Joseph Patrick Emerson

Associate Professor
Department of Chemistry
1115 Hand Laboratories/Box 9573
Mississippi State, MS 39762

jemerson@chemistry.msstate.edu
Office: (662) 325-9500
Laboratory: (662) 325-3856
Fax: (662) 325-1618

Educational Background:

Post-Doctoral Research Fellowship
University of Minnesota, Minneapolis, MN

Ph.D. in Inorganic Chemistry
University of Georgia, Athens, GA, Degree granted in May 2003

B.S. in A.C.S. Comprehensive Chemistry
University of Wisconsin-Eau Claire, Eau Claire, WI, Degree granted in May 1999

Professional Experience:

Graduate Coordinator
January 1, 2017 through present
Department of Chemistry, Mississippi State University, Mississippi State, MS

Associate Professor of Chemistry
August 1, 2016 through present
Department of Chemistry, Mississippi State University, Mississippi State, MS

Assistant Professor of Chemistry
August 1, 2009 through July 31, 2016
Department of Chemistry, Mississippi State University, Mississippi State, MS

Assistant Professor of Chemistry
August 13, 2007 through July 31, 2009.
Department of Chemistry, McNeese State University, Lake Charles, LA

Post-Doctoral Research Fellowship,
June 2003 through August 9, 2004 and August 10, 2006 through July 20, 2007.
Department of Chemistry, University of Minnesota, Minneapolis, MN
(Mentor: Lawrence Que, Jr.)

National Institute of Health-Post-Doctoral Research Fellowship,
August 10, 2004 through August 9, 2006.
Department of Chemistry University of Minnesota, Minneapolis, MN
(Sponsor: Lawrence Que Jr.)

Graduate Research Assistantship,
May 2000 through May 2003.
Department of Chemistry University of Georgia, Athens, GA.
(Advisor: Donald M. Kurtz Jr.)
Ph.D. dissertation title "The Kinetics and Mechanism of Superoxide Reduction by Two-Iron Superoxide Reductase from *Desulfovibrio vulgaris*"

Peer Reviewed Publications [H-index 16; citation as of 7/6/2020; cited 1060 times in total]

37. The plant thimet oligopeptidases TOP1 and TOP2 are redox-sensitive proteins activated by oxidative stress
Thualfeqar Al-Mohanna, Nejat Najmeh, Joseph Emerson, George V. Popescu, and Sorina C. Popescu
In preparation

36. Synthesis and characterization of a tetradentate, N-heterocyclic carbene copper(II) complex and its use as a Chan-Evans-Lam coupling catalyst
James D. Cope, Patrick E. Sheridan, Christopher J. Galloway, Raymond Femi Awoyemi, Sean L. Stokes, Joseph P. Emerson
Organometallics, 2020 – accepted with revision

35. Manganese-Catalyzed Aziridination of Olefins with Chloramine-T in Water and Buffered Aqueous Solutions
Daniel K. Wolgemuth, James D. Cope, Sydnee D. Elmore, Sean L. Stokes, Joseph P. Emerson, Cat Comm 2020 - submitted

34. Streptococcus pneumoniae metal homeostasis alters cellular metabolism
Lindsey R. Burcham, Rebecca A. Hill, Rachel C. Caulkins, Joseph P. Emerson, Bindu Nanduri, Jason W. Rosch, Nicholas C. Fitzkee, Justin A. Thornton, *Metallomics*, 2020, Early access article.

33. Tuning the copper(II)/copper(I) redox potential for more robust copper-catalyzed C—N bond forming reactions
James D. Cope, Henry U. Valle, Ruby S. Hall, Kathleen M. Riley, Ekta Goel, Saborni Biswas, Michael P. Hendrich, David O. Wipf, Sean L. Stokes, Joseph P. Emerson, *European Journal of Inorganic Chemistry* 2020; 14:1278-1285. Doi: 10.1002/ejic.201901269 [0]

32. Thermodynamics of iron(II) and substrate binding to the ethylene-forming enzyme.
Mingjie Li, Salette Martinez, Robert P. Hausinger, Joseph P. Emerson
Biochemistry 2018; 57:5696-5705. doi: [0]

31. Synthesis, Characterization, and Structure of a [(phen)2Cu(OTf)]OTf Complex; An Efficient Nitrogen Transfer Pre-catalyst.
Henry U. Valle, Kathleen M. Riley, Dylan E. Russell, Daniel K. Wolgemuth, Shanterell L. Redd, Sean L. Stokes, Joseph P. Emerson
ChemistrySelect 2018; 2018; 3:5143-5146. doi: 10.1002/slct.201800588 [3]

30. The Irving William series and the 2-His-1-carboxylate facial triad: A thermodynamic study of Mn^{2+}, Fe^{2+}, and Co^{2+} binding to taurine/α-ketoglutarate dioxygenase (TauD)
Mingjie Li, Kate L. Henderson, Salette Martinez, Robert P. Hausinger, Joseph P. Emerson
Journal of Biological Inorganic Chemistry 2018 doi: 10.1007/s00775-018-1574-4 [1]

29. Resolving Distinct Molecular Origins for Copper Effects on PAI-1
Joel C. Bucci, Carlee S. McClintock, Yuzhuo Chu, Gregory L. Ware, Kayla D. McConnell, Joseph P. Emerson, Cynthia B. Peterson
Journal of Biological Inorganic Chemistry, 2017; 22:1123-1135. doi: 10.1007/s00775-017-1489-5. [2]

28. Global Stability of an α-Ketoglutarate-Dependent Dioxygenase (TauD) Using Differential Scanning Calorimetry
Kate L. Henderson, Mingjie Li, Salette Martinez, Robert P. Hausinger, Joseph P. Emerson
Biochimica Biophysica Acta 2017; 1851:987-994. doi: 10.1016/j.bbagen.2017.02.018 [3]

27. ITC methods for Assessing Buffer/Protein Interactions using Steady-State Kinetics: A reactivity study of Homoprotocatechuate 2,3-Dioxygenase
Kate L. Henderson, Delta K. Boyles, Vu H. Le, Edwin A. Lewis*, and Joseph P. Emerson
Methods in Enzymology 2016; 567:257-78. doi: 10.1016/bs.mie.2015.08.034 [0]

26. Calorimetric and spectroscopic investigations of the binding of metallated porphyrins to G-quadruplex DNA
Jesse I DuPont, Kate L Henderson, Amanda Metz, Vu H Le, Joseph P Emerson, Edwin A. Lewis*
Biochimica Biophysica Acta 2015 1860(5):902-9. doi: 10.1016/j.bbagen.2015.09.004.[17]

25. Thermodynamics of Substrate Binding to the Metal Site in Homoprotocatechuate 2,3-Dioxygenase: Using ITC under anaerobic conditions to study enzyme-substrate interactions
Kate L. Henderson, Danielle H. Francis, Edwin A. Lewis, Joseph P. Emerson*
Biochimica Biophysica Acta, 2015 1860(5):910-6. doi: 10.1016/j.bbagen.2015.07.013 [4]

24. Characterization of the Copper(II) Binding Sites in Human Carbonic Anhydrase II.
Whitnee L. Nettles, He Song, Eric R. Farquhar, Nicholas C. Fitzkee,* Joseph P. Emerson*
Inorganic Chemistry, 2015 54(12), 2278-2283. DOI: 10.1021/acs.inorgchem.5b00057 [16]

23. Iodide-Induced Organothiol Desorption and Photochemical Reaction, Gold Nanoparticle (AuNP) Fusion, and SERS Signal Reduction in Organothiol-Containing AuNP Aggregates
Ganganath S. Perera, Allen LaCour, Yadong Zhou, Kate L. Henderson, Shengli Zou, Felio Perez, Joseph P. Emerson, Dongmao Zhang
Journal of Physical Chemistry C, 2015 1119(8), 4261-4267. DOI: 10.1021/jp512168z [8]

22. Calorimetric Assessment of Fe2+ Binding to α-Ketoglutarate/Taurine Dioxygenase: Ironing Out the Energetics of Metal Coordination by the 2-His-1-Carboxylate Facial Triad
Kate L. Henderson, Tina Müller, Robert Hausinger, Joseph P. Emerson*
Inorganic Chemistry, 2015 54(5), 2278-2283. DOI: 10.1021/ic502881q [8]

21. Building reactive copper centers in human carbonic anhydrase II
He Song, Andrew C. Weirtz, Michael P. Hendrich, Edwin A. Lewis, Joseph P. Emerson*
Journal of Biological Inorganic Chemistry, 2013 18(6), 595-598 [11]

20. Calorimetry
Joseph P. Emerson,* Vu H. Le, Edwin A. Lewis
eLS (Encyclopedia of Life Sciences), 2012
John Wiley & Sons Ltd, http://www.els.net [0]

19. Revisiting Zinc Binding in Human Carbonic Anhydrase
He Song, David L. Wilson, Erik R. Farquhar, Edwin A. Lewis, and Joseph P. Emerson*
Inorganic Chemistry, 2012 51(20), 11098-105 [24]

18. Exploring Substrate Binding in Homoprotocatechuate 2,3-Dioxygenase using Isothermal Titration Calorimetry
Kate L. Henderson, Vu H. Le, Edwin A. Lewis, Joseph P. Emerson*
Journal of Biological Inorganic Chemistry, 2012 17(7), 991-4 [8]

17. *In vivo* Self-Hydroxylation of an Fe-Substituted Manganese Dependent Extradiol Dioxygenase
Erik R. Farquhar, Joseph P. Emerson, Kevin D. Koehntop, Milena Trmcic, Mark Reynolds, Lawrence Que, Jr.
Journal of Biological Inorganic Chemistry, 2011, 16(4), 589-97 [3]

16. **Human deoxyhypusine hydroxylase, an enzyme that regulates cell growth, has a nonheme diiron active site that binds O_2**
Van V. Vu, Joseph P. Emerson, Marlène Martinho, Yeon S. Kim, Eckard Munck, Myung H. Park, Lawrence Que, Jr.
Proceedings of the National Academy of Sciences, U.S.A.; 2009, 106(35), 14814-9 [69]

15. **Electron Paramagnetic Resonance Detection of Intermediates in the Enzymatic Cycle of an Extradiol Dioxygenase**
William A. Gunderson, Anna I. Zatsman, Joseph P. Emerson, Erik R. Farquhar, Lawrence Que Jr., John D. Lipscomb, Michael P. Hendrich
Journal of the American Chemical Society; 2008, 130, 14465–7 [63]

14. ***Synthesis, X-Ray Crystallographic Characterization, and Electronic Structure Studies of a Di-Azide Iron(III) Complex: Implications for the Azide Adducts of Iron(III) Superoxide Dismutase***
Laurie E. Grove, Jason K. Hallman, Joseph P. Emerson, Jason A. Halfen, Thomas C. Brunold
Inorganic Chemistry; 2008, 47, 5762-74 [8]

13. **Swapping Metals in Fe- and Mn-Dependent Dioxygenases. Evidence for Oxygen Activation Without a Change in Metal Redox State**
Joseph P. Emerson, Elena G. Kovaleva, Erik R. Farquhar, John D. Lipscomb, and Lawrence Que, Jr.
Proceedings of the National Academy of Sciences, U.S.A.; 2008, 105, 7347-52 [86]

12. **Reaction of *Desulfovibrio vulgaris* Two-Iron Superoxide Reductase with Superoxide: Insights from Stopped-flow Spectrophotometry**
Victor W. Huang, Joseph P. Emerson, Donald M. Kurtz, Jr.
Biochemistry; 2007, 46, 11342 – 51 [23]

11. **Structural "Snap-Shots" along Reaction Pathway of Non-heme Iron Enzymes**
Joseph P. Emerson, Erik R. Farquhar, and Lawrence Que, Jr.
Angewandte Chemie International Edition; 2007, 46; 8553 – 6 [16]
"Schnappschüsse" von Strukturen entlang der Reaktionswege von Nicht-Häm-Eisenenzymen
Joseph P. Emerson, Erik R. Farquhar, and Lawrence Que, Jr.
Angewandte Chemie; 2007, 119 (45), 8705-8708 [18]

10. **Post-translational Self-hydroxylation in Non-heme Iron Enzymes**
Erik R. Farquhar, Kevin D. Koehntop, Joseph P. Emerson, Lawrence Que, Jr.
Biochemical and Biophysical Research Communications; *2005,* 338; 230 – 9 [11]

9. **The Role of Histidine 200 in MndD, the Mn(II)-dependent 3,4-Dihydroyphenylacetate 2,3-Dioxygenase from *Arthrobacter globiformis* CM-2 from Site-Directed Mutagenesis Studies**
Joseph P. Emerson, Michelle L. Wagner, Mark F. Reynolds, Lawrence Que, Jr. Michael J. Sadowsky, and Lawrence P. Wackett
Journal of Biological Inorganic Chemistry; 2005, 10; 751-760 [27]

8. **The 2-His-1-Carboxylate Facial Triad: A Versatile Platform for Dioxygen Activation at Mononuclear Nonheme Iron(II) Enzymes**
Kevin D. Koehntop, Joseph P. Emerson, Lawrence Que, Jr.
Journal of Biological Inorganic Chemistry; 2005, 10(2); 87-93 [311]

7. **Iron Enzymes with Mononuclear Nonheme Active Sites**
Joseph P. Emerson, Mark P. Mehn, Lawrence Que, Jr.
Encyclopedia of Inorganic Chemistry II; John Wiley & Sons, Inc.; 2005 [0]

6. **Kinetics of the Superoxide Reductase Catalytic Cycle**
Joseph P. Emerson, Eric D. Coulter, Robert S. Phillips, and Donald M. Kurtz, Jr.
Journal of Biological Chemistry; 2003; 278(41); 39662-8 [44]

5. **Spectroscopic Characterization of the [Fe(NHis)$_4$(SCys)] site in 2Fe-Superoxide Reductase for *Desulfovibrio vulgaris***
Michael D. Clay, Joseph P. Emerson, Eric D. Coulter, Donald M. Kurtz, Jr., Michael K. Johnson
Journal of Biological Inorganic Chemistry, 2003; 8; 671-82 [26]

4. **An Engineered Two-Iron Superoxide Reductase Lacking the [Fe(SCys)$_4$] Site Retains its Catalytic Properties *in vitro* and *in vivo***
Joseph P. Emerson, Diane E. Cabelli, and Donald M. Kurtz, Jr.
Proceedings of the National Academy of Sciences, U.S.A.; 2003; 100, 3802-7 [40]

3. **Kinetics and Mechanism of Superoxide Reduction by Two-Iron Superoxide Reductase from *Desulfovibrio vulgaris.***
Joseph P. Emerson, Eric D. Coulter, Diane E. Cabelli, Robert S. Phillips, and Donald M. Kurtz, Jr.
Biochemistry; 2002; 41(13); 4348-57 [80]

2. **Superoxide Reactivity of Rubredoxin Oxidoreductase (Desulfoferrodoxin) from *Desulfovibrio vulgaris*: A Pulse Radiolysis Study**
Eric D. Coulter, Joseph P. Emerson, Donald M. Kurtz, Jr., and Diane E. Cabelli
Journal of the American Chemical Society; 2000; *122*(46); 11555-6. DOI: 10.1021/ja005583r [93]

1. **Remarkably Efficient Olefin Aziridination Mediated by a New Copper(II) Complex**
Jason A Halfen, Jason K. Hallman, John A. Shultz, and Joseph P. Emerson
Organometallics; 1999; *18*(26); 5435-7. DOI: 10.1021/om9908579 [53]

Selected Posters and Presentations

Bioinspired catalysts for C- and N-transfer reactions
Joseph P. Emerson
University of Alabama-Huntsville, August 2018, Huntsville, AL

Mechanistic insight into the ethylene forming enzyme (EFE) and sustainable catalysis for asymmetric C- and N-atom transfer reactions
Joseph P. Emerson
University of Mississippi, April 2018, Oxford, MS

Building nonheme metal sites in biological systems
Joseph P. Emerson
Mississippi Regional Biophysical Consortium, May 2016, Starkville, MS

Metal ion coordination chemistry in biological systems - structure, stability, and reactivity
Joseph P. Emerson
East Carolina University, December 2015, Greenville, NC

Metal ion coordination chemistry in biological systems - structure, stability, and reactivity
Joseph P. Emerson
Mississippi State University, October 2015, Mississippi State

Exploring the thermodynamics of metal ion coordination in non-heme metalloproteins
Joseph P. Emerson
Department of Chemistry and Biochemistry, Texas Woman's University, March 2015, Denton, TX

Characterizing the thermodynamics of metal ion coordination in non-heme metalloproteins
Joseph P. Emerson
Department of Chemistry, McNeese State University, October 2014, Lake Charles, LA

Biological Coordination Chemistry – Characterizing the thermodynamics of metal ion coordination in non-heme metalloproteins
Joseph P. Emerson
Calorimetry Conference, July 2014, Santa Fe, NM

Biological Coordination Chemistry - Exploring the metal ion affinity and selectivity in non-heme metalloproteins
Joseph P. Emerson
Department of Chemistry, Tulane University, April 2014, New Orleans, LA

Exploring the metal ion affinity and selectivity in proteins
Joseph P. Emerson
University of Texas-Arlington, November, 2013, Arlington, TX

Probing the Metal Ion Affinity to Non-Heme Metal Sites in Proteins
Joseph P. Emerson
University of Alabama-Birmingham, November, 2013, Birmingham, AL

Biological Coordination Chemistry: Exploring selectivity in metalloenzymes
Joseph P. Emerson
University of Alabama-Huntsville, October, 2013, Huntsville, AL

Rebuilding metal sites in Carbonic Anhydrase II
Joseph P Emerson
Xavier University of Louisiana, March 2013, New Orleans, LA

Introduction to EPR Spectroscopy
Joseph P. Emerson
5th Annual Meeting of the Mississippi Biophysical Consortium, June 2011, Oxford, MS

Exploring substrate binding and selectivity in metalloenzymes
Joseph P Emerson
Department of Chemistry, University of Memphis, February 2012, Memphis, TN

Exploring substrate selectivity in non-heme metalloenzymes
Joseph P. Emerson
Mississippi Academy of Science, February 2012, Hattiesburg, MS

Exploring substrate binding and selectivity in (non-heme) metalloenzymes
Joseph P. Emerson
Department of Chemistry, Mississippi State University, February 2012, Starkville, MS

Exploring substrate binding and selectivity in non-heme metalloenzymes
Joseph P. Emerson
Department of Chemistry and Biochemistry, Auburn University, November 2011, Auburn, AL

EPR and X-ray absorption spectroscopies and their use in studying metalloenzymes
Joseph P. Emerson
4th Annual Meeting of the Mississippi Biophysical Consortium, June 2011, Oxford, MS

Re-engineering PrnB
Joseph P. Emerson
Department of Chemistry and Biochemistry, Millsaps College, November 2010, Jackson, MS

Re-engineering Nature's Biocatalysts: The New Activity of Carbonic Anhydrase
Joseph P. Emerson
A&S Research Showcase, Mississippi State University, October 2009, Starkville, MS

Dioxygen Activation at Iron- and Manganese-Metalloenzymes
Joseph P. Emerson
Department of Chemistry, Mississippi State University, February 2009, Starkville, MS

Iron and Its effect on Wine Oxidation
Joseph P. Emerson
Southwest Louisiana Section of the American Chemical Society, January 2009
Lake Charles, LA

Oxygen activation and Metalloenzymology
Joseph P. Emerson
Department of Chemistry, McNeese State University, February 2008, Lake Charles, LA

Mn- and Fe- Dependent Extradiol Dioxygenase Enzymes
Joseph P. Emerson
Department of Chemistry, McNeese State University, March 2007, Lake Charles, LA

Mn- and Fe- Dependent Extradiol Dioxygenase Enzymes
Joseph P. Emerson
Department of Chemistry, University of Hawai'i - Manoa, December 2006, Honolulu, HI

Metalloenzymes. Oxygen Activation. Potential Tuning.
Joseph P. Emerson
Metalloprotein Interest Group, University of Minnesota, January 2006, Minneapolis, MN

Dioxygen Activation in Mn- and Fe- Dependent Extradiol Dioxygenase Enzymes
Joseph P. Emerson
BioTech Institute and the Department of Biochemistry, Biophysics and Molecular Biology, University of Minnesota, January 2006, St. Paul, MN

The 2-His-1-Carboxylate Facial Triad
Joseph P. Emerson, Kevin K. Koehntop, Erik R. Farquhar, and Lawrence Que, Jr.
International Conference on Bio-Inorganic Chemistry, August 2005, Ann Arbor, MI

A Cambialistic Pair of Mn- and Fe-Dependent Dioxygenases
Joseph P. Emerson, Kevin D. Koehntop, John D. Lipscomb, and Lawrence Que, Jr.
International Conference on Bio-Inorganic Chemistry, August 2005, Ann Arbor, MI,
Metalloprotein Interest Group poster session, September 2005, Minneapolis, MN

A Pair of Cambialistic Extradiol Dioxygenases
Joseph P. Emerson
Gordon Conference Graduate Research Seminar on Bioinorganic Chemistry, January 2005, Ventura, CA

A Pair of Cambialistic Extradiol Dioxygenases
Joseph P. Emerson, Lawrence Que Jr. and John D. Lipscomb
Gordon Conference on Metals in Biology, January 2005, Ventura, CA

The Kinetics and Mechanism of Superoxide Reduction by Two-Iron Superoxide Reductase from *Desulfovibrio vulgaris*
Joseph P. Emerson
Metalloprotein Interest Group, University of Minnesota, October 2003, Minneapolis, MN

The Reaction of *Desulfovibrio vulgaris* 2Fe-SOR (Rubredoxin oxidoreductase) with Superoxide
Joseph P. Emerson, Eric D. Coulter, Donald M. Kurtz Jr., and Diane E. Cabelli
International Conference on Bio-Inorganic Chemistry, August 2001, Florence, Italy
Procter & Gamble Poster Competition, Athens, GA, September 2001 [5-6]

Superoxide Reactivity of Rubredoxin Oxidoreductase (Desulfoferrodoxin). A Pulse Radiolysis Study
Eric D. Coulter, Joseph P. Emerson, Donald M. Kurtz Jr., and Diane E. Cabelli
Inorganic Biochemistry Summer Workshop, June 2000, Athens, GA,
The Power of Anaerobes,Athens, GA,May 2000,
2000 Procter & Gamble Poster Competition,Athens,GA,September 2000 [2-4]

Synthetic Models for Non-Native Metal Substituted Mononuclear Superoxide Dismutases
Joseph P. Emerson, Gregory D. Farrell, Jason K. Hallman, and Jason A. Halfen
National Meeting of the American Chemical Society, Anaheim, CA; American Chemical Society March, 1999: INOR 476 [1]

Submitted Proposals

New bioactive molecules from imidazole and benzimidazole-based compounds
$2000 (PI, ORED Undergraduate Research Program, Miss State, 2020) - submitted

Polarized Resonance Synchronous Spectroscopy as an Enabling Tool, From Dispersed Molecules, Molecular Assembly, to Single-cell Organism
$394,378 (co-I, NIH R21 program, 2020) - submitted

The biophysics of zinc transcription factors from S. pneumoniae
$434,405 (PI, NIH R15 program, 2019) - declined

Mononuclear copper(II) complexes for C—N bond forming reactions
$110,000 (PI, ACS PRF ND program, 2019) - withdrawn

CHEMISTRY DEPARTMENT 2018-2019 GRADUATE RECRUITMENT ASSISTANT GRANT
$ 25,000 (co-writer, Graduate Recruiting Assistant Grant program, Mississippi State University, 2020) – declined

Zn-dependent Transcript Factors from S. pneumoniae and their Equilibria
$73,421 (PI, NIH COBRE program Seed funding, 2019) - declined

Structure/function relationships in DNA hybrid catalysts for water-tolerant asymmetric transformations
$410,667 (PI, NIH, R-15 program, 2018) – declined

DNA hybrid catalysts for water-based transformations
$479,130 (PI, NSF CAT program, 2018) – declined

Characterizing the coordination sphere of manganese(III) and copper(II) centers in DNA/metal complex hybrid catalysts using XAS (PI, NSLS, GU 2019) - declined

Hybrid DNA-transition metal complexes for asymmetric catalysis
$403,466 (PI, NIH, R-15 program, 2018) - *declined*

Intra-subunit cooperativity in non-heme iron(II) enzymes
$603,225 (PI, NSF, MCB program, 2017) - *declined*

Using biochar as catalyst support for Bio-oil upgrading
$501,421 (PI, NSF, CAT program, 2017) - *declined*

The thermodynamics of zinc regulation in S. pneumonia
$7000 (PI, Henry Family Research Fund, MSU, 2017) – *declined*

Metal ions in biological systems - Lewis acidity and its impact on stability and function
$674,353 (PI, NSF, MCB program, 2016) – *declined*

Bioinspired Catalysts for Enantioselective Aziridination, Epoxidation, and Hydrolysis: Towards Heterogeneous Catalysis using Metal-(Linked Amino-Acid) Compounds

$110,00 (PI, Petroleum Research Fund, New Direction program, 2016) – *declined*

Biological coordination chemistry of nonheme iron(II) centers in HPCD and TauD
$413,564 (PI, National Institutes of Health, R-15 program, 2016) – *declined*

The thermodynamics of zinc coordination to human carbonic anhydrase II, IX, and XII.
$407,009 (PI, National Institutes of Health, R-15 program, 2016) – declined

Zinc-dependent metabolic changes alter Streptococcus pneumonia biofilm formation
$145,500 (I, National Institutes of Health, R-03 program, 2016) – *declined*

Transition Metal binding to Carbonic anhydrase: Towards understanding the thermodynamics involved with metal chelation in proteins
$697,321 (PI, National Science Foundation, MCB 2015) – declined

Epoxidation and Aziridination (bio)catalysis in ionic liquids: Moving towards stereoselective and regioselective catalysis, $110,000 (PI, ACS Petroleum research Fund, 2015) - declined

Exploring the initial steps of the O_2 activation mechanism in HPCD, $ 414,619 (PI, National Institutes of Health, R-15 program, 2015) – scored, 53

Enzyme stability and reactivity in ionic liquids, $ 10,000 (PI, Henry Family Research Program, College of Arts and Sciences, Mississippi State University, 2015) – declined

Exploring the Initial Steps of the O_2 Activation Mechanism in Nonheme Iron Proteins, $ 407,784 (PI, National Institutes of Health, R-15 program, 2015) – declined

Exploring the coordination chemistry of HPCD: A thermodynamic study of metal ion coordination chemistry in a nonheme iron enzyme, $ 460,889 (PI, National Science Foundation, Chemistry of Life's Processes program, 2014) – declined

The Thermodynamics of Transition Metal Ions binding to Non-heme Metalloproteins, $ 406,929 (PI, National Institutes of Health, R-15 program, 2014) – declined

Exploring the first steps of the dioxygen activation mechanism of HPCD, $ 409,809 (PI, National Institutes of Health, R-15 program, 2014) – scored, 42

Dissecting macromolecular assembly and regulation within the human iron-sulfur cluster biosynthesis complex, $ 802,287 (co-PI, National Science Foundation, MCB, 2013) – declined

REU-CLUE: The Chemistry of Life Undergraduate Experience, $ 296,683 (Investigator, National Science Foundation, REU program, 2013) – declined

CAREER:Exploring the thermodynamics of metal ion coordination to proteins, $ 654,259 (PI, National Science Foundation, CAREER program, 2013) – declined

Exploring the thermodynamics of metal ion and substrate binding in the mechanism of HPCD, $ 398,877 (PI, National Institutes of Health, R15 program, 2013) – declined

Repurposing carbonic anhydrase to model non-heme metalloenzymes, $ 394,269 (PI, National Science Foundation, Chemistry of Life's Processes, 2012) – declined

Exploring the thermodynamics of substrate binding in homoprotocatechuate 2,3-dioxygenase, $ 392,102; (PI, National Institutes of Health, R15 program, 2012) – declined

REU Site: Mississippi State University in Partnership with Regional HBCUs and PUCUs, $ 505,709 (PI, National Science Foundation, 2011) – declined

Taking Inventory of the Extracellular Products of *Burkholderia ambifaria* and Inhibiting Pyrrolnitrin Biosynthesis, $ 322,689 (PI, NIH, R21 program 2011) – declined

REU Site: Mississippi State University in Partnership with Regional HBCUs, $ 716,160 (PI, National Science Foundation, 2010) – declined

CAREER: Engineering New Transition Metal Centers in Carbonic Anhydrases, $ 614,351 (PI, National Science Foundation CAREER Award Program, 2010) – declined

Copper-Prodigiosins and their Auto-oxidation Mechanism, $ 65,839 (MS-NSF EPSCoR, 2010) – declined

Probing the New Reactivity of Re-engineered Proteins with Computational Methods, $ 46,350 (Mississippi NSF EPSCoR 2009/2010 Seed Research Grant Program, 2009) – declined

Inhibition of the Pyrrolnitrin Biosynthetic Pathway in Burkholderia ambifaria, $ 2,053,073 (National Institutes of Health, 2009) – declined

Two Distinctive N-Oxygenases: Expression, Isolation, Characterization; $ 10,000 (Research Initiation Program, Mississippi State University, 2009) – declined

CAREER: Reactivity of Transition Metal Substituted Carbonic Anhydrases: An Inquiry into Metal-Protein Interactions, $ 538,105 (National Science Foundation, 2009) – declined

Funded Projects/Grants ($792,006 in total funding)
REU Site: Innovations at the Nexus of Food, Energy and Water Security
$357,534 (I, National Science Foundation, REU program, 2019)

CHEMISTRY DEPARTMENT 2017-2018 GRADUATE RECRUITMENT ASSISTANT GRANT
$ 14,500 (ghost-writer, Graduate Recruiting Assistant Grant program, Mississippi State University, 2019)

CHEMISTRY DEPARTMENT 2017-2018 GRADUATE RECRUITMENT ASSISTANT GRANT
$ 17,500 (co-writer, Graduate Recruiting Assistant Grant program, Mississippi State University, 2018)

Analysis of thiol switches in plant-specific thimet oligopeptidases (TOPs) using calorimetry, light scattering, and vibrational spectroscopy methods
$ 2,000 (co-I, Cross-college research program, Mississippi State University, 2017)

REU Site: INFEWS: Food, Energy, and Water Security
$274,997 (I, National Science Foundation, REU program, 2016)

Characterizing Metal-Substituted Carbonic Anhydrases and Related Complexes by X-ray Absorption Spectroscopy" (PI, National Synchrotron Light Source, Brookhaven National Laboratory, NSLS PASS #17961)

Faculty/Student Research Support Program,
$ 3,000 (National Synchrotron Light Source, Brookhaven National Laboratory, 2011)

Undergraduate and Graduate Stipends,
$ 13,500 (RCE/EP Fund, McNeese State University, 2008)

Hetero-atom Oxidation in Streptomyces violaceoruber; the Study of Two Distinctive N-Oxygenases,
$ 3,450 (Shearman Research Initiative Fund, McNeese State University, 2008)

Bacterial Growth and Enzyme Over-expression Equipment,
$ 8,129 (Community Support Fund, McNeese State University, 2007)

Misonix Ultrasonic Cell Disruptor System,
$ 5,256 (Community Support Fund/Office of Academic Affairs, McNeese State University, 2007)

National Institute of Health-Post-Doctoral Research Fellowship,
$ 79,272 (National Institute of Health, 2004)

Awards:

James W. Bagley Faculty Award (Mississippi State University, 2012)
2011 State Pride Award (Mississippi State University, 2011)
2008 – 2009 Endowed Professorship in Science (McNeese State University, 2008)
2007 – 2008 Endowed Professorship in Science (McNeese State University, 2007)
2003 Outstanding Graduate Student Award (American Chemical Society, 2003)
2003 Outstanding Graduate Student Award (University of Georgia, 2003)
2000 Procter & Gamble Poster Competition (University of Georgia, 2000)
Student Research Poster Award (University of Wisconsin-Eau Claire, 1999)
Students of Dr. "O" Scholarship (University of Wisconsin-Eau Claire, 1998)

Reviewer for:

ACS Petroleum Research Fund
National Science Foundation
NSF/Kansas EPSCoR Program
Achieves of Biochemistry and Biophysics
International Journal of Molecular Science
Journal of Medicinal Chemistry
Journal of Biological Inorganic Chemistry
Journal of Inorganic Biochemistry
Journal of the American Chemical Society
Biochemistry
Biochimica et Biophysica Acta – Proteins and Proteomes
Biochimica et Biophysica Acta – General subjects
Chemical Sciences
Inorganic Chemistry
Chemistry A European Journal
Inorganica Chimica Acta
Molecules
Chemistry: The Science in Context, 5th Ed. By Gilbert et al.

Academic Service:

Mississippi State University's Chemistry Graduate Council, Moderator (Spring 2018)

Mississippi State University's Department of Chemistry Faculty Search Committee (Fall 2018)

Mississippi State University's Department of Chemistry Graduate Recruiting Booth
SURC, February 2018, Oxford, MS

Mississippi State University's Department of Chemistry Graduate Recruiting Booth
SERMACS, November 2017, Charlotte, NC

Mississippi State University's Department of Chemistry Graduate Affairs Committee
(Spring 2010-Fall 2014, Spring 2017-present)

Mississippi State University's Department of Chemistry Graduate Recruitment Committee
(Spring 2010-present)

Mississippi State University's Department of Chemistry Freshman Chemistry Committee (Spring 2015-present)

Mississippi State University's Department of Chemistry Faculty Search Committee (Fall 2017)

Mississippi State University's 2017 Goldwater internal reviewer (Spring 2017)

Mississippi State University's 2017 Graduate Awards Selection Committee (Spring 2017)

Mississippi State University's Department of Chemistry Department Head Search Committee (Fall 2016)

Mississippi State University's Department of Chemistry Organic Faculty Search Committee (Fall 2015)

Mississippi State University's Department of Chemistry External Seminar Coordinator (Fall 2013-Fall 2014)

Primary organizer of the 6th annual meeting of the Mississippi Regional Biophysical Consortium (May 2013)

Replacement/Temporary interview participant for Mississippi State University's Department of Chemistry Faculty Search Committee (Spring 2013)

Mississippi State University's Department of Biochemistry, Molecular Biology, Entomology and Plant Pathology Faculty Search Committee (Summer 2011)

Mississippi State University's Department of Chemistry Faculty Search Committee (Fall 2010)*

Mississippi State University's Department of Chemistry Safety Committee – Biological Safety Specialist
(Spring 2010-Fall 2011)

Mississippi State University's Department of Chemistry Inorganic Laboratory Coordinator
(Spring 2010-Fall 2013)

Mississippi State University's Department of Chemistry Instrumentation Committee
(Spring 2010-Spring 2013)

Academic Service:

Mississippi State University's Department of Chemistry Organic Chemistry Faculty Search Committee (Fall 2009)

McNeese State University's Department of Chemistry Annual Performance Review Committee (Fall 2007-Summer 2009)

McNeese State University's Chemical Safety Committee (Fall 2007-Summer 2009)*

McNeese State University's Department of Chemistry Graduate Faculty Committee (Fall 2007-Summer 2009)

McNeese State University's General Chemistry Instruction Committee (Fall 2007-Summer 2009)

McNeese State University's Department of Chemistry Curriculum Development Committee (Fall 2007-Summer 2009)

McNeese State University's Inorganic and Organic Chemistry Faculty Search Committee (Fall 2008)

McNeese State University's McNeese State University Academic Appeals Committee (Summer 2008-Summer 2009)
* indicates committees chaired

Graduate Students Mentored

MD Raihan Uddin	Mississippi State University Chemistry graduate student, 2019-present
James Cope	Mississippi State University Chemistry graduate student, 2018-present
Kayla D McConnell	Mississippi State University Chemistry graduate student, 2015-present

Dr. Thualfeqar Al-Mohanna, PhD
Mississippi State University Chemistry graduate student, 2014-2017
MSU Life Science graduate student, 2017-2019 (co-advised with S. Popescu)
PhD degree granted in October 2019, dissertation entitled "Biochemical characterization and regulatory mechanism of plant Thimet Oligopeptidases under Oxidative and Reductive Stress"

Prakash Khanal, MS
Mississippi State University Chemistry graduate student, 2018-2019
MS degree granted in June 2019, thesis entitled "Purification and characterization of CopR, a copper(II) dependent transcription factor"

Zhenyu (Tony) Zhu, MS
Mississippi State University Chemistry graduate student, 2017-2019
MS degree granted in June 2019, thesis entitled "Ruthenium(II) Arene Complexes for Asymmetric Catalysis"

ASM Saem, MS
Mississippi State University Chemistry graduate student, 2017-2019
MS degree granted in June 2019, thesis entitled "Purification and preliminary characterization of zinc(II) dependent transcription factor AdcR."

Sydnee Elmore, MS
Mississippi State University Chemistry graduate student, 2017-2019
MS degree granted in June 2019, thesis entitled "Aziridinations in aqueous solutions using DNA templating: Towards sustainable asymmetric catalysis"

Daniel K Wolgemuth, MS
Mississippi State University Chemistry graduate student, 2016-2019
MS degree granted in June 2019, thesis entitled "(*Meso*-tetra(N-methyl-4-pyridyl)porphyrin)manganese(III) iodide: A water stable catalyst for the aziridination of olefins"

Dr. Henry U Valle, PhD
Mississippi State University Chemistry graduate student, 2015-2018
PhD degree granted in June 2018, dissertation entitled "Copper(II) complexes for olefin aziridination and cyclopropanation: Towards asymmetric N- and C-atom transfer catalysts."

Dr. Mingjie Le, PhD
Mississippi State University Chemistry graduate student, 2013-2018
PhD degree granted in June 2018, dissertation entitled "Energetics of metal and substrates binding to the 2-His-1-carboxylate facial triad binding motif in nonheme iron(II) enzymes**"**

Dr. Whitnee L Nettles, PhD
Mississippi State University Chemistry graduate student, 2011-2016
PhD degree granted in March 2015, dissertation entitled "Copper coordination with protein, peptides, and small molecules**"**

Madhubhashini Lakdusinghe, MS
Mississippi State University Chemistry graduate student, 2013-2015
MS degree granted in December 2015, thesis entitled "Thermodynamic Studies of Zn^{2+} binding to Glutathione"

Graduate Students Mentored (cont'd)

Dr. Kate L Henderson, PhD

Mississippi State University Chemistry graduate student, 2010-2015
PhD degree granted in March 2015, dissertation entitled "*Thermodynamic studies of the 2His-1carboyxlate facial triad*"

Dr. David L Wilson, PhD, MS

Mississippi State University Chemistry graduate student, 2009-2015
PhD degree granted in July 2015, dissertation entitled "Human carbonic anhydrase II: preparation, metal-substitution, activity, and inhibition"

McNeese State University, Chemistry graduate student 2008-2009
M.S. degree granted in July 2009, thesis entitled "The Preparation and Characterization of Metal-Substituted Carbonic Anhydrase Complexes"

Dr. He Song, PhD

Mississippi State University Chemistry graduate student, 2009-2013
PhD degree granted in August 2013, dissertation entitled "*Characterization of Transition Metals Binding to Carbonic Anhydrase*"

Qi Ge, MS

Mississippi State University Chemistry graduate student, 2009-2012
M.S. degree granted in July 2012, thesis entitled "*In vitro* catalytic activity and inhibition study of PrnB from *Burkholderia ambifaria*"

Graduate Students Mentored

Viveka Lakruwani Perera	Mississippi State University Chemistry graduate student, 2014-2016
Teresa Brown	Mississippi State University Chemistry graduate student, 2015-2017[#]
Or I Benet	Mississippi State University Chemistry graduate student, 2013-2015[#]
Amy E Martin	Mississippi State University Chemistry graduate student, 2012-2014[#]
Isharu Abubakar	Mississippi State University Chemistry graduate student, 2010-2012[#]
Vinuthna Neelam	Mississippi State University Chemistry graduate student, 2010[#]
WMAMB Wijekoon	Mississippi State University Chemistry graduate student, 2010-2011[#]
Amanda Dickten	McNeese State University Chemistry graduate student, 2008[#]
Pratap R M Siva	McNeese State University Chemistry graduate student, 2008-2009
Sehkar S Badam	McNeese State University Chemistry graduate student, 2008-2009

[#]left without degree

Current Graduate Student Committee Membership

Xiu Zhu Xu	MSU PhD/Grad Student (Zhang)
Raymond Awoyemi	MSU PhD/Grad Student (Wipf)
Solomon Tesfaye	MSU PhD/Grad Student (Smith)
Eugene Caldona	MSU PhD/Grad Student (Smith)
Chathuranga RRI Bandaralage	MSU PhD/Grad Student (Scott)
Mohammed Almtiri	MSU PhD/Grad Student (Scott)
Sharifur Rahman	MSU PhD/Grad Student (TMlsna)
Hasara Samaraweera	MSU PhD/Grad Student (TMlsna)
Lisa Smith	MSU PhD/Grad Student (DMlsna)
Ryan Williams	MSU PhD/Grad Student (Fitzkee)
MD Siddik Alom	MSU PhD/Grad Student (Fitzkee)
Lakmal Hetti Handi	MSU PhD/Grad Student (Cui)
Mojtaba H Shayegan	MSU PhD/Grad Student (Cui)
Xiaolin Qian	MSU PhD/Grad Student (Cui)
Maggie Leak	MSU PhD/Grad Student (MlsnaD)
Lakmal Chaminda Hetti Handi	MSU PhD/Grad Student (Cui)
Paniyanduwage (Maleesha) De Silva	MSU PhD/Grad Student (Patrick)
Jerrano Bowleg	MSU PhD/Grad Student (Gwaltney)
Sumudu Athukorale	MSU PhD/Grad Student (Zhang)
Randika Perera	MSU PhD/Grad Student (Fitzkee)
Rebecca Hill	MSU PhD/Grad Student (Fitzkee)
Robert Lamb	MSU PhD/Grad Student (Webster)
Karunanayate UPA Gayanthi	MSU PhD/Grad Student (Mlsna)

Former Graduate Student Committee Membership

Dr. Sumudu Athukorale	MSU PhD/Grad Student (Zhang)
Dr. Dulani M W Samarasekara	MSU MS/Grad Student (DMlsna)
Jerrano Bowleg	MSU MS/Grad Student (Gwaltney)
Dr. Ekta Goel	MSU PhD/Grad Student (Wipf)
Charles Dotse	MSU PhD/Grad Student (MlsnaD)[#]
Fatemeh Aghabozorgi	MSU non-thesis MS/Grad Student
Dr. Viveka Perera	MSU PhD/Grad Student (MlsnaD)
Jarquees Williams	MSU PhD/Grad Student (MlsnaD/Wipf)[#]
Savannah West	MSU MS/Grad Student (Lewis)
Dr. Narada Bombuwala	MSU PhD/Grad Student (MlsnaT)

Former Graduate Student Committee Membership (cont'd)

Mohammad (Jewel) Rahman	MSU MS/Grad Student (Wipf)
Dr. Min Zhang	MSU PhD/Grad Student (Webster)
Dr. Dinusha Jinasena	MSU PhD/Grad Student (Fitzkee)
Dr. Dinesh Yadav	MSU PhD/Grad Student (Fitzkee)
Dr. Jinyan She	MSU PhD/Grad Student (MlsnaT)
Dr. Yue Zhang	MSU PhD/Grad Student (Fitzkee)
Dr. Lindsey Brown	MSU PhD/Grad Student (Thorton – Biology)
Dr. Guangchao Liang	MSU PhD/Grad Student (Webster)
Dr. Hadi Khani	MSU PhD/Grad Student (Wipf)
Dr. Clinton Mikek	MSU PhD/Grad Student (Lewis)
Dr. W K Kumudu D Siriwardana	MSU PhD/Grad Student (Zhang)
Dr. H.A. Ganganath S. Perera	MSU PhD/Grad Student (Zhang)
Dr. Griffin Burk	MSU PhD/Grad Student (MlsnaT)
Amanda Metz	MSU PhD/Grad Student (Lewis) 2015-2016[#]
Dr. Radhika Reddy	MSU PhD/Grad Student (Rowland/Mead)
Dr. Ailin Yang	MSU PhD/Grad Student (Fitzkee)
Dr. Jesse I DuPont	MSU PhD/Grad Student (Lewis)
Dr, Gopalakishna Akurathy	MSU PhD/Grad Student (Rowland/Hollis)
Sriramya Tata	MSU MS/Grad Student (Fitzkee)
Dr. Manuel Gadogbe	MSU PhD/Grad Student (Zhang)
Dr. Wesley Clark	MSU PhD/Grad Student (Hollis/Mead)
Dr. Sean Reilly	MSU PhD/Grad Student (Hollis/Mead)
Amarraj Chakraborty	MSU MS/Grad Student (Rowland/Hollis)
Karen Woods	MSU MS/Grad Student (Fitzkee)
Dr. Hannah Box	MSU PhD/Grad Student (Rowland/Hollis/Mead)
Lord Famiyeh	MSU MS/Grad Student (Mlsna)
Virginia Tyson	MSU MS/Grad Student (Hollis)
Tyler Howell	MSU MS/Grad Student (Hollis)
Dr. Verna Barron	MSU PhD/Grad Student (Mead)
Dr. Matthew Essendoh	MSU PhD/Grad Student (Mlsna)
Dr. Dongdi Sun	MSU PhD/Grad Student (Mlsna)
Yahaira De Bary Reyes	MSU MS/Grad Student (Mead)
Jarquees Williams	MSU MS/Grad Student (Henry)
Dr. Shamitha Dissanayake	MSU PhD/Grad Student (Mlsna)
Dr. Bidhya Kunwar	MSU MS and PhD/Grad Student (Mlsna)
Dr. Vu Le	MSU PhD/Grad Student (Lewis)
Dr. Venkata Maacha	MSU PhD/Grad Student (Lewis)
Dr. Habib ur Rehman	MSU PhD/Grad Student (Gwaltney)
Dr. JingJing Cui	MSU PhD/Grad Student (Lewis)
Dr. Nuwan De Silva	MSU PhD/Grad Student (Henry)
Dr. P. Kumudu Vilasini Peiris	MSU PhD/Grad Student (Henry)
Dr. Karthikeshwar Vangala	MSU PhD/Grad Student (Zhang)
Dr. Migelhewa Kaumal	MSU PhD/Grad Student (Wipf)
Yue Zhang	MSU MS/Grad Student (Fitzkee)
Hao Xia	MSU MS/Grad Student (Zhang)
Hawa Gyamfi	MSU MS/Grad Student (Fitzkee)
Thomas Bakupog	MSU Grad Student (Rowland)[#]
Sathish K Tanneru	MSU Grad Student (Mead)[#]

[#]left without degree

Undergraduate and Other Students Mentored

Ruby Hall (1)	Mississippi State University undergraduate student, 2019-present
Patrick Sheridan	Mississippi State University undergraduate student, 2019-present
Michael Wong	Mississippi State University undergraduate student, 2019-present
Peyton Wall	Mississippi State University undergraduate student, 2019-present
Lily Cao	NSF REU student, 2019
Wes Harrison	Mississippi State University REU student 2018, Mississippi State University undergraduate student, 2018-2019
Ashlee Bartlett	NSF REU student, 2018
Quinesha Williams	Jackson Heart/Mississippi State REU student 2018
Rebecca Woodruff	Mississippi State University undergraduate student, 2018-present
Raychele Bowling	Mississippi State University undergraduate student, 2018-2019
Margaret Lee	Mississippi State University undergraduate student, 2018-2019
Jacob Nichols	Mississippi State University undergraduate student, 2018-present
Dylan E Russell	Mississippi State University undergraduate student, 2017-2018
Nathan Allgaier	Mississippi State University REU student 2018, Mississippi State University undergraduate student, 2017-2019
Olivia Murtagh	Mississippi State University undergraduate student, 2017-present
Josh V Porter	Mississippi State University undergraduate student, 2016-2019
Kathleen Riley (1)	Mississippi State University undergraduate student, 2015-2018 Currently enrolled as a PhD student in Chemistry at Univ North Carolina
C. Flannery Vogues-Haupt (1)	Mississippi State University undergraduate student, 2016-2017
Shantrell Redd (1)	NSF REU student, 2017
J Charles Brown	Mississippi State University undergraduate student, 2017
Anna Phillips	Mississippi State University undergraduate student, 2015-2016
Claylee M Chism	Mississippi State University undergraduate student, 2015-2016
T Alexander Rogers (1)	Mississippi State University undergraduate student, 2015-2017 Currently enrolled in medical school at University of Texas Health Science Center, Houston, TX
Elisa Carleton	Mississippi State University undergraduate student, 2016
Juho Lim	Mississippi State University undergraduate student, 2016-2017

Undergraduate and Other Students Mentored (cont'd)

Phillip Keck	Mississippi State University undergraduate student, 2016-2017
Nathan W Alexander	Mississippi State University undergraduate student, 2013-2015 MS in Chemistry at Mississippi State University 2016 Enrolled in medical school at UMMC
Danielle H Francis (1)	Mississippi State University undergraduate student, 2013-2015 MS at Cornell in 2017 Currently enrolled in a PhD program at Johns Hopkins
Delta K Boyles (1)	Mississippi State University undergraduate student, 2012-2013 Currently enrolled in Dental student school at University of Mississippi-Medical College
Dr. Whitnee L Simmons (2)	Mississippi State University undergraduate student, 2010-2011, BS 2011 Mississippi State University graduate student, 2011-2016, PhD 2016 Currently lab coordinator at Mississippi State University
Dr. Charles Runyan III, M.D.	Mississippi State University undergraduate student, 2007-2011 M.D. University of Mississippi-Medical College in 2015
Jing Liao	Mississippi State University undergraduate student, 2012
Olivia A Todd	Mississippi State University undergraduate student, 2013
W. Wilson Kahlmus	Mississippi State University undergraduate student, 2013
William "Trip" Kennon	Mississippi State University undergraduate student, 2013-2014
Rick Comeaux	McNeese State University undergraduate student, 2007-2008
Tracy J Kelfkens	McNeese State University undergraduate student, spring 2009

Other Students Mentored

Ena Wei	Mississippi School for Mathematics and Science high school student, 2009-2010
Miranda Shugars	Mississippi School for Mathematics and Science high school student, 2009-2010
Chadwick Hickman	Mississippi School for Mathematics and Science high school student, 2010

Courses Taught

Mississippi State University

MSU2MD and other medical professions (CH 1001 – FYE course)
Fall 2011 (80 students)
Fall 2012 (85 students)
Fall 2013 (55 students)

General Chemistry I (CH 1213)
Summer 2011 (40 students)
Fall 2011 (204 students)
Summer 2012 (40 students)
Summer 2013 (40 students)
Summer 2014 (40 students)
Fall 2014 (204 students)
Summer 2015 (32 students)
Summer 2016 (25 students)

Integrated Chemistry I (CH 1234)
Fall 2016 (38 students)
Fall 2018 (25 students)
Fall 2019 (24 students)

General Chemistry II (CH 1223)
Summer 2010 (50 students)
Summer 2015 (28 students)
Summer 2016 (25 students)
Summer 2018 (18 students)

Introduction to Research in the chemical sciences (CH 2900)
Spring 2013 (5 students)
Spring 2014 (8 students)

Inorganic Chemistry (CH 3213)
Spring 2017 (48 students)
Spring 2018 (35 students)
Spring 2019 (35 students)

Advanced Inorganic Chemistry (CH 4213/6213)
Fall 2009 (27 students)
Fall 2010 (24 students)
Fall 2015 (24 students)
Fall 2017 (10 students)

Advanced Inorganic Chemistry Laboratory (CH 4212)
Fall 2009 (2 students)
Fall 2010 (4 students)
Spring 2017 (7 students)

Advanced Inorganic Chemistry II (CH 8203)
Spring 2010 (22 students)
Spring 2014 (9 students)

Special Topics in Chemistry - Advanced Biological Chemistry (CH 8990)
Spring 2011 (10 students)

Mississippi State University continued:

Special Topics in Chemistry - Bioinorganic Chemistry (CH 8990)
Spring 2012 (8 students)
Fall 2013 (13 students)

Special Topics in Chemistry – Biological Thermodynamics and Kinetics (CH 8990)
Spring 2013 (10 students)

Special Topics in Chemistry – Current Problems in Modern Chemistry (CH 8990)
Fall 2019 (25 students)

McNeese State University

General Chemistry I (Chem 101)
Fall 2007 (84 students)
Spring 2008 (98 students)
Summer 2008 (24 students)
Fall 2008 (156 students)
Spring 2009 (104 students)

General Chemistry II (Chem 102)
Fall 2007 (14 students)
Spring 2008 (33 students)
Summer 2009 (20 students)

Selected topics in Inorganic Chemistry (Chem 641)
Spring 2008 (7 students)
Summer 2009 (8 students)

Advanced Inorganic Chemistry (Chem 411/611)
Spring 2009 (12 students)

Inorganic Preparations (Chem 412)
Spring 2009 (4 students)

Professional References:

Prof. John Lipscomb
Department of Biochemistry,
Molecular Biology, and Biophysics
University of Minnesota
Minneapolis, MN 55455
lipsc001@umn.edu
(612) 625-6454

Prof. Lawrence Que, Jr.
Department of Chemistry
University of Minnesota-Twin Cities
Minneapolis, MN 55455
larryque@umn.edu
(612) 625-0389

Prof. Donald M. Kurtz, Jr.
Department of Chemistry
University of Texas-San Antonio
San Antonio, Texas 78249-0698
donald.kurtz@utsa.edu
(210) 458-7060

Prof. Jason A. Halfen
Department of Chemistry
University of Wisconsin-Eau Claire
443 Phillips Hall
Eau Claire, WI 54702
halfenja@uwec.edu
(715) 836-4360

Prof. Joseph Sneddon
Department of Chemistry
McNeese State University
Box 90455
Lake Charles, LA 70609
jsneddon@mcneese.edu
(337) 475-5781

Prof. Edwin Lewis
Department of Chemistry
Mississippi State University
Hand Laboratories, Rm 1115
Mississippi State, MS 39762-9573
elewis@chemistry.msstate.edu
(662) 325-3354