Curriculum Vitae

Yi Lu

Department of Chemistry
University of Texas at Austin
2506 Speedway STOP A5300
Austin, Texas 78712-1224
(512) 471-1542 (phone)
yi.lu@utexas.edu *(e-mail)*
http://lulab.cm.utexas.edu/ (web page)

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Yi Lu

EDUCATION

University of California	Los Angeles, CA	Ph.D. in Chemistry	1987 – 1992
Peking University	Beijing, P. R. China	B. S. in Chemistry	1982 –1986

PROFESSIONAL POSITIONS

Professor of Chemistry 8/21 – present
University of Texas at Austin, Austin, TX

- **Robert J.V. Johnson-Welch Regents Chair in Chemistry** 8/21 – present
- **Interdisciplinary Life Sciences Graduate Programs** 8/21 – present
  - **The Biochemistry Graduate Program** 8/21 – present
  - **The Cell and Molecular Biology Graduate Program** 8/21 – present
- **The Livestrong Cancer Institutes at the UT Dell Medical School** 3/22 – present
- **The John Ring LaMontagne Center for Infectious Disease** 3/22 – present
- **Texas Materials Institute** 4/22 – present
- **McKetta Department of Chemical Engineering** 6/22 – present
- **Biomedical Engineering** 10/22 – present
- **Institute for Neuroscience** 8/23 – present

Professor of Chemistry 8/04 – 8/21
University of Illinois at Urbana-Champaign, Urbana, IL

- **Jay and Ann Schenck Professor Emeritus** 8/21– present
- **Laboratory Fellow, Pacific Northwest National Laboratory (Joint Appt.)** 1/18– present
- **Jay and Ann Schenck Professor** 8/10 – 8/21
- **Affiliate Faculty, Institute of Genomic Biology** 8/14 – 8/21
- **Affiliate Faculty, Department of Bioengineering** 10/08 – 8/21
- **Alumni Research Scholar** 1/06 – 8/10
- **Affiliate Faculty, Department of Materials Science and Engineering** 12/03 – 8/21
- **Part-time Faculty, Beckman Institute for Advanced Science and Technology** 11/03 – 8/21
- **HHMI Professor** 9/02 – present
- **Affiliate Faculty, Materials Research Laboratory** 8/02 – 8/21
- **Affiliate Faculty, Center for Biophysics and Quantitative Biology** 8/00 – 8/21

Associate Professor of Chemistry 8/00 – 8/04
University of Illinois at Urbana-Champaign, Urbana, IL

- **Affiliate Faculty, Department of Biochemistry** 6/99 - 8/21

Assistant Professor of Chemistry 8/94 - 8/00
University of Illinois at Urbana-Champaign, Urbana, IL

Postdoctoral Research Fellow 9/92 - 8/94
Division of Chemistry and Chemical Engineering
California Institute of Technology, Pasadena, CA
Advisor: Harry B. Gray

Research Assistant 1/89 - 8/92
Department of Chemistry, University of California, Los Angeles, CA
Advisor: Joan Selverstone Valentine

Teaching Assistant 9/87 - 12/88
Department of Chemistry, University of California, Los Angeles, CA

HONORS AND AWARDS

Allen Distinguished Investigators	2022-2025
Kilpatrick Lecturer, Illinois Institute of Technology	2022
Fellow of the National Academy of Inventors	2021
Royal Society of Chemistry Joseph Chatt Award	2020
Larry R. Faulkner Endowment for Excellence in Chemistry Seminar Department of Chemistry, University of Texas at Austin	2018
Royal Society of Chemistry Applied Inorganic Chemistry Award	2015
Fellow of the Royal Society of Chemistry (FRSC)	2015
Hutchison Memorial Lecturer Department of Chemistry, University of Rochester	2013-2014
Sigma Xi Distinguished Lecturer	2013-2014
Associate, Center for Advanced Study, UIUC	2013
Innovation Discovery award, Champaign County, IL	2012
Gomberg lecturer, University of Michigan	2012
Illinois Sustainable Technology Center (ISTC) Research Fellow Award	2009
Special Creativity Extension Award, National Science Foundation	2009
Distinguished Visiting Professorship, National University of Singapore	2008
Fellow, American Association for the Advancement of Science	2007
Early Career Award, Society of Biological Inorganic Chemistry	2007
Research, Development, and Operational Support Team Award, Construction Engineering Research Laboratory, U.S. Army Engineer Research and Development Center	2007
J. Clarence Karcher Medal and Lecturer, Department of Chemistry and Biochemistry, University of Oklahoma	2007
Incomplete List of Teachers Ranked as Excellent by their Students	2006
National Academy of Sciences IUPAC Young Observer Award	2005
Honorary Mention for the UIUC Campus Award for Innovation in Undergraduate Instruction	2005
Campus Award for Excellence in Guiding Undergraduate Research (UIUC)	2003
Howard Hughes Medical Institute Professors Award	2002 - 2008
University Scholar Award (UIUC)	2002 - 2005
The Biosensors and Bioelectronics Award	2002
Camille Dreyfus Teacher-Scholar Award	1999 - 2001
University of Illinois SCS Excellence in Teaching Award	1999 - 2000
National Science Foundation Special Creativity Award	1998 - 2000
Alfred P. Sloan Research Fellowship	1998 - 2000
Research Corporation Cottrell Scholars Award	1997 - 1999
Arnold and Mabel Beckman Young Investigator Award	1996 - 1998
Beckman Fellow, Center for Advanced Study	1996 - 1997
National Institute of Health FIRST Award	1995 - 2000
National Science Foundation CAREER Award	1995 - 1998

Product Research Corporation Prize for Excellence in Research	1990 - 1991
Hortense Fishbaugh Memorial Scholarship	1990 - 1991
Phi Beta Kappa Alumni Scholarship Award	1990 - 1991

PUBLICATIONS (H-index: 109 (Web of Science) or 128 (Google Scholar); ResearcherID: B-5461-2010; ORCID: 0000-0003-1221-6709)

459. Jing-Xiang Wang, Evan N. Mirts, Lucas H. Williams, and Yi Lu, "Tower Loop Engineering Converts a Low-potential Bacterial Laccase into a High-potential Laccase with Tunable Catalytic Activity," *J. Am. Chem. Soc.* (in press: https://doi.org/10.1021/jacs.6c12434) (2026).

458. Jing-Xiang Wang, Yunling Deng, Indrek Kalvet, Amira Haque, Huiguang Dai, David Baker, and Yi Lu, "De novo Design and Structural Optimization of Mn(salen)-based Artificial Metalloenzyme for Asymmetric Sulfoxidation," *Angew Chemie Int. Ed.* e5852828; https://doi.org/10.1002/anie.5852828) (2026).

457. Aaron P. Ledray, Barshali Ghosh, Hirbod Heidari, Yi Lu, "Direct Comparison of CuB and CuSiR Sites in a Single Designed Protein Scaffold Reveals a Central Role for Tyrosine in Oxygen and Sulfite Reduction," *J. Am. Chem. Soc.* 148, 34094–34101(2026).

456. Alexis J. Holwerda, Jing-Xiang Wang, Yang Gao, Yi Lu, Benjamin K. Keitz, "Azurins With Tunable Reduction Potentials as Redox Mediators for Extracellular Electron Transfer," 27, e70477 ; https://doi.org/10.1002/cbic.70477; 2026)

455. Yujie He, Zhenglin Yang, Yu-An Kuo, Yuting Wu, Diego Fonseca-Albert, Kyle K. Le, Jeffrey Guo, Yanxing Wang, Anh-Thu Nguyen, Yuan-I Chen, Sohyun Kim, Wei-Ru Chen, Saeed Seifi, Soonwoo Hong, Trung Duc Nguyen, Yinong Chen, Pengyu Ren, Yi Lu, and Hsin-Chih Yeh, "High-Throughput On-Chip Screening Enables Rapid Adaptation of DNA Aptamers to SARS-CoV-2 Evolution," *ACS Nano* 20, 23941–23957 (2026).

454. Emily Radley, Alessia Andrews, Indrek Kalvet, Yunling Deng, Colin Levy, Mary Ortmayer, Derren Heyes, Clare Megarity, Amy Hutton, Yi Lu, David Baker, Anthony Green, "A de novo CO_2 reductase featuring a cysteine ligated cobalt porphyrin cofactor," *J. Am. Chem. Soc.* 148: 30194–30201(2026).

453. Nada Elessawy, Selma Sinan, Hongshan Zhang, Zhenglin Yang, Yi Lu, Ilya J. Finkelstein, and Yi-Chih Lin, "Single-Molecule Visualization of DNase I-Mediated DNA Cleavage by High-Speed Atomic Force Microscopy, *ACS Chem. Biol.* 21, 1260–1268(2026).

452. Ryan Yao, Isabella Rivera, Jorge Maldonado, Catherine A Best-Popescu, Hui Xu, Jann N. Sarkaria, Jing-Xiang Wang, Yi Lu, Kim A Selting, Brendan A.C. Harley, Sara Pedrón-Haba, Biomimetic model for the identification of distinctive microenvironmental factors in glioblastoma radiosensitivity, *Clin. Transl. Rad. Oncol. 59,* 101204, https://doi.org/10.1016/j.ctro.2026.101204 (2026).

451. Yu-An Kuo, Yuan-I. Chen, Naseem Siraj, Yujie He, Zhenglin Yang, Yanxing Wang, Emile J. Batchelder-Schwab, Zeynep Korkmaz, Siem Yonas, Trung D. Nguyen, Soonwoo Hong, Anh-Thu Nguyen, Sohyun Kim, Saeed Seifi, Po-Hsun Fan, Yuting Wu, Hung-Wen Liu, Yi Lu, Pengyu Ren, Chengde Mao, and Hsin-Chih Yeh, Fluorogenic Aptamer Optimization on a Massively Parallel Sequencing Platform, *ACS Sensors*, 11, 5, 3587–3600 (2026).

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Page, and Yi Lu, "Harnessing Photoenzymatic Systems for Intermolecular C–H Fluorination," *Angew Chemie Int. Ed.* e24744, https://doi.org/10.1002/anie.202524744 (2026).

448. Adrienne E. Milward, Rebecca J. Hood, Chan-An Lin, Conceição Bettencourt, Elvis Acquah, Jake Brooks, Joanna F. Collingwood, Yoshiteru Kagawa, Samantha J. Richardson, Yuting Wu, Yi Lu, Mirella Dottori, and Daniel M. Johnstone, "Paradoxes in the ontological classification of glia - evidence for an important new class of brain cells with primary functions in iron regulation," *Cells*, *15*(6), 511 (2026).

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443. Yunling Deng, Therese Albert, Casey Van Stappen, Philip M. Palacios, Maria L. Amador, Sudharsan Dwaraknath, Yisong Guo, Pierre Moënne-Loccoz, and Yi Lu, "Unveiling an Ultrareduced State of Heme in Myoglobin," *J. Am. Chem. Soc.* 147, 29983–29993 (2025).

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440. Mingkuan Lyu, Linggen Kong, Xiangli Shao, and Yi Lu. "PCR-Free Site-Directed Mutagenesis on Repetitive Sequences Using Single-Stranded DNA-Assisted Double-Stranded DNA Nicking by DNAzymes, *Angew Chemie Int. Ed.* 64, e202509127, https://doi.org/10.1002/anie.202509127 (2025).

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437. Jing-Xiang Wang, Avery C. Vilbert, Lucas H. Williams, Evan N. Mirts, Chang Cui, Yi Lu, "Unexpected Effect of an Axial Ligand Mutation in the Type 1 Copper Center in Small Laccase: Structure-Based Analyses and Engineering to Increase Reduction Potential and Activity," *Chem. Sci.* 2025, 16, 11339 – 11346 (2025).

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434. Whitney M. Lewis, Annie Farrell, Shreestika Pradhan, and Yi Lu, "Signal Transduction Strategies for DNAzyme-Based Sensing and Imaging of Metal Ions in Cells and In Vivo," *Chem. & Biom. Imaging* 3, 473–498(2025).

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431. Weijie Guo, Yuan Ma, Quanbing Mou, Xiangli Shao, Mingkuan Lyu, Valeria Garcia, Linggen Kong, Whitney Lewis, Zhenglin Yang, Shuya Lu, and Yi Lu, "Sialic acid aptamer and RNA in situ hybridization-mediated proximity ligation assay (ARPLA) for spatial imaging of glycoRNAs in single cells, *Nature Protocol* https://doi.org/10.1038/s41596-024-01103-x (2025).

430. Yuting Wu, Wentao Kong, Jacqueline Van Stappen, Linggen Kong, Zhimei Huang, Zhenglin Yang, Yu-An Kuo, Yuan-I Chen, Yujie He, Hsin-Chih Yeh, Ting Lu, and Yi Lu, "Genetically Encoded Fluorogenic DNA Aptamers for Imaging Metabolite in Living Cells," *J. Am. Chem. Soc. 147,* 1529–1541*,* https://doi.org/10.1021/jacs.4c09855 (2025).

429. Zhenglin Yang, Annie Farrell, Shreestika Pradhan, Karen Huilin Zhang, Weijie Guo, Yuting Wu, Xiangli Shao, Aritra Roy, Elijah S. Garcia, Yi Lu, "On-site Portable Lithium Detection in Mining and Recycling Industries based on a DNAzyme Fluorescent Sensor," *Angew. Chem. Int. Ed.* e202413118; https://doi.org/10.1002/anie.202413118 (2024).

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425. David Moreira, Daniela Alexandre, André Miranda, Pedro Lourenço, Pedro V. Baptista, Cândida Tomaz, Yi Lu, Carla Cruz, "Detecting mir-155-3p through a molecular beacon bead-based assay,"

Molecules 29(13), 3182; https://doi.org/10.3390/molecules29133182 (2024).

424. Quan Lam, Casey Van Stappen, Yi Lu, and Sergei Dikanov, "^{1}H HYSCORE Studies of Second Sphere Variants of the Type 1 Copper Site in Azurin: Influence of Mutations on the Hyperfine Couplings of Cys112 $C_{\beta}H_2$ Protons", *Appl. Magn. Reason. 55.* 1159–1174 (https://doi.org/10.1007/s00723-024-01665-9) (2024).

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422. Huanhuan Fan and Yi Lu, Improving Sensitivity of a Mn(II)-Specific DNAzyme for Cellular Imaging Sensor through Sequence Mutations, *Anal. Chem.* 96, 9, 3853–3858 (https://doi.org/10.1021/acs.analchem.3c05280) (2024).

421. Yu Zhou, Shuaizhen Zhou, Scott Lyons, Haoran Sun, Jonathan V. Sweedler, and Yi Lu, Enhancing 2-Pyrone Synthase Efficiency by High-Throughput Mass-Spectrometric Quantification and In Vitro/In Vivo Catalytic Performance Correlation," *ChemBioChem*, 25, e202300849 (https://doi.org/10.1002/cbic.202300849) (2024).

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419. Quan Lam, Casey Van Stappen, Yi Lu and Sergei A. Dikanov, HYSCORE and QM/MM Studies of Second Sphere Variants of the Type 1 Copper Site in Azurin: Influence of Mutations on the Hyperfine Couplings of Remote Nitrogens," *J. Phys. Chem. B*, 128, 14, 3350–3359 (2024).

418. Amir H. Ahkamia, Odeta Qafokua, Tiina Roose, Quanbing Mou, Yi Lu, Zoe G. Cardon, Yuxin Wu, Chunwei Chou, Joshua B. Fisher, Tamas Varga, Pubudu Handakumbura, Jayde A. Aufrecht, Arunim Bhattacharjee, and James J. Moran, "Emerging sensing, imaging, and computational technologies to scale nano-to macroscale rhizosphere dynamics – Review and research perspective," *Soil Biol. & Biochem.* 189, 109253 (https://doi.org/10.1016/j.soilbio.2023.109253) (2024).

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416. Kenneth N. McGuinness, Nolan Fehon, Ryan Feehan, Michelle Miller, Andrew C. Mutter, Justin Nam, Jenna E. AbuSalim, Joshua T. Atkinson, Hirbod Heidari, Natalie Losada, J. Dongun Kim, Ronald L. Koder, Yi Lu, Jonathan J. Silberg, Joanna S.G. Slusky, Paul G. Falkowski, Vikas Nanda, "Surveying protein-cofactor energetics to understand deep-time oxidoreductase evolution," *PROTEINS: Struct. Funct. Bioinform.* 92, 52-29 http://doi.org/10.1002/prot.26563 (2024).

415. Yuan Ma, Weijie Guo, Quanbing Mou, Xiangli Shao, Mingkuan Lyu, Valeria Garcia, Linggen Kong, Whitney Lewis, Carson Ward, Zhenglin Yang, Xingxin Pan, S. Stephen Yi, Yi Lu, "Spatial imaging of glycoRNA in single cells with ARPLA"," *Nature Biotech* 42, 608–616 (https://doi.org/10.1038/s41587-023-01801-z) (2024).

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411. Mengyi Xiong, Yuting Wu, Gezhi Kong, Whitney Lewis, Zhenglin Yang, Hanxiao Zhang, Li Xu, Ying Liu, Qin Liu, Xuhua Zhao, Xiao-Bing Zhang and Yi Lu, A Semisynthetic Bioluminescence Sensor for Ratiometric Imaging of Metal Ions In Vivo Using DNAzymes Conjugated to an Engineered Nano-Luciferase, *Angew. Chem. Int. Ed.* e202308086 (https://doi.org/10.1002/anie.202308086) (2023).

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407. Huanhuan Fan, Claire E. McGhee, Ryan J. Lake, Zhenglin Yang, Zijian Guo, Xiao-Bing Zhang, and Yi Lu, "A Highly Selective Mn(II)-Specific DNAzyme and Its Application in Intracellular Sensing, *JACS Au,* https://doi.org/10.1021/jacsau.3c00062 (2023).

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36. Yi Lu and Mandira Banik, "Mapping Metabolite- and Metal Ion-Protein Interactomes Using Functional DNA-based Proximity Labeling," U.S. Provisional Application No. 63/566,229, filed on March 16, 2024; U.S. Patent Application No. 19/080,132, filed on March 14, 2025

35. Yi Lu and Quanbing Mou, "DNAzyme-Paint And Aptamer-Paint: 3D Super-Resolution Imaging of Metal Ions and Metabolites in Cells," US patent application No. 63/565,821, filed on March 15, 2024

34. Yi Lu and Yu Zhou, "Engineered 2-Pyrone Synthases, Methods of Use Thereof For Producing polyketides, Polyketide Precursors, Polyketide Derivatives, Or A Combination Thereof, And Compositions Comprising the Same", US patent application No 63/615,933, filed on December 29, 2023, PCT/US2024/062028, filed on December 27, 2024

33. Yi Lu, Yuan Ma, Weijie Guo and Quanbing Mou, "Compositions and Methods for GlycoRNA Imaging via Proximity Ligation Assay," U.S. Provisional Application No. 63/373,605, filed on August 26, 2022 and US patent application No. PCT/US23/72898, filed on August 25, 2023; U.S. '371 Patent Application No. 19/104,918, filed February 19, 2025.

32. Brian Cunningham, Xiaojing Wang, Skye D. Shepherd and Yi Lu, "Target Recycling Amplification Process (TRAP)", US Provisional patent 63/406,540, filed on September 14, 2022.

31. Yi Lu and Mingkuan Lyu, "Catalytic nucleic acid-based genetic engineering method," US patent (No. 62/950,863) filed on December 19, 2019 and (PCT/US2020/066223), filed on December 18, 2020.

30. Brian T. Cunningham, Taylor D. Canady, Nantao Li, Andrew M. Smith, Yi Lu, "Digital Resolution Detection of miRNA with Single Base Selectivity by Photonic Resonator Absorption Microscopy," U. S. patent application No. 62/840,040, filed on April 29, 2019.

29. Yi Lu, Evan N. Mirts and Parisa Hosseinzadeh, Artificial Metalloproteins as Biocatalysts for Sulfite Reduction." U. S. patent application No. 62/702,940, filed on July 25, 2018.

28. Brian T. Cunningham, Brendan A Harley, Yue Zhuo, Ji Sun Choi, and Yi Lu, "Photonic Resonator Absorption Microscopy (PRAM) for Digital Resolution Biomolecular Diagnostics." U.S. patent application No. 62/577,240, filed on October 26, 2017.

27. Yi Lu and Yu Xiang, "Detection and Quantification of Analytes." U.S. patent application No. 62/422,074, filed on November 15, 2016.

26. Yi Lu, Parisa Hosseinzadeh and Nicolas Marshall, "Water-Soluble Redox Reagents." U.S. patent application 62/421,632 filed on November 14, 2016.

25. Yi Lu, Seyed-Fakhreddin Torabi and Claire E. McGhee, "DNAzymes to Detect Sodium, Melamine, or Lithium and Methods of Use." US Patent Application 62/326,522, filed on April 22, 2016.

24. Yi Lu, Yu Xiang, and JingJing Zhang, "Personal Glucose Meters for Detection and Quantification of Enzymes and Metabolites Based on Coenzyme Detection" U.S. patent Application No. 61/901,688 filed on November 8, 2013. PCT/US2014/64314, filed on November 6, 2014.

23. Yi Lu and Zidong Wang, "Nucleic Acid-Mediated Shape Control of Nanoparticles," US Patent Application 13/717,535, filed on Dec. 17, 2012.

22. Yi Lu, and Yu Xiang, "Personal Glucose Meters for Detection and Quantification of a Broad Range of Analytes," US patent (13/699,578) issued on September 17, 2014, US patent (8,945,943) issued on February 3, 2015; Canada Patent (CA Patent No. 2,800,257) issued on March 5, 2019.

21. Yi Lu, Yu Xiang, Weichen Xu, Label-Free Functional Nucleic Acid Sensors for Detecting Target Agents. U.S. Patent number 13/267,414 issued September 15, 2014; US Patent number 8,933,210, issued on January 13, 2015.

20. Yi Lu, Zidong Wang, Jieqian Zhang and Paul A. Kenis, Nucleic Acid-Mediated Shape Control of Nanoparticles for Biomedical Application, U.S. Patent Application filed September 29, 2011.

19. Yi Lu and Zidong Wang, "Fluorescent Sensor for Mercury Detection," US patent number 12/564,715 issued on August 24, 2011; US patent number 8,062,893 issued on November 22, 2011; US patent number 8,367,416, issued on February 5, 2013.

18. Yi Lu, Zidong Wang and Jung Heon Lee, "Label-Free Colorimetric Detection," U.S. US Patent Application 12/476,756, filed June 2, 2009.

17. Yi Lu and Juewen Liu, "Nucleic Acid Based Fluorescent Sensor for Mercury Detection," U.S. Provisional Patent Application filed August 10, 2007.

16. Yi Lu, Mehmet Veysel Yigit and Debapriya Mazumdar, "MRI Contrast Agents and High-Throughput Screening by MRI," US patent number 8,568,690, issued on October 29, 2013.

15. Yi Lu and Juewen Liu, Nucleic Acid Based Fluorescent Sensor for Copper Detection, U.S. patent number (12/598,070), issued on November 29, 2012; US patent number (8,409,800), issued on April 2, 2013.

14. Yi Lu and Juewen Liu, Aptamer- and Nucleic Acid Enzyme-Based Systems for Simultaneous Detection of Multiple Analytes, US Patent Number 12/109,171, issued on June 20, 2011; US Patent Number 8,058,415, issued on November 15, 2011.

13. Yi Lu, Gerard Wong, Mehmet Veysel Yigit, Abhijit Mishra, Amphiphilic Substances and Functionalized Lipid Vesicles Including the Same, US patent 12/523,443, issued on December 11, 2012, and US patent number 8,415,46, issued on April 9, 2013.

12. Yi Lu, Hee-Jung Hwang, Nathan Sieracki, Dewain Garner, Temperature Resistant pH Buffers for Use at Low Temperatures, U.S. patent number 11/622,098 issued on February 9, 2012; US patent number 8,183,046, issued on May 22, 2012.

11. Yi Lu, Jung Heon Lee, and Mehmet Veysel Yigit, Alignment of Nanomaterials and Micromaterials, U.S. provisional patent application filed on November 14, 2006.

10. Yi Lu, Debapriya Mazumdar, and Juewen Liu, "Lateral Flow Devices", US patent number 7,799,554, issued on September 21, 2010.

9. Yi Lu and Juewen Liu, "Aptamer-Based Colorimetric Sensor Systems," US patent number 7,892,734, issued on February 22, 2011; US patent number, 13/008,568 on January 25, 2013; US patent number, 8,470,532, issued on June 25, 2013.

8. Yi Lu, Juewen Liu, and Daryl Wernette, "Nanomaterial Error Correction," US patent provisional application filed on June 9, 2005.

7. Yi Lu and Juewen Liu, "Nucleic Acid Enzyme Ligation Sensor," US Patent filed on January 21, 2005

6. Yi Lu and Juewen Liu, "Nucleic Acid Enzyme Light-Up Sensor Utilizing Invasive DNA," US Patent filed on November 2, 2004; Chinese Patent Application 200580045815.0 issued on March 26, 2013.

5. Yi Lu and Juewen Liu, "Biosensors Based on Directed Assembly of Particles," US Patent number 7,485,419 issued on February 3, 2009.

4. Yi Lu and Juewen Liu, "Nucleic Acid Biosensors," US patent number 7,612,185, issued on Nov. 3, 2009; International patents filed on February 2, 2004,

3. Yi Lu and Juewen Liu, "Simple Catalytic DNA Biosensors for Ions Based on Color Changes," US Patent Number 7,534,560, issued on May 19, 2009, International patent filed on April 24, 2003

2. Yi Lu and Juewen Liu, "Fluorescence Based Biosensors," US Patent Number 6,890,719, issued on May 10, 2005; US Patent Number 7,332,283, issued on February 19, 2008; International patent filed on March 18, 2003; US patent Number 7,906,320, issued on March 15, 2011; US patent number 8,043,802, issued on October 25, 2011.

1. Yi Lu and Jing Li, "Nucleic Acid Enzyme Biosensors for Ions," US Patent Number 6,706,474, issued on March 16, 2004; US Patent number 7,192,708, issued on March 20, 2007; US patent number 7,902,353, issued on March 8, 2011, and US patent number 8,206,915, issued on June 26, 2012.

RESEARCH GRANTS----CURRENT

National Institutes of Health (MIRA)	2026-2031
"Advancing Spatial Metallomics/Metabolomics, Genome Editing, and Biocatalysis by Designing and Selecting DNAzymes, Aptamers, and Biosynthetic Models "	$3,014,095
Welch Foundation Catalyst Program	2024-2029
"Artificial Dinitrogen Transferases: Leveraging Bio-Inspired Nitrogen Fixation to Directly Transfer N2 into Organic Molecules	$5,000,000

PD: Yi Lu, co-PIs: Thomas Cundari, Andrew D. Ellington, Kami Hull and Michael J. Rose

National Science Foundation 2024-2027
"Modulating Copper Enzymatic Activity $594,870
by Tuning Secondary Coordination Sphere Interactions"

National Science Foundation 2024-2027
"IIBR Research Methods: Developing novel methods $978,779
to sequence, visualize and analyze GlycoRNAs in diverse organisms"
PI: Yi Lu, co-PI: Blerta Xhemalce and Vagheesh M. Narasimhan

Cancer Prevention & Research Institute of Texas (CPRIT) 2024-2027
Deciphering Iron Redox Cycles in Ferroptosis-based Cancer Therapy $1,050,000

BP-ICAM 2020-2026
"Designing Artificial Metalloenzymes as Biocatalysts $750,000
for Selective Electrocatalytic CO_2 Conversion
using Earth-Abundant Metals and at Low Overpotentials

RESEARCH GRANTS----RECENT PAST

Allen Distinguished Investigators award 2022-2025
Spatial nutrientomics based on DNAzyme and DNA aptamer sensors $1,250,000

National Science Foundation 2022-2025
DREAM Sentinels: Selection of aptamers $249,900
that target viral variants with high specificity
(subcontract: PI: Dr. Tim Hsin-Chih Yeh)

National Institutes of Health (MIRA) 2021-2026
"Design and Selection of Novel Metalloenzymes for Biocatalysis, $2,676.787
Bioimaging, and Genetic Engineering"

National Science Foundation 2021-2024
"Modulation of Metalloprotein Activities $561,000
through Fine-tuning Reduction Potentials"

National Institutes of Health 2020-2024
"Exosome separation and digital resolution detection of $177,226
blood-based nucleic acid biomarkers for noninvasive therapeutic diagnostics in cancer
(subcontract: PI: Brian Cunningham)

The Alzheimer's Association 2022-2023
DNAzyme sensors for simultaneous monitoring $120,000.00
redox-active metal ions in Alzheimer's diseases

Swine Health Information Center 2022-2023
"Development of DNA aptamer-nanopore sensors $99,989
for direct detection of infectious swine viruses"

National Science Foundation 2020-2022
" RAPID: Developing a novel biosensor for rapid, direct and $154,457
selective detection of COVID-19 using DNA aptamer-nanopore"

National Institutes of Health (R01) 2018-2022

"Broadband X-ray Fluorescence Emission Tomography" (co-PI; PI-Ling-Jian Meng)	$200,000
Department of Energy Office of Biological and Environmental Research Center for Advanced Bioenergy and Bioproduct Innovation (CABBI)	2017-2022 $1,000,000
National Institutes of Health (R01) "Selection and sensing applications of DNAzymes selective for paramagnetic metal ions"	2017-2021 $1,141,304
National Science Foundation "Deeper Understanding of Factors that Fine-tune Redox Potentials of Metalloproteins and Applying the Insights to Modulate their Functional Properties"	2017-2021 $680,000
National Institutes of Health (R01) "Biosynthetic Models of Heteronuclear Metalloenzymes in Multi-electron Processes"	2019 - 2023 $1,166,947
National Institutes of Health "Phase II of Telemonitoring of Invasive Fungal Infections" using a Blood Glucose Meter (subcontract: PI-Tian Lan)	2018-2021 $150,000
Illinois-JITRI Institute "Novel DNAzyme Sensors for On-site and Real-time Detection and Quantification of Environmental Contaminants"	2018-2020 $400,000
Discovery Fund, Department of Chemistry "Developing Genome Editing Tools using DNAzymes"	2019-2021 $40,000
Cancer Center at Illinois "Next generation Cancer Imaging Using Super-resolution Ultrasound Microscopy Combined with Photoacoustic Tomography" (subcontract: PI-Pengfei Song)	2019-2021 $65,000
Office of Undergraduate Research Faculty Development Grant "The iScience Model: Strengthening the Link between Science Curricula and Students' Interests and Individuality"	2019-2020 $5,000
Sandia National Lab-UIUC Academic Alliance "Spectroscopic and X-ray crystallographic Characterization of Organophosphorus hydrolase (OPH) with Unnatural Amino Acid Substitution	2018-2019 $65,000
National Institutes of Health (R43) "Point-of-care assay using Blood Glucose Meter for early warning of chronic lung rejection" (subcontract: PI-Tian Lan)	2018-2019 $45,000
National Institutes of Health (R01) "Biosynthetic Models of Heteronuclear Metalloenzymes in Multi-electron Processes"	2015 - 2019 $1,223,040
National Institutes of Health (R21) "Novel DNAzyme sensors for lithium and sodium to understand cellular and molecular mechanisms of	2016 –2019 $401,283

lithium treatment of bipolar disorder”

National Institutes of Health "Telemonitoring of Invasive Fungal Infections using a Blood Glucose Meter”	2017 –2018 $67,500
National Institutes of Health (R43) "A rapid and portable test for home monitoring of phenylalanine levels by patients with phenylketonuria using a blood glucose meter”	2017 –2018 $50,000
National Science Foundation "Tuning Redox Potentials of Metal Centers in a Single Protein"	2014-2017 $500,000
National Institutes of Health (R41) "Developing an Affordable and Pocketable POC Device for Monitoring Lithium and Sodium in Patients with Bipolar Disorder”	2016 –2017 $90,000
National Science Foundation "SBIR Phase II: A Novel Device for Convenient Therapeutic Drug Monitoring of Tacrolimus"	2013 –2015 $89,999
Mayo Clinic-University of Illinois Strategic Alliance “Using the widely available glucometer for point of care monitoring of lactic acidosis”	2013-2015 $45,000
National Institutes of Health (R01) “Biosynthetic Protein Models of Heme-copper Oxidases and Nitric Oxide Reductases”	2010 - 2014 $1,182,654
National Institutes of Health “Low cost quantitative monitoring of kidney injury biomarkers using a glucometer” SBIR Phase I grant (subaward)	2013-14 $45,000
National Science Foundation "A Biosynthetic Approach toward Biomimetic Studies of Metalloproteins Involved in Long-range Electron Transfer"	2011-2014 $ 476,000
National Institutes of Health (R01) “Selection, Characterization & Application of Paramagnetic Metal-specific DNAzymes”	2008-2013 $1,520,057
Department of Energy "New Catalytic DNA Biosensors for Radionuclides and Metal Ions"	2011-2014 $717,343
National Science Foundation "Active control of nano- and microfluidic systems and its application in chemical and biosensing" (under UIUC NSF Center for Nanoscale Chemical-Electrical-Mechanical Manufacturing Systems (Nano-CEMMS))	2006-2013 $300,000
National Science Foundation "New Catalytic DNA Biosensors for Trace Contaminants in Water"	2003-2013 $408,215

(under UIUC NSF Science and Technology Center of
Advanced Materials for the Purification of Water with Systems ---ICTII co-leader)

National Science Foundation (I-CORPS program) 2011-2012
"Portable sensors using the widely available $50,000
personal glucose monitor "

Department of Defense Construction Engineering Research Lab 2010-2012
“Development of Sensors for Detection and Identification of Mold $300,000

National Science Foundation 2006-2011
"A Biosynthetic Approach toward Biomimetic Studies of $795,500
Metalloproteins Involved in Long-range Electron Transfer"

National Institutes of Health (R01) 2006 - 2010
“Biosynthetic Protein Models of Heme-copper Oxidases $1,034,497
and Nitric Oxide Reductases”

National Institutes of Health STTR Phase II grant (R42) 2008-2010
“Catalytic DNA Biosensor for Toxic Metal Ions” $750,000

Illinois Sustainable Technology Center 2009-2010
“In-vitro selection of DNA aptamers for the detection of endotoxins” $56,999

UIUC Provost's Initiative on Teaching Advancement (PITA) 2009-2010
“Implementation and In-depth Evaluation of $9,800
the Chemistry Enrichment Program”

Department of Defense 2005-2009
"Metal Ion Sensor with Catalytic DNA $650,899
in a Nanofluidic Intelligent Processor"
(under DoD SERDP program, joint with Drs. Cropek and Bohn)

UIUC Provost's Initiative on Teaching Advancement (PITA) 2008-2009
“Large-scale Implementation of Enrichment Program for $12,500
Chemistry Courses”

Howard Hughes Medical Institute Professors Program 2002-2009
"A New Integrated Approach to Undergraduate Course Instruction" $1,000,000

Prostate Cancer Foundation 2007-2009
“Aptazyme-Actuated Invertible Liposomes for Targeted Prostate Cancer Therapy”
(co-PI with Drs. Jianjun Cheng and Gerard Wong) $100,000

National Science Foundation 2003-2011
"Design and Engineering Proteins and Nucleic Acids $600,000
and Their Applications in Directed Assembly of Nanostructures"
(under RPI-UIUC NSF Nanoscale Science and Engineering Center
on Directed Assembly of Nanostructures)

Department of Defense 2003-2008
“Self-Assembly of 3-D Multifunctional Ceramic Composites $500,000
for Photonics and Sensors”
(under UIUC DOD MURI Program)

Environmental Protection Agency SBIR Phase II "Development of a reliable, lost-cost and user-friendly spot test kit for leaded dusts based on recent advances in bionanotechnology"	2006-2008 $345,000
National Institutes of Health STTR Phase I "Allosteric DNAzyme sensors for practical detection of mycotoxins" (PI: Scott Silverman)	2007-2008 $99,996
Department Housing and Urban Development "A New Colorimetric Spot Test Method for Lead in Household Paint Based on Catalytic DNA-Nanoparticles"	2006-2008 $369,114
UIUC Provost's Initiative on Teaching Advancement (PITA) "The Chemistry 199L Modules Implementation Plan"	2007-2008 $9,000
Department of Energy "New Catalytic DNA Biosensors for Radionuclides and Metal Ions"	2004-2007 $499,216
Department of Defense STTR Phase I "Colorimetric Sensors for Chemical and Biological Warfare Agents"	2006-2007 $100,000
Illinois Waste Management and Research Center "New Catalytic DNA Fluorescent and Colorimetric Sensors for On-site, Real-Time Monitoring of Industrial and Drinking Water"	2003-2006 $197,000
National Institutes of Health STTR Phase I "Catalytic DNA Biosensor for Toxic Metal Ions"	2005 - 2006 $99,986
Environmental Protection Agency SBIR Phase I "Development of a reliable, lost-cost and user-friendly spot test kit for leaded paint and dust based on recent advances in bionanotechnology"	2005-2006 $70,000
Department Housing and Urban Development "A New Colorimetric Spot Test Method for Lead in Household Paint and Dust based on DNAzyme-nanoparticles"	2003-2005 $250,000
National Institutes of Health (R01) "Designing Heteronuclear Metalloenzymes"	2001 - 2005 $857,141
National Science Foundation "A Biosynthetic Approach Toward Biomimetic Studies of Metalloproteins Involved in Long-range Electron Transfer"	2002-2005 $405,000
Department of Energy "New Catalytic DNA Biosensors for Radionuclides and Metal Ions"	2001-2004 $489,999
National Science Foundation Special Creativity Extension Award "A Protein-Analog Approach to Biomimetic Studies of Metalloenzymes"	1998 - 2000 $189,775
National Institutes of Health (R01) "Metalloribozymes: a New Class of Metalloenzymes"	1995 - 2000 $604,342
Camille Dreyfus Teacher-Scholar Award "Structural characterization and engineering of metalloproteins and metalloribozymes"	1999 - 2004 $60,000

Alfred P. Sloan Foundation "Building a Metal Bridge between Chemistry and Biology"	1998 - 2000 $35,000
Research Corporation "Spectroscopic Study of Metal-binding Sites in Ribozymes: A New Class of Metalloenzymes"	1997 - 1999 $50,000
Arnold and Mabel Beckman Foundation "Metalloribozymes: a New Class of Metalloenzymes"	1996 - 1998 $200,000
Sloan Center for Asynchronous Learning Environments, UIUC "Use of the Asynchronous Learning Network to Improve the Instruction of the Accelerated Chemistry Laboratory I"	1996 - 1998 $12,500
National Science Foundation Career Award "A Protein-Analog Approach to Biomimetic Studies of Metalloenzymes"	1995 - 1998 $250,000
American Chemical Society Petroleum Research Fund "Metal-binding Sites in Ribozymes: Spectroscopic Studies of a New Class of Metalloenzymes"	1995 - 1997 $20,000

INVITED SEMINARS AND CONFERENCE PRESENTATIONS SINCE POSITION AT UIUC

8/26 Fundación Instituto Leloir, Buenos Aires, Argentina

8/26 The 2nd Latin-American Workshop: "Development and Applications of Biosensors – from Synthetic Biology to Portable Technologies", Buenos Aires, Argentina

8/26 The Fall Meeting of the American Chemical Society, Chicago, IL

7/26 Gordon Research Conference on Enzymes, Coenzymes and Metabolic Pathways, Newry, ME

6/26 The 14th International Conference on Porphyrins and Phthalocyanines, Kyoto, Japan

2/26 Department of Chemistry, University of Texas at Dallas, Dallas, TX

12/25 Keynote lecture, Symposium "From Molecular Diagnostics to Therapeutics with Aptamers", the International Chemical Congress of Pacific Basin Societies, Honolulu, HI

08/25 The Fall Meeting of the American Chemical Society, Washington, DC

07/25 The 21st International Conference on Biological Inorganic Chemistry, Long Beach, CA

06/25 Plenary Lecture, RepArtZymes, Basel, Switzerland

04/25 Ferroptosis: Crosstalk between metabolism and biochemical homeostasis, Annual meeting of American Society for Biochemistry and Molecular Biology, Chicago, IL

02/25 NIH Acquired Resistance to Therapy Network (ARTNet) meeting

01/25 Department of Chemistry, University of North Texas, Denton, TX

11/24 Keynote Lecture, the 4th LPMO symposium, York UK

10/24 The Center for Disease Control's Lead Detection Prize, Washington, DC

10/24 The Southwest Regional Meeting of the American Chemical Society, Waco, TX

10/24 Department of Biochemistry, University of Maryland, Baltimore, MD

9/24 Department of Chemistry, Johns Hopkins University, Baltimore, MD

8/24 Plenary lecturer, The First International Symposium on Chemical and Biomedical Imaging, Nanjing, P. R. China

7/24 Keynote Speaker, The 11th International Conference on DNA Nanotechnology, Jinan, P. R. China

6/24 XIII International Conference on Porphyrins and Phthalocyanines (ICPP-13), Buffalo, NY

6/24 2024 Allen Frontiers Symposium, Seattle, WA

6/24 Keynote Speaker, The 9th International Symposium on Bioanalysis, Biomedical Engineering, and Nanotechnology (9th ISBBN 2024), Changsha, Hunan, P. R. China

5/24 The Second Texas Chemical Biology Conference, Houston, TX

5/24 Workshop on the Role of X-ray based Emerging Technologies on Fuel Cell Research, 2024 User's meeting at NSLS2, Brookhaven National Laboratory (BNL), Brookhaven, NY

3/24 Symposium on 2024 Alfred Bader Award in Bioinorganic Chemistry, American Chemical Society Spring meeting, New Orleans, LA

2/24 Department of Biochemistry, University of Missouri at Columbia, Columbia, MO

2/24 Department of Chemistry, University of Texas at El Paso, El Paso, TX

11/23 MD Anderson Center, Houston, TX

10/23 Department of Chemistry, North Carolina State University, Raleigh, NC

10/23 Keynote lecture, EMSL User Meeting focusing on “Visualizing Chemical Processes Across the Environment.”

9/23 Metals in Structural Biology workshop at the 2023 SSRL/LCLS Annual Users’ meeting, Menlo Park, CA

9/23 College of Chemistry, Nankai University, Tianjin, P. R. China

8/23 College of Chemical Engineering, Tianjin University, Tianjin, P. R. China

8/23 University of Science and Technology Beijing, Beijing, P. R. China

8/23 Institute of Biophysics, Chinese Academy of Sciences, Beijing, P. R. China

8/23 Plenary lecture, the 13th International Symposium for Chinese Inorganic Chemists, Beijing, P. R. China

8/23 Keynote lecture, ChinaNANO2023, Beijing, P. R. China

8/23 Plenary lecture, The Nineteenth International Symposium on Electroanalytical Chemistry, Changchun, P. R. China

8/23 College of Chemistry, Hunan University, Changsha, P. R. China

8/23 Institute of Basic Medicine and Cancer, Chinese Academy of Science

8/23 Department of Chemistry, Xihu University, Hangzhou, P. R. China

7/23 The 20th International Conference on Biological Inorganic Chemistry (ICBIC20), Adelaide, Australia

7/23 Helmholtz Zentrum München, München, Germany

6/23 Telluride Workshop on "Exploring Nitrogen Activation Mechanism"

4/23 School of Medicine, Tulane University, New Orleans, LA

3/23 Symposium on Emerging Technologies for Rapid Infectious Disease Detection, Pittcon, Philadelphia, PA

3/23 Session on Point-Of-Care Devices for Testing COVID-19 and Emerging Disease, Pittcon, Philadelphia, PA

9/22 Keynote Speaker, Korean Society for Biotechnology and Bioengineering, South Korea

9/22 Kilpatrick Lecture, Illinois Institute of Technology, Chicago, IL

7/22 Gordon Research Conference on Biocatalysis, Manchester, NH

6/22 The 27th AACGE Western Section Conference on Crystal Growth & Epitaxy, South Lake Tahoe, CA

6/22 Gordon Research Conference on Metallocofactors, Newport, RI,

4/22 Department of Chemistry, University of Florida, Gainesville, FL

4/22 Symposium on Coordination chemistry of redox-active metals: Lessons from biology on bonding and reactivity at 2022 American Chemical Society Spring meeting, San Diego, CA

3/22 Department of Chemistry, University of Texas at San Antonio, San Antonio, TX

12/21 Co-organizer and invited speaker, Symposium on "Functional Nucleic Acids: Chemistry, Biology, and Materials Applications" at the 2021 Pacific Chemical Congress

12/21 Symposium on "Metalloproteins in Health and Disease" at the 2021 Pacific Chemical Congress

12/21 Symposium on "Nature does it better: Small molecule activation in metalloenzymes and adaptation in synthetic catalysts" at the 2021 Pacific Chemical Congress

12/21 bp-ICAM webinar

11/21 The 7th Nano Today conference

11/21 Department of Chemistry, Baylor University, Waco, TX

11/21 Keynote Symposium in Honor of Prof. Livia Eberlin; Southwest Regional Meeting of the American Chemical Society, Austin, TX

10/21 EMSL Integration 2021: Environmental Sensors, Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory

11/20 Virtual Research Spotlight Forum on Diagnostics & Sensors for Future Pandemic Response, Sandia National Laboratory

9/20 Department of Biomedical Engineering, Emory University, Atlanta GA

6/20 Enigma Astrobiology Symposium, Rutgers University

5/20 Department of Chemistry Faculty Spotlight, University of Illinois at Urbana-Champaign, Urbana, IL

5/20 Cloud Symposium on Advances in Molecular Science, Hunan University, Changsha, P. R. China

3/20 Symposium on Aptamer-Based Sensors, Pittcon 2020, Chicago, IL

3/20 Symposium State of the Art in Nanosensing, Pittcon 2020, Chicago, IL

2/20 Session on Catalysts for Energy Storage: Inspired by Nature, Built by Scientists, 2020 Annual Meeting of American Association for the Advancement of Science, Seattle, WA

1/20 Keynote speaker, Gordon Research Conference on Metals in Biology, Ventura, CA

11/19 Plenary Speaker, The 11th Chinese National Conference on Chemical Biology, Guangzhou, China

11/19 Peking University Shenzhen Graduate School, Shenzhen, China

11/19 Science Lecture, College of Science, Southern University of Science and Technology, Shenzhen, China

11/19 School of Biology and Biological Engineering, South China University of Technology, Guangzhou, China

11/19 Frontiers of Science and Technology Forum on Chemical Biology of Metals, Zhongshan University, Guangzhou, China

11/19 Xiamen Soft Matter Forum 2019, Fundamentals of Bio-inspired Soft Matters and Hybrid Materials, Xiamen, China

11/19 College of Chemistry, Xiamen University, Xiamen, China

10/19 Plenary lecture, Beijing Conference and Exhibition on Instrumental Analysis, Beijing, China

9/19 ACS Publications & IBS Forum: Nanomaterials for Energy and Life Sciences, Seoul, Korea

9/19 Nano for Innovations, Yonsei University, Seoul, Korea

9/19 International Symposium on Inorganic Chemistry Frontier and Interdisciplinary Sciences, Royal Society of Chemistry, Tianjin, China

9/19 Enzyme Engineering XXV, Whistler, British Columbia, Canada

8/19 Plenary lecture, 17th ISEAC (the International Symposium on Electroanalytical Chemistry, Changchun, China

8/19 Keynote lecture, Nineteenth International Conference on Biological Inorganic Chemistry (ICBIC19), Interlaken, Switzerland

8/19 Plenary lecture, ArtZymes 2.0, Basel, Switzerland

6/19 Feed Your Brain Seminar, Medtronic, Minneapolis, MN

6/19 Keynote lecture, the 15th International Symposium on Applied Bioinorganic Chemistry, Nara, Japan.

5/19 Department of Chemistry, University of Texas at Austin, Austin, TX

4/19 College of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA

4/19 Workshop on Human Diseases at the Crossing of Science, Engineering, and Medicine, Urbana, IL

4/19 Symposium on Progress in Supramolecular Nanotheranostics, 2019 Materials Research Society Spring Meeting, Phoenix, Az

3/19 Symposium on Smart Materials for Biological Sensing, Pittcon, Philadelphia, PA

3/19 College of Chemistry, Sichuan University, Chengdu, P. R. China

3/19 College of Light Industry, Textile and Food Engineering, Sichuan University, Chengdu, P. R. China

1/19 Department of Molecular Biology and Biochemistry, University of California, Irvine, CA

11/18 College of Chemistry, University of Science and Technology, Hefei, China

11/18 Department of Chemistry, Beijing Normal University, Beijing, China

11/18 Abbott Labs, Abbott Park. IL

11/18 Department of Chemistry, University of Massachusetts at Amherst, Amherst, MA

10/18 The 14th National Bioinorganic Chemistry Symposium, Nanjing, China

10/18 Department of Chemistry, University of Hong Kong, Hong Kong, China

9/18 Larry R. Faulkner Endowment for Excellence in Chemistry Seminar, Department of Chemistry, University of Texas at Austin, Austin, TX

9/18 Chemistry of Life Processes Institute, Northwestern University, Evanston, IL

7/18 Plenary Lecturer, The 43rd International Conference on Coordination Chemistry (ICCC 2018), Sendai, Japan

6/18 Plenary Lecturer, The 6th international conference on molecular sensors and molecular logic gates, Dalian, P. R. China

6//18 The 7th International Conference on DNA Nanotechnology, Chongqing, P. R. China

5/18 The 8th International Symposium on Bioanalysis, Biomedical Engineering and Nanotechnology, Changsha, P. R. China

4/18 Department of Chemistry, Duke University, Durham, NC

3/18 Molecular Basis of Diseases Distinguished Lecturer, Georgia State University, Atlanta, GA

3/18 Department of Chemistry, Pursue University, La Fayette, IN

3/18 School of Chemistry, University of Birmingham, Birmingham, UK

3/18 School of Biochemistry, University of Bristol, Bristol, UK

3/18 Keynote Speaker, Chinese American Chemical Society (CACS) Banquet, New Orleans, LA

3/18 Symposium on Nitrogen Un-Fixation: Mechanisms and Models in Nitrification and Denitrification at the at the 255th American Chemical Society National Meeting, New Orleans, LA

3/18 Department of Chemistry, Michigan State University, East Lansing, MI

2/18 Department of Chemistry, University of California at Berkeley, Berkeley, CA

2/18 Department of Chemistry, Rutgers, The State University of New Jersey at Camden, Camden, NJ

12/17 The 5th Nano Today Conference, Kona, Hawaii

12/17 The Environmental Science and Engineering Program, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

11/17 Department of Chemistry and Biochemistry, University of Maryland at Baltimore County, Baltimore, MD

10/17 Department of Chemistry, Johns Hopkins University, Baltimore, MD

10/17 Symposium on the Enduring Legacy of Sol Spiegelman, Urbana, IL

10/17 Department of Chemistry, Hong Kong University, Hong Kong, P. R. China

10/17 Department of Chemistry, Chinese University of Hong, Hong Kong, P. R. China

10/17 Department of Chemistry, Hong Kong University of Science and Technology, Hong Kong, P. R. China

10/17 The first China Forum on Biosensors, Biochips and Nanobiotechnology, Foshan, P. R. China

10/17 The First Cross-Strait Conference for Biomedical Sciences, Xi'an, P. R. China

10/17 The Beijing Conference and Exhibition on Instrumental Analysis (BCEIA2017), Beijing, P. R. China

8/17 The 7th International Conference on Nanoscience and Technology (ChinaNANO), Beijing, P. R. China

8/17 The 6th International Conference on DNA Nanotechnology, Beijing, P. R. China

8/17 Symposium of Nanoscale Sensing in Foods & Other Complex Media at the 254th American Chemical Society National Meeting, Washington, DC

8/17 Symposium on Many Colors of Copper at the 254th American Chemical Society National Meeting, Washington, DC

8/17 Workshop on “Control of Proton and Electron Transfers in Redox Catalysis”, Telluride, CO

7/17 The 8th Coordination Chemistry Conference of China, Dalian, P. R. China

7/17 Workshop on Applications of Nucleic Acid Aptamers, Be Dai He, P. R. China

6/17 The 8th Annual Biophysics Symposium at Northwestern University, Evanston, IL

5/17 The Fifth International Symposium on Dairy Cow Nutrition and Milk Quality, Beijing, P. R. China

4/17 Symposium on Spectroscopic Elucidation of Metalloenzyme Mechanism: Current Successes & Future Challenges, 253rd ACS National Meeting, San Francisco, CA

4/17 Symposium on Celebrating 60 Years of the Division of Inorganic Chemistry, 253rd ACS National Meeting, San Francisco, CA

4/17 Department of Chemistry, North Carolina State University, Raleigh, NC

3/17 Symposium on Advances in Real-Time Detection of Metal Ions for Bioimaging and Environmental Monitoring, Pittcon, Chicago, IL

2/17 Department of Chemistry, University of Carolina, Chapel Hill, NC

2/17 Department of Chemistry, Vanderbilt University, Nashville, TN

12/16 Plenary lecture, 14th International Symposium for Chinese Organic Chemists (ISCOC) and the 11th International Symposium for Chinese Inorganic Chemists (ISCIC), Singapore

12/16 Department of Materials Science and Engineering, Nanyang Technology University, Singapore.

11/16 Department of Bioengineering, Chongqing University, Chongqing, China

11/16 Chongqing Medical University, Chongqing, China

10/16 Department of Chemistry, Marquette University, Milwaukee, WI

10/16 Department of Chemistry, Eastern Illinois University, Charleston, IL

9/16 Department of Chemistry, Carnegie Mellon University, Pittsburgh, PA

9/16 Department of Chemistry, Arizona State University, Tempe, AZ

8/16 Symposium on Secondary Coordination Sphere Influences: Stability, Reactivity & Everything in Between, the 252nd ACS National Meeting, Philadelphia, PA

7/16 Precision Nanomedicine Symposium, Beijing, China

7/16 The 5th International Conference on DNA Nanotechnology, Nanjing, China

7/16 Keynote lecture, International Conference on Electronic Materials (ICEM2016), Singapore

6/16 Gordon Research Conference on Metallocofactor, Stonehill College, North Easton, MA

6/16 Gordon Research Conference on Bioinspired Materials, Les Diablerets, Switzerland

5/16 Department of Chemistry, University of Münster, Münster, Germany

5/16 Department of Chemistry, University of Chicago, Chicago, IL

4/16 Department of Chemistry, Texas A&M University, College Station, TX

4/16 Department of Chemistry, University of Minnesota at Duluth, Duluth, MN

4/16 Department of Chemistry, University of Leicester, Leicester, England (part of RSC award lecture tour)

4/16 Department of Chemistry, University of Oxford, Oxford, England (part of RSC award lecture tour)

4/16 Department of Chemistry, University College Dublin, Dublin, Ireland (part of RSC award lecture tour)

4/16 Department of Chemistry, Durham University, Durham, England (part of RSC award lecture tour)

3/16 University of Massachusetts-Medical School

3/16 Symposium on Transition Metal Interactions with RNA/DNA, 251st American Chemical Society National Meeting, San Diego, CA

3/16 Symposium on Bioanalytical Chemistry Using the Next Generation of Nanomaterials, Pittcon 2016, Atlanta, GA

3/16 Symposium on Electrical and Electrochemical Sensing and Detection based on Nucleic Acid Recognition, Pittcon 2016, Atlanta, GA

2/16 Shanghai Institute for Advanced Immunochemical Studies, ShanghaiTech University, Shanghai, China

1/16 Metals in Biology Gordon Research Conference, Ventura, CA

12/15 Symposium on the Bio-Coordination Chemistry of Nitric Oxide and Its Derivatives, the International Chemical Congress of Pacific Basin Societies, Honolulu, HI

12/15 Symposium on Functional Nucleic Acids: Chemistry, Biology, and Materials Applications, the International Chemical Congress of Pacific Basin Societies, Honolulu, HI

12/15 Symposium on Frontiers of Iron Chemistry in Biology, the International Chemical Congress of Pacific Basin Societies, Honolulu, HI

12/15 Frontiers in Ultra-Sensitive Detection and Super-Resolution Imaging Symposium, Urbana, IL

11/15 Distinguished Lecture Series, Department of Chemistry and Biochemistry, UCLA, LA, CA

10/15 Department of Chemistry, University of Michigan

8/15 Symposium on the Role of the Outer Coordination Sphere on the Activity of Enzymes and Molecular Catalysts, The 250th ACS National Meeting, Boston, MA

8/15 Symposium on Metalloenzyme Mechanisms symposium, The 250th ACS National Meeting, Boston, MA

8/15 Symposium on Biochemical Ligands at Interfaces: from Molecular Scale Characterization to Devices, The 250th ACS National Meeting, Boston, MA

7/15 Keynote Lecture, the 17th International Conference on Biological Inorganic Chemistry, Beijing, P. R. China

7/15 Plenary Lecture, Workshop on Fluorescence Chemosensors and Bioimaging, Dalian, P. R. China

7/15 Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, P. R. China

7/15 Shanghai Institute of Applied Physics Chines Academy of Sciences, Shanghai, P. R. China

7/15 College of Chemistry and Chemical Engineering, Hunan University, Changsha, Hunan, P. R. China

6/15 The 98th Canadian Society for Chemistry Conference in Ottawa, Ontario, Canada

4/15 University of Illinois Center for Advanced Studies Associates and Fellows symposium

4/15 King Abdullah University of Science & Technology, Thuwal, Saudi Arabia

3/15 Harry Gray Award Symposium, the 249th ACS National Meeting, Denver, CO.

3/15 Symposium on Interactions of Metal Complexes with Proteins or Nucleic Acids and their applications in Drug Design and Delivery, the 249th ACS National Meeting, Denver, CO.

3/15 Symposium on Metallic Nanostructures for Optical &electrochemical Sensing and Alternative Energy Conversion, the 249th ACS National Meeting, Denver, CO.

3/15 American Chemical Society Graduate Student Symposium, the 249th ACS National Meeting, Denver, CO.

2/15 The 1st International Symposium on Recent Advances in Life Sciences and Biotechnology, Seoul, Korea

1/15 Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), CAS, Suzhou, P. R. China

12/14 The 2nd IBN International Symposium (IBN-is) on Nanomedicine and Nanoassays, Institute of Bioengineering and Nanotechnology, Singapore

12/14 Institute of Materials Research and Engineering, Singapore

11/14 National Academy of Science Workshop on Mesoscale Chemistry

11/14 Department of Chemistry, Rensselaer Polytechnic Institute

10/14 Symposium on Global Challenges and Opportunities at the Boundaries of Water and Sanitation, 2014 Illinois Water Conference, Urbana, IL

9/14 International Symposium on the Quality and Safety of Food and Pharmaceuticals, Jinan, China

8/14 Symposium on Metal Ion Interactions with Nitric Oxide and Reactive Nitrogen Species in Chemistry and Biology, the 248th ACS National Meeting, San Francisco, CA

7/14 The inaugural Inorganic and Nanomaterials Forum (INF2014), Singapore, Singapore

7/14 The 41st International Conference on Coordination Chemistry, Singapore, Singapore

6/14 Gordon Research Conference on Bioanalytical Sensors

5/14 The 6th International Symposium on Bioanalysis, Biomedical Engineering and Nanotechnology, Changsha, China

5/14 The 3rd International Conference on DNA Nanotechnology, Suzhou, China

5/14 NSF Workshop on Design, Engineering, and Evolution of Proteins

4/14 Department of Chemistry, University of Utah, Salt Lake City, Utah

4/14 Sigma Xi Distinguished Lecturer, Rockford University, Rockford, IL

3/14 Hutchison Memorial Lecturer, Department of Chemistry, University of Rochester, Rochester, NY

2/14 Symposium on Frontiers of Inorganic Chemistry, Peking University, Beijing, China

2/14 Program Workshop on Frontier Materials Research, Global Elite Cultivation Center for Emergent Materials, Sungkyunkwan University, Suwon, Korea

2/14 Department of Chemistry, Stanford University

12/13 Plenary Lecture, Symposium on Applied Bioinorganic Chemistry (ISABC12), Guangzhou, China

12/13 Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou, China

12/13 College of Chemistry, Nanjing University, Nanjing, China

12/13 College of Food Science and Engineering, Shandong Agriculture University, Jinan, China

12/13 College of Chemistry, University of Science and Technology, Hefei, China

11/13 Sigma Xi Distinguished Lecture, Research Triangle Park, NC

11/13 Department of Materials Science and Engineering, North Carolina State University, Raleigh, NC

11/13 Department of Chemistry, University of Florida, Gainesville, FL

9/13 Department of Chemistry and Biochemistry, Swarthmore College, Swarthmore, PA

8/13 Pioneers from Asia, the 15th Asian Chemical Congress, Singapore

8/13 A2CS Symposium on Advanced Materials, Singapore

8/13 Institute of Chemistry, Chinese Academy of Sciences, Beijing, P. R. China

8/13 The Fourteenth International Symposium on Electroanalytical Chemistry, Changchun, P. R. China

8/13 Biochemical Engineering Seminar, Institute of Chemical and Engineering Sciences Agency for Science, Technology and Research (A*STAR), Singapore

8/13 PhD Course on Membrane Biology and Technology, Stockholm, Sweden

7/13 Colloquium in the Center for Nanoscale Materials, Argonne National Laboratory, Argonne, IL

7/13 The 7th International Conference on Materials for Advanced Technologies (ICMAT 2013), Singapore

5/13 Tsinghua Xuetang Lecture, Tsinghua University, Beijing, P. R. China

5/13 The 3rd International Symposium on Dairy Cow Nutrition and Milk Quality, Beijing, P. R. China

4/13 Department of Chemistry, Iowa State University, Ames, IA

4/13 The 10th Annual Conference on Foundations of Nanoscience: Self-Assembled Architectures and Devices (FNANO13), Snowbird, Utah

4/13 The American Chemical Society 245th National Meeting, New Orleans, LA

3/13 Department of Chemistry, Brown University, Providence, RI

3/13 Pittcon, Philadelphia, PA

3/13 Gordon Research Conference on Inorganic Reaction Mechanism, Galveston, TX

3/13 Department of Chemistry, Brandeis University, Waltham, MA

2/13 Department of Chemistry and Chemical Biology, Rutgers, The State University of New Jersey, Piscataway, NJ

2/13 Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA

12/12 BioNanotechnology Seminar, Midwest Cancer Nanotechnology Training Center (M-CNTC) and Integrative Graduate Education and Research Traineeship-Cellular and Molecular Mechanics and BioNanotechnology (IGERT-CMMB), University of Illinois at Urbana-Champaign, Urbana, IL

11/12 The International Symposium of Biofunctional Chemistry (ISBC 2012), Tokyo, Japan

11/12 The Institute of Materials Research and Engineering (IMRE), Singapore

11/12 Diabetes Technology meeting, Bethesda, MD

10/12 Chongqing University Distinguished Lecture, Chongqing University, Chongqing, P. R. China

10/12 Department of Chemistry, Chemical Biology, and Biomedical Engineering, Stephenson Institute of Technology, Hoboken, NJ

9/12 Mose Gomberg Lecture, Department of Chemistry, University of Michigan, Ann Arbor, MI

9/12 Department of Chemistry, Yonsei University, Seoul, Korea

9/12 Keynote lecture, 15th International Biotechnology Symposium and Exhibition, Daegu, Korea

8/12 Department of Chemistry, University of California, Berkeley, CA

7/12 Chemistry and Biology of Tetrapyrroles Gordon Research Conference, Newport, RI

7/12 7th International Conference on Porphyrins and Phthalocyanines, Jeju Island, Korea

6/12 2nd International Bioinorganic Chemistry Conference on Small Molecule Activation by Heme and Nonheme Enzymes, Seoul, Korea

6/12 "Imaging at Illinois: The Next Generation", Beckman Institute, Urbana, IL
5/12 Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA
5/12 Pacific Northwest National Lab, Richland, WA
5/12 Naff Symposium, University of Kentucky, Lexington, KY
5/12 The 4th annual Biophotonics Summer School, Urbana, IL
3/12 Department of Chemistry, Soochow University, Suzhou, China
3/12 Workshop on DNA Nanotechnology: From structures to functions, Shanghai, China
2/12 Symposium on Point-of-Care Diagnostics, San Francisco, CA
2/12 The 3rd Annual Burrill Digital Health Meeting, San Francisco, CA
1/12 Department of Chemistry, Florida International University, Miami, FL
1/12 Keynote lecture, the 2nd Molecular Materials Meeting (M3), Singapore
12/11 Department of Chemistry, Georgia State University, Atlanta, GA
11/11 Department of Chemistry, University of Texas at Dallas, Dallas, TX
11/11 HHMI Professors Meeting, Chevy Chase, DC
11/11 Department of Chemistry, Sun Yat-sen University, Guangzhou, China
11/11 Tecan Symposium 2011, Shanghai, China
10/11 Plenary lecture, The 14th Beijing Conference and Exhibition on Instrumental Analysis, Beijing, China
10/11 Department of Chemistry, University of Houston, Houston, TX
10/11 The Methodist Hospital Research Institute, Houston, TX
9/11 Institute of Biology and Technology Saclay (iBiTec-S), CEA Saclay, France
9/11 Université Paris Descartes, Paris, France
9/11 Plenary lecture, ArtZymes 1, Marseilles, France
8/11 GE Global Research, Shanghai, China
8/11 Plenary lecture, the 7th National Conference on Chemical Biology, Nanjing, China
8/11 College of Chemistry and Molecular Engineering, Peking University, Beijing, China
8/11 Keynote lecture, the Thirteenth International Symposium on Electroanalytical Chemistry, Changchun, China
8/11 Department of Molecular Biology and Biochemistry, Simon Fraser University, Vancouver, Canada
8/11 Keynote lecture, the International Conference on Biological Inorganic Chemistry, Vancouver, Canada
7/11 Department of Bioengineering, Nanyang Technological University, Singapore
6/11 College of Chemistry and Chemical Engineering, Hunan University, Changsha, Hunan
6/11 Keynote lecture, International Conference on Materials for Advanced Technologies, Singapore
4/11 Department of Chemistry, Ohio State University, Columbus, OH
3/11 Department of Chemistry and Biochemistry, University of California, San Diego, CA
3/11 The Scripps Research Institute, La Jolla, CA
3/11 National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health, Bethesda, MD
3/11 Symposium on Paper Based Point-of-care Analytical Kits, Pittcon, Atlanta, GA
3/11 Department of Biochemistry and Cell Biology, Rice University, Houston, TX

2/11 Center for Biochemical and Biophysical Studies, Northern Illinois University, DeKalb, IL

1/11 Eminent Scholar Lecturer, Department of Chemistry and Biochemistry, University of Arizona, Tucson AZ

12/10 Co-organizer, Symposium on New Frontiers of Functional Nucleic Acids: Chemistry, Biology and Applications, The 2010 International Chemical Congress of Pacific Basin Societies, Honolulu, HI

12/10 Symposium on Molecular Design in Bioinorganic Chemistry, The 2010 International Chemical Congress of Pacific Basin Societies, Honolulu, HI

12/10 Minisymposium on Metals in Biology, Duquesne University

11/10 RIKEN SPring-8 Center, Harima Institute, Hyogo, Japan

11/10 RIKEN symposium on Molecular Assembles, Wako, Japan

11/10 Chemical Biophysics Mini-Symposium on Protein Design, University of Pennsylvania, Philadelphia, PA

11/10 Department of Chemistry, University of Memphis

10/10 Plenary lecture, The 8th International Symposium of Chinese Inorganic Chemists, Taipei, Taiwan

10/10 Imaging without Boundaries Conference, Beckman Institute for Advanced Science and Technology, Urbana, IL

9/10 Faraday Discussion 149: Analysis for Healthcare Diagnostics and Theranostics, U. of Edinburgh, UK

8/10 Symposium on Metals in Biology, The American Chemical Society 240th National Meeting, Boston, MA

8/10 Symposium on Design, Discovery, and Directed Evolution of Enzyme Activities, The American Chemical Society 240th National Meeting, Boston, MA

8/10 Department of Laboratory Medicine & Pathology, University of Alberta, Edmonton, Alberta, Canada

8/10 Nucleic acid workshop, Telluride, CO

7/10 Institute of Biophysics, Chinese Academy of Sciences, Beijing, P. R. China

7/10 Beijing Academy of Science and Technology, Beijing, P. R. China

7/10 Department of Chemistry, Nanyang Technology University, Singapore

7/10 Institute of Bioengineering and Nanotechnology, Singapore

7/10 Keynote lecture, the Inaugural (1st) International Conference on Molecular and Functional Catalysis, Singapore

6/10 Metals in Medicine Gordon Research Conference, Andover, NH

6/10 Chair of a session, Bioanalytical Sensors Gordon Research Conference, New London, NH

6/10 Frontiers in Metallobiochemistry Symposium, Penn State University, University Park, PA

5/10 Biosensors 2010 Congress, Glasgow, UK

5/10 The 2010 BIO International Convention, Chicago, IL

4/10 Suzhou Institute of Nano-tech and Nano-bionics, Suzhou, P. R. China

3/10 Department of Energy, Subsurface Biogeochemical Research (SBR) PI Workshop Washington, DC

3/10 Co-organizer and speaker, Symposium honoring Joan S. Valentine for 2010 Alfred Bader Award in Bioinorganic or Bioorganic Chemistry, American Chemical Society National meeting, San Francisco, CA

2/10 California NanoSystems Institute, University of California at Santa Barbara, Santa Barbara, CA.

1/10 Chair of a Session, Metals in Biology Gordon Research Conference, Ventura, CA

12/09 Department of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA

12/09 Forum for Imaging and Visualization, Beckman Institute for Advanced Science and Technology, Urbana, IL

11/09 Department of Chemistry, Nanjing University, Nanjing, P. R. China

11/09 Keynote lecture, Symposium on Advanced Biological Inorganic Chemistry (SABIC-2009), Mumbai, India

11/09 The Second Asian Coordination Chemistry Conference, Nanjing, P. R. China

10/09 Plenary lecture, the 40th annual meeting of the Environmental Mutagen Society, St. Louis, Mo

10/09 The International Society for the Scholarship of Teaching and Learning 2009, Bloomington, IN

9/09 The13th Asian Chemical Congress, Shanghai, P. R. China

9/09 Illinois Sustainable Technology Center Research Symposium and Research Fellow Award, Champaign, IL

9/09 The 3rd European Conference on Chemistry for Life Sciences, Frankfurt, Germany

7/09 The 5th iCeMS International Symposium on Biomaterials at the Interface of Chemistry, Physics and Biology, Kyoto, Japan

7/09 Co-organizer, co-Chair and invited talk at Symposium on Molecular Design of Metalloproteins, at the Fourteenth International Conference on Biological Inorganic Chemistry (ICBIC14), Nagoya, Japan

7/09 Department of Chemistry, Peking University, Beijing, P. R. China

7/09 DNA Nanotechnology: Construction, Machine and Application, Beijing, P. R. China

6/09 Invitrogen (Life Technologies), Eugene, OR

5/09 Department of Chemistry and Biochemistry, University of Maryland at Baltimore County, Baltimore, MD

4/09 Department of Chemistry, University of California at Riverside, Riverside, CA

4/09 Institute of Genomic Biology, University of Illinois at Urbana-Champaign, Urbana, IL

3/09 US-Argentina Workshop on Nanomaterials, Bariloche, Argentina

2/09 Molecular Medicine Tri-Conference: Molecular Diagnostics, San Francisco, CA

2/09 Department of Bioengineering, University of Illinois at Urbana-Champaign, Urbana, IL

2/09 Department of Chemistry, University of Chicago, Chicago, IL

2/09 Department of Chemistry, University of Louisville, Louisville, KY

2/09 Department of Chemistry, Georgia Institute of Technology, Atlanta, GA

1/09 Department of Chemistry, University of Singapore, Singapore.

1/09 Gordon Research Conference on Metals in Biology, Ventura, CA

12/08 Department of Chemistry, University of Puerto Rico, San Juan, Puerto Rico

11/08 The Fourth Asian Conference on Biological Inorganic Chemistry, Jeju, South Korea

11/08 Department of Bioengineering, Chongqing University, Chongqing, Sichuan, China

11/08 Invited speaker and session organizer of symposium on Strengthening a Weak Link in Current Science Curricula, at the Reinvention Center's Fall 2008 Conference on "Education, Innovation and Discovery: The Distinctive Promise of the American Research University

11/08 Seaborg Medal Symposium on Frontiers of Bioinorganic Chemistry, Los Angeles, CA

9/08 2008 National Healthy Homes Conference, Baltimore, MD

8/08 Department of Chemistry, National University of Singapore, Singapore

8/08 Telluride Workshop on Nucleic Acid Chemistry, Telluride, CO

6/08 Department of Chemistry, Tsinghua University, Beijing, China

6/08 Institute of Biophysics, Chinese Academy of Sciences, Beijing China

6/08 School of Chemical Engineering, Tianjin University, China

6/08 Department of Chemistry, Nanjing University, Nanjing, China

6/08 Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, Jilin, China

4/08 Department of Chemistry, University of Cincinnati, Cincinnati, OH

4/08 Symposium on "Sensors for Detection and Quantification of Contaminants in Drinking Water and the Environment," 235th American Chemical Society National Meeting, New Orleans, LA

4/08 Department of Chemistry, Dartmouth College, Hanover, NH

4/08 Department of Chemical Engineering, Yale University, New Haven, CT

3/08 Symposium on "Signal Transduction Across the Biology-Technology Interface," Materials Research Society Spring Meeting, San Francisco, CA

3/08 Department of Chemistry and Biochemistry, University of California, Los Angeles, CA

2/08 Department of Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI

2/08 Department of Chemistry, Chemistry and Biology Interface (CBI/NIH) Training Program Students selected Speaker, Texas A&M University, College Station, TX

2/08 Department of Chemistry, University of Nebraska-Lincoln, Lincoln, NE

1/08 Symposium on System Chemistry, Berlin, Germany

12/07 Max Planck Institute for Bioinorganic Chemistry, Mülheim an der Ruhr, Germany

11/07 Department of Chemistry, Indiana University, Bloomington, IN

11/07 Department of Chemistry, Chinese University of Hong Kong, Hong Kong

11/07 Department of Chemistry, China Central Normal University, Wuhan, P. R. China

11/07 Department of Chemistry, Wuhan University, Wuhan, P. R. China

10/07 Department of Chemistry, University of California at Berkeley, Berkeley, CA

10/07 Department of Chemistry, Arizona State University, Tempe, Az

9/07 Department of Chemistry, University of Massachusetts, Amherst, MA

9/07 The 5th International Forum for Post-Genome Technology, Suzhou, P. R. China

9/07 International Lectures in Nano-Bio Now Series Part 7, FIBER, Kobe, Japan.

9/07 The 2nd International Workshop on Approaches to Single-Cell Analysis, Tokyo, Japan

7/07 SBIC Early Career Award lecture, The 13th International Conference on Biological Inorganic Chemistry, Vienna, Austria

7/07 Invited feature presentation, 2007 Cottrell Scholar Conference, Tucson, Az

5/07 Chemical Biology: A Catalyst for Discovery, University of Minnesota NIH Training Grant Symposium, Twin Cities, MN

5/07 Keynote Lecture, SENTINEL Bioactive Paper Network Scientific Meeting, Ottawa, Ontario, Canada

3/07 Department of Chemistry, Cornell University, Ithaca, NY

3/07 Symposium organizer, Sustainability in Water Supply - How Pure is Our Drinking Water: Advances in Detection and Quantitation of Water Contaminants, 233rd American Chemical Society (ACS) National Meeting, Chicago, IL

2/07 Symposium on High-Throughput Screening of Biological and Chemical Sensor Materials, Pittcon 2007, Chicago, IL

2/07 Harvard-MIT Inorganic Chemistry Seminar Series, Boston, MA

2/07 The 2007 UIUC Annual Faculty Retreat on Instructional Development, Urbana, IL

1/07 Chair of a session on Metalloprotein Design and Engineering, Metals in Biology Gordon Conference, Ventura, CA

1/07 Session on Nanotechnology in Molecular Diagnostics, Lab Automation 2007 conference, Palm Springs, CA

1/07 J. Clarence Karcher Medal and Lecturer, Department of Chemistry and Biochemistry, University of Oklahoma, Norman, OK

1/07 Department of Chemistry and Biochemistry, University of California, Los Angeles, CA

12/06 The 6th International Symposium for Chinese Inorganic Chemists (ISCOC-6), Singapore, Singapore

12/06 Illinois Waste Management and Research Center, Illinois Department of Natural Resources, Champaign, IL

12/06 Department of Chemistry, Northwestern University, Evanston, IL

11/06 European Science Foundation Inorganic Research Conference, Athens, Greece

11/06 Department of Chemistry, Hong Kong University of Science and Technology, Hong Kong, P. R. China

11/06 Department of Chemistry, University of Hong Kong, Hong Kong, P. R. China

11/06 Department of Chemistry, Sichuan University, Chengdu, Sichuan, P. R. China

11/06 The 3rd Asian Biological Inorganic Chemistry Conference (AsBIC-III), Nanjing, P. R. China

9/06 Symposium on HHMI Society of Professors: New Directions in Science Education, American Chemical Society 232nd National Meeting, San Francisco, CA

8/06 Keynote Lecture, The 37th International Conference on Coordination Chemistry, Cape Town, South Africa

7/06 The First Symposium on the Frontiers of Chemistry, Nanjing, P. R. China

7/06 The Second Sino-US Chemistry Professors Conference, Shanghai, P. R. China

7/06 Gordon conference on Inorganic Chemistry, Newport, RI

7/06 Department of Chemistry, Zhejiang University, Hangzhou, P. R. China

7/06 Department of Chemistry, Suzhou University, Suzhou, P. R. China

6/06 Department of Chemistry, University of Science and Technology, Hefei, P. R. China

6/06 Department of Chemistry, University of Bern, Bern, Switzerland

6/06 Plenary Lecture, Chemical Society of Zurich Symposium on Metals in Life Sciences, Zurich, Switzerland

6/06 Department of Chemistry, University of Konstanz, Konstanz, Germany

5/06 Department of Chemistry, University of Waterloo, Waterloo, Ontario, Canada

5/06 Brockhouse Institute of Material Research, McMaster University, Hamilton, Ontario, Canada

3/06 US-Israel Nanotechnology for Water Purification Workshop, Arlington, VA

3/06 Department of Chemistry, Texas Tech University, Lubbock TX

12/05 The 2005 International Chemical Congress of Pacific Basin Societies (PacifiChem), Honolulu, HI

11/05 The Materials Research Society Annual Fall Meeting, Boston, MA

11/05 Department of Chemistry, Princeton University, Princeton, NJ

10/05 International Conference on Safe water, Oct 20-21, San Diego, CA

10/05 Department of Chemistry, University of Michigan, Ann Arbor, MI

10/05 Department of Natural Resources and Environmental Sciences, University of Illinois at Urbana-Champaign

9/05 Department of Chemistry, Emory University, Atlanta, GA

9/05 Department of Chemistry, Georgia State University, Atlanta, GA

8/05 The 40th International Union of Pure and Applied Chemistry (IUPAC) Congress, Beijing, China

7/05 Conference on Metalloprotein and Protein Design, Chicago, IL

6/05 Symposium on Frontiers of Organic and Bioorganic Chemistry, Tianjin, P. R. China

5/05 Department of Biochemistry, California Institute of Technology, Pasadena, CA

4/05 Symposium on Advanced Materials for Purification of Water with Systems, Atlanta, Georgia

3/05 Enhancing Chemistry, Workshop for Illinois High School Teachers, University of Illinois at Urbana-Champaign, Urbana, IL

3/05 Department of Physiology and Biophysics, Albert Einstein College of Medicine, Bronx, NY

2/05 American Association for the Advancement of Science 2005 Annual Meeting, Washington, DC.

2/05 Department of Chemistry, Purdue University, West Lafayette, IN

1/05 Department of Chemistry and Chemical Biology, Rensselaer Polytechnic Institute, Troy, NY

11/04 2004 Materials Research Society Fall Meeting, Boston, MA

11/04 Department of Chemistry, University of Notre Dame, South Bend, IN

10/04 NSF Workshop on Molecular Basis of Life Processes, Oak Ridge, TN

9/04 Department of Chemistry, University of California at Irvine, Irvine, CA

8/04 The Seventh European Biological Inorganic Chemistry Conference (EUROBIC 7), Garmisch – Partenkirchen, Germany

7/04 The Third International Conference on Porphyrin and Phthalocyanines, New Orleans, LA

6/04 National Science Foundation Workshop on Inorganic Chemistry, Sedona, AZ

5/04 Nanotechnology in Homeland Security Workshop, the University of Illinois Center for Nanoscale Science and Technology (CNST), Urbana, IL

4/04 Foundations of Nanoscience: Self-assembled Architectures and Devices, Snowbird, Utah

4/04 School of Chemical Engineering, Tianjin University, Tianjin, China

4/04 Plenary lecture, The 8th International Symposium on Applied Bioinorganic Chemistry (ISABC8), Hong Kong, P. R. China

2/04 Department of Chemistry, University of Chicago, Chicago, IL

2/04 Department of Chemistry, Clark Atlanta University, Atlanta, GA

1/04 Gordon Research Conference: Metals in Biology, Ventura, CA

1/04 International Symposium on Active Oxygen-Metal Complexes (ISAOC 2003), Awaji Island, Japan
12/03 Department of Chemistry, Nankai University, Tianjin, P. R. China
12/03 Department of Chemistry, Tianjin University, Tianjin, P. R. China
12/03 Department of Chemistry, Peking University, Beijing, P. R. China
12/03 Department of Chemistry, Nanjing University, Nanjing, P. R. China
12/03 Department of Chemistry, Fudan University, Shanghai, P. R. China
11/03 Plenary lecture, Kentucky Academy of Science 2003 Annual Meeting, Bowling Green, Kentucky
11/03 Bariloche Protein Symposium at the Biophysical Society of Argentina Annual Meeting, Bariloche, Argentina
9/03 Department of Chemistry, University of North Carolina, Chapel Hill, NC
9/03 Department of Chemistry, Columbia University, New York, NY
8/03 IEEE-Nano 2003, San Francisco, CA, August 2003
7/03 The Eleventh International Conference on Biological Inorganic Chemistry, Cairns, Australia
11/02 COE International Conference on Dynamical Structures and Molecular Design of Metalloproteins, Okazaki, Japan
11/02 Department of Chemistry, University of Tsukuba, Tsukuba, Japan
8/02 The Second Symposium on DNA/RNA/Protein for Nanotechnology, Kobe, Japan
8/02 The First International Symposium of High Technology Research Center, Konan University, Kobe, Japan
5/02 Keynote Presentation, the Seventh World Congress on Biosensors (Biosensor 2002), Kyoto, Japan
5/02 The First K-JIST Environmental Biotechnology Symposium on Biosensors and DNA Microarrays for Environmental Biomonitoring, Gwangju, Korea
11/01 RNA-based Life Conference, Bloomington, IN
11/01 Department of Chemistry, Loyola University of Chicago, Chicago, IL
11/01 Department of Chemistry, St. Olaf College, Northfield, MN
10/01 Department of Chemistry, Iowa State University, Ames, IA
10/01 Department of Chemistry, Nanjing University, Nanjing, China
10/01 Plenary lecture, the Fourth National Conference on Coordination Chemistry, Guilin, China
8/01 The Tenth International Conference on Biological Inorganic Chemistry, Florence, Italy
10/00 Department of Chemistry, Boston College, Chestnut Hill, MA
10/00 Department of Chemistry, State University of New York, Albany, NY
9/00 Center for Biochemical and Biophysical Studies, Northern Illinois University, Dekalb, IL
8/00 Department of Chemistry, National Chung Cheng University, Chia-Yi, Taiwan
8/00 The 3rd World-wide Symposium on Inorganic Chemistry for Chinese Scientist, Taipei, Taiwan
3/00 Department of Chemistry, Ohio State University, Columbus, OH
3/00 Department of Chemistry, Carnegie Mellon University, Pittsburgh, PA
10/99 Department of Chemistry, University of North Carolina, Chapel Hill, NC
10/99 Department of Chemistry, University of Wisconsin, Madison, WI
10/99 Department of Chemistry, Boston College, Chestnut Hill, MA

10/99 Department of Chemistry, Southern Illinois University, Carbondale, IL
9/99 Department of Chemistry, Colorado State University, Fort Collins, CO
9/99 Department of Chemistry, University of Colorado, Boulder, CO
9/99 Department of Chemistry, Johns Hopkins University, Baltimore, MD
9/99 Department of Chemistry, University of Pennsylvania, Philadelphia, PA
9/99 Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA
9/99 Department of Chemistry, Brandeis University, Waltham, MA
9/99 Department of Chemistry, Yale University, New Haven, CT
7/99 The Ninth International Conference on Biological Inorganic Chemistry, Minneapolis, MN
7/99 The Third Annual Green Chemistry and Engineering Conference, Washington, DC
3/99 Department of Chemistry, University of California, Berkeley, CA
3/99 Department of Chemistry, Stanford University, Stanford, CA
3/99 Department of Chemistry, University of Minnesota, Minneapolis, MN
2/99 Department of Chemistry, University of Arizona, Tucson, AZ
2/99 Department of Chemistry, Georgia State University, Atlanta, GA
2/99 Department of Chemistry, Emory University, Atlanta, GA
2/99 Department of Chemistry, University of Georgia, Athens, GA
2/99 Department of Chemistry, University of South Carolina, Columbia, SC
2/99 Department of Chemistry, Duke University, Durham, NC
1/99 Gordon Research Conference: Metals in Biology, Ventura, CA
1/99 Department of Chemistry, University of California, Irvine, CA
11/98 Department of Chemistry, Princeton University, Princeton, NJ
11/98 Departmental of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA
10/98 Department of Chemistry, Texas A & M University, College Station, TX
10/98 Department of Chemistry, Indiana University, Bloomington, IN
8/98 The 215th ACS National Meeting, Boston, MA
8/98 Arnold and Mabel Beckman Young Investigator Symposium, Irvine, CA
4/98 Department of Chemistry, University of Kansas, Lawrence, KS
1/98 Department of Chemistry, Occidental College, Los Angeles, CA
11/97 The Fifth Chemical Congress of North America, Cancun, Mexico
6/97 The National Science Foundation Inorganometallic Workshop, Santa Fe, NM
10/96 Department of Chemistry, Northern Illinois University, Dekalb, IL
6/95 The Midwest Bioinorganic Chemistry Summer Workshop, Minneapolis, MN

RESEARCH TRAINING

Name	Date	Title	Current Position
Ph. D. Conferred (63)			
Anne B. Fritz	2026	Discovery and Characterization of Metal-Dependent Catalytic DNAs in Biological Systems	Tech transfer manager UT Austin
Hirbod Heidari	2026	Design, Validation, and Experimental assay of Artificial Iron-Sulfur Cluster-Binding Metalloproteins Pertaining to Small Molecule Activation	Postdoc, U of Washington
Whitney M. Besetzny	2025	Development of Nucleic Acid-Based Sensors for Selective Coenzyme A Imaging, Swine Virus Detection, Metal Ion Sensing, and Gene Editing Applications	Chimera Therapeutics
Mandira Banik	2024	Probing How Differential Location and Abundance of Metabolites and Metal Ions Contribute to Cellular Signaling	Princeton BioLabs
Yiwei Liu	2024	Engineering Copper and Iron Metalloproteins to Understand Biological Redox Catalysis and Electron Transfer	Postdoc, Princeton U
Yu Zhou	2024	Exploration of the Biosynthesis of Polyketides and Fluorinated Compounds by Protein Engineering and Synthetic Biology	Postdoc, Princeton U
Weijie Guo	2024	Spatial Imaging of GlycoRNA with Aptamer and Exploration of Thrombin-interactive DNA in Neutrophil Extracellular Traps	Postdoc, Max Planck Institute, Germany
Mingkuan Lyu	2022	Methods and Applications of Using DNA-Cleaving DNAzymes to Cleave Double-Stranded DNA	Postdoc, UT Austin
Gregory T. Pawel	2022	Alternative Signal Transduction for Functional Nucleic Acid Sensors	Tech transfer manager Vanderbilt U
Quan Lam	2022	Investigating the Role of Secondary Coordination Sphere in Designed Metalloenzymes	Scientist, Encodia Inc.
Zhenglin Yang	2021	In vitro selection of DNAzymes selective for monovalent metal ions and their development as sensors in living cells and organisms	Postdoc, UT Austin
Yiming Wang	2021	Quantitative analysis on the formation of metal nanocrystals	Post Doc, Harvard University
Ryan Lake	2021	Discovery of novel functional DNA and their applications as biological sensors	Peace Corp
Sudharsan Dwaraknath	2021	Engineering an Oxygen Storage Metalloprotein into Carbon Dioxide and Oxygen Reduction Metalloenzymes	Postdoc, Lawrence Berkeley Lab
Kevin A. Harnden	2020	Expanding the Chemistry of a Cupredoxin by Designing Nonnative Active Sites and using Abiological Metals	Postdoc, U. of Oregon

Evan N. Mirts	2018	Complex, Non-Native Heteronuclear Metal Centers Designed in Cytochrome C Peroxidase: Expanding the Limits of Biosynthetic Modeling	Research Scientist Amgen
Chang Cui	2018	Engineering heme-copper and multi-copper oxidases for efficient oxygen reduction catalysis	Postdoc MIT/Harvard
Nitya sai Reddy Satyavolu	2018	DNA as A Functional Molecule for Control of Nanomaterial Morphology and for Biosensing	Research Scientist Intel
Claire E. McGhee	2018	In vitro selection of monovalent metal ion-dependent DNAzymes	Research Scientist Intel
Julian Reed	2017	Characterizing a Structural and Functional Model of Nitric Oxide Reductase Performing NO and O_2 Reduction in Engineered Myoglobin	Postdoc, DoD Construction and Engineering Research Laboratory
Ambika Bhagi	2016	Understanding Structure-Function Relations in Heme-Copper Oxidase Using Myoglobin-Based Enzyme Models	Assistant Professor, U of Minnesota
Igor Petrik	2016	Characterization and Design of Hydrogen Bonding Interactions in Oxygen Reduction by Engineered Myoglobins	Staff Scientist, UIUC
Kevin Hwang	2015	Cellular Metal Ion Sensing Using DNAzymes	Postdoc, MIT
Shiliang Tian	2015	Protein Engineering Using Azurin as the Scaffold: Capturing and Studying Novel Metal-Sulfenate and Metal-NO Species	Postdoc, Stanford University
Peiwen Wu	2015	DNAzymes as Intracellular Sensors for Metal Ion Imaging and their Structural Characterization	Research Scientist, Gilead
Parisa Hosseinzadeh	2015	Isolating, Characterizing, and Engineering Novel Cu-Proteins and Peroxidases	Postdoc, U. of Washington
Li Huey Tan	2015	Studying the Interface Between DNA and Inorganic Nanoparticles to Control Shape and Anisotropicity	Research Scientist Intel
Hang Xing	2014	Bioinspired DNA-Nanomaterial Conjugates for Diagnostic and Therapeutic Applications	Postdoc, Northwestern University
Seyed-Fakhreddin Torabi	2014	In vitro Selection and Characterization of Mono-, Di-, and Trivalent Metal-Dependent DNAzymes and their Biosensor Applications	Postdoc, Yale University
Yang Yu	2013	Metalloprotein Engineering with Unnatural Amino Acids: Application in Functional Heme-Copper Oxidase and Azurin	Associate Professor Tianjin Institute of Industrial Biotechnology, Chinese Academy of Science
Ngo Yin Wong	2013	Advances in Structural and Functional DNA Nanotechnology: Towards Complex and Dynamic Assemblies for In Vitro Applications	Research Scientist Intel
Tian Lan	2012	I. Isolation of aptamers for perchlorate and melamine II. Attempts towards crystallization of DNAzymes III. A new DNAzyme based sensor for lead detection	CTO, GlucoSentient, Inc.

Tiffany D. Wilson	2012	A Biosynthetic Approach to Understanding the Assembly of Cu_A Centers	Postdoc, U. of California at Berkeley
Kyle D. Miner	2011	Rational Design of Functional Heme Copper Oxidases in Myoglobin: The Role of Tyrosine in Efficient Reduction of Oxygen to Water	Postdoc, U. of Texas at San Antonio
Ying He	2011	Fluorescence Resonance Energy Transfer Study of the Global Folding of Functional DNAs And Electrohydrodynamic Printing of Protein Arrays	Research Scientist MRL, UIUC
Nicholas Marshall	2011	Fine-Tuning the Reduction Potential of Cupredoxin Proteins by Altering Secondary Coordination Sphere Interactions	Postdoctoral researcher U. of Texas at Austin
Eric L. Null	2011	Functional DNA: Biochemical/Biophysical Characterization & Sensing Applications	Research Scientist ANDalyze, Inc.
Zidong Wang	2011	Bioinspired Fabrication and Assembly of Hybrid Materials for Sensing and Biomedical Applications	Research Scientist Dow Chemical
Weichen Xu	2010	Smart MRI Contrast Agents and Label-Free Fluorescent Sensors Based on Functional Nucleic Acids and Studies of Metal-DNAzyme Interactions	Research Scientist ANDalyze, Inc.
Nathan A. Sieracki	2010	Toward Engineering Oxygenase Activity into the Electron Transfer Protein, Azurin	Postdoctoral researcher University of Illinois at Chicago
Kevin M. Clark	2010	Probing the roles of Metal binding ligands in cupredoxins: Incorporating nonproteinogenic amino acids into azurin and Cu_A azurin	Law School Student
Nandini Nagraj	2010	Development of Functional DNA-Based Sensors and Investigations into Their Mechanism	Research Scientist, GE Research Center
Debapriya Mazumdar	2009	Investigation of Metal-Dependence in DNAzymes and Applications of DNAzymes and Aptamers for Diagnostics	Vice President of Product Development, DzymeTech, Inc.
Jung Heon Lee	2009	Bioinspired Assembly of Nanomaterials for Applications in Nanoelectronics and Biosensors	Assistant Professor Sungkyunkwan U. (Korea)
Natasha Yeung	2008	Modeling the Fe_B site of bacterial nitric oxide reductase	Postdoctoral researcher Lawrence Berkeley Lab
Mehmet Veysel Yigit	2008	Novel MRI contrast agents based on Functional DNA and nanomaterial conjugates for biomedical applications	Assistant Professor SUNY Albany/RNA Institute
Masha Savelieff	2008	Biosynthetic approach to protein models in long-range electron transfer	Assistant Prof, Michigan State Univ.
Dewain Garner	2008	Metalloprotein Design and Engineering Using Unnatural Amino Acids and Nonnative Cofactors	Research Scientist, Clorox Company
Hee-Kyung Kim	2007	Probing metal binding sites and metal ion-dependent conformational changes of a DNAzyme	Postdoctoral researcher U. of California, Berkeley

Ningyan Wang	2007	Exploring the Roles of Heme Type and Histidine-Tyrosine Cross-Link in Heme-Copper Oxidases Using a Myoglobin Model	Postdoctoral researcher Dept. of Biochem., UIUC
Daryl P. Wernette	2007	Immobilization of Catalytic DNA for Advanced Materials and Sensors	Research Scientist Owens Corning
Thomas P. Pfister	2006	Metalloprotein Engineering using Heme Protein Scaffolds to Investigate the Oxidation of Endogenous Aromatic Amino Acids and Exogenous Substrates	Postdoc National Cancer Institute
James R. Carey	2006	Design and Synthesis of Redox or Catalytically Active Artificial Metalloproteins Containing Non-native Inorganic and Organometallic Complexes	Research Scientist ChemSensing, Inc.
Andrea K. Brown	2006	In vitro Selection and Characterization of Highly Selective Metal-Dependent DNAzymes with Potential Biosensor Applications	M.D. program UIUC
Hee Jung Hwang	2005	Modulation of Metal Coordination and Redox Properties of the Engineered Purple Cu_A and Ferrocene Centers in Azurin	Postdoc Johns Hopkins University School of Medicine
Kevin E. Nelson	2005	In vitro selection and metal selectivity of transition metal dependent DNAzymes	M.D. program UIUC
Juewen Liu	2005	Fluorescent and Colorimetric Biosensors Based on DNAzymes and DNA Aptamers	Assistant Professor U. of Waterloo
Peter J. Bruesehoff	2003	In Vitro Selection and Characterization of Transition Metal-Dependent DNAzymes and RNAzymes	Research Scientist Abbot Labs
Steven M. Berry	2003	Designing Novel Blue Copper and Purple Cu_A Centers in Azurin with Natural and Unnatural Amino Acids	Associate Professor U. of Minnesota at Duluth
Steven K. Ma	2001	Encapsulation of Achiral Mn(Salen) Complexes into Cytochrome *c* Peroxidase: Spectroscopic Characterizations and Epoxidation Studies	Product Manager Lonza, Inc.
Jing Li	2000	*In Vitro* Selection of Highly Efficient DNA Enzymes as RNA Nucleases and Metal Biosensors	Staff Scientist Genomic Institute of the Novartis Research Fdn.
Alan Gengenbach	2000	The Protein Redesign Approach to Modeling Manganese Peroxidase	Associate Professor U. of Wisconsin-Eau Claire
Jeffrey A. Sigman	2000	Metalloprotein Design	Professor Saint Mary's College
Lynette A. Cunningham	1999	Studies of the Catalytic-Metal-Binding site in the Hammerhead Ribozyme using the Phosphorothioate Approach	Research Scientist Colgate-Palmolive
Michael T. Hay	1998	Engineering a Purple Cu_A Site into the Blue Copper Protein Azurin: Construction Spectroscopy, and Metal Substitution Studies	Associate Professor Penn. State U.-Beaver Fall

M. S. Conferred

Brady Wells	2021	Using Myoglobin Models of Oxidases for Mechanistic Understanding of the Oxygen Reduction Reaction	
Darius Z. Brown	2013	Ultrasensitive DNA Aptasensors Based on Exponential Amplification Reaction	Research Specialist Cornel University
Bryant E. Kearl	2012	Characterization and Catalytic Application of an Engineered Cupredoxin Possessing a Potential in Excess of 1 Volt	Ph.D. program Arizona State U.
Hannah Ihms	2012	The In Vitro Selection and Biochemical Characterization of MetalloDNAzymes	
Lanyu Lei	2009	Introduction and Modification of Hydrogen Bonding Network into the Active Site of an Engineered Myoglobin Model of Cytochrome c Oxidase	
Qian Chen	2007	Design and Engineering of Artificial Metalloenzymes for Asymmetric Catalysis: Investigation of Mn(Salen) Containing Myoglobin Catalyzing Sulfoxidation	Ph.D. program École Polytechnique Fédérale De Lausanne
Hyeon Keol Kim	2003	Engineering and Characterization of Heme-Copper Binuclear Center in Sperm Whale Myoglobin	MBA program UIUC
Caroline Marie-Brigitte Pavot	2001	Metal Ion Interactions with Phosphorothioate and Phosphoroselenoate DNA/RNA and Biochemical Characterization of a Lead-Dependent Deoxyribozyme	
Marjorie C. Ang	1998	An Engineered Purple Cu_A Site in Azurin: Understanding a Novel Copper Site in Biology	Research Scientist Genencor Inc., CA

B. S. Conferred (with thesis)*

Stephanie T. Ouchida	2020	A Single Proximal Mutation Introduces Oxygen Reduction in Myoglobin via Proton Transfer Enhancement	Graduate student UCSF
Madeline R. Sponholtz	2018	Increasing the Efficiency of a Myoglobin-Based Enzyme Model of Heme-Copper Oxidase by Introducing Tyrosine and Tryptophan Residues Near the Active Site	Graduate student U of Texas at Austin
Yueh-Te Chu	2018	Functionalization of DNAzymes onto the Surface of Upconversion Nanoparticles	Graduate student Northwestern University
Kang Yong Loh	2017	Near Infrared Metal Ion Sensing using DNAzyme Upconversion Nanoparticles	Graduate student Stanford U
Matthew Ross	2014	Recombinant expression, purification, and characterization of a potentially novel naturally-occurring cupredoxin in *N. maritimus*	Graduate student Northwestern U
Niloufar Hafezi-Mashhadi	2012	Characterization of a Human Sco-Like Copper Chaperone Protein Mimic	Lu Lab Manager, UIUC

Junhong Gao	2009	Structural Analysis of An Engineered Heme-Copper Center in Myoglobin that Mimics the Heme-Copper Site in Cytochrome C Oxidase	UIUC
David A. Barrios	2008	Using Nonnative Inorganic Cofactors in Engineered Metalloprotein Scaffolds to Induce Enantioselective Catalysis	Graduate student North Carolina State U
Carolyn Mead	2008	Immobilization of DNAzymes and Aptamers into Nanocapillary Array Membranes	Graduate Student Cornell U
Allison E. Mazan	2008	Binary Metal Combinations in a lead-sensitive DNAzyme Sensor System	UIUC
Brook A. DeMoisy	2006	Characterization of Myoglobin Mutants Containing Non-Native Mn(Salen) Cofactors	Research Scientist Sigma-Aldrich
Nicole Conatser	2006	Characterization and Optimization of Designed Cytochrome c Peroxidases that Mimic Manganese Peroxidase	Law School St. Louis U.
Jennine M. Golueke	2005	RP-HPLC Purification of 17ET3 DNAzymes	Research Scientist Abbott Labs.
Joseph A. Abramite	2003	Manganese Incorporated Cytochrome c Peroxidase as an Asymmetric Catalyst for Oxidation of Simple Substrates	Graduate student U. of Colorado
Anthony J. Augustine	2003	In Vitro Selection of Metal Dependent RNA Cleaving DNA Enzymes	Graduate student Stanford U.
Evan T. Brower	2003	Creation and Optimization of Novel Semisynthetic Metalloproteins	Graduate student Johns Hopkins U.
John Z. Zhu	2003	Elucidating Inter-Molecular Tyrosine Cross-Linking and the Design of a Distal Calcium Binding Site in Cytochrome c Peroxidase	Graduate student Indiana U.
Sherene M. Panicker	2002	Purification and Crystallization of the H120N Cu_A Azurin Mutant	Graduate Student Rush University
Vikas R. Pathak	2002	Preparation and Spectroscopic Study of Betaine-Homocysteine Methyltransferase	Graduate Student University of Illinois
Rebecca L. Perino	2001	Engineering Mn(II)-binding Sites in Cytochrome *c* Peroxidase	Associate McKinley Consulting, Inc.
Nitin Patel	2001	The role of the Methionine Ligand in the Cu_A Site of an Engineered Azurin	Graduate student U. of Illinois
Eric J. Vallender	2000	Characterization of the Catalytic Metal Binding Site in the Hammerhead Ribozyme	Graduate Student University of Chicago

Brian C. Kwok	2000	Designing a Cu(II)-binding Site in Cytochrome c Peroxidase and Sperm Whale Myoglobin that Mimics the Cu_B-Heme Center in Cytochrome c Oxidase	Attorney, Kirkland & Ellis LLP, CA.
Tu Nguyen	1999	Optimization of large-scale Ribozyme Purification and Purification and Isolation of T7 Polymerase	Technical Manager Whitewater Technologies
Kendra Hammond	1999	Preparation of Catalytic Hammerhead RNA and Multiple Approaches to the Characterization of the Ribozyme's 6-mer Cleavage Product	Medical Student, Northwestern U.
Kyunga Seo	1998	Toward Construction of C*c*P Biocatalyst for Enantioselective Epoxidation	Research Scientist, U. of CA, San Francisco
Timothy Koester	1998	Preparation of Mn(Salen)-cytochrome c Peroxidase and asymmetric catalysis	Research Scientist Merck, Co.
Gretchen Peterson	1997	Preparation and Spectroscopic Characterization of Catalytic Nucleic Acids	Graduate Student, Harvard Univ.
Sung Syn	1996	Engineering Cytochrome *c* Peroxidase into Lignin Peroxidase	Research Scientist, Univ. of Chicago
Kirk Kittamaron	1996	Purification of the Hammerhead Ribozyme by Continuous Elution Electrophoresis: an Alternative Solution to Conventional Preparative Techniques	Research Scientist, Univ. of Chicago

* Over the past 24 years, another ~150 undergraduate students have worked in the PI's group for at least one year. They chose not to submit a B.S. thesis when they graduated.

CURRENT GROUP MEMBERS

Postdoctoral Researchers:	Mingkuan Lyu	Jinyan Rui
Graduate Students:	Soumya Chaudhury	Dibyangshu Das
	Anne Fritz	Lara Fitzpatrick
	Elijah Garcia	Valeria Garcia
	Da Huo	Caleb Hurst
	Linggen Kong	Dani Lawson
	Shuya Lu	Lisa Phan
	Woraporn Pengsook	Shreestika Pradhan
	Abigail Ramos	Ishika Rashed
	Aritra Roy	Kailee Kuo Shlipak
	Jingxiang Wang	Letian Wang
	Yujian Wen	Zijing Wu
	Zhijie Xie	Jiaqing Xu
Undergraduate Students:	Mythili Bulusu	Ethan Chow
	Carson Ward	Karen Zhang
	He "Howard" Shi	Lucas Williams
	Mingyo Jeong	

PERSONAL INFORMATION

Permanent Resident of the United States of America

UNIVERSITY SERVICE (at UT Austin)

Promotion and Tenure Committee (College of Natural Sciences)	2025 –
Space Committee, Department of Chemistry	2024 –
Chair of Salary Strategy Review Committee, Department of Chemistry	2024 – 2025
Advisory Board, Microscopy & Flow Cytometry Facility	2024 – present
Chair of Ad Hoc Committee on Seminars, Department of Chemistry	2024 – 2025
Academic advisor, Chemical Biology, Department of Chemistry	2022 – present
Graduate Admission, Chemical Biology, Department of Chemistry	2022 – present
Graduate Admission Committee	
Interdisciplinary Life Sciences Graduate Programs (ILSGP)	2023 – present
Promotion and Tenure Committee (Chemistry Department)	2022 – present
Endowed Chair Search Committee (Chemistry Department)	2022 – present
Senior Faculty Search Committee (Chemistry Department)	2021 – present
Budget Council (Chemistry Department)	2021 – present
Committee on qualifying exam system (Chemistry Department)	2021 – present

UNIVERSITY SERVICE (at UIUC)

School of Chemical Sciences Executive Committee	2018 - 2021
Office of Technology Management Advisory Committee	2014- 2020
Fellowship Committee, Graduate College	2014
Conflict of Interests Management Oversight Committee, College of Engineering	2013- 2020
Chair, Courses and Curricula Committee, Department of Chemistry	2013-2021
Executive Advisory Committee, Micro and Nanotechnology Laboratory (MNTL)	2008- 2020
SCS Safety Committee	2006– 1015
Department of Chemistry Graduate Fellowship Committee	2006- 2018
Carle-CRI Translational Research Review Committee	2006
Advisory Committee, Department of Chemistry	2004 – 2015
Chair, Center for Nanoscale Science and Engineering Seminar Committee	2004 – 2005
Budget and Operations Committee, Department of Chemistry	2004 – 2005
Graduate Student Admission Committee, Department of Chemistry	2003 – 2004
Human Resources Development Committee, NSF Water CAMPWS STC	2003 – 2005
LAS Award Committee	2003 – 2004
Center for Nanoscale Science and Engineering Seminar Committee	2003 – 2004
Graduate Student Admission Committee in the Department of Chemistry	2003 – 2004
Executive Committee, Molecular Biophysics Training Grant	2002 – 2004
General Chemistry Division Head Search Committee	2002 – 2003
University Senate	2001 – 2004
SCS Service Facilities Committee (Biocrystallization facility faculty supervisor)	2001 – 2004
Graduate Student Cumulative Exam Committee in Biochemistry Department	2001 – 2004
Graduate Students Fellowship/Progress Committee in Chemistry	2000 – 2004t
Academic Advisor for Graduate Students in Inorganic Chemistry	1995 – 2005
Academic Advisor for Undergraduate Students in Chemistry	1994 – 2010
Chair of Ad Hoc Committee on Crystallization/Crystallography in Structural Chemical Biology	2000 – 2001
Faculty Advisor to the Chemistry Honorary Fraternity Phi Lambda Upsilon	2000 – 2001
Biomolecular Chemistry Committee in the School of Chemical Sciences	1995 – 1998
Head of the Chem 109 Course Developmental Team	1994 – 1998

General Chemistry Lecturer Search Committee	1997
Graduate Student Admission Committee, Department of Chemistry	1995 – 1996

Faculty Member of:

Department of Chemistry (primary appointment)	1994 – 2021
Department of Biochemistry	1999 – 2021
Department of Materials Science and Engineering	2003 – 2021
Materials Research Laboratory	2002 – 2021
Center for Biophysics and Quantitative Biology	2000 – 2021
Center for Nanoscale Science and Technology	2002 – 2021
Center for Zoonosis Research and Infectious Diseases (CZRID)	1999 – 2021
Biotechnology Center	1994 – 2021
Beckman Institute for Advanced Science and Technology	2003 – 2021
Molecular Biophysics Program	1996 – 2021
Molecular and Cell Biology Program	1996 – 2021
Interdisciplinary Environmental Toxicology Program	1996 – 2021
Environmental Council	1996 – 2021
Department of Bioengineering	2008 – 2021
Institute of Genomic Biology	2014 – 2021
Institute for Sustainability, Energy, and Environment (iSEE)	2015 – 2021

SERVICE OUTSIDE THE UNIVERSITY

a. Professional Affiliations

American Chemical Society
American Association for the Advancement of Science
The Royal Society of Chemistry
Materials Research Society
The Protein Society
The RNA Society
Society of Biological Inorganic Chemistry
The Institute of Electrical and Electronics Engineers

b. Referee of Journal Articles

Account of Chemical Research
Angewandte Chemie
Biochemistry
Catalysis Today
European Journal of Biochemistry
Inorganic Chemistry
Journal of Inorganic Biochemistry
Journal of Molecular Biology
Langmuir
Nature
Protein Engineering
Proceedings of the National Academy of Sciences, USA
Science
Small
Applied Spectroscopy
Archives of biochemistry and biophysics
Chemical Communication
Chemistry and Biology
Journal of the American Chemical Society
Journal of Biological Inorganic Chemistry
Journal of Nanoscience and Nanotechnology
Journal of Physical Chemistry
Nucleic Acids Research
Organic & Biomolecular Chemistry
Protein Engineering, Design and Selection
Organic letters
ChemBioChem

c. Referee of Grant Proposals

National Science Foundation
National Institute of Health

Department of Defense (AFOSR)
Department of Energy
American Chemical Society Petroleum Research Fund
Arnold and Mabel Beckman Foundation
Research Corporation
Howard Hughes Medical Institute
Israeli National Science Foundation
National Science Foundation of China
Research Grants Council, Hong Kong, China
Engineering and Physical Science Council of the United Kingdom
Agency for Science, Technology and Research (A*STAR) of Singapore

d. Other Services

Member of Chemistry Graduate Program Review Committee, North Carolina State University (2024-)
Departmental Academic Advisor for the Department of Chemistry, City University of Hong Kong (2023-2026)
Member of Advisory Board, *Progress in Inorganic Chemistry* (2023-now)
Member of Research Impact Fund Committee, Research Grants Council, Hong Kong (2023-2025)
Member of Editorial Advisory Board, *Chemical & Biomedical Imaging* (2022-now)
Member of ACS National Awards Selection Committee (2019-2025)
Member of Chemical Biology Advisory Board for Landmarks Scientific Advances, Faculty Opinions (2022-now)
Co-organizer, symposium on "Functional Nucleic Acids: Chemistry, Biology, and Materials Applications" at the 2021 Pacific Chemical Congress (December 2021)
Co-organizer, Symposium on Detection of COVID-19 and other Emerging Pathogens, ACS Annual meeting (Spring 2021).
Co-editor, Biocoordination Chemistry, Comprehensive Coordination Chemistry III (2021)
Assessment of the Biosciences Program at Sandia National Laboratories in Albuquerque, NM (2020)
Member of Academic Committee, The 18th Beijing Conference and Exhibition on Instrumental Analysis (BECIA) (2019)
Faculty Member, F1000 (2018-now)
Elected Vice Chair (2017) and Chair (2018) of Gordon Research Conference on Metals in Biology
Member of Editorial Advisory Board, *Sensors* (2018-now)
Member of Editorial Board, *Science China Chemistry* (2017-now)
Member of Editorial Board, *Journal of Inorganic Biochemistry* (2017-2021)
Member of Editorial Board, *Structure and Bonding* (2016- now).
Advisory Board Member in the Chinese American Society of Nanomedicine and Nanobiotechnology
Co-Editor of Bioinorganic Chemistry issue in *Current Opinion in Chemical Biology* (2015)
Member of Editorial Advisory Board, *Analytical Chemistry* (2015-2018)
Member of Editorial Advisory Board, *Accounts of Chemical Research* (2014-2019)
Member of Editorial Advisory Board, *ACS Sensors* (2015-2018)
Panelist for the Chemical Sciences Roundtable of the National Research Council: Workshop on Mesoscale Chemistry (November 2014)
Member of NSF Workshop Design, Engineering and Selection of Novel Proteins (2014)
Member of ACS Ronald Breslow Award for Achievement in Biomimetic Chemistry Selection Committee (2013-2016)
Member of Editorial Board, *Inorganic Chemistry Frontiers* (2013-2022)
Member of Editorial Board, *Nano Research* (2012-now)
Member of Editorial Board, *Journal of the Chinese Chemical Society* (2013-2022)
Member of International Advisory Committee, International Conference on Materials for Advanced Technologies, Singapore (2013)
Member of International Scientific Committee, 15th International Biotechnology Symposium, Daegu, Korea
Member of International Advisory Board, *Chemistry – An Asian Journal* (2010- 2021)
Member of Advisory Board, *ACS Catalysis* (2011-2013)

Member of DOE Environmental Remediation Science Program (ERSP) Review Panel (2008)
Ad hoc Member of NIH MSFA Study Section (2007, 2008)
Member of NSF review panel on Nanoscale Interdisciplinary Research Teams (NIRT) (2007)
Member of DOE review panel on Quantitative Microbial Biochemistry and Metabolic Engineering for Biological Hydrogen Production (2007)
Co-organizer, Symposium on Sustainability in Water Supply - How Pure is Our Drinking Water: Advances in Detection and Quantitation of Water Contaminants, 233rd American Chemical Society (ACS) National Meeting, Chicago, IL (2007)
Co-organizer, Symposium on Modification of Hemoproteins in the 3rd International Conference on Porphyrin and Phthalocyanines, New Orleans, (2004)
Member of the NSF Workshop Molecular Basis of Life Processes (2004)
Member of Review Panel for the Sensor and Sensor Network Program (NSF) (2003)
Member of Editorial Advisory Board, *J. Biol. Inorg. Chem.,* 2001- now.
Treasurer, Chinese Heritage Foundation (UIUC) (2002-2003)
Member of Review Panel for the Collaborative Research in Chemistry Program (NSF) (2002)
Member of Expert Review Panel for the Arnold and Mabel Beckman Foundation (1999, 2000)
Member, NSF Frontier of Inorganic Chemistry Workshop (2001)
Session Chair, Gordon Graduate Research Seminar on Bioinorganic Chemistry, Ventura, CA (2002)
Session Chair, "Symposium on Multinuclear Enzymes in Oxygen Metabolism" in the 215th ACS National Meeting, Boston, MA (1998).