CURRICULUM VITAE_SQUIRE J. BOOKER

HOME ADDRESS
1640 Woodledge Circle
State College, PA 16803
(814) 360-4492: cell

DATE OF BIRTH
September 9, 1965

Staff Assistant
Mrs. Connie Smith
334 Chemistry Building
tel: (814) 863-0119
fax: (814) 865-5235
email: cmf11@psu.edu

WORK ADDRESS
302 Chemistry Building
Penn State University
University Park, PA 16802
tel: (814) 865-8793
fax: (814) 865-5235
email: squire@psu.edu

EDUCATION

Postdoctoral	**Enzyme Institute, University of Wisconsin–Madison** NIH Postdoctoral Fellow, November 1995 to May 1999 Advisor: Perry A. Frey "Understanding the Role of the Iron–Sulfur Centers in Lysine 2,3-Aminomutase"	Madison, Wisconsin
Postdoctoral	**Université de Paris V (René Descartes)** NSF-NATO Postdoctoral Fellow, October 1994 to November 1995 Advisor: Daniel Mansuy "Expression in Yeast, and Functional Characterization of the Inducible Nitric Oxide Synthase"	Paris, France
Graduate	**Massachusetts Institute of Technology** Doctor of Philosophy, Biochemistry, (1987-1994) Advisor: JoAnne Stubbe "Cloning, Sequencing and Expression of Ribonucleoside Triphosphate Reductase" from *Lactobacillus leichmannii*"	Cambridge, Massachusetts
Undergraduate	**Austin College** Bachelor of Arts with concentration in Chemistry, (1983-1987)	Sherman, Texas
Undergraduate	**Massachusetts Institute of Technology** Minority Summer Science Research Program June, 1986 to August 1986 Advisor: William H. Orme–Johnson "The purification of methylviologen hydrogenase"	Cambridge, Massachusetts

ACADEMIC APPOINTMENTS

Evan Pugh Professor	2018-Present
Eberly Family Distinguished Chair in Science	2017-Present
Investigator, Howard Hughes Medical Institute	2015-Present
Professor, Department of Chemistry *The Pennsylvania State University*	2013-Present
Professor, Department of Biochemistry and Molecular Biology *The Pennsylvania State University*	2013-Present
Associate Professor, Department of Chemistry	2007-2013

The Pennsylvania State University

Associate Professor, Department of Biochemistry and Molecular Biology 2005-2013
The Pennsylvania State University

Assistant Professor, Department of Biochemistry and Molecular Biology 1999-2005
The Pennsylvania State University

Research and Training Program Affiliations:
Chemistry Graduate Program 2007-Present
Biochemistry, Microbiology and Molecular Biology Graduate Program 1999-Present

PROFESSIONAL HONORS

Penn State	Named to the Editorial Board for Chemical Reviews	2020
Penn State	Named Associate Editor of the ACS journal *Biochemistry*	2019
Penn State	MIT Graduate School Commencement Speaker	2019
Penn State	Elected to the National Academy of Sciences	2019
Penn State	Erying/Minor Lectureship, University of Utah	2019
Penn State	Wriston Lectureship, University of Delaware Department of Chemistry	2019
Penn State	Keynote Lecturer at the Gordon Research Conference on Metals in Biology	2019
Penn State	Penn State Graduate School Commencement Speaker	2018
Penn State	Gomberg Lectureship, University of Michigan Department of Chemistry	2018
Penn State	Evan Pugh Professor	2018
Penn State	Frontiers in Chemical Sciences Lectureship at Texas A&M, College Station	2018
Penn State	Eberly Family Distinguished Chair in Science	2017
Penn State	Elected to the American Academy of Arts and Sciences	2017
Penn State	Lloyd N. Ferguson Distinguished Lecturer at Cal State, Los Angeles	2017
Penn State	Diversity in Chemistry Initiative Lecturer at Cal Tech	2016
Penn State	Keynote Speaker at Vanderbilt Institute of Chemical Biology Annual Student Symp	2016
Penn State	Faculty Scholar Medal	2016
Penn State	Scott Lectureship in Chemistry and Biochemistry at the University of Florida	2016
Penn State	Co-organizer of the 2016 ASBMB Annual Meeting in San Diego, CA	2016
Penn State	Keynote Speaker at Louisiana State University Undergraduate Research Conference	2015
Penn State	Selected as Howard Hughes Medical Investigator	2015
Penn State	Everson Lectureship in Biochemistry at the University of Wisconsin, Madison	2015
Penn State	*Ad hoc* member of NIGMS council, January 2014	2014
Penn State	Elected AAAS (American Association for the Advancement of Science) Fellow	2013
Penn State	TY Shen Lectureship in Biological Chemistry at The Massachusetts Institute of Technology	2013
Penn State	American Chemical Society Arthur C. Cope Scholar Award	2011
Penn State	Eberly College of Science Dean's Climate and Diversity Award	2009
Penn State	Co-Chair, GRC on Enzyme Coenzymes and Metabolic Pathways	2006
Penn State	Presidential Early Career Award in Science and Engineering	2004
Penn State	NSF Faculty Early Career Award	2002-2007
Wisconsin–Madison	NIH Postdoctoral Fellow	1996-1999
René Descartes	NSF-NATO Postdoctoral Fellow	1994-1995
MIT	NIH Predoctoral Fellow (Training Grant)	1991-1993
Austin College	American Chemical Society Outstanding Student Award	1987
Austin College	P. S. Wharton Memorial Fellowship in Chemistry	1986
Austin College	George T. Landolt Memorial Fellowship in Chemistry	1985
Austin College	Minnie Stevens Piper Scholar	1983-1987

PROFESSIONAL MEMBERSHIPS
American Association for the Advancement of Science (AAAS)
American Chemical Society (ACS)
American Society for Biochemistry and Molecular Biology (ASBMB)
American Society for Microbiology (ASM)

RESEARCH INTERESTS

Enzyme reaction mechanisms, metallobiochemistry, enzymology, chemical biology, natural product biosynthesis, antibiotic resistance, redox biochemistry, proteomics and metabolomics

GRADUATE STUDENTS SUPERVISED

Student	Degree/Date	Major
Natasha M. Nesbitt[1]	Ph.D./ (10/05/05)	BMMB
Robert M. Cicchillo[2]	Ph.D./ (07/28/06)	BMMB
David F. Iwig[3]	Ph.D./ (04/12/06)	BMMB
Melissa A. Baker[4]	M.S./ (08/04)	BMMB
Amy E. Griffiths[5]	M.S./ (07/07/08)	BMMB
Elizabeth S. Billgren[6]	M.S./ (10/31/08)	BMMB
Allison M. Saunders[7]	Ph.D./ (02/11/11)	BMMB
Tyler L. Grove[8]	Ph.D./ (03/22/13)	CHEM
Lauren A. Sites[9]	M.S./ (10/19/12)	CHEM
Nicholas D. Lanz[10]	Ph.D./ (08/03/15)	BMMB
Bradley J. Landgraf[11]	Ph.D./ (08/05/15)	CHEM
Arthur J. Arcinas[12]	Ph.D./ (12/05/16)	BMMB
Anthony Blaszczyk[13]	Ph.D./ (05/10/18)	BMMB
Erica L. Schwalm[14]	Ph.D./ (05/25/18)	CHEM
Matthew Bauerle[15]	Ph.D./ (08/13/18)	CHEM
Erin McCarthy	Ph.D./ (in progress)	BMMB
Hayley Knox	Ph.D./ (in progress)	CHEM
Cody Lloyd	Ph.D./ (in progress)	BMMB

[1]Research Scientist, SUNY Stony Brook, Department of Medicine
[2]Senior Scientist, Dow (Indianapolis, IN)
[3]Senior Scientist, Alcoa (Pittsburgh, PA)
[4]Research Scientist, GlaxoSmithKline
[5]Research Associate, Green Mountain Antibodies
[6]Business Manager, Woodland Trading, Inc.
[7]Assistant Professor, Mansfield University
[8]Research Assistant Professor, Albert Einstein College of Medicine
[9]Research Associate, Syros Pharmaceuticals
[10]Staff Fellow, Food and Drug Administration
[11]Production Scientist, New England Biolabs
[12]Postdoctoral Fellow, Albert Einstein College of Medicine (Steven Almo, PI)
[13]Staff Scientist at Novovax
[14]Staff Scientist at Merck
[15]Senior Research Chemist at Exemplify Biopharma, Inc.

POST-DOCTORAL SCHOLARS SUPERVISED

Scholar	Ph.D. Institution, Degree Date	Period of Supervision
Camelia Baleanu–Gogonea[1]	Toyohashi Univ. (Japan), 2001	Nov 1999 – Sep. 2002
Akira Uchida[2]	Gifu Univ. (Japan), 2003	Jan 2004 – Dec 2006
Douglas Warui[3]	Illinois, 2009	Jun 2009 – Jun 2015
Tyler Grove[4]	Penn State Univ. 2013	May 2013 – Aug 2014
Alexey Silakov[5]	Max-Planck (Mülheim, Germany), 2007	Feb 2015 – Dec 2016
Elizabeth Onderko[6]	Penn State Univ. 2015	Jan 2016 – Aug 2016
Nicholas Lanz[7]	Penn State Univ. 2015	Aug 2015 – Nov 2016

Joseph LaMattina[8]	University of Georgia. 2016	Aug 2016 – Jan 2018
Bo Wang	Shenyang Pharmaceut. Univ. (China), 2012	Nov 2015 – present
Arnab Mukherjee	Johns Hopkins Univ. 2009	Nov 2015 – present
Danielle Miller[9]	Virginia Tech. 2017	Jun 2017 – present
Syam Neti	University of Utah. 2016	Mar 2018 – present
Xuekai Zhang	Nankai University. 2018	Sep 2018 – present
Shi Chen	Memorial Sloan Kettering. 2018	Sep 2019 – present

[1]Adjunct faculty and chemistry instructor, Cleveland State University
[2]Senior Researcher, Nanyang Technological University (Stefan Schuster, PI)
[3]Research Scientist, Penn State (Squire Booker, PI)
[4]Assistant Professor, Albert Einstein College of Medicine, Department of Biochemistry
[5]Assistant Professor, Dept. of Chemistry, Penn State Univ.
[6]NRC Postdoctoral Research Fellow, U. S. Naval Research Labs
[7]Staff Fellow, Food and Drug Administration
[8]Senior Scientist at Pfizer
[9]Researh Scientist, LifeSensors

UNDERGRADUATE STUDENTS SUPERVISED (underrepresented minority students italicized)

All students from Penn State University unless otherwise indicated

Student	Period of Supervision
1. Timothy McIntyre	Sep. 1999 -May 2000
2. Matthew Souder	Sep. 1999 - May 2000
3. Amber Swartzbeck	Jan. 2000 - Aug. 2000
4. Anthony Saleh	Jun. 2000 - Aug. 2000
5. Anthony Grippe	Jan. 2000 – May 2003
6. John Hegarty	Sep. 2000 – May 2002
7. John Etchberger	Jun. 2001 – Jul. 2001
8. Elizabeth Sayer	Sep. 2001 – May 2002 (student from University of Leeds)
9. Robert Scott Lang	Sep. 2001 – Dec. 2001
10. Brian Patterson	*Jan. 2002 – May 2002*
11. Eric Schnitzer	Jan. 2003 – Aug. 2003
12. Natasha Brooks	*Jun. 2003 – Aug. 2003*
13. Jacqueline Morris	Jan. 2003 – Aug. 2003
14. Kathy Goodson	*Jun. 2003 – Aug 2003* (student from Virginia Commonwealth University)
15. Jeffrey Stromberg	Sep. 2003 – May 2004
16. Camille Steven	*May 2005 – Aug. 2005*
17. Yash Joshi	Jan. 2004 – May 2005
18. Briana Schmiedekamp	Jan. 2004 – Dec. 2005
19. Johnese Bailey	*Jun. 2005 – Aug. 2005* (student from Virginia Commonwealth University)
20. Linda Blase	Jan. 2006 – Aug. 2007
21. Lillian Lewis	*Jan. 2006 – May 2006*
22. Bukola Fatunmbi	*Jun. 2007 – Aug. 2007* (student from Lincoln University)
23. Mengying Qin	Jan. 2007 – May 2007
24. Jessica Ahlum	Sep. 2008 – May 2010
25. Priya Sharma	Sep. 2009 – May 2010
26. Abby Horstmann	Jan. 2009 – July 2010
27. Matthew Radle	Jan. 2010 – May 2012
28. Christine Holt	*Jun. 2010 – Aug. 2010* (student from Lincoln University)
29. Ornella Nelson	*Jun 2011 – Aug. 2011* (student from Cameron University)
30. Lauren Gadsby	Sep 2011 – May 2013
31. Aman Chugh	Jan 2012 – Jun. 2012
32. Anna Hagstrom	Jun 2012 – Aug. 2012 (student from Amherst College)
33. Justin Rectenwald	Jan 2013 – May 2014
34. Kristopher Brown	*Jun 2013 – Aug. 2013* (student from Albany State University)
35. Edward Badding	Sep 2013 – present
36. Kelcie Molchany	Jun 2014 – Aug. 2014 (student from Muhlenberg College)
37. Jackson Ho	May 2015 – May 2016
38. Samuel Krug	Jun 2015 – May 2016

39. Ursula Machi	Jan 2016 – Dec 2016
40. Roy Wang	Sep 2016 – present
41. Brianne Jones	*Jun 2016 – Jul 2016 (student from Baton Rouge Community College)*
42. Ananda Rankin	*May 2017 – present*
43. Taylor Jones	May 2017 – Aug. 2017 (student from Wake Forest University)
44. Brittney Racioppo	May 2017 – Aug. 2017 (student from Seton Hill College)
45. Carlos Rivera Lopez	*May 2017 – Aug. 2017 (student from UPR Mayaguez)*
46. Ilana Mosley	*Oct 2017 – present*
47. Savannah Marshall	Oct 2017 – present
48. Zerrick Dill	May 2018 – Aug. 2018 and May 2019 – Aug. 2019
49. Gabriel D'Agostino	May 2018 – Aug. 2018
50. Olivia Peduzzi	May 2019 – Aug. 2019

UNDERGRADUATE HONORS THESES SUPERVISED

Student	Major	Period of Supervision
Anthony T. Grippe[1]	Biotechnol and BMB	Jan. 2000 – May 2002
Abby Horstmann[2]	BMB	Jan. 2009 – July 2010
Lauren Gadsby[3]	BMB	Sep. 2011 – May 2013
Justin Rectenwald[4]	CHEM	Jan. 2013 – May 2014
Edward Badding[5]	CHEM	Sep. 2013 – May 2017

[1]Sr. Scientist at Janssen Pharmaceutical Companies of Johnson & Johnson
[2]Ph.D. Candidate in Pharmacology, Weill Cornell Graduate School of Medical Sciences
[3]Biochemical Data Manager, IMS, Inc. (Washington D.C. Metro Area)
[4]Ph.D. Candidate in Department of Chemistry at UNC Chapel Hill
[5]Ph.D. Candidate in Department of Chemistry at the Massachusetts Institute of Technology

HIGH SCHOOL STUDENTS SUPERVISED

Student	Period of Supervision
Martin McLaughlin[1]	June 2010 – August 2011
Edward Badding[2]	June 2012 – September 2013

[1]NSF graduate student at the University of Illinois
[2]Graduate student at MIT

RESEARCH SCIENTISTS SUPERVISED

Scientist	Period of Supervision
[1]Kyung–Hoon Lee (M.S.)[1]	Jun 2004 – Dec 2010
[2]Loretta Tu (M.S.)[2]	Jul 2004 – Jun 2006
Matthew Radle (B.S.)	May 2012 – May 2013
Matthew Radle (M.S.)	Sep 2015 – present
Olga Esakova (Ph.D.)	Oct 2012 – present
[3]Jackson Ho (B.S.)[3]	May 2016 – Aug 2016
Douglas Warui (Ph.D.)	Jul 2017 – present
David Iwig (Ph.D.)	Oct 2019 – present

[1]Research Scientist, Dow AgroSciences (Indianapolis, IN)
[2]Deceased
[3]Graduate student at Boston University

MAJOR AWARDS WON BY STUDENTS WHILE UNDER THE PI'S SUPERVISION

Student	Rank	Award	Year
Anthony T. Grippe	Undergraduate Student	Fred Wedler Undergraduate Thesis Award	2001
Natasha M. Nesbitt	Graduate Student	NIH Minority Predoctoral Fellowship	2002-2006
David F. Iwig	Graduate Student	Althouse Outstanding Teaching Assistant Award	2002
Robert M. Cicchillo	Graduate Student	Alumni Dissertation Award	2006
Tyler L. Grove	Graduate Student	Penn State Chem Braucher Fellowship	2008
Tyler L. Grove	Graduate Student	Penn State Chem Millers Fellowship	2009
Tyler L. Grove	Graduate Student	ACS Biological Division Travel Award	2010

Allison M. Saunders	Graduate Student	Penn State BMMB McCarl Graduate Scholarship	2010
Tyler L. Grove	Graduate Student	Braucher Fellowship	2011
Nicholas Lanz	Graduate Student	ASBMB Travel Award	2011
Bradley Landgraf	Graduate Student	Dan Waugh Memorial Teaching Award	2011
Tyler L. Grove	Graduate Student	Alumni Dissertation Award	2011
Nicholas D. Lanz	Graduate Student	Penn State BMMB McCarl Graduate Scholarship	2014
Bradley Landgraf	Graduate Student	Penn State Chem Weyenberg Fellowship	2014
Bradley Landgraf	Graduate Student	ASBMB Travel Award	2015
Nicholas D. Lanz	Graduate Student	ASBMB Travel Award	2015
Edward Badding	Undergraduate Student	Erickson Discovery Grant	2015
Erica L. Schwalm	Graduate Student	ASBMB Travel Award	2016
Erica L. Schwalm	Graduate Student	Penn State Chem North Fellowship	2016
Edward Badding	Undergraduate Student	Peter Craig Breen Memorial Award in Chemistry	2017
Anthony Blaszczyk	Graduate Student	Robert T. Simpson Graduate Award in BMB	2017
Ananda Rankin	Undergraduate Student	ABRCMS Poster Award	2017
Erin McCarthy	Graduate Student	Paul Berg Prize in Molecular Biology	2018
Erin McCarthy	Graduate Student	Poster Award at Steenbock Iron-Sulfur Cluster	2018
Erin McCarthy	Graduate Student	Penn State BMMB McCarl Graduate Scholarship	2018
Erin McCarthy	Graduate Student	Poster Award at Enzyme Mechanisms Conference	2019
Zerick Dill (Albion College)	Undergraduate Student	Poster Award at ASBMB undergrad poster session	2019
Ananda Rankin	Undergraduate Student	Goldwater Fellowship	2019

EXTERNAL ACTIVE RESEARCH SUPPORT

American Chemical Society-148709
Arthur C. Cope Scholar Award
01/01/2013-present
Squire Booker, PI

National Science Foundation MCB-1716686
Lipoic acid biosynthesis: understanding sulfur attachment to aliphatic carbon centers
07/01/2017-06/30/2021
Squire Booker, PI

National Science Foundation CHE-1659679
REU Site: Catalysis and Motion
06/01/2017-05/30/2020
Squire Booker, PI

National Institutes of Health 1 R21 AI-133318
Understanding the Biosynthesis of the 3,4-Dimethylindolic Acid Moiety in the Thiopeptide Antibiotic Nosiheptide
05/18/2017-04/30/2020
Squire Booker, PI

National Institutes of Health 1 R35 GM-122595
Radical Mechanisms of iron-sulfur proteins
04/01/2017-03/31/2022
Squire Booker, PI

COMPLETED RESEARCH SUPPORT (Last Five Years)

National Science Foundation MCB-1513415
Interactive Mentoring Activities for Under-Represented Minority Faculty
08/01/2012-07/31/2019
Squire Booker, PI

National Science Foundation MCB-1426133
Workshop: ASBMB Mentoring Program for Early Career Scientists
06/01/2014-05/31/2016
Squire Booker, co-PI

Industrial – LS9 Inc., South San Francisco, CA
"Fundamental Biochemistry and Mechanism of Aldehyde Decarbonylase in Conjunction with Acyl-ACP Reductase in the Synthesis of Alkanes, Olefins, and Reaction Byproducts"
$125,000 (total direct; 40% to Booker)

one-time unrestricted gift on 11/01/11
Squire Booker, Carsten Krebs, J. Martin Bollinger, Jr. (multiple PIs)
National Institutes of Health 1 R21 AI111419
Radical strategies for inhibiting the antibiotic resistance protein Cfr
08/01/2014-07/31/2017 (no cost extension)
Squire Booker, PI
National Institutes of Health 1 R01 GM103268
Functionalization of Unactivated sp^3-hybridized carbon atoms
07/02/2012-06/30/2017 (no cost extension)
Squire Booker, Carsten Krebs, J. Martin Bollinger, Jr. (multiple PIs)
National Institutes of Health 1 R01 GM101957
Mechanisms of Radical-Dependent Biological Methylation
05/01/2012-04/30/2017 (no cost extension)
Squire Booker, PI
National Science Foundation MCB-1158486
Structure, Mechanism, and Regulation of Quinolinate Synthase, the First Committed Step in Bacterial NAD Biosynthesis
06/01/2015-05/31/2017 (no cost extension)
Squire Booker, PI
Eberly College of Science Undergraduate Research Funds
The Pennsylvania State University
$1500
11/9/15-08/15/16
Squire J. Booker (PI)
Eberly College of Science Undergraduate Research Funds
The Pennsylvania State University
$1500
11/4/16-08/15/17
Squire J. Booker (PI)
University of Illinois at Urbana-Champaign (NIH Prime) 2010-00365-10
Collaborative Center for an Enzyme Function Initiative
05/01/2014-04/30/2016
Squire Booker, PI
Tobacco Settlement Funds- TSF13/14 SAP 4100062216
Mechanism and Inhibition of the Antibiotic Resistance Protein, Cfr
07/01/2013-06/30/2015
Squire Booker, PI

TEACHING:
Courses Taught

CHEM 110 – Chemical Principles I
(The first semester of General Chemistry)
BMMB 539/CHEM 539 - Bioorganic Reaction Mechanisms
(A first or second year graduate-level survey of the basics of enzymatic catalysis, with particular focus on the use of organic cofactors).
BMMB 510 – Current Literature in Enzymology
(A "journal club" that surveys the current literature in enzymology)
BMB 401 - Introductory Biochemistry
(A third or fourth year undergraduate level course that is designed to introduce the student to the structures and functions of the major macromolecules of the cell).
BMB 401H – Introductory Biochemistry for Honors Students
(A third or fourth year undergraduate level course for honor students that is designed to introduce the student to the structures and functions of the major macromolecules of the cell).
BMB 411 – Survey of Biochemistry and Molecular Biology Literature
(A third or fourth year undergraduate level course that is designed to acquaint the student with the relevant primary research literature in biochemistry)
PSU 016 – First-Year Seminar (Biotechnology)
(A course for first-year undergraduates that is designed to "facilitate student's adjustment to the high expectations, demanding

workload, increased academic liberties, and other aspects of the transition to college life.")

PUBLICATIONS

1) Mao, S. S., Holler, T. P., Yu, G., Bollinger, J. M., **Booker, S.**, Johnston, M. I., Stubbe, J. (1992) A model for the roles of multiple cysteine residues involved in ribonucleotide reduction: Amazing and still confusing. *Biochemistry* **31**, 9733-9743
2) **Booker, S**., and Stubbe, J. (1993) Cloning, sequencing, and expression of the adenosylcobalamin-dependent ribonucleotide reductase from *Lactobacillus leichmannii*. *Proc. Natl. Acad. Sci. USA* **90** 8352-8356
3) **Booker, S.**, Broderick, J., and Stubbe, J. (1993) Ribonucleotide reductases:Radical enzymes with suicidal tendencies. *Biochem. Soc. Trans*. **21** (3), 727-730
4) Stubbe J., **Booker S**., Broderick J., Mao SS., Ator M., Harris G., Ashley G., Linn AE., Yu GX. (1993) Ribonucleotide reductases: radical enzymes with suicidal tendencies. *Nucleic Acids Symposium Series* **29**, 107
5) **Booker, S.**, Licht, S., Broderick, J., and Stubbe, J. (1994) Coenzyme B12-dependent ribonucleotide reductase: evidence for the participation of five cysteine residues in ribonucleotide reduction. *Biochemistry* **33**, 12676-12685
6) Sari, M. A., **Booker, S**., Jaouen, M., Vadon, S., Boucher, J. I., Pompon, D.,and Mansuy, D. (1996) Expression in yeast and purification of functional macrophage nitric oxide synthase: Evidence for cysteine-194 as iron proximal ligand. *Biochemistry* **35**, 7204-7213
7) Stubbe, J., Licht, S. S., Gerfen, G. J., Silva, D., **Booker, S**. (1998) in **Vitamin B_{12} and B_{12}-Proteins** (Krautler, B., Arigoni, D., and Golding, B. T., eds) pp. 321-331, Wiley-VCH, Weinheim
8) Lieder, K. W., **Booker, S.**, Ruzicka F. J., Beinert, H., Reed, G. H., and Frey, P. A. (1998) S-Adenosylmethionine-dependent reduction of lysine 2,3-aminomutase and observation of the catalytically functional iron-sulfur centers by electron paramagnetic resonance. *Biochemistry* **37**, 2578-2585
9) Licht, S., **Booker, S**., and Stubbe, J. (1999) Studies on the catalysis of carbon-cobalt bond homolysis by ribonucleoside triphosphate reductase: Evidence for concerted carbon-cobalt bond homolysis and thiyl radical formation. *Biochemistry* **38**,1221-1233
10) Frey, P. A., and **Booker, S**. (1999) Radical intermediates in the reaction of lysine 2,3-aminomutase. **Advances in Free Radical Chemistry**. **Vol 2**, pp. 1-43. JAI Press, Inc. Greenwich, CT.
11) Wu, W., **Booker, S.,** Lieder, K. W., Bandarian, V., Reed, G. H., and Frey, P. A. (2000) Lysine 2,3-aminomutase and (E)--4,5-didehydrolysine: Characterization of an allylic analog of a substrate-based radical in the catalytic mechanism. *Biochemistry*, **39**, 9561-9570.
12) Cosper, N. J., **Booker, S.,** Ruzicka, F. J., Frey, P. A., and Scott, R. A. (2000) Direct FeS cluster involvement in generation of a radical in lysine 2,3-aminomutase. *Biochemistry* **39**, 15668-15673.
13) Frey, P. A., and **Booker, S. J**. (2001) Radical mechanisms of S-adenosylmethionine-dependent enzymes. **Adv Protein Chem**. **58**, 1-45.
14) **Booker, S. J.** (2004) Unraveling the pathway of lipoyl biosynthesis. *Chem. Biol*. **11**, 10-12.
15) **Booker, S. J**. (2004) Enzymatic free radical reactions. *Nature Encyclopedia of Life Sciences*. www.ELS.net
16) Cicchillo, R. M., Iwig, D. F., Jones, A. D., Nesbitt, N. M., Baleanu-Gogonea, C., Souder, M. G., Tu, L., and **Booker, S. J.** (2004) Lipoyl synthase requires two equivalents of S-adenosyl-L-methionine to synthesize one equivalent of lipoic acid. *Biochemistry* **43**, 6378-6386.
17) Cicchillo, R. M., Baker, M. A., Schnitzer, E. J., Newman, E. B., Krebs, C., and **Booker, S. J.** (2004) *Escherichia coli* L-serine deaminase requires a [4Fe–4S] cluster in catalysis. *J. Biol. Chem.* **279**, 32418-32425.
18) Cicchillo, R. M., Lee, K.-H., Baleanu-Gogonea, C., Nesbitt, N. M., Krebs, C., and **Booker, S. J.** (2004) *Escherichia coli* lipoyl synthase binds two distinct [4Fe–4S] clusters per polypeptide. *Biochemistry* **43**, 11770-11781.
19) Iwig, D. F., Grippe, A. T., McIntyre, T. A., and **Booker, S. J**. (2004) Isotope and elemental effects indicate a rate-limiting methyl transfer as the initial step in the reaction catalyzed by *Escherichia coli* cyclopropane fatty acid synthase. *Biochemistry* **43**, 13510-13524.
20) Iwig, D. F., and **Booker, S. J.** (2004) Insight into the polar reactivity of the onium chalcogen analogs of S-adenosyl-L-methionine. *Biochemistry* **43**, 13496-13509.
21) Iwig, D. F., Uchida, A., Stromberg, J. A., and **Booker, S. J**. (2005) The activity of *Escherichia coli* cyclopropane fatty acid synthase depends on the presence of bicarbonate. *J. Am. Chem. Soc*. **127**, 11612-11613.
22) Cicchillo, R. M., Tu, L., and **Booker, S. J.** (2005) *Escherichia coli* quinolinate synthetase (NadA) does indeed harbor a [4Fe–4S] cluster. *J. Am. Chem. Soc*. **127**, 7310-7311.
23) Cicchillo, R. M., and **Booker, S. J.** (2005) Mechanistic investigations of lipoic acid biosynthesis in *Escherichia coli*: both sulfur atoms in lipoic acid are contributed by the same lipoyl synthase polypeptide. *J. Am. Chem. Soc*. **127**, 2860-2861.
24) Nesbitt, N. M., Baleanu-Gogonea, C., Cicchillo, R. M., Goodson, K., Iwig, D. F., Broadwater, J. A., Haas, J. A., Fox, B. G., and **Booker, S. J.** (2005) Expression, purification, and physical characterization of *Escherichia coli* lipoyl(octanoyl)transferase. *Protein Exp. Purif.* **39**, 269-282.
25) van der Donk, W. A., and **Booker, S. J.** (2007) Never stop questioning. Editorial overview. *Curr. Opin. Chem. Biol*., **11**, 527-

528.
26) **Booker, S. J.**, Cicchillo, R. M., and Grove, T. L. (2007) Self-sacrifice in radical S-adenosylmethionine proteins. *Curr. Opin. Chem. Biol*. **11**, 543-552.
27) Nesbitt, N. M., Cicchillo, R. M., Lee, K.-H., Grove, T. L., and **Booker, S. J.** (2008) The biosynthesis of lipoic acid. in *Alpha Lipoic Acid: Energy Production, Antioxidant Activity, and Health Effects*. Eds. M. Patel and L. Packer. Taylor and Francis Group, LLC, Boca Raton
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SUBMITTED

INVITED LECTURES AT INTERNATIONAL MEETINGS

1) **"**S-adenosylmethioinine: A poor man's B_{12}." FASEB conference on Biological Methylation (07/17/99-07/22/99, Saxton's River, VT)
2) "Stoichiometry and configuration of the iron–sulfur clusters of *Escherichia coli* lipoyl synthase." 29th Annual Steenbock Symposium on "Coenzymes, Cofactors and Catalysis." (05/29/03-06/01/03, Madison, WI)
3) **"**Mechanistic investigations of lipoyl synthase from *Escherichia coli*." Gordon Research Conference on "Protein Derived Cofactors, Radicals and Quinones." (01/11/04-01/16/04, Ventura, Ca)
4) "The A's and B's of the biosynthesis of the lipoyl cofactor in *Escherichia coli*." 19th Enzyme Mechanisms Conference (01/05/05-01/08/05, Asilomar, CA)
5) "The Biosynthesis of the Lipoyl Cofactor." 19th Enzyme Mechanisms Conference, Asilomar, CA. January 07, 2005
6) "Lipoic Acid biosynthesis: Understanding Sulfur Insertion into Unactivated Alkyl Chains." Symposium on Radical Enzymes. 2005 Meeting of the American Society of Biochemistry and Molecular Biology, San Diego, CA. April 6, 2005.
7) "Biosynthesis of the lipoyl cofactor. Understanding sulfur insertion into unactivated alkanes." Department of Chemistry and Biochemistry. 31st Steenbock Symposium (Fe–S Proteins: Biogenesis, Structure and Function) University of Wisconsin–Madison, Madison, WI. May 21, 2005
8) "Cyclopropane Fatty Acid Synthase as a Model for the Design of Novel Anti-tuberculosis Agents." International Young Chemists' Workshop (Biophysical Chemistry Meets Molecular Medicine), Sesimbra, Portugal. June 03, 2005
9) "Mechanistic Investigations of Lipoyl Synthase." Gordon Research Conference on Protein Cofactors, Radicals, and Quinones. Crowne Plaza Hotel, Ventura, CA. January 24, 2006.
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11) "The Biosynthesis of Lipoic Acid: Tales of a Radical SAM Enzyme." FASEB Summer Research Conference on Biological Methylation. Saxson's River, VT. June 28, 2006
12) "Investigation of the Mechanism of the Reaction Catalyzed by *Escherichia coli* Cyclopropane Fatty Acid Synthase." Gordon Research Conference on Enzymes, Co-enzymes, and Metabolic Pathways. University of New England, Biddeford, ME. July 18, 2006
13) "Kinetic Dissection of the Lipoyl Synthase Reaction." Gordon Research Conference on Metals in Biology. Four Points Sheraton Hotel, Ventura, CA. January 30, 2007
14) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." 234th National Meeting of the American Chemical Society, Division of Biological Chemistry, Symposium in Honor of Perry Frey. Boston, MA. August 22, 2007
15) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." 35th National Meeting of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) Philadelphia, PA. March 17, 2008
16) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." 36th National Meeting of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) St. Louis, MO. April 14, 2009
17) "Radical SAM Dehydrogenases" Gordon Research Conference on Protein Cofactors, Radicals, and Quinones. Four Points Sheraton Hotel, Ventura, CA. January 27, 2010.
18) "Radical SAM Dehydrogenases" Gordon Research Conference on Protein Cofactors, Radicals, and Quinones. Four Points Sheraton Hotel, Ventura, CA. January 27, 2010.
19) "Novel Mechanisms of Radical-dependent Post-translational Modification." 29th Summer Symposium in Molecular Biology

"Frontiers in Metallobiochemistry." The Pennsylvania State University, University Park, PA. June 5, 2010.

20) "C–H Bond Activation: Doing it in the Absence of Oxygen." Gordon Research Conference in Bioorganic Chemistry. Proctor Academy, Andover, NH. June 13, 2010.
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22) "Radical-dependent Mechanisms of Post-translational Modification." Pfizer Symposium of the 240th National Meeting of the American Chemical Society. Boston, MA. August 24, 2010
23) "Radical-dependent Mechanisms of Post-transcriptional and Post-translational Modification." Biochemistry 50th Anniversary Symposium. 241st National Meeting of the American Chemical Society. Anaheim, CA. March 27, 2011
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25) "Radical-dependent Mechanisms of Post-transcriptional and Post-translational Modification." 25th Annual Symposium of the Protein Society. Boston, MA. July 26, 2011
26) "Radical-dependent Mechanisms of Post-transcriptional and Post-translational Modification." 15th Annual International Conference on Bioinorganic Chemistry. Vancouver, BC, Canada. August 09, 2011
27) "Principles of Molecular Biology." Penn State Bi-annual Workshop in Bioinorganic Chemistry. The Pennsylvania State University. University Park, PA. June 3, 2012
28) "A Radical-Dependent Strategy for Methylation of rRNA Leading to Antibacterial Resistance." FASEB Conference on Nucleic Acid Enzymes. Snowmass, CO. June 14, 2012
29) "Enzymatic Functionalization of sp^2-Hybridized Carbon Centers." 244th National Meeting of the American Chemical Society, Division of Organic Chemistry, Arthur C. Cope Scholar Award Symposium. Philadelphia, PA. August 21, 2012
30) "A Radical-dependent Strategy for Methylation of rRNA Leading to Antibiotic Resistance." International Meeting on Free Radical and Metal Biology. Queensland Institute of Medical Research, Brisbane, Australia. December 01, 2012
31) "Methylation of an sp^2-hybridized Carbon Center in rRNA Leading to Antibiotic Resistance." Gordon Research Conference on Metals in Biology Four Points Sheraton, Ventura, CA. January 24, 2013
32) "Radical-Dependent Enzymatic Functionalization of sp^2-Hybridized Carbon Centers. Bader Award Symposium in Honor of Professor David E. Cane. 245th ACS National Meeting. New Orleans, LA. April 7, 2013
33) "Anaerobic Functionalization of Unactivated Carbon Centers." Symposium on C–H Activation. 245th ACS National Meeting. New Orleans, LA. April 8, 2013
34) "Radical Mechanisms of Post-transcriptional and Post-translational Modification." Gordon Research Conference on Enzymes, Co-enzymes, and Metabolic Pathways. Waterville Valley, NH. July 16, 2013
35) "Taking a Hit for the Team: Self-Sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." 36th Steenbock Symposium: Enzyme Structure and Function, In Honor of the Life of W. W. Cleland. University of Wisconsin–Madison, May 22-24, 2014
36) "Roles of Iron-Sulfur Clusters in Enzymatic Methyl Transfer." Gordon Research Conference on Iron-Sulfur Enzymes. Stonehill College, Easton, MA. June 18, 2014
37) "A Radical Strategy for Antibiotic Resistance: Mechanistic Dissection of a Novel Post-Transcriptional Modification of 23S rRNA." EUCHEM Conference on Organic Free Radicals, Prague, Czech Republic, July 4, 2014.
38) "A Tale of Two Substrates: Characterization of a Dual Specificity RNA Methylase." Enzyme Mechanisms Conference, San Luis Resort, Spa and Conference Center, Galveston, TX. January 6, 2015.
39) "A Radical Mechanism for Antibiotic Resistance." Howard Hughes Medical Institute Investigator Competition Symposium. Janelia Farms, Ashburn, VA. April 14, 2015.
40) "Radical Dependent Mechanisms of Post-transcriptional Modification." Gordon Research Conference on Nucleosides, Nucleotides & Oligonucleotides. Salve Regina University, Newport, RI. June 29, 2015
41) "A Radical Approach to Antibiotic Resistance." Keynote lecture at Louisiana State University Undergraduate Research Conference. Louisiana State University, Baton Rouge, LA. November 6, 2015
42) "Mechanistic Insight into Nicotinamide Adenine Dinucleotide Biosynthesis in Prokaryotes." Keynote lecture at Texas Enzyme Mechanisms Conference. University of Texas, Austin, TX. January 8, 2016
43) "Spectroscopic Approaches to Understanding Sulfur Insertion into Aliphatic Carbon Centers in the Biosynthesis of Lipoic Acid." 253rd ACS National Meeting, San Francisco, CA. April 4, 2017
44) "Radical Strategies for Biological Methylation." ASBMB Annual Meeting, Chicago, IL. April 24, 2017
45) "A Saga of Death, Destruction, and Rebirth: The Role of Iron-Sulfur Clusters in the Biosynthesis of Lipoic Acid." 39th Steenbock Symposium: Iron-Sulfur Proteins-Biogenesis, Regulation and Function, University of Wisconsin–Madison, Madison, WI. May 30, 2018
46) "Radical-Dependent Functionalization of Unactivated C–H Bonds with Sulfur and Methyl Groups." Gordon Research Conference in Stereochemistry. Salve Regina University, Newport, RI. July 22, 2018
47) "New Insight into Cobalamin-Dependent Methylation Reactions." Keynote Speaker at Gordon Research Conference in Metals in Biology. Four Points Sheraton/Holiday Inn Express, Ventura, CA. January 30, 2019

48) "Moving Beyond Methionine Synthase: New Insight into Cobalamin-Dependent Methylation Reactions." Spring 2019 National Meeting of the American Chemical Society, Bader Symposium in Honor of Professor Joan Broderick. Orlando, FL. April 2, 2019

INVITED LECTURES AT UNIVERSITIES AND INDUSTRY

1) "The radical role of S-adenosylmethionine in enzymatic catalysis," Department of Chemistry, Youngstown State University, Youngstown, OH, November 17, 2000
2) "Characterization of lipoyl synthase from *Escherichia coli*: "Fe"-ing out the wrinkles," Department of Biochemistry, Virginia Tech University, Blacksburg, VA, November 4, 2002
3) "Inserting sulfur into unactivated alkyl chains: The biosynthesis of lipoic acid in *Escherichia coli*," Department of Chemistry, Pennsylvania State University, University Park, PA, February 25, 2003
4) "Inserting sulfur into unactivated alkyl chains: The biosynthesis of lipoic acid in *Escherichia coli*," Department of Chemistry and Biochemistry, Concordia University, Montreal, Canada, February 25, 2003
5) "Stoichiometry, configuration, and function of the iron–sulfur cluster(s) of *Escherichia coli* lipoyl synthase," Department of Chemistry and Biochemistry. University of Delaware. Newark, DE, April 28, 2003
6) "Enzymatic sulfur insertion into unactivated alkyl chains: A radical pathway for the biosynthesis of lipoic acid," Department of Biochemistry and Molecular Biophysics, University of Arizona, Tuscon, AZ, April 30, 2004
7) "The A's and B's of the biosynthesis of the lipoyl cofactor in *Escherichia coli*," Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, November 15, 2004
8) "Biosynthesis of the lipoyl cofactor. Understanding sulfur insertion into unactivated alkanes." Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, March 8, 2005
9) "Cyclopropane Fatty Acid Synthase as a Model for the Design of Novel Anti-tuberculosis Agents." Department of Biology, Spelman College, Atlanta, GA, April 26, 2005
10) "Biosynthesis of the lipoyl cofactor. Understanding sulfur insertion into unactivated alkanes." Department of Chemistry, University of Kentucky, Lexington, KY, September 09, 2005
11) "Biosynthesis of the lipoyl cofactor. Understanding sulfur insertion into unactivated alkanes." Department of Biochemistry and Molecular Biophysics, University of Pennsylvania School of Medicine, Philadelphia, PA, September 21, 2005
12) "Biosynthesis of the lipoyl cofactor. Understanding sulfur insertion into unactivated alkanes." Interdepartmental Program in Medicinal Chemistry, University of Michigan, Ann Arbor, MI, September 29, 2005
13) "Biosynthesis of the lipoyl cofactor. Understanding Sulfur Insertion into Unactivated Alkanes." Department of Chemistry, University of the Sciences. Philadelphia, PA, February 6, 2006
14) "Using Biology, Chemistry, and Physics to Understand the Mechanism of Lipoic Acid Biosynthesis." MARC/HHMI Program, University of Maryland–Baltimore County. Baltimore, MD, March 8, 2006
15) "Biosynthesis of the Lipoyl Cofactor. Understanding Sulfur Insertion into Unactivated Alkanes." Department of Chemistry, Boston University. Boston, MA, March 13, 2006
16) "A New Role for S-adenosylmethionine: The Functionalization of Unactivated Alkanes Catalyzed by the Radical SAM Enzyme Lipoic Acid Synthase." Department of Chemistry, John Carroll University. Cleveland, OH, September 27, 2006
17) "A New Role for S-adenosylmethionine: The Functionalization of Unactivated Alkanes Catalyzed by the Radical SAM Enzyme Lipoic Acid Synthase." Department of Chemistry, Case Western University. Cleveland, OH, September 28, 2006
18) "Biosynthesis of the Lipoyl Cofactor. Understanding Sulfur Insertion into Unactivated Alkanes." Department of Chemistry, Utah State University. Logan, UT, December 6, 2006
19) "Biosynthesis of the Lipoyl Cofactor. Understanding Sulfur Insertion into Unactivated Alkanes." Department of Chemistry, University of California–Davis. Davis, CA. January 25, 2007
20) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Regional meeting of the American Chemical Society, Susquehanna University, Selinsgrove, PA. (Guest Speaker) March 14, 2007
21) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry, Emory University. Atlanta, GA, March 20, 2007
22) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry, University of South Florida. Tampa, FL, March 29, 2007
23) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry, University of Florida. Gainsville, FL, March 30, 2007
24) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry, Portland State University. Portland, OR, April 6, 2007
25) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Chemical Biology Interface Training Program, University of Illinois. Champaigne-Urbana, IL, April 12, 2007
26) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry, University of Texas. Austin, TX, April 27, 2007
27) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Departments of

Chemistry and of Biochemistry and Biophysics, Biocluster Retreat (Guest Speaker), University of Rochester, Rochester, NY, May 23, 2007

28) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry, Georgia Institute of Technology. Atlanta, GA, September 20, 2007
29) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Biochemistry and Molecular Biology, Johns Hopkins Bloomberg School of Public Health. Baltimore, MD, October 8, 2007
30) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry and Biochemistry, Auburn University. Auburn, AL, March 6, 2008
31) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry, Texas A&M University, College Station, TX. April 3, 2008
32) "Self-sacrifice as a Strategy in Enzymatic Catalysis: The Biosynthesis of Lipoic Acid." Department of Bacteriology, University of Wisconsin–Madison. Madison, WI, May 8, 2008
33) "Self-sacrifice as a Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry, University of California–Irvine. Irvine, CA, June 6, 2008
34) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Symposium in honor of Dr. JoAnne Stubbe, Department of Chemistry, Massachusetts Institute of Technology. Cambridge, MA, July 12, 2008.
35) "Taking a Hit for the Team: Self-sacrifice as an Enzymatic Strategy in the Biosynthesis of Lipoic Acid." Department of Chemistry, University of Arkansas. Fayetteville, AR, April 6, 2009.
36) "Novel Radical-dependent Reactions Catalyzed by S-adenosylmethionine-requiring Enzymes." New England Biolabs. Ipswitch, MA, December 11, 2009.
37) "Self-sacrifice as a Catalytic Strategy of Iron–Sulfur Enzymes." Department of Chemistry, University of California–Berkeley. Berkeley, CA, February 2, 2010
38) "Molecular Cannibalism as an Enzymatic Strategy for C–H Bond Activation via Sulfur Insertion: The Biosynthesis of Lipoic Acid." Department of Biological Chemistry, University of Michigan Health System, Ann Arbor, MI September 7, 2010.
39) "Radical-dependent Mechanisms of Post-transcriptional and Post-translational Modification." Department of Chemistry and Biochemistry, Indiana University–Purdue University–Indianapolis, Indianapolis, IN, March 16, 2011.
40) "Return of the Fabulous Five: Five Cysteines Are Involved in a Radical Strategy for Multiple Antibiotic Resistance." Howard Hughes Medical Institute Undergraduate Scholars Program, California State University–Fullerton, Fullerton, CA, May 5, 2011.
41) "A Radical-dependent Strategy for Methylation of rRNA Leading to Antibiotic Resistance." Symposium in honor of Dr. Hung-Wen Liu, 2011 recipient of the Texas A&M Ian Scott Medal. College Station, TX, October 7, 2011
42) "A Radical-dependent Strategy for Methylation of rRNA Leading to Antibiotic Resistance." Department of Chemistry, College of Wooster. Wooster, OH, October 25, 2011
43) "A Radical-dependent Strategy for Methylation of rRNA Leading to Antibacterial Resistance." Department of Molecular Biosciences, Northwestern University. Evanston, IL, January 05, 2012
44) "A Radical-dependent Strategy for Methylation of rRNA Leading to Antibacterial Resistance." Department of Chemistry, Brown University. Providence, RI, February 17, 2012
45) "Enzymatic functionalization of an unactivated sp^3-hybridized carbon center." Chemistry and Biology Interface Training Program, University of Illinois. Urbana–Champaign, IL, February 27, 2012.
46) "A Radical Reaction Leading to Antibiotic Resistance." Department of Chemistry, Xavier University of Louisiana. New Orleans, LA, March 8, 2012.
47) "A Radical Reaction Leading to Antibiotic Resistance." Department of Chemistry, Saint Joseph's University. Philadelphia, PA, March 14, 2012.
48) "A Radical-dependent Strategy for Methylation of rRNA Leading to Antibiotic Resistance." Department of Chemistry and Biochemistry, University of Arizona, Tucson, AZ, April 27, 2012
49) "A Radical-dependent Strategy for Methylation of rRNA Leading to Antibiotic Resistance." Department of Chemistry, Temple University. Philadelphia, PA. September 20, 2012
50) "A Radical Strategy for Antibiotic Resistance: Mechanistic Dissection of a Novel Post-transcriptional Modification of 23S Ribosomal RNA." NOBCChE Invited Lecturer. Department of Chemistry and Biochemistry, University of Maryland, College Park, MD. April 3, 2013
51) "A Radical Strategy for Antibiotic Resistance: Mechanistic Dissection of a Novel Post-transcriptional Modification of 23S Ribosomal RNA." Chemistry Biology Training Program, University of Kansas. Lawrence, KS. May 6, 2013
52) "A Radical Mechanism for Methylation of an Unactivated Carbon Center in 23S rRNA that Leads to Antibiotic Resistance." Student Invited Lecture Series. Department of Chemistry, Princeton University, Princeton, NJ. October 3, 2013.
53) "A Radical Strategy for Antibiotic Resistance." Distinguished Alumni Symposium Honoring Dr. JoAnne Stubbe, University of Pennsylvania, Philadelphia, PA. February 18, 2014.
54) "A Radical Strategy for Antibiotic Resistance: Mechanistic Dissection of a Novel Post-transcriptional Modification of 23S rRNA." Department of Chemistry, Wake Forest University, Winston-Salem, NC. March 5, 2014.
55) "A Radical Reaction Leading to Antibiotic Resistance." Department of Chemistry and Biochemistry, UNC-Greensboro, Greensboro, NC. March 21, 2014.

56) "A Radical Reaction Leading to Antibiotic Resistance." Department of Chemistry, City College of New York, New York, NY March 26, 2014.
57) "A Radical Strategy for Antibiotic Resistance: Mechanistic Dissection of a Novel Post-Transcriptional Modification of 23S rRNA." Department of Chemistry, University of Minnesota, Minneapolis, MN, April 17, 2014.
58) "Methylating the Unmethylatable: Mechanistic Dissection of a Radical-Dependent RNA Methylase." Department of Chemistry, Yale University, New Haven, CT, February 16, 2015.
59) "A Tale of Two Substrates: Characterization of a Dual Specificity RNA Methylase." Department of Chemistry and Chemical Biology, Chemical Biology Training Program, Cornell University, Ithaca, NY, March 3, 2015.
60) "A Tale of Two Substrates: Characterization of a Dual Specificity RNA Methylase." Department of Chemistry and Biochemistry, North Dakota State University, Fargo, ND, April 16, 2015.
61) "Methylating the Unmethylatable." Everson Lectureship. Department of Biochemistry, University of Wisconsin, Madison, WI, May 4, 2015.
62) "A Tale of Two Substrates: Characterization of a Dual Specificity RNA Methylase." University of Texas at Arlington, Arlington, TX. November 13, 2015.
63) "A Radical Approach to Antibiotic Resistance." UMBC MARC U*STAR/HHMI Undergraduate Scholars Program Seminar Series. University of Maryland Baltimore County, Baltimore, MD. November 18, 2015
64) "A Tale of Two Substrates: Characterization of a Dual Specificity RNA Methylase." University of Florida, Gainesville, FL. January 15, 2016.
65) "Characterization of a Dual Specificity RNA Methylase." Virginia Tech University, Blacksburg, VA. May 2, 2016.
66) "A Saga of Death, Destruction, and Rebirth: The Role of Iron-Sulfur Clusters in the Biosynthesis of Lipoic Acid." Harvard University, Cambridge, MA. October 17, 2016
67) "A Radical Strategy for Antibiotic Resistance." Boise State University, Boise, ID. October 26, 2016
68) "A Saga of Death, Destruction, and Rebirth: The Role of Iron-Sulfur Clusters in the Biosynthesis of Lipoic Acid." Johns Hopkins University, Baltimore, MD. November 1, 2016
69) "A Saga of Death, Destruction, and Rebirth: The Role of Iron-Sulfur Clusters in the Biosynthesis of Lipoic Acid." Cal Tech Pasadena, CA. November 4, 2016
70) "A Radical Reaction that Leads to Antibiotic Resistance." California State University-LA, Los Angeles, CA. February 16, 2017.
71) "The Rise and Fall of the Antibiotic Era." Ferguson Lectureship. California State University-LA, Los Angeles, CA. February 17, 2017.
72) "A Conversation about Diversity: Are We Making Real Progress?" Duke Diversity Lecture. Duke University, Department of Biochemistry. March 23, 2017
73) "Radical Strategies for Biological Methylation and their Involvement in Antibiotic Biosynthesis and Antibiotic Resistance." Duke University, Department of Biochemistry, March 24, 2017
74) "A Radical Reaction Leading to Antibiotic Resistance." University of Pennsylvania Chem-Bio Interface Retreat keynote speaker. Villanova University, Villanova, PA. July 6, 2017
75) "A Radical Approach to Antibiotic Resistance." Department of Chemistry, Xavier University of Louisiana, New Orleans, LA. September 21, 2017
76) "A Saga of Death, Destruction, and Rebirth: The Role of Iron-Sulfur Clusters in the Biosynthesis of Lipoic Acid." Frontiers in Chemical Research Lecture Series, Department of Chemistry, Texas A&M University, College Station, TX. January 29, 2018
77) "Moving Beyond Methionine Synthase: New Insights into the Use of Cobalamin for Enzymatic Methylation Reactions." Frontiers in Chemical Research Lecture Series, Department of Chemistry, Texas A&M University, College Station, TX. January 30, 2018
78) "A Radical Approach to Antibiotic Resistance." Frontiers in Chemical Research Lecture Series, Department of Chemistry, Texas A&M University, College Station, TX. January 31, 2018
79) "A Radical S-Adenosylmethionine-Dependent Enzyme that Isn't So Radical." Department of Chemistry, University of California, Berkeley, Berkeley, CA. February 12, 2018
80) "A Radical Approach to Antibiotic Resistance." Department of Chemistry, Carleton College, Northfield, MN. March 2, 2018
81) "A Radical Approach to Antibiotic Resistance." Department of Chemistry, North Carolina State University, Raleigh, NC. March 12, 2018
82) "A Radical Approach to Antibiotic Resistance." Department of Biophysics and Biophysical Chemistry, Johns Hopkins University School of Medicine, Baltimore MD. March 28, 2018
83) "A Radical Approach to Antibiotic Resistance." Department of Biochemistry, Albert Einstein College of Medicine, Bronx, NY. April 17, 2018
84) "Anaerobic Functionalization of Unactivated Carbon Centers." Department of Chemistry and Biochemistry, Notre Dame University, South Bend, IN. October 3, 2018
85) "The Biosynthesis of Lipoic Acid: A Saga of Death, Destruction, and Rebirth." 14th Tri-Institutional Chemical Biology Symposium. The Rockefeller University, New York, New York, September 11, 2018
86) "Moving Beyond Methionine Synthase: New Insights into Cobalamin-Dependent Methylation Reactions." Moses Gomberg Lecture, Department of Chemistry, University of Michigan, Ann Arbor, MI. October 18, 2018

87) "The Biosynthesis of Lipoic Acid: A Saga of Death, Destruction, and Rebirth." Department of Chemistry and Biochemistry, University of Maryland, Baltimore County, Baltimore, MD. February 15, 2019
88) "The Biosynthesis of Lipoic Acid: A Saga of Death, Destruction, and Rebirth." John C. Wriston Memorial Lectureship, Department of Chemistry and Biochemistry, University of Delaware, Newark, DE. March 1, 2019
89) "The Biosynthesis of Lipoic Acid: A Saga of Death, Destruction, and Rebirth." Department of Biochemistry, University of Texas Southwestern Medical School, Dallas, TX. March 6, 2019
90) "Seizing Opportunities: An Unexpected Journey Launched in Southeast Texas." Diversity Lecture, University of Texas Southwestern Medical School, Dallas, TX. March 7, 2019
91) "Moving Beyond Methionine Synthase: New Insights into Cobalamin-Dependent Methylation Reactions." Erying Minor Lectureship, Department of Chemistry and Biochemistry, University of Utah, Salt Lake City, UT. March 19, 2019

OTHER INVITED LECTURES

1) "Preparation of CAREER project summary, narrative, and budget." Quality Education for Minorities Network Workshop for the National Science Foundation's Faculty Early Career Development Program (01/09/04-01/10/04, Washington, D.C.)
2) "Preparation of CAREER project summary, narrative, and budget." Quality Education for Minorities Network Workshop for the National Science Foundation's Faculty Early Career Development Program (03/12/04-03/13/04, Albuquerque, NM)
3) "Opportunities in the Life Sciences." Presentation to the Penn State Biochemistry and Molecular Biology Undergraduate Society. January 25, 2005
4) "Career Opportunities in Science." Presentation to the Penn State Black Graduate Students Association. March 24, 2005
5) "Preparation of NSF CAREER project summary, narrative, and budget." Presentation to the Quality Education for Minorities Network Workshop for the National Science Foundation's Faculty Early Career Development (CAREER) Program, Washington, D.C. February 04, 2005
6) "Preparation of NSF CAREER project summary, narrative, and budget." Presentation to the Quality Education for Minorities Network Workshop for the National Science Foundation's Faculty Early Career Development (CAREER) Program, Las Vegas, NV. March 11, 2005
7) "The Biosynthesis of Lipoic Acid." Talk to the GRE Biochemistry and Molecular Biology Test Preparation Committee. Educational Testing Services. Princeton, NJ. February 27, 2010.
8) "Research in the Booker Lab." Presentation to staff in Department of Chemistry. October 14, 2010
9) Lecture to Millennium Science Students on Undergraduate Research Opportunities (July 15, 2013)
10) Lecture to Millennium Science Students on Introduction to Research (July 1, 2013)
11) "Annotating Radical SAM Enzymes in Gut Microbiota," Talk at the Enzyme Function Initiative General Science Meeting, University of Illinois, Champaign–Urbana (May 20-21, 2014)
12 Lecture to Millennium Science Students on Undergraduate Research Opportunities (July 14, 2014)
13) Lecture to Millennium Science Students on Introduction to Research (July 28, 2014)
14) "Annotating Radical SAM Enzymes in Gut Microbiota," Talk at the Enzyme Function Initiative General Science Meeting, Boston University, Boston, MA (Dec 2-4, 2014)
15) Lecture at Millennium Café, "A Radical Strategy for Antibiotic Resistance" (Dec 1, 2015)
16) Lecture to Millennium Science Students (summer bridge) on Undergraduate Research Opportunities (July 7, 2015)
13) Lecture to Millennium Science Students (summer bridge) on Establishing a Roadmap (July 13, 2015)
14) Lecture to Millennium Science Students (summer bridge) on Establishing a Roadmap (June 27, 2016)
15) "Radical Strategies for Biological Methylation." Presentation to faculty in Department of Chemistry. May 11, 2017
16) "The Importance of Significance and The Most Common Reasons Why People Don't Get Funded. Early Career Investigator Workshop. National Science Foundation Division of Chemistry. Alexandria, VA. March 25, 2018

OTHER PARTICIPATION AT INTERNATIONAL MEETINGS

1) Discussion leader at Gordon Research Conference on "Protein-derived Cofactors, Radicals, and Quinones," (Jan 13-18, 2002, Ventura, CA)
2) Discussion leader at Gordon Research Conference on "Enzymes, Coenzymes, and Metabolic Pathways," (Jul 13-18, 2003, Meriden, NH)
3) Discussion leader at Gordon Research Conference on "Protein Cofactors, Radicals, and Quinones," (Jan 22-27, 2006, Ventura, CA)
5) Discussion leader at Gordon Research Conference on "Protein Cofactors, Radicals, and Quinones," (Jan 20-25, 2008, Ventura, CA)
6) Discussion leader at Gordon Research Conference "Graduate Research Seminar in Bioinorganic Chemistry," (Feb 4–7, 2010, Ventura, CA)
7) Discussion leader at Gordon Research Conference on "Metals in Biology," (Jan 30–Feb 4, 2011, Ventura, CA).
8) Discussion leader at Gordon Research Conference "Graduate Research Seminar in Bioinorganic Chemistry," (Jan 24–27, 2013,

Ventura, CA)
9) Panelist at lecture and event to honor Ada Yonath, Drexel University, Philadelphia, PA. (June 15, 2013)
10) Discussion leader at Penn State Symposium in Molecular Biology "Frontiers in Metallobiochemistry III," (Jun 4–7, 2014, State College, PA)
11) Discussion leader at Gordon Research Conference on "Metallocofactors," (Jun 12-17, 2016, Easton, MA)
12) Discussion leader at Gordon Research Conference on "Enzymes, Coenzymes, & Metabolic Pathways," (Jul 24–29, 2016, Waterville Valley, NH)
13) Panelist at Gordon Research Seminar on "Enzymes, Coenzymes, & Metabolic Pathways," (Jul 23–24, 2016, Waterville Valley, NH)
14) Discussion leader at Penn State Symposium in Molecular Biology "Frontiers in Metallobiochemistry III," (Jun 6–8, 2018, State College, PA)
15) "Writing Proposals, Decoding Reviews, Revising and Resubmitting Proposals." ASBMB Grant Writing Workshop, (June 23, 2018, Georgetown, Washington, D.C)
16) Discussion leader at the 26th Enzymes Mechanisms Conference (January 6–9, 2019, New Orleans, LA)
17) Introduced the Merck Award Winner (Professor Ruma Banerjee) at the annual meeting of the ASBMB, April 9, 2019

SERVICE TO THE PROFESSION

International Meetings Organized

1) Co-organizer (with Marty Bollinger), Summer Symposium in Molecular Biology "Frontiers in Metallobiochemistry." The Pennsylvania State University, University Park, PA. 07/07/06-07/10/06
2) Vice Co-chair (with Nigel Richards), Gordon Conference on Enzymes, Co-enzymes, and Metabolic Pathways. Biddeford, ME. 07/16/06-07/21/06
3) Co-chair (with Nigel Richards), Gordon Conference on Enzymes, Co-enzymes, and Metabolic Pathways. Biddeford, ME. 07/08/07-07/13/07
4) Co-organizer (with Marty Bollinger, Carsten, Krebs and Michael Green), Summer Symposium in Molecular Biology "Frontiers in Metallobiochemistry." The Pennsylvania State University, University Park, PA. 06/02/10-06/05/10
5) Co-organizer (with L. Mario Amzel, Johns Hopkins), ASBMB 2011 Annual Meeting. "Structure, Mechanism, and Regulation in Enzyme Catalysis." Washington D.C. 04/09/11–04/13/11.
6) Co-organizer (with Clifton E. Barry, III, National Institutes of Health), ASBMB 2012 Annual Meeting. "Tuberculosis" San Diego, CA. 04/23/12–04/25/12.
7) Co-organizer (with Carsten Krebs, Marty Bollinger, and Michael Green) 2nd Penn State Bioinorganic Training Workshop. 05/31/12–06/09/12
8) Co-organizer (with Carsten Krebs, Marty Bollinger, Amie Boal, John Golbeck, and Michael Green) 3rd Penn State Bioinorganic Training Workshop. 05/28/14–06/04/14
9) Co-organizer (with Carsten Krebs, Marty Bollinger, Amie Boal, John Golbeck, and Michael Green) Summer Symposium in Molecular Biology "Frontiers in Metallobiochemistry." The Pennsylvania State University, University Park, PA. 06/04/14-06/07/14
10) Co-organizer (with Habibeh Khoshbouei, Univ. of Florida), ASBMB 2014 Annual Meeting. "Science of Addiction" San Diego, CA. 04/26/14–04/30/14.
11) Co-organizer (with Carsten Krebs, Marty Bollinger, Amie Boal, and John Golbeck) 4th Penn State Bioinorganic Training Workshop. 06/02/16–06/10/16
12) Co-organizer (with Carsten Krebs, Marty Bollinger, Amie Boal, John Golbeck, Alexey Silakov, and Joseph Cotruvo) 5th Penn State Bioinorganic Training Workshop. 06/02/18–06/10/18

Committee Service to International Organizations

1) Alternate Councilor, Division of Biological Chemistry, American Chemical Society (2006–2008)
2) Minority Affairs Committee, American Society of Biochemistry and Molecular Biology (ASBMB) (2008–present)
3) Deputy-Chair, Minority Affairs Committee, American Society of Biochemistry and Molecular Biology (ASBMB) (2008-2011)
4) Chair, Minority Affairs Committee, American Society of Biochemistry and Molecular Biology (ASBMB) (2011-2013)
5) Council Member (non-voting), American Society of Biochemistry and Molecular Biology (ASBMB) (2011-2013)
6) Meetings Committee, American Society of Biochemistry and Molecular Biology (ASBMB) (2011-2013)
7) GRE Biochemistry, Cellular and Molecular Biology Subject Test Development Committee (2008–2014)
8) Faculty Writer, Faculty of 1000 Biology (2009–present)
9) Committee on Science, American Chemical Society (2010)

10) Member, Multidisciplinary Program Planning Group (MPPG) of the American Chemical Society (2011-2013)
11) Councilor, American Society of Biochemistry and Molecular Biology (2013-present)
12) Program Planning Committee, American Society of Biochemistry and Molecular Biology (ASBMB) (2015-2016)
13) Meetings Committee, American Society of Biochemistry and Molecular Biology (ASBMB) (2016–2019)
14) Journal of Biological Chemistry Editor Search Committee, American Society of Biochemistry and Molecular Biology (2015–2016)
15) Advisory Committee, American Chemical Society, Division of Biological Chemistry (2016 – present)
16) Steering Committee, American Biomedical Research Conference for Minority Students (2016-present)
17) Finance Committee, American Society of Biochemistry and Molecular Biology (ASBMB) (2017-present)
18)

Review Panels

1) Ad hoc member, NIH Biochemistry Study Section (06/17/04-06/18/04)
2) Ad hoc member, NIH R15 Biochemistry Study Section (03/05/03)
3) Member, National Science Foundation Review Panel–Biological Directorate (2002 – 2008)
4) Ad hoc member, NIH MSFA Study Section (02/07/05-02/08/05)
5) Ad hoc member, NIH Special Emphasis Panel (Postdoctoral Reviews) (07/11/05-07/12/05)
6) Ad hoc member, NIH Special Emphasis Panel (Postdoctoral Reviews) (11/17/05-11/18/05)
7) Ad hoc member, NIH Special Emphasis Panel (Postdoctoral Reviews) (03/09/06-03/10/06)
8) Ad hoc member, Department of Veteran Affairs Cellular and Molecular Medicine Review Panel (11/12/06)
9) Member, NIH MSFA Study Section (07/01/07- 06/31/11)
10) Panelist, National Science Foundation Review Panel–Molecular and Cellular Biochemistry (2013)
11) NIGMS Advisory Council, ad hoc member (January 23-24, 2014)
12) Review Panel, National Science Foundation Molecular and Cellular Biochemistry (2014))
13) Review Panel, National Science Foundation Molecular and Cellular Biochemistry (2015)
14) Review Panel, National Science Foundation Molecular and Cellular Biochemistry (2016)
15) Review Panel, HHMI Hanna H. Gray Fellows Competition (2017)
16) Review Panel, HHMI Professors Competition (2017)
17) Review Panel, HHMI Hanna H. Gray Fellows Competition (2018)
18) Review Panel, HHMI Hanna H. Gray Fellows Competition (2019)

Editorships

1) Guest Co-editor, *Curr. Opin. Chem. Biol.*, issue on mechanistic enzymology (2008–2009)
2) Guest Editor, *Proc. Nat. Acad. Sci. USA*, individual manuscript subscription (2012)
3) Guest Editor, *BBA Proteins and Proteomics*, issue on radical SAM enzymes and carbon-based radical enzymes (2012-2013)
4) Guest Editor, *J. Biol. Chem.*, Minireview series on radical SAM enzymes (2013-2014)
5) Guest Editor, *Proc. Nat. Acad. Sci. USA*, individual manuscript subscription (2015)
6) Guest Editor, *Proc. Nat. Acad. Sci. USA*, individual manuscript subscription (2016)
7) Guest Editor, *Proc. Nat. Acad. Sci. USA*, individual manuscript subscription (2017)
8) Guest Editor, *Proc. Nat. Acad. Sci. USA*, individual manuscript subscription (2018)
9) Guest Editor, *Proc. Nat. Acad. Sci. USA*, individual manuscript subscription (2019)
10) Associate Editor, *Biochemistry*, 2019-present

Other service to the profession

1) Mentor at Annual Mentoring Workshop for New Faculty in Organic and Biological Chemistry, sponsored by NIGMS (06/25/12-06/27/12)
2) Organizer and mentor, American Society of Biochemistry and Molecular Biology Grant Writing Workshop. Arlington, VA. 06/27/13–06/29/13
3) Co-organizer and mentor, American Society of Biochemistry and Molecular Biology Grant Writing Workshop. Washington, D.C., 06/12/14–06/14/14
4) Mentor at Annual Mentoring Workshop for New Faculty in Organic and Biological Chemistry, sponsored by NIGMS (08/05/14-08/07/14)
5) Co-organizer and mentor, American Society of Biochemistry and Molecular Biology Grant Writing Workshop. Chevy Chase, MD, 06/04/15–06/06/15
6) Co-organizer and mentor, American Society of Biochemistry and Molecular Biology Grant Writing Workshop. Georgetown, Washington, DC, 07/14/16–07/16/16

7) Co-organizer and mentor, American Society of Biochemistry and Molecular Biology Grant Writing Workshop. Georgetown, Washington, DC, 06/22/17–06/24/17
8) Co-organizer and mentor, American Society of Biochemistry and Molecular Biology Grant Writing Workshop. Georgetown, Washington, DC, 06/14/18–06/16/18
9) Co-organizer and mentor, American Society of Biochemistry and Molecular Biology Grant Writing Workshop. Georgetown, Washington, DC, 06/13/19–06/15/19

SERVICE TO PENN STATE UNIVERSITY

1) Co-organizer (with Marty Bollinger) of Super Friday Forum sponsored by LSC (Chemical Biology Option), Center for Biomolecular Structure and Function, and NSF-Research Training Grant. "Kinetics and Mechanism in Biological Pathways" (2001)
2) Organizer of Super Friday Forum sponsored by LSC (Chemical Biology Option), Center for Biomolecular Structure and Function, and NSF-Research Training Grant. "Structure and Mechanism in Biological Pathways" (2002)
3) BMMB Candidacy Committee (2001-2005)
4) X-ray crystallography faculty search committee (2000-2001)
5) Faculty search committee for spectroscopist. Dept. of Biochemistry and Molecular Biology (2000-2001)
6) Faculty search committee for plant biochemist. Dept. of Biochemistry and Molecular Biology (2005-2006)
7) Faculty search committee for Department Head. Dept. of Biochemistry and Molecular Biology (2006-2007)
8) Co-chair (with Joseph Reese), Graduate Admissions Committee. Department of Biochemistry and Molecular Biology (2006)
9) Member, Faculty Senate (2006-2009), Committee on Outreach
10) Chair, Graduate Admissions Committee, Department of Biochemistry and Molecular biology (2007)
11) Chair, Committee on Honors and Awards (2007-2008)
12) Member, Faculty Senate (2007-2008), Committee on Faculty Benefits. Head of Sub-committee on Faculty Salaries
13) Selection committee for Paul Berg Prize in Molecular Biology (2007)
14) Graduate Admissions Committee, Dept. of Chemistry (2007-2010)
15) Member, BMMB Candidacy Committee (2008-present)
16) Faculty Search Committee (NMR Spectroscopist), Dept. of Chemistry (2007-2008)
17) Member, Climate Committee, Dept. of Chemistry (2008-2009)
18) Member, Faculty Senate (2008-2010), Committee on Intercollegiate Athletics
19) Member, Awards Committee (2008-2009), Dept. of Biochemistry and Molecular Biology
20) Member, Colloquium Committee (2009–2012), Dept. of Chemistry
21) Member, Committee on Graduate Research of the Graduate Council (2009–2010)
22) Member, Committee on Fellowships and Awards of the Graduate Council (2010–2015)
23) Member, Search Committee (ENDOR Spectroscopist), Dept. of Biochemistry and Molecular Biology (2010-2011)
24) Member, Search Committee (Structural Biologist), Dept of Chemistry and Department of Biochemistry and Molecular Biology (2011–2012)
25) Research Experience for Undergraduates (REU) selection committee, Dept of Chemistry (2011–present)
26) Member, Faculty Search Committee, Department of Chemistry (2012–2013)
27) Member, Interview Committee for Millennium Scholars (2013–2015)
28) Member, AD14 Committee to Review Dean Larson (2014)
29) Faculty representative, Penn State New Student Convocation (2014-2015)
30) Member, Faculty Search Committee, Department of Chemistry (2016-2017)
31) Member, Search Committee, Assistant Dean for Diversity in the Eberly College of Science (2016-2017)
32) Member, Search Committee, Huck Life Sciences Resistance Cluster (2017-2018)
33) Member, Search Committee, Vice President for Research (2018-2019)
34) Member, Faculty Search Committee, Department of Chemistry (2018-2019)
35) PI and co-organizer, Research Experiences for Undergraduates Summer Research Program, Department of Chemistry (2016-present)