

Diba Malekpour Koupaei, PhD

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EDUCATION

Ph.D. Civil Engineering <i>(Concentration: Construction Engineering and Management)</i> Iowa State University, Ames, IA	2022
M.S. Civil Engineering <i>(Concentration: Construction Engineering and Management)</i> Iowa State University, Ames, IA	2020
M.D.S. Sustainable Environments Iowa State University, Ames, IA	2018
B.S. Architectural Engineering Art University of Isfahan, IR	2015

RESEARCH & ACADEMIC EXPERIENCE

University of Minnesota – Twin Cities, Minneapolis, MN <i>(Center for Sustainable Building Research)</i> Research Fellow Adjunct Lecturer	2023 - Current
Slipstream, Chicago, IL Research Analyst II	2022
Beyond Efficiency, Jackson, WY Energy + Green Programs Intern	2021
Iowa State University, Ames, IA <i>(Department of Civil, Construction, and Environmental Engineering)</i> Graduate Research Assistant	2017 - 2021

AWARDS, GRANTS & SCHOLARSHIPS

Research Excellence Award Iowa State University	2022
Clean Energy Leadership Award The Midwest Renewable Energy Association (MREA) & Straubel Foundation	2021

SCHOLARLY CONTRIBUTIONS

Peer-Reviewed Journal Articles:

(* Corresponding Author)

- **Malekpour Koupaei, D.***, Cetin, K., Passe U., Kimber A., and Poleacovschi, C. (2023) Identifying Rural High Energy Intensity Residential Buildings Using Metered Data. *Energy and Buildings*, 298, 113604. DOI: <https://doi.org/10.1016/j.enbuild.2023.113604>
- **Malekpour Koupaei, D.**, Cetin, K., Passe U. (2021) Stochastic Residential Occupancy Schedules Based on the American Time-Use Survey. *Science and Technology for the Built Environment*, 28(6). DOI: <https://doi.org/10.1080/23744731.2022.2087536>
- **Malekpour Koupaei, D.**, and Cetin, K. (2021) Smart Thermostats in Rental Housing Units: Perspectives from Landlords and Tenants. *Journal of Architectural Engineering*, 27(4). DOI: [https://doi.org/10.1061/\(ASCE\)AE.1943-5568.0000516](https://doi.org/10.1061/(ASCE)AE.1943-5568.0000516)
- **Malekpour Koupaei, D.**, Song, T., Cetin, K. and Im, J. (2020) An Assessment of Opinions and Perceptions of Smart Thermostats Using Aspect-Based Sentiment Analysis of Online Reviews. *Building and Environment*, 170, 106603. DOI: <https://doi.org/10.1016/j.buildenv.2019.106603>
- Passe, U., Dorneich, M., Krejci, C., **Malekpour Koupaei, D.**, Marmur, B., Shenk, L., Stonewall, J., Thompson, J. and Zhou, Y. (2020) An Urban Modelling Framework for Climate Resilience in Low-Resource Neighbourhoods. *Buildings and Cities*, 1(1), 453–474. DOI: <http://doi.org/10.5334/bc.17>

Book Chapter:

- Mitra, D., **Malekpour Koupaei, D.**, and Cetin, K. (2022). Occupancy Data Sensing, Collection, and Modeling for Residential Buildings. *Renewable Energy for Buildings*. Green Energy and Technology. Springer, Cham. https://doi.org/10.1007/978-3-031-08732-5_6

Dissertation/Thesis:

- **Malekpour Koupaei, D.** (2022) A Data-Driven Toolkit for Rural Residential Energy Efficiency Evaluations. Doctorate Dissertation. Iowa State University. <https://dr.lib.iastate.edu/handle/20.500.12876/9z0KLnJr>
- **Malekpour Koupaei, D.** (2020) Smart Thermostats in Rental Housing Units: Perspectives from Landlords and Tenants. Master's Thesis. Iowa State University. <https://lib.dr.iastate.edu/etd/18352>

Peer-Reviewed Conference Proceedings:

(* Presenting Author)

- Berg, B., **Malekpour Koupaei, D.**, Cetin, K., and Passe, U. (2022) Impact of the COVID-19 Pandemic on Single Family Homes' Energy Consumption in the Rural Iowa. In: *Proceedings of the 2022 Residential Building Design and Construction Conference*. State College, Pennsylvania (Virtual).
- **Malekpour Koupaei, D.**, Cetin, K., Passe, U., Poleacovschi, C., and Kimber, A. (2022) Characterizing Residential Energy Consumption Patterns in The Rural Midwest. In: *Proceedings of the Construction Research Congress 2022*. Arlington, Virginia. DOI: <https://doi.org/10.1061/9780784483961.018>

- Ballesteros, L., Poleacovschi, C., Passe, U., Cetin, K., Kimber, A., **Malekpour Koupaei, D.**, and Sharma, T. (2022) Motivational Factors Impacting Homeowners Decisions to Invest in Energy Efficient Technologies in Rural Midwest Residential Buildings. In: *Proceedings of the Construction Research Congress 2022*. Arlington, Virginia. DOI: <https://doi.org/10.1061/9780784483954.064>
- Vanage, S., Kunwar, N., **Malekpour Koupaei, D.**, Cetin, K. (2022) Co-Simulation and Validation of Automated Shading Devices Using Energyplus and Radiance to Optimize Building Energy Use. In: 2022 ASHRAE Winter Conference. Las Vegas, Nevada.
- **Malekpour Koupaei, D.***, and Passe, U. (2021) A Framework for Integrating High-Resolution Trees in Urban Energy Use Models. In: *Proceedings of the 17th International Building Performance Simulation Association (IBPSA) Conference*. Bruges, Belgium (Virtual).
- **Malekpour Koupaei, D.*** and Passe, U. (2020) A Two-State Stochastic Building Occupancy Model Based on The American Time Use Survey Data. In: *Proceedings of the 2020 Building Performance Analysis Conference and SimBuild*. Chicago, IL (Virtual).
- **Malekpour Koupaei, D.***, Geraudin, M. and Passe, U. (2020) Lifetime Energy Performance of Residential Buildings: A Sensitivity Analysis of Energy Modeling Input Parameters. In: *2020 Proceedings of the Symposium on Simulation for Architecture and Urban Design (SimAUD)*. Vienna, Austria (Virtual).
- **Malekpour Koupaei, D.**, Hashemi, F., Tabard, V. and Passe, U. (2019) Development of a Modelling Framework for Refined Residential Occupancy Schedules. In: *Proceedings of the 16th International Building Performance Simulation Association (IBPSA) Conference*. Rome, Italy. DOI: <https://doi.org/10.26868/25222708.2019.210553>
- **Malekpour Koupaei, D.***, Hashemi, F., Tabard, V. and Passe, U. (2019) A Technique for Developing High-Resolution Residential Occupancy Schedules for Urban Energy Models. In: 2019 Proceedings of the Symposium on Simulation for Architecture and Urban Design (SimAUD). Atlanta, GA.

TEACHING EXPERIENCE

Adjunct Lecturer

School of Architecture, University of Minnesota – Twin Cities
ARCH 5563: Advanced Building Technology - Integrated Building Systems

Fall 2023

LEED Technical Advisor

Department of Civil, Construction & Environmental Engineering, Iowa State University
CON E 487: Construction Engineering Design I
C E 485: Civil Engineering Design

Fall 2021

Graduate Teaching Assistant

Department of Civil, Construction & Environmental Engineering, Iowa State University
CON E 441: Construction Planning, Scheduling, and Control

Fall 2019