

Michael Douglas Best

Associate Professor
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Research group page: <http://web.utk.edu/~mdbest/>

Education

The University of Texas at Austin, Austin, Texas (Advisor: Prof. Eric V. Anslyn)

Ph.D. August 2002

Dissertation: "Receptors for analyte sensing: recognition using single analyte specific host-guest interactions and differential sensors"

Boston College, Chestnut Hill, Massachusetts (Advisor: Prof. Lawrence T. Scott)

B.S. May 1997

Senior thesis: "Investigation of large, bowl-shaped fullerene fragments"

Experience

The University of Tennessee at Knoxville, Knoxville, Tennessee

Paul and Wilma Ziegler Associate Professor of Chemistry, 2013 – present

Director of Chemistry Graduate Studies, 2012 – present

Associate Professor of Chemistry, 2011 – 2013

Assistant Professor of Chemistry, 2005 – 2011

The Scripps Research Institute, La Jolla, California (Advisor: Prof. Chi-Huey Wong)

Post-doctoral research associate: September 2002 – 2005.

Development of carbohydrate microarrays for studying interactions of proteins with cell-surface saccharides. Generation of small molecule inhibitors of sulfotransferase enzymes.

Honors and Awards

National Science Foundation Career Award, 2010–2015

Honorary member of the Golden Key Society, chosen by UTK students, 2006

American Institute of Chemists Award for Outstanding Senior Majoring In Chemistry, 1997

Boston College Undergraduate Faculty Research Fellowship, 1996–1997

Eagle Scout, 1993

Research Interests: Bio-organic, synthetic, medicinal and supramolecular chemistry

- Design, synthesis and study of functional lipid probes to elucidate biological activities.
- Development of rapid surface-based approaches for the detection of protein–lipid and protein–membrane binding interactions towards high-throughput microarray analysis
- Application of activity probes corresponding to signaling lipids for the collective labeling, purification, identification and characterization of protein–lipid binding events
- Development of molecular receptors for the selective binding and detection of analytes of interest
- Generation of inhibitors of therapeutically relevant enzyme targets

Professional Affiliations

American Chemical Society, Member of Division of Organic Chemistry, Division of Medicinal Chemistry and Division of Carbohydrate Chemistry

Publications

Publications from faculty position at the University of Tennessee at Knoxville

46. Best, M.D. Global approaches for the elucidation of phosphoinositide-binding proteins. *Chem. Phys. Lipids* In Press.
45. Wang, D.; Zhu, W.; Best, M.D.; Camden, J.P.; Crozier, K.B. Wafer-scale metasurface for total power absorption, local field enhancement and single molecule Raman spectroscopy. *Scientific Reports*. In press.
44. Crozier, K.B.; Zhu, W.; Wang, D.; Lin, S.; Best, M.D.; Camden, J.P. [Plasmonics for surface enhanced raman scattering: Nanoantennas for single molecules](#). *J. Sel. Top. Quant. Elect.* In Press.
43. Thomas, J.W.; Armel, G.R.; Best, M.D.; Brosnan, J.T.; Klingeman, W.E.; Kopsell, D.A.; Bostic, H.E.; Vargas, J.J.; Do-Thanh, C.-L. [Herbicidal activity of heterocyclic dichlobenil analogues](#). *J. Pest. Sci.* In Press.

2013

42. Best, M.D.* [The development and application of clickable lipid analogs for elucidating lipid function](#). *Click Chemistry in Glycoscience: New Developments and Strategies*. Wiley and Sons, editors: Zbigniew Witczak and Roman Bielski. **2013**. 79-107.
41. Liu, L.; Xie, H.; Bostic, H.E.; Jin, L.; Best, M.D.; Zhang, X.P.; Zhan, W. [Effects of oriented surface dipole on photoconversion efficiency in an alkane/lipid-hybrid-bilayer-based photovoltaic model system](#). *ChemPhysChem*, **2013**, 14(12), 2777-2785.
40. Milojevich, C.B.; Mandrell, B.K.; Turley, H.K.; Iberi, V.; Simmons, P.D.; Best, M.D.; Camden, J.P. [Surface-enhanced hyper-Raman scattering from single molecules](#). *J. Phys. Chem. Lett.* **2013**, 4, 3420-3423.
39. Wang, D.; Zhu, W.; Best, M.D.; Camden, J.P.; Crozier, K.B. [Directional Raman scattering from single molecules in the feed gaps of optical antennas](#). *Nano Lett.* **2013**, 13(5), 2194-2198.

2012

38. Bostic, H.E.; Smith, M.D.; Poloukhine, A.A.; Popik, V.V.; Best, M.D.* [Membrane labeling and immobilization via copper-free click chemistry](#). *Chem. Commun.* **2012**, 48, 1431-1433.
37. Rowland, M.M.; Bostic, H.E.; Gong, D.; Lucas, N.; Cho, W.; Best, M.D.* [Microarray analysis of Akt PH domain binding employing synthetic biotinylated analogs of all seven phosphoinositide headgroup isomers](#). *Chem. Phys. Lipids* **2012**, 165, 207-215.
36. Do-Thanh, C.-L.; Khanal, N.; Lu, Z.; Cramer, S.A.; Jenkins, D.M.*; Best, M.D.* [Chloride binding by a polyimidazolium macrocycle detected via fluorescence, NMR and X-ray crystallography](#). *Tetrahedron* **2012**, 68, 1669-1673.

35. Mirsaleh-Kohan, M.; Iberi, V.; Simmons, P.D.; Bigelow, N.W.; Vaschillo, A.; Rowland, M.M.; Best, M.D.; Pennycook, S.J.; Masiello, D.J.; Guiton, B.S.; Camden, J.P. [Single-molecule surface-enhanced raman scattering: can STEM/EELS image electromagnetic hot spots?](#) *J. Phys. Chem. Lett.* **2012**, 3, 2303-2309.

2011

34. Rowland, M.M.; Bostic, H.E.; Gong, D.; Speers, A.E.; Lucas, N.; Cho, W.; Cravatt, B.F. Best, M.D.* [Phosphatidylinositol \(3,4,5\)-trisphosphate activity probes for the labeling and proteomic characterization of protein binding partners.](#) *Biochemistry.* **2011**, 50, 11143–11161.

33. Best, M.D.*; Rowland, M.M.; Bostic, H.E. [Exploiting bioorthogonal chemistry to elucidate protein–lipid binding interactions and other biological roles of phospholipids.](#) *Acc. Chem. Res.* **2011**, 44(9), 686–698.

32. Kooijman, E.E.*; Kuzenko, S.R.; Gong, D.; Best, M.D.; Folkesson, H.G. [Phosphatidylinositol-4,5-bisphosphate stimulates alveolar epithelial fluid clearance in male and female adult rats.](#) *Am. J. Physiol.-Lung Cell. Mol. Physiol.* **2011**, 301, L804–L811.

31. He, J.; Gajewiak, J.; Scott, J.L.; Gong, D.; Ali, M.; Best, M.D.; Prestwich, G.D.; Stahelin R.V.; Kutateladze, T.G.* [Metabolically stabilized derivatives of phosphatidylinositol 4-phosphate: Synthesis and applications.](#) *Chem. Biol.* **2011**, 18, 1312-1319.

30. Best, M.D.* [Recent developments in the generation and application of lipid probes.](#) *ASBMB Today* **2011**, August edition, 28-29.

29. Smith, M.D.; Best, M.D.* [Characterization of protein–membrane binding interactions via a microplate assay employing liposome immobilization.](#) *Bioconjugation Protocols*, 2nd edition, Editor: Sonny S. Mark. **2011**, 477-489.

28. Do-Thanh, C.-L.; Rowland, M.M.; Best, M.D.* [Fluorescent bis-cyclen tweezer receptors for inositol \(1,4,5\)-trisphosphate.](#) *Tetrahedron* **2011**, 67, 3803-3808.

27. Bolen, A.L.; Naren, A.P.; Yarlagadda, S.; Beranova-Giorgianni, S.; Chen, L. Norman, D.; Baker, D.L.; Rowland, M.M.; Best, M.D.; Sano T., Tsukahara, T.; Liliom, K.; Igarashi, Y.; Tigyi, G.* [The phospholipase A 1 activity of lysophospholipase A-I links platelet activation to LPA production during blood coagulation.](#) *J. Lipid Res.* **2011**, 52, 958-970.

2010

26. Best, M.D.*; Zhang, H.; Prestwich, G.D. [Inositol polyphosphates, diphosphoinositol polyphosphates and phosphatidylinositol polyphosphate lipids: structure, synthesis, and development of probes for studying biological activity](#) *Nat. Prod. Rep.* **2010**, 27, 1403-1430.

25. Rowland, M.M.; Best, M.D.* [Reeling in the Catch: Advancing Cleavable Linkers for Proteomics.](#) *Chem. Biol.* **2010**, 17, 1166-168. (Invited preview article).

24. Zhan, W.*; Jiang, K.; Smith, M.D.; Bostic, H.E.; Best, M.D.*; Auad, M.L. Ruppel, J.V., Kim, C.; Zhang, X.P. [Photocurrent generation from porphyrin/fullerene complexes assembled in a tethered lipid bilayer.](#) *Langmuir* **2010**, 26(19), 15671–15679.

23. Hoeglund, A.B.; Bostic, H.E.; Howard, A.L.; Wanjala, I.W.; Best, M.D.; Baker, D.L.*; Parrill, A.L.* [Optimization of a pipemidic acid-based autotaxin inhibitor](#). *J. Med. Chem.* **2010**, *53*, 1056–1066.

2009

22. Best, M.D.* [Click chemistry and bioorthogonal reactions: Unprecedented selectivity in the labeling of biological molecules](#). *Biochemistry* **2009**, *48*, 6571-6584. (Invited & peer-reviewed current topic/perspective article).

Article cited > 100 times

21. Smith, M.D.; Sudhakar, C.G.; Gong, D.; Stahelin, R.V.; Best, M.D.* [Modular synthesis of biologically active phosphatidic acid probes using click chemistry](#). *Mol. Biosyst.* **2009**, *5*, 962-972.

20. Gong, D.; Smith, M.D.; Manna, D.; Bostic, H.E., Cho, W.; Best, M.D.* [Microplate-based characterization of protein-phosphoinositide binding interactions using a synthetic biotinylated headgroup analogue](#). *Bioconjugate Chem.* **2009**, *20*, 310-316.

19. Losey, E.A.; Smith, M.D.; Meng, M.; Best, M.D.* [Microplate-based analysis of protein-membrane binding interactions via immobilization of whole liposomes containing a biotinylated anchor](#). *Bioconjugate Chem.* **2009**, *20*, 376-383.

18. Rowland, M.M.; Best, M.D.* [Modular synthesis of bis\(monoacylglycerol\)phosphate for convenient access to analogues bearing hydrocarbon and perdeuterated acyl chains of varying length](#). *Tetrahedron* **2009**, *65*, 6844–6849.

17. Gong, D.; Bostic, H.E.; Smith, M.D.; Best, M.D.* [Synthesis of modular headgroup conjugates corresponding to all seven phosphatidylinositol polyphosphate isomers for convenient probe generation](#). *Eur. J. Org. Chem.* **2009**, *48*, 4170–4179.

2008

16. Smith, M.D.; Gong, D.; Sudhakar, C.; Reno, J.C.; Stahelin, R.V.; Best, M.D.* [Synthesis and convenient functionalization of azide-labeled diacylglycerol analogues for modular access to biologically active lipid probes](#). *Bioconjugate Chem.* **2008**, *19*, 1855-1863.

Publications resulting from previous positions

Publications resulting from post-doctoral research at The Scripps Research Institute

2006

15. Huang, C.-Y.; Thayer, D.A.; Chang, A.Y.; Best, M.D.; Hoffman, J.A., Head, S.; Wong, C.-H.* [Carbohydrate microarray for profiling the antibodies interacting with Globo H tumor antigen](#). *Proc. Natl. Acad. Sci. U.S.A.* **2006**, *103*(1), 15-20.

2005

14. Calarese, D.A.; Lee, H.-K; Huang, C.-Y.; Best, M.D.; Astronomo, R.; Stanfield, R.L.; Katinger, H.; Burton, D.; Wong, C.-H.*; Wilson, I.A.* [Dissection of the carbohydrate specificity of the broadly neutralizing anti-HIV-1 antibody 2G12](#). *Proc. Natl. Acad. Sci. U.S.A.* **2005**, *102*(38), 13372-13377.

Article cited > 100 times

13. Brik, A.; Wu, C.-Y.; Best, M.D.; Wong, C.-H.* [Tetrabutylammonium fluoride-assisted rapid N9-alkylation on purine ring: application to combinatorial reactions in microtiter plates for the discovery of potent sulfotransferase inhibitors in situ.](#) *Bioorg. Med. Chem.* **2005**, *13*, 4622-4626.

2004

12. Bryan, M.C.; Fazio, F.; Lee, H.-K.; Huang, C.-Y.; Chang, A.; Best, M.D.; Calarese, D.A.; Blixt, O.; Paulson, J.C.; Burton, D.; Wilson, I.A.; Wong, C.-H.* [Covalent display of oligosaccharide arrays in microtiter plate.](#) *J. Am. Chem. Soc.* **2004**, *126*, 8640-8641.

Article cited > 100 times

11. Best, M.D.; Brik, A.; Chapman, E.; Lee, L.V.; Cheng W.-C., Wong, C.-H.* [Rapid discovery of potent sulfotransferase inhibitors by diversity-oriented reaction in microplates followed by in situ screening.](#) *ChemBioChem* **2004**, *5*(6), 811-819.

10. Hanson, S.R.; Best, M.D.; Bryan, M.C.; Wong, C.-H.* [Chemoenzymatic synthesis of oligosaccharides and glycoproteins.](#) *Trends Biochem. Sci* **2004**, *29*(12), 656-663. (Invited and peer-reviewed review article)

9. Hanson, S.R.; Best, M.D.; Wong, C.-H.* [Sulfatases: Structure, mechanism, biological activity, inhibition and synthetic utility.](#) *Angew. Chem. Int. Ed.* **2004**, *43*(43), 5736-5763. (Invited and peer-reviewed review article)

8. †Chapman, E.; †Best, M.D.; Hanson, S.R.; Wong, C.-H.* [Sulfotransferases: Structure, mechanism, biological activity, inhibition and synthetic utility.](#) *Angew. Chem. Int. Ed.* **2004**, *43*(27), 3526-3548. (Invited and peer-reviewed review article). † Co-first authors

Publications resulting from graduate research at the University of Texas at Austin

7. Zhong, Z.; Snowden, T.S.; Best, M.D.; Anslyn, E.V.* [Rate of enolate formation is not very sensitive to the hydrogen bonding ability of donors to carboxyl oxygen lone pair acceptors: a ramification of the principle of non-perfect synchronization for general-base-catalyzed enolate formation.](#) *J. Am. Chem. Soc.* **2004**, *126*(11), 3488-3495.

2003

6. Best, M.D.; Anslyn, E.V.* [A fluorescent sensor for 2,3-bisphosphoglycerate using a europium tetra-*N*-oxide bis-bipyridine complex for both binding and signaling purposes.](#) *Chem. Eur. J.* **2003**, *9*(1), 51-57.

5. Best, M.D.; Tobey, S.L.; Anslyn, E.V.* [Abiotic guanidinium containing receptors for anionic species.](#) *Coord. Chem. Rev.* **2003**, *240*(1-2), 3-15. (Invited and peer-reviewed review article)
Article cited > 200 times

4. Worm, K.; Matsumoto, K.; Best, M.D.; Anslyn, E.V.* [Preorganized bis-zinc phosphodiester cleavage catalysts possessing natural ligands: a lesson pertinent to bimetallic artificial enzymes.](#) *Chem. Eur. J.* **2003**, *9*(3), 741-747.

2001

3. Cabell, L.A.; Best, M.D.; Lavigne, J.L.; Schneider, S.E.; Perreault, D.M.; Monahan, M.-K.; Anslyn, E.V.* [Metal triggered fluorescence sensing of citrate using a synthetic receptor](#). *J. Chem. Soc., Perkin Trans. 2* **2001**, 3, 315-323.

Publications resulting from undergraduate research at Boston College

1998

2. Weitz, A.; Shabtai, E.; Rabinovitz, M.*; Bratcher, M.S.; McComas, C.C.; Best, M.D.; Scott, L.T.* [Dianions and tetraanions of bowl-shaped fullerene fragments dibenzo\[a,g\]corannulene and dibenzo\[a,g\]cyclopenta\[k\]corannulene](#). *Chem. Eur. J.* **1998**, 4(2), 234-239.

1997

1. Chen, G.; Ma, S.; Cooks, R.G.*; Bronstein, H.E.; Best, M.D.; Scott, L.T.* [Electron affinities and C₆₀ anion clusters of certain bowl-shaped polycyclic aromatic hydrocarbons](#). *J. Mass. Spectrom.* **1997**, 32(12), 1305-1309.

Citation information (as of September 2013, obtained from ISI web of knowledge)

Total Citations: 1578

Total Citations (excluding self-citations): 1519

Total h-index: 17

Citations from research at UTK: 362

Citations from research at UTK (excluding self-citations): 321

h-index from research at UTK: 10

Presentations

Invited Conference Presentations

54. **American Society for Biochemistry and Molecular Biology (ASBMB) National Meeting**, San Diego, CA, April 25th, 2012. (Invited talk)
53. **Southwest Regional Meeting of the American Chemical Society (SWRMACS)**, "Supramolecular Chemistry Symposium", Austin, TX, November 10th, 2011. (Invited talk)
52. **American Chemical Society National Meeting**, "Click Chemistry Approaches in Carbohydrate Chemistry " Symposium of the ACS carbohydrate division, Anaheim, CA, March 28th, 2011 (Invited talk)
51. **American Chemical Society National Meeting**, "Young Academic Investigators" Symposium of the ACS organic division, Boston, MA, August 24th, 2010 (Invited talk) Selected as one of 16 speakers from 63 nominees.
50. **American Chemical Society National Meeting**, "Young Investigators in Glycoscience" Symposium, San Francisco, CA, March 21st, 2010 (Invited talk)
49. **Southeast Regional Meeting of the American Chemical Society (SERMACS)**, Augusta, GA, November 3rd, 2006. (Invited Talk)

Contributed Conference Presentations

48. **American Society for Biochemistry and Molecular Biology (ASBMB) National Meeting**, San Diego, CA, April 22nd, 2012. (Contributed Poster)
47. **Keystone Symposium, Joint Meeting on PI-3 Kinases and Complex Lipids**, Lake Tahoe, CA, April 25th, 2009, (Contributed Poster)
46. **Southeast Regional Meeting of the American Chemical Society (SERMACS)**, Nashville, TN, November 12th, 2008. (Contributed Talk)

45. **Gordon Research Conference on Bioorganic Chemistry**, Proctor Academy, Andover, NH, June 15-20, 2008. (Contributed Poster)
44. **American Chemical Society National Meeting**, New Orleans, LA, April 8th, 2008. (Contributed Talk)
43. **Southeast Regional Meeting of the American Chemical Society (SERMACS)**, Greenville, SC, October 26th, 2007. (Contributed Talk)

Invited Presentations at Research Institutions (PhD-granting)

42. **Iowa State University**, Department of Biochemistry, Biophysics and Molecular, Ames, IA, April 19th, 2012. (Invited talk)
41. **University of Minnesota**, Department of Chemistry, Minneapolis, MN, March 22nd, 2012. (Invited talk)
40. **University of Georgia**, Department of Pharmaceutical and Biomedical Sciences, Athens, GA, February 22nd, 2012. (Invited talk)
39. **University of Utah**, Department of Medicinal Chemistry, Salt Lake City, UT, December 2nd, 2010. (Invited Talk).
38. **Kent State University**, Department of Chemistry, Kent, OH, October 7th, 2010. (Invited Talk).
37. **University of Miami**, Department of Chemistry, Coral Gables, FL, September 17th, 2010. (Invited Talk).
36. **The Scripps Research Institute**, Department of Chemistry and Biochemistry, La Jolla, Ca, May 11th, 2010. (Invited Talk).
35. **Notre Dame University**, Department of Chemistry and Biochemistry, South Bend, IL, April 22nd, 2010, (Invited talk).
34. **University of Toledo**, Department of Chemistry, Toledo, OH, April 21st, 2010, (Invited talk).
33. **Emory University**, Department of Chemistry, Atlanta, GA, April 14th, 2010, (Invited talk).
32. **University of Texas at Austin**, Department of Chemistry and Biochemistry, Austin, TX, April 9th, 2010 (Invited talk).
31. **Vanderbilt University**, Department of Chemistry, Nashville, TN, April 5th, 2010 (Invited talk).
30. **Tufts University**, Department of Chemistry, Boston, MA, March 11th, 2009 (Invited talk).
29. **Boston College**, Department of Chemistry, Chestnut Hill, MA, March 9th, 2010 (Invited talk).
28. **University of South Carolina**, Department of Chemistry and Biochemistry, Columbia, SC, January 28th, 2010 (Invited talk).
27. **Clemson University**, Department of Chemistry, Clemson, SC, January 14th, 2010 (Invited talk).
26. **University of Georgia**, Department of Chemistry, Athens, GA, October 22nd, 2009 (Invited Talk).
25. **Georgia State University**, Department of Chemistry, Atlanta, GA, October 16th, 2009, (Invited talk).
24. **Auburn University**, Department of Chemistry and Biochemistry, Auburn, AL, October 23rd, 2008. (Invited Talk)
23. **University of New Mexico**, Department of Chemistry and Chemical Biology, Albuquerque, NM, April 25th, 2008. (Invited Talk)
22. **University of Florida**, Department of Chemistry and Biochemistry, Gainesville, FL, March 21st, 2008. (Invited Talk)
21. **University of Memphis**, Department of Chemistry, Memphis, TN, January 18th, 2008. (Invited Talk)
20. **Oak Ridge National Laboratory**, Center for Nanophase Materials Science (CNMS), Oak Ridge, TN, November 9th, 2007. (Invited Talk)
19. **Oak Ridge National Laboratory**, Chemical Sciences Division (CSD), Oak Ridge, TN, September 24th, 2007. (Invited Talk)
18. **University of Tennessee Medical Center**, The Graduate School of Medicine, Knoxville, TN, April 18th, 2006. (Invited Talk)
17. **University of Tennessee at Knoxville**, Department of Biochemistry, Cellular and Molecular Biology, September 21st, 2005: (Invited Talk)

Invited Presentations at Primarily Undergraduate Institutions (Recruiting Visits)

16. **Clark Atlantic University**, Department of Chemistry, Atlanta, GA, November 14th, 2012 (Invited talk)
15. **Central College**, Department of Chemistry, Pella, IA, April 20th, 2012. (Invited talk)
14. **Berea College**, Department of Chemistry, Berea, KY, February 7th, 2012. (Invited talk)
13. **Winthrop University**, Department of Chemistry, Rock Hill, SC, February 2nd, 2012. (Invited talk)
12. **University of Tennessee**, Department of Chemistry, Chattanooga, TN, January 27th, 2012. (Invited talk)
11. **Kennesaw State University**, Department of Chemistry, Kennesaw, GA, October 28th, 2010. (Invited Talk)
10. **Tennessee Tech University**, Department of Chemistry, Cookeville, TN, September 24th, 2010 (Invited talk)
9. **Florida Institute of Technology**, Department of Chemistry, Melbourne, FL, January 21st, 2010 (Invited talk)
8. **Berry College**, Department of Chemistry, Rome, GA, November 9th, 2009 (Invited Talk).
7. **Harding University**, Department of Chemistry, Searcy, AR, January 21st, 2008. (Invited Talk)
6. **Appalachian State University**, Department of Chemistry, Boone, NC, November 16th, 2007. (Invited Talk)
5. **Austin Peay State University**, Department of Chemistry, Clarksville, TN, March 16th, 2007. (Invited Talk)
4. **Western Carolina University**, Department of Chemistry, Cullowhee, NC, January 26th, 2007. (Invited Talk)
3. **Kennesaw State University**, Department of Chemistry, Kennesaw, GA, November 9th, 2006. (Invited Talk)
2. **University of Tennessee at Chattanooga**, Department of Chemistry, Chattanooga, TN, October 6th, 2006. (Invited Talk)
1. **East Tennessee State University**, Department of Chemistry, Johnson City, TN, October 21st, 2005. (Invited Talk)

Research Presentations at Local High Schools

3. **Hardin Valley Academy**, April 12th, 2011.
2. **Farragut High School**, January 24th, 2011.
1. **Farragut High School**, April 9th, 2009.

Professional Meetings Attended

- American Society for Biochemistry and Molecular Biology (ASBMB) National Meeting**, San Diego, CA, April 22nd-25th, 2012.
- Southwest Regional Meeting of the American Chemical Society (SWRMACS)**, Austin, TX, November 10th, 2011. Purpose: Invited to speak at Supramolecular Chemistry Symposium.
- American Chemical Society National Meeting**, Anaheim, CA, March 28th, 2011. Purpose: Invited talk in "Click Chemistry Approaches in Carbohydrate Chemistry" Symposium of the ACS carbohydrate division.
- American Chemical Society National Meeting**, Boston, MA, August 24th, 2010. Purpose: Invited talk in "Young Academic Investigators" Symposium of the ACS organic division.
- American Chemical Society National Meeting**, San Francisco, CA, March 2010, Purpose: Invited talk in "Young Investigators in Glycoscience" Symposium.
- Keystone Symposium, Joint Meeting on PI-3 Kinases and Complex Lipids**, Lake Tahoe, CA, April 22-26, 2009, Purpose: contributed poster.
- Gordon Research Conference on Bioorganic Chemistry**, Proctor Academy, Andover, NH, June 15-20, 2008. Purpose: contributed poster.
- Southeast Regional Meeting of the American Chemical Society (SERMACS)**, Nashville, TN, November 2008. Purpose: contributed talk

American Chemical Society National Meeting, New Orleans, LA, April 2008. Purpose: recruiting and contributed talk.

Southeast Regional Meeting of the American Chemical Society (SERMACS), Greenville, SC, October 2007. Purpose: recruiting and contributed talk.

American Chemical Society National Meeting, Boston, MA, August, 2007. Purpose: recruiting.

American Chemical Society National Meeting, Chicago, IL, March 2007. Purpose: recruiting.

Southeast Regional Meeting of the American Chemical Society (SERMACS), Augusta, GA, November 2006. Purpose: recruiting and invited talk.

American Chemical Society National Meeting, Atlanta, GA, March 2006. Purpose: recruiting.

Funded Proposals

8. "REU Site: Advanced Materials for Energy and Sensing Applications at the University of Tennessee"
 PI: Michael D. Best; Co-PI: Shawn Campagna
 Agency: National Science Foundation (CHE-1262767)
 6/2013-6/2016
 \$300,000
7. "CAREER: Chemical Approaches to the Investigation of Protein–Lipid Binding"
 PI: Michael D. Best
 Agency: National Science Foundation (CHE-0954297)
 6/2010-5/2015
 \$577,980
6. "Multivalent Carbohydrate–Protein Binding on Surfaces with Defined Density and Valency that Mimics Cellular Membranes"
 PI: David C. Baker, Co-PI: Michael D. Best
 Agency: National Science Foundation (DMR-0906752)
 8/15/2009-8/14/2012
 \$225,000 (half of total \$450,000)
5. "Synthesis and Assembly of Geometrically Defined Building Blocks for Dynamic Covalent Synthesis of Robust Higher Order Organic Frameworks"
 PI: Michael D. Best
 Agency: Science Alliance Joint Directed Research and Development (JDRD) program
 1/2009–12/2010
 \$106,000
4. "Discovery of Novel Herbicides for Commercial Licensing"
 PIs: Greg Armel and Michael Best
 AgResearch and Extension Innovation Grant
 1/2011-12/2011
 \$20,000
3. "Request to the SARIF Equipment and Infrastructure Fund: Beaglehole Picometer phase-modulated ellipsometer"
 PI: Michael S. Kilbey, Contributors: Michael D. Best, Mark D. Dadmun and Bin Zhao
 Agency: University of Tennessee Office of Research
 4/2008
 \$43,000
2. "Request to the SARIF Equipment and Infrastructure Fund: Acquisition of a Peptide Synthesizer to Support Chemistry, Biochemistry, and Microbiology Research"
 PIs: Michael D. Best and Shane Foister
 Agency: University of Tennessee Office of Research
 4/2007
 \$65,610
1. "Request to the SARIF Equipment and Infrastructure Fund: Acquisition of a Biacore 3000 surface plasmon resonance instrument"
 PI: Cynthia Peterson, Michael D. Best included among contributors

Agency: University of Tennessee Office of Research
4/2006
\$200,000

Group Members Mentored

Post-Doctoral Research Associate

1. Dr. Denghuang Gong, April 2007 – February 2009
 - Ph.D., Shanghai Institute of Organic Chemistry, 2004
 - Current Position: Shijiazhuang Pharm Group R&D Center, Shijiazhuang, China
2. Dr. Kathrin Tscherch, August 2013 – present
 - Ph.D., University of Hamburg, 2013

Graduate Students

1. Matthew D. Smith, Fall 2006 – May 2009 (following departure of previous advisor)
 - Current employment: Instructor of Chemistry, Walters State Community College
 - Ph.D. in Chemistry, defended: 3/26/2009
 - Dissertation title: "Chemical Approaches for the Investigation of Protein-Lipid Binding Interactions: Synthesis, Modification, and Evaluation of Novel Azido-Based Lipid Probes"
 - UT Scholarly Activity Research Incentive Fund Summer Research Assistant, 2007
 - D.A. Shirley Graduate Award in Organic Chemistry, 2007
 - Departmental Outstanding Service Award, 2007
2. Erin A. Losey, Spring 2006 – August 2008
 - Current employment: research scientist at Galbraith laboratories, Knoxville, TN.
 - M.S. in Chemistry, defended: 7/17/2008
 - Thesis title: "The Synthesis of Lipid Analogs for Characterizing Protein – Lipid Binding Interactions"
3. Mary K. Coulter, Spring 2006 – May 2007
 - Switched to pursue graduate degree in education
4. Manpreet Cheema, Spring 2007 – August 2009
 - Graduate student at University of Tennessee Food Science and Technology
 - Former employment: research scientist at Galbraith laboratories, Knoxville, TN.
 - M.S. in Chemistry, defended: 11/2/2009
 - Thesis title: "Design, Synthesis and Binding Studies of Boronic Acid Based Carbohydrate Sensors"
 - First Year Graduate Student Achievement Award, 2006
5. Leah Cuthriell, Spring 2008 – August 2009
 - Current employment: Instructor of Chemistry, Wallace Community College
 - M.S. in Chemistry, defended: 10/30/2009
 - Thesis title: "Development of a Novel Lysophosphatidic Acid Activity Probe to Identify and Characterize Protein Targets"
6. Paul Petersen
 - Current employment: Global sales at Eastman Chemical Company, Johnson City, TN.
 - M.S. in Chemistry, defended: 7/22/2010
 - Thesis title: "Design and Synthesis of a Boronic Acid Sensor to Study Carbohydrate Binding Using SERS"
7. Ashdeep Rajpal, Spring 2009 – Fall 2010
 - Current employment: research scientist at Chattem Chemicals, Chattanooga, TN.
 - M.S. in Chemistry, defended: 11/5/2010
 - Thesis title: "Design and Synthesis of Metabolically Stabilized Lipid Probes for the Investigation of Protein-Lipid Binding Interactions"
8. Chi-Linh Do-Thanh, Spring 2006 – Spring 2011
 - Current employment: Post-doctoral research associate at the University of Tennessee at Knoxville.

- Ph.D. in Chemistry, defended: 4/7/2011
 - Dissertation title: A Fluorescent Tweezer Receptor for Phosphorylated Biomolecules
 - First Year Graduate Student Achievement Award, 2006
9. Meng M. Rowland, Fall 2006 – Spring 2011
 - Current employment: Post-doctoral research associate at Johns Hopkins Medical School
 - Ph.D. in Chemistry, defended: 4/5/2011
 - Dissertation title: “Chemical Tools to Characterize Membrane-Protein Interactions Using Synthetic Lipid Probes”
 - Runner-up, “Best Poster” at 2009 UT Chemistry Board of Visitors Poster Session
 - D.A. Shirley Graduate Award in Organic Chemistry, 2010
 - Eugene John Barber Fellowship in Chemistry, 2010
 10. Ritu Nandal, Spring 2010 – Summer 2011
 - M.S. in Chemistry, defended: 7/15/2011
 - Thesis title: “Development of Bifunctional Lysophosphatidic Acid and Lysophosphatidylcholine Activity Probes to Characterize Their Specific Binding Protein Receptors”
 11. Heidi Bostic, Spring 2008 – Summer 2012
 - Ph.D. in Chemistry, Summer 2012
 - Dissertation title: “Development and Application of Synthetic Lipid Probes to Study and Mimic Lipid Function.”
 - Winner , “Best Poster” at 2011 UT Chemistry Board of Visitors Poster Session
 12. Yilin Wang, Spring 2011 – Summer 2012
 - Current employment: Graduate Student at the University of California at Irvine
 - M.S. in Chemistry, defended: 7/16/2012
 - Thesis title: “Design and Synthesis of Boronic Acid-Based Sensors for Microarray Analysis and FRET Detection to Study Carbohydrates”
 13. Benjamin Smith, Spring 2011 – Spring 2013
 - Current employment: Research scientist, Baxter Health Care, Arkansas
 - M.S. in Chemistry, defended: 7/16/2012
 - Thesis title: “Microarray Analysis of Protein-Phosphoinositide Binding Interactions”
 14. Andrew Bayer, Spring 2010 – present
 15. Sammy Eni Eni, Spring 2011 – present
 16. Shahrina Alam, Spring 2012 – present
 17. Shawn Cureton, Spring 2012 – present
 18. Stuart Whitehead, Spring 2012 – present
 19. Sam Mattern-Schain, Spring 2013 – present
 20. Tanei Ricks, Spring 2013 – present

UTK Undergraduate Students

1. Amy M. Pollard, Fall 2005 – May 2007
 - Ph.D. in Chemistry from Louisiana State University, Fall 2012.
 - B.S. in Chemistry, May 2007
 - UT Summer Undergraduate Research Fellowship, 2006
2. W. Brad Grimes, Fall 2005 – 2006
 - B.S. in Chemistry, May 2006
3. Justin C. Reno, Spring 2006 – May 2008
 - M.D. from Quillen College of Medicine, East Tennessee State University, 2012
 - BS in Chemistry, May 2008
 - Pfizer Summer Undergraduate Research Fellowship, 2007
 - UT Summer Undergraduate Research Fellowship, 2006
 - C.A. Buehler Scholarship for top chemistry student, 2006
 - Shirley Award for top organic chemistry student, 2006
4. Brittany J. Wallen, Summer 2006
5. Chinenye Usoh, Fall 2006 – May 2007

- Medical student at Vanderbilt University School of Medicine
 - B.S. in Chemistry, May 2007
 - Undergraduate Award in Physical Chemistry, 2007
 - D.A. Shirley Award in Organic Chemistry, 2007
6. Timothy J. Weatherall, Fall 2006 – May 2008
 - M.D. from Quillen College of Medicine, East Tennessee State University, 2012
 - BS in Chemistry, May 2008
 7. Lacy Cardwell, Spring 2007 – May 2008
 - Graduated from University of Tennessee Health Science Center School of Dentistry
 - BS in Chemistry, May 2008
 8. Paul Petersen, Spring 2007 – May 2008
 - Account Manager at Eastman Chemical Company
 - M.S. in Chemistry, University of Tennessee, Knoxville Department of Chemistry
 - BS in Chemistry, May 2008
 9. Timothy Wesley, Spring 2007 – December 2007
 - Medical student at East Tennessee State University School of Medicine
 - Judson Hall Robertson Memorial Award in Analytical Chemistry, 2007
 10. Elizabeth Jacobs, Fall 2007 – December 2007
 - Graduate student at the University of East Anglia (England)
 11. John Prenshaw, Fall 2007 – December 2007
 12. Jason Shearer, Spring 2008 – Summer 2008
 13. Tyler Tantisook, Summer 2008 – Spring 2010
 14. Andrew Mabe, Fall 2008 – Spring 2010
 - Graduate student at the University of Tennessee at Knoxville
 15. Amanda Debuhr, Summer 2009
 16. Shawn Cureton, Spring 2010
 - Graduate student at the University of Tennessee at Knoxville
 17. Greg Watlington, Fall 2009 – Spring 2010
 18. Matthew Torrico, Spring 2010
 19. Michael Bright, Fall 2009 – Spring 2010
 20. Molly Delk, Spring 2010 – Fall 2010
 21. Jennifer Brouner, Summer 2010 – Spring 2010
 22. Samuel Mattern-Schain, Fall 2011 – Spring 2012
 - Graduate student at the University of Tennessee, Knoxville Department of Chemistry
 23. Bradley Bright, Fall 2011 – Spring 2012
 24. Maria De Lucia, Fall 2011 – Spring 2012
 25. Michelle Lam, Summer 2012
 26. Trevor Siler, Spring 2012
 27. Selamawit Tesema, Spring 2012
 28. Kaitlyn Wray, Spring 2012 – present
 29. Juan Quintero, Summer 2012 – present
 30. James Burton, Fall 2012 – Spring 2013
 31. Alana Stein, Spring 2013 – present
 32. Zachary Austin, Fall 2013 – present
 33. Margaux Joe, Fall 2013 – present
 34. Timothy Yokley, Fall 2013 – present

External Undergraduate Students (via UTK Chemistry's SURF program)

1. Leah Cuthriell, from Huntingdon College, Summer 2006.
 - Received M.S. in Chemistry from the University of Tennessee, (my lab)
2. Cynthia Bunders, from Iowa State University, Summer 2007.
 - Graduate student at North Carolina State University
3. Jordan Ross, from Samford University, Summer 2011

4. Neelam Khanal, from Columbia College, Summer 2011
5. Kevin Robb, from Truman State University, Summer 2012
6. Alexa Marlow, from Tennessee Wesleyan University, Summer 2013

High School Student (via UTK's Pre-Collegiate Research Scholars Program)

1. Amanda Sobhani, Farragut High School, Fall 2008 – May 2009
 - Currently an undergraduate at UTK
2. Nick Taylor, Farragut High School, Fall 2008
 - Currently an undergraduate at UTK
3. Cristen Peterson, Farragut High School, Summer 2009 – Spring 2010
 - Currently an undergraduate at Cornell
4. Logan McNeil, Farragut High School, Spring 2010 – Spring 2011
5. Ronak Patel, Summer 2011 – Spring 2012
6. Austin Kaman, Summer 2011 – Spring 2012
7. Hannah Feiten, Summer 2012 – Fall 2012

Collaborators

- Dr. Daniel L. Baker: University of Memphis Department of Chemistry
 Dr. David C. Baker: University of Tennessee at Knoxville Department of Chemistry
 Dr. Jon P. Camden: University of Tennessee at Knoxville Department of Chemistry
 Dr. Shawn R. Campagna: University of Tennessee at Knoxville Department of Chemistry
 Dr. Wonhwa Cho: University of Illinois at Chicago Department of Chemistry
 Dr. Radu Custelcean: Oak Ridge National Laboratory Department of Chemical Sciences
 Dr. Zheng Fan: University of Tennessee Health Science Center at Memphis Dept of Physiology
 Dr. Gail E. Fanucci: University of Florida Department of Chemistry
 Dr. Benjamin Hay: Oak Ridge National Laboratory Chemical Sciences Division
 Dr. Abby L. Parrill: University of Memphis Department of Chemistry
 Dr. Scott Retterer: Oak Ridge National Laboratory Biological and Nanoscale Systems Group
 Dr. Robert V. Stahelin: Indiana University School of Medicine-South Bend Department of Biochemistry and Molecular Biology
 Dr. Gabor Tigyi: University of Tennessee Health Science Center at Memphis Dept. of Physiology
 Dr. X. Peter Zhang: University of South Florida Department of Chemistry
 Dr. Xiaoping Zhong: Duke University Medical Center Division of Pediatric Allergy & Immunology
 Dr. Wei Zhan: Auburn University Department of Chemistry & Biochemistry

TEACHING

Lecture courses Taught at the University of Tennessee at Knoxville (* = Honors course)

15. Spring 2013: CHEM 368, *Honors Organic Chemistry II* *
Enrollment:
14. Fall 2012: CHEM 550, *Structure and Reactivity in Organic Chemistry*
Enrollment: 21
13. Spring 2012: CHEM 650, Selected Topics in Organic Chemistry
Enrollment: 7
12. Fall 2011: CHEM 358, Honors Organic Chemistry I *
Enrollment: 59
11. Spring 2011: CHEM 368, *Honors Organic Chemistry II* *
14-day enrollment: 32
10. Fall 2010: CHEM 358, *Honors Organic Chemistry I* *
14-day enrollment: 41 undergraduate students
9. Spring 2010: CHEM 368, *Honors Organic Chemistry II* *
14-day enrollment: 19 undergraduate students
8. Fall 2009: CHEM 358, *Honors Organic Chemistry I* *

- 14-day enrollment: 53 undergraduate students
7. Spring 2009: CHEM 360, *Organic Chemistry II*
14-day enrollment: 127 undergraduate students
6. Fall 2008: CHEM 550, *Structure and Reactivity in Organic Chemistry*
14-day enrollment: 14 graduate students and 2 undergraduate students
5. Spring 2008: CHEM 350, *Organic Chemistry*
14-day enrollment: 88 undergraduate students
4. Fall 2007: CHEM 550, *Structure and Reactivity in Organic Chemistry*
14-day enrollment: 19 graduate students and 1 undergraduate student
3. Spring 2007: CHEM 350, *Organic Chemistry*
14-day enrollment: 84 undergraduate students
2. Fall 2006: CHEM 550, *Structure and Reactivity in Organic Chemistry*
14-day enrollment: 15 graduate students and 2 undergraduate students
1. Fall 2005: CHEM 350, *Organic Chemistry, University of Tennessee at Knoxville*
14-day enrollment: 83 undergraduate students

Teaching Evaluation Summary^a

Semester	Course	1 ^b	1 ^c	1 ^d	1 ^e
Spring 2013	CHEM 368	4.62	4.54	5.00	4.54
Fall 2012	CHEM 550	4.67	4.75	4.75	4.75
Spring 2012	CHEM 650	NA	NA	NA	NA
Fall 2011	CHEM 358	4.62	4.69	4.81	4.69
Spring 2011	CHEM 368	4.81	4.64	4.86	4.68
Fall 2010	CHEM 358	4.61	4.42	4.73	4.48
Spring 2010	CHEM 368	4.62	4.54	4.69	4.31
Fall 2009	CHEM 358	4.21	4.18	4.51	4.36
Spring 2009	CHEM 360	4.15	3.90	4.47	4.18
Fall 2008	CHEM 550	4.42	4.33	4.60	4.42
Spring 2008	CHEM 350	4.33	4.12	4.37	4.10
Fall 2007	CHEM 550	4.47	4.00	4.47	4.37
Spring 2007	CHEM 350	4.18	4.07	4.40	4.25
Fall 2006	CHEM 550	4.53	4.40	4.73	4.40
Fall 2005	CHEM 350	4.44	4.31	4.58	4.37
Average		4.48	4.35	4.64	4.42

^aData obtained from Student Assessment of Instruction System (SAIS) Survey
Ratings (5–0) obtained from Student Assessment of Instruction System (SAIS) Survey:
5 = excellent, 4 = very good, 3 = good, 2 = fair, 1 = poor, 0 = very poor

^b SAIS rating: Instructor's contribution to the course

^c SAIS rating: Instructor's effectiveness in teaching material

^d SAIS rating: Students' confidence in instructor's knowledge

^e SAIS rating: Instructor's enthusiasm

Summary of Students Enrolled and Mentored in Research Coursework

Semester	Chem 200 Students ^a	Chem 400 Students ^b	Chem 408 Students ^c	Chem 500 Students ^d	Chem 600 Students ^e	High School Students ^f
Fall 2005	1	0	0	0	0	0
Spring 2006	1	2	0	1	0	0
Summer 2006	0	1	0	3	0	0

Fall 2006	2	1	1	3	0	0
Spring 2007	5	2	0	5	1	0
Summer 2007	2	0	0	3	2	0
Fall 2007	3	3	0	3	2	0
Spring 2008	1	1	1	3	3	0
Summer 2008	1	0	0	3	3	0
Fall 2008	2	0	0	3	3	2
Spring 2009	1	1	0	3	3	1
Summer 2009	2	0	0	5	2	1
Fall 2009	2	1	0	6	2	1
Spring 2010	3	3	0	4	3	2
Summer 2010	0	0	0	4	3	1
Fall 2010	2	0	0	3	3	1
Spring 2011	1	1	0	2	3	0
Summer 2011	0	0	0	5	1	2
Fall 2011	3	0	0	3	2	2
Spring 2012	4	0	0	6	2	2
Summer 2012	1	0	0	3	3	1
Fall 2012	1	2	0	2	3	1
Spring 2013	4	1	0	3	3	0
Summer 2013	1	1	0	3	4	0
Total						

^a Chem 200: "Introduction to Chemical Research" 1 credit hour course for undergraduates

^b Chem 400: "Research in Chemistry" 3 credit hour course for undergraduates

^c Chem 408: "Honors: Research in Chemistry" 3 credit hour course for undergraduates

^d Chem 500: "Thesis" course for graduate students

^e Chem 600: "Doctoral Research and Dissertation" course for graduate students

^f High school students performing research as part of the Pre-Collegiate Research Scholars Program

SERVICE

Institutional Service

24. Member of Faculty Search Committee for Department of Biochemistry, Cellular and Molecular Biology
23. Member of Committee to revise UTK College of Arts and Sciences by-laws
22. Member of Search Committee for the Assistant Dean and Director of Graduate Admissions Spring 2012
21. Director of Graduate Studies, Spring 2012 - present
20. Director of Summer Undergraduate Research Program (SURP), Fall 2010 – present
19. Member of Chemistry Department Head Search Committee, Spring 2011
18. Chair of Graduate Curriculum Committee, Spring 2012 – present
17. Member of Chemistry Graduate Admissions Committee, Fall 2010 – present
16. Member of Faculty Search Committee in the area of Materials Chemistry, Fall 2010
15. Elected member of Departmental Advisory Committee, Fall 2009 – Fall 2010
14. Co-organizer of funded seminar series by Haines-Morris endowment, Spring 2010, entitled "Omics and Emerging Tools at the Interface of Chemistry and Biology"
13. Chair of the Lind Lecture Selection Committee, 2009
12. Member of Departmental Seminar Committee, Fall 2008 – Spring 2011

11. Member of Faculty–Student Interaction Committee, Fall 2008 – Spring 2011
10. Member of Organic Undergraduate Laboratory Committee, Fall 2008 – present
9. Chair of the Graduate Student Recruiting Committee, Fall 2006 – Spring 2008
8. Member of the Graduate Student Recruiting Committee, Fall 2005- Spring 2010
7. Advisor to Student Affiliates of the American Chemical Society (SAACS), Fall 2006 – Spring 2012
 - Oversaw annual mentoring day in which ~30 local high school students visit chemistry department
6. Member of long range planning committee, Summer 2007
5. Member of Department Head Search Committee, Spring 2006
4. Member of NMR Facility Director Search Committee, Fall 2005
3. Member of Organic Faculty Search Committee, Fall 2005
2. Committees of students, Department of Chemistry (students not in my group):
 - Samson Francis, ORP exam 9/6/2005, Ph.D. defense 7/28/2009
 - Riyam Kafri, Committee meeting 2/28/2006, Ph.D. defense 11/10/2006
 - Kasey Hill, ORP exam 6/2/2006, Ph.D. defense 11/18/2009
 - Scott Borella, ORP exam 7/28/2006, Ph.D. defense 7/19/2007
 - Bo Luttrell, ORP exam 8/4/2006, Ph.D. defense 6/10/2008
 - Royce Dansby-Sparks, ORP exam 6/18/2007, Ph.D. defense 6/9/2010
 - Thomas O’Lenick, ORP exam 9/19/2007, Ph.D. defense 1/28/2011
 - Chao Wang, Ph.D. defense 6/6/2008
 - Kris Gilbert, ORP exam 2/1/2008, Ph.D. defense 7/1/2009
 - Jude Abia, ORP exam 4/22/2008, Ph.D. defense 2/22/2010
 - Joshua Abbott, ORP exam 9/26/2008, Ph.D. defense 7/19/2012
 - Ashleigh Prince, ORP exam 3/2/2009, Ph.D. defense 7/15/2011
 - Matthew Walworth, ORP exam, 5/6/2009, Ph.D. defense 7/18/2011
 - Julio Gutierrez, Ph.D. defense 7/27/2009
 - Jessica Gooding, ORP exam, 8/11/2009, Ph.D. defense 10/18/2011
 - Jamie Light, M.S. defense, 8/6/2009
 - Belinda Lady, ORP exam, 9/3/2009, Ph.D. defense 11/29/2012
 - Irene Abia, Ph.D. defense 11/3/2011
 - Vighter Iberi, Doctoral candidacy exam 3/11/2011
 - Mary Eisenhauer, M.S. defense, 4/4/2011
 - Irene Abia, Ph.D. defense 11/3/2011
 - Bo Meng, Candidacy exam 2/25/2012
 - Chunhui Bao, Candidacy exam 3/7/2012
 - Camille Kite, M.S. defense, 11/9/2012
 - Preeti Chandrachud, Candidacy Exam, 2/25/2013
 - Carson Prevatte, Candidacy exam, 3/12/2013
 - Bin Hu, Candidacy exam, 3/20/2013
 - Tabitha Callaway, Candidacy exam, 3/21/2013
 - Xin Gu, Candidacy exam, 3/25/2013
 - Chris Bulino, Candidacy exam, 3/26/2013
 - Stephen Dearth, Candidacy exam, 3/27/2013
 - Kamlesh Bornani, Candidacy exam, 4/2/2013
1. Committees of students, Department of Biochemistry, Cellular and Molecular Biology:
 - Seth Albright, committee meeting 8/30/2006, preliminary exam 4/11/2007, preliminary exam 11/12/2007, committee meeting 11/20/2009, committee meeting 1/28/2011
 - Can Ozen, committee meeting, 3/15/2007, dissertation defense, 8/10/2007
 - Joel Bucci, committee meetings 11/7/2011, 8/28/2012
 - Deepika Nambiar, committee meeting, 6/14/2013

Professional Service

7. Editorial Advisory Board for the Journal *Chemistry and Physics of Lipids*, 2011-present
6. Chair of the East Tennessee Section of the American Chemical Society, 2011
5. Chair-elect of the East Tennessee Section of the American Chemical Society, 2010
4. Secretary of the East Tennessee Section of the American Chemical Society, 2007 – 2009
3. Proposals Reviewed
 - National Science Foundation (18)
 - NIH Proposals (2)
 - Department of Energy UT Cancer Institute Pilot Grant Program (1)
 - Louisiana Board of Regents fund (1)
 - Netherlands Organisation for Scientific Research (1)
 - A-STAR igrants (Singapore) (1)
 - Biotechnology and Biological Sciences Research Council (England) (1)
 - Total (25)
2. Proposal Review Panels: Served on 2 National Science Foundation Review Panels (Chemistry of Life Processes Panel, Division of Chemistry)
1. Reviewer of journal Manuscript Submissions for the following journals (Since 2005):
 - ACS Applied Materials and Interfaces* (1)
 - ACS Chemical Biology* (1)
 - Accounts of Chemical Research* (1)
 - Analytical Biochemistry* (1)
 - Angewandte Chemie* (6)
 - Applied Radiation and Isotopes* (1)
 - Beilstein Journal of Organic Chemistry* (1)
 - Biochemistry* (1)
 - Bioconjugate Chemistry* (6)
 - Biomacromolecules* (1)
 - Bioorganic & Medicinal Chemistry* (3)
 - Bioorganic & Medicinal Chemistry Letters* (3)
 - Carbohydrate Research* (2)
 - ChemBioChem* (6)
 - Chemical Reviews* (2)
 - Chemical Science* (1)
 - Chemistry: A European Journal* (1)
 - Chemistry: An Asian Journal* (1)
 - Chemistry and Biology* (2)
 - Chemistry and Physics of Lipids* (3)
 - European Journal of Organic Chemistry* (3)
 - FEBS Letters* (1)
 - International Journal of Molecular Sciences* (1)
 - Journal of the American Chemical Society* (8)
 - Journal of Medicinal Chemistry* (1)
 - Journal of Organic Chemistry* (4)
 - Journal of Proteomics* (1)
 - Journal of Visualized Experiments* (1)
 - Langmuir* (3)
 - Letters in Organic Chemistry* (1)
 - Mini-Reviews in Medicinal Chemistry* (1)
 - Molecular Biosystems* (1)
 - Molecules* (4)
 - Nature Methods* (1)
 - Organic Chemistry Insights* (1)

Organic Letters (2)
Pharmaceutics (1)
Photochemistry and Photobiology A: Chemistry (1)
Proceedings of the National Academy of Sciences, U.S.A. (3)
Sensors and Actuators B. Chemical (1)
Tetrahedron (1)
Tetrahedron Letters (1)
Trends in Biotechnology (1)
Total: 87

Outreach Service

8. July 2013 – present. Member of Program for Excellence and Equity in Research (PEER) Mentoring Team.
7. July 2013, Helped organize and run eVols10, a collaboration with engineering to bring in ~30 tenth graders, including many minority students, to build and run chemical cars.
6. Presentations to general public audiences
 3. O'Connor Senior Center, 9/21/2012
 2. UT Science Forum, 10/21/2011
 1. UT Pregame Showcase, 10/15/2011
5. Presentation at High School Teacher Summer Workshop, June 24th, 2010
4. Research presentations to local high school students
 4. Kensington Science Club, 10/21/2011
 3. Hardin Valley Academy Lecture Series, 4/12/2011.
 2. Farragut Science Academy Lecture Series, 1/24/2011.
 1. Farragut Science Academy Lecture Series, 4/9/2009.
3. Participation in Pre-Collegiate Research Scholars Program: 7 High School Researchers Supervised
2. Advisor to Student Affiliates of the American Chemical Society (SAACS), Fall 2006 – Spring 2012
 - Oversaw annual mentoring day in which ~30 local high school students visit chemistry department
1. 11 Invited Presentations at Primarily Undergraduate Institutions (Recruiting Visits, see Presentations section)