

Kathryn E. Knowles
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Appointments

July 2023-Present **Associate Professor of Chemistry, *University of Rochester***

September 2017-
Present **Affiliated Faculty in Materials Science Program, *University of Rochester***

July 2016-2023 **Assistant Professor of Chemistry, *University of Rochester***

Education and Research Experience

August 2013 – May
2016 **Postdoctoral Research Associate, *University of Washington***
Advisor: Daniel R. Gamelin, Department of Chemistry
Synthesis and investigation of the luminescence of copper-containing colloidal semiconductor nanocrystals

September 2008 –
June 2013 **Ph.D. in Inorganic Chemistry, *Northwestern University***
Advisor: Emily A. Weiss
Thesis: “Decay and Dissociation of Excitons in Colloidal Semiconductor Quantum Dots in the Presence of Small Molecules”

September 2004 –
May 2008 **B.S. in Chemistry with Highest Distinction, *University of Rochester***
Summa Cum Laude
Research Advisor: Richard Eisenberg
Thesis: “Exploring Cobaloximes as Molecular Catalysts in a Multi-Component System for the Photocatalytic Production of Hydrogen from Water”

September 2004 –
May 2008 **B.A. in Mathematics with Highest Distinction, *University of Rochester***
Summa Cum Laude

Summer 2007 **NSF Summer REU, *North Carolina State University***
Advisor: Paul Maggard, Department of Chemistry
Synthesis, characterization, and photocatalytic activity of copper niobates

Summer 2003 **High School Summer Research Program, *University of Rochester***
Advisor: Jacques Deleltrez, Laboratory of Laser Energetics

Awards

- National Science Foundation Early CAREER Award, 2021
- Scialog Fellow: Negative Emissions Sciences, 2020-2022
- *Dalton Transactions*, New Talent Americas, 2020
- ACS Petroleum Research Fund, Doctoral New Investigator Award, 2019
- *Journal of Materials Chemistry C* Emerging Investigator, 2018
- University of Rochester Furth Fund Award, 2018
- Department of Energy EERE Postdoctoral Research Award, 2014-2016
- Northwestern University Presidential Fellowship, 2012-2013

- Joseph Lambert Award for Excellence in Junior Graduate Research, 2011
- Department of Energy Office of Science Graduate Research Fellowship, 2010-2013
- National Science Foundation Graduate Research Fellowship Awardee, 2010
- Northwestern Materials Research Science and Engineering Center Fellowship, 2010
- Dr. E. W. and Maude V. Flagg Award, *University of Rochester* 2008
- Doris Ermine Smith Award, *University of Rochester* 2008
- Barry M. Goldwater Scholarship, 2007-2008
- Catherine M. Block Memorial Fund Prize, *University of Rochester* 2007
- Merck Scholar Award for Achievement in Chemistry, 2007
- Elected to Phi Beta Kappa, 2007

Publications

*denotes corresponding authorship #denotes undergraduate co-author †denotes equal contributions

21. Rajan, R.; Craddock, E. P.; **Knowles, K. E.*** Impact of Composition on the Optical Properties of Colloidal Ternary Spinel Oxide Nanocrystals: Spinel Ferrites versus Spinel Gallates. *Chem. Mater.* **2026**, *38*, 4561-4569.
20. Craddock, E. P.; **Knowles, K. E.*** Signatures of photogenerated polarons in transition metal oxides. *Chem. Commun.* **2026**, *62*, 3151-3166. (Invited Perspective)
19. Rajan, R.; Scalia, J. C.; De Jesús Báez, L. R.; **Knowles, K. E.*** Ligand-Dependent Optical Properties of Colloidal Ternary Spinel Oxide Nanocrystals Containing Transition Metals. *Inorg. Chem.* **2025**, *64*, 15152-15164.
18. Craddock, E. P.; Shelton, J. L.; Ruggiero, M. T.; **Knowles, K. E.*** Local coordination geometry within cobalt spinel oxides mediates photoinduced polaron formation. *Chem. Sci.* **2025**, *16*, 10759-10770.*
*Designated a "2025 Most Popular Physical Chemistry Paper"
17. Valerio, L. R.; Chowdhury, S. R.; Lewis, R.; **Knowles, K. E.***; Vlasisavljevich, B.*; Matson, E. M.* Photoluminescence of a Uranium(IV) Alkoxide Complex. *JACS Au*, **2025**, *5*, 332-342.
16. Maldonado-Lopez, D.; Huang, P.-W.; Sanchez-Lievanos, K. R.; Jana, G.; Mendoza-Cortes, J. L.*; **Knowles, K. E.***; Hatzell, M. C.* Nitrogen-containing Surface Ligands Lead to False Positives for Photofixation of N₂ on Metal Oxide Nanocrystals: An Experimental and Theoretical Study. *Adv. Funct. Mater.*, **2025**, *35*, 2413319.
15. Sanchez-Lievanos, K. R.; Sun, T.; Gendrich, E. A.#; **Knowles, K. E.*** Surface Adsorption and Photoinduced Degradation: A Study of Spinel Ferrite Nanomaterials for Removal of a Model Organic Pollutant from Water. *Chem. Mater.* **2024**, *36*, 3981-3998. (Invited Perspective)
14. Ramírez, E.; Carmona-Pérez, D.; Marco, J. F.; Sanchez-Lievanos, K. R.; Sabinas-Hernández, S. A.; **Knowles, K. E.**; Elizalde-González, M. P. Comparison of MAF-32 and a One-Pot Synthesized Superparamagnetic Iron Oxide/MAF-32 Composite for the Adsorption of Diclofenac. *Materials*, **2024**, *17*, 2269.
13. Beidelman, B. A.; Zhang, X.#; Matson, E. M.; **Knowles, K. E.*** Acidity of Carboxylic Acid Ligands Influences the Formation of VO₂(A) and VO₂(B) Nanocrystals under Solvothermal Conditions. *ACS Nanosci. Au*, **2023**, *3*, 381-388.
12. Shelton, J. L.; **Knowles, K. E.*** Polaronic Optical Transitions in Hematite (α -Fe₂O₃) Revealed by First-Principles Electron-Phonon Coupling. *J. Chem. Phys.*, **2022**, *157*, 174703.
11. Beidelman, B. A.; Zhang, X.#; Sanchez-Lievanos, K. R.; Selino, A. V.#; Matson, E. M.*; **Knowles, K. E.*** Influence of Water Concentration on the Solvothermal Synthesis of VO₂(B) Nanocrystals, *CrystEngComm*, **2022**, *24*, 6009-6017.
10. Sanchez-Lievanos, K. R.; **Knowles, K. E.*** Controlling Cation Distribution and Morphology in Colloidal Zinc Ferrite Nanocrystals. *Chem. Mater.*, **2022**, *34*, 7446-7459.*

*Awarded Honorable Mention for *Chemistry of Materials* Best Paper Award and highlighted in the associated editorial: Skrabalak, S. E. *Chem. Mater.*, **2023**, *35*, 9447.

9. Chakraborty, S.[‡]; Schreiber, E.[‡]; Sanchez-Lievanos, K. R.; Tariq, M.; Brennessel, W. W.; **Knowles, K. E.**; Matson, E. M.* Modelling local structural and electronic consequences of proton and hydrogen-atom uptake in VO₂ with polyoxovanadate clusters. *Chem. Sci.*, **2021**, *12*, 12744-12753.
8. Brewster, D. A.[‡]; Koch, M. D.[‡]; **Knowles, K. E.*** Evaluation of electrochemical properties of nanostructured metal oxide electrodes immersed in redox-inactive organic media. *Phys. Chem. Chem. Phys.*, **2021**, *23*, 17904-17916.
7. Shelton, J. L.; **Knowles, K. E.*** Thermally Activated Optical Absorption into Polaronic States in Hematite. *J. Phys. Chem. Lett.*, **2021**, *12*, 3343-3351.
6. Sanchez-Lievanos, K. R.; Stair, J.; **Knowles, K. E.*** Cation Distribution in Spinel Ferrite Nanocrystals: Characterization, Impact on Physical Properties, and Opportunities for Synthetic Control. *Inorg. Chem.*, **2021**, *60*, 4291-4305. (Invited contribution to the "Forum on the Inorganic Chemistry of Nanoparticles")
5. Sanchez-Lievanos, K. R.; Tariq, M.; Brennessel, W. W.; **Knowles, K. E.*** Heterometallic Trinuclear Oxo-centered Clusters as Single-Source Precursors for Synthesis of Stoichiometric Monodisperse Transition Metal Ferrite Nanocrystals. *Dalton Trans.*, **2020**, *49*, 16348-16358. (Invited Contribution to the *New Talent: Americas* Issue, designated a HOT article)
4. Brewster, D. A.; Bian, Y.[#]; **Knowles, K. E.*** Direct Solvothermal Synthesis of Phase-Pure Colloidal NiO Nanocrystals. *Chem. Mater.*, **2020**, *32*, 2004-2013.
3. Tariq, M.; Koch, M. D.; Andrews, J. W.; **Knowles, K. E.*** Correlation Between Surface Chemistry and Optical Properties in Colloidal Cu₂O Nanoparticles. *J. Phys. Chem. C*, **2020**, *124*, 4810-4819.
2. Brewster, D. A.; Sarappa, D. J.[#]; **Knowles, K. E.*** Role of Aliphatic Ligands and Solvent Composition in the Solvothermal Synthesis of Iron Oxide Nanocrystals. *Polyhedron*, **2019**, *157*, 54-62.
1. **Knowles, K. E.***; Koch, M. D.[‡]; Shelton, J. L.[‡] Three Applications of Ultrafast Transient Absorption Spectroscopy of Semiconductor Thin Films: Spectroelectrochemistry, Microscopy, and Identification of Thermal Contributions. *J. Mater. Chem. C* **2018**, *6*, 11853-11867. (Invited Contribution to *2018 Emerging Investigators* Issue)

Prior to University of Rochester

25. Marchioro, A.; Whitham P. J.; Nelson, H. D.; De Siena, M. C.; **Knowles, K. E.**; Polinger, V. Z.; Reid, P. J.; Gamelin, D. R.* Strong Dependence of Quantum-Dot Delayed Luminescence on Excitation Pulse Width. *J. Phys. Chem. Lett.* **2017**, *8*, 3997-4003.
24. Marchioro, A.; Whitham, P. J.; **Knowles, K. E.**; Kilburn, T. B.; Reid, P. J.; Gamelin, D. R.* Tunneling in the Delayed Luminescence of Colloidal CdSe, Cu⁺-Doped CdSe, and CuInS₂ Semiconductor Nanocrystals, and Relationship to Blinking. *J. Phys. Chem. C* **2016**, *120*, 27040-27049.
23. Yang, L.[#]; **Knowles, K. E.**; Gopalan, A.[#]; Hughes, K. E.; James, M. C.[#]; Gamelin, D. R. One-Pot Synthesis of Monodisperse Colloidal Copper-Doped CdSe Nanocrystals Mediated by Ligand-Copper Interactions. *Chem. Mater.* **2016**, *28*, 7375-7384.
22. Whitham, P. J.; Marchioro, A.; **Knowles, K. E.**; Kilburn, T. B.; Reid, P. J.; Gamelin, D. R.* Single-Particle Photoluminescence Spectra, Blinking, and Delayed Luminescence of Colloidal CuInS₂ Nanocrystals. *J. Phys. Chem. C* **2016**, *120*, 17136-17142.
21. **Knowles, K. E.***; Hartstein, K. H.; Kilburn, T. B.; Marchioro, A.; Nelson, H. D.; Whitham, P. J.; Gamelin, D. R.* Luminescent Colloidal Semiconductor Nanocrystals Containing Copper: Synthesis, Photophysics, and Applications. Invited Review, *Chem. Rev.* **2016**, *116*, 10820-10851.
20. **Knowles, K. E.**; Nelson, H. D.; Kilburn, T. B.; Gamelin, D. R.* Singlet-Triplet Splittings in the Luminescent Excited States of Colloidal Cu⁺:CdSe, Cu⁺:InP, and CuInS₂ Nanocrystals: Charge-Transfer Configurations and Self-Trapped Excitons, *J. Am. Chem. Soc.* **2015**, *137*, 13138-13147.

19. Schimpf, A. M.; **Knowles, K. E.**; Carroll, G. M.; Gamelin, D. R.* Electronic Doping and Redox-Potential Tuning in Colloidal Semiconductor Nanocrystals, *Acc. Chem. Res.* **2015**, *48*, 1929-1937.
18. Whitham, P. J.; **Knowles, K. E.**; Reid, P. J.; Gamelin, D. R.* Photoluminescence Blinking and Reversible Electron Trapping in Copper-Doped CdSe Nanocrystals, *Nano Lett.* **2015**, *15*, 4045-4051.
17. **Knowles, K. E.**; Kilburn, T. B.; Alzate, D. G.[#]; McDowall, S.; Gamelin, D. R.* Bright CuInS₂/CdS Nanocrystal Phosphors for High-Gain Full-Spectrum Luminescent Solar Concentrators, *Chem. Commun.* **2015**, *51*, 9129-9132.
16. Bradshaw, L. R.; **Knowles, K. E.**; McDowall, S.; Gamelin, D. R.* Nanocrystals for Luminescent Solar Concentrators, *Nano Lett.* **2015**, *15*, 1315-1323.
Featured in *Nature: News and Views*: Debije, M. Renewable Energy: Better luminescent solar panels in prospect. *Nature* **2015**, *519*, 298.
15. Lefler, K. M.; Brown, K. E.; Salamant, W. A.; Dyar, S. M.; **Knowles, K. E.**; Wasielewski, M. R.* Triplet State Formation in Photoexcited Slip-Stacked Perylene-3,4:9,10-bis(dicarboximide) Dimers on a Xanthene Scaffold, *J. Phys. Chem. A* **2013**, *117*, 10333-10345.
14. **Knowles, K. E.**; Tagliacucchi, M.; Malicki, M.; Swenson, N. K.; Weiss, E. A.* Electron Transfer as a Probe of the Permeability of Organic Monolayers on the Surfaces of Colloidal PbS Quantum Dots, *J. Phys. Chem. C* **2013**, *117*, 15849-15857.
13. **Knowles, K. E.**; Peterson, M. D.; McPhail, M R.; Weiss, E. A.* Exciton Dissociation within Quantum Dot-Organic Complexes: Mechanisms, Use as a Probe of Interfacial Structure, and Applications, *J. Phys. Chem. C* **2013**, *117*, 10229-10243.
12. **Knowles, K. E.**; Malicki, M.; Parameswaran, R.; Cass, L. C.; Weiss, E. A.* Spontaneous Multi-Electron Transfer from the Surfaces of PbS Quantum Dots to Tetracyanoquinodimethane, *J. Am. Chem. Soc.* **2013**, *135*, 7264-7271.
11. **Knowles, K. E.**; Malicki, M.; Weiss, E. A.* Dual-Timescale Photoinduced Electron Transfer from PbS Quantum Dots to a Molecular Acceptor, *J. Am. Chem. Soc.* **2012**, *134*, 12470-12473.
10. Malicki, M.; **Knowles, K. E.**; Weiss, E. A.* Gating of Hole Transfer from Photoexcited PbS Quantum Dots to Aminoferrocene by the Ligand Shell of the Dots, *Chem. Commun.* **2013**, *49*, 4400-4402.
9. Evans, C. M.; Cass, L. C.; **Knowles, K. E.**; Tice, D. B.; Chang, R. P. H.; Weiss, E. A.* Review of the Synthesis and Properties of Colloidal Quantum Dots: The Evolving Role of Coordinating Surface Ligands, *J. Coord. Chem.* **2012**, *65*, 2391-2414.
8. **Knowles, K. E.**; Frederick, M. T.; Tice, D. B.; Morris-Cohen, A. J.; Weiss, E. A.* Colloidal Quantum Dots: Think Outside the (Particle-in-a-)Box, *J. Phys. Chem. Lett.* **2012**, *3*, 18-26.
7. **Knowles, K. E.**; McArthur, E. A.; Weiss, E. A.* A Multi-Timescale Map of Radiative and Nonradiative Decay Pathways for Excitons in CdSe Quantum Dots. *ACS Nano* **2011**, *5*, 2026-2035.
6. Frederick, M. T.; Achtyl, J. A.; **Knowles, K. E.**; Weiss, E. A.*; Geiger, F. M.* Surface-Amplified Ligand Disorder in CdSe Quantum Dots Determined by Electron and Coherent Vibrational Spectroscopies, *J. Am. Chem. Soc.* **2011**, *133*, 7476-7481.
5. Donakowski, M. D.; Godbe, J. M.[#]; Sknepnek, R.; **Knowles, K. E.**; Olvera de la Cruz, M.; Weiss, E. A.* A Quantitative Description of the Binding Equilibria of para-Substituted Aniline Ligands and CdSe Quantum Dots. *J. Phys. Chem. C* **2010**, *114*, 22526-22534.
4. McArthur, E. A.; Morris-Cohen, A. J.; **Knowles, K. E.**; Weiss, E. A.* Charge Carrier Resolved Relaxation of the First Excitonic State in CdSe Quantum Dots Probed with Near-Infrared Transient Absorption Spectroscopy, *J. Phys. Chem. B* **2010**, *114*, 14514-14520.
3. Morris-Cohen, A. J.; Donakowski, M. D.; **Knowles, K. E.**; Weiss, E. A.* The Effect of a Common Purification Procedure on the Chemical Composition of Surfaces of CdSe Quantum Dots Synthesized with Trioctylphosphine Oxide (TOPO), *J. Phys. Chem. C* **2010**, *114*, 897-906.

2. **Knowles, K. E.**; Tice, D. B.; McArthur, E. A.; Solomon, G. C.; Weiss, E. A.* Chemical Control of the Photoluminescence of CdSe Quantum Dot-Organic Complexes with a Series of Para-Substituted Aniline Ligands, *J. Am. Chem. Soc.* **2010**, *132*, 1041-1050.
1. Du, P.; **Knowles, K.**[#]; Eisenberg, R.* A Homogeneous System for the Photogeneration of Hydrogen from Water Based on a Platinum(II) Terpyridyl Acetylde Chromophore and a Molecular Cobalt Catalyst, *J. Am. Chem. Soc.* *130*, **2008**, 12576-12577.

Patents

Patrick, D.; Gilbertson, J.; McDowall, S.; Erickson, C.; Gamelin, D. R.; Bradshaw, L.; McLaurin, E. J.; **Knowles, K. E.** Photoluminescent Semiconductor Nanocrystal-Based Luminescent Solar Concentrators. U.S. Patent 9,964,680 B2, May 8, 2018.

Funding

Active Support

University of Rochester Pump Primer II Award (PI) 2026
"Impacts of Surface Chemistry on Excited State Dynamics and Photoinduced Charge Transfer from Colloidal Spinel Oxide Nanocrystals"

Department of Energy Catalysis Science Program (DE-SC0026197, PI) 2025-2028
"Structure-Function Relationships that Dictate the Mechanism of Small Molecule Activation on the Surfaces of Ternary Spinel Oxide Electrocatalysts"

Completed Support

University of Rochester University Research Award (PI) 2024-2025
"Heterobimetallic Complexes as Molecular Models of Ternary Spinel Oxide Electrocatalysts"

National Science Foundation CAREER Award (CHE-2044462, PI) 2021-2026
"CAREER: CAS: Combining Main Group and Transition Metals to Tune the Electronic Structure, Photophysics, and Photocatalytic Activity of Spinel Oxide Nanocrystals"

Scialog: Negative Emissions Sciences Project Grant (co-PI) 2022-2024
 (Sponsored by the Alfred P. Sloan Foundation)
"Photochemical Amine Production from N₂ and CO₂"

University of Rochester University Research Award (PI) 2022-2023
"Photoinduced Polaron Formation in Lead Halide Perovskite Semiconductors"

ACS Petroleum Research Fund Doctoral New Investigator Award (PI) 2020-2023
"Colloidal Copper and Copper(I) Oxide Nanocrystals as Redox-Tunable Multi-Functional Catalysts and Photocatalysts for Cross-Coupling Reactions"

NSF Standard Grant (CHE-1900125, co-PI) 2019-2023
"Collaborative Research: Investigating Photoinduced Charge Transfer Dynamics Across Molecule-Nanocrystal Interfaces"

Scialog: Negative Emissions Sciences Project Grant (co-PI) 2021-2022
 (Sponsored by the Alfred P. Sloan Foundation)
"Integrated Low-Temperature Electrified Process for CO₂ Direct Air Capture and Transformation to Solid Carbon"

University of Rochester University Research Award (PI) 2019-2020
"Polyoxovanadate Clusters as Single-Source Precursors for Colloidal Vanadium Oxide Nanocrystals"

University of Rochester Furth Fund Award (PI) 2018-2019

"Charge Carrier Dynamics at Metal Oxide Semiconductor/Electrolyte Interfaces"

Invited Presentations

Gordon Research Conference on Inorganic Chemistry, June 2026
Materials Research Society Spring National Meeting, Honolulu, HI, April 2026
Brandeis University, February 2026
Gordon Research Conference on Colloidal Semiconductor Nanocrystals, July 2024
American Chemical Society National Meeting, New Orleans, LA, March 2024
Syracuse University, November 2023
University of Richmond, October 2023
American Chemical Society National Meeting, San Francisco, CA, August 2023
Nanocrystals Northwest, July 2023
University of Washington, March 2023
Youngstown State University, December 2022
Northeast Regional Meeting of the American Chemical Society, October 2022
International Solvothermal and Hydrothermal Association, September 2022
Lehigh University, September 2022
American Chemical Society National Meeting, Chicago, IL August 2022
Cornell University, May 2022
University of Arkansas, April 2022
Rochester Collegiate Research Symposium, Keynote Speaker, April 2022
University of Oregon, April 2022
Notre Dame University, April 2022
University of Pennsylvania, March 2022
University of Vermont, March 2022
University of Michigan, February 2022
Pennsylvania State University, February 2022
University of Iowa, February 2022
Vanderbilt University, February 2022
Canisius College, February 2022
University of North Carolina, February 2022
American Chemical Society National Meeting, Fall 2021
Photochemistry Spotlight, July 2021
SUNY Buffalo, Graduate Student Symposium, Keynote Speaker June 2021
American Chemical Society National Meeting, Spring 2021
SUNY Potsdam, October 2020
American Chemical Society National Meeting, Fall 2020
Kenyon College, April 2020 (Cancelled due to COVID-19)
2020 NAGC Meeting, Cyprus (Cancelled due to COVID-19)
ACS National Meeting, Philadelphia, PA Spring 2020 (Cancelled due to COVID-19)
Canadian Society of Chemistry Annual Meeting, Quebec City, June 2019
Materials Research Society Spring National Meeting, Phoenix, AZ April 2019
SUNY Brockport, February 2019
Barnard College, October 2018
SUNY Geneseo, September 2018
American Chemical Society National Meeting, Boston, MA Fall 2018
Northeast Regional Meeting of the American Chemical Society, Fall 2016

ACS National Meeting, Denver, CO Spring 2015
University of Rochester, Rochester, NY January 2015

Other Presentations

since becoming a faculty member at the University of Rochester

Inaugural American Conference on Inorganic Nanoscience, July 2025, poster
Gordon Research Conference on Colloidal Semiconductor Nanocrystals, July 2022, poster
Inter-American Photochemical Society Conference, January 2020, poster
National Academy of Sciences Arthur M. Sackler Colloquium, October 2018, poster
Gordon Research Conference on Colloidal Semiconductor Nanocrystals, July 2018, poster
QD2018 - Tenth International Conference on Quantum Dots, June 2018, poster
Gordon Research Conference on Colloidal Semiconductor Nanocrystals, August 2016, poster

Teaching and Advising Activities

Fall 2025 General Chemistry (CHEM131), Co-Instructor
Spring 2023-2025 General Chemistry (CHEM 132), Co-Instructor
Fall 2021 Chemical Instrumentation (CHEM 231W), Instructor/Lab Coordinator
Spring 2018-2020 Molecular Spectroscopy (CHEM 232), Instructor/Lab Coordinator
Fall 2016-2018, 2020 Spectroscopy and Kinetics (CHEM 458), Instructor
Fall 2024 Foundational Concepts in Spectroscopy (CHEM 457) Instructor
University of Rochester Center for Excellence in Teaching and Learning Teaching Innovation Grant (2018-2020, with Prof. Ellen Matson) to support development of a joint, collaborative laboratory experience for CHEM 234 and CHEM 232

Graduate Students Mentored:

Mehrin Tariq (PhD, 2021)
Jordan Andrews (MS, 2018)
David Brewster (PhD, 2021)
Melissa Koch (PhD, 2022)
Jacob Shelton (PhD, 2024)
Brittney Beidelman (Mat. Sci. PhD, 2022)
Dominick Sarappa (MS, 2019)
Karla Sanchez Lievanos (Ph.D. 2023)
James Stair (MS, 2021)
Erica Craddock (2021-Present)
Revathy Rajan (2021-Present)
Aida Gueye (Mat. Sci., 2022-Present)
Tong (Molly) Sun (MS, 2024)
Subhajyoti Mandal (2024-2025)
Hashini Sithari (2025-Present)
Ankita Sahu (2025-Present)

Undergraduate Students Mentored:

Tae Ryoo (Spring 2017)
Joshua Lomeo (BS, 2018)
Dominick Sarappa (BS, 2028)
Yifeng Bian (BS, 2019)
Ana Claudia Fingolo (Summer 2017)
Karla Sanchez Lievanos (Summer 2018)
Garrett Hoteling (BS, 2019)
Sina Wrede (Summer 2019)
Annabel Selino (BS, 2020)
Hannah Roberts (BA, 2021)
Claire Lee (2020)
Brian Ganeles (2021-2022)
Francesca Elverson (Summer 2021)
Xiaotian (Tian) Zhang (BS, 2023)
MaryAgnes Balogun (Summer 2022)
Franklin Xu, (2022-Present)
Maddy Wahl (Summer 2023)
Elise Gendrich (BS, 2024)
Alexander Cikanek (BS, 2025)
Sophia Gupta (2024-Present)
Jimmy Heath (Summer 2024)

Kaiyue (Susie) Wang (2024-Present)
Feng Ye (BS, 2025)

Nathanael Smith (2025-Present)
Elliot Gentry-Sharp (2026-Present)

Service Activities

- University Activities: University of Rochester Transformational Sciences and Engineering Building Project Core Advisory Group, Chemistry Representative, 2024-Present
Chemistry Department Educational Effectiveness Committee, 2023-Present (Chair 2023-2025)
Chemistry Department Graduate Studies Committee, 2023
Chemistry Department Faculty Recruiting Committee, 2022-2023
Chemistry Department Safety Committee, 2022-2024
Chemistry Department iScholar Program Coordinator 2019-2023
Chemistry Department Graduate Recruiting Committee, 2016-2023
Chemistry Department Seminar/Colloquium Committee, 2018-2022
Chemistry Department Diversity, Equity, Inclusion, and Outreach Committee, 2020-2023
University of Rochester Goldwater Campus Nomination Committee, 2017-Present
- Community Activities: Co-organizer of 2025 American Conference on Inorganic Nanoscience
Mentor for 2023 NSF Chemistry Early Career Investigator Workshop
Symposium Organizer for 2022 Northeast Regional Meeting of the ACS
Discussion Leader for 2020 Inter-American Photochemical Society Conference
Discussion Leader for 2018 GRC on Colloidal Semiconductor Nanocrystals
Discussion Leader for Gordon Research Seminar on Colloidal Semiconductor Nanocrystals, July 30-31, 2016
- Reviewer Activities: *Nature Communications, Journal of the American Chemical Society, Journal of Physical Chemistry, Nature Reviews Chemistry, Nature Communications, Chemical Communications, Nano Letters, Inorganic Chemistry, Chemistry of Materials, ACS Nano, ACS Catalysis, ACS Materials & Interfaces, Polyhedron, Journal of Chemical Physics, Nanoscale, Dalton Transactions, Small, ACS Nanoscience Au, National Science Foundation, US Department of Energy, ACS Petroleum Research Fund, Question Reviewer for 2014 National Science Bowl*
- Outreach Activities: Faculty Coordinator of National Chemistry Week Outreach Activities (2022-Present), Developed Virtual Module on Electrochemistry for Upward Bound (2021), Developed and instructed Upward Bound summer course titled "Introduction to Solar Energy" (2017-2018)