YUNYANG YE

Energy and Environment Directorate, Pacific Northwest National Laboratory
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RESEARCH INTERESTS

Building Energy Policy; Building Energy Systems
Sustainable and Resilient Buildings; Electrification and Decarbonization of Built Environments
Grid-Interactive Efficient Buildings; Building-to-Grid Integration

EDUCATION

University of Colorado Boulder	**Boulder, CO**
Ph.D. in Architectural Engineering	08/2017 - 12/2019
Advisor: Dr. Wangda Zuo	

University of Miami	**Coral Gables, FL**
Ph.D. in Architectural Engineering	06/2016 - 07/2017
(*Transferred to CU Boulder with the Advisor)	
Advisor: Dr. Wangda Zuo	

Tongji University	**Shanghai, CN**
M.S. in Power Engineering (HVAC)	09/2013 - 03/2016
Advisor: Dr. Peng Xu	

Tongji University	**Shanghai, CN**
B.S. in Building Environment and Facilities Engineering	09/2009 - 07/2013

EMPLOYMENT

Pacific Northwest National Laboratory   01/2020 - Present
Research Scientist
- Lead on multiple projects and tasks about urban-scale electrification, building energy systems, grid-interactive efficient buildings, resilient buildings, and building-to-grid integration.
- Mentor junior staffs for multiple research projects.

University of Colorado Boulder   08/2017 - 10/2019
Graduate Research Assistant
- Created a set of prototypical models for existing commercial buildings in the U.S.
- Developed the framework of large-scale building energy modeling and simulation (millions of building energy models).
- Supervised graduate and undergraduate students.
- Served as an alternative instructor for Sustainable Building Design and Mechanical Systems for Buildings.

Pacific Northwest National Laboratory   06/2018 - 08/2018
Intern
- Developed multiple tools for prototype building model calibration.
- Evaluated performance for multiple types of sensors used for an indoor air quality experiment.

University of Miami   06/2016 - 07/2017
Graduate Research Assistant
- Reviewed the existing databases and tools for building energy analysis.
- Analyzed the data for U.S. commercial building samples in existing databases.
- Developed the Modelica heat exchanger modules.

Shengbao Energy-saving Tech Co., Ltd (CN)   06/2014 - 09/2014
Intern
- Participated in developing and testing the platform for automatic fault, detection, and diagnostics.

Shenneng Energy Co., Ltd (CN)   01/2013 - 03/2013
Intern
- Participated in designing combined supply of cooling, heating, and power station for the Hongqiao medical center in Shanghai, China.

RESEARCH PROJECT LEADERSHIP

	Project/Task Title	*Role*	*My Funding*
12.	**Modeling the Impacts of Electrification of Urban-Scale Energy Loads with Distributed Energy Resources** Sponsor: PNNL EED; 01/2022-09/2022	Principal Investigator / Project Manager	$150,000
11.	**Energy Targets - Infrastructure Development** Sponsor: US DOE; 02/2023 – 09/2023	Task Manager	$60,000
10.	**CECESI - Building Energy Model Development** Sponsor: US DOE; 01/2023 – 09/2023	Task Manager	$60,000
9.	**Building Performance Standards - Reno Technical Assistance** Sponsor: US DOE; 01/2023 – 09/2023	Task Manager	$60,000
8.	**Building Performance Standards - Cost Analysis** Sponsor: US DOE; 01/2023 – 03/2023	Task Manager	$30,000
7.	**OpenStudio - User Support** Sponsor: US DOE; 10/2021-09/2023	Task Manager	$26,330
6.	**Tri-Lab Resilience - Resilience Evaluation for Existing and New Multifamily Home** Sponsor: US DOE; 10/2021 - 09/2022	Task Manager	$20,000
5.	**Commercial Infrastructure Load and Schedule by Space Type** Sponsor: US DOE; 10/2020 - 09/2022	Task Manager	$170,000
4.	**BOPTEST 2.1: Building-to-Grid Review** Sponsor: US DOE; 10/2020 - Present	Task Manager	$80,000
3.	**State Energy Code Adoption for Commercial Buildings** Sponsor: US DOE; 10/2020 - Present	Task Manager	$70,000

2. **Commercial Infrastructure Refactor for Modularization - Lighting Power Density and Lighting Control Implementation** Sponsor: US DOE; 10/2020 - 09/2021	Task Manager	$50,000
1. **Commercial Infrastructure - Infiltration** Sponsor: US DOE; 10/2020 - 09/2021	Task Manager	$10,000
	Total:	**$786,330**

AWARDS

PNNL Early Career Researcher Award Finalist	2022
PNNL Outstanding Performance Award	2022
PNNL EI&BD Mentors of the Month for July	2022
ASHRAE Homer Addams Award	2022
Reviewer's Recognition: 2021 Reviewers of the Year from *Journal of Solar Energy Engineering*	2022
PNNL Outstanding Performance Award	2021
ASHRAE Graduate Student Grant-in-Aid	2019
ASHRAE Student Travel Grant	2018
Best Paper Award (Chinese National Conference on HVAC Modeling)	2017
Outstanding Service Award (ASHRAE University of Miami Chapter)	2017
National Scholarship for Outstanding Students (China)	2016
Shanghai Outstanding Graduate Student	2016
Tongji University Outstanding Graduate Student	2016
Second prize in Shanghai of Contest of 'Energy star'	2012
Third prize in China of 5th National University Student Contest on Energy Saving and Emission Reduction	2012
Tongji University's Scholarship for Outstanding Students	2012
Tongji University's Scholarship for Outstanding Students	2011

TEACHING INTERESTS

Sustainable Building Design; Mechanical System for Buildings; Computer Simulation of Building Systems; Advanced Modeling and Controls of Energy Systems; Heat Transfer; Thermodynamics and courses related to building energy systems and large-scale energy systems

TEACHING EXPERIENCE

Alternative instructor, University of Colorado Boulder

- AREN4890/5890: Sustainable Building Design	Fall 2019
- AREN4890/5890: Sustainable Building Design	Fall 2018

| - AREN4890/5890: Sustainable Building Design | Fall 2017 |
| - AREN3010: Mechanical Systems for Buildings | Fall 2017 |

PUBLICATIONS

Symbols: <u>Underline</u>: Researchers supervised/mentored by Dr. Yunyang Ye.

<u>Ph.D. Thesis</u>

Yunyang Ye. "Standardized Computational Framework for Prototypical Building Energy Model Creation and Building Energy Analyses." PhD dissertation, University of Colorado Boulder, 2019.

<u>Peer-Reviewed Journal Papers</u>

28. **Yunyang Ye**, <u>Ammar Dehwah</u>, <u>Cary Faulkner</u>, <u>Haripriya Sathyanarayanan</u>, Xuechen Lei 2023. "A Perspective of Decarbonization Pathways in Future Buildings in the United States." *Buildings*. 13, pp. 1003. https://doi.org/10.3390/buildings13041003.

27. **Yunyang Ye**, <u>Cary Faulkner</u>, <u>Rong Xu</u>, Sen Huang, Yuan Liu, Draguna Vrabie, Jian Zhang, Wangda Zuo 2023. "System Modeling for Grid-Interactive Efficient Building Applications." *Journal of Building Engineering*. 69, pp. 106148. https://doi.org/10.1016/j.jobe.2023.106148.

26. Yongbao Chen, **Yunyang Ye** (Corresponding Author), Jingnan Liu, Lixin Zhang, Weilin Li, Soheil Mohtaram 2023. "Machine Learning Approach to Predict Building Thermal Load Considering Feature Variable Dimensions: An Office Building Case Study." *Buildings*. 13, pp. 312. https://doi.org/10.3390/buildings13020312.

25. <u>Yizhi Yang</u>, <u>Yingli Lou</u>, Chris Payne, **Yunyang Ye**, Wangda Zuo 2023. "Long-Term Carbon Intensity Reduction Potential of K-12 School Buildings in the United States." *Energy and Buildings*. 282, pp. 112802. https://doi.org/10.1016/j.enbuild.2023.112802.

24. <u>Yingli Lou</u>, **Yunyang Ye**, <u>Yizhi Yang</u>, Wangda Zuo, Gang Wang, <u>Matthew Strong</u>, <u>Satish Upadhyaya</u>, Chris Payne 2023. "Individualized Empirical Baselines for Evaluating the Energy Performance of Existing Buildings." *Science and Technology for the Built Environment*. 29, pp. 19-33. https://doi.org/10.1080/23744731.2022.2134680.

23. **Yunyang Ye**, Xuechen Lei, Jeremy Lerond, Jian Zhang, <u>Eli Brock</u> 2022. "A Case Study about Energy and Cost Impacts for Different Community Scenarios Using a Community-Scale Building Energy Modeling Tool." *Buildings*. 12, pp. 1549. https://doi.org/10.3390/buildings12101549.

22. <u>Yingli Lou</u>, <u>Yizhi Yang</u>, **Yunyang Ye**, Chuan He, Wangda Zuo 2022. "The Economic Impacts of Carbon Emission Trading Scheme on Building Retrofits: A Case Study with US Medium Office Buildings." *Building and Environment*. 221, pp. 109311. https://doi.org/10.1016/j.buildenv.2022.109311.

21. **Yunyang Ye** (Corresponding Author), <u>Matthew Strong</u>, <u>Yingli Lou</u>, <u>Cary Faulkner</u>, Wangda Zuo, <u>Satish Upadhyaya</u> 2022. "Evaluating Performance of Different Generative Adversarial Networks for Large-Scale Building Power Demand Prediction." *Energy and Buildings*. 269, pp. 112247. https://doi.org/10.1016/j.enbuild.2022.112247.

20. <u>Chenlu Tian</u>, **Yunyang Ye**, <u>Yingli Lou</u>, Wangda Zuo, Guiqing Zhang, Chengdong Li 2022. "Daily Power Demand Prediction for Buildings at a Large Scale Using a Hybrid of Physics-Based Model and Generative Adversarial Network." *Building Simulation*. 15, pp. 1685-1701. https://doi.org/10.1007/s12273-022-0887-y.

19. Yingli Lou, **Yunyang Ye**, Yizhi Yang, Wangda Zuo 2022. "Long-Term Carbon Emission Reduction Potential of Building Retrofit Measures with Dynamically Changing Electricity Emission Factors." *Building and Environment*. 210, pp. 108683. https://doi.org/10.1016/j.buildenv.2021.108683.

18. Yingli Lou, Yizhi Yang, **Yunyang Ye**, Wangda Zuo 2021. "The Effect of Building Retrofit Measures on CO_2 Reduction - A Case Study with U.S. Medium Office Buildings." *Energy and Buildings*. 253, pp. 111514. https://doi.org/10.1016/j.enbuild.2021.111514.

17. Lingyun Xie, Shifang Huang, **Yunyang Ye**, Xiaosong Zhang 2021. "Regional Suitability of Heating Tower Heat Pumps Based on Technical and Economic Performance Maps." *Energy and Buildings*. 245, pp. 111048. https://doi.org/10.1016/j.enbuild.2021.111048.

16. **Yunyang Ye**, Yan Chen, Jian Zhang, Zhihong Pang, Zheng O'Neill, Bing Dong, Hwakong Cheng 2021. "Energy-Saving Potential Evaluation for Primary Schools with Occupant-Centric Controls." *Applied Energy*. 293, pp. 116854. https://doi.org/10.1016/j.apenergy.2021.116854.

15. **Yunyang Ye**, 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, pp. 1377-1393. https://doi.org/10.1007/s12273-021-0765-z.

14. Sen Huang, **Yunyang Ye**, Di Wu, Wangda Zuo 2021. "An Assessment of Power Flexibility from Commercial Building Cooling Systems in the United States." *Energy*. 221, pp. 119571. https://doi.org/10.1016/j.energy.2020.119571.

13. Liang Zhang, Jin Wen, Yanfei Li, Jianli Chen, **Yunyang Ye**, Yangyang Fu, William Livingood 2021. "A Review of Machine Learning in Building Load Prediction." *Applied Energy*. 285, pp. 116452. https://doi.org/10.1016/j.apenergy.2021.116452.

12. **Yunyang Ye**, Yingli Lou, Wangda Zuo, Ellen Franconi, Gang Wang 2020. "How Do Electricity Pricing Programs Impact the Selection of Energy Efficiency Measures? - A Case Study with U.S. Medium Office Buildings." *Energy and Buildings*. 224, pp. 110267. https://doi.org/10.1016/j.enbuild.2020.110267.

11. **Yunyang Ye**, Yingli Lou, Matthew Strong, Satish Upadhyaya, Wangda Zuo, Gang Wang 2020. "Development of New Baseline Models for US Medium Office Buildings Based on Commercial Buildings Energy Consumption Survey Data." *Science and Technology for the Built Environment*. 26, pp. 1321-1336. https://doi.org/10.1080/23744731.2020.1765616.

10. **Yunyang Ye**, Kathryn Hinkelman, Jian Zhang, Wangda Zuo, 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, pp. 351-365. https://doi.org/10.1016/j.enbuild.2019.04.037.

9. Shifang Huang, **Yunyang Ye**, Xu Han, Wangda Zuo, Xiaosong Zhang, Li Jiang 2019. "Performance Evaluation of Heating Tower Heat Pump Systems Over the World." *Energy Conversion and Management*. 186, pp. 500-515. https://doi.org/10.1016/j.enconman.2019.03.003.

8. **Yunyang Ye**, Wangda Zuo, Gang Wang 2019. "A Comprehensive Review of Energy-Related Data for U.S. Commercial Buildings." *Energy and Buildings*. 186, pp. 126-137. https://doi.org/10.1016/j.enbuild.2019.01.020.

7. <u>Guang Zhou</u>, **Yunyang Ye**, Wangda Zuo, Xiaoqing Zhou, X. Wu 2018. "Fast and Efficient Prediction of Finned-Tube Heat Exchanger Performance Using Wet-Dry Transformation Method with Nominal Parameters." *Applied Thermal Engineering*. 145, pp. 133-146. https://doi.org/10.1016/j.applthermaleng.2018.09.020.

6. <u>Guang Zhou</u>, **Yunyang Ye**, Jing Wang, Wangda Zuo, Yangyang Fu, Xiaoqing Zhou 2018. "Modeling Air-to-Air Plate-Fin Heat Exchanger without Dehumidification." *Applied Thermal Engineering*. 143, pp. 137-148. https://doi.org/10.1016/j.applthermaleng.2018.07.064.

5. **Yunyang Ye**, Peng Xu, <u>Jiachen Mao</u>, Ying Ji 2016. "Experimental Study on the Effectiveness of Internal Shading Devices." *Energy and Buildings*. 111, pp. 154-163. https://doi.org/10.1016/j.enbuild.2015.11.040.

4. **Yunyang Ye**, Peng Xu, Huajing Sha, Pue Yue, Hua Zhang 2016. "ShadingPlus - A Fast Simulation Tool for Building Shading Analysis." *Energy Efficiency*. 9, pp. 239-248. https://doi.org/10.1007/s12053-015-9360-4.

3. Ying Ji, Peng Xu, **Yunyang Ye**, Xing Lu, Jiachen Mao 2016. "Energy Load Superposition and Spatial Optimization in Urban Design: A Case Study." *Computers, Environment and Urban Systems*. 57, pp. 26-35. https://doi.org/10.1016/j.compenvurbsys.2015.12.004.

2. Ying Ji, Peng Xu, **Yunyang Ye** 2015. "HVAC Terminal Hourly End-Use Disaggregation in Commercial Buildings with Fourier Series Model." *Energy and Buildings*. 97, pp. 33-46. https://doi.org/10.1016/j.enbuild.2015.03.048.

1. Lu Chen, Peng Xu, **Yunyang Ye** 2014. "Simulation and Analysis on the Effect of Seasonal Shading Ventilated Window (in Chinese)." *Building Energy Efficiency*, (9): 37-46.

<u>Peer-Reviewed Conference Papers</u>

14. <u>Yingli Lou</u>, <u>Yizhi Yang</u>, **Yunyang Ye**, Wangda Zuo, 2023, "Pathways to Decarbonize the U.S. Medium-Sized Office Buildings in Cold Climates", *ASHRAE and SCANVAC HVAC Cold Climate Conference 2023*, March 6-8, 2023, Anchorage, AK.

13. <u>Yingli Lou</u>, **Yunyang Ye**, Wangda Zuo, <u>Yizhi Yang</u>, 2022, "Realistic Estimation of CO_2 Emission Reductions Due to Building Retrofit", *ASHRAE and IBPSA-USA Building Performance Analysis Conference and SimBuild 2022*, September 14-16, Chicago, IL.

12. <u>Yingli Lou</u>, **Yunyang Ye**, Wangda Zuo, Jian Zhang, 2021, "Energy Prediction Impact of the Space Level Occupancy Schedule for a Primary School", *Building Simulation 2021 Conference*, September 1-3, Bruges, Belgium.

11. Xuechen Lei, Ellen Franconi, **Yunyang Ye**, 2021, "Optimizing Price-Informed Operation of a Battery Storage System in an Office Building", *Building Simulation 2021 Conference*, September 1-3, Bruges, Belgium.

10. Xuechen Lei, **Yunyang Ye**, Jeremy Lerond, Jian Zhang, 2021, "A Modularized Urban Scale Building Energy Modeling Framework Designed with An Open Mind", *2021 ASHRAE Virtual Winter Conference*, February 9-11, Virtual.

9. **Yunyang Ye**, Kathryn Hinkelman, Jian Zhang, Yulong Xie, Wangda Zuo, 2019, "A Methodology to Quantify the Impact of Building Energy Code Upgrades on Building Energy Savings: A Case Study on Small Offices", *Building Simulation 2019 Conference*, September 2-4, Rome, Italy.

8. **Yunyang Ye**, Gang Wang, Wangda Zuo, <u>Peilin Yang</u>, <u>Keya Joshi</u>, 2018, "Development of a Baseline Building Model of Auto Service and Repair Shop", *2018 ASHRAE Building Performance Analysis Conference and SimBuild (BPACS 2018)*, September 26-28, Chicago, IL.

7. Qifeng Zhou, Maming Wang, Jinxin Ni, **Yunyang Ye**, Wangda Zuo, 2018, "DdBB: A Data-driven Framework for Building Energy Use Benchmarking", *Proceedings of 2018 IEEE International Conference on Information and Automation (ICIA)*, August 11-13, Wuyishan, China.

6. **Yunyang Ye**, Gang Wang, Wangda Zuo, 2018, "Creation of a Prototype Building Model of College and University Building", *Proceedings of the 4th International Conference on Building Energy and Environment (COBEE2018)*, February 5-9, Melbourne, Australia.

5. <u>Guang Zhou</u>, **Yunyang Ye**, Wangda Zuo, Xiaoqing Zhou, 2018, "Modelling Air-To-Air Plate-Fin Heat Exchanger without Condensation", *Proceedings of the 4th International Conference on Building Energy and Environment (COBEE2018)*, February 5-9, Melbourne, Australia.

4. <u>Guang Zhou</u>, **Yunyang Ye**, Wangda Zuo, Xiaoqing Zhou, 2017, "Modelling Water-Cooled Air Coolers under Wet-Cooing Conditions. (in Chinese)", *Proceedings of the Chinese National Conference on HVAC Modeling*, December 6-8, Guangzhou, China.

3. Weilin Li, Peng Xu, **Yunyang Ye**, 2016, "Case Study of Demand Response in a Large Commercial Building - A Pilot Program in Shanghai", *Proceedings of 9th International Conference on Indoor Air Quality Ventilation & Energy Conservation In Buildings (IAQVEC2016)*, October 23-26, Seoul, Republic of Korea.

2. Peng Yue, Hua Zhang, **Yunyang Ye**, Huajing Sha, 2015, "Development of Testing Platform for Building Shading Device", *In Advanced Materials Research*, Trans Tech Publications.

1. **Yunyang Ye**, Peng Xu, <u>Jiachen Mao</u>, 2014, "Energy Performance of External versus Internal Shading Devices in Residential Buildings", *In Applied Mechanics and Materials*, Trans Tech Publications.

<u>Other Major Publications</u>

10. Harry Bergmann, Amy Boyce, Kim Cheslak, Adam Hinge, Bing Liu, Paul Matthew, Andrea Mengual, Travis Walter, **Yunyang Ye**, 2023, "Building Performance Standards: A Technical Resource Guide." *U.S. DOE and ASHRAE Guide*.

9. U.S. DOE, PNNL (one of the core contributors: **Yunyang Ye**), NREL, LBNL, 2022, "Enhancing Resilience in Buildings Through Energy Efficiency." *U.S. DOE Technical Report*, PNNL-SA-177117.

8. Ellen Franconi, Jeremy Lerond, Chitra Nambiar, Dongsu Kim, David Winiarski, Michael Rosenberg, **Yunyang Ye**, 2020, "Filling the Efficiency Gap to Achieve Zero-Energy Buildings with Energy Codes." *PNNL Technical Report*, PNNL-30547.

7. Jian Zhang, <u>Eli Brook</u>, **Yunyang Ye**, 2020, "A Parallel Computing Infrastructure for Building Energy Simulation." *PNNL Technical Report*, PNNL-30138.

6. **Yunyang Ye**, Wangda Zuo, Gang Wang, Kathryn Hinkelman, 2019, "Large Scale Energy Modeling for Building Energy Rating Standard." *21th Century Energy Transition Symposium 2019*, April 1-2, Denver, CO (Poster).

5. **Yunyang Ye**, Wangda Zuo, Gang Wang, Kathryn Hinkelman, 2019, "Large Scale Energy Modeling for Building Energy Rating Standard." *2019 Visit Day*, February 15, Boulder, CO (Poster).

4. **Yunyang Ye**, Wangda Zuo, Gang Wang, 2018, "Large Scale Energy Modeling for Building Energy Rating Standard." *2018 Campus Sustainability Summit*, April 25, Boulder, CO (Poster).

3. Wangda Zuo, Yangyang Fu, **Yunyang Ye**, Isabella R. Stahl, 2017, "Smart Infrastructure and Renewable Energy: Study on ZenCity." *Project report for the ZenCity project*, pp. 1-8, May 29 (Project Reports).

2. Jing Wang, **Yunyang Ye**, Wangda Zuo, Joshua New, Amy Rose, 2021, "City-scale Building Occupancy Prediction Using Geographic Information System Data", *engrXiv* (Preprint).

1. **Yunyang Ye**, Kathryn Hinkelman, Wangda Zuo, Gang Wang, 2019, "Methodology to Evaluate Sensitive Levels of Inputs for US Commercial Building Models", *2019 ASHRAE Annual Conference*, Kansas City, MO, June 24 (Extended Abstract).

PRESENTATIONS

9. **Yunyang Ye**, 2023, "Innovations in Multi-Scale Modeling and Simulations for Sustainable Buildings", *Invited Guest Lecture at the Mississippi State University*, April 18.

8. **Yunyang Ye**, 2023, "Modeling the Impacts of Electrification of Urban-Scale Energy Loads with Distributed Energy Resources", *2023 ASHRAE Winter Conference*, Atlanta, GA, February 4-8.

7. **Yunyang Ye**, Xuechen Lei, Jeremy Lerond, Jian Zhang, 2021, "A Power Management System Approach in Connected Communities by Using an Urban Scale Building Energy Modeling Framework", *2021 Building Performance Analysis Conference*, Denver, CO, November 10-12.

6. **Yunyang Ye**, Wooyoung Jung, Jian Zhang, Yan Chen, 2021, "A New Database of Space Specific Schedules and Loads for Modeling Building for Code Compliance", *2021 Building Performance Analysis Conference*, Denver, CO, November 10-12.

5. **Yunyang Ye**, 2019, "Standardized Computational Framework for Building Energy Analyses", *IBPSA-Denver Student Presentation 2019*, Golden, CO, November 21.

4. **Yunyang Ye**, Kathryn Hinkelman, Jian Zhang, Yulong Xie, Wangda Zuo, 2019, "A Methodology to Quantify the Impact of Building Energy Code Upgrades on Building Energy Savings: A Case Study on Small Offices", *Building Simulation 2019*, Rome, Italy, September 4.

3. **Yunyang Ye**, Wangda Zuo, Gang Wang, Kathryn Hinkelman, 2019, "Large-scale Building Performance Simulation for Commercial Building Energy Standards", *Intelligent Building Operations Workshop 2019*, Boulder, CO, August 7.

2. **Yunyang Ye**, Kathryn Hinkelman, Wangda Zuo, Gang Wang, 2019, "Methodology to Evaluate Sensitive Levels of Inputs for US Commercial Building Models", *2019 ASHRAE Annual Conference*, Kansas City, MO, June 24.

1. **Yunyang Ye**, 2018, "Large Scale Building Energy Modeling and Data Analysis", *IBPSA-Denver Student Presentation 2018*, Boulder, CO, November 15.

PROFESSIONAL ACTIVITIES

SimBuild 2024 Scientific Committee	04/2023 - Present
Research Committee Chair for *ASHRAE TC7.4 Exergy Analysis for Sustainable Buildings*	02/2023 - Present

Guest Editor for a Special Issue of ASHRAE's *Science and Technology of the Built Environment* (Journal)	10/2022 - Present
Chair for a Paper Session ("Advances in Modeling Tools, Approaches and Workflows") in *BPAC and SimBuild 2022*	09/2022
IBPSA-USA Member	07/2022 - Present
Leading Guest Editor for a *Buildings* (Journal) Special Issue ("Urban Climate, Comfort and Building Energy Performance")	04/2022 - Present
Topical Advisory Panel Member for *Buildings*	04/2022 - Present
ASHRAE Pro-Corresponding Member for TC 4.7, 7.4, and 7.6	09/2017 - Present
Ph.D. Thesis Committee Member (Dr. Yingli Lou)	10/2021 - 07/2022
ASHRAE University of Miami Student Branch Treasurer	05/2017 - 07/2017

Reviewer for:
- Book Chapter (Design of sequences of operation for occupant-centric controls)

- Journals:
    - Energy and Buildings
    - Advances in Applied Energy
    - Building Simulation
    - ASHRAE Transactions
    - Energy Sources, Part B: Economics, Planning, and Policy
    - Science and Technology for the Built Environment
    - Journal of Solar Energy Engineering
    - Sustainability
    - Energies
    - Buildings
    - Indoor and Built Environment
    - Applied Sciences
    - International Journal of Environmental Research and Public Health
    - Sensors
    - Inventions
    - Mathematics

- Conference:
    - 2023 ASHRAE Winter Conference
    - 2022 Building Performance Analysis Conference and SimBuild