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# KATHRYN HINKELMAN, PhD

October 2025

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## Contact Information

Department of Civil and Environmental Engineering  
University of Vermont  
217 Votey Hall  
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[theseelab.org](http://theseelab.org)  
[Google Scholar Profile](#)  
ORCID: [0000-0002-8297-6036](https://orcid.org/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

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](https://doi.org/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](https://doi.org/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](https://doi.org/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.2024.114510](https://doi.org/10.1016/j.enbuild.2024.114510).
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1007/s12273-021-0765-z).

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- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.clinbiomech.2014.06.015).

#### Peer-Reviewed Conference Papers

- C-1. (Under Review). Davari, Malihe, **Kathryn Hinkelman**, Jaume Fito. "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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1109/OSMSES54027.2022.9769121).

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- 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 14<sup>th</sup> International Modelica Conference*, 587-595. Linköping, Sweden. [10.3384/ecp21181587](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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.” *21<sup>st</sup> 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](https://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

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assessment and culturally-inspired design.” Master’s Thesis. *University of California, Berkeley*. [10.13140/RG.2.2.14890.90564](https://escholarship.org/uc/item/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.

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**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 18<sup>th</sup> 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.



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- T-13. "A Case Study on Condenser Water Supply Temperature Optimization with a District Cooling Plant." *The 14<sup>th</sup> 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.
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## 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: Nikunj Oza & Tra-My Justine Richardson, 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)

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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

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**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

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**Thesis  
Committees**

**PhD Students**

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

**Master's Students**

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

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**Teaching**

**Instructor**

CEE/CSYS 6990: [Energy System Entanglement](#), University of Vermont

F25

CEE 2130: [System Focused Design Engineering](#), University of Vermont

S25

**Guest Lecturer**

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

	<ul style="list-style-type: none"> <li>- Courses: <a href="#">Differential Equations</a>, <a href="#">Calculus</a>, and <a href="#">Engineering Concepts</a></li> <li>- Taught class material that was missed due to athletic travel</li> </ul>	
<b>Honors and Awards</b>	<p>IBPSA-World Godfried Augenbroe Award <i>Recognizes a recent outstanding PhD thesis on the topic of building performance simulation, awarded biannually.</i></p> <p>Postdoctoral Scholar Award, Pennsylvania State University</p> <p>SimBuild 2024 Best Reviewer Award</p> <p>IBUILD Graduate Research Fellowship, <b>\$164,000</b> total, 2 years <i>U.S. Department of Energy, Energy Efficiency and Renewable Energy, Building Technologies Office, Managed by Oak Ridge National Laboratory</i></p> <p>Borda Graduate Scholarship in Honor of Gifford H. Albright, PSU</p> <p>Gordon D. Kissinger Graduate Research Fellowship, PSU</p> <p>Harvey and Geraldine Brush Graduate Fellowship in Engineering, PSU</p> <p>Marlene and Joseph Borda Architectural Engineering Graduate Fellowship, PSU</p> <p>P.E.O. Scholar Award, <b>\$20,000</b> international merit-based award</p> <p>International Building Performance Simulation Assoc. (IBPSA) Project 1 Scholarship</p> <p>The Link Foundation Energy Fellowship Program Honorable Mention</p> <p>Colorado Engineering Council Silver Medal &amp; Certificate of Merit</p> <p>Pioneer Award <i>"The <b>highest honor</b> given to undergraduate students" at the U. of Denver (DU)</i></p> <p>Mechanical Engineering Departmental Distinction, DU</p> <p>Taylor Achievement Award, Ortho Transmission, LLC</p> <p>Hornbeck Scholar (7 quarters), DU</p> <p>Dean's List (8 quarters), DU</p> <p>A University of Denver Scholar-Athlete of the Year (4 years)</p> <p>NSCAA Scholar All-West Region Team</p> <p>Second Team All-WAC Selection</p> <p>Academic All-American First Team, Division I Women's Soccer</p> <p>Preseason All-Sun Belt Conference Team</p> <p>Sun Belt Conference Commissioner's List (all 3 seasons)</p> <p>SBC All-Conference First Team</p> <p>DU Invitational All-Tournament Team</p> <p>CS360's Primetime Performers of the Week (9/15)</p>	<p>2025</p> <p>2024</p> <p>2024</p> <p>2021-2023</p> <p>2022</p> <p>2022</p> <p>2022</p> <p>2022</p> <p>2021</p> <p>2019</p> <p>2019</p> <p>2013</p> <p>2013</p> <p>2013</p> <p>2013</p> <p>2010-2013</p> <p>2010-2013</p> <p>2009-2013</p> <p>2012</p> <p>2012</p> <p>2011</p> <p>2011</p> <p>2009-2011</p> <p>2019</p> <p>2009</p> <p>2009</p>
<b>Student Awards Under My Supervision</b>	<p>Ethan Alexander Wolf, Barrett Foundation Summer Scholarship</p> <p>IBPSA: International Building Performance Simulation Association</p> <p>ASEE: American Society of Engineering Education</p>	<p>2025</p> <p>2019 – Present</p> <p>2022 – Present</p>
<b>Professional Associations</b>	<p>ASHRAE: American Society of Heating, Refrigerating &amp; Air-Conditioning Engineers</p> <p>IBPSA: International Building Performance Simulation Association</p> <p>ASEE: American Society of Engineering Education</p>	<p>2017 – Present</p> <p>2019 – Present</p> <p>2022 – Present</p>
<b>Service &amp; Leadership</b>	<p><b>Professional Services</b></p> <p>ASHRAE TC 6.4 Combined Heat and Power</p> <ul style="list-style-type: none"> <li>- Secretary</li> <li>- Corresponding Member</li> <li>- Provisional Corresponding Member</li> </ul>	<p>Jul 2024 – Present</p> <p>2021 – 2024</p> <p>2020 – 2021</p>



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ASHRAE TC 4.7 Energy Calculations

- Corresponding Member
- Provisional Corresponding Member

Jul 2024 – Present  
2023 – 2024

ASHRAE TC 6.2 District Energy

- Webmaster
- Provisional Corresponding Member

Jul 2025 – Present  
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
- 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 22<sup>nd</sup> in the nation with a Sweet Sixteen NCAA appearance in senior season.