PROF. JULIA BRUMAGHIM

PERSONAL DATA

Professor, Department of Chemistry
Clemson University
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EDUCATION

Ph.D., Chemistry, University of Illinois at Urbana-Champaign, 1999
Advisor: Prof. Gregory S. Girolami

A.B., Chemistry, Harvard University, 1994

PROFESSIONAL EXPERIENCE

Professor of Chemistry, Clemson University (2015-present)

Associate Professor of Chemistry, Clemson University (2009-2015)

Assistant Professor of Chemistry, Clemson University (2003-2009)

Postdoctoral Researcher, University of California at Berkeley, Cellular and Molecular Biology Department (2001-2003); advisor: Prof. Stuart Linn

NIH Postdoctoral Fellow, University of California at Berkeley, Chemistry Department (1999-2001); advisor: Prof. Kenneth N. Raymond.

HONORS AND AWARDS

- Rising Star Award from the Women Chemists Committee of the American Chemical Society to recognize "exceptional early to mid-career women chemists across all areas of chemistry on a national level"; $1000 award (2014).
- Award for the Best Paper from A Young Investigator from the *Journal of Inorganic Biochemistry* and Elsevier Publishers; $1000 award (2008).
- CAREER Award from the National Science Foundation (2006-2012).
- ACS PROGRESS/Dreyfus Lectureship Award from the American Chemical Society and the Camille and Henry Dreyfus Foundation (2004-2005).

CONSULTING EXPERIENCE

Bio-Rad Laboratories, Inc., Hercules, CA (2018-2019); consulted on DNA-based assay technology.

Eastman Chemical Company, Kingsport, TN (2018-2019); consulted on EPR spectroscopic measurements of polymerization reactions.

PROFESSIONAL AND OUTREACH ACTIVITIES

- Selected as a participant in the Trailblazers: Provost's Mentoring Initiative for Faculty, a year-long program sponsored as part of Clemson's NSF ADVANCE grant that provides mentoring and leadership training focused on the unique challenges of women leadership in the STEM disciplines (2018-2019).

- Co-organized (with Reza Ghiladi at North Carolina State University) a symposium titled "From Small Molecules to Macromolecules: Bioinorganic Chemistry in the Southeast" for the 69th Southeast Regional Meeting of the American Chemical Society (October 2017).
- Selected as a member of the Clemson University President's Leadership Institute, a year-long program that provided education and training to hone and develop skills for leadership success (Aug 2017-May 2018).
- Developed an experiment to extract DNA and examine DNA damage with and without treatment with tea antioxidants for middle and high school teachers and presented it at a professional development workshop at Furman University (Summers 2014, 2015, 2017) and to middle and high school students in Clemson Summer Scholars camp (Summer 2018, 2019).
- As part of an international collaborative research project with Prof. Norah Barba-Behrens (National University of Mexico in Mexico City; UNAM), hosted a graduate student from UNAM in the Brumaghim group (June-July 2014). This collaboration was supported by a National Science Foundation Supplement for International Collaborations grant and enabled a Brumaghim group graduate student to conduct research at UNAM (July 2015).
- Invited speaker for a seminar titled "You Are What You Eat: How Antioxidants Prevent Oxidative DNA Damage" for Science on Tap science outreach program sponsored by Clemson University (20 April 2015).
- Organized a two-day symposium with collaborator Prof. Craig Bayse at Old Dominion University on "Biochalcogen Chemistry: The Biological Chemistry of Sulfur, Selenium, and Tellurium" at the 244th National Meeting of the American Chemical Society, Philadelphia, PA (August 2012); co-editor of an ACS Symposium Series book based upon this symposium (December 2013).
- National Institutes of Health National Center for Complementary and Alternative Medicine (NCCAM) review panelist (2008 and 2009) and National Institute of Environmental Health Sciences review panelist (2015).
- National Science Foundation Major Research Instrumentation review panelist (2008 and 2011); Chemistry of Life Processes panelist (2009, 2013, 2019); Chemistry Synthesis panelist (2013 and 2020).
- As an official Tour Speaker for the American Chemical Society, presented 9 seminars to general and chemistry-related audiences in AK, TX, KS, OK, and SC (2010-2016).
- Guest expert on antioxidants for SC public radio program "Your Day," (28 April 2009).
- International reviewer for the National Academy of Finland; CDRF Global (for the Science and Technology Center in Kiev, Ukraine), Research Grants Council of Hong Kong, Czech Science Foundation, and the Natural Sciences and Engineering Research Council of Canada (2007-present).
- Proposal reviewer for the National Science Foundation, Alzheimer's Association, National Aeronautics and Space Administration, and the American Heart Association (2004-present).
- Elected treasurer for the Western Carolinas local section of the American Chemical Society (2006-present); treasurer and symposium co-chair for the Southeast Regional Meeting of

the American Chemical Society (October 2007).

- Peer reviewer for the journals *Journal of the American Chemical Society*, *Inorganic Chemistry*, *Chemical Reviews*, *Journal of Inorganic Biochemistry, Free Radical Biology and Medicine*, among others; ~80 manuscripts total (2004-present).

MEMBERSHIPS

Member, American Chemical Society (1994-).

Member, Society for Free Radical Biology and Medicine (2003-).

Member, Phi Lambda Upsilon National Chemistry Honor Society (1995-).

PUBLICATIONS

Refereed Journal Publications (*indicates undergraduate or high school author)

59. Murphy, J., Gaertner, A. A. E.; Owen, A. M.*; Studer, S.*; McMillen, C. D.; Brumaghim, J. L. "Coordination Complexes of Methimazole with Copper: Controlling Redox Reactions and Sulfur Extrusion," *Inorg. Chim. Acta* **2020**, *507*, 119568 (DOI: 10.1016/j.ica.2020.119568; invited for a special issue).

58. Murphy, J. M.; Powell, B. A.; Brumaghim, J. L. "Stability Constants of Bio-Relevant, Redox-Active Metals with Amino Acids: The Challenges of Weakly Binding Ligands," *Coord. Chem. Rev.* **2020**, *412*, 213253 (DOI: 10.1016/j.ccr.2020.213253).

57. Stadelman, B. S.; Murphy, J. M.; Owen, A. M.*; Castro-Ramírez, R.; Smith, H.C.*; Cohen, C. A.*; Zhang, L. X.; Bayse, C. A.; McMillen, C. D.; Barba-Behrens, N.; Brumaghim, J. L. "Zinc(II) Thione and Selone Complexes: The Effect of Metal Redox Activity on Ligand Oxidation," *Inorg. Chim. Acta* **2020**, *502*, 119379 (DOI: 10.1016/j.ica.2019.119379; invited for a special issue).

56. Murphy, J. M.; Gaertner, A. A. E.; Williams, T.; McMillen, C. D.; Powell, B. A.; Brumaghim, J. L. "Stability Constant Determination of Sulfur and Selenium Amino Acids with Cu(II) and Fe(II)," *J. Inorg. Biochem*. **2019**, *195*, 20-30.

55. Peng, C. A.: Gaertner, A. A. E.; Henriquez, S. A.; Fang, D.; Brumaghim, J. L.; Kozubowski, L. "Fluconazole Resistance in *Cryptococcus neoformans* Involves Metallothionein-Independent Protection Against Fluconazole-Induced Oxidative Stress," *PLoS One* **2018**, 13, e0208471.

54. Patel, U.; Abbas, M. A.; McMillen, C. D.; Brumaghim, J. L. "Selective Cation and Anion Guest Binding in Host Selenazamacrocycles," *Dalton Trans.* **2018**, *47*, 12066-12070.

53. Castro-Ramírez, R.; Ortiz-Pastrana, N.; Caballero, A. B.; Zimmerman, M. T.; Stadelman, B. S.; Gaertner, A. A. E.; Brumaghim, J. L.; Korrodi-Gregório, L.; Pérez-Tomás, R.; Gamez, P.; Barba-Behrens, N. "DNA Interactions of Non-Chelating Tinidazole-Based Coordination Compounds and Their Structural, Redox and Cytotoxic Properties," *Dalton Trans.* **2018**, *47*, 7551-7560.

52. Abbas, M. A.; McMillen, C. D.; Brumaghim, J. L. "Synthesis, Characterization, and Structures of Ruthenium(II) Complexes with Multiple Solvato Ligands," *Inorg. Chim. Acta* **2017**, *468*, 308-315.

51. Angelé-Martínez, C.; Nguyen, K. V. T.; Ameer, F. S.; Anker, J. N.; Brumaghim, J. L. "Reactive Oxygen Species Generation by Copper(II) Oxide Nanoparticles Determined by DNA Damage Assays and EPR Spectroscopy," *Nanotoxicology* **2017**, *11*, 278-288.

50. Summers, J. S.; Hickman, B; Arrington, M. E.; Stadelman, B. S.; Brumaghim, J. L.; Yost, M. R.; Schmitt, J. D.; Hornby, M.; Sprague, S. "Reaction of Oxidized CuZnSOD with Polyphenols," *Natural Sci.* **2016**, 8, 359-379.

49. Stadelman, B.S; Kimani, M. M.; Bayse, C. A.; McMillen, C. D.; Brumaghim, J. L. "Synthesis, Characterization, DFT Calculations, and Electrochemical Comparison of Novel Iron(II) Complexes with Thione and Selone Ligands," *Dalton Trans.* **2016**, *45*, 4697-4711.

48. McCoy, C. R.; Stadelman, B. S.; Brumaghim, J. L.; Liu, J.-T.; Bain, L. J. "Arsenic and Its Methylated Metabolites Inhibit the Differentiation of Neural Plate Border Specifier Cells," *Chem. Res. Toxicol.* **2015**, *28*, 1409-1421.

47. Kimani, M. M.; Watts, D.; Graham, L. A.; Rabinovich, D.; Yap, G. P. A.; Brumaghim, J. L. "Dinuclear Copper(I) Complexes with *N*-heterocyclic Thione and Selone Ligands: Synthesis, Characterization, and Electrochemical Studies," *Dalton Trans.* **2015**, *44*, 16313-16324.

46. Zimmerman, M. T.; Bayse, C. A.; Ramoutar, R. R.; Brumaghim, J. L. "Sulfur and Selenium Antioxidants: Challenging Radical Scavenging Mechanisms and Developing Structure-Activity Relationships Based on Metal Binding," *J. Inorg. Biochem.* **2015**, *145*, 30-40 (invited review).

45. Betanzos-Lara, S.; Chmel, N. P.; Zimmerman, M. T.; Barrón-Sosa, L. R.; Garino, C; Salassa, L; Rodger, A.; Brumaghim, J. L.; Gracia-Mora, I.; Barba-Behrens, N. "Redox-Active and DNA-Binding Coordination Complexes of Clotrimazole," *Dalton Trans.* **2015**, *44*, 3673-3675 (invited paper for a special issue on metal complex binding to nucleic acids).

44. Angelé-Martínez, C.; Goodman, C.; Brumaghim, J. L. "Metal-Mediated DNA Damage and Cell Death: Mechanisms, Detection Methods, and Cellular Consequences," *Metallomics* **2014**, *6,* 1358-1381 (invited review).

43. Gross, C. L.; Brumaghim, J. L.; Jefferis, J. M. Dickinson, P. W.; Girolami, G. S.; Gribble, C. W.; Tilley, T. D. "Mono(η^5-Pentamethylcyclopentadienyl) Complexes of Osmium," *Inorg. Synth.* **2014**, *36*, 74-78 (DOI: 10.1002/9781118744994.ch15).

42. Kimani, M. M.; Bayse, C. A.; Stadelman, B. S.; Brumaghim, J. L. "Oxidation of Biologically Relevant Chalcogenones and Their Cu(I) Complexes: Insights into Selenium and Sulfur Antioxidant Activity," *Inorg. Chem.* **2013**, *52*, 11685-11687.

41. Stadelman, B. S.; Brumaghim, J. L. "Thione- and Selone-Containing Compounds, Their Late First Row Transition Metal Coordination Chemistry, and Their Biological Potential," In *Biochalcogen Chemistry: The Biological Chemistry of Sulfur, Selenium, and Tellurium*; Bayse, C. A.; Brumaghim, J. L. Eds.; ACS Symposium Series; American Chemical Society: Washington, DC, 2013, pp. 33-70 (DOI: http://dx.doi.org/10.1021/ic401366c).

40. Underwood, C. C.; Stadelman, B. S.; Sleeper, M. L.*; Brumaghim, J. L. "Synthesis and Electrochemical Characterization of $[Ru(NCCH_3)_6]^{2+}$, Tris(pyrazolyl)borate, and Tris(acetonitrile) Tris(pyrazolyl)methane Ruthenium(II) Complexes," *Inorg. Chim. Acta*

2013, *405*, 470-476.

39. García, C. R.; Angelé-Martínez, C.; Wilkes, J. A.*; Wang, H. C.; Battin E. E.; Brumaghim, J. L. "Prevention of Iron- and Copper-Mediated DNA Damage by Catecholamine and Amino Acid Neurotransmitters, L-DOPA, and Curcumin: Metal Binding as a General Antioxidant Mechanism," *Dalton Trans.* **2012**, *41*, 6458-6467.

38. Kimani, M. M.; Wang, H. C.; Brumaghim, J. L. "Investigating the Coordination, Electrochemistry, and Cu(II) Reduction Kinetics of Biologically Relevant Selone and Thione Compounds," *Dalton Trans.* **2012**, *41*, 5248-5259.

37. Wang, H. C.; Brumaghim, J. L. "Polyphenol Compounds as Antioxidants for Disease Prevention: Reactive Oxygen Species Scavenging, Enzyme Regulation, and Metal Chelation Mechanisms in *E. coli* and Human Cells," In *Oxidative Stress: Diagnostics, Prevention, and Therapy*; Andreescu, S.; Hepel, M., eds.; ACS Symposium Series; American Chemical Society: Washington, DC, 2011, pp. 99-175 (DOI: 10.1021/bk-2011-1083.ch005).

36. Wang, H. C.; Riahi, M.*; Pothen, J.; Bayse, C. A.; Riggs-Gelasco, P.; Brumaghim, J. L., "Interactions of Cu(I) with Selenium-Containing Amino Acids Determined by NMR, XAS, and DFT Studies," *Inorg. Chem.* **2011**, *50*, 10893-10900.

35. Quarles, C. D.; Marcus, R. K.; Brumaghim, J. L. "Metal Retention in Human Transferrin: Consequences of Solvent Composition in Analytical Sample Preparation Methods," *Metallomics* **2011**, *3*, 1027-1034.

34. Verdan, A. M.; García, C. R.; Wang, H. C.; Henry, W. P.; Brumaghim, J. L. "Fe(II) Binding of 3-Hydroxychromone, 5-Hydroxychromone, and Sulfonated Morin: Implications for the Antioxidant Activity of Flavonols with Competing Metal Binding Sites," *J. Inorg. Biochem*. **2011**, *105*, 1314-1322.

33. Quarles, C. D.; Marcus, R. K.; Brumaghim, J. L. "Competitive Binding of Fe^{3+}, Cr^{3+}, and Ni^{2+} to Transferrin," *J. Biol. Inorg. Chem.* **2011**, *16*, 913-921.

32. Kimani, M. M.; VanDerveer, D.; Brumaghim, J. L. "The Diselanylbis(1,3-dimethyl-1*H*-imidazol-3-ium) Dication Stabilized by the Polymeric *catena*-Pentachloridotricuprate(I) Anion," *Acta Crystallogr.* **2011**, *C67*, m208-m210.

31. Grimland, J.; Wu, C.; Ramoutar, R. R.; Brumaghim, J. L.; McNeill, J. "Photosensitizer-doped Conjugated Polymer Nanoparticles with High Cross-sections for One- and Two-Photon Excitation," *Nanoscale*, **2011**, *3*, 1451-1455.

30. Kimani, M. M.; Bayse, C. A.; Brumaghim, J. L. "Synthesis, Characterization, and DFT Studies of Thione and Selone Cu(I) Complexes with Variable Coordination Geometries," *Dalton Trans*. **2011**, *40*, 3711-3723.

29. Perron, N. P.; García, C. R.; Pinzón, J. R.; Chaur, M. N.; Brumaghim, J. L. "Antioxidant and Prooxidant Effects of Polyphenol Compounds on Copper-Mediated DNA Damage," *J. Inorg. Biochem*. **2011**, *105*, 735-743.

28. Battin, E. E.; Zimmerman, M. T.; Ramoutar, R. R.; Quarles, C. E.; Brumaghim, J. L. "Preventing Metal-Mediated Oxidative DNA Damage with Selenium Compounds," *Metallomics* **2011**, *3*, 503-512.

27. Quarles, C. D.; Brumaghim, J. L; Marcus, R. K. "Instrumental Comparison of the Determination of Cr^{3+} Uptake by Human Transferrin," *Metallomics* **2010**, *2*, 792-799 (cover article).

26. Perron, N. R.; Wang, H. C.; DeGuire, S. N.*; Jenkins, M.*; Lawson, M.*; Brumaghim, J. L. "Kinetics of Iron Oxidation upon Polyphenol Binding," *Dalton Trans.* **2010**, *39*, 9982-9987.

25. Kimani, M. M.; Brumaghim, J. L.; VanDerveer, D. "Probing the Antioxidant Action of Selenium and Sulfur Using Cu(I)-Chalcogenone Tris(pyrazolyl)methane and -borate Complexes," *Inorg. Chem.* **2010**, *49*, 9200-9211.

24. Ramoutar, R. R.; Brumaghim, J. L. "A Review of the Antioxidant and Anticancer Properties and Mechanisms of Inorganic Selenium, Oxo-Sulfur, and Oxo-Selenium Compounds," *Cell Biochem. Biophys.* **2010**, *58*, 1-23

23. Quarles, C. D., Jr.; Brumaghim, J. L.; Marcus, R. K. "Simultaneous Multiple Element Detection by Particle Beam/Hollow Cathode-Optical Emission Spectroscopy as a Tool for Metallomic Studies: Determinations of Metal Binding with Apo-Transferrin," *Metallomics* **2010**, *2*, 154-161.

22. Battin, E. E.; Brumaghim, J. L. "Antioxidant Activity of Sulfur and Selenium: A Review of Reactive Oxygen Species Scavenging, Glutathione Peroxidase, and Metal Binding Antioxidant Mechanisms," *Cell Biochem. Biophys.* **2009***, 55,* 1-23 (invited review).

21. Battin, E. E.; Lawhon, A.*; Hamilton, D. H.; Brumaghim, J. L. "Using Proteins in a Bioinorganic Laboratory Experiment: Iron Loading and Removal from Transferrin," *J. Chem. Ed.* **2009**, *86*, 969-972.

20. Perron, N. R.; Brumaghim, J. L. "A Review of the Iron-Binding Mechanism for Polyphenol Antioxidant Activity," *Cell Biochem. Biophys.* **2009**, *53*, 75-100 (invited review).

19. Battin, E. E.; Brumaghim, J. L. "Metal Specificity in DNA Damage Prevention by Sulfur Antioxidants," *J. Inorg. Biochem.* **2008**, *102*, 2036-2042 (awarded Best Paper by a Young Investigator).

18. Perron, N. R.; Hodges, J. N.*; Jenkins, M.*; Brumaghim, J. L. "Predicting How Polyphenol Antioxidants Prevent DNA Damage by Binding to Iron," *Inorg. Chem.* **2008**, *47*, 6153-6161.

17. Ramoutar, R. R.; Brumaghim, J. L. "Investigating the Antioxidant Properties of Oxo-Sulfur Compounds on Metal-Mediated DNA Damage," *Main Group Chem.* **2007**, *101*, 1028-1035.

16. Ramoutar, R. R.; Brumaghim, J. L. "Effects of Inorganic Selenium Compounds on Oxidative DNA Damage," *J. Inorg. Biochem.* **2007**, *101*, 1028-1035.

15. Gross, C. L.; Brumaghim, J. L.; Girolami, G. S. "Synthesis and Reactivity of the Osmium(III) Pentamethylcyclopentadienyl Complex $(C_5Me_5)_2Os_2Br_4$. X-ray Crystal Structures of $(C_5Me_5)_2Os_2Br_4$, $(C_5Me_5)_2Os_2(\mu\text{-}O)Br_4$, and $(C_5Me_5)_2Os_2(\mu\text{-}NPh)_2Br_2$," *Organometallics* **2007**, *26*, 2258-2265.

14. Sathyamurthy, R.; Brumaghim, J. L. "Structure of 'Bis(methoxymagnesium)diselenide': A Reagent for the Introduction of Selenium into Organic Molecules," *J. Chem. Cryst.* **2007**, *37*, 109-117.

13. Brumaghim, J. L. Gross, C. L., Girolami, G. S. "Synthesis, Characterization, and Crystal Structures of the Osmium Triflate Complexes Cp*Os(P–P)(OTf) and [Cp*Os(P-P)(OH_2)]-[OTf]," *J. Organomet. Chem.* **2006**, *691*, 3874-3880.

12. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "The Central Role of Metal Ion Coordination in Selenium Antioxidant Activity," *Inorg. Chem*. **2006**, *45*, 499-501.

11. Brumaghim, J. L.; Michels, M.; Pagliero, D.; Raymond K. N. "Encapsulation and Stabilization of Reactive Aromatic Guests Inside Supramolecular Hosts," *Eur. J. Org. Chem.* **2004**, 5115-5118.

10. Brumaghim, J. L.; Michels, M.; Raymond K. N. "Hydrophobic Chemistry in Aqueous Solution: Stabilization and Stereoselective Encapsulation of Phosphonium Guests in a Supramolecular Host," *Eur. J. Org. Chem.* **2004**, 4552-4559.

9. Fiedler, D.; Pagliero, D.; Brumaghim, J. L.; Bergman, R. G.; Raymond, K. N. "Encapsulation of Cationic Ruthenium Complexes into a Chiral Self-Assembled Cage," *Inorg. Chem.* **2004**, *43*, 846-848.

8. Brumaghim, J. L.; Li, Y.; Henle, E.; Linn, S. "Effects of Hydrogen Peroxide upon Nicotinamide Nucleotide Metabolism in *Escherichia coli*: Changes in Enzyme Levels and Nicotinamide Nucleotide Pools and Studies of the Oxidation of NAD(P)H by Fe(III)," *J. Biol. Chem.* **2003**, *278*, 42495-42504.

7. Brumaghim, J. L.; Raymond, K. N. "What Should Be Impossible: Resolution of the Mononuclear Gallium Coordination Complex, Tris(benzohydroxamato)gallium(III)," *J. Am. Chem. Soc.* **2003**, *125*, 12066-12067.

6. Ziegler, M.; Brumaghim, J. L.; Raymond, K. N. "Stabilization of a Reactive Cationic Species by Supramolecular Encapsulation," *Angew. Chem. Int. Ed. Engl.* **2000***, 39,* 4119-4121.

5. Brumaghim, J. L.; Girolami, G. S. "An Unusual Norbornadiene Coupling Product. Synthesis, Characterization, and Structure of the Ruthenocene (C_5Me_5)Ru(η^5-$C_5H_4C_9H_{11}$)," *J. Organomet. Chem.* **1999**, *586*, 258-262.

4. Mui, H. D.; Brumaghim, J. L.; Gross, C. L.; Girolami, G. S. "Synthesis of Hydride and Alkyl Compounds Containing the Cp*Os(η^3-allyl) Fragment. Crystal Structures of Cp*Os(η^3-C_8H_{13})Br_2 and [Cp*Os(η^3-C_4H_7)Me(OH_2)][BF_4]," *Organometallics* **1999**, *18*, 3264-3272.

3. Brumaghim, J. L.; Girolami, G. S. "Synthesis and Reactivity of the Osmium Methylidene Complex [(C_5Me_5)Os(dppm)(=CH_2)][OTf]," *Chem. Commun.* **1999**, 953-954.

2. Brumaghim, J. L.; Priepot, J.* G.; Girolami, G. S. "Synthesis of Hydride and Alkyl Compounds Containing the Cp*Os(NO) Fragment. Crystal Structure of [Cp*Os(μ-NO)]$_2$," *Organometallics* **1999**, *18*, 2139-2144.

1. Brumaghim, J. L.; Girolami, G. S. "Ring-Opening Metathesis Polymerization of Norbornene by $Cp^*_2Os_2Br_4$ and Related Compounds," *Organometallics* **1999**, *18*, 1923-1929.

Books and monographs

1. *Biochalcogen Chemistry: The Biological Chemistry of Sulfur, Selenium, and Tellurium*; Bayse, C. A.; Brumaghim, J. L. Eds.; ACS Symposium Series; American Chemical Society: Washington, DC, 2013 (DOI: http://dx.doi.org/10.1021/ic401366c).

Other scholarly publications

2. Brumaghim, J. L. "The Role of Metal Ions in DNA Damage," In *McGraw-Hill Yearbook of Science and Technology*, McGraw-Hill Companies, Inc.: New York, 2010, pp 383-385.

1. Girolami, G. S.; Brumaghim, J. L.; Priepot, J. G.*; Goveia, J. P. "A Guide to Using the SHELXTL Crystallographic Software Package," 2004, available at http://chemistry.illinois.edu/about/facilities/x-ray/software/xshellguide.pdf

PRESENTATIONS

Invited Presentations

14. Murphy, J. M.; Brumaghim, J. L. "Biological implications of amino acid coordination to Cu(II) and Fe(II)," 71st Southeastern Regional Meeting of the American Chemical Society, Savannah, GA (October 2019).
13. Brumaghim, J. L. "Strategies for Dealing with Gender Bias in STEM Fields," 71st Southeastern Regional Meeting of the American Chemical Society, Savannah, GA (October 2019).
12. Goodman, Steve; Zimmerman, Matthew T.; Brumaghim, Julia L. "Ergothioneine and Related Antioxidants Prevent Metal-mediated Oxidative Stress in Vitro and in *E. coli*," 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, SC (November 2017).
11. Brumaghim, J. L. "Beyond ORAC: Dietary Polyphenolics as Metal-Binding Antioxidants and Food Preservatives," 249th American Chemical Society National Meeting, Denver, CO (March 2015).
10. Brumaghim, J. L. "Metals matter: Antioxidant Prevention of DNA Damage and Cell Death," 247th American Chemical Society National Meeting, Dallas TX (March 2014; Rising Star Awards Symposium).
9. Zimmerman, M. T.; Stadelman, B.S.; Kimani, M. M.; Brumaghim, J. L. "Comparing Sulfur and Selenium Coordination Chemistry and Antioxidant Activity," 244th American Chemical Society National Meeting, Philadelphia, PA (August 2012).
8. Zimmerman, M. T.; Stadelman, B.S.; Kimani, M. M.; Brumaghim, J. L. "DNA Damage Prevention by Multifunctional Selenium Antioxidants," Metals in Biology Gordon Conference, Ventura, CA (January 2012).
7. Kimani, M. M.; Underwood, C. C.; Brumaghim, J. L. "Coordination Chemistry Insights into the Mechanisms of Sulfur and Selenium Antioxidants," 238th American Chemical Society National Meeting, Washington, DC (August 2009).

6. Kimani, M. M.; Battin, E. E.; Brumaghim, J. L. "Exploring Selenium Antioxidant Activity Mechanisms through Synthesis of Model Metal Complexes," Inorganic Chemistry Gordon Conference, Biddeford, ME (June 2009).
5. Perron, N. R.; Brumaghim, J. L. "Another Biological Role for Polyphenols: Antioxidant Activity and Metal Coordination," 235th ACS National Meeting, New Orleans, LA (April 2008).
4. Battin, E. E.; Brumaghim, J. L. "Sulfur Antioxidant Activity and Its Implications in Metal-Mediated DNA Damage," 59th Southeast Regional Meeting of the American Chemical Society, Greenville, SC (October 2007).
3. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Metal Specificity in DNA Damage Prevention by Polyphenol and Selenium Antioxidants," 59th Southeast Regional Meeting of the American Chemical Society, Greenville, SC (October 2007).\
2. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Utopia, Dystopia, and Fruitopia: The Good and the Bad in Sulfur, Selenium, and Fruit Polyphenolic Antioxidants," DNA Damage and Repair Symposium, University of California at Berkeley, Berkeley, CA (10 March 2007).
1. Brumaghim, J.; Sathyamurthy, R. "Modeling without Structure: Taking Bioinorganic Chemistry out of Its Comfort Zone," 58th Southeast Regional Meeting of the American Chemical Society, Augusta, GA (November 2006).

Scientific Conferences (*indicates undergraduate or high school author)

80. Wackerle, B.; Agejo, M. N.*; Brumaghim, J. L.; Wetzler, M. "Enterobactin Derivatives Incorporating a Cyclic β-Peptoid Backbone for Iron Recognition and Bacterial Uptake," 259th National Meeting of the American Chemical Society, Philadelphia, PA, (March 2020; meeting cancelled due to COVID-19 pandemic).
79. Gaertner, A. A. E.; Brumaghim, J. L. "A method to assess metal-mediated DNA damage prevention by hydrophobic compounds," Metals in Biology Gordon Conference, Ventura, CA (January 2020).
78. Kurfman, L.*; Adrian, A.*; Kurfman, E. A.*; Ward, B.*; Brumaghim, J. L.; Wheeler, S. K.; Wheeler, J. F. "Electrophoretic Investigation of the Inhibition of ROS-induced DNA Damage Using *N*,*N*'-Dimethylimidazole Selone," 71st Southeastern Regional Meeting of the American Chemical Society, Savannah, GA (October 2019).
77. Adrian, A.*; Ward, B.*; Kurfman, E. A.*; Wheeler, S. K.; Wheeler, J. F.; Kurfman, L.*; Brumaghim, J. L. "Investigating Sulfur and Selenium Antioxidants and the Role Plasmid DNA Conformation Has on Data Collection Using PCR, CGE, and Gel Electrophoresis," 71st Southeastern Regional Meeting of the American Chemical Society, Savannah, GA (October 2019).
76. Ward, B.*; Adrian, A.*; Kurfman, L.*; Edmunds, C.*; Brumaghim, J. L.; Wheeler, S. K.; Wheeler, J. F. "Investigating Antioxidant Activity of Sulfur and Selenium-containing Complexes," 71st Southeastern Regional Meeting of the American Chemical Society, Savannah, GA (October 2019).
75. Brumaghim, J. L. "Two Sides of the Same Coin: Metal-Binding Thiones as Antioxidants and in Ligands for *f*-Element Separations," Northeast Regional Meeting of the American Chemical Society, Saratoga Springs, NY (June 2019).

74. Barba-Behrens, N.; Castro-Ramirez, R.; Brumaghim, J. L.; Gamez, P., "Designing Novel Monocoordinated Transition Metal Compounds Towards Versatile Biological Properties," 257th American Chemical Society National Meeting, Orlando, FL (March 2019).

73. Baird, H. G.*; Goodman, C.; Brumaghim, J. L. "Using Polyphenol Antioxidants to Reduce Cytotoxic Oxidative Stress in *Escherichia coli*," 70th Southeastern Regional Meeting of the American Chemical Society, Augusta, GA (October-November 2018).

72. Gaertner, A. A. E.; Kozubowski, L.; Brumaghim, J. L. "Fluconazole Needs Copper or Iron to Generate Reactive Oxygen Species and Damage DNA," 257th American Chemical Society National Meeting, Boston, MA (August 2018).

71. Murphy, J. M.; McMillen, C. D.; Brumaghim, J. L. "Copper-Thione Complexes are Truly Complex: Redox and Sulfur Extrusion Reactions," 255th American Chemical Society National Meeting, New Orleans, LA, (March 2018).

70. Goodman, S.; Brumaghim, J. L. "DNA Interactions of Potent Thione and Selone Antioxidants: Control *via* Metal Coordination?" 255th American Chemical Society National Meeting, New Orleans, LA (March 2018).

69. Edmunds, C. E.*; Adrian, A. T.*; Kurfman, E. A.*; Cordoba, J. J.*; Brumaghim, J. L.; Wheeler, S. K.; Wheeler, J. F. "Oxidative DNA Damage Prevention by Antioxidants Using Ultra Performance Liquid Chromatography and QToF Mass Spectrometry," 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC (November 2017).

68. Adrian, A. T.*; Kurfman, E A.*; Edmunds, C. E.*; Brumaghim, J. L.; Wheeler, S. K.; Wheeler, J. F. "Investigating the Mechanism of Antioxidant Activity for Natural and Synthetic Sulfur and Selenium Complexes Using PCR, CGE, and Gel Electrophoresis," 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC (November 2017).

67. Dreab, A.; Brewer, M. I.; Brumaghim, J. L.; Bayse, C. A. "DFT Modeling of the Prevention of Fe(II)-Mediated Redox Damage by Sulfur and Selenium Compounds," 69th Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC (November 2017).

66. Murphy, J. M.; McMillen, C. D.; Brumaghim, J. L. "Controlling Copper-Methimazole Reactions: A Complex Redox Story," Schaap Chemistry Symposium, Holland, MI (July 2017).

65. Goodman, S.; Zimmerman, M. T.; Wang, H. C.; Perron, N. R.; Battin, E. E.; Brumaghim, J. L. "Yeah, but Which Antioxidant? Metals, Mechanisms, and the Search for Predictive Structure-Activity Relationships," Southeastern Chemical Biology Symposium, Atlanta, GA (April 2017).

64. Goodman, S.; Brumaghim, J. L. "Understanding Cellular Mechanisms for Prevention of Iron-Mediated Oxidative Stress by Sulfur and Selenium Antioxidants," Metals in Biology Gordon Conference, Ventura, CA (January 2017).

63. Goodman, S.; Brumaghim, J. L. "Understanding Antioxidant Prevention of Iron-Mediated Cell Death in *E. coli*: The role of NADH," 68th Southeastern Regional Meeting of the American Chemical Society, Columbia, SC (October 2016).

62. Gaertner, A. A.; Gordhan, H. M.; Whitehead, D. C.; Brumaghim, J. L. "Quantifiable DNA Damage Prevention by Hydrophobic Compounds under Biologically Relevant Conditions: Evaluation of Selenium Glutathione Peroxidase Mimics,"68th Southeastern Regional Meeting of the American Chemical Society, Columbia, SC (October 2016).

61. Abbas, M. A.; Brumaghim, J. L. "Synthesis, Characterization, and Structures of Ruthenium(II) and Ruthenium(IV) Complexes with Multiple Solvato Ligands,"68th Southeastern Regional Meeting of the American Chemical Society, Columbia, SC (October 2016).

60. Kimani, Martin; Zimmerman, Matthew T.; Stadelman, Bradley; Owen, Amanda M.;* Bayse, Craig A.; Brumaghim, Julia L. "Metal Properties Control Sulfur and Selenium Antioxidant Activity," 68th Southeastern Regional Meeting of the American Chemical Society, Columbia, SC (October 2016).

59. Murphy, J. M.; McMillen, C.; Brumaghim, J. L. "Coordination Complexes of Methimazole with Copper: Controlling Redox Reactions and Sulfur Extrusion," 68th Southeastern Regional Meeting of the American Chemical Society, Columbia, SC (October 2016).

58. Gaertner, A. A. E.; Zimmerman, M. T.; Brumaghim, J. L. "What Makes a Multifunctional Thione- and Selone-Containing Antioxidant Inhibit DNA Damage?," European Biological Inorganic Chemistry Conference (EuroBIC), Budapest, Hungary (August 2016).

57. Murphy, J.; Powell, B.; Brumaghim, J. L. "Stability of Copper(II) Complexes of Sulfur and Selenium Antioxidants," Bioinorganic Chemistry Gordon Research Symposium, Ventura, CA (January 2016).

56. Goodman, C.; Brumaghim, J. L. "Understanding the Role of NADH in Cellular Fe^{2+} Generation of Hydroxyl Radical and the Effects of Polyphenol Antioxidants," Bioinorganic Chemistry Gordon Research Symposium, Ventura, CA (January 2016).

55. Kurfman, E. A.*; Stadelman, B. S.; Brumaghim, J. L.; Wheeler, S.; Wheeler, J. "Investigating the Antioxidant Activity of Sulfur/Selenium Compounds Utilizing Mass Spectrometry, Gel Electrophoresis, and Polymerase Chain Reaction," 67th Southeast/71st Southwest Joint Regional Meeting of the American Chemical Society, Memphis, TN, (November 2015).

54. Kurfman, E. A.*; Stadelman, B. S.; Netterville, W. D.; Brumaghim, J. L.; Wheeler, S. K.; Wheeler, J. F. "Analyzing the Antioxidant Activity of Thione and Selone Compounds Utilizing Mass Spectrometry," 2015 South Carolina IDeA Network of Biomedical Research Excellence (INBRE) Spring Symposium, University of South Carolina School of Medicine, Columbia, SC (28 February 2015).

53. Angelé-Martínez, C.; Nguyen, K. V. T.; Anker, J.; Brumaghim, J. L. "CuO-Nanoparticle-Mediated DNA Damage is Not Solely Due to Copper-Generated Hydroxyl Radical," Metals in Biology Gordon Conference, Ventura, CA (January 2015).

52. Patel, U.; McMillen, C.; Singh, H. B.; Brumaghim, J. L. "Selenaaza macrocycles: Variable coordination with Cu(I) and Cu(II)," 66th Southeast Regional Meeting of the American Chemical Society, Nashville, TN (October 2014).

51. Kurfman, E. A.*; Stadelman, B. S.; Brumaghim, J. L.; Wheeler, S. K.; Wheeler, J. F. "Investigating the Activity of Iron and Sulfur/Selenium Compounds as Antioxidants Utilizing Mass Spectrometry," 66th Southeast Regional Meeting of the American Chemical Society, Nashville, TN (October 2014).

50. Barba-Behrens, N.; Betanzos-Lara, S.; Alfaro-Fuentes, I.; Castro-Ramírez, R.; Gracia-Mora, I.; Contreras, R.; Flores-Parra, A.; Brumaghim, J. L.; Zimmerman, M. T. "Structural and Electronic Properties of Biologically Active Coordination Compounds of Imidazole Derivatives: Towards Understanding the Role of the Metal Ions," 12th European Conference on Bioinorganic Chemistry (EuroBIC 12), Zurich, Switzerland (August 2014).

49. Wasilewski, Matthew S.*; Wetzler, M.; Brumaghim, Julia L. "Versatile Synthesis of Orthogonally Protected Azamacrocyclic Ligands," 247th ACS National Meeting, Dallas, TX (March 2014).

48. Zimmerman, M. T.; Brumaghim, J. L. "A Structural View of Ergothioneine and Methimazole Antioxidant Activity Based on Iron and Copper Coordination," Metals in Biology Gordon Conference, Ventura, CA (January 2014).

47. Coral J., Brumaghim J. L., Klaine S. J. "Fate and Toxicity of Titanium Dioxide in Aquatic Ecosystems," Annual Meeting of the Society of Environmental Toxicology and Chemistry, Nashville, TN (November 2013).

46. Zimmerman, M. T.; Brumaghim, J. L. "Ergothioneine and Methimazole: Investigating Antioxidant Activity and the Effects of Structure on Activity," 65th Southeast Regional Meeting of the American Chemical Society, Atlanta, GA (November 2013).

45. Angele, C.; Brumaghim, J. L. "Polyphenol Prevention of Co^{2+}/Ascorbic-Acid-Mediated DNA Damage," 245th ACS National Meeting, New Orleans, LA (April 2013).

44. Zimmerman, M. T.; Brumaghim, J. L. "Multifunctional Sulfur and Selenium Antioxidants: Metal Coordination and Structure Impact Activity," 245th ACS National Meeting, New Orleans, LA (April 2013).

43. Stadelman, B. S.; Brumaghim, J. L. "Synthesis and Characterization of Iron(II) Thione and Selone Compounds," 245th ACS National Meeting, New Orleans, LA (April 2013).

42. Schmidt, J. D.; Stadelman, B. S.; Brumaghim, J. L.; Summers, J. "Reaction of Oxidized CuZnSOD with Polyphenols," 64th Southeast Regional Meeting of the American Chemical Society, Raleigh, NC (November 2012).

41. Frost, L. D.; Brumaghim, J. L. "A Lab Exercise in DNA Oxidation and Protection by Antioxidants," Biennial Conference on Chemical Education at Pennsylvania State University, State College, PA (July 2012).

40. Zimmerman, M. T.; Brumaghim, J. L. "Selone and Thione Antioxidants Prevent Iron-and Copper-Mediated DNA Damage," 63rd Southeast Regional Meeting of the American Chemical Society, Richmond, VA (October 2011).

39. Wang, H. C.; Riahi, M.*; Bayse, C. A.; Riggs-Gelasco, P.; Brumaghim, J. L. "Interactions of Cu(I) with Selenium-containing Amino Acids Determined by NMR, XAS, and DFT Studies," 63rd Southeast Regional Meeting of the American Chemical Society, Richmond, VA (October 2011).

38. Wang, H. C.; Brumaghim, J. L. "Inhibitory Effects of Polyphenol Antioxidants on Peroxynitrite-Mediated DNA Damage *in vitro* and in *E. coli*," 63rd Southeast Regional Meeting of the American Chemical Society, Richmond, VA (October 2011).

37. Wang, H.C.; Perron, N. R.; Brumaghim, J. L. "Polyphenol Antioxidants Prevent DNA Damage and Promote Cell Survival Primarily through an Iron-Mediated Pathway," International Conference of Bioinorganic Chemistry, Vancouver, BC, Canada (August 2011).

36. Marcus, R. K.; Quarles, Jr., C. D.; Brumaghim, J. L. "Comparison of Atomic Spectroscopy Methods for Determining Metal Loading Within apo-Transferrin, " European Winter Conference on Plasma Spectrochemistry, Zaragoza, Spain, (January-February 2011).

35. Battin, E. E.; Zimmerman, M. T.; Brumaghim, J. L. "The Metals Matter: DNA Damage Prevention by Sulfur And Selenium Antioxidants," Metals in Biology Gordon Conference, Ventura, CA (January 2011).

34. Kimani, Martin M.; Brumaghim, Julia L.; VanDerveer, D. L. "Probing the Antioxidant Mechanisms of Selenium and Sulfur Using Cu(I)-Chalcogenone Tris(pyrazolyl)methane and -borate Complexes," Inorganic Chemistry Gordon Conference, Biddeford, ME (June 2010).

33. Kimani, Martin M.; Brumaghim, Julia L. "Exploring the Differences in Cu(I) Coordination with Heterocyclic Thione and Selone Ligands," 239th American Chemical Society National Meeting, San Francisco, CA (March 2010).

32. Verdan, Andrea M.; Brumaghim, Julia L.; Henry, William P. "Antioxidant Activity and Fe(II) Binding Properties of Flavonoids with Competing Metal Binding Sites," American Chemical Society National Meeting, San Francisco, CA (March 2010).

31. Wang, H. C.; Brumaghim, J. L. "Predictive Model for Cellular Potency of Polyphenol Antioxidants as a Function of Iron Binding," Metals in Biology Gordon Conference, Ventura, CA (January 2010).

30. Riggs-Gelasco, P.; Bayse, C. A.; Brumaghim, J. L. "Structural Characterization of Copper-Selenium Complexes Relevant to the Antioxidant Activity of Selenium," 61st Southeast Regional Meeting of the American Chemical Society, San Juan, Puerto Rico (October 2009).

29. Wang, H. C.; Brumaghim, J. L. "Polyphenol Antioxidants Inhibit DNA Damage and Promote Cell Survival by Iron Binding," American Chemical Society National Meeting, Washington, DC (August 2009).

28. Brumaghim, J. L. "Rethinking Antioxidant Inhibition of DNA Damage: A Novel Metal Binding Mechanism," Hollings Cancer Center Spring Symposium, Charleston, SC (March 2009).

27. Brumaghim, J. L. "Preventing Oxidative DNA Damage: Metal Binding as a Novel Antioxidant Mechanism," South Carolina Center for Botanical Medicine, Columbia, SC (December 2008).

26. Underwood, C. C.; Kimani, M. M.; Giesen, J. A.*; Sathyamurthy, R.; Brumaghim, J. L. "Comparison of the Electrochemical Properties of Iron and Copper Complexes with

Tris(pyrazolyl), Thiolate, and Selenolate Ligands," 60th Southeast Regional Meeting of the American Chemical Society, Nashville, TN (November 2008).

25. Brumaghim, J. L. "Metal Coordination as a Novel Mechanism for DNA Damage Prevention," 60th Southeast Regional Meeting of the American Chemical Society, Nashville, TN (November 2008).

24. Sanchez-Santiago, M. del R.*; Brumaghim, J. L.; Ramoutar, R. R. "Exploring a Metal Binding Mechanism for Sulfoxide Antioxidant Activity," 235th ACS National Meeting, New Orleans, LA (April 2008).

23. Battin, E. E.; Brumaghim, J. L. "A Comparison of Sulfur and Selenium Antioxidant Activity: Prevention of DNA Damage and Metal Binding," Bioinorganic Chemistry Gordon Graduate Research Seminar, Ventura, CA (January 2008).

22. Perron, N. R.; Hodges, J. N.*; Jenkins, M.*; Brumaghim, J. L. "Predicting the Ability of Polyphenolic Antioxidants to Prevent Iron-mediated DNA Damage," Metals in Biology Gordon Conference, Ventura, CA (January 2008).

21. Perron, N. R.; Hodges, J. N.*; Jenkins, M.*; Brumaghim, J. L. "Predicting How Polyphenol Antioxidants Prevent DNA Damage by Binding to Iron(II)," 59th Southeast Regional Meeting of the American Chemical Society, Greenville, SC (October 2007).

20. Ramoutar, R. R.; Brumaghim, J. L. "Inorganic Selenium Compounds Prevent Copper-Mediated DNA Damage," 59th Southeast Regional Meeting of the American Chemical Society, Greenville, SC (October 2007).

19. Battin, E. E.; Brumaghim, J. L. "Comparing Sulfur and Selenium Antioxidant Activity: Efficacy and Mechanism," 59th Southeast Regional Meeting of the American Chemical Society, Greenville, SC (October 2007).

18. Lawhon, A.*; Brumaghim, J. L. "Transferrin Lends a Helping Hand in Iron Disease," 59th Southeast Regional Meeting of the American Chemical Society, Greenville, SC (October 2007).

17. Battin, E. E.; Perron, N. R.; Ramoutar, R. R.; Brumaghim, J. L. "Antioxidant Inhibition of DNA Damage through Metal Coordination," 234th American Chemical Society National Meeting, Boston, MA (August 2007).

16. Perron, N. R.; Brumaghim, J. L. "Exploring an Iron Coordination Mechanism for the Antioxidant Activity of Polyphenolic Compounds," NSF Inorganic Workshop, Jackson Hole, WY (June 2007).

15. Battin, E. E.; Sathyamurthy, R.; Brumaghim, J. L. "Modeling Antioxidant Inhibition of Metal-Mediated DNA Damage," Metals in Biology Gordon Conference, Ventura, CA (January 2007).

14. Ramoutar, R. R.; Brumaghim, J. L. "Inorganic Selenium Compounds: Antioxidants or Pro-oxidants?" Society for Free Radicals in Biology and Medicine, Denver, CO (November 2006).

13. Hodges, J. N.*; Brumaghim, J. L. "Metal Binding by Polyphenols," 58th Southeast Regional Meeting of the American Chemical Society, Augusta, GA (November 2006).

12. Battin, E. E.; DeGuire, S. M.*; Brumaghim, J. L. "Sulfur Antioxidants Inhibit DNA

Damage by Metal Coordination," South Carolina Alliance for Cancer Chemoprevention, Charleston, SC (March 2006).

11. Ramoutar, R. R.; Brumaghim, J. L. "Inorganic Selenium Compounds: Antioxidants or Pro-oxidants?" 231st American Chemical Society National Meeting, Atlanta, GA (March 2006).

10. Sathyamurthy, R.; Brumaghim, J. L. "Tuning the Redox Potentials of Iron(II)-Solvato Complexes with Trinitrogen Donor Ligands," 231st American Chemical Society National Meeting, Atlanta, GA (March 2006).

9. Battin, E. E.; DeGuire, S. M.*; Brumaghim, J. L. "Biological Sulfur Compounds Inhibit Copper-Mediated DNA Damage," 231st American Chemical Society National Meeting, Atlanta, GA (March 2006).

8. Perron, N. R.; Brumaghim, J. L. "Metal Coordination is Required for Selenium Antioxidant Activity," 231st American Chemical Society National Meeting, Atlanta, GA (March 2006).

7. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "The Role of Metal Coordination in Selenium Antioxidant Activity," International Conference for Biological Inorganic Chemistry, Ann Arbor, MI (August 2005).

6. Battin, E. E.; Ramoutar, R. R.; Perron, N. R.; Brumaghim, J. L. "Metal-Mediated Oxidative DNA Damage: From Free Radicals to Cancer," South Carolina Alliance for Cancer Chemoprevention Conference, Clemson, SC (May 2005).

5. Perron, N. R.; Battin, E. E.; Brumaghim, J. L. "Understanding Selenium Antioxidant Activity: The Role of Iron Coordination," Metals in Biology Gordon Conference, Ventura, CA (January 2005).

4. Brumaghim, J. L.; Li, Y.; Henle, E.; Linn, S. "Interaction of Trivalent Metal Ions with NAD(P)H: A Structural Model for Differential Rates of Fe^{3+} Reduction by NADH and NADPH," Metals in Biology Gordon Conference, Ventura, CA (January 2003).

3. Brumaghim, J. L.; Michels, M.; Raymond, K. N. "Hydrophobic Chemistry in Aqueous Solution: Formation and Stabilization of Cationic Guests inside Supramolecular Hosts," 222nd American Chemical Society National Meeting, Chicago, IL (August 2001).

2. Brumaghim, J. L.; Girolami, G. S. "Formation of Pentamethylcyclopentadienyl Osmium Alkylidene Complexes by Low Temperature Protonation," 217th American Chemical Society National Meeting, Anaheim, CA (March 1999).

1. Brumaghim, J. L.; Gross, C. L.; Girolami, G. S. "Chemistry of Pentamethylcyclopenta-dienyl Osmium Complexes," 215th American Chemical Society National Meeting, Dallas, TX (March 1998).

University and Government Research Seminars

36. Brumaghim, J. L. "Two Sides of the Same Coin: Divergent Views on Quenching Radicals," Florida State University, Department of Chemistry, Tallahassee, FL (25 February 2020).

35. Brumaghim, J. L. "Two Sides of the Same Coin: Divergent Views on Quenching Radicals," University of Texas at El Paso, Department of Chemistry and Biochemistry,

El Paso, TX (22 November 2019).

34. Brumaghim, J. L. "Two Sides of the Same Coin: Divergent Views on Quenching Radicals," Idaho National Laboratory, Idaho Falls, ID (5 September 2017).

33. Zimmerman, M. T.; Kimani, M. M.; Stadelman, B. S.; Gaertner, A. A. E.; Brumaghim, J. L. "Yeah, but Which Antioxidant? Metals, Mechanisms, and the Search for Predictive Structure-Activity Relationships," Barnard College, Chemistry Department, New York, NY (31 March 2017).

32. Battin, E. E.; Zimmerman, M. T.; Brumaghim, J. L. "Developing Predictive Models for Metal-Mediated DNA Damage Prevention by Sulfur and Selenium Antioxidants," Universidad Nacional Autónoma de México, Department of Inorganic and Nuclear Chemistry, Mexico City, Mexico (14 May 2014).

31. Brumaghim, J. L. "The Metals Matter: Antioxidant Prevention of Oxidative DNA Damage," NASA Johnson Space Center, Nutritional Biochemistry Laboratory, Houston, TX (20 March 2014).

30. Perron, N. R.; Wang, H. C.; Brumaghim, J. L. "Antioxidant Prevention of DNA Damage and Cell Death," University of Alaska Southeast, Environmental Sciences Department, Juneau, AK (24 October 2013).

29. Perron, N. R.; Wang, H. C.; Brumaghim, J. L. "Antioxidant Prevention of DNA Damage and Cell Death," University of Alaska at Anchorage, Chemistry Department, Anchorage, AK (23 October 2013).

28. Perron, N. R.; Wang, H. C.; Brumaghim, J. L. "Antioxidant Prevention of DNA Damage and Cell Death," University of Alaska at Fairbanks, Chemistry and Biochemistry Department, Fairbanks, AK (22 October 2013).

27. Zimmerman, M. T.; Stadelman, B.S.; Kimani, M. M.; Brumaghim, J. L. "DNA Damage Prevention by Multifunctional Selenium Antioxidants," Clemson University, Environmental Toxicology Program, Clemson, SC (17 January 2012).

26. Perron, N. R.; Garcia, C. R.; Brumaghim, J. L. "The Metals Matter: DNA Damage Prevention by Polyphenolic Antioxidants," University of Utah, Chemistry Department, Salt Lake City, UT (8 September 2011).

25. Perron, N. R.; Garcia, C. R.; Brumaghim, J. L. "The Metals Matter: DNA Damage Prevention by Polyphenolic Antioxidants," Utah State University, Chemistry Department, Logan, UT (7 September 2011).

24. Perron, N. R.; Garcia, C. R.; Brumaghim, J. L. "The Metals Matter: DNA Damage Prevention by Polyphenolic Antioxidants." Brigham Young University, Chemistry and Biochemistry Department, Provo, UT (6 September 2011).

23. Battin, E. B.; Zimmerman, M. T.; Kimani, M. M.; Brumaghim, J. L. "The Metals Matter: DNA Damage Prevention by Sulfur and Selenium Antioxidants," Auburn University, Chemistry Department, Auburn, AL (4 November 2010).

22. Perron, N. R.; Wang, H. C.; Brumaghim, J. L. "Developing a Predictive Model for Polyphenol Prevention of DNA Damage," University of South Carolina, Chemistry and Biochemistry Department, Columbia, SC (7 April 2009).

21. Perron, N. R.; Wang, H. C.; Brumaghim, J. L. "Developing a Predictive Model for Polyphenol Prevention of DNA Damage," Old Dominion University, Chemistry and Biochemistry Department, Norfolk, VA (3 April 2009).

20. Perron, N. R.; Wang, H. C.; Brumaghim, J. L. "Developing a Predictive Model for Polyphenol Prevention of DNA Damage," University of Georgia, Chemistry and Biochemistry Department, Athens, GA (30 March 2009).

19. Battin, E. E.; Perron, N. R.; Ramoutar, R. R., Wang, H. C.; Kimani, M.; Brumaghim, J. L. "Antioxidant Activity: Metal Binding and DNA Damage Prevention," East Carolina University, Chemistry Department, Greenville, NC (27 February 2009).

18. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Inhibition of DNA Damage: From Oxygen Radicals to Cancer Prevention," Clemson University, Biochemistry Department, Clemson, SC (9 January 2009).

17. Battin, E. E.; Perron, N. R.; Ramoutar, R. R.; Brumaghim, J. L. "From the Flask to the Cell: Metal Coordination as a Novel and General Mechanism for Antioxidant Activity," University of North Carolina at Charlotte, Chemistry Department, Charlotte, NC (6 October 2008).

16. Battin, E. E.; Perron, N. R.; Ramoutar, R. R.; Brumaghim, J. L. "From the Flask to the Cell: Metal Coordination as a Novel and General Mechanism for Antioxidant Activity," Clemson University, Chemistry Department, Clemson, SC (25 September 2008).

15. Battin, E. E.; Perron, N. R.; Ramoutar, R. R.; Brumaghim, J. L. "From the Flask to the Cell: Metal Coordination as a Novel and General Mechanism for Antioxidant Activity," University of Illinois at Urbana-Champaign, Chemistry Department, Urbana, IL (18 September 2008).

14. Battin, E. E.; Perron, N. R.; Ramoutar, R. R.; Brumaghim, J. L. "From the Flask to the Cell: Metal Coordination as a Novel and General Mechanism for Antioxidant Activity," Purdue University, Chemistry Department, West Lafayette, IN (16 September 2008).

13. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Mechanisms: Preventing DNA Damage through Metal Binding," University of North Carolina at Chapel Hill, Chemistry Department, Chapel Hill, NC (27 February 2008).

12. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Mechanisms: Preventing DNA Damage through Metal Binding," Duke University, Chemistry Department, Durham, NC (26 February 2008).

11. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Mechanisms: Preventing DNA Damage through Metal Binding," North Carolina State University, Chemistry Department, Raleigh, NC (25 February 2008).

10. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Mechanisms: Preventing DNA Damage through Metal Binding," University of Tennessee at Knoxville, Chemistry Department, Knoxville, TN (15 February 2008).

9. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Mechanisms: Preventing DNA Damage through Metal Binding," Wayne State University, Chemistry Department, Detroit, MI (13 September 2007).

8. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Mechanisms: Preventing DNA Damage through Metal Binding," University of Michigan, Chemistry Department, Ann Arbor, MI (12 September 2007).

7. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Mechanisms: Preventing DNA Damage through Metal Binding," Michigan State University, Chemistry Department, East Lansing, MI (11 September 2007).

6. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Mechanisms: Preventing DNA Damage through Metal Binding," Western Michigan University, Chemistry Department, Kalamazoo, MI (10 September 2007).

5. Battin, E. E.; Ramoutar, R. R.; Perron, N. R.; Brumaghim, J. L. "Metal-Mediated Oxidative DNA Damage: From Free Radicals to Cancer," University of Oklahoma, Department of Chemistry and Biochemistry, Norman, OK (5 May 2005).

4. Perron, N. R.; Battin, E. E.; Brumaghim, J. L. "Iron-Mediated Oxidative DNA Damage: From Free Radicals to Cancer Prevention," University of Iowa, Department of Chemistry, Iowa City, IA (25 March 2005).

3. Perron, N. R.; Battin, E. E.; Brumaghim, J. L. "Iron-Mediated Oxidative DNA Damage: From Free Radicals to Cancer Prevention," Iowa State University, Chemistry Department, Ames, IA (24 March 2005).

2. Perron, N. R.; Battin, E. E.; Brumaghim, J. L. "Iron-Mediated Oxidative DNA Damage: From Free Radicals to Cancer Prevention," Clemson University, Environmental Toxicology Program, Clemson, SC (15 March 2005).

1. Perron, N. R.; Battin, E. E.; Brumaghim, J. L. "Iron-Mediated Oxidative DNA Damage: From Free Radicals to Cancer Prevention," University of South Carolina, College of Pharmacy, Columbia, SC (5 February 2005).

Recruiting Seminars

17. Brumaghim, J. L. "Yeah, But Which Antioxidant? Metals, Mechanisms, and the Search for Predictive Structure-Activity Relationships," The University of the South, Chemistry Department, Suwanee, TN (17 November 2017).

16. Brumaghim, J. L. "You Are What You Eat: Fruit Polyphenols Prevent Oxidative DNA Damage Through Metal Coordination," Middle Tennessee State University, Chemistry Department, Murfreesboro, TN (7 March 2014).

15. Brumaghim, J. L. "An Apple a Day, or Garlic, or Chocolate: Fruit Polyphenols Prevent Oxidative DNA Damage Through Metal Coordination," University of North Georgia, Chemistry Department, Dahlonega, GA (17 January 2014).

14. Brumaghim, J. L. "An Apple a Day, or Garlic, or Chocolate? The Edible Antioxidant World and the Link Between Basic Chemistry and Health," East Tennessee State University, Chemistry Department, Johnson City, TN (27 September 2013).

13. Brumaghim, J. L. "You Are What You Eat: DNA Damage Prevention by Polyphenolic Antioxidants," Converse College, Chemistry Department, Spartanburg, SC (21 February 2012).

12. Brumaghim, J. L. "An Apple a Day, or Garlic, or Chocolate? The Edible Antioxidant World and the Link Between Basic Chemistry and Health," Salem College, Chemistry Department, Winston-Salem, NC (23 February 2011).

11. Perron, N. R.; Wang, H. C.; Brumaghim, J. L. "You Are What You Eat: Food Polyphenols Prevent Oxidative DNA Damage and Cell Death by Metal Coordination," Georgia Southern University, Chemistry Department, Statesboro, GA (3 September 2010).

10. Battin, E. E.; Perron, N. R.; Ramoutar, R. R., Wang, H. C.; Kimani, M.; Brumaghim, J. L. "Antioxidant Inhibition of DNA Damage: From Oxygen Radicals to Cancer Prevention," Furman University, Chemistry Department, Greenville, SC (19 February 2009).

9. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Antioxidant Inhibition of DNA Damage: From Oxygen Radicals to Cancer Prevention," University of North Carolina at Asheville, Chemistry Department, Asheville, NC (19 January 2009).

8. Battin, E. E.; Sathyamurthy, R.; Brumaghim, J. L. "Determining Antioxidant Inhibition of DNA Damage: From Free Radicals to Cancer Prevention" Winthrop University, Department of Chemistry, Rock Hill, SC (24 January 2007).

7. Battin, E. E.; Brumaghim, J. L. "How Antioxidants Prevent Metal-Mediated DNA Damage: From Free Radicals to Cancer Prevention," College of Charleston, Department of Chemistry and Biochemistry Charleston, SC (21 September 2006).

6. Battin, E. E.; Brumaghim, J. L. "How Antioxidants Prevent Metal-Mediated DNA Damage: From Free Radicals to Cancer Prevention," Western Carolina University, Department of Chemistry and Physics, Cullowhee, NC (24 March 2006).

5. Battin, E. E.; Perron, N. R.; Brumaghim, J. L. "Metal-Mediated Oxidative DNA Damage: From Free Radicals to Cancer," East Tennessee State University, Department of Chemistry, Johnson City, TN (7 October 2005).

4. Perron, N. R.; Battin, E. E.; Brumaghim, J. L. "Metal-Mediated Oxidative DNA Damage: From Free Radicals to Cancer," Columbia College, Department of Physical and Biological Sciences, Columbia, SC (11 April 2005).

3. Perron, N. R.; Battin, E. E.; Brumaghim, J. L. "Metal-Mediated Oxidative DNA Damage: From Free Radicals to Cancer," Davidson College, Department of Chemistry, Davidson, NC (3 December 2004).

2. Perron, N. R.; Battin, E. E.; Brumaghim, J. L. "Metal-Mediated Oxidative DNA Damage: From Free Radicals to Cancer," Tennessee State University, Department of Chemistry, Nashville, TN (18 November 2004).

1. Brumaghim, J. L. "Metal-Mediated Oxidative DNA Damage: From Free Radicals to Cancer," University of the South, Department of Chemistry and Biochemistry, Sewanee, TN (12 March 2004).

SPONSORED RESEARCH

Pending Proposals

1. "Defining the Mechanism of Azole-mediated DNA Damage, Oxidative Stress, and

Resistance Development in *Cryptococcus neoformans*," National Institutes of Health R15, Co-Investigator, $183,384 ($426,172), 2020-2023.

2. "Arsenic's Effects on the Intestinal Stem Cell Niche," National Institutes of Health, Collaborator (Principal Investigator, Lisa Bain) $1,500 ($442,415), 2020-2023.

Current Projects

1. "Metal Coordination and DNA Interactions Control Sulfur and Selenium Antioxidant Mechanisms," National Science Foundation, Principal Investigator, $419,998 ($419,998), 2018-2021.
2. Nuclear Energy University Partnership (NEUP) Fellowship support for graduate student Nicole Hostetter, Department of Energy, Principal Investigator, $0 ($155,000), 2019-2022.
3. "Metal-mediated DNA damage and its prevention by antioxidants," Beckman Foundation/Beckman Scholars Program, Faculty Mentor, six undergraduate scholarships totaling $156,000 (2018-2021). Beckman Scholar Luke Broughton is working as a Beckman Scholar in my lab May 2020-August 2021.

Completed Projects

13. "MRI: Acquisition of a 500 MHz NMR Spectrometer with Cryoprobe," National Science Foundation, Co-Investigator, $478,169, 2017-2020.
12. "Evaluation of Polyphenol Antioxidants to Lower Redox-Active Iron Levels and Prevent Cellular Oxidative Damage," NASA EPSCoR, Principal Investigator, $25,000 ($25,000), 2017-2018.
11. "From Poor Antioxidants to Stripping Agents for Actinide Separations (Tier 2)," Clemson University SEED Grant, Principal Investigator, $5,000 ($10,000), 2017-2018.
10. "Preventing Ischemia-Reperfusion Injury with Multifunctional Selenium Antioxidants," American Heart Association Grant-In-Aid, Principal Investigator, $154,000 ($154,000), 2014-2017.
9. "Selenium Antioxidant Mechanisms: Metal Binding vs. Reactive Oxygen Species Scavenging," National Science Foundation, Principal Investigator, $390,000 ($390,000), 2012-2017.
8. "Selenium Antioxidant Mechanisms: Metal Binding vs. Reactive Oxygen Species Scavenging," National Science Foundation Supplement for International Collaborations, Principal Investigator, $12,080 ($12,080), 2014-2017.
7. "Investigating Mechanism of Intracellular Rotational Transport with Optical Tracking Magnetic Twisting Cytometry," National Institutes of Health R15, Co-Investigator, $42,500 ($150,144), 2012-2016.
6. "Iron Binding as the Primary Mechanism for Polyphenol Antioxidant Prevention of Cell Death and DNA Damage," SC Space Grant Consortium (NASA EPSCoR), Principal Investigator, $30,000 ($30,000); 2014-2015.
5. "Behavior of TiO_2 Nanoparticles in Fresh and Marine Waters," L'Oreal Group, Co-principal Investigator, $6,500 ($42,500), 2012-2013.

4. "Determining the Role of Metal Coordination in Selenium Antioxidant Activity – An Interdisciplinary Approach to Chemical Biology Education and Research," National Science Foundation CAREER Award, Principal Investigator, $540,000 ($540,000), 2006-2012.

3. "DNA Damage Inhibition by Selenium Antioxidants: The Role of Metal Coordination," American Heart Association, Principal Investigator, $132,000 ($132,000), 2006-2008.

2. "Understanding the Antioxidant Properties of Selenium in Biological Systems," University Research Grant, Principal Investigator, $3,000 ($3,000), 2004.

1. "Recognition and Isomerization of Ferric Siderophores," NIH NSRA Postdoctoral Fellowship, Principal Investigator, $30,256 ($30,256), 1999-2001.

OTHER SPONSORED ACTIVITY

Travel Grant, American Chemical Society and the Camille and Henry Dreyfus Foundation, $1000, (2004-2005).

STUDENT ADVISING

Doctoral Graduates

Gaertner, A. (Ph.D.), "Investigating Metal-Mediated DNA Damage Prevention by Antioxidants and Examining the Role of Metals in Fluconazole-Mediated DNA Damage," (May 2020).

Abbas, Mohammed (Ph.D.), "Synthesis, Characterization, and Study of the Antioxidant Activity of Novel Ruthenium-Thione and -Selone Complexes," (August 2019).

Goodman, S. C. (Ph.D.), "Mechanism of Metal-Binding Antioxidants: Interactions with NADH, Iron, and DNA in Cellular Systems," (May 2019).

Murphy, J. (Ph.D.), "Complexation of Copper and Iron by Biologically Relevant Sulfur- and Selenium-Containing Small Molecules," (August 2018).

Angelé-Martinez, C. (Ph.D.), "Prevention of DNA Damage and Reactive Oxygen Species Generation by Fe(II), Co(II), Cu(II), and CuO Nanoparticles with Polyphenol and Neutotransmitter Antioxidants," (May 2016).

Stadelman, B. S. (Ph.D.), "Synthesis, Characterization, and Reactivity of Iron(II)- and Zinc(II) Complexes of Imidazole Thione and Selone Ligands: Investigations into Oxidation Mechanisms," (May 2016).

Zimmerman, M. T. (Ph.D.), "Determining DNA Damage Prevention Mechanisms for Multifunctional Selenium and Sulfur Antioxidants and the DNA-Damaging Capabilities of Clotrimadozle and Pseudophedrine-Derived Metal Complexes," (December 2014).

Wang, H. C. (Ph.D.), "DNA Damage Prevention by Polyphenol Antioxidants: Comparing Reactive Oxygen Species Scavenging and Metal Binding Mechanisms *in Vitro* and in *E. coli*. (December 2011).

Kimani, M. (Ph.D.), "Synthesis, Characterization, and Reactivity of Biologically Relevant Copper(I) Selone and Thione Complexes," (May 2011).

Ramoutar, R. R. (Ph.D.), "Understanding the Antioxidant Mechanisms of Inorganic Selenium, Oxo-sulfur, and Polyphenol Compounds, and the Biological Implications of Functionalized Nanoparticles," (August 2009).

Perron, N. R. (Ph.D.), "Effects of Polyphenol Compounds on Iron- and Copper-Mediated DNA Damage: Mechanisms and Predictive Models," (August 2008).

Battin, E. E. (Ph.D.), "The Role of Metal Coordination in the Inhibition of Iron(II)- and Copper(I)-Mediated DNA Damage by Organoselenium and Organosulfur Compounds," (August 2008).

Master's Graduates

Garcia, C. (M.S.), "Prevention of Iron- and Copper-Mediated Oxidative DNA Damage by Neurotransmitters and Related Compounds: Evidence for Metal Binding as an Antioxidant Mechanism," (December 2011).

Underwood, C. (M.S.), "The Electrochemical Study of Tris(pyrazolyl)-type Iron(II) Complexes, Iron(II) Sulfur- and Selenium-Containing Complexes, and Tris(pyrazolyl)-Type Ruthenium(II) Complexes," (December 2010).

Current Graduate Student Advising

Hostetter, Nicole (Ph.D.), "Cell-Permeable Glutathione Mimics," (May 2022).

Wackerle, Brandon (Ph.D. co-advised by Dr. Modi Wetzler, Clemson Department of Chemistry), "Synthesis and Metal Coordination of Peptoid-Based Siderophore Analogs" (May 2023).

Wolsleger, Rhianna (Ph.D. co-advised by Dr. Modi Wetzler, Clemson Department of Chemistry), "Synthesis and *f*-Element Binding of Chelating Thione Ligands" (May 2024).

Vicente, Madison (Ph.D.), "DNA Interactions and Cellular Effects of Antioxidants Under High-Iron and Ischemia/Reperfusion Conditions" (May 2025).

Other Graduate Student Advising

Pollard, Deanna, joined the Brumaghim group as a Ph.D. student in August 2016 and left in December 2018 without a degree.

Quarles, C. D. (Ph.D.), "Determining Speciation of Metal Binding Proteins using Glow Discharge Mass Spectroscopy and Particle Beam/Hollow Cathode Optical Emission Spectroscopy," joint student with Prof. R. Kenneth Marcus at Clemson (May 2011).

Andrea, V. M. (Ph.D.), Chemical Education Ph.D. student from Dr. Gautam Bhattacharyya's research group for a one-year research project (August 2008-August 2009).

Postdoctoral Researcher Advising

Patel, U. "Synthesis of Copper Complexes with Thione, Selone, and Selenium Macrocyclic Ligands," (2013-2016).

Sathyamurthy, R., "Synthesis of Biologically-Relevant Iron-Selenolate Complexes," (2004-2006).

Undergraduate and High School Student Advising

Supervised the research of 36 undergraduate students and 5 high school students (from EUREKA! program) from 2003 to present. Of these, 18 entered graduate school, 7 entered

or intend to attend medical school, 3 entered pharmacy school, 8 are working in chemistry-related industrial positions with B.S. degrees, and 1 is still an undergraduate. One of these undergraduates, Luke Broughton, is currently a Beckman Scholar in my research group (2020-2021).

TEACHING

Courses Taught

CH 9000, Bioinorganic Chemistry, F03

CH 6040/4040, Bioinorganic Chemistry, S06, S08, S10, F11, S13, S15, S17, S18, S20

CH 8070, Chemistry of the Transition Elements, F04, F05, F06, F07, F08, F09, F10, F12, F13, F14, F15, F16, F17, F18, F19

CH 2050, Introductory Inorganic Chemistry, S05

CH 2060, Introductory Inorganic Chemistry Laboratory, S05

CH 8510, Organic/Inorganic Graduate Student Seminar F04, F06

CH 8600, Chemical Biology, S09, S11, S12, S14

CES 1900, Creative Inquiry in Engineering and Science, S15, S16

Supervised undergraduate researchers in a Creative Inquiry project titled "Imaginative Ligands and Unique Metal Complexes: A Marriage of Organic and Inorganic Chemistry" in collaboration with Prof. Modi Wetzler (Chemistry, Clemson University); F13, S14, F14, S15, F15, S16, F16, S17, F17, S18, F18, S18, F19, S20

Developed and taught a CES 1900 Foundations for Research Excellence course in collaboration with Ms. Sue Lasser, head of the PEER program, and Mr. Freddy Paige, a civil engineering graduate student. The course was designed to help incoming minority freshmen engineering and science majors learn tool to help them be successful college students and undergraduate researchers.

New Course Development

CH 3700, Lab Assistant Practicum, S20 (in collaboration with Senior Lecturer Elliot Ennis)
CES 1900, Foundations in Research Excellence, Summer 15 (for PEER program participants)
CH 4030, Synthetic Techniques Laboratory, F08
CH 8600, Chemical Biology, S07

CH 6040/4040, Bioinorganic Chemistry, S06

CH 9000, Bioinorganic Chemistry, F03

UNIVERSITY, PROFESSIONAL, AND PUBLIC SERVICE

Appointments

Faculty Member, Center for Nuclear Environmental Engineering Sciences and Radiological Waste Disposal at Clemson University (2017-present).

Appointed as a Faculty Scholar of Clemson University School of Health Research (CUSHR; 2017-2020).

Fellow, Institute for Nutraceutical Research at Clemson University (2006-2015).

Faculty Member, Environmental Toxicology Graduate Program at Clemson University (2005-present).

College and University Committees

Member, College of Science Inclusive Excellence Committee (2020-present).

Member, College of Science Mentoring Circle Committee (2019-present).

Member, Executive Director Enterprise Environmental Health and Safety Search committee (Fall 2019).

Elected Member, Clemson University Commission on Women (2018-2021).

Stakeholder Representative for the Child Development Center Design/Build capital project (2017-2020).

Chair, Committee on Childcare of the Clemson University Commission on Women (2016-2020, *ad hoc*).

Member, College of Science Diversity Plan Committee (2018-2019).

Lead Senator for the College of Science (2016-2017).

Elected Member, Faculty Senate (2014-2017).

Elected Member, President's Commission on the Status of Women (2011-2016).

Member, Environmental Toxicology Curriculum and Admissions Committee (2006-present).

Member, Associate Dean of Research Search Committee (2013-2014).

Other University Service and Professional Development

Trained as a Search Advocate (but trainees were then never officially certified by Clemson University, 2019).

Completed Clemson University workshops in Policies and Procedures for Building a Supportive Community (Title IX training, 2015), Diversity Benefits for Higher Education (2017), Civil Treatment Training for Employees (2018), Supervisor Training on Difficult Conversations (2019), Supervisor Training on Building an Effective Team (2019), Stay Interview Training (2019), Supervisor Training on Implicit Bias at Work (2020).

Executive mentor for a participant in the Trailblazers: Provost's Mentoring Initiative for Faculty program (2019-2020).

Faculty Advisor, Foundation for the International Medical Relief of Children (FIMRC), Clemson Student Chapter (2006-present).

Departmental Committees

Chair, Graduate Recruiting committee (2020-present).

Chair, Merit Evaluation committee (2018-present).

Chair, Undergraduate Lab Assistant committee (2018-present).

Member, Chemistry Department Biomaterials Faculty Search committee (2019-2020)

Search Advocate (uncertified), Chemistry Department Physical Chemistry Faculty Search committee (2019-2020).

Member, Department Chair Evaluation committee (2019).

Member, Faculty Awards committee (2017-2020).

Member, Graduate committee (2009-2011; 2013-2018).
Member, Long-Range Planning committee (2014-2015).
Member, Chair's Advisory committee (2013-2015).
Member, Newsletter committee (2011-2014).
Member, Chemistry Department Chair Search committee (2012-2013).
Member, Chemistry Department Seminar Series committee (2006-2009).
Member, Honors and Awards committee (2005-2009).
Chair, Chemical Biology committee (2006-2008).
Member, Bio-organic Faculty Search committee (2005-2006).
Member, NMR Instrumentation committee (2003-2005).
Member, TA/RA Support committee (2003-2004).

24 September 2020.