vinyl-1,3-oxazolidin-2-ones and Oxazolines for Asymmetric Synthesis" Gregory R. Cook, P. Sathya Shanker, Hui Yu, Ketheeswaran Pararajasingham, Heterocyclic Compounds Gordon Research Conference, Salve Regina University, Newport, Rhode Island, June 27-July 2, 1999. (oral presentation)
10. "Pd-Mediated Epimerizations and Diastereoselective Allylic Substitution in the Synthesis of Natural Products", Gregory R. Cook, P. Sathya Shanker, Ketheeswaran Pararajasingham, and Scott L. Peterson, Natural Products Gordon Research Conference, New England College, Henniker, New Hampshire, July 25-30, 1999. (poster presentation)
11. "Unusual Regioselectivity in the Pd-Catalyzed Allylic Substitution of 5-Vinyloxazolidinones" Gregory R. Cook, Hui Yu, and P. Sathya Shanker. 219th American Chemical Society National Meeting, San Francisco, CA, March 26-30, 2000. (oral presentation)
12. "Dynamic Diastereomers. Unusual Regioselectivity and Divergent Kinetic Resolution in the Pd-Catalyzed Allylic Substitution" Gregory R. Cook, Hui Yu, P. Sathya Shanker, and S. Sankaranarayanan, Stereochemistry Gordon Research Conference, Salve Regina University, Newport, RI, June 11-16, 2000, (oral presentation)
13. "Asymmetric Synthesis via Pd-Mediated Equilibration" Gregory R. Cook, P. Sathya Shanker, and Ketheeswaran Pararajasingham, Stereochemistry Gordon Research Conference, Salve Regina University, Newport, RI, June 11-16, 2000, (poster presentation)
14. "Dynamic Diastereomers. Unusual Regioselectivity and Divergent Kinetic Resolution in the Pd-Catalyzed Allylic Substitution" Gregory R. Cook, Hui Yu, P. Sathya Shanker, and S. Sankaranarayanan, Organic Reactions and Processes Gordon Research Conference, Roger Williams University, Bristol, RI, July 16-21, 2000, (poster presentation)
15. "Asymmetric Synthesis via Pd-Mediated Equilibration" Gregory R. Cook, P. Sathya Shanker, and Ketheeswaran Pararajasingham, Organic Reactions and Processes Gordon Research Conference, Roger Williams University, Bristol, RI, July 16-21, 2000, (poster presentation)
16. "Dynamic Diastereomers. Unusual Regioselectivity and New Concepts in Resolution via Pd-Catalyzed Allylic Substitution" Gregory R. Cook 35th American Chemical Society Midwest Regional Meeting, St. Louis, October 26-28, 2000. Invited Speaker in the Organometallic Chemistry Symposium.
17. "Indium-Mediated Atom Transfer Cyclization" Gregory R. Cook, Scott Erickson, Miranda Hvinden 221st American Chemical Society National Meeting, San Diego, CA, April 1-5, 2001. (oral presentation)
18. "Dynamic Diastereomers. Unusual Selectivity in the Pd-Catalyzed Allylic Substitution" Gregory R. Cook Organic Reactions and Processes Gordon Research Conference, Roger Williams University, Bristol, RI, July 22-27, 2001, (Oral presentation)
19. "Hydrogen bonding for regiocontrol in the Pd-catalyzed allylic substitution" Gregory R. Cook, Hui Yu, S. Sankaranarayanan, and P. Sathya Shanker, 222nd American Chemical Society National Meeting, Chicago, IL, August 26-30, 2001. (oral presentation).
20. "Synthesis and Evaluation of Novel Heterocyclic MMP Inhibitors" Gregory R. Cook, E. Manivannan, Reza Hussain, Jessica Goreham, Jason Smart. 224th American Chemical Society National Meeting, Boston, MA, August 18-22, 2002. (poster presentation)
21. "Stereo- and Regioselective Allylation of Aldehydes Mediated by Palladium and Indium" Gregory R. Cook and Jason K. Hallman. 224th American Chemical Society National Meeting, Boston, MA, August 18-22, 2002. (oral presentation)

22. "Ambidextrous Allyl. New Directions in Selectivity with Allyl Organometallics" Gregory R. Cook, Jason Hallman, Hui Yu, S. Sankaranarayanan, and P. Sathya Shanker. Organic Reactions and Processes Gordon Research Conference, Roger Williams University, Bristol, RI, July 21-25, 2002. (poster presentation)
23. "Catalytic Asymmetric Carbonyl Allylation Mediated by Palladium and Indium" Gregory R. Cook and Liangdong Sun. 225th American Chemical Society National Meeting, New Orleans, LA, March 23-27, 2003. ORGN 50 (oral presentation)
24. "New Directions in Selectivity with Palladium and Indium Mediated Reactions", Liangdong Sun, Jason Hallman, Hui Yu, S. Sankaranarayanan, P. Sathya Shanker, Gregory R. Cook, North Dakota Network in Catalysis Poster Session, Fargo, ND, April 15, 2003. (poster presentation)
25. "New Developments in Stereoselective Palladium-Catalyzed Indium-Mediated Reactions" Gregory R. Cook, Jason Hallman, Liangdong Sun, Robert Kargbo. Organic Reactions and Processes Gordon Research Conference, Roger Williams University, Bristol, RI, July 20-24, 2003. (poster presentation)
26. "Remarkable Mild and Efficient Indium-Mediated Atom Transfer Cyclization" Gregory R. Cook, Brandon Gustafson, Scott Erickson, Miranda Hvinden. Organic Reactions and Processes Gordon Research Conference, Roger Williams University, Bristol, RI, July 20-24, 2003. (poster presentation)
27. "Indium Mediated Atom Transfer Cyclization", Gregory R. Cook, Brandon Gustafson, Scott Erickson, Miranda Hvinden, North Dakota Network in Catalysis Meeting, Fargo, North Dakota. December 6, 2003. (oral presentation)
28. "New Developments in Stereoselective Palladium-Catalyzed Indium-Mediated Reactions" Gregory R. Cook, Jason Hallman, Liangdong Sun, Robert Kargbo. Organic Reactions and Processes Gordon Research Conference, Roger Williams University, Bristol, RI, July 20-24, 2003. (poster presentation)
29. "Remarkable Mild and Efficient Indium-Mediated Atom Transfer Cyclization" Gregory R. Cook, Brandon Gustafson, Scott Erickson, Miranda Hvinden. Organic Reactions and Processes Gordon Research Conference, Roger Williams University, Bristol, RI, July 20-24, 2003. (poster presentation)
30. "New Developments in Indium-Mediated Reactions" Gregory R. Cook, Jason Hallman, Bikash Maity, and Robert Kargbo. Organic Reactions and Processes Gordon Research Conference, Roger Williams University, Bristol, RI, July 18-23, 2004. (poster presentation, GRC)
31. "Diastereoselective Indium-Mediated Allylation of Chiral Hydrazones" Gregory R. Cook, Bikash Maity, Robert Kargbo. 228th American Chemical Society National Meeting, Philadelphia, PA, August 22-26, 2004. ORGN 100 (oral presentation)
32. "Synthesis and Evaluation of Novel Heterocyclic MMP Inhibitors" Gregory R. Cook, Ethirajan, Manivannan, Xiaomin Jin, Ryuji Hayashi, and Wei Xu. Multidisciplinary Conference on Inhibition of MMPs: Expanding the Horizons, Department of Medicine, Long Island Jewish Medical Center, New York Academy of Sciences and the Inflammation Research Association, East Elmhurst, New York. October 23-25, 2004. (poster presentation)
33. "Synthesis and Evaluation of Novel Pyridine-Based MMP Inhibitors" Gregory R. Cook, Ryuji Hayashi. IDeA Networks of Biomedical Research Excellence Regional Meeting, Kansas City, MO, May 5-6, 2005. (poster presentation)
34. "Enantioselective Palladium/Indium-Mediated Allylation of Aldehydes" Gregory R. Cook, Wei Xu, and Liangdong Sun. 229th American Chemical Society National Meeting, San Diego, CA, March 13-17, 2005. ORGN 906 (oral presentation)
35. "Tandem Palladium-Catalyzed Addition to Allenes and Oxazoline Formation" Gregory R. Cook and Wei Xu. Heterocyclic Compounds Gordon Research Conference, Newport, RI, July 3-8, 2005. (poster presentation)
36. "Catalytic Enantioselective Indium-Mediated Allylation of Hydrazones" Gregory R. Cook, Robert Kargbo, Bikash Maity and Xiaomin Jin. Heterocyclic Compounds Gordon Research Conference, Newport, RI, July 3-8, 2005. (poster presentation)

37. "A catalytic enantioselective indium-mediated allylation of hydrazones" Gregory R. Cook, Robert Kargbo and Bikash Maity. 230th American Chemical Society National Meeting, Washington, DC, August 28-September 1, 2005. ORGN 548. (oral presentation)
38. "Unusual indium-mediated atom transfer reaction" Gregory R. Cook, Ryuji Hayashi, Brandon Gustafson, Scott Erickson, Miranda Hvinden. 2005 International Chemical Congress of Pacific Basin Societies, Honolulu, HI, December 15-20, 2005. ORGN 761 (poster presentation).
39. "In-Mediated Cyclization. Asymmetric Synthesis of Chromanes" Gregory R. Cook, Debasis Samanta and Robert Kargbo. Organic Reactions and Processes Gordon Research Conference, Bryant University, Smithfield, RI, July 16-21, 2006. (poster presentation)
40. "Remarkably Mild In(III)-Catalyzed Friedel-Crafts Reaction" Gregory R. Cook and Ryuji Hayashi, Organic Reactions and Processes Gordon Research Conference, Bryant University, Smithfield, RI, July 16-21, 2006. (poster presentation)
41. "Synthesis and evaluation of small molecule inhibitors for matrix metalloproteinases and histone deacetylases" Gregory R. Cook, Ethirajan Manivannan, Ryuji Hayashi, Wei Xu. National IDeA Symposium of Biomedical Research Excellence, Washington, DC, July 20-22, 2006. PP-046 (poster presentation)
42. "Asymmetric synthesis of chromanes via intramolecular indium-mediated allylation of hydrazones" Gregory R. Cook, Debasis Samanta, Robert Kargbo. 232nd American Chemical Society National Meeting, San Francisco, CA, September 10-14, 2006. ORGN-316 (oral presentation)
43. "Highly Enantioselective Catalytic Indium-Mediated Allylation of Hydrazones" Gregory R. Cook, Robert Kargbo. 233rd American Chemical Society National Meeting, Chicago, IL, March 25-29, 2007. ORGN-370 (oral presentation)
44. "Highly Enantioselective Indium Mediated Reactions" Gregory R. Cook, Robert Kargbo, Ryuji Hayashi, Yoko Takahashi. Southwest Regional Meeting, Lubbock, TX, November 407, 2007. Invited Symposium Talk #49894 (oral presentation)
45. "Highly Enantioselective Indium-Mediated Allylation of Ketimine Hydrazones" Gregory R. Cook, Robert Kargbo, Ryuji Hayashi, Yoko Takahashi. 235th American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008. ORGN 51 (oral presentation)
46. "Highly Enantioselective Allylation mediated by In and Bi" Gregory R. Cook. Gordon Research Conference on Organic Reactions and Processes, Bristol, RI, July 19-24, 2009. (poster presentation)
47. "Enantioselective bismuth-mediated allylation of ketones" Cook, Gregory R.; Song, Xixi; Narayanaganesh, Balasubramanian; Ugrinov, Vesela. 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010, ORGN-913. (oral presentation)
48. "Synthesis of Inhibitors for HDAC-8" Gregory R. Cook*, Vesela Ugrinova, Tanmay Mandal, Narayanaganesh Balasubramanian, Tajae Viaene, Raushan Singh, DK Srivastava. 3rd Biennial NISBRE National Meeting, Bethesda, MD, June 16-18, 2010. (poster presentation)
49. "Advances in Asymmetric Allylation" Gregory R. Cook, Gordon Research Conference on Organic Reactions and Processes, Bristol, RI, July 18-23, 2010. (oral presentation)
50. "Synthesis of Inhibitors for HDAC-8" Gregory R. Cook*, Vesela Ugrinova, Tanmay Mandal, Narayanaganesh Balasubramanian, Tajae Viaene, Raushan Singh, D.K. Srivastava. Cambridge Health Institute Discovery on Target 4th Annual HDAC Inhibitor Meeting, Nov. 2-3, 2010. (poster presentation)
51. "Oxazolidinone templates for the asymmetric allylation of hydrazones" Gregory R. Cook, Annual Florida Heterocyclic and Synthetic Conference, March 6-9, 2011. *invited symposium speaker*
52. "Synthesis of Selective HDAC8 inhibitors" Gregory R. Cook, 2011 Central Region IDeA Conference, May 23-25, 2011, Omaha, NE. (poster presentation)
53. "Advances in Asymmetric Allylation" Gregory R. Cook, 2011 Gordon Research Conference on Organic Reactions and Processes, Bristol, RI, July 17-22, 2011. (poster presentation)

54. "Small Molecule Inhibitors and Activators for HDAC8", Gregory R. Cook, Vesela Ugrinova, Tanmay Mandal, Narayanaganesh Balasubramanian, Taja Viaene, Raushan Singh, D.K. Srivastava, Histone Variants and Genome Regulation Conference of the European Molecular Biology Organization, October 12-14, 2011, Strasbourg, France. (poster presentation)
55. "Small Molecule Inhibitors and Activators for HDAC8", Gregory R. Cook, Vesela Ugrinova, Tanmay Mandal, Narayanaganesh Balasubramanian, Taja Viaene, Raushan Singh, D.K. Srivastava, Cambridge Health Institute Discovery on Target 5th Annual HDAC Inhibitor Meeting, Nov. 3-4, 2011. (poster presentation)
56. "Advances in Sustainable Asymmetric Allylation" Gregory R. Cook 2012 Gordon Research Conference on Organic Reactions and Processes, Bristol, RI, July 15-20, 2012. (poster presentation)
57. "Asymmetric indium- and bismuth-mediated allylation in protic solvent" Cook, Gregory R.; Balasubramanian, Narayanaganesh; Mandal, Tanmay; Ugrinova, Vesela; Clay, Anthony 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013 (2013), ORGN-432. (oral presentation)
58. "Advances in Sustainable Asymmetric Allylation" Gregory R. Cook 2013 Gordon Research Conference on Organic Reactions and Processes, Bristol, RI, July 14-19, 2013. (poster presentation)
59. "New paradigm in enantioselective In-mediated allylation" Gregory R. Cook, Sandeep Reddy Vemula, Dinesh Kumar, Narayanaganesh Balasubramanian 248th ACS National Meeting, San Francisco, CA, August 10-14, 2014. ORGN-482 (oral presentation).
60. "A new paradigm for In-mediated allylation" Sandeep R. Vemula, Dinesh Kumar, Narayanaganesh Balasubramanian, Gregory R. Cook 2015 Gordon Research Conference on Organic Reactions and Processes, Bates College, Lewiston, ME. July 19-24, 2015. (poster presentation)

Presentations and Abstracts at Meetings by Students

61. "Palladium-Catalyzed Allylic Substitution Reactions of 5-Vinyloxazolidinones and Oxazolines." Shanker, P. S.; Cook, G. R., 215th American Chemical Society National Meeting, Dallas, TX, 1998. (poster presentation)
62. "New Chiral Ligands for Main Group Lewis Acids - Applications in Synthesis" Pingrong Liu, Gregory Cook, and Mukund Sibi. The Second Fargo Conference on Main Group Chemistry, Fargo, ND, June 4-6, 1998. (poster presentation)
63. "Enantioselective Reduction of Ketones. Examination of Bifunctional Ligands." Mukund P. Sibi, Gregory R. Cook, Pingrong Liu 217th American Chemical Society National Meeting, Anaheim, CA, March 21-25, 1999. (poster presentation)
64. "Indium-Mediated Cyclizations" Erickson, S.; Pararajasingham, K.; and Cook, G. R. 217th American Chemical Society National Meeting, Anaheim, CA, March 21-25, 1999. (poster presentation)
65. "Enantioselective Synthesis of Balanol via a Pd-Mediated Equilibration and Olefin Metathesis" P. Sathya Shanker, Scott L. Peterson, and Gregory R. Cook, 217th American Chemical Society National Meeting, Anaheim, CA, March 21-25, 1999. (poster presentation)
66. "Enantioselective Synthesis of Non-Proteinogenic Amino Acids via Pd-Mediated Dynamic Kinetic Resolution and Thermodynamic Equilibration" P. Sathya Shanker and Gregory R. Cook, 217th American Chemical Society National Meeting, Anaheim, CA, March 21-25, 1999. (poster presentation)
67. "Indium-Initiated Atom-Transfer Cyclization" Gregory R. Cook, Scott Erickson, Miranda Hvinden, and Scott Reule, 219th American Chemical Society National Meeting, San Francisco, CA, March 26-30, 2000. (poster presentation)
68. "Atom-Transfer Cyclizations Mediated by Indium" Gregory R. Cook, Scott Erickson, Miranda Hvinden, and Scott Reule, 32nd ACS Great Lakes Regional Meeting, Fargo, ND, June 4-6, 2000. (poster presentation)
69. "Pd-Mediated Divergent Kinetic Resolution of 5-VinylOxazolidinones" Gregory R. Cook, S. Sivaraman. 221st American Chemical Society National Meeting, San Diego, CA, April 1-5, 2001. (poster presentation)

70. "Solid Supported Chiral Ligands for Asymmetric Catalysis" Gregory R. Cook, Jason Hallman, 221st American Chemical Society National Meeting, San Diego, CA, April 1-5, 2001. (poster presentation)
71. "Unusual regioselectivity in the Pd-catalyzed allylic substitution of 5-vinyloxazolidinones." Gregory R. Cook, Hui Yu, S. Sankaranarayanan, 221st American Chemical Society National Meeting, San Diego, CA, April 1-5, 2001. (poster presentation)
72. "Pd mediated isomerization and regioselectivity of 5-vinyloxazolidinones" Joy R. Lichtsinn, Scott L. Peterson, S. Sankaranarayanan, P. Sathya Shanker, Hui Yu, Gregory R. Cook, 221st American Chemical Society National Meeting, San Diego, CA, April 1-5, 2001. (poster presentation)
73. "Regioselectivity of Allylic Substitution to Oxazolidinones" Mary K. Froemming, S. Sankaranarayanan, and Gregory R. Cook. 223rd American Chemical Society National Meeting, Orlando, FL, April 7-11, 2002. (Poster presentation)
74. "Novel Oxazoline-Based MMP Inhibitors" Gregory R. Cook and E. Manivannan. 225th American Chemical Society National Meeting, New Orleans, LA, March 23-27, 2003. MEDI 247 (poster presentation)
75. "New Developments in Palladium and Indium-Mediated Allylation" Gregory R. Cook, Robert Kargbo and Jason Hallman. 225th American Chemical Society National Meeting, New Orleans, LA, March 23-27, 2003. ORGN 577 (poster presentation)
76. "Indium Mediated Atom Transfer Cyclization", Gregory R. Cook, Brandon Gustafson, Scott Erickson, Miranda Hvinden, North Dakota Network in Catalysis Poster Session, Fargo, North Dakota. April 15, 2003. (poster presentation)
77. "Metal Mediated Enyne Cyclizations" Brandon Gustafson, Scott Erickson, Miranda Hvinden, Kristin Meyer, Yoko Takahashi, Gregory R. Cook. 12th ND-EPSCoR Science, Engineering & Mathematics Poster Session, North Dakota State University, Fargo, ND, August, 04, 2004. (poster presentation)
78. "Structure and Analysis of Triazine Containing Compounds for use as HDAC Inhibitors" Karen L. Beckman, Gregory R. Cook. 12th ND-EPSCoR Science, Engineering & Mathematics Poster Session, North Dakota State University, Fargo, ND, August, 04, 2004. (poster presentation)
79. "Synthesis and Evaluation of Sulfonamide-based MMP Inhibitors" Yoko Takahashi, Gregory R. Cook. 12th ND-EPSCoR Science, Engineering & Mathematics Poster Session, North Dakota State University, Fargo, ND, August, 04, 2004. (poster presentation)
80. "Synthesis and Evaluation of Novel Heterocyclic MMP Inhibitors" Gregory R. Cook, Wei Xu, and E. Manivannan. 228th American Chemical Society National Meeting, Philadelphia, PA, August 22-26, 2004. MEDI 278 (poster presentation)
81. "Synthesis and Evaluation of Novel Pyridine-Based MMP Inhibitors" Gregory R. Cook, Ryuji Hayashi. 229th American Chemical Society National Meeting, San Diego, CA, March 13-17, 2005. MEDI 240 (poster presentation)
82. "Enantioselective Indium-Mediated Allylation of Hydrazones" Gregory R. Cook, Robert Kargbo and Bikash Maity. 229th American Chemical Society National Meeting, San Diego, CA, March 13-17, 2005. ORGN 905 (oral presentation)
83. "Computer-Aided Molecular Design of Histone Deacetylase Class I Inhibitors" Emilio Xavier Esposito, Gregory R. Cook. 231st American Chemical Society National Meeting, Atlanta, GA, March 26-30, 2006. COMP 158 (poster presentation)
84. "Computational exploration of histone deacetylase class I isozymes" Emilio Xavier Esposito, Gregory R. Cook. 37th Great Lakes Regional Meeting of the American Chemical Society, Milwaukee, WI, May 31-June 2, 2006. GLRM-288 (oral presentation)
85. "Looking for isozyme specificity of histone deacetylase class I isozymes" Emilio Xavier Esposito, Gregory R. Cook. 232nd American Chemical Society National Meeting, San Francisco, CA, September 10-14, 2006. COMP-406 (oral presentation)

86. "The Computational Search for novel histone deacetylase class I isozymes" Emilio Xavier Esposito, Gregory R. Cook. 232nd American Chemical Society National Meeting, San Francisco, CA, September 10-14, 2006. MEDI-149 (poster presentation)
87. "Catalytic activation of allylic halide by In(III): Remarkably mild and efficient intramolecular Friedel-Crafts cyclization" Gregory R. Cook, Ryuji Hayashi. 232nd American Chemical Society National Meeting, San Francisco, CA, September 10-14, 2006. COMP-406 (oral presentation)
88. "Organocatalytic Asymmetric Diels-Alder Reactions with Novel Chiral Hydrazines" Gregory R. Cook, Danielle Vaughn, Santosh Bhor. 233rd American Chemical Society National Meeting, Chicago, IL, March 25-29, 2007. ORGN-745 (poster presentation)
89. "Bi(OTf)₃ as a dual role catalyst: Synthesis of substituted morpholines via catalytic ring-closing O-alkylation" Gregory R. Cook, Ryuji Hayashi. 234th American Chemical Society National Meeting, Boston, MA, August 19-23, 2007. ORGN-362 (oral presentation)
90. "Asymmetric Diels-Alder reaction catalyzed by novel chiral hydrazine catalysts" Gregory R. Cook, Yoko Takahashi, Danielle Vaughn, and Santosh Bhor. 234th American Chemical Society National Meeting, Boston, MA, August 19-23, 2007. ORGN-584 (poster presentation - selected for scimix)
91. "Highly enantioselective indium-mediated crotylation of aliphatic hydrazones" Gregory R. Cook, Robert Kargbo, and Yoko Takahashi. 234th American Chemical Society National Meeting, Boston, MA, August 19-23, 2007. ORGN-390 (oral presentation)
92. "Synthesis of Substituted Morpholine Derivatives via In(III)-Catalyzed Ring-Closing O-Allylation" Gregory R. Cook, Jina Park, Ryuji Hayashi. 235th American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008. ORGN 116 (poster presentation)
93. "Intermolecular Friedel-Crafts Reaction via Catalytic Halid Activation" Gregory R. Cook, Miho Kaneko, Ryuji Hayashi. 235th American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008. ORGN 117 (poster presentation)
94. "Preparation and Evaluation of Novel HDAC Inhibitors" Gregory R. Cook, Danielle Vaughn, Yoko Takahashi, Santosh Bhor. 235th American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008. ORGN 641 (poster presentation)
95. "Highly enantioselective, catalytic, indium-mediated additions of allylic bromides to N-acyl hydrazones" Yoko Takahashi, Robert Kargbo, Ryuji Hayashi, Gregory R. Cook. 236th American Chemical Society National Meeting, Philadelphia, PA, August 17-21, 2008. ORGN 44 (oral presentation)
96. "Development of Novel Histone Deacetylase Inhibitors" Gregory R. Cook and Miho Kaneko. 237th ACS National Meeting, Salt Lake City, UT. Mar 22-26, 2009. ORGN-342. (Poster presentation)
97. "Deprotection of Alcohols Catalyzed by In(III) and Bi(III)" Miho Kaneko, Gregory R. Cook, Jina Park. 41st National Organic Symposium, Boulder, CO, June 7-11, 2009. (poster presentation)
98. "Highly Stereoselective Catalytic In-Mediated Allylation of Hydrazones" Yoko Takahashi, Robert Kargbo, Ryuji Hayashi, Gregory R. Cook. 41st National Organic Symposium, Boulder, CO, June 7-11, 2009. (poster presentation)
99. "Indium(I) Iodide-Mediated / Palladium(0)-Catalyzed Highly Diastereoselective Allylation of Chiral Hydrazone" Gregory R. Cook, Tanmay Mandal, Narayanaganesh Balasubramanian. 41st National Organic Symposium, Boulder, CO, June 7-11, 2009. (poster presentation)
100. "Indium Mediated Highly Diastereoselective Reformatsky Reaction of Chiral Hydrazone Under Sonication" Gregory R. Cook, Tanmay Mandal, Narayanaganesh Balasubramanian. 41st National Organic Symposium, Boulder, CO, June 7-11, 2009. (poster presentation)
101. "Enantioselective Bismuth Mediated Allylation" Gregory R. Cook, Narayanaganesh Balasubramanian, Vesela Ugrinova, Xixi Song. 41st National Organic Symposium, Boulder, CO, June 7-11, 2009. (poster presentation)

102. "Enantioselective catalytic allylation of ketimines" Yoko Takahashi, Robert Kargbo, Ryuji Hayashi, Gregory R. Cook, 238th ACS National Meeting, Washington, DC, Aug 16-20, 2009. ORGN-379. (oral presentation)
103. "Indium-Mediated Enantioselective Allylation" Shannon Cumiskey, Gregory R. Cook, Balasubramanian Narayanaganesh. 44th Midwest Regional Meeting of the American Chemical Society, Iowa City, IA. Oct 21-24, 2009. MWRM-0194. (poster presentation)
104. "Asymmetric addition of organoindium reagents to imines" Balasubramanian, Narayanaganesh; Takahashi, Yoko; Kargbo, Robert; Hayashi, Ryuji; Mandal, Tanmay; Cook, Gregory R. 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010 (2010), ORGN-1005. (poster presentation)
105. "Indium-mediated enantioselective allylation" Cook, Gregory; Cumiskey, Shannon Y.; Balasubramanian, Narayanaganesh. 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010, ORGN-977. (poster presentation)
106. "Design and synthesis of isoform selective HDAC inhibitors" Viaene, Taja L.; Balasubramanian, Narayanaganesh; Cook, Gregory R. 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010, ORGN-324. (poster presentation)
107. "Asymmetric In(0)-mediated allylation of nitrones" Kaneko, Miho; Takahashi, Yoko; Cook, Gregory. 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010, ORGN-207. (poster presentation)
108. "Studies toward the enantioselective syntheses of 3-hydroxy-2-oxindole containing natural products" Ostlund, Anthony J.; Narayanaganesh, Balasubramanian; Cook, Gregory R. 240th ACS National Meeting, Boston, MA, United States, August 22-26, 2010, ORGN-631. (poster presentation)
109. "Catalytic enantioselective synthesis of chiral allylboronates" Schultz, Johnathan E.; Cook, Gregory R. 240th ACS National Meeting, Boston, MA, United States, August 22-26, 2010, ORGN-626. (poster presentation)
110. "Asymmetric addition of organoindium and organobismuth reagents to electrophilic carbons" Balasubramanian, Narayanaganesh; Cook, Gregory R.; Ostlund, Anthony J. 240th ACS National Meeting, Boston, MA, United States, August 22-26, 2010, ORGN-464. (oral presentation)
111. "Synthesis of histone deacetylase inhibitors" Viaene, Taja L.; Balasubramanian, Narayanaganesh, Cook, Gregory R. 241st ACS National Meeting, Anaheim, CA, United States, March 27-31, 2011, ORGN-121. (poster presentation)
112. "Organic synthesis of core synthesis facility at North Dakota State University" Yang, Yonghua, Cook, Gregory R. 241st ACS National Meeting, Anaheim, CA, United States, March 27-31, 2011, ORGN-167. (poster presentation)
113. "Indium-mediated entantioselective allylation of ketoamides" Balasubramanian, Narayanaganesh, Cook, Gregory R. 241st ACS National Meeting, Anaheim, CA, United States, March 27-31, 2011, ORGN-319. (oral presentation)
114. "Diastereoselective intramolecular Friedel-Crafts reaction catalyzed by indium (III)" Lee, Jaehee; Cook, Gregory R. 241st ACS National Meeting, Anaheim, CA, United States, March 27-31, 2011, ORGN-717. (poster presentation)
115. "Ultrasound-promoted stereoselective Reformatsky reaction using indium metal" Balasubramanian, Narayanaganesh; Mandal, Tanmay; Cook, Gregory R. 241st ACS National Meeting, Anaheim, CA, United States, March 27-31, 2011, ORGN-834. (poster presentation)
116. "Bismuth mediated enantioselective transformations: Mechanistic insights and potential applications in green chemistry" Balasubramanian, Narayanaganesh R.; Cook, Gregory R.; Ugrinova, Vesela; Song, Xixi 242nd ACS National Meeting & Exposition, Denver, CO, United States, August 28- September 1, 2011, ORGN-597. (oral presentation)
117. "Biomedical research at core synthesis facility of North Dakota State University" Yang, Yong-Hua; Cook, Gregory R.; Sibi, Mukund P. 243rd ACS National Meeting & Exposition, San Diego, CA, United States, March 25-March 29, 2012, MEDI-52. (poster presentation)

118. "Environmentally benign routes for the synthesis of HDAC inhibitors" Balasubramanian, Narayanaganesh; Cook, Gregory R. 243rd ACS National Meeting & Exposition, San Diego, CA, United States, March 25-March 29, 2012, ORGN-815.
119. "Progress toward the total synthesis of a novel Huperzine alkaloid with AChE inhibitory properties" Ostlund, Anthony J.; Cook, Gregory R. 243rd ACS National Meeting & Exposition, San Diego, CA, United States, March 25-March 29, 2012, ORGN-699.
120. "Stereoselective Reformatsky reaction using indium metal: Green chemical routes to oxindole natural products" Weyer, Megan J.; Balasubramanian, Narayanaganesh; Cook, Gregory R. 243rd ACS National Meeting & Exposition, San Diego, CA, United States, March 25-March 29, 2012, ORGN-623.
121. "Progress towards total synthesis of 3-allyl-3-hydroxy oxindole natural products" Balasubramanian, Narayanaganesh; Ostlund, Anthony J.; Cook, Gregory R. 243rd ACS National Meeting & Exposition, San Diego, CA, United States, March 25-March 29, 2012, ORGN-353.
122. "Total synthesis of the diarylheptanoid (+)-aR, 11S-myricanol" Weyer, Megan J.; Nye, Joshua J.; Ostlund, Anthony J.; Cook, Gregory R. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013 (2013), ORGN-182. (Poster Presentation)
123. "Construction of two unique model systems for the total synthesis of a novel lycopodine alkaloid" So, Mee-sun; Ostlund, Anthony J.; Cook, Gregory R. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013 (2013), ORGN-201. (Poster Presentation)
124. "Towards the total synthesis of a novel Lycopodine-class alkaloid with AChE inhibitory properties" Ostlund, Anthony J.; So, Mee-Sun; Cook, Gregory R. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013 (2013), ORGN-396. (Oral Presentation)
125. "Main group metal-mediated enantioselective allylation of carbonyl compounds using substoichiometric amounts of metal" Sandeep Reddy Vemula, Dinesh Kumar, Narayanaganesh Balasubramanian, Gregory R. Cook 248th ACS National Meeting, San Francisco, CA, August 10-14, 2014. ORGN-691 (oral presentation).
126. "Regio- and chemoselective allylation of heterocycles" Dinesh Kumar, Sandeep Reddy Vemula, Gregory R. Cook. 248th ACS National Meeting, San Francisco, CA, August 10-14, 2014. ORGN-831 (Poster presentation).
127. "Sustainable advancement towards allylation of N-heterocycles" Sandeep Reddy Vemula, Dinesh Kumar, Gregory R. Cook. 2nd KU-NDSU Joint Symposium on Biotechnology, Nanomaterials and Polymers, Kagoshima, Japan, October 31-November 3, 2015. (Poster presentation, *won award*).

Outreach Activities - Invited Seminars

I have presented at the following as an invited seminar lecturer:

1. Western Michigan University, Kalamazoo, MI. January 1996.
2. University of Texas - Arlington, Arlington, TX. January 1996.
3. University of Kansas, Lawrence, KS. January 1996.
4. University of Arkansas, Fayetteville, AK. February 1996.
5. University of South Florida, Tampa, FL. March 1996.
6. North Dakota State University, Fargo, ND. March 1996.
7. University of Missouri - Kansas City, Kansas City, MO. April 1996.
8. University of Minnesota - Duluth, Duluth, MN. November 1996. *recruiting*
9. University of South Dakota, Vermillion, SD. November 1997. *recruiting*
10. University of North Dakota, Grand Forks, ND. January 30, 1998. *recruiting*
11. Affymax Research Corporation, Santa Clara, CA. March 14, 1998.
12. Michigan State University, East Lansing, MI. May 15, 1998.

13. NSC Technologies, Mt Prospect, IL. March 18, 1999.
14. University of Minnesota-Morris, Morris, MN. February 24, 2000. [*recruiting*](#)
15. Affymax Research Corporation, Santa Clara, CA. March 31, 2000.
16. Merck & Co., Inc., West Point, PA. August 14, 2000.
17. University of Winnipeg, September 22, 2000. [*recruiting*](#)
18. University of Wisconsin - Eau Claire, Eau Claire, WI. December 1, 2000. [*recruiting*](#)
19. Minnesota State University Mankato, Mankato, MN. February 8, 2001. [*recruiting*](#)
20. University of Minnesota, Minneapolis, MN. February 9, 2001.
21. University of Southern California, Los Angeles, CA. April 18, 2001.
22. University of California - Santa Barbara, Santa Barbara, CA. April 20, 2001.
23. Marquette University, Milwaukee, WI. October 19, 2001.
24. University of Wisconsin - Milwaukee, Milwaukee, WI. October 20, 2001.
25. University of Wisconsin - River Falls, River Falls, WI. November 2, 2001. [*recruiting*](#)
26. University of Wisconsin - River Falls, River Falls, WI. November 2, 2001. [*recruiting*](#)
27. University of Kansas, Lawrence, KS. March 14, 2002.
28. University of California - Irvine, Irvine, CA. April 17, 2002.
29. Kyushu University, Fukuoka, Japan. May 13, 2002.
30. Osaka Prefecture University, Osaka, Japan. May 14, 2002.
31. Osaka University, Osaka, Japan. May 15, 2002.
32. Kobe Pharmaceutical University, Kobe, Japan. May 16, 2002.
33. Kyoto University, Kyoto, Japan. May 17, 2002.
34. Gakushuin University, Tokyo, Japan. May 20, 2002.
35. Tokyo Institute of Technology, Tokyo, Japan. May 21, 2002.
36. Nagoya Institute of Technology, Nagoya, Japan. May 22, 2002.
37. Mie University, Mie, Japan. May 23, 2002.
38. University of Minnesota - Morris, Morris, MN, October 17, 2002. [*recruiting*](#)
39. Minnesota State University Moorhead, Moorhead, MN, November 18, 2002. [*recruiting*](#)
40. University of Iowa, Med. Chem, Iowa City, IA, September 30, 2003.
41. St. Cloud State University, St. Cloud, MN, October 6, 2003. [*recruiting*](#)
42. University of Missouri - St. Louis, St. Louis, MO, October 24, 2003.
43. University of Missouri - Columbia, Columbia, MO, October 27, 2003.
44. Minot State University, Minot, ND, November 20, 2003. [*recruiting*](#)
45. University of North Dakota, Grand Forks, ND, November 5, 2004. [*recruiting*](#)
46. Bemidji State University, Bemidji, MN, November 22, 2004. [*recruiting*](#)
47. Queens University, Kingston, ON, Canada. January 27, 2005.
48. Pfizer, Ann Arbor, MI. February 16, 2005.
49. University of Michigan, Ann Arbor, MI. February 17, 2005.
50. University of Windsor, Windsor, ON. September 7, 2005.
51. Université Paris-Sud, Orsay, France. September 28, 2005.
52. University of Minnesota-Duluth, Duluth, MN. October 7, 2005. [*recruiting*](#)

53. University of Minnesota-Morris, Morris, MN. October 14, 2005. [*recruiting*](#)
54. Brown University, Providence, RI. October 18, 2005.
55. University of Manitoba, Winnipeg, Canada. December 2, 2005. [*recruiting*](#)
56. Tsinghua University, Beijing, China. March 10, 2006.
57. Peking University, Beijing, China. March 10, 2006.
58. Tianjin University, Tianjin, China. March 13, 2006.
59. Nankai University, Tianjin, China. March 13, 2006
60. University of Science and Technology of China, Hefei, China. March 15, 2006.
61. East China University of Science and Technology, Shanghai, China. March 17, 2006.
62. Chinese Academy of Sciences, Shanghai Institute of Organic Chemistry, Shanghai, China. March 20, 2006.
63. GE Global Research, Shanghai, China. March 21, 2006.
64. Synchem International Corp., Shanghai, China. March 21, 2006.
65. Mayville State University, Mayville, ND. October 6, 2006.
66. University of Kentucky, Lexington, KY. February 23, 2007.
67. Minot State University, Minot, ND. April 26, 2007. [*special public general presentation*](#)
68. Minot State University, Minot, ND. April 27, 2007. [*recruiting*](#)
69. Université Pierre et Marie Curie, Paris, France. May 14, 2007.
70. École Polytechnique, Palaiseau, France. May 15, 2007.
71. École Normal Superior, Paris, France. May 16, 2007.
72. Université Bourdeaux 1, Bourdeaux, France. May 21, 2007.
73. Université Lyon, Lyon, France. May 23, 2007.
74. Université Louis Pasteur de Strasbourg, Strasbourg, France. May 25, 2007.
75. University of New Mexico, Albuquerque, NM. February 8, 2008.
76. West Virginia University, Morgantown, WV. February 13, 2008.
77. University of Pittsburgh, Pittsburgh, PA. February 14, 2008.
78. University of Wisconsin - Eau Claire, Eau Claire, WI. October 17, 2008. [*recruiting*](#)
79. Tohoku University, Sendai, Japan. December 8, 2008.
80. Chuo University, Tokyo, Japan. December 10, 2008.
81. Tokyo Institute of Technology, Tokyo, Japan. December 11, 2008.
82. Tokyo University of Science, Tokyo, Japan. December 12, 2008.
83. Gakushuin University, Tokyo, Japan. December 13, 2008.
84. Kyoto University, Kyoto, Japan. December 15, 2008.
85. Osaka University, Osaka, Japan. December 17, 2008.
86. Kobe Pharmaceutical University, Kobe, Japan. December 18, 2008.
87. Osaka Prefecture University, Osaka, Japan. December 19, 2008.
88. Augustana College, Sioux Falls, SD. April 24, 2009. [*recruiting*](#)
89. Michigan State University, East Lansing, MI. September 9, 2009.
90. Indian Institute of Science, Bangalore, India. December 2, 2009.
91. National Chemical Laboratory, Pune, India. December 4, 2009.
92. Indian Institute of Chemical Technology, Hyderabad, India. December 5, 2009.

93. Delhi University, Delhi, India. December 7, 2009.
94. Indian Associate for the Cultivation of Science invited plenary speaker, Kolkata, India. December 10-12, 2009. *Plenary Speaker*
95. St. Cloud State University, St. Cloud, MN. April 14, 2010. *recruiting*
96. University of New Mexico, Albuquerque, NM. August 3, 2010.
97. University of Bern, Bern, Switzerland. October 19, 2010.
98. University of Fribourg, Fribourg, Switzerland. October 20, 2010.
99. Institut de Chimie des Substances Naturelles, CNRS, Gif-sur-Yvette, France. October 22, 2010.
100. École Supérieure de Physique et de Chimie Industrielles, Paris Tech, Paris, France. October 25, 2010.
101. Université de Strasbourg, Strasbourg, France. October 27, 2010.
102. University of Humacao, Puerto Rico. April 5, 2011. *invited lecturer*
103. Université Pierre et Marie Curie, Paris, France. October 17, 2011.
104. Université Paris Descartes (Paris 5), Paris, France. October 20, 2011.
105. "Deconstructing Wine from a chemist's perspective" NDSU College of Science and Mathematics Science Cafe, Fargo, North Dakota. December 13, 2011.
106. "The Chemistry of Wine", North Dakota Grape Growers annual meeting, Bismarck, North Dakota. February 4, 2012.
107. "The Chemistry of Wine", NDSU PLSC 307 course, Fargo, ND. February 22, 2012.
108. Institute for Therapeutics Discovery and Development, University of Minnesota School of Pharmacy, Minneapolis, MN. March 2, 2012.
109. University of Sofia, Sofia, Bulgaria. October 17, 2012.
110. University of Manitoba, Winnipeg, MB, Canada. November 16, 2012. *recruiting*
111. University of North Dakota, Grand Forks, ND. November 30, 2012. *recruiting*
112. Universidad Autonoma de Madrid, Madrid, Spain. October 28, 2013.
113. Universidad de Alicante, Alicante, Spain. October 30, 2013.
114. Tohoku University, Sendai, Japan. November 18, 2013.
115. Tokyo University of Agriculture and Technology Tokyo, Japan. November 19, 2013.
116. Chiba University, Tokyo, Japan. November 20, 2013.
117. Tokyo University, Tokyo, Japan. November 21, 2013.
118. Waseda University, Tokyo, Japan. November 22, 2013.
119. University of South Dakota, Vermillion, SD. October 20, 2014.
120. Syracuse University, Syracuse, NY. February 24, 2015.
121. University of Sofia, Sofia, Bulgaria. May 19, 2015.
122. Plovdiv University, Plovdiv, Bulgaria. May 22, 2015.
123. St. Cloud State University, St. Cloud, MN. October 12, 2015. *recruiting*

Funding Current

1. Center for Protease Research Pilot Project Grant, "Methodology for the synthesis of quinazolin-4(3H)-ones based antibiotics" \$40,000 (7/1/16 - 6/30/17)

Funding (Pending)

1. National Science Foundation (CHE-1566103), "Practical and Scalable Indium-Catalyzed Allylation" **Requested \$713,465** (September 2015)
2. ACS Petroleum Research Fund, "Catalytic Regioselective C-H bond functionalization and oxidative cyclization of substituted quinazolin-4(3H)-one" **Requested \$110,000** (October 2015)
3. Center for Engineered Test Beds, Grand Challenge Proposal. Role: Co-PI (Kalpana Katti, PI). Fall 2015
4. Green Engineering, Science, and Technology for Unconventional Resource Extraction in North Dakota (GESTURE ND), Grand Challenge Proposal. Role: Co-PI (Eakalak Kahn, PI). Fall 2015

Funding Completed (External)

1. National Science Foundation, "Acquisition of a 500-MHz NMR Spectrometer" Co-PI with K. Rodgers, P. Boudjouk, S. Mallik, M. Sibi [submitted 1/98]. **Funded \$598,900** for three years (9/1/98 - 8/31/01) (requested \$598,900)
2. National Science Foundation CAREER award (CHE-9875013), "Career: New Synthetic Methods via Allyl Organometallics" [submitted 6/30/98]. **Funded \$325,000** for 4 years (3/1/99 - 2/28/03) (requested \$499,997)
3. National Institutes of Health (R15 GM58470-01), "New Methods for the Synthesis of Unusual Amino Acids" [submitted 1/23/98]. **Funded \$98,700** for two years (4/1/99 - 3/31/01) (requested \$98,700)
4. National Science Foundation (CHE-9988052), "Research on the Prairies. Undergraduate Training in Chemistry" Co-PI with M. Sibi [submitted 9/15/99]. **Funded \$172,800** for three years (5/1/00 - 4/30/03) (requested \$172,800)
5. National Institutes of Health (COBRE), "New Strategies for Targeting Proteases in Disease" a Center of Biomedical Research Excellence center grant (P20 RR15566-01). Co-PI with M. Sibi (Center Director), S. Balaz, S. Mallik, K. Rodgers, and I. Seghal. [submitted 3/7/2000]. **Funded \$8.3 million** for five years (2/1/01 - 1/31/06). My portion includes Project 1 **Funded \$1,060,198**.
6. National Science Foundation (CHE-0316618), "New Directions in Selectivity via Palladium and Indium Mediated Methodology". [submitted 1/10/03]. **Funded \$313,000** for three years (7/15/03 - 6/30/06) *Renewal of Career Award CHE-9875013
7. Pfizer Diversity Graduate Fellowship for Robert Kargbo. **Funded \$25,000** for one year (7/04 - 6/05)
8. National Science Foundation (CHE-0616485) "Stereoselective Indium-Mediated Reactions for Organic Synthesis" [submitted 1/13/06] **Funded \$527,000** for four years (10/1/06 - 9/30/10) *Renewal of CHE-0316618
9. Pfizer Summer Undergraduate Fellowship for Miho Kaneko. **Funded \$5,000** for three months (5/15/07 - 8/14/07)
10. National Institutes of Health (P20 RR015566-06) "New Strategies for Targeting Protease in Disease" Co-PI with Mukund Sibi (Center Director and PI), Glen Dorsam, Sheri Dorsam, Bin Guo, Jane Schuh [submitted October 2006] **Funded \$10,500,500** for five years. (7/1/07 - 6/30/12). My portion includes Project 2 **Funded \$427,500**, Core Synthesis Facility **Funded \$1,378,555** (including all indirects). *Renewal of NIH P20 RR15566.
11. National Science Foundation (CHE-0946990), "CRIF:MU - Acquisition of a Single Crystal X-ray Diffractometer" co-pi with John Hershberger, Seth Rasmussen, Sivaguru Jayaraman, Wenfang Sun. **Funded \$300,000** for three years. (01/01/2010 - 12/31/2012)
12. National Science Foundation (CHE-101295), "Asymmetric Allylation for the Synthesis of Chiral Amines and Alcohols". **Funded \$420,000** for three years. (07/01/2010 - 06/30/2014) *Renewal of CHE-0616485

Funding Completed (Internal)

1. NDSU Summer Salary Request submitted [submitted 1/23/97]. **Funded \$4,444** for one month

2. NDSU Grant-in-Aid program, "Palladium Catalyzed Aza-Trimethylenemethane Cycloadditions for the Synthesis of Alkaloids" [submitted 2/28/97]. Funded \$4,500 for one year (5/15/97 - 6/30/98) (requested \$6,033)
3. North Dakota EPSCoR, [submitted 2/97]. Funded \$10,000 for two years (requested \$30,000)
4. NDSU Research Development Investment Award [submitted 10/3/97]. Funded \$3,000 for one year (requested \$4,984)
5. NDSU Grant-in-Aid program, "Palladium-Catalyzed Dynamic Kinetic Resolution for the Synthesis of Unusual Amino Acids" [submitted 2/27/98]. Funded \$4,500 for one year (5/15/98 - 6/30/99) (requested \$6,485)
6. North Dakota EPSCoR NIH-IDEA award, "Stereoselective Methods for the Synthesis of Protease Inhibitors via Transition Metal-Mediated Processes" [submitted 4/8/98]. Funded \$7,500 for one year (requested \$7,500). (not awarded due to NIH AREA award receipt)
7. NDSU Technology Fee request, "An Advanced Chemistry Visualization Laboratory for Undergraduate Students" Co-PI with S. Mallik [submitted - 9/14/98]. Funded \$44,736 for two years (7/1/98 - 6/30/00) (requested \$44,736)
8. ND EPSCoR Equipment Proposal, "Multiuser HP-5988A GC Mass Spectrometer Upgrade" Co-PI with M. Soucek [submitted - 10/1/98]. Funded \$23,000 for one year (10/1/98 - 1/15/99) (requested \$27,638)
9. NDSU Development Foundation Board of Trustees Endowment Fund for library on-line database [submitted - 12/14/98]. Funded \$1,000 for one year (7/1/99 - 6/30/00) (requested \$1,000)
10. NDSU Development Foundation Centennial Endowment Fund for library on-line database [submitted - 12/14/98]. Funded \$3,000 for one year (7/1/99 - 6/30/00) (requested \$5,000)
11. ND EPSCoR, "A Research Network in Catalysis" with Mukund Sibi and five other co-PI's. Funded \$60,000 (my portion) for three years (04/01/02 - 03/31/05)
12. ND EPSCoR, Doctoral Dissertation Fellowship for Robert Kargbo Funded \$30,000 for 2 years (8/15/06 - 8/14/08)
13. NDSU Graduate School, Doctoral Dissertation Fellowship for Ryuji Hayashi Funded \$18,000 for 1 year (8/15/07 - 8/14/08)
14. ND INBRE Undergraduate Research Support Funded \$5,000 (spring 2008)
15. ND INBRE Equipment Research Support Funded \$10,000 (spring 2008)
16. ND EPSCoR Instrumentation Award for NMR Spectrometer Funded \$100,000 (2013)

Proposals Submitted and not Funded

1. National Science Foundation REU-NSF 96-102, [submitted 9/96] contributor only. Requested \$163,424 for three years
2. American Chemical Society - Petroleum Research Fund type G [submitted 11/97]. Requested \$20,000 for two years
3. Research Corporation [submitted 4/29/97]. Requested \$35,000 for one year
4. National Science Foundation CAREER award [submitted 7/22/97]. Requested \$499,902 for five years
5. Nutrasweet Corporation [submitted 11/14/97]. Requested \$65,565
6. NDSU Centennial Endowment request for library Crossfire Database [submitted 2/14/98]. Requested \$5000 for one year
7. NDSU Technology Fee request for student chemistry visualization lab Co-PI with S. Mallik [submitted 4/14/98]. Requested \$62,765
8. NDSU Summer Salary Request submitted - 4/29/98. Requested \$6150 for one month

9. American Chemical Society - Petroleum Research Fund type G [submitted 6/1/98]. Requested \$25,000 for two years
10. Boehringer-Ingelheim New Investigator Award [submitted 11/2/98]. Requested \$50,000 for one year
11. NDSU Development Foundation Library Endowment Fund for library on-line database [submitted – 12/14/98]. Requested \$1,000 for one year
12. NSC Technologies [submitted 12/14/98]. Requested \$65,565 for one year
13. Research Corporation Cottrell Scholar [submitted 9/1/98]. Requested \$50,000
14. National Institutes of Health (R01), "New Methods for the Synthesis of Protease Inhibitors" [submitted 6/1/2000]. Requested \$1,057,500 for 5 years.
15. National Institutes of Health (R01), "New Palladium-Catalyzed Synthetic Methodology" [submitted 7/1/2001]. Requested \$1,258,750 for 5 years.
16. National Science Foundation, "Research on the Prairies. Undergraduate Training in Chemistry" Co-PI with M. Sibi [submitted 9/15/02]. Requested \$208,500 for three years.
17. National Institutes of Health "Synthesis of Novel Heterocyclic MMP Inhibitors". [submitted 6/1/03]. Requested \$1,076,760 for Five years.
18. Department of Energy "Environmental and Metabolic Fate of Combustion and Manufacturer Generated Metals" Co-PI with Prof. Mark Hoffman (UND) [submitted 9/23/2003] Requested \$1,806,132 for three years.
19. Apple Computer "Apple Workgroup Cluster for Bioinformatics) [submitted June 13, 2004] Requested \$40,000.
20. National Institutes of Health (R01 GM070619-01A1) "Synthesis of Novel Heterocyclic MMP Inhibitors" [submitted July 1, 2004] Requested \$1,112,010 for five years.
21. Alliance for Lupus Research "Novel HDAC Inhibitors as Therapeutic Agents for Lupus" Co-PI with Dr. Sheri Dorsam [submitted September 6, 2005] Requested \$1,500,000 for four years.
22. National Institutes of Health (1R15CA120037-01) "Novel Approaches to the Inhibition of Histone Deacetylases" [submitted June 1, 2005] Requested \$213,750 for two years.
23. National Institutes of Health (1R01AI070649-01) "Inhibitors of Histone Deacetylase for Lupus Treatment" Co-PI with Dr. Sheri Dorsam [submitted October 1, 2005] Requested \$1,738,750 for five years.
24. National Institutes of Health - ACTIVE PARTICIPANT in the COBRE RENEWAL submitted in 2005.
25. National Institutes of Health - ACTIVE PARTICIPANT in the COBRE RENEWAL submitted in 2006.
26. American Chemical Society Petroleum Research Fund AC "Halide Activation for Mild Catalytic Friedel-Crafts Reactions" [submitted 4/21/06] Requested \$135,000 for three years.
27. National Institutes of Health (1R15CA120037-01) "Novel Approaches to the Inhibition of Histone Deacetylases" [submitted October 25, 2006] Requested \$213,750 for two years.
28. National Institutes of Health (1R01GM087464-01) "Asymmetric Allylation of Carbon-Nitrogen and Carbon-Oxygen Double Bonds" [submitted June 5, 2008] Requested \$1,776,750 for five years.
29. Howard Hughes Medical Institute, Undergraduate Science Education 2010, "Integrative Research in Science". submitted October 2, 2009. Requested \$2,110,896 for four years. Role: PI and Director
30. National Science Foundation (CHE-1301091), "Sustainable Synthetic Methods Mediated by Indium and Bismuth" Requested \$585,572 (September 2012)
31. National Science Foundation (CHE-1301091), "Mechanistic insights into indium and bismuth mediated asymmetric allylation" *Requested \$685,998* (September 2013)
32. Howard Hughes Medical Institute, Undergraduate Science Educations - Universities 2014, "Meeting them where they are: Scaffolding research experiences to promote persistence in science" *Requested \$2,499,881* for four years (October 1, 2013). Role: co-Pi with Wendy Reed, PI; Benton Duncan, co-PI; Lisa Montplaisir, co-PI; Jennifer Momsen, co-PI; Erika Offerdahl, co-PI.

33. FORWARD Spousal Hire proposal (unfunded due to ITS loss of emails?)
34. ACS Petroleum Research Fund, "Catalytic Regioselective C-H bond functionalization and oxidative cyclization of substituted quinazolin-4(3H)-one" Requested \$110,000 (March 2014)

Other Professional Activities

(see also service section)

- 2015-present Treasurer, North Dakota Grape and Wine Association
- 2014 Ad Hoc Member NIH SBCB Study Section
- 2014-present Member Board of Directors, North Dakota Grape and Wine Association
- 2011 NSF Review Panel, Division of Chemistry
- 2010 Ad Hoc Member NIH SBCA Study Section
- 2008 Chair of the Gordon Research Conference on Organic Reactions and Processes.
- 2007 Vice Chair of the Gordon Research Conference on Organic Reactions and Processes.
- Serve on multiple NIH Study Section to review graduate and postdoctoral fellowships (2003 - 2006)
- Reviewer for State of Michigan AAAS fund (2004)
- Reviewer for State of Michigan 21st Century Jobs Fund applications (2006)
- External PhD Examiner, University of British Columbia, January 2006.
- External PhD Examiner, University of Windsor, September, 2005.
- External PhD Examiner, Indian Associate for the Cultivation of Science, Jadavpur, Calcutta, India, October 2004.
- Chaired sessions at National American Chemical Society meetings (2001, 2002, 2006, 2007).
- Chair, Red River Valley Chapter of the American Wine Society (2004 - present)

Professional Collaborators

- ▶ Dr. Olaf Witt, German Cancer Research Center, Heidelberg, Germany.
- ▶ Prof. D.K. Srivastava, Department of Chemistry and Molecular Biology, North Dakota State University
- ▶ Prof. Guy Lloyd-Jones, The Bristol Centre for Organometallic Catalysis, School of Chemistry, University of Bristol, UK
- ▶ Prof. Stefan Balaz, Department of Pharmaceutical Sciences, North Dakota State University
- ▶ Prof. Glenn Dorsam, Department of Chemistry and Molecular Biology, North Dakota State University
- ▶ Dr. Sheri Dorsam, Department of Chemistry and Molecular Biology, North Dakota State University
- ▶ Dr. Emilio Esposito, Applications Scientist, Chemical Computing Group, Inc., Montreal, Canada
- ▶ Prof. Mukund Sibi, Department of Chemistry, North Dakota State University
- ▶ Dr. Jane Schuh, Department of Veterinary and Microbiological Sciences, North Dakota State University
- ▶ Dr. John McEvoy, Department of Veterinary and Microbiological Sciences, North Dakota State University
- ▶ Dr. Chengwen Sun, Department of Pharmaceutical Sciences, North Dakota State University
- ▶ Dr. Bin Guo, Department of Pharmaceutical Sciences, North Dakota State University