KATHRYN HINKELMAN, PhD

December 2025

Contact Information

Department of Civil and Environmental Engineering
University of Vermont
217 Votey Hall
33 Colchester Ave, Burlington, VT 05405

kathryn.hinkelman@uvm.edu
theseelab.org
Google Scholar Profile
ORCID: 0000-0002-8297-6036
Former Surname: Van Lieshout

Education

Pennsylvania State University — Jul 2023
Ph.D. in Architectural Engineering
Concentration in Mechanical | GPA: 4.0
Thesis: *Modelica modeling & ecosystem biomimicry of district energy systems*

University of California at Berkeley — May 2015
M.S. in Mechanical Engineering
Concentration in Design | GPA: 4.0
Thesis: *Environmental impact and indoor environmental quality assessment of Pinoleville Pomo Nation demonstration home: An implementation of life cycle assessment and culturally-inspired design*

University of Denver — Jun 2013
B.S. in Mechanical Engineering
Summa Cum Laude, Phi Beta Kappa, Departmental Distinction | GPA: 3.97
Thesis: *Intensity rankings of plyometric exercises using joint power absorption*

Appointments

University of Vermont
Assistant Professor, Dept. of Civil and Environmental Engineering — Aug 2024 – Present
Affiliate Faculty, Center for Resilient Energy & Autonomous Technologies in Engineering (CREATE) — Aug 2024 – Present
UVM Affiliate, Gund Institute for the Environment — Dec 2024 – Present
Affiliate Faculty, Casella Center for Circular Economy and Sustainability — Aug 2025 – Present

Pennsylvania State University
Postdoctoral Scholar, Sustainable Buildings and Societies Laboratory — Jul 2023 – Aug 2024
IBUILD Research Fellow, U.S. Dept. of Energy, Building Technologies Office — Jan 2022 – Jul 2023
Advisor: Dr. Wangda Zuo

University of Colorado Boulder
IBUILD Research Fellow, U.S. Dept. of Energy, Building Technologies Office — Aug 2021 – Dec 2021
Research Assistant, Sustainable Buildings and Societies Laboratory — May 2019 – Aug 2021
Teaching Assistant, Dept. of Civil, Environmental & Architectural Eng. — Aug 2018 – May 2019
Advisor: Dr. Wangda Zuo

Boulder Engineering Company
Mechanical & Electrical Engineer — Jul 2016 – Jul 2018
Mechanical Engineer — Jul 2015 – Jul 2016

University of California at Berkeley
Research Assistant, Berkeley Energy and Sustainable Technologies Laboratory — Jan 2014 – May 2015
Teaching Assistant, Dept. of Mechanical Engineering — Aug 2013 – Jan 2014
Advisor: Dr. Alice Agogino

Research Interests

Sustainable energy systems (cities, districts, buildings), thermo-fluid science, equation-based modeling (Modelica), numerical simulation, biomimicry/bio-inspired design, life cycle assessment, building controls

Publications *Note: Underline denotes graduate student, and double underline denotes undergraduate advised by me.*

Peer-Reviewed Journal Articles

J-1. **Hinkelman, Kathryn**, Juan Diego Flores Garcia, Saranya Anbarasu, Wangda Zuo. 2025. "A Review of Multi-Energy Systems from Resiliency and Equity Perspectives." *Energies,* 18(17): 4536. 10.3390/en18174536.

J-2. Anbarasu, Saranya, **Kathryn Hinkelman**, Wangda Zuo. 2025. "Thermo-hydraulic Steam Pipe Models for District Heating Simulations: Simplifications to Balance Accuracy and Simulation Speed." *Building Simulation,* 18: 2151-2174. 10.1007/s12273-025-1298-7.

J-1. Anbarasu, Saranya, **Kathryn Hinkelman**, Wangda Zuo, Victor Mendez Ferreira. 2025. "Optimal Operation of Multi-Plant Steam District Heating Systems for Enhanced Efficiency and Sustainability." *Energy Conservation and Management*, 325: 119298. 10.1016/j.enconman.2024.119298.

J-2. Anbarasu, Saranya, **Kathryn Hinkelman**, Jing Wang, Wangda Zuo. 2024. "Exploring the Effects of Interdependencies on Energy Systems in Smart Communities: A Multi-Domain Modeling and Quasi-Monte Carlo Sensitivity Analysis." *Energy & Buildings*, 319:6 114510. 10.1016/j.enbuild.2024.11451.

J-3. **Hinkelman, Kathryn**, Saranya Anbarasu, Wangda Zuo. 2024. "Exergy-Based Ecological Network Analysis for Building and Community Energy Systems." *Energy & Buildings,* 303: 113807. 10.1016/j.enbuild.2023.113807.

J-4. **Hinkelman, Kathryn,** Yizhi Yang, Wangda Zuo. 2023. "Engineering Applications and Design Methodologies for Ecosystem Biomimicry: An Interdisciplinary Review Spanning Cyber, Physical, and Cyber-Physical Systems." *Bioinspiration & Biomimetics*, 18:2 021001. 10.1088/1748-3190/acb520.

J-5. Ildiri, Nasim, Heather Bazille, Yingli Lou, **Kathryn Hinkelman,** Whitney Gray, Wangda Zuo. 2022. "Impact of WELL Certification on Occupant Satisfaction and Perceived Health, Well-being, and Productivity: A Multi-Office Pre- Versus Post-Occupancy Evaluation." *Building and Environment,* 224: 109539. 10.1016/j.buildenv.2022.109539.

J-6. **Hinkelman, Kathryn**, Saranya Anbarasu, Michael Wetter, Antoine Gautier, Wangda Zuo. 2022. "A Fast and Accurate Modeling Approach for Water and Steam Thermodynamics with Practical Applications in District Heating System Simulation." *Energy,* 254:A 124227. 10.1016/j.energy.2022.124227.

J-7. **Hinkelman, Kathryn**, Jing Wang, Wangda Zuo, Antoine Gautier, Michael Wetter, Chengliang Fan, Nicholas Long. 2022. "Modelica-Based Modeling and Simulation of District Cooling Systems: A Case Study." *Applied Energy,* 311: 118654. 10.1016/j.apenergy.2022.118654.

J-8. Huang, Sen, Jing Wang, Yangyang Fu, Wangda Zuo, **Kathryn Hinkelman**, Raymond M. Kaiser, Dong He, Draguna Vrabie. 2021. "An open-source virtual testbed for a real Net-Zero Energy Community." *Sustainable Buildings and Society*, 75: 103255. 10.1016/j.scs.2021.103255.

J-9. Fan, Chengliang, **Kathryn Hinkelman**, Yangyang Fu, Wangda Zuo, Sen Huang, Chengnan Shi, Cary Faulkner, Xiaoqing Zhou. 2021. "Open-Source Modelica Models for the Control Performance Simulation of Chiller Plants with Water-side Economizer." *Applied Energy,* 299: 117337. 10.1016/j.apenergy.2021.117337.

J-10. Ye, Yunyang, **Kathryn Hinkelman**, Yingli Lou, Wangda Zuo, Gang Wang, Jian Zhang. 2021. "Evaluating the Energy Impact Potential of Energy Efficiency Measures for Retrofit Applications: A Case Study with U.S. Medium Office Buildings." *Building Simulation*, 14: 1377-1393. 10.1007/s12273-021-0765-z.

J-11. Ye, Yunyang, **Kathryn Hinkelman**, Jian Zhang, Wangda Zuo, and Gang Wang. 2019. "A Methodology to Create Prototypical Building Energy Models for Existing Buildings: A Case Study on U.S. Religious Worship Buildings." *Energy and Buildings,* 194: 351–365. 10.1016/j.enbuild.2019.04.037.

J-12. Lu, Xing, **Kathryn Hinkelman**, Yangyang Fu, Jing Wang, Wangda Zuo, Qianqian Zhang, and Walid Saad. 2019. "An Open Source Modeling Framework for Interdependent Energy-Transportation-Communication Infrastructure in Smart and Connected Communities." *IEEE Access,* 7: 55458–76. 10.1109/ACCESS.2019.2913630.

J-13. **Van Lieshout, Kathryn G**, Joy G Anderson, Kevin B Shelburne, and Bradley S Davidson. 2014. "Intensity Rankings of Plyometric Exercises Using Joint Power Absorption." *Clinical Biomechanics,* 29: 918–22. 10.1016/j.clinbiomech.2014.06.015.

Peer-Reviewed Conference Papers

C-1. *(Under Review).* Davari, Malihe, **Kathryn Hinkelman**, Jaume Fitó, Julien Ramousse. "Towards Open-Source Simulation Models for Flexible and Self-Sufficient Energy Hubs", SimBuild 2026.

C-2. Flores Garcia, Juan Diego, **Kathryn Hinkelman**, Saranya Anbarasu, Margaret Jaynes, Wangda Zuo. 2025. "Modeling Resilient Multi-Energy Systems for Rural, Remote, and Disadvantaged Communities: A Review." *Building Simulation Conference (BS2025)*, Brisbane, Australia. (link)

C-3. Anbarasu, Saranya, Tanmay Ambadkar, Rosina Adhikari, **Kathryn Hinkelman**, Zhanwei He, Wangda Zuo, Ardeshir Moftakhar. 2024. "Optimizing Operational Costs in Combined Heat and Power Integrated District Heating Systems: A Reinforcement Learning Approach." *The 11th National Conference of IBPSA-USA (SimBuild)*, Denver, CO, USA. (link)

C-4. He, Zhanwei, Saranya Anbarasu, **Kathryn Hinkelman**, Jianjun Hu, Wangda Zuo, Ardeshir Moftakhar. 2024. "Computationally Efficient and Accurate Modeling of Combined Heat and Power Systems for District Energy Systems." *The 11th National Conference of IBPSA-USA (SimBuild)*, Denver, CO, USA. (link)

C-5. **Hinkelman, Kathryn**, David Milner, Wangda Zuo. 2023. "Open-Source Models for Sand-Based Thermal Energy Storage in Heating Applications." *The 15th International Modelica Conference*, Aachen, Germany. (link)

C-6. Milner, David, **Kathryn Hinkelman**, Jeffery Gifford, Wangda Zuo, Zhiwen Ma. 2023. "Sand-based Thermal Storage for Building Heating Applications: A District Energy Case Study." *The 7th International Energy Conference (ASTECHNOVA 2023)*. Yogyakarta, Indonesia.

C-7. **Hinkelman, Kathryn**, Saranya Anbarasu, Wangda Zuo. 2023. "Ecological Network Analysis of Integrated Energy Systems with Modelica: A Novel Biomimetic Approach for Building Design and Operation." *Building Simulation Conference*, Shanghai, China. (link)

C-8. **Hinkelman, Kathryn,** Wangda Zuo, Jing Wang, Sen Huang, Michael Wetter. 2022. "Ecosystem-Level Biomimicry for the Built Environment: Adopting Systems Ecology Principles for the Control of Heterogeneous Energy Systems." *The 5th International Conference on Building Energy and Environment.* Montreal, Canada. 10.1007/978-981-19-9822-5_284.

C-9. Anbarasu, Saranya, **Kathryn Hinkelman**, Wangda Zuo. 2022. "Tracing the Dependency of Water and Energy in Smart and Connected Communities through a Multi-Domain Modeling Framework." *The 5th International Conference on Building Energy and Environment.* Montreal, Canada. 10.1007/978-981-19-9822-5_19.

C-10. **Hinkelman, Kathryn**, Saranya Anbarasu, Michael Wetter, Antoine Gautier, Baptiste Ravache, Wangda Zuo. 2022. "Towards Open-Source Modelica Models for Steam-Based District Heating Systems." *The 1st International workshop on Open Source Modelling and Simulation of Energy Systems*, 1-6. Aachen, Germany. 10.1109/OSMSES54027.2022.9769121.

C-11. **Hinkelman, Kathryn**, Jing Wang, Chengliang Fan, Wangda Zuo, Antoine Gautier, Michael Wetter, Nicholas Long. 2021. "A Case Study on Condenser Water Supply Temperature Optimization with a District Cooling Plant." *The 14th International Modelica Conference*, 587-595. Linköping, Sweden. 10.3384/ecp21181587.

C-12. **Hinkelman, Kathryn**, Sen Huang, Jing Wang, Wangda Zuo. 2019. "Enhancing the Implementation of a First-order Equivalent Thermal Parameter Model to Enable Accurate and Robust Building Thermal Response Prediction." *Building Simulation Conference,* 1859-1865. Rome, Italy. 10.26868/25222708.2019.210582.

C-13. Ye, Yunyang, **Kathryn Hinkelman**, Jian Zhang, Yulong Xie, Wangda Zuo. 2019. "A Methodology to Determine Energy Savings Impact of Building Energy Code Upgrades: A Case Study on Small Offices." *Building Simulation Conference*, 3894-3901. Rome, Italy. 10.26868/25222708.2019.210692.

C-14. **Van Lieshout, Kathryn G**, Cindy Bayley, Sarah O Akinlabi, Lisa von Rabenau, and David Dornfeld. 2015. "Leveraging Life Cycle Assessment to Evaluate Environmental Impacts of Green Cleaning Products." In *Procedia CIRP*, 29:372–377. Sydney, Australia. 10.1016/j.procir.2015.02.063.

Posters † BEST POSTER AWARD

P-1. Malihe Davari, **Kathryn Hinkelman**, Jaume Fito. "Optimal Design of Coupled District Energy and Microgrid Systems in France's Bourget Du Lac District", IEEE Power and Energy Society General Meeting, Austin, TX, July 27-31, 2025.

P-2. Fitzwilliam Keenan-Koch, **Kathryn Hinkelman**. "Disentangling the Technosphere: Network Analysis of Life Cycle Assessment." University of Vermont Student Research Conference, Burlington, VT, April 23, 2025.

P-3. Juan Diego Flores Garcia, **Kathryn Hinkelman**, Jing Wang, Saranya Anbarasu, Margaret Jaynes, Wangda Zuo. "Modeling Resilient Multi-Energy Systems for Rural, Remote, and Disadvantaged Communities: A Review." University of Vermont Student Research Conference, Burlington, VT, April 23, 2025.

P-4. **Hinkelman, Kathryn**. "BICEPS – Biomimetic Integrated Community Energy and Power Systems." *U.S. Department of Energy Building Technologies Office (BTO) Peer Review*, Arlington, VA, April 24-28, 2023.

† P-5. **Hinkelman, Kathryn**, Wangda Zuo. "Ecological Network Analysis for Architectural Engineering: How might building energy systems learn from nature?" *AEI Conference*, Denver, CO, April 12-14, 2023.

P-6. **Hinkelman, Kathryn**, Xing Lu, Wangda Zuo, Yangyang Fu, Jing Wang, Yingchen Zhang. "Multi-domain Modeling Framework for Future Smart and Connected Communities." *21st Century Energy Transition Symposium*, Denver, CO, April 1-2, 2019.

P-7. **Van Lieshout, Kathryn G**, Owen RW Dennis, Joy G Anderson, Kevin B Shelburne, Bradley S Davidson. "Intensity rankings of plyometric exercises using joint power absorption." *American College of Sports Medicine Annual Meeting*, Indianapolis, IN, May 28-June 1, 2013.

Technical Reports

R-1. **Hinkelman, Kathryn**. 2023. "Modelica Modeling and Ecosystem Biomimicry of District Energy Systems." Doctoral Dissertation. *Pennsylvania State University*. etda.libraries.psu.edu/catalog/27446kgh5244.

R-2. **Van Lieshout, Kathryn G**. 2015. "Environmental impact and indoor environmental quality assessment of Pinoleville Pomo Nation demonstration home: An implementation of life cycle

assessment and culturally-inspired design." Master's Thesis. *University of California, Berkeley*. 10.13140/RG.2.2.14890.90564.

R-3. Final Report (co-authored with Alice Agogino (PI) and student team). 2015. "Advanced UX Development Based on Innovative Technology: Integrating UX Design with the Internet of Things." Samsung Electronics Co., Ltd. DMC R&D Center.

R-4. Agogino, Alice (PI). **Kathryn Van Lieshout**, Chandrayee Basu, Kyunam Kim, Julien Caubel, Elizabeth Cheng, Aparna Dhinakaran. 2014. "Model Predictive Smart Lighting Commissioning System for Emerging Demand Management." Energy Innovations Small Grant Program: Final Report. California Energy Commission.

Presentation Sessions & Invited Talks

T-1. "Loops, Links, and Low Exergy: Rethinking Energy Design Through Nature's Lens." *GundxChange Seminar*, Gund Institute for Environment, University of Vermont, October 24, 2025.

T-2. "Building Adaptative Knots and Networks: Toolchains for Multi-Energy Systems." *Invited Workshop Presentation*, UVM-Dartmouth Impact Discovery Workshop, University of Vermont, August 11, 2025.

T-3. "Emerging Modeling Methods for Sustainable and Resilient Community Energy Systems." *Invited Research Seminar*, Center for Resilient Energy and & Autonomous Technologies in Engineering, University of Vermont, November 22, 2024.

T-4. "Modeling of Smart, Sustainable, and Connected Communities." *Invited Research Seminar*, Department of Civil and Environmental Engineering, University of Vermont, October 18, 2024.

T-5. "Ecological Network Analysis of Integrated Energy Systems with Modelica: A Novel Biomimetic Approach for Building Design and Operation." *The 18th IBPSA International Conference and Exhibition (Building Simulation 2023)*, Shanghai, China, Virtual, September 5, 2023.

T-6. "Equation-Based Modeling and Ecosystem Biomimicry of Integrated Building Energy Systems." *Invited Research Seminar*, Department of Civil, Architectural and Environmental Engineering, Drexel University, May 26, 2023.

T-7. "BICEPS – Biomimetic Integrated Community Energy and Power Systems." *U.S. Department of Energy Building Technologies Office (BTO) Peer Review*, Arlington, VA, April 24-28, 2023.

T-8. "Advancements in Multidomain Modeling and System-Level Biomimicry for the Comprehensive Design of District Energy Systems." *Invited Research Seminar*, Department of Systems Engineering, Colorado State University, February 2, 2023.

T-9. "A Fast and Accurate Modeling Approach for Water and Steam Thermodynamics with Practical Applications in District Heating System Simulation." *The 2022 Building Performance Analysis Conference and SimBuild,* Seminar 5: Open Source Modeling for District Energy Systems, Chicago, IL, September 14, 2022.

T-10. "Ecosystem-Level Biomimicry for the Built Environment: Adopting Systems Ecology Principles for the Control of Heterogeneous Energy Systems." *The 5th International Conference on Building Energy and Environment,* Montreal, Canada, July 28, 2022.

T-11. "Virtual Testbed for Optimized Planning of Smart, Sustainable, and Connected Communities." *The 2022 IEEE Power & Energy Society General Meeting*, Denver, CO, July 19, 2022.

T-12. "From Furnaces to Forests: Innovations in Modeling and Simulation for the Transition of Legacy District Energy Systems to Integrated Biomimetic Designs." *Invited Research Seminar*, Dept. of Mechanical Engineering & Mechanics, Drexel University, Virtual, December 20, 2021.

T-13. "A Case Study on Condenser Water Supply Temperature Optimization with a District Cooling Plant." *The 14th International Modelica Conference*, Virtual, September 23, 2021.

T-14. "Modeling and Simulation of District Cooling Systems with Modelica." *IBPSA-USA Denver Chapter: Student Presentations*, Virtual, May 20, 2021.

T-15. "A Modeling Framework to Evaluate Energy, Transportation, and Communication Interdependence in Smart and Connected Communities." *The American Modelica Conference*, Virtual, September 22-24, 2020.

T-16. "A Modeling Framework to Evaluate Energy, Transportation, and Communication Interdependence in Smart and Connected Communities." *IBPSA-USA Denver Chapter: Student Presentations,* Golden, CO, November 21, 2019.

T-17. "Enhancing the Implementation of a First-order Equivalent Thermal Parameter Model to Enable Accurate and Robust Building Thermal Response Prediction." *Building Simulation Conference*. Rome, Italy, September 2-4, 2019.

T-18. "A Modeling Framework to Evaluate Energy, Transportation, and Communication Interdependence in Smart and Connected Communities." *Intelligent Building Operations Workshop*, Boulder, CO, August 7-9, 2019.

T-19. "Leveraging life cycle assessment to evaluate environmental impacts of green cleaning products." *22nd CIRP Conference on Life Cycle Engineering*, Sydney, Australia, April 7-9, 2015.

Research Funding

Collaborative Research: CPS: Medium: Honeybee-Inspired Coordination & Control of Distributed Energy Resources for Resilient Electric Grids at the Distribution Level, ECCS-2433427
Sponsor: U.S. National Science Foundation; Electrical, Communications and Cyber Systems (ECCS)
Total Award: $1,000,000 (My Portion: $208,333)
Period: 10/2025-09/2028
My role: Co-PI and UVM Lead
Investigators: Wangda Zuo (PI, Penn State), Kyri Baker (Co-PI, CU Boulder), Orit Peleg (Co-PI, CU Boulder), Di Wu (Senior Personnel, PNNL), Raymond Kaiser (Senior Personnel, eVoke Systems)

ERI: Towards Dynamic Life Cycle Assessment of Renewable Energy Hub Systems, CBET-2501735
Sponsor: U.S. National Science Foundation; Chemical, Bioengineering, Environmental, and Transport Systems (CBET)
Total Award: $200,000 (Sole-PI)
Period: 06/2025-05/2027

Improving circular design methods and metrics from a life cycle perspective to support NASA's long-term space exploring systems
Sponsor: Vermont Space Grant Consortium (VTSGC)
Total Award: $32,400 (Sole-PI)
NASA Collaborators: Tra-My Justine Richardson & Michael Flynn, NASA Ames Research Center
Period: 06/2025-05/2026

Monitoring Vermont Building and Energy Systems for Ecological and Human Health Impacts
Sponsor: Office of the Vice President for Research; University of Vermont; EXPRESS Grant Program
Total Award: $3,000 (Sole PI)
Period: 12/24-12/25

Biomimetic Integrated Community Energy and Power System (BICEPS)
Sponsor: U.S. Department of Energy; Building Technologies Office (BTO); IBUILD Fellowship
Total Award: $164,000 (Individual fellowship recipient)
Period: 08/21-07/23

EAGER: Collaborative Research: Modernizing Cities via Smart Garden Alleys with Application in Makassar City, CNS-2025459
Sponsor: National Science Foundation; Computer and Network Systems (CNS)
Total Award: $175,000 (PI: Wangda Zuo, My Portion: $0)
My Role: Contributed to full proposal writing & concept development at the equivalent level of a Co-PI
Period: 07/20-06/22

Optimal Co-Design of Integrated Thermal-Electrical Networks and Control Systems for Grid-interactive Efficient District (GED) Energy Systems, DE-EE0009139
Sponsor: U.S. Department of Energy; Advanced Manufacturing Office (AMO)
Total Award: $4,159,922 (PI: Wangda Zuo, My Portion: $0)
My Role: Contributed to full proposal writing & concept development at the equivalent level of a Co-PI
Period: 06/20-12/23

Research Advising

PhD Students

Anastasija Mensikova, Ph.D. in Civil and Environmental Engineering	Fall 2025 –
Malihe Davari, Ph.D. in Civil and Environmental Engineering	Spring 2025 –

Master's Students

Fitzwilliam Keenan-Koch, M.S. in Complex Systems and Data Science	Fall 2024 –
Chris Leppla, M.S. in Complex Systems and Data Science	Fall 2024 –

Undergraduate Students

Jessica Donlevie, B.S. in Environmental Engineering	Fall 2025 –
Guvriel Levis, B.S. in Mechanical Engineering	Fall 2025 –
Nathan Kellison-Miller, B.S. in Civil Engineering	Fall 2025 –
Margaret Jaynes, B.S. in Environmental Engineering (Honors)	Fall 2024 –
Ethan Alexander Wolf, B.S. in Environmental Engineering (Barrett Scholar)	Summer 2025
Emmet Kimberly, B.S. in Environmental Engineering	Fall 2024
Elliott Austin, B.S. in Environmental Engineering	Fall 2024

Thesis Committees

PhD Students

1. Alireza Lotfabadi (TBD), Mechanical Eng., Advisor: Jeffrey Marshall, My Role: Member

Master's Students

2. Megan Bush (TBD), Architectural Eng., Penn State, Advisor: Gregory Pavlak, My Role: Member
3. Siavash Kasaeipour (TBD), Mechanical Eng., Advisor: Jeffrey Marshall, My Role: Member
4. Jaiden Capozzi (TBD), Natural Resources (AMP), Advisor: Bindu Panikkar, My Role: Chair
5. Joey Del Toro (2025), Advisor: Yves Dubief, M.S. in Mechanical Eng., My Role: Chair

Teaching

Instructor

CEE 2130: System Focused Design Engineering, University of Vermont	S26
CEE/CSYS 6990: Energy System Entanglement, University of Vermont	F25
CEE 2130: System Focused Design Engineering, University of Vermont	S25

Guest Lecturer

EE 3315: Electric Energy Systems, University of Vermont	F25
AE 597: Advanced Modeling & Simulation for Building & Community Energy Systems, Pennsylvania State University	F22, F23, F24
AREN 4317: Architectural Engineering Design, University of Colorado Boulder	F19

Grader

AREN 4890: Sustainable Building Design, University of Colorado Boulder	F19, F20, F21

Teaching Assistant

AREN 4317: Architectural Engineering Design, University of Colorado Boulder	S19
AREN 3540: Illumination I, University of Colorado Boulder	F18

Graduate Student Instructor, University of California, Berkeley

ME 110: Introduction to New Product Development	S14

ME 107: Mechanical Engineering Laboratory — F13

Academic Tutor, Athletics and Recreation, University of Denver — S&F11, W&S12
- Courses: Differential Equations, Calculus, and Engineering Concepts
- Taught class material that was missed due to athletic travel

Honors and Awards

IBPSA-World Godfried Augenbroe Award — 2025
Recognizes a recent outstanding PhD thesis on the topic of building performance simulation, awarded biannually.

Postdoctoral Scholar Award, Pennsylvania State University — 2024

SimBuild 2024 Best Reviewer Award — 2024

IBUILD Graduate Research Fellowship, **$164,000** total, 2 years — 2021-2023
U.S. Department of Energy, Energy Efficiency and Renewable Energy, Building Technologies Office, Managed by Oak Ridge National Laboratory

Borda Graduate Scholarship in Honor of Gifford H. Albright, PSU — 2022

Gordon D. Kissinger Graduate Research Fellowship, PSU — 2022

Harvey and Geraldine Brush Graduate Fellowship in Engineering, PSU — 2022

Marlene and Joseph Borda Architectural Engineering Graduate Fellowship, PSU — 2022

P.E.O. Scholar Award, **$20,000** international merit-based award — 2021

International Building Performance Simulation Assoc. (IBPSA) Project 1 Scholarship — 2019

The Link Foundation Energy Fellowship Program Honorable Mention — 2019

Colorado Engineering Council Silver Medal & Certificate of Merit — 2013

Pioneer Award — 2013
*"The **highest honor** given to undergraduate students" at the U. of Denver (DU)*

Mechanical Engineering Departmental Distinction, DU — 2013

Taylor Achievement Award, Ortho Transmission, LLC — 2013

Hornbeck Scholar (7 quarters), DU — 2010-2013

Dean's List (8 quarters), DU — 2010-2013

A University of Denver Scholar-Athlete of the Year (4 years) — 2009-2013

NSCAA Scholar All-West Region Team — 2012

Second Team All-WAC Selection — 2012

Academic All-American First Team, Division I Women's Soccer — 2011

Preseason All-Sun Belt Conference Team — 2011

Sun Belt Conference Commissioner's List (all 3 seasons) — 2009-2011

SBC All-Conference First Team — 2019

DU Invitational All-Tournament Team — 2009

CS360's Primetime Performers of the Week (9/15) — 2009

Student Awards

Ethan Alexander Wolf, Barrett Foundation Summer Scholarship — 2025

Professional Associations

ASHRAE: American Society of Heating, Refrigerating & Air-Conditioning Engineers — 2017 – Present

IBPSA: International Building Performance Simulation Association — 2019 – Present

ASEE: American Society of Engineering Education — 2022 – Present

Service & Leadership

Professional Services

ASHRAE TC 6.4 Combined Heat and Power
- Secretary — Jul 2024 – Present
- Corresponding Member — 2021 – 2024
- Provisional Corresponding Member — 2020 – 2021

ASHRAE TC 4.7 Energy Calculations
- Corresponding Member — Jul 2024 – Present
- Provisional Corresponding Member — 2023 – 2024

ASHRAE TC 6.2 District Energy
- Webmaster — Jul 2025 – Present
- Provisional Corresponding Member — Jul 2023 – Present

IBPSA-USA Community and Practice Advisory Committee
- Member — Dec 2024 – Present

Conference Chair

Intelligent Building Operations Workshop, University of Colorado Boulder — Aug 2019
- Session chair for Modeling and Assessment Tools

Publication Reviewer

Journals
- Bioinspiration & Biomimetics
- Building Simulation, An International Journal
- Electric Power Systems Research
- Energies
- IEEE Access
- IEEE Transactions on Smart Grid
- Journal of Architectural Engineering
- Journal of Building Performance Simulation
- Processes
- Reliability Engineering & System Safety
- Resources, Conservation and Recycling
- Science and Technology for the Built Environment
- Sustainable Cities and Society

Conference Proceedings
- ASHRAE Winter Conference
- ASME MSEC
- Building Simulation
- COBEE
- IBPSA-USA SimBuild

Collegiate Athlete — Aug 2009 – Nov 2012

Division I Women's Soccer Team, University of Denver
- Balanced intensive athletic duties of regular practice, games, and travel with a difficult course load.
- Regular starter and leader to the team, finishing 22nd in the nation with a Sweet Sixteen NCAA appearance in senior season.