

CURRICULUM VITAE

University of Idaho

NAME: Yumna Kurdi

DATE: October 29, 2024

RANK OR TITLE: Assistant Professor, Virtual Technology and Design

DEPARTMENT: Department of Design and Environments

OFFICE LOCATION AND CAMPUS ZIP: AAN 120, 83844

OFFICE PHONE:

FAX:

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WEB:

DATE OF FIRST EMPLOYMENT AT UI: January 08, 2023

DATE OF TENURE: Untenured

DATE OF PRESENT RANK OR TITLE: January 08, 2023

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Doctor of Philosophy, Pennsylvania State University, University Park, PA, 2022, **Architectural Engineering/ Construction**.

Master of Science, Carnegie Mellon University, Pittsburgh, PA, 2014, **Architecture**.

Bachelor of Science, Jordan University of Science and Technology, Irbid, Jordan, 2010, **Architectural Engineering/Architecture**.

EXPERIENCE:

Teaching, Extension and Research Appointments:

Teaching Appointment:

Assistant Professor Virtual Technology and Design (VTD), University of Idaho, Spring 2023 – present

Teaching Assistant, Department of Architectural Engineering, Penn State University. 2020- 2022

Lecturer, Department of Architecture, Jordan University of Science and Technology, Irbid, Jordan 2017

Research Appointment:

Graduate Assistant in Areas of National Need (GAANN) Fellow - Integrated Delivery of Ultra-High-Performance Buildings. Architectural Engineering, Pennsylvania State University. 2020 – 2022

Topic: Co-Simulation and Optimization of PV-BESS System Design at The Urban Scale: Correlation Between Electricity Supply and Demand.

Sustainability Researcher. Office of Physical Plant (OPP), The Pennsylvania State University. 2017 – 2020

Topic: Evolving the Pennsylvania State University's (PSU)'s sustainability policy for design and construction.

Organized 30+ 'sustainability for design and construction meetings, educational presentations and guest lectures. Topics: Living Building Challenge, Passive House, WELL, Net Zero, LEED, BREEAM, integrative design.

Participated in the sustainability meetings of 10+ PSU's active design and construction projects.

Developed the following report that is currently being used on all new projects at PSU:

"Penn State (PSU) LEED v4 Policy 2019 Update v 1.0.", Office of Physical Plant Design and Construction Standards. This was a result of collaborative work among an interdisciplinary team consisting of Architects, landscape architects, engineers, construction managers and industry professionals.

Participated in 8 different conferences, panels and symposiums to discuss OPP's sustainability initiative.

Graduate Assistant (Energy Simulation Modeling and Training). Pennsylvania State University. 2015 - 2016

Developed an energy simulation model for a net-zero energy house (GridStar).

Prepared training modules for the Asset Score tool.

Prepared, organized and facilitated 3 training workshops for 30+ facility managers and building operators on how to use Asset Score to assess a building's energy performance.

Graduate Assistant. Carnegie Mellon University. 2013 - 2014

Energy Savings Project in the US, Building Energy Portfolio.

History of Islamic Architecture.

Academic Administrative Appointments:

Director of the M.S. Integrated Architecture and Design in the College of Art and Architecture, University of Idaho. 2023 - present

Non-Academic Employment:

Architectural Design Intern. HAK Architectural and Engineering Consultants. Saudi Arabia. 2011

Designed the architectural concept for a residential compound (Proposal) in Al-Dammam, Saudi Arabia.

Architectural Design Intern. Arabtech Jardaneh. Jordan. 2009

Assisted the Architectural and Architectural Engineering teams with design detailing and shop drawings in the Design Development phase of Al Saleh medical City Project at Sanaa, Yemen.

TEACHING ACCOMPLISHMENTS:

Areas of Specialization:

Architecture, Construction, Architectural Engineering, Virtual Technology, High performance buildings, Energy efficiency, Integrated renewable energy.

Courses Taught:

Assistant Professor Virtual Technology and Design (VTD), University of Idaho, Spring 2023 – present

Spring 2023:

VTD 204: Intro to Scripting and Parametric design 18 students

VTD 254: Virtual Design II 22 students

Fall 2023:

VTD 204: Intro to Scripting and Parametric design 5 students

VTD 253: Virtual Design I 32 students

Spring 2024:

VTD 204: Intro to Scripting and Parametric design 8 students

VTD 254: Virtual Design II 29 students

Fall 2024:

VTD 204: Intro to Scripting and Parametric design 8 students

VTD 253: Virtual Design I 26 students

Teaching Assistant, Department of Architectural Engineering, Penn State University. 2020- 2022

AE 473 Bldg. Cons. Management and Control.

AE 579 Sustainable Building Project Leadership.

Lecturer, Department of Architecture, Jordan University of Science and Technology, Irbid, Jordan 2017

ARCH 461 Mechanical Systems

ARCH 341 Landscape Design

ARCH 512 Computer Aided Design in Architecture II

ARCH 555 Building Design and Energy Consumption

ARCH 593A Special Topics in Architecture A - Regenerative Sustainability in The Built Environment

ARCH 593C Special Topics in Architecture C - Sustainability in The Built Environment

Students Advised:

Undergraduate Students:

3 students 2023

11 students 2024

Graduate Students:

Served on graduate committee.

Charlie Reitcheck, MS. Integrated Architecture and Design, 2023-2024

Steven Frank, MS. Integrated Architecture and Design, 2023-2024

Major advisor:

Firas Maayah, MS. Integrated Architecture and Design, 2024-2026

Courses Developed:

VTD 204: Intro to Scripting and Parametric design

VTD 253: Virtual Design I

VTD 254: Virtual Design II

SCHOLARSHIP ACCOMPLISHMENTS:

Peer-Reviewed Journals

Kurdi, Y., Alkhatatbeh, B. J., & Asadi, S. (2023). The influence of electricity transaction models on the optimal design of PV and PV-BESS systems. *Solar Energy*, 259, 437–451.

<https://doi.org/10.1016/J.SOLENER.2023.05.037>

Alkhatatbeh, B. J., Kurdi, Y., & Asadi, S. (2023). Enhancing learning Environments: Exploring optimal classroom design connected to Double-Loaded corridors across the U.S. Climate zones. *Energy and Buildings*, 298, 113562. <https://doi.org/10.1016/J.ENBUILD.2023.113562>

Alkhatatbeh, B. J., Kurdi, Y., & Asadi, S. (2023). Multi-objective optimization of classrooms' daylight performance and energy use in U.S. Climate Zones. *Energy and Buildings*, 297, 113468.

<https://doi.org/10.1016/J.ENBUILD.2023.113468>

Kurdi, Y., Alkhatatbeh, B. J., & Asadi, S. (2022). The role of demand energy profile on the optimum layout of photovoltaic system in commercial buildings. *Energy and Buildings*, 271, 112320.

<https://doi.org/10.1016/j.enbuild.2022.112320>

Kurdi, Y., Alkhatatbeh, B. J., Asadi, S., & Jebelli, H. (2022). A decision-making design framework for the integration of PV systems in the urban energy planning process. *Renewable Energy*, 197(April), 288–304.

<https://doi.org/10.1016/j.renene.2022.07.001>

Peer Reviewed Paper Conference Proceedings and Presentations:

Alhussain, A., Kurdi, Y., Asadi, S., & Brown, N. (2023). Shaping Urban Block Building Form to Correlate PV Production with Electricity Demand. *Computing in Civil Engineering*, 228–236.

<https://doi.org/10.1061/9780784485248.028>

Kurdi, Y., Riley, D., Amiri, S. S., Asadi, S., Dinh-Ngoc, J., Goulet, R., Gatland, S., & Delgoshaei, P. (2016). On the Performance of a Net Zero Energy House: A Case Study of the GridStar House in the Navy Yard, Philadelphia. *Construction Research Congress 2016: Old and New Construction Technologies Converge in Historic San Juan - Proceedings of the 2016 Construction Research Congress, CRC 2016*.

<https://doi.org/10.1061/9780784479827.122>

Book chapters contribution (Peer-Reviewed):

Kurdi, Y., & Asadi, S. (2022). The Impact of Large Deployment of Distributed Solar Photovoltaic at the Urban Scale on the Building Performance and the Correlation Between Energy Supply and Demand Over the Grid. *Green Energy and Technology*, 19–45. https://doi.org/10.1007/978-3-031-08732-5_2/COVER

Conference Proceedings (Abstract Peer-Reviewed)

Kurdi, Y., Bechtel, J., Asadi, S.: “Evolving Pennsylvania State University’s Sustainability Policy Within a Regenerative Paradigm,” 2018 AASHE Conference, Pittsburgh, PA.

Ph.D, Dissertation

Kurdi, Y. (2022). *CO-SIMULATION AND OPTIMIZATION OF PV SYSTEM DESIGN AT THE URBAN SCALE: CORRELATION BETWEEN ELECTRICITY SUPPLY AND DEMAND* [Pennsylvania State University]. https://etda.libraries.psu.edu/files/final_submissions/26828

Peer-reviewed evaluated report:

Yumna Kurdi, John Bechtel: “Penn State LEED v4 Policy 2019 Update”, Office of Physical Plant Design and Construction Standards.

Exhibition:

“Pavilion In Space: An Interplanetary Game Experience”. Reflection Gallery, Idaho Student Union Building (ISUB), University of Idaho, Moscow, ID. 2023. This exhibition shows the 2D and 3D games developed by students in the following courses: VTD Virtual Design I and II and Intro to scripting.

Presentations and panels (Invited)

Yumna Kurdi: “A co-simulation and optimization of PV system design, building geometry and layout at the urban scale: correlation between electric supply and demand”, 2023, College of Art and Architecture 2023 Research Summit, University of Idaho, Moscow, ID.

John Bechtel, Yumna Kurdi: “Sustainability Charrettes and Penn State’s Residence Halls Renovations: Improving Building Performance and the Student Experience”, 2020, Residential Building Design & Construction Conference (RBDCC), Penn State University, University Park, PA.

Yumna Kurdi: “Penn State Sustainability Policy”, 2019, Big Ten and Friends Mechanical and Energy Conference, Penn State University, University Park, PA.

Yumna Kurdi, John Bechtel: “Evolving PSU’s Sustainability Policy: Sustainable Design and Construction “, 2018, MBA Green Builders Symposium, Pittsburgh, PA.

Presentations and panels (Participation)

Organizing and moderating the panel’s discussion: “Embracing the Living Building: The Journey Continues”, John Bechtel and Yumna Kurdi. 2019, Energy Days, Penn State University, University Park, PA.

Participating in The Partnership for Achieving Construction Excellence (PACE) conference Penn State University, University Park, PA.:

- Presenting: “Adopting LEED 4.0 – Evolving Penn State’s Sustainability Policy”, Yumna Kurdi, John Bechtel, 2019.
- Moderating round table discussion ‘Leveraging Project & Firm Networks to Deliver Facilities’ Facilitator: Somayeh Asadi, Yumna Kurdi, 2018.
- Presenting: “Updating PSU LEED Policy at Penn State”, Yumna Kurdi, John Bechtel, 2018.
- Moderating round table discussion ‘Moving Beyond LEED’ Facilitators: Yumna Kurdi and Mahsa Safari

2017.

Grants Submitted (not awarded):

Institute for Modeling Collaboration and Innovation. NIH - grant application, titled “Center for Modeling Complex Interactions”. 2023. PI- Holly Wichman, Co-Lead: Esteban Hernandez-Vargas, Co-Lead: Tanya Miura, Co-Lead: Melanie Moses, Co-Lead: Jean-Marc Gauthier, Co-Lead: Judy Cannon, Collaborator: Matthew Fricke, Collaborator: Tonmoy Chakraborty, Collaborator: Yumna Kurdi. (unfunded)

Honors and Grants (awarded):

Institute for Modeling Collaboration and Innovation. NIH: CMCI: Team Science Supplement lung model, 2024. PI- Holly Wichman, Co-PI: Esteban Hernandez-Vargas, Co-PI: Tanya Miura, Co-PI: Jean-Marc Gauthier, Co-Investigator (NIH Co-PI role): Yumna Kurdi. (Awarded) 800k

2024 Idaho NASA EPSCoR Faculty Fellowship - Idaho NASA EPSCoR, Moscow, ID.

Sustainability Certificate: Sustainable Solutions. Office of Sustainability, University of Idaho. 2024

OUR Undergraduate Research Grant, 2023. Jessi Holte, Faculty mentor: Yumna Kurdi. “Enriching the Virtual Experience: Designing an Interactive Experience Using Electrical Circuits”. Office of Undergraduate Research, University of Idaho

Dean’s Travel Fund, 2023. College of Art and Architecture, University of Idaho

GAANN Fellowship - Integrated Delivery of Ultra-High-Performance Buildings. 2020 – 2022. Department of Architectural Engineering, the Pennsylvania State University, University Park, PA.

2019 - 2020 The Pennsylvania State University John Roe Student Sustainability Award. The Sustainability Institute, Pennsylvania State University, University Park, PA.

The Partnership for Achieving Construction Excellence (PACE) Graduate Student Travel Grant. Department of Architectural Engineering, Penn State University, University Park, PA. 2019.

Proposal for incorporating sustainability strategies. 2019. A collaboration between Office of Physical Plant, Global Building Network, Sustainability Institute at Pennsylvania State University: The goal is to hire sustainability consultant to perform a sustainability pre-design workshop for a residence halls renovation project on Penn State Campus. Yumna Kurdi, John Bechtel. (Awarded) 35k

College of Engineering Graduate Students Travel Grant. 2018. College of Engineering, Penn State College of Engineering, Penn State University, University Park, PA.

Scholarship. 2013. Graduate Programs Committee of the School of Architecture at Carnegie Mellon University, Pittsburgh, PA. (6k)

SERVICE:

Major Committee Assignments:

Chair of the Master of Integrated Architecture and Design Graduate Studies committee in the College of Art and Architecture, University of Idaho. 2023 -present

College of Art and Architecture Curriculum Committee member, University of Idaho. 2023 -present

University level Tenure and Promotion Committee, Member. 2023

Virtual Technology and Design Program Faculty Search Committee, Member. 2024

Art and Design Program Faculty Search Committee, Member. 2024

Outreach Service:

Training for high school teachers: Preliminary interviews with 2 high school teachers (outside Idaho State) to gather data of students' knowledge and teachers' need regarding introducing students to data collection and indoor air quality. 2023

Community Service:

Volunteer teacher: Arabic Studies, Local Mosque, Pullman, Washington 2023 – present.

PROFESSIONAL DEVELOPMENT:

Palouse Project, Sustainable Solutions. Office of Sustainability, University of Idaho. 2024

NSF CAREER Club, 2024, The Office of Research and Faculty Development, University of Idaho

Proposal Development Academy, 2024, The Office of Research and Faculty Development, University of Idaho

The Engineering Project Organization Society (EPOS) PhD Day Doctoral Consortium, 2019, Engineering Project Organization Conference (EPOC), Vail, Colorado.

Sustainability Training Workshop. 2018. PHIPPS Conservatory, Pittsburgh, PA,

LENSES (Living Environment in Natural, Social, and Economic Systems) Facilitator Training, 2016, Center for Living Environments and Regeneration