Andrea D. Pickel

Assistant Professor
Walker Department of Mechanical Engineering
The University of Texas at Austin
andrea.pickel@austin.utexas.edu | sites.utexas.edu/pickellab

Education

May 2019 **University of California, Berkeley** Berkeley, CA
Ph.D. in Mechanical Engineering
Advisor: Prof. Chris Dames
Major: Heat transfer. Minors: Materials science, solid state physics.
Thesis: "Far-Field Optical Thermometry Techniques for Challenging Environments"

May 2014 **Carnegie Mellon University** Pittsburgh, PA
B.S. in Mechanical Engineering with University and College Honors

Professional Appointments

01/26 – present	Assistant Professor, Walker Department of Mechanical Engineering, The University of Texas at Austin
07/19 – 12/25	Assistant Professor, Department of Mechanical Engineering, University of Rochester Assistant Professor, Materials Science Program (Secondary), University of Rochester Assistant Professor, Institute of Optics (Secondary), University of Rochester
08/14 – 05/19	Graduate Researcher, Nano/Energy Lab, UC Berkeley
01/12 – 05/14	Undergraduate Researcher, McHenry Group, Carnegie Mellon University
05/14 – 08/14 05/13 – 08/13	Analog Packaging Intern, Texas Instruments, Dallas, TX

Honors and Awards

2024	Scialog Fellow for Automating Chemical Laboratories
2023	G. Graydon Curtis '58 and Jane W. Curtis Award for Non-Tenured Faculty Teaching
2022	NSF CAREER Award
2021	Furth Fund Award
2020	American Chemical Society Petroleum Research Fund (ACS PRF) Doctoral New Investigator Award
2018	Selected to attend Rising Stars in Mechanical Engineering workshop at MIT
2018	Semifinalist, UC Berkeley Grad Slam ("three-minute thesis" speech competition)
2018	2nd place poster award, Advanced Imaging Methods Workshop, Berkeley, CA
2016 – 2019	National Science Foundation (NSF) Graduate Research Fellowship
2014 – 2016	UC Berkeley Chancellor's Fellowship (2 years of full funding)
2012 – 2014	Semiconductor Research Corporation Undergraduate Research Opportunities Scholar (5 semesters plus 1 summer of research support)
2014	2nd place, Carnegie Mellon College of Engineering Honors Research Poster Contest
	Tau Beta Pi Engineering Honor Society

Pi Tau Sigma Mechanical Engineering Honor Society

Refereed Journal Publications

†Denotes corresponding author. ‡Denotes Pickel lab graduate student. #Denotes Pickel lab undergraduate student.

21. B. Harrington*‡, Z. Ye*‡, L. Signor*‡, and **A.D. Pickel†,** "Upconverting Nanoparticle Thermometry beyond the Diffraction Limit," *Accounts of Chemical Research* **59,** 1177-1187 (2026).
**denotes equal contribution to this work*

20. S.M.H.D. Perera, B. Harrington‡, A. Fadhul, **A.D. Pickel†,** and M.D. Porosoff†, "Leveraging and understanding exotherms in tandem catalysts with in situ luminescence thermometry," *EES Catalysis* **4,** 333-340 (2026).
    - Selected as an EES Catalysis Recent HOT Article

19. B. Harrington‡, Q. Xiao‡, J. Lin‡, A. Johnson#, and **A.D. Pickel†,** "Sampling Sub-Diffraction Temperature Gradients with Spectrally Orthogonal Nanoparticle Luminescence," *ACS Photonics* **12,** 6468-6475 (2025).

18. F. Hu*, Z. Ye*‡, **A.D. Pickel†,** and W.E. Tenhaeff†, "Operando characterization of lithium battery internal temperatures via upconverting nanoparticle thermometry," *Nanoscale* **17,** 14597-14606 (2025).
**denotes equal contribution to this work*

17. B. Harrington‡, C. Zhang#, X. Liu#, A. Guldbrandsen#, and **A.D. Pickel†,** "Leveraging Ronchi Rulings as Reconfigurable Microscale Joule Heaters," *Advanced Engineering Materials* **27,** 2402918 (2025).

16. Z. Ye‡, L. Signor‡, M. Cohan#, and **A.D. Pickel†,** "Metal Surface Effects on Single Upconverting Nanoparticle Luminescence and Thermometry Signals," *Journal of Materials Chemistry C* **13,** 116-124 (2025).
    - Featured in an RSC cross-journal collection on Light-nanoMatter Interactions

15. Z. Ye‡, B. Harrington‡, and **A.D. Pickel†,** "Optical Super-Resolution Nanothermometry via Stimulated Emission Depletion Imaging of Upconverting Nanoparticles," *Science Advances* **10,** eado6268 (2024).

    Selected media coverage:
    - American Society of Mechanical Engineers (ASME): Uncovering Hotspots in Electronics at Nanoscale
    - Optics & Photonics News (membership magazine of Optica, formerly the Optical Society of America): Lasers Turn Nanoparticles Into Tiny Thermometers
    - Semiconductor Engineering: Mapping Heat Transfer
    - EurekAlert! *(picked up by 10 other media outlets)*: New technique pinpoints nanoscale 'hot spots' in electronics to improve their longevity

14. B. Harrington*‡, Z. Ye*‡, L. Signor‡, and **A.D. Pickel†,** "Luminescence Thermometry Beyond the Biological Realm," *ACS Nanoscience Au* **4,** 30-61 (2024). (Invited review article)
**denotes equal contribution to this work*
    - Selected as an ACS Editors' Choice Article

13. D.R. Luntz-Martin, D.K. Bommidi‡, K. Zhang, **A.D. Pickel,** and A.N. Vamivakas, "Nanothermometry in Rarefied Gas using Optically Levitated Nanodiamonds," *Optics Express* **31,** 36219-36227 (2023).

12. Z. Ye[‡], D.K. Bommidi[‡], and **A.D. Pickel[†],** "Dual-Mode Operando Raman Spectroscopy and Upconversion Thermometry for Probing Thermal Contributions to Plasmonic Photocatalysis," *Advanced Optical Materials* **11,** 2300824 (2023).

11. C. Jian[#], Z. Ye[‡], and **A.D. Pickel[†],** "Laser heating with doughnut-shaped beams," *Journal of Applied Physics* **132,** 245104 (2022).

10. D.K. Bommidi[‡] and **A.D. Pickel[†],** "Temperature-dependent excited state lifetimes of nitrogen vacancy centers in individual nanodiamonds," *Applied Physics Letters* **119,** 254103 (2021).
    - Selected as a Featured Article and for a Scilight ("science highlight") perspective article

9. **A.D. Pickel[†]** and C. Dames, "Size and shape effects on the measured peak temperatures of nanoscale hotspots," *Journal of Applied Physics* **128,** 045103 (2020).

8. **A.D. Pickel,** A. Teitelboim, E.M. Chan, N.J. Borys, P.J. Schuck, and C. Dames, "Apparent self-heating of individual upconverting nanoparticle thermometers," *Nature Communications* **9,** 4907 (2018).

7. G. Wehmeyer, **A.D. Pickel,** and C. Dames, "Onsager reciprocity relation for ballistic phonon heat transport in anisotropic thin films of arbitrary orientation," *Physical Review B* **98,** 014304 (2018).

6. T. Li, **A.D. Pickel,** Y. Yao, Y. Chen, Y. Zeng, S.D. Lacey, Y. Li, Y. Wang, J. Dai, Y. Wang, B. Yang, M.S. Fuhrer, A. Marconnet, C. Dames, D.H. Drew, and L. Hu, "Thermoelectric properties and performance of flexible reduced graphene oxide films up to 3000 K," *Nature Energy* **3,** 148-156 (2018).
    - *News and Views:* Bring on the heat

5. J.D. Kilbane, E.M. Chan, C. Monachon, N.J. Borys, E.S. Levy, **A.D. Pickel,** J.J. Urban, P.J. Schuck, and C. Dames, "Far-field optical nanothermometry using individual sub-50 nm upconverting nanoparticles," *Nanoscale* **8,** 11611 (2016).

4. W. Bao*, **A.D. Pickel*,** Q. Zhang*, Y. Chen*, Y. Yao*, J. Wan, K. Fu, Y. Wang, J. Dai, H. Zhu, D. Drew, M. Fuhrer, C. Dames, and L. Hu, "Flexible, High Temperature, Planar Lighting with Large Scale Printable Nanocarbon Paper," *Advanced Materials* **28,** 4684-4691 (2016).
   **denotes equal contribution to this work*

3. S. Xu, A.H. Habib, **A.D. Pickel,** and M.E. McHenry, "Magnetic Nanoparticle-based Solder Composites for Electronic Packaging Applications," *Progress in Materials Science* **67,** 95-160 (2015).

2. S. Xu, A. Prasitthipayong, **A.D. Pickel,** A.H. Habib, and M.E. McHenry, "Mechanical Properties of FeCo Magnetic Particles-based Sn-Ag-Cu Solder Composites," *Applied Physics Letters* **102,** 251909 (2013).

1. S. Xu, **A.D. Pickel,** A. Prasitthipayong, A.H. Habib, and M.E. McHenry, "Modeling of Localized Reflow in Solder/Magnetic Nanocomposites for Area-Array Packaging," *Journal of Applied Physics* **113**, 17A305 (2013).

Other Publications

3. 19 authors including **A.D. Pickel,** "Report on the Tenth US-Japan Joint Seminar on Nanoscale Transport Phenomena," *Nanoscale and Microscale Thermophysical Engineering* **28,** 176-193 (2024).

2. 36 authors including **A.D. Pickel,** "35 challenges in materials science being tackled by PIs under 35(ish) in 2021," *Matter* **4,** 3804-3810 (2021).

1. C.D. Aiello, **A.D. Pickel,** E. Barnard, R.B. Wai, C. Monachon, E. Wong, S. Aloni, F. Ogletree, C. Dames, and N. Ginsberg, "Cathodoluminescence-based nanoscopic thermometry in a lanthanide-doped phosphor," arXiv:1810.07581 [cond-mat.mes-hall].

Presentations

Invited Presentations, Seminars, and Panels

28. "Luminescence Thermometry Beyond the Diffraction Limit," *The 21st International Conference on Luminescence*. Kyoto, Japan. September 22-26, 2026.

27. "Building a Super-Resolution Toolkit for Nanoscale Thermal Metrology," *ASME Summer Heat Transfer Conference*. Bellevue, WA. July 26-29, 2026.

26. "Luminescence Thermometry Beyond the Diffraction Limit," *5th International Conference on Phosphor Thermometry*. London, United Kingdom. June 24-26, 2026.

25. "Probing Thermal Contributions to Plasmonic Photocatalysis with Dual-Mode Operando Thermometry and Reaction Monitoring," *AMOLF Sustainable Energy Materials Symposium: Light for Driving and Monitoring Chemical Reactions*. Amsterdam, The Netherlands. June 19, 2026.

24. "Probing (Electro)chemical Processes with Operando Luminescence Thermometry," *UPCON: 5th Conference on Properties, Design, and Applications of Upconversion Nanomaterials*. Brno, Czech Republic. April 13-17, 2026.

23. "Taking Luminescence Thermometry to Extremes for Device, Energy, and Catalysis Applications," University of North Texas Department of Mechanical Engineering Seminar Series. November 6, 2025.

22. "Taking Luminescence Thermometry to Extremes for Device, Energy, and Catalysis Applications," *SHIFT 2025 (Spectral Shaping for Biomedical and Energy Applications)*. Tenerife, Canary Islands, Spain. October 13-17, 2025. Invited keynote speaker.

21. "Optical Super-Resolution Nanothermometry via Stimulated Emission Depletion Imaging," *ASME Summer Heat Transfer Conference*. Westminster, CO. July 8-10, 2025.

20. "Probing (Electro)chemical Processes with Operando Luminescence Thermometry," *Telluride Science Research Center Workshop on Thermal Transport at the Nanoscale*. Telluride, CO. June 24-28, 2025.

19. "Taking Luminescence Thermometry to Extremes for Device, Energy, and Catalysis Applications," Rochester Institute of Technology Mechanical Engineering Seminar Series. March 6, 2025.

18. "Taking Luminescence Thermometry to Extremes for Device, Energy, and Catalysis Applications," University of Arizona/Arizona State University MateriAlZ Seminar Series. February 7, 2025.

17. "Taking Luminescence Thermometry to Extremes for Device, Energy, and Catalysis Applications," Walker Department of Mechanical Engineering, The University of Texas at Austin. February 3, 2025.

16. "Taking Luminescence Thermometry to Extremes for Device, Energy, and Catalysis Applications," George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology. November 7, 2024.
15. "Taking Luminescence Thermometry to Extremes for Device, Energy, and Catalysis Applications," Thermal Transport Café Webinar Series. October 30, 2024.
14. "Optical Thermometry Beyond the Diffraction Limit," Princeton University Department of Mechanical and Aerospace Engineering Seminar Series. October 6, 2023.
13. "Optical Thermometry Beyond the Diffraction Limit," *The 10th US-Japan Joint Seminar on Nanoscale Thermal Transport Phenomena.* Coronado, CA. July 16-19, 2023.
12. "UCNP Thermometry Beyond the Diffraction Limit," *Upconverting Nanoparticles Gordon Research Conference.* Waterville Valley, NH. June 18-23, 2023.
11. "Time-Resolved Nanothermometry via Excited State Lifetimes of Nitrogen Vacancy Centers in Individual Nanodiamonds," *Park Systems NanoScientific Symposium.* September 29, 2022.
10. "Far-Field Optical Nanothermometry in Challenging Environments: Super-Resolution and Single-Particle Approaches," Columbia University Mechanical Engineering Seminar Series. September 23, 2022.
9. "Far-Field Optical Nanothermometry in Challenging Environments: Super-Resolution and Single-Particle Approaches," *Telluride Science Research Center Workshop on Thermal Transport at the Nanoscale.* Telluride, CO. June 20-25, 2022.
8. "Far-Field Optical Nanothermometry via Individual Luminescent Nanoparticles," Andor Technology Webinar Series. October 20, 2021.
7. "In luminescence thermometry we trust. Can we?" NanoTBTech Webinar Series (a project of the European Union's Horizon 2020 FET Open Programme). Invited panelist. June 4, 2021.
6. "Far-Field Optical Nanothermometry via Luminescent Nanomaterials," Rice University Mechanical Engineering Seminar Series. February 10, 2021.
5. "Far-Field Optical Nanothermometry via Luminescent Nanomaterials," Rochester Institute of Technology Physics Colloquium. October 28, 2020.
4. "Far-Field Optical Nanothermometry via Luminescent Nanomaterials," University of Rochester Institute of Optics Colloquium. October 12, 2020.
3. "Far-Field Optical Nanothermometry via Luminescent Nanomaterials," University of Rochester Department of Physics and Astronomy Colloquium. August 28, 2019.
2. "Extending Thermoelectricity to 3,000 K via Reduced Graphene Oxide Films." *WE-Heraeus-Seminar on System-oriented approach to thermoelectrics: Materials – Interfaces – Devices.* Bad Honnef, Germany. April 9-11, 2018.
1. "Investigating Apparent Self-Heating of Individual Luminescent Nanoparticle Thermometers," *The 9th US-Japan Joint Seminar on Nanoscale Thermal Transport Phenomena.* Tokyo, Japan. July 2-5, 2017. Invited poster presentation.

Contributed Presentations

16. Z. Ye, B. Harrington, and A.D. Pickel, "Optical Super-Resolution Nanothermometry via Stimulated Emission Depletion Imaging," *MRS Spring Meeting*. Seattle, WA. April 7-11, 2025. Contributed talk.

15. Z. Ye, B. Harrington, D.K. Bommidi, and A.D. Pickel, "Levitated Nanoparticles and Super-Resolution Spectroscopy as Tools for Optical Nanothermometry," *IMECE*. Portland, OR. November 17-21, 2024. Contributed talk.

14. Z. Ye, B. Harrington, and A.D. Pickel, "Optical Super-Resolution Nanothermometry via Stimulated Emission Depletion Imaging," *7th ASME Micro/Nanoscale Heat and Mass Transfer International Conference*. Nottingham, United Kingdom. August 5-7, 2024. Contributed talk. (Best Presentation Award)

13. Z. Ye, B. Harrington, and A.D. Pickel, "Optical Super-Resolution Nanothermometry via Stimulated Emission Depletion Imaging of Upconverting Nanoparticles," *UPCON: 4th Conference on Properties, Design, and Applications of Upconversion Nanomaterials*. Montréal, Canada. April 7-12, 2024. Contributed talk.

12. Z. Ye, D.K. Bommidi, and A.D. Pickel, "Dual-Mode Operando Thermometry and Reaction Monitoring for Probing Thermal Contributions to Plasmonic Photocatalysis," *IMECE*. New Orleans, LA. October 29-November 2, 2023. Contributed talk.

11. Z. Ye and A.D. Pickel, "Combining Ratiometric Thermometry and Super-Resolution Imaging of Upconverting Nanoparticles," *MRS Spring Meeting*. San Francisco, CA. April 10-14, 2023. Contributed talk.

10. D.K. Bommidi and A.D. Pickel, "Temperature-dependent excited state lifetimes of nitrogen vacancy centers in individual nanodiamonds." *ASME Summer Heat Transfer Conference*. Philadelphia, PA, July 11-13, 2022. Contributed talk.

9. D.K. Bommidi and A.D. Pickel, "Temperature-dependent excited state lifetimes of nitrogen vacancy centers in individual nanodiamonds." *APS March Meeting*. Chicago, IL, March 14-18, 2022. Contributed talk.

8. D.K. Bommidi and A.D. Pickel, "Temperature-dependent excited state lifetimes of nitrogen vacancy centers in individual nanodiamonds." *MRS Fall Meeting*. Boston, MA, November 29-December 2, 2021. Poster presentation.

7. A.D. Pickel and C. Dames, "Size and Shape Effects on the Measured Peak Temperatures of Nanoscale Hotspots." *IMECE*. Virtual conference, November 16-19, 2020. Contributed talk.

6. A.D. Pickel, A. Teitelboim, E.M. Chan, N.J. Borys, J.Y. Wu, P.J. Schuck, and C. Dames, "Measuring Nanoscale Hotspots with Individual Luminescent Nanoparticles." *MRS Spring Meeting*. Phoenix, AZ, April 22-26, 2019. Contributed talk.

5. A.D. Pickel, E.M. Chan, C. Aiello, N.J. Borys, N.S. Ginsberg, P.J. Schuck, and C. Dames, "Far-Field Optical Nanothermometry via Individual Upconverting Nanoparticles," *Advanced Imaging Methods Workshop*. Berkeley, CA. January 25, 2018. Poster presentation. (2nd Place Poster Award)

4. A.D. Pickel, J.D. Kilbane, E.M. Chan, C. Monachon, N.J. Borys, E.S. Levy, J.J. Urban, P.J. Schuck, and C. Dames, "Investigating Apparent Self-Heating of Individual Luminescent Nanoparticle Thermometers," *Molecular Foundry User Meeting*. Berkeley, CA. August 17-18, 2017. Poster presentation.

3. A.D. Pickel, J.D. Kilbane, E.M. Chan, N.J. Borys, J.J. Urban, P.J. Schuck, and C. Dames. "Excitation Intensity Effects in Far-Field Optical Nanothermometry Using Individual Upconverting Nanoparticles." *ASME Summer Heat Transfer Conference*. Bellevue, WA, July 9-12, 2017. Contributed talk.

2. A.D. Pickel, J.D. Kilbane, E.M. Chan, C. Monachon, N.J. Borys, E.S. Levy, J.J. Urban, P.J. Schuck, and C. Dames, "Individual Upconverting Nanoparticles as Nanoscale Heaters and Thermometers." *MRS Spring Meeting*. Phoenix, AZ, April 17-21, 2017. Contributed talk.

1. A.D. Pickel, J.D. Kilbane, E.M. Chan, C. Monachon, N.J. Borys, E.S. Levy, J.J. Urban, P.J. Schuck, and C. Dames, "Far-Field Optical Nanothermometry Using Individual Upconverting Nanoparticles," *Molecular Foundry User Meeting*. Berkeley, CA. August 11-12, 2016. Poster presentation.

Supervision

Current PhD Students

Junyi Lin (Mechanical Engineering) 2025 – present

Qiwen Xiao (Materials Science) 2024 – present

Laura (Kowalski) Signor (Optics) 2023 – present

- Recipient of a Department of Education Graduate Assistance in Areas of National Need (GAANN) Fellowship

PhD Alumni

Benjamin Harrington (Materials Science) 2021 – 2025

- *Next position:* Research and Development Engineer at Nicslab

Ziyang Ye (Materials Science) 2019 – 2025

- *Next position:* Postdoctoral researcher with Prof. Xiaogang Liu, National University of Singapore
- Best poster prize at UPCON 2024
- Best poster prize (1 of 4 recipients out of 30 posters) in Symposium SF01: Thermal Transport in Materials at 2025 MRS Spring Meeting

Dinesh Bommidi (Mechanical Engineering) 2019 – 2024

- *Next position:* Optical Production Engineer at ASML

Undergraduates

Ashley Johnson, Texas State University Physics Class of 2026 Summer 2025

- Participant in the NSF REU in Nanophotonics, Quantum Photonics, and Vision/Biomedical Optics at UR

Chi (Steven) Zhang, UR Mechanical Engineering Class of 2027 Summer 2024 – present

- Recipient of the Richard Eisenberg Engineering Award
- Selected to attend Gulf Coast Undergraduate Research Symposium at Rice University

Molly Cohan, College of Wooster Physics Class of 2026 • Participant in the NSF REU in Nanophotonics, Quantum Photonics, and Vision/Biomedical Optics at UR	Summer 2024
Asa Guldbrandsen, UR Mechanical Engineering Class of 2026	Fall 2023 – Spring 2025
Gustavo Rivera Soto, UR Mechanical Engineering Class of 2025	Spring 2023 – Spring 2025
Xiaoshan (Jennifer) Liu, UR Electrical and Computer Engineering Class of 2024	Fall 2022 – Spring 2024
Melanie Earle, UR Mechanical Engineering Class of 2023 • *Next position:* PhD student in Mechanical Engineering at UC Berkeley • Recipient of the G. Harold Hook Prize • Selected to attend Gulf Coast Undergraduate Research Symposium at Rice University	Fall 2019 – Spring 2023
Lingyun Huang, UR Mechanical Engineering Class of 2023 • *Next position:* MS student in Mechanical Engineering at the University of Pennsylvania	Summer 2022 – Fall 2022
Chenhao Jian, UR Mechanical Engineering Class of 2022 • *Next position:* MS student in Mechanical Engineering at UCLA	Fall 2021 – Summer 2022
Weihan Wang, UR Mechanical Engineering Class of 2022 • *Next position:* MSE student in Mechanical Engineering at the University of Michigan	Fall 2021 – Spring 2022
Yisheng Zhong, UR Mechanical Engineering Class of 2022	Fall 2021
Carol Jerotich, UR Mechanical Engineering Class of 2022	Spring 2020 – Spring 2021
Stella Kombo, UR Mechanical Engineering Class of 2022	Spring 2020 – Spring 2021
Kelly Jean, UR Mechanical Engineering Class of 2021	Spring 2020 – Spring 2021
Linh Vu, UR Mechanical Engineering Class of 2023	Spring 2020
Caiden Larsen, UR Mechanical Engineering Class of 2023	Spring 2020

Professional Activities and Service

Proposal Review

- NSF: Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET); Division of Chemistry
- Army Research Office
- American Chemical Society Petroleum Research Fund (ACS PRF)
- Agence Nationale de la Recherche (French National Research Agency)
- University of Rochester University Research Awards Program
- University of Rochester PumpPrimer II Program

Journal Article Review

Accounts of Chemical Research	Laser & Photonics Reviews
ACS Catalysis	Light: Science and Applications

ACS Nano	Nano Letters
ACS Applied Electronic Materials	Nanoscale
ACS Applied Materials & Interfaces	Nanoscale and Microscale Thermophysical Engineering
Advanced Functional Materials	Nature Communications
Advanced Optical Materials	Nature Materials
Cell Biochemistry and Biophysics	Optics Express
Chemistry–Methods	Physical Review Applied
International Journal of Thermal Sciences	Physical Review B
International Journal of Thermophysics	Physical Review Letters
Journal of Applied Physics	Review of Scientific Instruments
Journal of Heat Transfer	Science Advances

Professional Activities

- External Thesis Reviewer and Defense Committee Member for Sander Vonk, University of Utrecht
- Member of ASME Heat Transfer Division K-9 Committee on Nanoscale Thermal Transport
- Session Chair for:
  - 2026 ASME Summer Heat Transfer Conference, Session K9-02: Nanothermal Metrology 1, July 27, 2026, Bellevue, WA
  - 2025 ASME Summer Heat Transfer Conference, Session K9-06: Thermal Transport in Nanomaterials 1, July 10, 2025, Westminster, CO
  - 2024 IMECE, Sessions 11-07-01 and 11-07-02: Transport Properties of Energy Carriers, November 21, 2024, Portland, OR
  - 7th ASME Micro/Nanoscale Heat and Mass Transfer International Conference, Session 10-01: Heat and Mass Transfer in Small Scale, August 5, 2024, Nottingham, United Kingdom
  - 2023 IMECE, Session 11-58-01: Nanoscale Thermal Transport, November 1, 2023, New Orleans, LA
  - The 10th US-Japan Joint Seminar on Nanoscale Thermal Transport Phenomena, Session VII (Magnetism/Phonon), July 19, 2023, Coronado, CA
  - 2023 MRS Spring Meeting, Session SF03.17: Nanoscale Microscopy, April 14, 2023, San Francisco, CA
  - 2022 APS March Meeting, Session Q68: Thermal and Electrical Transport in Nanomaterials, March 16, 2022, Chicago, IL

Departmental and University Service

05/2026 – present	UT Austin Mechanical Engineering Byron Short Seminar Series Committee
11/2024 – 05/2025	UR Mechanical Engineering Ad Hoc Space Committee
08/2024 – 05/2025	UR Mechanical Engineering Undergraduate Advisor to Class of 2028 Students
12/2022 – 08/2023	UR New Science and Engineering Building Planning Committee
09/2022 – 12/2025	URnano (Nanofabrication Facility) User Steering Committee
08/2021 – 08/2025	Faculty Advisor to UR Society of Women Engineers (SWE) Chapter
02/2022	UR Sproull & Provost Fellowship Review Panels (Materials Science representative)
Summer/Fall 2021	UR Mechanical Engineering Faculty Search Committee Member

08/2020 – 05/2024	UR Mechanical Engineering Undergraduate Advisor to Class of 2024 Students
08/2020 – 05/2021	UR Mechanical Engineering MS Student Advisor
01/2020 – 05/2021; 01/2023 – 08/2025	UR Materials Science Graduate Admissions Committee
08/2019 – 08/2025	UR Mechanical Engineering Graduate Admissions Committee
08/2019 – 05/2020	UR Materials Science MS Student Advisor

PhD Dissertation Committees: Leopoldo Mejia (Chemistry, committee chair); Krysta Boccuzzi (Optics, committee chair); Wriju Chowdhury (Earth and Environmental Sciences); Likun Cai (Materials Science); Danika Luntz-Martin (Physics); Tyler Howard (Optics); Wenhui Hou (Electrical and Computer Engineering, committee chair); Tara Peña (Electrical and Computer Engineering, committee chair); Xuchen Gong (Mechanical Engineering); Wesley Chiang (Biophysics, committee chair); Fei Hu (Chemical Engineering); Mitesh Amin (Optics, committee chair); Mihirangi Medahinne (Physics, committee chair)

Teaching

At The University of Texas at Austin

Course	Level	Semester	Enrolled Students	Overall Rating of Course	Overall Rating of Instructor
ME 339: Heat Transfer	Required undergraduate course	Spring 2026	88	4.84/5.0	4.88/5.0

At University of Rochester

- Received a **2022 Wadsworth C. Sykes Engineering Faculty Award of $11,200** to develop a new laboratory activity on luminescence lifetime thermometry for ME 223 (undergraduate heat transfer)

Course	Level	Semester	Enrolled Students	Overall Rating of Course	Overall Rating of Instructor
ME 433: Nanoscale Energy Transport and Conversion	Graduate elective	Fall 2019	11	4.9/5.0	5.0/5.0
ME 433: Nanoscale Energy Transport and Conversion	Graduate elective	Fall 2020	4	4.33/5.0	4.67/5.0
ME 223: Heat Transfer	Required undergraduate course	Spring 2021	63	4.30/5.0	4.57/5.0
ME 433: Nanoscale Energy Transport and Conversion	Graduate elective	Fall 2021	4	5.0/5.0	5.0/5.0

ME 223: Heat Transfer	Required undergraduate course	Spring 2022	58	4.74/5.0	4.79/5.0
ME 433: Nanoscale Energy Transport and Conversion	Graduate elective	Fall 2022	4	5.0/5.0	5.0/5.0
ME 223: Heat Transfer	Required undergraduate course	Spring 2023	40	4.78/5.0	4.56/5.0
ME 433: Nanoscale Energy Transport and Conversion	Graduate elective	Fall 2023	9	5.0/5.0	5.0/5.0
ME 223: Heat Transfer	Required undergraduate course	Spring 2025	45	4.33/5.0	4.55/5.0

Prior to University of Rochester

06/18 – 08/18 Graduate Student Instructor for ME 109: Heat Transfer, UC Berkeley
- Average student evaluation score: 4.7/5.0 (Department average: 4.19/5.0)

05/11 – 05/14 Peer Tutor, Carnegie Mellon University
- College Reading and Learning Association (CRLA) Level 1 Certified Tutor for physics, calculus, and engineering courses for six semesters

Outreach

07/22 – 12/25: Partnership with Innova Girls Academy, Rochester, NY
- Established a partnership with a new all-girls STEM-focused public elementary school in the Rochester City School District
- Designed, constructed, and presented hands-on kits that introduce basic principles of light and luminescence to Innova Girls Academy students

08/14 – 05/19 Students for Environmental Energy Development, UC Berkeley
- Volunteer with outreach program focused on energy/water resources
- Served as Chair for the 2015-2016 academic year: designed lesson plans, recruited volunteers, and managed partnership with the elementary school

08/17 – 05/19 Events Chair, Graduate Women in Engineering, UC Berkeley
- Organized social/professional development events open to all graduate students

08/15 – 05/17 Speaker Series Co-Chair, Graduate Women in Engineering, UC Berkeley
- Invited speakers and coordinated logistics for series sponsored by Sandia National Lab

06/16 – 08/16 Research Mentor, Berkeley Engineering Research Experiences for Teachers, UC Berkeley
- Mentored a high school physics teacher and a UC Berkeley undergraduate student on summer research projects