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**Aslihan Karatas\*, PhD, LEED AP**

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**EDUCATION**

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**University of Illinois at Urbana-Champaign***Doctor of Philosophy in Civil and Environmental Engineering, May 2014*

Major: Construction Engineering and Management

**University of Florida***Master of Science in Civil and Coastal Engineering, May 2009*

Major: Construction Engineering and Management

**Bogazici University***Bachelor of Science in Civil Engineering, Istanbul; Turkey, June 2007*

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**PROFESSIONAL EXPERIENCE**

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**University of Illinois at Chicago,***Clinical Assistant Professor in Civil, Materials, and Environmental Engineering Department*

Fall 2021 – present

**Lawrence Technological University,***Assistant Professor in Civil and Architectural Engineering Department*

Fall 2015 – Spring 2021

**Walbridge Construction Company,***Project Controls Engineer at Scheduling Group  
Research Analysts at Innovation & Improvement Leadership Group*

May 2019 – Feb 2021

**University of Michigan,***Postdoctoral Research Fellow in Civil and Environmental Engineering Dept*

Aug 2014 – July 2015

**Warsaw Technological University,***Research Fellow in Civil Engineering Department*

June 2006-Aug 2006

**Yuksel Construction,***Junior Project Engineer*

2005

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**JOURNAL PUBLICATIONS**

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- [1] Palani, H., & **Karatas, A.** (2022). “Holistic Approach for Reducing Occupants’ Energy Consumption in Hotel Buildings”, *Journal of Cleaner Production* (in review).
- [2] Rener, A., & **Karatas, A.** (2022). “Utilization of Prefabricated Building Components to Improve Worksite Productivity for Commercial Carpentry Trades” (in review) *ASCE Journal of Construction Engineering and Management* (in review).
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- [3] Palani, H., & **Karatas, A.** (2022). “Analyzing the Most Effective Interventions Impacting Hotel Guests’ Energy-Related Behavior to Reduce Energy Consumption of Hotel Buildings” (in preparation)
- [4] Palani, H., & **Karatas, A.** (2021). “Identifying Energy-Use Behavior and Energy-Use Profiles of Hotel Guests”. *Applied Sciences*, 11(13), 6093.
- [5] Li, Da, Carol C. Menassa, and **Aslihan Karatas.** (2017) "Energy use behaviors in buildings: Towards an integrated conceptual framework." *Energy Research & Social Science* 23: 97-112.
- [6] **Karatas, A.** and El-Rayes, K. (2016) “Optimal Tradeoffs between Housing Cost and Environmental Performance.” *Journal of Architectural Engineering*, 04015018.
- [7] **Karatas, A.**, Stoiko, A., & Menassa, C. C. (2016). Framework for selecting occupancy-focused energy interventions in buildings. *Building Research & Information*, 44(5-6), 535-551
- [8] **Karatas, A.**, & El-Rayes, K. (2015) "Evaluating the performance of sustainable development in urban neighborhoods based on the feedback of multiple stakeholders." *Sustainable Cities and Society*
- [9] **Karatas, A.** and El-Rayes, K. (2015) “Optimizing Tradeoffs among Housing Sustainability Objectives”, *Automation in Construction*, Elsevier 53: 83-94.
- [10] **Karatas, A.**, and El-Rayes, K. (2015). “Parallel Computing Framework for Optimizing Environmental and Economic Performances of Housing Units”. *Journal of Computing in Civil Engineering*, 04015026.
- [11] **Karatas, A.**, & El-Rayes, K. (2014) “Optimal Trade-Offs between Social Quality of Life and Life-Cycle Cost in Housing Units”. *Journal of Construction Engineering and Management* 140.12.

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## BOOK CHAPTERS

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- [1] Alsharif S., **Karatas, A.**, ‘Data-Driven Approach For Improving Schedule and Cost Estimation of Nuclear Power Plant Projects, *Nuclear Power Plants: Recent Progress and Future Directions*. Nova Science Publiswea, 2022. ISBN: 978-1-68507-686-3
- [2] **Karatas, A.**, Stoiko, A., & Menassa, C. C.. ‘Framework for selecting occupancy-focused energy interventions in buildings’, *Building Governance and Climate Change*, 2019. 535-551.
- [3] **Karatas, A.**, Stoiko, A., & Menassa, C. C.. 'A Framework to Achieve Large Scale Energy Savings for Building Stocks through Targeted Occupancy Interventions: Foundations, Principles, and Applications.' *Smart Cities: Foundations, Principles, and Applications*. John Wiley & Sons, 2017. doi: 10.1002/9781119226444.ch17.

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## PEER-REVIEWED CONFERENCE PUBLICATIONS

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- [1] Rener, A., **Karatas, A.**, and Cole, Matt, (2022) “Innovative Model for Forecasting Trailer Usage for Prefabricated Exterior Wall Panels”, *ISARC 2022* (submitted).
- [2] Palani, H. and **Karatas, A.**, (2021) “Identifying Energy Use Behaviors of Hotel Guests”, *CSCE 2021* (accepted).
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- [3] **Karatas, A.**, & Al-Sharif, S., (2020). Schedule and Cost Forecasting Model for Nuclear Power Plant Projects. In *Construction Research Congress 2020: Project Management and Controls, Materials, and Contracts* (pp. 721-729). Reston, VA: American Society of Civil Engineers.
- [4] Palani, H. and **Karatas, A.**, (2020) “Reducing Occupants Energy Consumptions in Hotel Buildings” *Building Performance Analysis Conference and SimBuild, ASHRAE and IBPSA-USA*.
- [5] Albayati A. and **Karatas, A.** (2019) “Fall Prevention Supplementary Devices for Bridge Construction Workers: A Life Cycle Cost Analysis”, *Proceedings of the Canadian Society for Civil Engineering International Construction Specialty Conference (ICSC’19)*, Montreal, Canada.
- [6] Staple N. and **Karatas, A.** (2019) “A Study of the U.S. Roofing Industry and its Workforce”, *Proceedings of the Canadian Society for Civil Engineering International Construction Specialty Conference (ICSC’19)*, Montreal, Canada.
- [7] Alwerfalli, D., **Karatas, A.**, & Alshammari, M. (2017). “Application of quality management systems (QMS) in construction industry”. In *Proceedings of the International Conference on Industrial Engineering and Operations Management* (p. 46).
- [8] Alsharif, S. and **Karatas, A.** "A Framework for Identifying Causal Factors of Delay in Nuclear Power Plant Projects." *Procedia Engineering* 145 (2016): 1486-1492.
- [9] **Karatas, Aslihan**, Carol C. Menassa, and Allisandra Stoiko. (2015)"A Framework for Delivering Targeted Occupancy Interventions to Reduce Energy Usage in Buildings." *Procedia Engineering* 118.
- [10] **Karatas, A.**, and El-Rayes, K. (2014) ‘Optimal Configurations of Design and Construction Decisions for Maximizing Social Quality-of-Life for Housing Residents’. *Construction Research Congress (CRC) 2014*: pp. 436-443. doi: 10.1061/9780784413517.045.
- [11] **Karatas, A.**, and El-Rayes, K. (2014) "Maximizing Occupants Comfort in Affordable Housing Units." *Computing in Civil and Building Engineering* pp. 2040-2046). ASCE. doi: 10.1061/9780784413616.253.
- [12] **Karatas, A.** and El-Rayes, K. (2012) ‘Evaluating and Quantifying Sustainable Development in Urban Neighborhoods’ *ICSDEC 2012*: pp. 214-221. doi: 10.1061/9780784412688.025.

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## GRANTS and FELLOWSHIPS

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- [1] STO Corp., Role: Principal Investigator (PI), “*Comparing Actual and Theoretical Environmental Performances of Prefab Wall Assemblies*”, Ongoing (Budget: \$212,000).
- [2] CPRW, Role: Principal Investigator (Co-Investigator), “*Improving the Assessment of Noise Exposure and Warning Signal Audibility on Construction Sites*”, Ongoing (Budget: \$25,000).
- [3] Centrepolis Accelerator, Role: Principal Investigator (PI), *IEQ-EP: Indoor Environmental Quality and Energy Performance System for Buildings*, 2020 (Budget - \$2,000).
- [4] Kern Family Foundation (KEEN) Foundation Course Module Development Grant, 2017 (Budget:- \$3,000).
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- [5] Kern Family Foundation (KEEN) Foundation PBL/ACL Development, 2016 (Budget - \$2,000).
- [6] LTU Presidential Undergrad. Research Award. Role: PI, *“Identifying Effective Occupancy Interventions to Reduce Energy in Commercial Buildings”*, 2016 (Budget -\$1,000).
- [7] W. E. O’Neil Construction Company Fellowship Award, 2014 (Budget -\$50,000).

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## **PROFESSIONAL REGISTRATIONS, MEMBERSHIPS and HONORS**

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- **LEED Accredited Professional (AP), Credential ID: #10773918-AP-BD+C**
- **NAWIC Foremost Leadership Award, 2019**
- Certificate for Excellence in Sustainable Management and Technology, UIUC Dept. of Business Administration
- Professional Memberships:
  - National Associate of Women in Construction (NAWIC)
  - US Green Building Council (USGBC), Member
  - ASCE Associate Member
  - Chi Epsilon

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## **PROFESSIONAL and ACADEMIC SERVICES**

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- Univ of Illinois Chicago, Advancing Racial Equity - Strategic Planning Committee Member, 2021- present
  - Lawrence Technological University Faculty Senate member, 2017-2020
  - Lawrence Technological University Campus Affairs Committee Chair, 2018-2019
  - NSF Panel Reviewer, 2017
  - Paper and Book Reviewer:
    - Oxford Press
    - Construction Research Conferene
    - Journal of Computing in Civil Engineering
    - Journal of Construction Engineering and Management
  - THE BUILD INITIATIVE Academic Advisor and Advisory Board Member, 2015- 2021
  - Conference Technical Session Chair:
    - International Conference on Sustainable Design Engineering and Construction, 18-20 May 2016, Tempe AZ.
    - Technical Session Chair, International Conference CSCE on Sustainable Design Engineering and Construction, June 2019, Montreal, Canada.
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**SELECTED CONFERENCE PRESENTATIONS and INVITED TALKS**

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- [1] ‘Integrated Conceptual Framework for Reducing Hotel Guest Energy Consumption’. Seventeenth International Conference on Environmental, Cultural, Economic & Social Sustainability, Amsterdam, Netherlands.
  - [2] ‘*Thought Leaders Policy Conference and Black Caucus Foundation Michigan Briefing*’, White House, DC, September 2016 (invited Panelist).
  - [3] ‘Accelerating Women’s Workforce in Construction Industry’, Southfield, MI, July 2016 – July 2019, *BUILD Initiative Annual Graduation Ceremony* (invited Speaker).
  - [4] ‘A pathway to Green Cities: Evaluating Sustainability for Urban Neighborhoods’. *IIE Annual Conference and Expo*. 17-22 May 2013 (invited Speaker).
  - [5] ‘Evaluating and Quantifying Sustainable Development for Urban Neighborhoods’. *International Conference on Sustainable Design and Construction*. Fort Worth, TX. Nov 2012.
  - [6] NSF workshop for Sciences behind Sustainability Quantification for Building and Infrastructure Design, Engineering and Construction (S2QBIDEC) (invited Panelist) Fort Worth, TX. Nov 2012.
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