Andrew J. Wilson

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CURRENT POSITION

Assistant Professor July 2020 – present
Department of Chemistry
University of Louisville, Louisville, KY

EDUCATION

- **The University of Texas at Austin.** Austin, TX
  Ph.D., Physical Chemistry
  Certification in Nanoscience and Nanotechnology
  December 2015
- **The University of Iowa.** Iowa City, IA
  B.S., Chemistry
  May 2010

PROFESSIONAL EXPERIENCE

- **Postdoctoral Research Fellow** 2016–2020
  Springborn Postdoctoral Fellow 2016-2018
  Department of Chemistry, University of Illinois at Urbana-Champaign
  Urbana, IL
  Advisor: Professor Prashant K. Jain
- **Postdoctoral Research Fellow** 2015–2016
  Department of Chemistry, Temple University
  Philadelphia, PA
  Advisor: Professor Katherine A. Willets
- **Graduate Research Fellow** 2010–2015
  Department of Chemistry, The University of Texas at Austin
  Austin, TX
  Advisor: Professor Katherine A. Willets
  Dissertation Title: Optical Readouts of Electrochemistry on Plasmonic Nanoparticle Electrodes
- **Undergraduate Research Assistant** 2009–2010
  Department of Chemistry, The University of Iowa
  Iowa City, IA
  Advisor: Professor Johna Leddy

AWARDS

- Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities, 2022
- Student Champion, University of Louisville, 2022
- Springborn Postdoctoral Fellowship, University of Illinois at Urbana-Champaign, 2016-2018
- Fall 2015 Nano Portfolio Program Student Presentations Best Presentation Award, The University of Texas at Austin, 2015
- Professional Development Award/Travel Award, The University of Texas at Austin, 2014
- Jeff Byers Memorial Graduate Award in Chemistry and Chemical Engineering, The University of Texas at Austin, 2013-2014
- Faraday Teaching Award, The University of Texas at Austin, 2010-2011
- Analytical Chemistry Award, The University of Iowa, 2009

PUBLICATIONS

*corresponding author, †contributed equally, ‡undergraduate author

35. C.L. Brosseau*, A. Colina*, J.V. Perales-Rondón, **A.J. Wilson***, P.B. Joshi, B. Ren*, X. Wang*. "Electrochemical Surface-Enhanced Raman Spectroscopy," *Nat Rev Methods Primers* **2023,** *accepted in principle*

34. J.F. Adkins‡, A. Kaur, M.S. Alom, H. Chandran, F. Ramezanipour, **A.J. Wilson***. "Directing the size and dispersity of Ag nanoparticles with kudzu leaf extracts," *RSC Adv.* **2023,** *13,* 25360-25368

33. P.B. Joshi and **A.J. Wilson***. "Potential-dependent temporal dynamics of CO surface concentration in electrocatalytic CO_2 reduction," *J. Phys. Chem. Lett.* **2023,** *14,* 5754-5759

32. J.V. Hemmer†, P.B. Joshi†, **A.J. Wilson***. "Tracking electrochemistry at single nanoparticles with surface-enhanced Raman scattering spectroscopy and microscopy," *J. Vis. Exp.* **2023,** *195,* e65486
▪ Invited article: Emerging Methods for Nanoscale Electrochemistry

31. J. Lee, P.B. Joshi, **A.J. Wilson*,** Y. Kim*. "Plasmon-Driven Near-Field Photopolymerization in a Gold Nanoparticle Colloid," *J. Phys. Chem. C* **2023,** *127,* 8096-8103

30. P.B. Joshi and **A.J. Wilson***. "Understanding Electrocatalysis at Nanoscale Electrodes and Single Atoms with Operando Vibrational Spectroscopy," *Curr. Opin. Green Sustain. Chem.* **2022,** *38,* 100682
▪ Invited review for the Special Issue on Nanocatalysis

29. P.B. Joshi and **A.J. Wilson***. "Plasmonically enhanced electrochemistry boosted by nonaqueous solvent," *J. Chem. Phys.* **2022,** *156,* 241101
▪ Invited article for the JCP Special Topic on Plasmon-Driven Energy Conversion

28. D. Ogulu, P.P. Bora, M. Bihani, S. Sharma, T.N. Ansari, **A.J. Wilson,** J.B. Jasinski, F. Gallou, S. Handa. "Phosphine ligand-free bimetallic Ni(0)Pd(0) nanoparticles as catalyst for facile, general, sustainable, and highly selective 1,4-reductions in aqueous micelles," *ACS Appl. Mater. Interfaces* **2022,** *14,* 6754-6761

27. P.B. Joshi, N. Karki, **A.J. Wilson***. "Electrocatalytic CO_2 reduction in acetonitrile enhanced by the local environment and mass transport of H_2O," *ACS Energy Lett.* **2022,** *7,* 602-609

26. T.N. Ansari, S. Sharma, S. Harza, J.B. Jasinski, **A.J. Wilson**, F. Hicks, D.K. Leahy, S. Handa. "Shielding effect of nanomicelles: Stable and catalytically active oxidizable Pd(0) nanoparticle catalyst compatible for cross-couplings of water-sensitive acid chlorides in water," *JACS Au* **2021,** *1,* 1506-1513

25. D. Devasia, **A.J. Wilson**, J. Heo, V. Mohan, P.K. Jain. "A rich catalog of C–C bonded species formed in CO_2 reduction on a plasmonic photocatalyst," *Nat. Commun.* **2021,** *12,* 2612
- Editors' Highlight in Catalysis

24. **A.J. Wilson** and P.K. Jain. "Light-induced voltages in catalysis by plasmonic nanostructures," *Acc. Chem. Res.* **2020,** *53,* 1773-1781
- Among most read articles, September 2020 list

23. J. Wang, J. Heo, C. Chen, **A.J. Wilson,** P.K. Jain. "Ammonia oxidation enhanced by photopotential generated by plasmonic excitation of a bimetallic electrocatalyst," *Angew. Chem. Int. Ed.* **2020,** *59,* 18430-18434
- Designated as "Hot Paper"

22. **A.J. Wilson,** D. Devasia, P.K. Jain. "Nanoscale optical imaging in chemistry," *Chem. Soc. Rev.* **2020,** *49,* 6087-6112

21. **A.J. Wilson,** V. Mohan, P.K. Jain. "Mechanistic understanding of plasmon-enhanced electrochemistry," *J. Phys. Chem. C* **2019,** *123,* 29360-29369

20. **A.J. Wilson** and P.K. Jain. "Structural dynamics of the oxygen evolving complex of Photosystem II in water-splitting action," *J. Am. Chem. Soc.* **2018,** *140,* 5853-5859

19. S. Yu, **A.J. Wilson,** J. Heo, P.K. Jain. "Plasmonic control of multi-electron transfer and C-C coupling in visible-light-driven CO2 reduction on Au nanoparticles," *Nano Lett.* **2018,** *18,* 2189-2194
- Featured on the April issue front cover
- Among most read articles, March and May 2018 list
- Featured in Chemistry World article "Forcing reactions with plasmons"
- Thomson Reuters Highly Cited (top 1%)

18. S. Yu, **A.J. Wilson,** G. Kumari, X. Zhang, P.K. Jain. "Opportunities and challenges of solar-energy-driven carbon dioxide to fuel conversion with plasmonic catalysts," *ACS Energy Lett.* **2017,** *2,* 2058-2070
▪ Among most read articles, September 2017 list
▪ Featured in virtual issue "Plasmons for Energy Conversion", *ACS Energy Lett.*, **2018,** *3,* 1467–1469

17. Z. Zhang, P. Li, Y. Tang, **A.J. Wilson,** K.A. Willets, M. Wuttig, R. Xiong, S. Ren. "Tunable electroresistance and electro-optic effects of transparent molecular ferroelectrics," *Sci. Adv.* **2017,** *3* (8), e1701008
▪ News Spotlight, Nanowerk: Advancing molecular ferroelectric thin-film technologies. http://www.nanowerk.com/spotlight/spotid=47909.php

16. Y. Kim, **A.J. Wilson,** P.K. Jain. "The nature of plasmonically assisted hot electron transfer in a donor-bridge-acceptor complex," *ACS Catal.* **2017,** *7,* 4360-4365

15. P.B. Joshi, T.P. Anthony, **A.J. Wilson,** K.A. Willets. "Imaging out-of-plane polarized emission patterns on gap mode SERS substrates: from high molecular coverage to the single molecule regime," *Faraday Discuss.* **2017,** *205,* 245-259

14. V. Sundaresan, K. Marchuk, Y. Yu, E.J. Titus, **A.J. Wilson,** C. Armstrong, B. Zhang, K.A. Willets. "Visualizing and Calculating Tip-Substrate Distance in Nanoscale Scanning Electrochemical Microscopy Using 3-Dimensional Super-Resolution Optical Imaging," *Anal. Chem.* **2017,** *89,* 922-928

13. K.A. Willets, **A.J. Wilson,** V. Sundaresan, P.B. Joshi. "Super-resolution imaging and plasmonics," *Chem. Rev.* **2017,** *117,* 7538–7582

12. S. Zaleski, M.F. Cardinal, D.V. Chulhai, **A.J. Wilson,** K.A. Willets, L. Jensen, R.P. Van Duyne. "Towards Monitoring Electrochemical Reactions with Dual-Wavelength SERS: Characterization of Rhodamine 6G (R6G) Neutral Radical Species and Covalent Tethering of R6G to Silver Nanoparticles," *J. Phys. Chem. C* **2016,** *120,* 24982-24991

11. S. Zaleski, **A.J. Wilson,** M. Mattei, X. Chen, G. Goubert, M.F. Cardin, K.A. Willets, R.P. Van Duyne. "Investigating nanoscale electrochemistry with surface- and tip-enhanced Raman spectroscopy," *Acc. Chem. Res.* **2016,** *49,* 2023-2030

10. **A.J. Wilson** and K.A. Willets. "Unforeseen distance-dependent SERS spectroelectrochemistry from surface-tethered Nile Blue: the role of molecular orientation," *Analyst* **2016,** *141,* 5144-5151

9. **A.J. Wilson,** N.Y. Molina, K.A. Willets. "Modification of the electrochemical properties of Nile Blue through covalent attachment to gold as revealed by electrochemistry and SERS," *J. Phys. Chem. C* **2016,** *120,* 21091-21098

8. **A.J. Wilson** and K.A. Willets. "Molecular Plasmonics," *Annu. Rev. Anal. Chem.* **2016,** *9,* 27-43

7. B. Xu, Z. Luo, **A.J. Wilson,** K. Chen, H.D. Chopra, X. Chen, K.A. Willets, Z. Dauter, S. Ren. "Multifunctional charge-transfer single crystals through supramolecular assembly," *Adv. Mater.* **2016,** *28,* 5322-5329

6. B. Xu, Hu. Li, Ha. Li, **A.J. Wilson,** L. Zhang, K. Chen, K.A. Willets, F. Ren, J.C. Grossman, S. Ren. "Chemically driven interfacial coupling in charge-transfer mediated functional superstructures," *Nano. Lett.* **2016,** *16,* 2851-2859

5. B. Xu, Z. Luo, W. Gao, **A.J. Wilson,** C. He, X. Chen, G. Yuan, H-L Dai, Y. Rao, K.A. Willets, Z. Dauter, S. Ren. "Solution-processed molecular opto-ferroic crystals" *Chem. Mater.* **2016,** *28,* 2441-2448

4. **A.J. Wilson,** K. Marchuk, K.A. Willets. "Imaging electrogenerated chemiluminescence at single gold nanowire electrodes," *Nano Lett.* **2015,** *15,* 6100-6115

3. M.L. Weber, **A.J. Wilson,** K.A. Willets. "Characterizing the spatial dependence of redox chemistry on plasmonic nanoparticle electrodes using correlated super-resolution SERS imaging and electron microscopy," *J. Phys. Chem. C* **2015,** *119,* 18591-18601

2. **A.J. Wilson** and K.A. Willets. "Visualizing site-specific redox potentials on the surface of plasmonic nanoparticles with super-localization SERS microscopy," *Nano Lett.* **2014,** *14,* 939-945

1. **A.J. Wilson** and K.A. Willets. "Surface-enhanced Raman scattering (SERS) imaging using noble metal nanoparticles," *WIRES Nanomedicine and Nanobiotechnology* **2013,** *5,* 180-189

PRESENTATIONS

INVITED SEMINARS

16. *Formation and dynamics of CO in CO_2 electroreduction in acetonitrile,* University of Iowa, Department of Chemistry, invited seminar, Iowa City, IA, September 28, 2023

15. *Reducing ensemble averaging for mechanistic insight in electrocatalysis,* Indiana State University, Department of Chemistry and Physics, invited seminar, Terre Haute, IN, September 5, 2023

14. *Tracking reaction intermediates in electrocatalysis with SERS microscopy,* University of Mississippi, Department of Chemistry, invited seminar, Oxford, MS, February 9, 2023

13. *Plasmons in electrocatalysis,* University of Notre Dame, Electrochemical Society Student Chapter, invited seminar, Notre Dame, IN, October 12, 2022

12. *Using plasmonics to measure and enhance electrocatalysis,* University of Iowa, Department of Chemistry, invited seminar, Iowa City, IA, March 31, 2022

11. *Using light to study and enhance electrochemistry,* University of Louisville, Society of Undergraduate Chemistry Students, invited seminar, Louisville, KY, March 7, 2022

10. *Vibrational microscopy,* Southwestern University, Department of Chemistry, invited seminar, Georgetown, TX, March 23, 2021

9. *Energy conversion and storage at the nanoscale,* University of Louisville, Society of Undergraduate Chemistry Students, invited seminar, Louisville, KY, March 15, 2021

8. *Photovoltages in plasmonic electrocatalysis,* Eastern Kentucky University, Department of Chemistry, invited seminar, Richmond, KY, February 12, 2021

7. *Accelerating electrocatalysis with plasmons,* Western Kentucky University, Department of Chemistry, invited seminar, Bowling Green, KY, September 18, 2020

6. *Synergy between nanoplasmonics and electrochemistry,* Brandeis University, Department of Chemistry, invited seminar, Waltham, MA, December 9, 2019

5. *Synergy between nanoplasmonics and electrochemistry,* University of Louisville, Department of Chemistry, invited seminar, Louisville, KY, November 21, 2019

4. *Synergy between nanoplasmonics and electrochemistry,* Oak Ridge National Laboratory, invited seminar, Oak Ridge, TN, November 18, 2019

3. *Watching chemistry at the nanoscale with in situ SERS microscopy,* Sandia National Laboratories, invited seminar, Albuquerque, NM, April 15, 2019

2. *Watching chemistry at the nanoscale with SERS microscopy,* Marquette University, Department of Chemistry, invited seminar, Milwaukee, WI, January 14, 2019

1. *Watching chemistry at the nanoscale with SERS microscopy,* Mississippi State University, Department of Chemistry, invited seminar, Mississippi State, MS, November 29, 2018

INVITED CONFERENCE PRESENTATIONS

7. *TBA,* Gordon Research Seminar, Noble Metal Nanoparticles, invited keynote address, Mount Holyoke College, South Hadley, MA, June 15, 2024

6. *Local heating, hot charge carrier, and solvent effects in plasmon-assisted electrochemistry,* Gordon Research Conference, Electrochemistry, invited talk, Ventura, CA, January 8, 2024

5. *Measuring the temporal evolution of surface intermediates in electrocatalysis,* ECS National Meeting, invited talk, Boston, MA, May 31, 2023

4. *Tracking surface intermediates in electrocatalysis with time-resolved electrochemical SERS microscopy,* ACS National Meeting, invited talk, Indianapolis, IN, March 28, 2023

3. *Plasmon-enhanced electrochemistry in nonaqueous solvent,* SciX Conference, Surface Plasmon Resonance (Plasmonics), invited talk, Covington, KY, October 3, 2022

2. *Tracking reaction intermediates in electrocatalysis with high spatiotemporal resolution,* ACS National Meeting, invited talk, Chicago, IL, August 24, 2022

1. *Boosting electrocatalytic activity with plasmonic electrodes,* BK 21 Four International Symposium: Materials for Solar Energy Harvesting & Utilization, Yeungnam University, invited virtual oral presentation, Gyeongsan, South Korea, January 21, 2021

CONTRIBUTED PRESENTATIONS

15. *Probing local environments and the dynamics of electrocatalytic CO_2 reduction in acetonitrile with spatiotemporally-resolved SERS spectroscopy,* Gordon Research Conference, Electrochemistry, poster, Ventura, CA, September 11-16, 2022

14. *CO_2 Reduction in Acetonitrile Enhanced by Electrolyte-assisted Mass Transport of Water,* ACS Southeastern Regional Meeting, oral presentation, Birmingham, AL, November 10, 2021

13. *Enhancing laboratory preparation with Perusall,* University of Louisville, Seminar on Teaching for New Faculty, poster, Louisville, KY, April 7, 2021

12. *Photosynthesis in Photosystem II-Plasmonic Hybrid Photocatalysts,* Gordon Research Conference, Renewable Energy: Solar Fuels, poster, Ventura, CA, January 28-February 2, 2017

11. *Structural Analysis of the Oxygen Evolving Complex Using Low Frequency SERS,* International Symposium on Molecular Spectroscopy, oral presentation, Champaign-Urbana, IL, June 21, 2017

10. *Probing Nanoelectrochemistry with Optical Microscopy,* ACS National Meeting, oral presentation, Philadelphia, PA, August 23, 2016

9. *Optical Readouts of Nanoelectrochemistry on Plasmonic Electrodes,* Philadelphia Electrochemical Society Symposium, poster, Drexel University, Philadelphia, PA, April 28, 2016

8. *Spectroelectrochemical Microscopy on Plasmonic Nanoparticle Electrodes,* MRS Spring Meeting, poster, Phoenix, AZ, March 28-April 1, 2016

7. *Plasmon-assisted Electrochemistry,* Temple Materials Institute Inaugural Meeting, poster, Philadelphia, PA, March 1, 2016

6. *Optical Readouts of Electrochemistry on Plasmonic Nanoparticle Electrodes,* Nano Portfolio Program, oral presentation, The University of Texas at Austin, Austin, TX, December 2015
   - Won oral presentation competition

5. *Electrochemistry on Plasmonic Nanoparticle Electrodes,* ACS National Meeting, oral presentation, Denver, CO, March 22-26, 2015

4. *Plasmon-mediated electrochemical reactions,* Gordon Research Conference: Plasmonics, poster, Newry, ME, July 6-11, 2014

3. *Visualizing Site-Specific Redox Potentials on the Surface of Plasmonic Nanoparticles*, Nano Night annual poster session, Center for Nano- and Molecular Science, The University of Texas at Austin, Austin, TX, March 26, 2014

2. *Visualizing Site-Specific Redox Potentials on the Surface of Plasmonic Nanoparticles*, 2014 CEC Annual Workshop on Electrochemistry, poster, Austin, TX, February 8-9, 2014

1. *Electron transfer rates of Cobalt (III) tris(1,10-phenanthroline)*, Analytical Chemistry Award, poster, Iowa City, IA, May 2009

CO-AUTHORED PRESENTATIONS

12. J. Adkins‡ and A.J. Wilson. "*Directing the size and dispersity of silver nanoparticles with kudzu extracts,"* Undergraduate Arts & Research Showcase, poster, Louisville, KY, April 21, 2023

11. N. Karki and A.J. Wilson. "*Tuning the selectivity of electrocatalytic CO_2 reduction with an external magnetic field,"* ACS Energy and Fuels Student Travel Award competition, poster, Indianapolis, IN, March 28, 2023

10. N. Karki and A.J. Wilson. "*Tuning the selectivity of electrocatalytic CO_2 reduction with an external magnetic field,"* ACS National Meeting, oral presentation, Indianapolis, IN, March 27, 2023

9. P.B. Joshi and A.J. Wilson. "*Improving plasmonic enhancement in electrochemistry using nonaqueous solvents,"* ACS National Meeting, poster, Indianapolis, IN, March 27, 2023

8. J. Adkins‡ and A.J. Wilson. "*Synthesis of silver nanoparticles using kudzu extract,"* ACC Meeting of the Minds Undergraduate Research Conference, oral presentation, Blacksburg, VA, March 25, 2023

7. N. Karki and A.J. Wilson. "*Effects of an external magnetic field in electrocatalytic CO_2 reduction,"* Graduate Student Regional Research Conference, poster, Louisville, KY, March 23, 2023

6. J.V. Hemmer, P.B. Joshi, A.J. Wilson. "*Measuring intermediates of electrochemical CO_2 reduction with spatially and temporally resolved SERS spectroscopy,"* Graduate Student Regional Research Conference, poster, Louisville, KY, March 23, 2023

5. Md Al Amin and A.J. Wilson. "*Isolation and quantification of photothermal heating in plasmon-enhanced electrochemistry,"* Graduate Student Regional Research Conference, poster, Louisville, KY, March 23, 2023

4. N. Karki and A.J. Wilson. "*Effects of an external magnetic field in electrocatalytic CO_2 reduction,"* Graduate Student Regional Research Conference, oral presentation, Louisville, KY, March 22, 2023

3. P.B. Joshi and A.J. Wilson. "*Plasmonics for understanding and enhancing electrochemistry in nonaqueous solvent,"* Midwest Universities Analytical Chemistry Conference, poster, Cincinnati, OH, October 28, 2022
   ▪ Best Poster Award

2. P.B. Joshi and A.J. Wilson. "*Engineering the local environment and mass transport of proton donors to enhance proton-coupled electrochemical reactions,"* ACS National Meeting, oral presentation, Chicago, IL, August 24, 2022

1. J. Adkins‡ and A.J. Wilson. "*Synthesis of silver nanoparticles using plant-based extract,"* Summer Research Showcase, poster, Louisville, KY, August 5, 2022

TEACHING EXPERIENCE

University of Louisville
- **Chem 625,** Advanced Analytical Chemistry F22, S24
- **Chem 426,** Instrumental and Statistical Analysis Laboratory – WR F22, F23
- **Chem 620,** Optical Spectrochemical Methods of Analysis S22
- **Chem 691/692,** Research S21, Su21, F21, S22, S23, Su23, F23
- **Chem 391/392/491/492,** Undergraduate Research – CUE S21, Su21, F21, S22, F22
- **Chem 527,** Introduction to Separations and Spectroscopy – WR F20, F21

Temple University
- **Chem 8300,** Optical Spectroscopy and Microscopy S16

University of Texas at Austin
- **Chemistry 455,** Fundamentals of Analytical Chemistry S13, S12
- **Chemistry 456,** Analytical Chemistry F11, S12, F12
- **Chemistry 302,** Principles of Chemistry II Su12
- **Chemistry 376K**, Advanced Analytical Chemistry S11
- **Chemistry 456,** Analytical Chemistry Laboratory F10

RESEARCH MENTORING

Graduate students
- Md Al Amin, November 2020 – present
- Nawaraj Karki, January 2021 – present
  ▪ Graduate Student Council Travel Award, S23 & F23
  ▪ Outstanding Chemistry Student Award, Louisville ACS Local Section, 2023
  ▪ Chemistry Graduate Students Association, President, 2023-2024
- Johann Hemmer, December 2022 – present
  ▪ Most Auspicious First Year Award, UofL Chemistry Department, 2023
  ▪ Chemistry Graduate Students Association, Vice President, 2023-2024
- Amandeep Kaur, May 2023 – present
- Fredrick Mufoyongo, May 2023 – present

Undergraduate students
- Ayan Abdi, January 2023 – present
  ▪ 2023 Summer Research Opportunity Program (declined)

Alumni

- Kyle Barnett, January 2021 – April 2021 (undergraduate researcher)
- Virginia Noe, August 2021 – December 2021 (undergraduate researcher)
  - 2022 Summer Research Opportunity Program (declined)
- Hoang Gia An Tran, June 2021 – April 2022 (undergraduate researcher)
  - Awarded an EVPRI Undergraduate Research Scholar Grant, 8/9/2021-8/10/2022
  - University Fellow, University of Louisville Graduate School, 2022
- Jaley Adkins, January 2022 – May 2023 (undergraduate researcher)
  - 2022 Summer Research Opportunity Program
  - 2023 ACC Meeting of the Minds Conference
- Dr. Padmanabh B. Joshi, May 2021 – July 2023 (postdoctoral researcher)
  - 2022 Midwest Universities Analytical Chemistry Conference best poster award

SERVICE

10. Past Chair, Electrochemical Society Mid-America Section, 2023 – 2025

9. Chair, Electrochemical Society Mid-America Section, 2021 – 2023

8. Member, Lab Fees Committee, Department of Chemistry, University of Louisville, Fall 2021 – present

7. Chemistry Representative, Department Teaching Evaluation Program, College of Arts & Sciences, University of Louisville, AY21-22

6. Director, Undergraduate Research, Department of Chemistry, University of Louisville, Spring 2021 – present

5. Member, Graduate Admissions Committee, Department of Chemistry, University of Louisville, Fall 2020 – present

4. Member, Stockroom Manager Search Committee, Department of Chemistry, University of Louisville, Fall 2020

3. Committee member of 15 Ph.D. students, 2020 – present

2. Reviewer Board, *Nanomaterials*, 2020 – present

1. Invited peer reviewer: *National Science Foundation, Department of Energy, American Chemical Society Petroleum Research Fund, Journal of the American Chemical Society, ACS Energy Letters, Science Advances, ACS Catalysis, Journal of Catalysis, Nature Communications, Nano Letters, Nature Reviews Chemistry, Advanced Materials, ACS Photonics, ACS Nano, ACS Applied Materials & Interfaces, Journal of Physical Chemistry, Journal of Chemical Physics, Current Opinion in Electrochemistry, ACS Sustainable Chemistry & Engineering, MRS Communications, Laser & Photonics Reviews, Sensors, Nanomaterials, Catalysts, Leverhulme Trust (UK), Micromachines*

PROFESSIONAL SOCIETIES

- Electrochemical Society (ECS)

- American Chemical Society (ACS)
- Kentucky Academy of Sciences (KAS)

OUTREACH

AT UNIVERSITY OF LOUISVILLE

- Outreach experiment coordinator, "Synthesis and optical characterization Ag and Au nanoparticles," Fairdale High School, Louisville, KY, October 25, 2023
- Judge, Science Fair, Fairdale High School, Louisville, KY, May 23, 2023
- The Cardinal Edge, "Pasta, Pizza, and Profs," University of Louisville, March 21, 2023
- First-Gen Cards Networking Luncheon, University of Louisville, February 28, 2023
- Invited talk, University of Louisville, Society of Undergraduate Chemistry Students, Louisville, KY, February 6, 2023
- Invited talk, Undergraduate Research Forum, Alpha Epsilon Delta, University of Louisville, December 1, 2022
- Outreach experiment coordinator, "Synthesis and optical characterization of Ag nanoparticles," Fairdale High School, Louisville, KY, November 17, 2022
- Louis Stokes Alliance for Minority Participation, Speed Networking for Pre-Professional and Graduate Students, University of Louisville, September 27, 2022
- Guest lecturer, "Nanomaterials, microscopy, and chemistry," Fairdale High School, Louisville, KY, March 25, 2022
- Invited talk, Multicultural Association of Pre-Health Students, University of Louisville, March 21, 2022
- Chemistry representative, Cardinal Preview Day, University of Louisville, October 16, 2021
- Panelist, Undergraduate Research Forum, Alpha Epsilon Delta, University of Louisville, September 16, 2021
- Seminar, "Undergraduate Research in Chemistry," University of Louisville, August 25, 2021
- Judge, Graduate Student Regional Research Conference, University of Louisville, Louisville, KY, March 11, 2021
- High School STEM Teacher-University Researcher Network, Collaborative initiative between the National Science Teachers Association, the Tri-Services (Army, Navy, Air Force), and UofL's College of Education and Human Development, October 8, 2020, virtual event

PRIOR TO UNIVERSITY OF LOUISVILLE

- Parkland Community College research shadow mentor, Younger Chemists Committee, East Central Illinois ACS Local Section, Urbana, IL, July 30, 2018
- Post-doc career panelist, Younger Chemists Committee, East Central Illinois ACS Local Section, Urbana, IL, May 15, 2018
- Committee member, Physical Chemistry Seminars, UIUC, 2017-2018
- Station leader, Women's Chemist Committee Day Camp, "Nanochemistry," Urbana, IL, June 24 & July 8, 2017

- Light/Matter Interactions at the Nano-Bio Interface, workshop participant, University of Illinois at Urbana-Champaign, IL, November 28-29, 2016
- Chemistry After Dark, "Probing Nanoelectrochemistry with Optical Microscopy," Temple University, Philadelphia, PA, August 26, 2016, oral presentation
- Welch Summer Scholar Program, "Metal Nanoparticles and Color", Austin, TX, July 3, 2014, oral presentation
- GirlStart Conference in STEM,
    - "Chemistry in Action", Austin, TX, March 26, 2014
    - "Exploring the Nanoworld: How do we "see' what we cannot see?", Austin, TX, March 26, 2011
- Explore UT volunteer, Superabsorbent polymer demonstration, K-12, Austin, TX, 2011
- Judge
    - East Central Illinois ACS Undergraduate Research Conference, Urbana, IL, October 14, 2017
    - Rao Prize Competition, International Symposium on Molecular Spectroscopy, UIUC, Urbana, IL, 2017
    - Undergraduate Research Symposium, UIUC, Urbana, IL, April 27, 2017
    - Undergraduate Research Symposium, Temple University: College of Science & Technology, Philadelphia, PA, September 16, 2016
    - Undergraduate Research Symposium, Temple University: College of Science & Technology, Philadelphia, PA, September 17, 2015
    - "Safety Madness", UT Austin, 2014