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(Dated: Aug 20, 2020)

ACADEMIC EMPLOYMET

University of Colorado Boulder — *Boulder, CO*
Assistant Professor — Jan 2020-present
Paul M. Rady Department of Mechanical Engineering
Materials Science and Engineering Program

University of Colorado Boulder — *Boulder, CO*
Visiting Assistant Professor — May 2018 - Dec 2019

Rice University — *Houston, TX*
J. Evans Attwell-Welch Postdoctoral Fellow — Aug 2018 – Dec 2019
Department of Physics and Astronomy, Smalley-Curl Institute

University of Michigan — *Ann Arbor, MI*
Graduate Research Assistant — Sept 2013 – Aug 2018
Department of Mechanical Engineering

EDUCATION

University of Michigan — *Ann Arbor, MI*
Ph.D. in Mechanical Engineering — Sept 2013 - Aug 2018
Thesis: *Probing Heat Transport and Energy Conversion at the Atomic and Single Molecule Scale*
Committee: Prof. Pramod Reddy (Co-Chair), Prof. Edgar Meyhofer (Co-Chair)
Prof. Vikram Gavini, Prof. Ctirad Uher, Prof. Arun Majumdar

Beijing University of Aeronautics and Astronautics *Beijing, China*

M.S. in Power Engineering and Thermophysics Sept 2010 - Jan 2013

Thesis: *Active tuning of near field radiative heat transfer using metamaterials*

Advisor: Prof. Yong Huang

B.S. in Aerospace Engineering (Aircraft Environment & Life Security) Sept 2006 - July 2010

HONORS & AWARDS

Post-doctoral Fellowship

J. Evans Attwell-Welch Fellowship, Rice University 2018-2020

Graduate Awards

Chinese Government Award for Outstanding Student Abroad 2019

Materials Research Society (MRS) Graduate Student Gold Award 2017

Graduate Scholarships

Rackham Predoctoral Fellowship, U-Michigan 2018

Richard and Eleanor Towner Award for Outstanding Ph.D. Research, U-Michigan 2017

Robert M. Caddell Memorial Award for Research, U-Michigan 2016

Alexander Azarkhin Fellowship, U-Michigan 2016

Mechanical Engineering Fellowship, U-Michigan 2013

National Scholarship, Ministry of Education of China 2012

TEACHING

University of Colorado Boulder

Introduction to Nanoscale Transport (MCEN 5228) *Spring 2020*

University of Michigan

Instrumentation and Experimental Techniques (ME 599) *Winter 2017*

Lab Instructor and Teaching Assistant

Thermodynamics (ME 535) *Winter 2016*

Teaching Assistant

Laboratory (ME 495) *Fall 2014*

Lab Instructor and Teaching Assistant

PUBLICATIONS

Journal Articles:

- L. Cui, Y. Zhu, P. Nordlander, M. Di Ventra, D. Natelson, "Thousand-fold enhancement in plasmonic light emission via synergistic hot-carrier generation and interaction", ***Submitted*** (2020).

- Y. Zhu, L. Cui, D. Natelson, "Hot-carrier Enhanced Light Emission: The origin of above-threshold photons from electrically driven plasmonic tunnel junctions", ***Submitted*** (2020).

- L. Cui, Y. Zhu, M. Abbasi, A. Ahmadivand, B. Gerislioglu, P. Nordlander, D. Natelson, "Electrically driven hot-carrier generation and above-threshold light emission in plasmonic tunnel junctions", ***Nano Letters*** 20 (8), 6067–6075 (2020).

- L. Cui, S. Hur, Z. A. Akbar, J. C. Klöckner, W. Jeong, F. Pauly, S.-Y. Jang, P. Reddy, E. Meyhofer, "Thermal conductance of single-molecule junctions", ***Nature*** 572, 628-633 (2019).

- H. Wu, Y. Huang, L. Cui, K. Zhu, "Active magneto-optical control of near-field radiative heat transfer between graphene sheets", ***Physical Review Applied*** 11(05), 054020 (2019).

- L. Cui, R. Miao, K. Wang, D. Thompson, L. A. Zotti, J. C. Cuevas, E. Meyhofer, P. Reddy, "Peltier cooling in molecular junctions", ***Nature Nanotechnology*** 13, 122-127 (2018). ***(Cover Article)***
  - Highlighted in *News & Views:* K. Kang, T. Lee, "Molecular junction refrigerator: Peltier cooling at molecular scale", Nature Nanotechnology 13, 97-99 (2018).
  - Featured by *Editorial*: "A cool paper", Nature Nanotechnology 13, 93 (2018).

- R. Miao, H. Xu, M. Skripnik, L. Cui, K. Wang, K. G. L. Pedersen, M. Leijnse, F. Pauly, K. Wärnmark, E. Meyhofer, P. Reddy, H. Linke, "Influence of quantum interference on the thermoelectric properties of molecular junctions", ***Nano Letters*** 18 (9), 5666-5672 (2018).

- L. Cui, W. Jeong, S. Hur, M. Matt, J. C. Klöckner, F. Pauly, P. Nielaba, J. C. Cuevas, E. Meyhofer, P. Reddy, "Quantized thermal transport in single atom junctions", ***Science***, 355, 1192 (2017).
  - Highlighted in *Perspective:* D. Segal, "Nanoscale transport: Probing the limits of heat flow", Science 355, 1125-1126 (2017).

- L. Cui, E. Meyhofer, P. Reddy, "Thermal transport: Harmony with superatoms", ***Nature Materials*** 16, 10 (2017). *(News and Views)*

- L. Cui, W. Jeong, V. Fernández-Hurtado, J. Feist, F. J. García-Vidal, J. C. Cuevas, E. Meyhofer, P. Reddy, "Study of radiative heat transfer at Ångström and nanometer scale gaps", ***Nature Communications*** 8, 14479 (2017).

- L. Cui, R. Miao, C. Jiang, E. Meyhofer, P. Reddy, "Thermal and thermoelectric transport in molecular junctions", ***Journal of Chemical Physics*** 146, 092201 (2017).

- K. Kim, B. Song, V. Fernández, W. Lee, W. Jeong, L. Cui, D. Thompson, J. Feist, M. T. Homer Reid, F. J. García-Vidal, J. C. Cuevas, E. Meyhofer, P. Reddy, "Radiative heat transfer in the extreme near field", ***Nature*** 528, 387–391 (2015).

- L. Cui, Y. Huang, J. Wang, K.-Y. Zhu, "Ultrafast modulation of near-field heat transfer with tunable metamaterials", ***Applied Physical Letters*** 102, 053106 (2013).

- L. Cui, Y. Huang, J. Wang, "Near-field radiative heat transfer between chiral metamaterials", ***Journal of Applied Physics*** 112, 084309 (2012).

<u>Book Chapters:</u>

- L. Cui, E. Meyhofer, P. Reddy, "Experimental approaches for probing heat transfer and energy conversion at the atomic and molecular scale", ***Nanoscale Energy Transport***, *IOP* Publishing (2019).