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RESEARCH INTEREST

- Antimicrobial and anticancer drug discovery
- Natural product biosynthesis
- Cancer immunotherapy strategies
- Metalloprotein-mediated redox sensing and signaling mechanisms
- Novel therapeutic targets in depression and neuropsychiatric disorders

AREA OF EXPERTISE

Protein structure-function relationships and mechanistic enzymology:
Amino acid metabolism, free radicals in biology, biogenesis of protein-derived cofactor, oxygen activation, natural product biosynthesis, redox sensing, and metalloprotein-mediated gene regulations
Major techniques: EPR and resonance Raman spectroscopies, X-ray protein crystallography; stopped-flow kinetics, rapid chemical/freeze-quench, isothermal titration calorimetry, LC-MS, and NMR

EDUCATION

1997-1999	Ph.D., Biochemistry and Biophysics, Department of Biochemistry and Biophysics, Arrhenius Laboratories for Natural Sciences, Stockholm University, Stockholm, Sweden. Thesis: The interaction between iron and the protein radical in aerobic and anaerobic ribonucleotide reductase. Advisor: Professor Astrid Gräslund
1986-1991	Ph.D., Physical Chemistry, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou, P. R. China, Advisor: Professor Shu-Ben Li
1981-1986	B.S., Chemistry, Department of Chemistry, University of Science and Technology of China (USTC), Hefei, P. R. China

PROFESSIONAL EMPLOYMENT

01/2016-present	Professor of Chemistry and Biochemistry, and Lutcher Brown Distinguished Chair in Biochemistry, Department of Chemistry, The University of Texas at San Antonio, San Antonio, TX
01/2015-01/2016	Distinguished University Professor, Department of Chemistry, Georgia State University, Atlanta, GA
08/2012-01/2015	Professor of Chemistry and Biochemistry (tenured), Department of Chemistry, Georgia State University, Atlanta, GA
08/2009-01/2016	Georgia Research Alliance-Georgia Cancer Coalition Distinguished Scholar, The State of Georgia

08/2008-07/2012	Associate Professor of Chemistry and Biochemistry, Department of Chemistry, Georgia State University, Atlanta, GA
06/2008-08/2008	Associate Professor of Biochemistry (tenured), Department of Biochemistry, University of Mississippi Medical Center, Jackson, MS
05/2008	Visiting Professorship, May 7- June 8, 2008, Kansai University, Japan
10/2002-06/2008	Assistant Professor of Biochemistry (tenure-track), Department of Biochemistry, University of Mississippi Medical Center, Jackson, MS

PROFESSIONAL PREPARATION CREDENTIAL

1986-1991	Graduate Research Assistant (under Professor Shu-Ben Li), Physical Chemistry, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, P. R. China
1992-1996	Research Associate (under Professor Khi-Rui Tsai), Department of Chemistry, Xiamen University, P. R. China, and faculty member at the rank of associate professor between 1994 - 1996
1996-1997	Royal Society K.C. Wong Research Fellow, Department of Chemistry (under Professor A. Geoffrey Sykes, FRS), University of Newcastle upon Tyne, U.K.
1997-1999	Research Associate, Department of Biochemistry and Biophysics in the Arrhenius Laboratories for Natural Sciences (under Professor Astrid Gräslund), Stockholm University, Stockholm, Sweden
1999-2002	Postdoctoral Associate, Center for Metals in Biocatalysis (jointly supervised by Professors John D. Lipscomb and Lawrence Que, Jr.), University of Minnesota, Minneapolis, MN
01/2002-09/2002	Research Associate, Department of Biochemistry, Molecular Biology and Biophysics (under Professor John D. Lipscomb), University of Minnesota, Minneapolis, MN

AWARDS AND DISTINCTIONS

1991	Presidential Award for Scholar Excellence of Graduate Research from Chinese Academy of Sciences (CAS), Beijing, China
1995	National Prize for Promotion of Science and Technology (silver medal shared with four other colleagues), National Education Commission of China
1996-97	Recipient, Royal Society - K.C. Wong Fellowship, the Royal Society, U.K.
1997	Poster Presentation Award, Society of Chemical Industry, London, U.K.
1998-99	Recipient, Wenner-Gren Center Foundation Visiting Scientist Fellowship, Stockholm, Sweden
2002	Cyrus P. and Anne R. Barnum Travel Award, Minnesota Medical Foundation
2002	Paul D. Boyer Award for Research Excellence, Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota, Minneapolis, MN
2002	Young Investigator Award, the 7th International Symposium on Spin Trapping
2003	Ralph E. Powe Junior Faculty Enhancement Award in Life Sciences, the Oak Ridge Associated Universities (ORAU), Oak Ridge, TN
2005	Young Investigator Travel Award, National Ataxia Foundation
2008	Visiting Professorship, Kansai University, Japan, May 7- June 8, 2008
2009	Cleon F. Arrington Research Initiation Award, Georgia State University

2009	Georgia Cancer Coalition Distinguished Cancer Scholar Award
2010-12	Elected Member, EMR User Committee (2010-2012), The National High Magnetic Field Laboratory (NHMFL), Florida State University, Tallahassee, FL
04/2014	Outstanding Senior Faculty Award, College of Arts and Sciences, Georgia State University, Atlanta, GA
04/2021	Elected Fellow of the Royal Society of Chemistry (FRSC)
09/2021	Elected into the UTSA Academy of Distinguished Researchers
01/2022	Flected 2021 AAAS Fllow in Chemistry, the American Association for the Advancement of Science (AAAS)

PROFESSIONAL SERVICE – SCIENTIFIC CONFERENCES & MEETINGS

2010	Session Chair, The Inaugural Annual Southeast Enzyme Conference, Atlanta, GA, April 10, 2010
2011	Chair, 40th Southeastern Magnetic Resonance Conference (SEMRC 2011), Atlanta, November 4-6, 2011
2012	Discussion Leader, Gordon Research Conference - Protein Cofactors, Radicals and Quinones, South Hadley, MA, August 2, 2012
2014-15	Program Committee Member, Enzymes in Drug Discovery
2015-17	Alternate Councilor (elected), Division of Biological Chemistry, American Chemical Society (ACS)
01/2016	Discussion Leader, Gordon Research Conference - Metals in Biology, Ventura, CA, January 26, 2016
04/2017	Symposium Chair: Metalloprotein-initiated signaling transduction response to redox stress, The 253rd ACS National Meeting, San Francisco, CA, April 4, 2017
07/2017	Discussion Leader, Gordon Research Conference - Enzymes, Coenzymes and Metabolic Pathways, Waterville Valley, NH, July 19, 2017
01/2019	Session Chair, 26th Enzyme Mechanisms Conference (50-year Anniversary Meeting), New Orleans, LA, January 9, 2019
07/2022	Gordon Research Conference - Chemistry and Biology of Tetrapyrroles, Newport, RI, July 19, 2022

PROFESSIONAL SERVICE – REVIEW FOR GRANT APPLICATIONS

2006	ad hoc member, Macromolecular Structure and Function A (MSFA) Study Section, Center for Scientific Review, NIH
2009	Panelist, CHE Proposal Review Panel, Division of Molecular and Cellular Biosciences (MCB), NSF
2010	ad hoc grant reviewer, Biotechnology and Biological Sciences Research Council (BBSRC), U.K.
2010-2017	External proposal reviewer, National High Magnetic Field Laboratory (NHMFL)
11/2012	CAREER Award Advisory Panelist, Division of Molecular and Cellular Biosciences (MCB), NSF
2013, 2015	ad hoc grant reviewer, Medical Research Council (MRC), U.K.

7/2014	Panelist, Special Emphasis Review Panel ZRG1 F04B-D (20) Fellowships, The Biological Chemistry and Macromolecular Biophysics (BCMB), NIH
03/2015	Panelist, Chemistry of Life Processes (CLP), NSF
07/2017	CAREER Award Advisory Panelist, Chemistry of Life Processes (CLP), NSF
09/2018	CAREER Award Advisory Panelist, Chemistry of Life Processes (CLP), NSF
02/2019	Panelist, Chemistry of Life Processes (CLP) grant review panel, NSF
04/2020	ad hoc reviewer for ConTex Collaborative Research Grants
02/2021	Panelist, Chemistry of Life Processes (CLP) grant review panel, NSF
05/2021	External reviewer, Le financement sur projet au service de la Recherche (the French National Research Agency, FNR), France
06/2021	Einstein Stiftung Berlin (Einstein Foundation Berlin)
11//2021	External reviewer for Pennsylvania Department of Health Formula Grants
07/2019-	administrated through Oak Ridge Associated Universities (ORAU.org)
06/2023	Appointed chartered member, Macromolecular Structure and Function A (MSFA) Study Section, Center for Scientific Review, NIH
12/2023	Appointed panelist for the NRC Research Associateship Programs on the Chemistry review panel for the 2023 program year, Office of the National Academies of Sciences, Engineering, and Medicin

PROFESSIONAL SERVICE – REVIEW OF DOSSIER FOR OUTSIDE INSTITUTIONS

08/2016	Department of Chemistry, Auburn University (a promotion to full professor case)
09/2016	Department of Chemistry, Kansas State University (tenure & promotion to associate professor)
10/2017	Department of Chemistry & Biochemistry, University of Maryland Baltimore County (tenure and promotion to associate professor)
07/2019	Department of Chemistry, The University of Texas Rio Grande Valley (tenure & promotion to associate professor)
06/2020	Department of Chemistry & Biochemistry, The University of Texas at El Paso (a promotion to full professor)
08/2020	Department of Biochemistry, University of Nebraska-Lincoln (tenure & promotion to associate professor)
07/2021	Department of Chemistry, North Carolina State University (tenure and promotion to associate professor)
08/2022	Department of Molecular and Structural Biochemistry, North Carolina State University (a promotion to full professor)
02/2023	Department of Chemistry, North Carolina State University (a distinguished endowed chair)

EDITORIAL APPOINTMENT

2013-2018	Editorial Board Member, Biochimica et Biophysica Acta - Proteins and Proteomics
2014-2018	Editorial Advisory Board Member, Journal of Biological Inorganic Chemistry
2016-2019	Editorial Board Member, Reactive Oxygen Species
2017-2021	Editorial Board Member, Frontiers in Bioscience

2017-2021	Editorial Board Member, Journal of Biochemistry and Chemical Sciences
2018-2022	Editorial Board Member, The Open Biochemistry Journal
2019-2020	Editorial Board Member, Molecules; and Guest Editor for Molecules, special issue on Design and Application of Metal-Binding Proteins
2021-	Academic Editor, Molecules

AFFILIATION IN PROFESSIONAL ORGANIZATION

1999-	Member, American Chemical Society (ACS)
1999-	Member, International EPR (ESR) Society
2000-2001	Member, New York Academy of Science
2000-	Member, American Association for the Advancement of Science (AAAS)
2010-	Member, The Society of Biological Inorganic Chemistry (SBIC)
2011-	Member, The American Society for Biochemistry and Molecular Biology (ASBMB)
2011-2024	Member, Society of Porphyrins & Phthalocyanines (SPP)
2013-	Member, The Protein Society
2014-2018	Member, American Heart Association

RESEARCH FUNDING

Current Extramural Grant Support*:

Grant Number	Project Title	Role in Project	Years Inclusive	Total Costs
R01 GM108988-10 NIH/NIGMS	Heme-dependent chemistry in aromatic oxidation	PI	9/01/2022-8/31/2026	$1,294,136
R01 CA247379-01A1 NIH/NCI	Role of Steap2 protein in hepatocarcinogenesis	Co-I and subaward PI (PI: Sun L)	7/01/2020-6/31/2025	$311,216 (Liu portion)
R21 CA270879-01	Targeting tryptophan dioxygenase degradation for suppression of tumor immune evasion	MPI (lead MPI: Altman R)	2/01/2022-1/31/2024	$168,465 (Liu portion)
R21 AG078775-01	Identification of CNS penetrant tryptophan 2,3-dioxygenase degrading ligands	MPI (lead MPI: Altman R)	9/01/2022-8/31/2024	$174,801 (Liu portion)
CHE-2204225 NSF	Cys-Tyr cofactor in iron and copper proteins (Accomplishment-Based Renewal (ABR) award)	PI	10/01/2022-9/30/2024	$495,000
AX-2110-20220331 Welch Foundation	Characterization of 2-oxindole forming heme enzyme in the biosynthetic pathway of maremycins	PI	6/01/2022-5/30/2025	$300,000

Sponsored Trainee Award:

F31 GM145187-01 (Traore) NIH/NIGMS	Structure-function relationship study of HupZ	Sponsor (advisor)	7/01/2022-6/30/2025	$113,856

Prior Support:

Grant Number	Project Title	Role in Project	Years Inclusive	Total Costs
CHE-1808637 NSF	Structural and mechanistic study of mammalian thiol dioxygenases	PI	8/01/2018-9/30/2022	$450,000
R01 GM108988-06 (to -09) NIH/NIGMS	Heme-dependent chemistry in tyrosine oxidation	PI	9/01/2018-8/31/2022	$1,271,813

R01 GM108988-01 A1 (to -05) NIH/NIGMS	Heme and protein radical-mediated remote enzyme catalysis	PI	9/01/2018-8/31/2022	$1,060,200
R01 GM107529-01A1 (to -04) NIH/NIGMS	Pirin-mediated redox response via NF-κB: Structures and functions	Lead MPI (other MPI: Li, J)	9/01/2014-4/30/2019	$1,026,166 (Liu portion)
R21 MH107985-01A1 (to -02) NIH/NIMH	Kynurenine metabolites and chronic inflammation: An in vitro and ex vivo study	Lead MPI (other MPI: Shamsi, S.A.)	5/11/2016-4/30/2019	$420,376
R01 GM108988-09S1 NIH/NIGMS	Administrative supplement	PI	9/01/2021-8/31/2022	$61,120
R01 GM108988-08S1 NIH/NIGMS	Administrative supplement	PI	9/15/2020-8/31/2022	$122,240
R01 GM108988-07S1 NIH/NIGMS	Administrative equipment supplement for resonance Raman spectroscopy	PI	9/15/2020-8/31/2022	$165108
CHE-0923184 NSF	MRI: Acquisition of a next-generation high-resolution mass spectrometer with ion mobility separation	PI: Griffith; Co-PI: Doyle, Liu, Lamb, Yoshimoto	8/01/2021-7/31/2022	$403,830 (shared equipment)
R01 GM108988-06S1 NIH/NIGMS	Administrative supplement	PI	9/01/2018-8/31/2022	$111,494
San Antonio Life Sciences Institute	UTHSCSA-UTSA U54 Seed Project	PI	7/01/2017-6/30/2018	$20,000
CHE-1623856 NSF	Structure-function correlations in a type III extradiol dioxygenase	PI	1/15/2016-8/31/2018	$270,272
CHE-1309942 NSF	Structure-function correlations in a type III extradiol dioxygenase	PI	9/15/2013-1/14/2016	$450,000
MCB-0843537 NSF	Mechanistic studies of tryptophan-oxidizing enzymes	PI	6/15/2009-8/31/2013	$577,180
GCC-143350 GRA	NF-κB in cancer: Modulation and activation mechanism	PI	11/05/2009-1/15/2016	$500,000
R01 DK056649-09 (to -13) NIH/NIDDK	Nutritional regulation of cysteine dioxygenase	Co-I and subaward PI (PI: Stipanuk)	4/01/2009-3/31/2013	$34,196 (Liu portion)

R01 GM069618-01A2 (to -04) NIH/NIGMS	Nutritional regulation of cysteine dioxygenase	Co-I and subaward PI (PI: Begley T)	7/01/2005-5/31/2009	$120,000 (Liu portion)
ACS Institutional Grant	Spectroscopic study of non-heme iron dioxygenases	PI	2005-2006	$25,000
ORAU	Development of techniques for the observation of reactive intermediates in biomedical processes	PI	2003-2004	$10,000
C-NSF	Mechanistic studies of methane monooxygenase from Methylomonas species GYJ-3	PI	1993-1996	$60,000

Funded Beamline Proposals:

The Structural Biology Center (SBC) Argonne National Laboratory (ANL)
Proposals approved: GUP-74920
Title: Structural and Function Studies of Metalloenzymes
Proposal approved for beamlines at Section 19: 2021 - 2023
Role: Spokesperson and Principal Investigator

The Stanford Synchrotron Radiation Lightsource (SSRL), SLAC National Accelerator Laboratory, Stanford University
Proposal: Crystallography beam time proposals S-MMC-ST-6B56 2021 - 2026
Title: Mechanistic Enzymology of Metalloenzymes
Role: Spokesperson and Principal Investigator

Linac Coherent Light Source (LCLS), SLAC National Accelerator Laboratory, Stanford
XFEL time for serial femtosecond crystallography (SFX) using X-ray free-electron laser (XFEL): Structural characterization of Novel On-Pathway Reaction Intermediate(s) during CYP121 Catalysis
LCLS PCS proposal P199A 2021
Role: Spokesperson and Principal Investigator

The Stanford Synchrotron Radiation Lightsource (SSRL), SLAC National Accelerator Laboratory, Stanford University
Proposal: Crystallography beam time proposals 5B14 2016 - 2021
Title: Mechanistic Enzymology of Tryptophan Kynurenine Pathway
Role: Spokesperson and Principal Investigator

Linac Coherent Light Source (LCLS), SLAC National Accelerator Laboratory, Stanford
LCLS PCS proposal P112:

Preparations for Studying High-Valent Reaction Intermediates in P450: P450cam-Pdx Complex and CYP121- Beam Time for Serial femtosecond crystallography (SFX) 2018
Role: Spokesperson and Principal Investigator (Co-Spokesperson: Poulos, T)

Linac Coherent Light Source (LCLS), SLAC National Accelerator Laboratory, Stanford
Rapid Access SAXS
Title: Mechanistic Enzymology of Tryptophan Kynurenine Pathway 2017 - 2019
Role: Spokesperson and Principal Investigator

The Structural Biology Center (SBC), Argonne National Laboratory (ANL)
Proposals approved: GUP-48198, and two subsequent renewals GUP-59608 and 65040
Title: Structural and Function Studies of Metalloenzymes
Approved for beamlines at Section 19: 2016 - 2023
Role: Spokesperson and Principal Investigator

LIST OF PEER-REVIEWED PUBLICATIONS

* corresponding author

A. Work Since Independent Research

118. Charge maintenance during catalysis in non-heme iron oxygenases
Traore ES and **Liu A***
ACS Catalysis, 2022, 14(10), 6191-6208 (DOI: 10.1021/acscatal.1c04770)

117. Probing extradiol dioxygenase mechanism in NAD^+ biosynthesis by viewing reaction cycle intermediates
Davis I, Geng J, and **Liu A***
Encyclopedia of Inorganic and Bioinorganic Chemistry, 2022, 1-8
(DOI: 10.1002/9781119951438.eibc2813)

116. Metalloenzymes involved in carotenoid biosynthesis in plants
Davis I*, Geng J, and **Liu A***
Methods Enzymol., 2022, 671, 207-222
(DOI: 10.1016/bs.mie.2022.01.012)

115. A new regime of the histidyl-ligated heme-dependent oxygenase superfamily
Shin I, Wang Y, and **Liu A***
Proc. Natl. Acad. Sci. U.S.A., 2021, 118(43), 2021, 118(43), e210656, 1-10
(DOI: 10.1073/pnas.2106561118) (PNAS direct submission)

114. Crystal structure of human cysteamine dioxygenase provides a structural rationale for its function as an oxygen sensor
Wang Y, Shin I, Li J, and **Liu A***
J. Biol. Chem., 2021, 297(4), 101176, 1-10 (DOI: 10.1016/j.jbc.2021.101176)

113. HygY is a twitch radical SAM epimerase with latent dehydrogenase activity revealed upon mutation of a single cysteine residue
Besandre R, Chen Z, Davis I, Zhang J, Ruszczycky M, **Liu A** and Liu H-w*
J. Am. Chem. Soc., 2021, 143(37), 15152–15158
(DOI: 10.1021/jacs.1c05727)

112. Capillary electrochromatography-mass spectrometry of kynurenine pathway metabolites
Chawdhury A, Shamsi S.A.*, Miller A, and **Liu A**
J. Chromatogr. A. 2021, 1651, 462294 (1-14) (DOI: 10.1016/j.chroma.2021.462294)

111. Molecular rationale for partitioning between C-H and C-F bond activation in heme-dependent tyrosine hydroxylase
Wang Y, Davis I, Shin I, Xu H, and **Liu A***
J. Am. Chem. Soc. 2021, 143(12), 4680-4693
(DOI: 10.1021/jacs.1c00175)

110. A novel catalytic heme cofactor in SfmD with a single thioether bond and a bis-His Ligand set revealed by de novo crystal structural and spectroscopic study
Shin I, Davis I, Nieves-Merced K, Wang Y, McHardy, and **Liu A***
Chem. Sci. 2021, 12(11), 3984-3998 (Edge Article)
(DOI: 10.1039/D0SC06369J)

109. Heme binding to HupZ with a C-terminal tag from Group A Streptococcus
Traore ES, Li J, Chiura T, Geng J, Sachla A, Yoshimoto F, Eichenbaum Z, Davis I, Max P*, and **Liu A***
Molecules 2021, 26(3), 549, 1-19 (DOI: 10.3390/molecules26030549)

108. Diflunisal derivatives as modulators of ACMS decarboxylase targeting the tryptophan-kynurenine pathway
Yang Y, Borel T, de Azambuja F, Johnson D, Sorrentino JP, Udokwu C, Davis I, **Liu A***, Altman R*
J. Med. Chem., 64(1), 797–811
(DOI: 10.1021/acs.jmedchem.0c01762)

107. Formation of monofluorinated radical cofactor in galactose oxidase through copper-mediated C−F bond scission
Li J, Davis I, Griffith WP, and **Liu A***
J. Am. Chem. Soc. 2020, 142(44), 18753-18757
(DOI: 10.1021/jacs.0c08992)

106. Observing 3-hydroxyanthranilate-3,4-dioxygenase in action through a crystalline lens
Wang Y, Liu KF, Yang Y, Davis I, and **Liu A***
Proc. Natl. Acad. Sci. U.S.A. 2020, 117(33), 19720-19730
(DOI: 10.1073/pnas.2005327117) (PNAS direct submission)

105. Characterization of the non-heme iron center of cysteamine dioxygenase and its interaction with substrates
Wang Y, Davis I, Yang Y, Chen Y, Naik SG, Griffith WP, and **Liu A***
J. Biol. Chem. 2020, 295(33), 11789-11802
(DOI: 10.1074/jbc.RA120.013915)

104. Kinetic and spectroscopic characterization of the catalytic ternary complex of tryptophan 2,3-dioxygenase
Geng J, Weitz AC, Dornevil K, Hendrich MP, and **Liu A***
Biochemistry 2020, 59(30), 2813-2822
(DOI: 10.1021/acs.biochem.0c00179)

103. Carbon-fluorine bond cleavage mediated by metalloenzymes
Wang Y and **Liu A***
Chem. Soc. Rev. 2020, 49, 4906-4925

(DOI: 10.1039/C9CS00740G)

102. Substrate-assisted hydroxylation and O-demethylation in the peroxidase-like cytochrome P450 enzyme CYP121
Nguyen RC, Yang Y, Wang Y, Davis I, and **Liu A***
ACS Catalysis, 2020, 10(2) 1628-1639
(DOI: 10.1021/acscatal.9b04596)

101. Crystal structures of L-DOPA dioxygenase from Streptomyces Sclerotialus
Wang Y, Shin I, Fu Y, Colabroy KL, and **Liu A***
Biochemistry, 2019, 58(52), 5339-5350 (DOI: 10.1021/acs.biochem.9b00396)
(Editor's invitation for "Current Topics in Mechanistic Enzymology 2019")

100. Quaternary structure of α-amino-β-carboxymuconate-ε-semialdehyde decarboxylase (ACMSD) controls its activity
Yang Y, Davis I, Tsutomu M, Dmitri I, and **Liu A***
J. Biol. Chem. 2019, 294(30), 11609-11621 (DOI: 10.1074/jbc.RA119.009035)
featured as a cover story

99. Biocatalytic carbon-hydrogen and carbon-fluorine bond hydroxylation promoted by a histidyl-ligated heme enzyme, LmbB2
Wang Y, Davis I, Shin I, Wherritt D, Griffith WP, Dornevil K, Colabroy KL, and **Liu A***
ACS Catalysis 2019, 9(6), 4764-4776 (DOI: 10.1021/acscatal.9b00231)
featured as an ACS Editors' Choice Article

98. Probing the Cys-Tyr cofactor biogenesis in cysteine dioxygenase by the genetic incorporation of fluorotyrosine
Li J, Koto T, Davis I, and **Liu A***
Biochemistry 2019, 58(17), 2218-2227 (DOI: 10.1021/acs.biochem.9b00006)
featured as an alternate ACS Biochemistry cover story

97. Cleavage of a carbon-fluorine bond by an engineered cysteine dioxygenase
Li J, Griffith WP, Davis I, Shin I, Wang J, Li F, Wang Y, Wherritt D, and **Liu A***
Nat. Chem. Biol. 2018, 14(9), 853-860 (DOI: 10.1038/s41589-018-0085-5)
featured at KLRN's T.V. show "SciTech Now" and Science Daily

96. Backbone dehydrogenation in pyrrole-based pincer ligands
Krishnan VM, Davis I, Baker TM, Curran DJ, Arman H, Neidig ML, **Liu A**, and Tonzetich ZJ*
Inorg. Chem. 2018, 57(15), 9544-9553 (DOI: 10.1038/s41589-018-0085-5)

95. Adapting to oxygen: How 3-hydroxyanthrinilate 3,4-dioxygenase employs loop dynamics to accommodate substrates with disparate polarities
Yang Y, Liu F,* and **Liu A***
J. Biol. Chem. 2018, 293(27), 10415-10424 (DOI: 10.1074/jbc.RA118.002698)
featured as the cover story of the issue

94. Cofactor biogenesis in cysteamine dioxygenase: C-F bond cleavage with genetically incorporated unnatural tyrosine dioxygenase
Wang Y, Griffith WP, Li J, Koto T, Wherritt D, Fritz E, and **Liu A***
Angew. Chem. Int. Ed., 2018, 57(27), 8149-8153 (DOI: 10.1002/ange.201803907)

93. Reassignment of the human aldehyde dehydrogenase ALDH8A1 (ALDH12) to the kynurenine pathway in tryptophan catabolism
Davis I, Yang Y, Wherritt D, and **Liu A***
J. Biol. Chem. 2018, 293(25), 9594-9603 (DOI: 10.1074/jbc.RA118.003320)

92. Stepwise O-atom transfer in heme-based tryptophan dioxygenase: Role of substrate ammonium in epoxide ring opening
Shin I, Ambler BR, Wherritt D, Griffith WP, Maldonado AC, Altman RA, and **Liu A***
J. Am. Chem. Soc. 2018, 140(12), 4372-4379 (DOI: 10.1021/jacs.8b00262)

91. High-frequency/high-field EPR and theoretical studies of tryptophan-based radicals
Davis I, Koto T, Terrell JR, Kozhanov A, Krzystek J, and **Liu A***
J. Phys. Chem. A 2018, 122(12), 3170-3176 (DOI: 10.1021/acs.jpca.7b12434)

90. Probing ligand exchange in the P450 enzyme CYP121 from Mycobacterium tuberculosis: Dynamic equilibrium of the distal heme ligand as a function of pH and temperature
Fielding AJ, Dornevil K, Ma L, Davis I, and **Liu A***
J. Am. Chem. Soc, 2017, 139(48), 17484-17499 (DOI: 10.1021/jacs.7b08911)

89. Radical trapping study of the relaxation of bis-Fe(IV) MauG
Davis I, Koto T, and **Liu A***
Reactive Oxygen Species (ROS), 2018, 5(13), 46-55 (DOI:10.20455/ros.2018.801)

88. Mutual synergy between catalase and peroxidase activities of the bifunctional enzyme KatG is facilitated by electron hole-hopping within the enzyme
Njuma OJ, Davis I, Ndontsa EN, Krewall JR, **Liu A**, and Goodwin DC*
J. Biol. Chem., 2017, 292(45), 18408-18421 (DOI: 10.1074/jbc.M117.791202)

87. Crosslinking of dicyclotyrosine by the cytochrome P450 enzyme CYP121 from Mycobacterium tuberculosis proceeds through a catalytic shunt pathway
Dornevil K, Davis I, Fielding AJ, Terrell JR, Ma L, and **Liu A***
J. Biol. Chem., 2017, 292(33), 13645-13657 (DOI: 10.1074/jbc.M117.794099)

86. Hypertryptophanemia due to tryptophan 2,3-dioxygenase deficiency
Ferreira F,* Shin I, Sosova I, Dornevil K, Jain Shailly, Dewey D, Liu F, and **Liu A***
Mol. Genet. Metabol., 2017, 120(4), 317-324 (DOI: 10.1016/j.ymgme.2017.02.009)
featured by EurekAlert, AAAS and UTSA Today

85. Oxygen activation by mononuclear nonheme iron dioxygenases involved in the degradation of aromatics
Wang Y, Li J, and **Liu A***
J. Biol. Inorg. Chem., 2017, 22(2), 395-405 (DOI: 10.1007/s00775-017-1436-5)
invited contribution to a special issue: 60 Years of O_2 Activation

84. Heterolytic O-O bond cleavage: Functional role of Glu113 during bis-Fe(IV) formation in MauG
Geng J, Huo L, and **Liu A***
J. Inorg. Biochem., **2017**, 167, 60-67 (DOI: 10.1016/j.jinorgbio.2016.11.013)

83. A pitcher-and-catcher mechanism drives endogenous substrate isomerization by a dehydrogenase in kynurenine metabolism
Yang Y, Davis I, Ha U, Wang Y, Shin I, and **Liu A***
J. Biol. Chem., **2016**, 291(51), 26252-26261 (DOI: 10.1074/jbc.M116.759712)
featured by the Editors as a "Papers of the Week" and selected, after publication, as a representative paper in the research field of in a JBC virtual issue "Enzymology"

82. Control of carotenoid biosynthesis through a heme-based cis-trans isomerase
Beltran J, Kloss B, Hosler JP, Geng J, **Liu A**, Modi A, Dawson JH, Sono M, Shumskaya M, Ampomah-Dwamena C, Love JD, and Wurtzel ET*
Nat. Chem. Biol., 2015, 11, 598-605 (DOI: 10.1038/nchembio.1840)
featured by ScienceDaily

81. What is the tryptophan kynurenine pathway and why is it important to neurotherapeutics?
Davis I and **Liu A***
Expert Review of Neurotherapeutics, 2015, 15(7), 719-721
(DOI: 10.1586/14737175.2015.1049999)
invited editorial

80. An iron reservoir to the catalytic metal: the rubredoxin iron in an extradiol dioxygenase
Liu F, Geng J, Gumpper RH, Davis I, Ozarowski A, Hamelberg D, and **Liu A***
J. Biol. Chem., 2015, 290(25), 15621-15634 (DOI: 10.1074/jbc.M115.650259)

79. Probing bis-Fe(IV) MauG by small molecules: Experimental evidence for the long-range charge-resonance model
Geng J and **Liu A***
Angew. Chem. Int. Ed. 2015, 54, 3692-3696 (DOI: 10.1002/anie.201410247)

78. Crystallographic and spectroscopic snapshots reveal a dehydrogenase in action
Huo L, Davis I, Liu F, Andi B, Iwaki H, Li T, Hasegawa Y, Orville AM, and **Liu A***
Nat. Commun., 2015, 6:5935 (DOI: 10.1038/ncomms6935)
Featured by the National Science Foundation Science360 and Medical News Today

77. Human α-amino-β-carboxymuconate-ε-semialdehyde decarboxylase (ACMSD): A structural and mechanistic unveiling
Huo L, Liu F, Iwaki H, Li T, Hasegawa Y, and **Liu A***
Proteins, 2014, 83(1), 178-187 (DOI: 10.1002/prot.24722)

76. Amidohydrolase Superfamily
Liu A* and Huo L
In: **Encyclopedia of Life Sciences** (August **2014**), John Wiley & Sons, Ltd: Chichester (invited review article) (DOI: 10.1002/9780470015902.a0020546.pub2)

75. Bis-Fe(IV): Nature's sniper for long-range oxidation
Geng J, Davis I, Liu F, and **Liu A***
J. Biol. Inorg. Chem., 2014, 19(7), 1057-1067 (DOI: 10.1007/s00775-014-1123-8)

74. Heme-dependent dioxygenases in tryptophan oxidation
Geng J and **Liu A***
Arch. Biochem. Biophys., 2014, 544, 18-26 (DOI: 10.1016/j.abb.2013.11.009)

73. The Power of two: arginine 51 and arginine 239* from a neighboring subunit are essential for catalysis in α-amino-β-carboxymuconate-ε-semialdehyde decarboxylase
Huo L, Davis I, Chen L, and **Liu A***
J. Biol. Chem., 2013, 288(43), 30862-30871 (DOI: 10.1074/jbc.M113.496869)

72. Pirin is an iron-dependent redox regulator of NF-κB
Liu F, Rehmani I, Esaki S, Fu R, Chen L, Serroano V, and **Liu A***
Proc. Natl. Acad. Sci. U.S.A., 2013, 110(24), 9722-9727
(DOI: 10.1073/pnas.1221743110)
PNAS direct submission, Faculty of 1000 recommended article

71. Tryptophan-mediated charge resonance stabilization in the bis-Fe(IV) redox state of MauG
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Proc. Natl. Acad. Sci. U.S.A., 2013, 110(24), 9639-9644
(DOI: 10.1073/pnas.1301544110) (PNAS direct submission)

70. Di-radical intermediate within the context of tryptophan tryptophylquinone biosynthesis
Yukl ET, Liu F, Krzystek J, Shin S, Jensen LMR, Davidson VL, Wilmot CM,* and **Liu A***
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Peng H, Dornevil K, Draganov A, Chen W, Dai C, Nelson WH, **Liu A***, and Wang B*
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67. Improved separation and detection of picolinic acid and quinolinic acid by capillary electrophoresis-mass spectrometry: application to analysis of cerebrospinal fluid
Wang X, Davis I, **Liu A**, Miller A, and Shamsi S.A.*
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Geng J, Dornevil K, and **Liu A***
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63. Decarboxylation mechanisms in the biological systems
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Bioorg. Chem., 2012, 43, 2-14 (DOI: 10.1016/j.bioorg.2012.03.001)

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59. The roles of rhodobacter sphaeroides copper chaperones PCu_AC and Sco (PrrC) in the assembly of the copper centers of the aa_3-type and the cbb_3-type cytochrome c oxidases
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B. Work from Postdoctoral Research (#24-30)

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C. Work from Graduate Research (#14-23)

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C. Work from China (#1-13)

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6. Stereoselectivity of styrene oxide from styrene epoxidation by Methylomonas sp. GYJ3
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Liu A, Wu H, and Zhou Y
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D. Three-Dimensional Protein Structures Published

RCSB Protein Data Bank (PDB) entries authored (140 protein crystal structures):
(138 of the above structures were determined and deposited by the Liu laboratory)

8D5M, 8D0L, 8CZP, 8CZS, 7S5D, 7S0O, 7RJY, 7RJV, 7RJS, 7RJW, 7RJX, 7RUK, 7REI, 7KQR, 7KQS, 7KQT, 7KQU, 7KU8, 7KQS, 7KQR, 7KQT, 7KPZ, 7KQ2, 7K12, 7K13, 6XLR, 6XLT, 6XLS, 6VI5, 6VI6, 6VI7, 6VI8, 6VI9, 6VIA, 6VIB, 6VDP, 6VDQ, 6VDZ, 6VE0, 6UPG, 6UPI, 6NA9, 6NA8, 6NA7, 6NA2, 6NA1, 6NA0, 6N9Z, 6ON3, 6ON1, 6E87, 6EPR, 6N42, 6N43, 6BPR, 6BPX, 6BPS, 6BPT, 6BPU, 6BPV, 6BPW, 6CDH, 6CDN, 6BVP, 6BVQ, 6BVR, 6BVS, 6CD3, 6D60, 6D61, 6D62, 6MGS, 6MGT, 6BGF, 6BGM, 6C5P, 6C5O, 6BUK, 6BUJ, 6BUF, 6BUE, 6BUD, 6C0Q, 5W9U, 5W9V, 5W9T, 5WP2, 5V26, 5V27, 5V28, 5KJ5, 5KLK, 5KLL, 5KLM, 5KLN, 5KLO, 4R52, 4WZC, 4HSJ, 4L2N, 4NPI, 4OE2, 4OU2, 4OUB, 4OFC, 4I1W, 4I25, 4I26, 4I2R, 4IH3, 4IGM, 4IGN, 4I3P, 4HSL, 4HVO, 4HVQ, 4HVR, 4IFK, 4IFO, 4IFR, 4IG2, 4ERO, 4EWA, 4EWD, 4EWE, 4GUL, 4HLT, 4FB1, 4FA1, 4FA4, 4FA5, 4FA9, 4FAN, 4FAV, 4EPK, 4ERA, 4ERG, 4ERI, 2HBV, and 2HBX

Small-angle X-ray scattering (SAXS) solution structures authored:
SASDFN5 and SASDFM5

LIST OF INVITED LECTURES/SEMINARS SINCE INDEPENDENT CAREER

96. Invited Speaker, Catalysis in Natural and Biosynthetic Heme Proteins session, The XIII International Conference on Porphyrins and Phthalocyanines (ICPP-13), Niagara falls & Buffalo, NY, USA, 23-28 July 2024 (invitation accepted)

95. Invited Speaker, Cool and Novel Enzymes session, The 2024 American Society for Biochemistry and Molecular Biology (ASBMB) Annual Meeting (Future #DiscoverBMBs), March 23-26, 2024, in San Antonio, TX (invitation accepted)

94. Invited Speaker, The 28th Enzyme Mechanisms Conference (EMC2024), Grande Beach Resort, Naples, FL, 1/3-1/7, 2024 (invitation accepted)

93. Invited Speaker, joint Inorganic-Chemical Biology seminar, Department of Chemistry, University of Austin, February 17, 2023

92. Invited seminar, Department of Chemistry, Trinity University, February 16, 2023

91. Invited seminar, Department of Pharmaceutical & Biomedical Sciences, University of Georgia, November 8, 2022

90. Invited panelist, Metals in Structural Biology, The 2022 SSRL/SLAC Annual User Meeting, Stanford University, September 30, 2022

89. Invited talk, Metals in Biology Workshop, The 2021 SSRL/SLAC Annual User Meeting and the Pittsburgh Diffraction Conference, Stanford University, September 20, 2021

88. Invited seminar, Department of Biochemistry, Texas A&M University, March 31, 2021 (virtual visit, invited by the Graduate Student and Postdoc Association)

87. Invited colloquium, Dept of Chemistry and Biochemistry, Loyola University, March 25, 2021 (virtual visit)

86. Invited seminar, monthly SSRL seminar, SLAC, Stanford, January 21, 2021 (virtual visit)

85. Invited seminar, Department of Chemistry, the University of Illinois at Urbana-Champaign, October 20, 2020 (virtual visit)

84. Invited seminar, Department of Pharmacology seminar series, UT Health Center San Antonio, October 14, 2020 (virtual visit)

83. Invited seminar, Joint Graduate Program, UTSA-UTHSCSA, February 7, 2020

82. Invited seminar, Division of Chemical Biology and Medicinal Chemistry, The University of Texas at Austin, September 19, 2019

81. Invited talk, Seventh Georgian Bay International Conference on Bioinorganic Chemistry (CanBic7), Parry Sound Ontario, Canada, May 21 - 25, 2019

80. Invited seminar, Department of Cell Systems and Anatomy Seminar Series, UT Health San Antonio, November 13, 2018

79. Invited seminar, Department of Chemistry and Biochemistry, The University of Texas at El Paso, October 12, 2018

78. Invited keynote, The 10th International Conference on Porphyrins and Phthalocyanines (ICPP10), Munch, Germany, July 1-6, 2018

77. Invited colloquium, Biochemistry and Molecular Biology Colloquium Series, Michigan State University, April 19, 2018

76. Invited seminar: Neurobiology Seminar, UTHSCSA-UTSA, August 24, 2017

75. Invited talk, Sixth Georgian Bay International Conference on Bioinorganic Chemistry (CanBic6), Parry Sound Ontario, Canada, May 23 - 26, 2017

74. Invited talk, Inorganic Chemistry Division, The 253rd ACS National Meeting & Exhibition, San Francisco, CA, April 2-6, 2017

73. Invited talk, the 72nd ACS Southwest Regional Meeting (SWRM) in Galveston, TX, November 10-13, 2016

72. Invited colloquium, Department of Chemistry, Brandeis University, Waltham, MA 02454, September 12, 2016

71. Invited seminar, The Institute for Drug Development (IDD), the University of Texas Health Science Center at San Antonio, August 11, 2016

70. Invited seminar, Department of Chemistry and Biochemistry, University of Maryland, Baltimore County, Baltimore, MD 21250, March 7, 2016

69. Invited seminar, Department of Biochemistry, The University of Texas Health Science Center, San Antonio, TX 78229, February 19, 2016

68. Invited seminar, Department of Chemistry, Vanderbilt University, Nashville, TN 37235, October 26, 2015

67. Invited speaker, The 17th International Conference on Biological Inorganic Chemistry (ICBIC17), Beijing, China, July 20-24, 2015

66. Invited speaker, Gordon Research Conference: Enzymes, Coenzymes & Metabolic Pathways, Waterville, NH, July 12-17, 2015

65. Invited seminar, Department of Chemistry, University of Florida, Gainesville, FL, May 11, 2015

64. Invited Speaker, The 2015 Florida Annual Meeting and Exposition (FAME2015), Tampa, FL, May 7-9, 2015

63. Invited seminar: Catalysis at a Distance: Nature's Sniper for Remote Specific Tryptophan Oxidation, The University of Texas at San Antonio, San Antonio, TX, April 28-30, 2015.

62. Invited seminar, Kansas State University, Manhattan, KS, April 15-17, 2015.

61. Invited speaker, The 17th International Conference on Biological Inorganic Chemistry (ICBIC17), Beijing, China, July 20-24, 2015.

60. Invited speaker, 2015 Gordon Research Conference: Enzymes, Coenzymes & Metabolic Pathways, July 12-17, 2015, Waterville, NH

59. Invited speaker: Enzymes in the kynurenine pathway: Potential biomarker and drug target, Enzymes in Drug Discovery, February 26-27, San Diego, CA

58. Invited seminar, Biomedical Science Seminar Series, College of Medicine, The University of Central Florida, Orlando, FL, January 16, 2015

57. Invited seminar, Department of Chemistry, East China Normal University, Shanghai, China, 11/10, 2014

56. Invited seminar, Department of Chemistry, School of Sciences, Zhejiang Sci-Tech University, Hangzhou, China, 11/9, 2014

55. Plenary lecture, The 2nd International Conference on Bio-Trace Elements, Hangzhou, China, 11/8, 2014

54. Invited seminar, College of Chemistry and Chemical Engineering, Shanghai Jiao-Tong University, Shanghai, China, 11/6, 2014

53. Invited seminar, School of Pharmacy, East China University of Science and Technology, Shanghai, China, 11/6, 2014

52. Invited seminar, College of Chemistry and Chemical Engineering, Shanghai Jiao-Tong University, Shanghai, China, 11/5, 2014

51. Invited seminar, Shanghai Organic Chemistry Institute, Chinese Academy of Sciences, Shanghai, China, 11/5, 2014

50. Invited seminar, Department of Chemistry, University, Nanjing, China, 11/4, 2014

49. Invited seminar, China Pharmaceutical University, Nanjing, China, 11/3, 2014

48. Invited seminar, Department of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA, 10/27, 2014

47. Invited colloquium, Department of Chemistry, University of California, Riverside, CA, 10/1, 2014

46. Invited speaker, The 2014 Summer Symposium - Frontiers in Metallobiochemistry III, The Penn State University, University Park, PA, 6/04 - 6/07, 2014

45. Invited seminar, Department of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA, 10/08, 2013

44. Invited speaker, The 6th Annual Meeting of the Mississippi Regional Biophysical Consortium, Starkville, MS, 5/30- 5/31, 2013

43. Invited seminar, Department of Genetics and Biochemistry, Clemson University, Clemson, SC, 03/08, 2013

42. Invited speaker, The 23rd Enzyme Mechanisms Conference, Coronado, CA, 1/3-1/7, 2013

41. Invited speaker, Gordon Research Conferences - Protein Cofactors, Radicals and Quinones, South Hadley, MA, 7/29 -8/3, 2012

40. Invited seminar, State Key Laboratory of Natural and Biomimetic Drugs, School of Pharmaceutical Sciences, Peking University, 100191 Beijing, P. R. China, 7/16, 2012

39. Invited seminar, Peking University, July 12, 2012

38. Invited seminar, Suzhou University, Anhui, P. R. China, 7/11-7/12, 2012

37. Invited seminar, Zhengzhou University, Henan, P. R. China, 7/09-7/10, 2012

36. Invited seminar, Institute of Chemistry, Chinese Academy of Sciences, 7/06/2012

35. Invited seminar, State Key Laboratory of Environmental Chemistry and Ecotoxicology, National Research Center for Eco-Environmental Sciences, Beijing 100085, People's Republic of China, 7/4-7/5, 2012

34. Invited speaker, The 7th International Conference on Porphyrins and Phthalocyanines (ICPP-7), Jeju, Korea, 7/1-7/4, 2012

33. Invited seminar, Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA, April 26, 2012

32. Invited seminar, Department of Chemistry, Florida Institute of Technology, Melbourne, Florida (10/6 -10/7/2011)

31. Invited colloquium, Department of Chemistry and Biochemistry, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin (9/29 -10/1/2011)

30. Invited speaker, The 15th International Conference on Biological Inorganic Chemistry (ICBIC15), Vancouver, Canada, August 6-13, 2011.

29. Invited speaker, The 53rd Rocky Mountain Conference - EPR Symposium Snowmass, Colorado, July 24-28, 2011, Snowmass, Colorado, July 24-28, 2011.

28. Invited oral presentation, The 2011 Georgia Cancer Summit, Macon, GA, June 17-18, 2011.

27. Invited speaker, The 39th Southeastern Magnetic Resonance Conference (SEMRC), Gainesville, October 22-24, 2010.

26. Invited seminar, Department of Physiology & Biophysics, Albert Einstein College of Medicine, NY, September 23, 2010.

25. Invited speaker, The 6th Sino-US Chem Conference, Hangzhou, P. R. China, June 15 – 17, 2010.

24. Invited colloquium, Department of Physics, Emory University, December 4, 2009.

23. Invited Inorg-Biochem joint seminar, Department of Chemistry, Georgia Institute of Technology, November 3, 2009.

22. Invited seminar, Department of Chemistry, University of Florida, September 15, 2009.

21. Invited speaker, The 14th International Conference on Biological Inorganic Chemistry (ICBIC14), July 25-30, 2009, Nagoya, Japan.

20. Invited seminar, Department of Chemistry and Biochemistry, August 26, 2008, Auburn University, Auburn, AL

19. Visiting professor lecture (2), Kansai University, May 23, 2008, Suita, Japan

18. Invited seminar, Osaka University, May 19, 2008, Osaka, Japan

17. Invited seminar, Tohoku University, May 14, 2008, Sendai, Japan

16. Visiting professor lecture (1), Kansai University, May 8, 2008, Suita, Japan

15. Invited talk, Division of Biological Chemistry, The 235th National American Chemical Society Conference, April 7, 2008, New Orleans, LA

14. Invited speaker, Division of Inorganic Chemistry, The 235th National American Chemical Society Conference, April 9, 2008, New Orleans, LA

13. Invited seminar: Department of Chemistry and Biochemistry, University of Southern Mississippi, March 28, 2008, Hattiesburg, MS

12. Invited speaker, Gordon Research Conferences - Protein Cofactors, Radicals, and Quinones, January 20-25, 2008

11. Invited seminar, Biochemistry and Molecular Biology Seminar Series, The Pennsylvania State University, October 29-31, 2007, University Park, PA.

10. Invited speaker, Gordon Research Conferences - Metals in Biology, Presentation. January 29 – February 3, 2006, Ventura, CA

9. Invited speaker, The Inaugural Texas Enzyme Mechanism Conference, January 7, 2006, Austin, TX

8. Invited seminar, November 21, 2005, the 2005-2006 Pharmacology & Toxicology Seminar Series, organized by the Department of Pharmacology and Toxicology, University of Mississippi Medical Center, Jackson, MS

7. Selected “Short Talk” speaker: Gordon Research Conferences – Enzyme, Coenzyme & Metabolic Pathways, July 14, 2003, Gordon Research Conferences: Enzymes, Coenzymes & Metabolic Pathways, Meriden, NH

6. Invited seminar, Jackson State University – NIH-Sponsored SCORE Seminar Series, Jackson, MS, June 13, 2003,

5. Invited seminar, the Department of Biochemistry and Molecular Biology, Mississippi State University, MS, February 11, 2003,

4. Invited seminar, Department of Biochemistry, University of Mississippi Medical Center, Jackson, MS, February 14, 2002

3. Invited seminar, Department of Chemistry and Biochemistry, California State University Long Beach, February 7, 2002

2. Invited seminar, Medicinal and Natural Products Chemistry, The University of Iowa College of Pharmacy, Iowa City, IA, January 17, 2002

1. Invited seminar, MetalloProtein Interest Group seminars, Center for Metals in Biocatalysis, University of Minnesota Twin Cities, Minneapolis, MN, January 15, 2002

COURSE TAUGHT & STUDENT PERCEPTION

Courses taught at UMMC between 2002 – 2008 were teamwork on Medical Biochemistry for medical students, Enzymology for graduate students, which are not listed in the following table.

Semester /year	Course number	Title (lectures taught % in the teamwork)	Number of students	Evaluation (on a 1-5 scale)
Fall /08	CHE 6600	Biochemistry I (50%)	29 (grad)	4.8
Spring /09	CHE 4610	Biochemistry II (50%)	3 (under)	5.0
Spring /09	CHE 6610	Biochemistry II (50%)	26 (grad)	5.0
Spring /09	CHE 6900	Advanced Research Methods (33%)	19 (grad)	4.8
Summer /09	CHE 6900	Advanced Research Methods (33%)	15 (grad)	5.0
Fall /09	CHE 6600	Biochemistry I (100%)	30 (grad)	4.4
Fall /09	CHE 6900	Advanced Research Methods (33%)	15 (grad)	4.6
Spring /10	CHE 4230	Metals in Biology & Medicine (100%)	2 (under)	5.0
Spring /10	CHE 6230	Metals in Biology & Medicine (100%)	19 (grad)	4.5
Spring /10	CHE 6900	Advanced Research Methods (33%)	22 (grad)	4.8
Summer /10	CHE 6900	Advanced Research Methods (33%)	15 (grad)	4.5
Fall /10	CHE 6600	Biochemistry I (100%)	37 (grad)	4.4
Fall /10	CHE 6900	Advanced Research Methods (33%)	19 (grad)	4.8
Spring/11	CHE 4610	Biochemistry II (50%)	8 (under)	4.6
Spring /11	CHE 6610	Biochemistry II (50%)	23 (grad)	4.5
Spring /12	CHE6900	Advanced Research Methods (100%)	13 (grad)	4.7
Fall/11	CHE 6600	Biochemistry I (50%)	32 (grad)	4.6
Spring /12	CHE 4230	Metals in Biology & Medicine (100%)	5 (under)	5.0
Spring /12	CHE 6230	Metals in Biology & Medicine (100%)	13 (grad)	4.6
Fall /12	CHE 4600	Biochemistry I (70%)	1 (under)	5.0
Fall /12	CHE 6600	Biochemistry I (70%)	36 (grad)	4.8
Fall /13	CHE 6600	Biochemistry I (70%)	55 (grad)	4.7
Spring /14	CHE 6230	Metals in Biology & Medicine (100%)	36 (grad)	4.8
Fall /14	CHE 6600	Biochemistry I (50%)	58 (grad)	4.6
Fall /15	CHE 6600	Biochemistry I (50%)	59 (grad)	4.5

Fall /16	CHE 4303	Biochemistry (100%) @ UTSA	37 (under)	4.59
Spring /17	CHE6973	Mechanistic Enzymology (100%)	6 (grad)	5.00
Fall /17	CHE 4303	Biochemistry (100%) @ UTSA	33 (under)	4.61
Spring /18	CHE 5313	Advanced Biochemistry (100%) @ @UTSA	9 (grad)	4.50
Fall /18	CHE 4303	Biochemistry (Q) (100%) @UTSA	32 (under)	4.59
Spring /19	CHE 5313	Advanced Biochemistry (100%) @ @UTSA	8 (grad)	5.00
Fall /19	CHE 4953	Biochemistry Topics (Q) (52%) @UTSA	37 (under)	4.65
Spring /20	CHE4953 CHE 5313	Biochemistry Topics (Q) (52%) @UTSA (U shut down after 2 months)	16 (under) 7 (grad)	No report (COVID-19)
Fall /20	CHE 4953	Biochemistry Topics (Q) (52%) @UTSA through on-line	18 (under)	4.36
Spring/21	CHE 5313	Advanced Biochemistry (100%) offered through on-line	14 (grad)	4.90
Fall/21	CHE 4971	Proseminar (100%)	10 (under)	5.00
Spring/22	CHE 4313	Biochemistry II (100%)	39 (under)	4.82
Fall/22	CHE3313	Biochemistry I (100%)	21 (under)	4.59

On a 1-5 scale, with 1 = very poor and 5: outstanding

The average student evaluation score from the past ten years is approximately 4.7+ out of 5.0. Anonymous perceptions and comments from students for each of the lectured courses are available at http://Feradical.utsa.edu/lectures.html

INSTITUTIONAL COMMITTEE SERVICES IN THE MOST RECENT FIVE YEARS

2017-2018

Chair of Biochemistry Curriculum Reform Committee
Member of the Departmental Faculty Review Advisory Committee (DFRAC)
Member Biochemistry Curriculum Committees
Member of the Graduate Admission Committee (GRAC)
Member for Comprehensive Periodic Evaluation Committee (five-year review for Dr. Kurtz)

2018-2019

Chair of Graduate Admission Committee (GRAC)
Chair of Biochemistry Curriculum Reform Committee;
Member of the Department of Chemistry Executive Committee
Member of the Departmental Faculty Review Advisory Committee (DFRAC)
Member of Facilities Committee
Member of two Faculty Recruitment Planning Committees (junior & senior hiring)
Admission Committee (GRAC); Chaired six student dissertation committees

2019-2020

Chair of the Graduate Admission Committee (GRAC)
Member of the Departmental Faculty Review Advisory Committee (DFRAC)
Member of Departmental Facilities Committee
Member of Departmental Executive Committee
Member of Biochemistry Curriculum Committee
Member of Department Chair Search Committees (senior/chair hire)
Member of Department Assistant Professor Recruitment Committees (Junior hire)
Member of the Cores Advisory Board for Research Core Facilities of the University

2021-2022

Chair of Comm/Outreach/Awards Committee (2021)
Chair of Communication Committee (2022)
Member of the Departmental Faculty Review Advisory Committee (DFRAC)
Member of the Cores Advisory Board for Research Core Facilities of the University (2021)
Member of Departmental Seminar Committee (2021-2023)
Member of the UTSA Academy of Distinguished Researchers (2021-2022)
Member of Hiring Planning Committee (2022)
Member of Preparation Committee for Academic Program Review of Chemistry 2022)
Member of the review team for UTSA's Physics and Astronomy Department academic program review (2022)
Member of the College of Sciences Faculty Development Leave Program Committee (2022, 2023)
Member of Department Faculty Recruitment Committee (Biochemistry) (2022-2023)

MENTORSHIP AND TRAINEES

A. Doctoral students–trainees received a doctorate and their last known post:

Professor Kathy F. Liu (Ph.D. 2013, graduated with honors), currently Assistant Professor of Biochemistry and Biophysics (tenure-track), Department of Biochemistry and Biophysics, Perelman School of Medicine, the University of Pennsylvania (started 01/2018; website: https://www.med.upenn.edu/kathyliulab/)

Professor Yifang Wang (Ph.D. 2021, graduated with honors), Assistant Professor of Chemistry (tenure-track), Department of Chemistry, University of Georgia (started from 9/15/2021; website: https://www.chem.uga.edu/directory/people/yifan-wang)

CPT Ian Davis (Ph.D. 2021, graduated with Graduate Award for Outstanding Research at the Doctoral Level), Biochemistry Officer (Captain, O-3), Medical Research Institute for Infectious Diseases, The U.S. Army (USAMRIID, started 02/2022, https://usamriid.health.mil/)

Jiafeng (Jeff) Geng (Ph.D. 2014, graduated with William M. Suttles Doctoral Research Fellowship and Associate Vice President for Research Dissertation Award – the highest honor for Ph.D. students), Associate Director of Research Projects, Emory University, Atlanta, Georgia

Kednerlin Dornevil (Ph.D. 2017), Director of Operations, Eurofins PSS

Lu (Cindy) Huo (Ph.D. 2014, graduated with honors), Principal Investigator, Incyte

Tingfeng Li (Ph.D. 2008), Research Associate, Xavier University of Louisiana Executive Editor, Advances in Bioscience and Biotechnology, Scientific Research

Rong Fu (Ph.D. 2009), Research Associate, Department of Pharmacology, Emory University School of Medicine (http://pharmacology.emory.edu/hess-jinnah/people/fu-rong.html)

Yan Chen (Ph.D. 2013), R&D Scientist, Agilent Technologies, Inc, Folsom, CA

B. Master's students–trainees received Master's degree and their last known post:

Imran Rehmani (2012), ORISE/CHEMIST, Centers for Disease Control and Prevention (CDC)

Brook (Xiaoxi) Wei (2012), Statistical Modeler, LexisNexis, San Jose, CA

James Ross Terrell (2014), Postdoctoral Associate, Georgia State University

Calmour J. Henry (2016), M.D./Ph.D., Morehouse School of Medicine, Atlanta, GA

Tseng Xiong (2016), Ph.D. candidate, Georgia State University

Chinedum Udokwu (2022), in the Med School admission application process

C. Individuals received postdoctoral training and their last known post:

Dr. Sunil G. Naik, Ph.D., FRS (Postdoctoral Research Fellow, 2009-2010), Dean of School of Chemical Sciences & Head of Chemistry Department, Central University of Rajasthan, India (deceased due to virus attack in 2017)

Dr. Vesna de Serrano, Ph.D. (Postdoctoral Fellow, 2011-2012), Uniformed Services University of Health Sciences

Lirong Chen, Ph.D. (Postdoctoral Research Fellow, 2012-2013), Associate Research Scientist (non-tenure-track faculty), University of Georgia

Dr. Ahmad H. Al-Mestarihi, Ph.D. (Postdoctoral Research Fellow, 2015-2016), Palm Bay, FL 32908

Dr. Andrew J. Fielding, Ph.D. (Postdoctoral Research Fellow, 2016-2017), Senior Research Scientist at Air Force Drug Testing Laboratory, ADC Management

Dr. Yu Yang, Ph.D. (Postdoctoral Research Fellow, 2016-2020), Associate Professor, Department of Biochemistry, Hubei University, P.R. China

Dr. Inchul Shin (Postdoctoral Research Fellow, 2015-2021), Assistant Professor of Research, Department of Chemistry, University of Texas at San Antonio

Dr. Jiasong Li (Postdoctoral Research Fellow, 2015-2021), Assistant Professor of Research, Department of Chemistry, University of Texas at San Antonio

Dr. Teruaki Koto (Ph.D. in Material Sciences, Osaka City University), 2016 – 2019

Dr. Hui Xu (Ph.D., Auburn University), 09/2020 – 03/2022

D. Other trainees and their last known post:

James Benjamin Brock, MD, Medical Research Fellow (2005-2006): Assistant Professor of Medicine (tenure track), University of Mississippi Medical Center

Channing Twyner, **MD**, Medical Research Fellow (2007-2007): Assistant Professor of Anesthesiology, University Hospital, Jackson, MS

Tyler Florio, REU Visiting Student from Muhlenberg College (2015-2015): Ph.D. Candidate, Thomas Jefferson University

Undergraduate Research Scholar with published manuscript @UTSA

Ms. Elizabeth Fritz (coauthored in a publication of Angew. Chem. Int. Ed.)

Mr. Ivanov Dmitri (coauthored in a publication of J. Biol. Chem.)

E. Current Research Group

Assistant Professor for Research:

Dr. Inchul Shin (Ph.D., Seoul National University), 07/2022 - present

Dr. Jiasong Li (Ph.D., University of Science and Technology of China), 08/2022 - present

Postdoctoral Fellow:

Dr. Iram Aziz (incoming)

Graduate Research Assistant:

Ms. Romie Nguyen (B.S., California State University), Ph.D. candidate, 2018 – present

Mr. Ephrahime Traore (B.S., Baylor University), Ph.D. candidate, 2019 – present

Mr. Samuel Montoya (B.S., UTSA), Ph.D. candidate, 2020 – present

Mr. Ran Duan (B.S., Dalian Institute of Science and Technology), Ph.D. candidate, 2020 – present

Ms. Cassadee Stagliano (B.S., University of Vermont), M.S. candidate, 2021 – 2022; Ph.D. student 2022 - present

Chinedum Udokwu (B.S., UTSA), M.S., 01/2021 – 05/2023

Research Assistant I:

Ms. Ashley Newton (B.S., UTSA), 5/16/2022 – present

Ms. Angelica G. Toribio (B.S., UTSA), 1/17/2023 –

Undergraduate Research Scholars

Ms. Luree Mccann, 2022 – present