

## **Gulbin Ozcan-Deniz, Ph.D., LEED AP BD+C**

Director and Associate Professor of Construction Management, CUBE, Thomas Jefferson University

Phone: (215) 951-2914

Email: [gulbin.deniz@jefferson.edu](mailto:gulbin.deniz@jefferson.edu)

### **AREAS OF SPECIALIZATION**

Construction Management

Sustainable Construction

Building Information Modeling (BIM)

Virtual Reality (VR)

### **EDUCATION**

PhD, Civil and Environmental Engineering, Florida International University

MS, Civil Engineering, Middle East Technical University

BS, Civil Engineering, Middle East Technical University

### **BIO**

Dr. Deniz is the Director of BS in Construction Management (ABET Accredited), MS in Construction Management On Campus and Online Programs. She is also an Associate Professor (tenured) and the Graduate Advisor in the Construction Management (CM) Department. Dr. Deniz received her BS and MS in Civil Engineering from Middle East Technical University (METU) in Turkey, and her Ph.D. in Civil and Environmental Engineering from Florida International University (FIU) in Miami, FL. She is a Leadership in Energy and Environmental Design (LEED) Accredited Professional (AP) and has experience in commercial and LEED certified buildings. She is a member of Construction Management Association of America (CMAA) and Sigma Lambda Chi ETA V Chapter. Additionally, she holds membership for the following professional societies: Academic Interoperability Coalition (AiC), ASCE Data Sensing and Analysis (DSA) Committee, ASCE Visualization, Information Modeling, and Simulation (VIMS) Committee, ASCE Education Committee, and Autodesk Design Academy Building Performance Analysis (BPA) Group.

### **SERVICE AT JEFFERSON**

As the Director of the CM programs, Dr. Deniz is responsible for leading and growing Jefferson's BS in CM (ABET Accredited), MS in Construction Management On Campus and MS in Construction Management Online Programs. She has been working directly with the Jefferson CM's Industry Advisory Board to build and sustain strong ongoing relationships with the professional construction community and mentor and support CM faculty. Dr. Deniz is a member of the CUBE Executive Committee and CUBE Assessment Committee. She has been working as the Assessment Leader of the Construction Management programs to sustain assessment of student work for the Middle States of Higher Education and Accreditation Board for Engineering and Technology (ABET) Applied and Natural Science Accreditation Commission (ANSAC) accreditation bodies. Dr. Deniz has worked for Hallmarks Program Assessment for the assessment of general education courses in the East Falls Campus in Summer 2018. She has been working on improving the undergraduate and graduate curricula, with the new addition of the MS in Construction Management online program development.

## **TEACHING INTERESTS**

Dr. Deniz teaches core courses and electives in undergraduate and graduate Construction Management programs including Construction Surveying, Construction Seminar, Construction Capstone Project, Construction Estimating and Scheduling, Construction Information Modeling, Construction Environmental Management, and Masters' Project. She is offering on campus, hybrid, and online courses. She has completed the University of Pennsylvania's Online and Blended Teaching Certification and Blackboard Exemplary Course Cohort Program Certification related to teaching.

Prior to becoming the Director of the Construction Management Programs, she was an Assistant Professor of Construction Management at Thomas Jefferson University. Prior to joining Thomas Jefferson University, Dr. Deniz was a Construction Management Professor for four years in the Department of Civil and Architectural Engineering and Construction Management at Milwaukee School of Engineering (MSOE) in Milwaukee, WI. She has taught a variety of courses in the areas of Building Information Modeling (BIM), Sustainable Design and Construction, LEED, Construction Estimating and Scheduling, Surveying, and other project management topics.

## **RESEARCH INTERESTS**

Dr. Deniz has her current research in the areas of Sustainable Construction, Building Information Modeling (BIM), Virtual Reality (VR), and Construction Education. Her previous research has included the above topics, as well as other construction management areas such as life cycle assessment, construction simulation and modeling, systems dynamics, risk management, and decision-making. Starting with her M.S. thesis, she worked in the areas of risk and vulnerability assessment and modeling. Her dissertation entitled: *An Integrated Multi-Agent Framework for Optimizing Time, Cost and Environmental Impact of Construction Processes* focused on optimizing time, cost and environmental impact of construction processes. She worked with Florida Department of Transportation (FDOT) to research sustainable methods of highway resurfacing projects under a National Science Foundation (NSF) grant. She used Analytical Network Process (ANP), Systems Dynamics, and multi-objective optimization in her methodology. She has performed research in innovative and effective teaching methods in hybrid and online courses in connection with the pedagogical aspects of Sustainable Construction, BIM, and VR. She has been presenting at local and national conferences related to course and curriculum development, team-based learning, hybrid and online teaching, and innovative teaching/learning strategies.

Her latest research includes VR implementation in the construction curricula by performing virtual walk-throughs in 3D models to improve students' learning. VR Design Reviews and VR Implementation in the Construction Industry are the newest topics she has been exploring with the help of research grants and initiatives. Dr. Deniz has more than 20 publications in peer-reviewed journals and proceedings in the above-mentioned research areas. She has been a reviewer of respective journals and conferences including American Society of Civil Engineers (ASCE), Elsevier, and Associated Schools of Construction (ASC). Her studies continue in the areas of BIM, VR, and innovative hybrid and online education strategies. Updates can be followed on her ResearchGate profile:

[https://www.researchgate.net/profile/Gulbin\\_Ozcan-Deniz](https://www.researchgate.net/profile/Gulbin_Ozcan-Deniz).

## Selected Publications

- Caglayan, S., Ozorhon, B., **Ozcan-Deniz, G.**, and Yigit, S. (2020), "A Life Cycle Costing Approach To Determine the Optimum Insulation Thickness of Existing Buildings", *Engineering Sustainability*, <https://doi.org/10.1680/jensu.19.00041>.
- Caglayan, S., Yigit, S., Ozorhon, B., and **Ozcan-Deniz, G.** (2019), "A Genetic Algorithm-Based Envelope Design Optimization for Residential Buildings", *Journal of Thermal Science and Technology*, <https://doi.org/10.1680/jensu.19.00041>.
- Ozcan-Deniz, G.** (2019), "Expanding Applications of Virtual Reality in Construction Industry: A Multiple Case Study Approach", *Journal of Construction Engineering, Management & Innovation*, 2 (2), 48-66, <https://doi.org/10.31462/jcemi.2019.02048066>.
- Ozcan-Deniz, G.** (2019), "Towards a BIM-based System Integrated to a Virtual Reality Platform", *Tamap Journal of Engineering*, Volume 2018, Article ID 62, [doi:10.29371/2018.3.62](https://doi.org/10.29371/2018.3.62).
- Ozcan-Deniz, G.**, Fryer, R. and de Castro Amorim Ferreira, A. (2018), "The Design of a Net Zero Energy Affordable Housing in Philadelphia", *Designs Journal*, 2 (3), 26, <https://doi.org/10.3390/designs2030026>.
- Ozcan-Deniz, G.** (2018), "Emerging CAD and BIM Trends in the AEC Education: An Analysis from Students' Perspective", *Journal of Information Technology in Construction (ITcon)*, 23, 138-156, <http://www.itcon.org/2018/7>.
- Ozcan-Deniz, G.** (2018), "Construction Management Education in Cyberspace: A Critical Review and Analysis", *International Journal of Construction Management (IJCM)*, Accepted for Publication, <https://doi.org/10.1080/15623599.2018.1452099>.
- Ozcan-Deniz, G.** (2017), "An Analytic Network Process (ANP) Model To Examine LEED-Certified Buildings' Operational Performance", *Built Environment Project and Asset Management (BEPAM)*, 7 (4), 366-376, <https://doi.org/10.1108/BEPAM-11-2016-0073>.
- Ozcan-Deniz, G.** and Zhu, Y. (2017), "Multi-objective Optimization of Greenhouse Gas Emissions in Highway Construction Projects", *Sustainable Cities and Society*, 28, 162-171, doi: <http://dx.doi.org/doi:10.1016/j.scs.2016.09.009>.
- Ozcan-Deniz, G.** and Zhu, Y. (2016), "A System Dynamics Model for Construction Method Selection with Sustainability Considerations", *Journal of Cleaner Production*, 121, 33-44, doi: <https://doi.org/10.1016/j.jclepro.2016.01.089>.
- Ozcan-Deniz, G.** and Zhu, Y. (2015), "A Multi-Objective Decision-Support Model for Selecting Environmentally Conscious Highway Construction Methods", *Journal of Civil Engineering and Management*, 21 (6), 733-747, doi: <https://doi.org/10.3846/13923730.2014.893915>.
- Ozcan-Deniz, G.**, Zhu, Y., and Ceron, V. (2012), "Time, Cost and Environmental Impact Analysis on Construction Operation Optimization Using Genetic Algorithms", *Journal of Management in Engineering*, 28 (3), 265-272, doi: [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000098](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000098).
- Ozcan, G.**, Dikmen I., and Birgonul M.T. (2011), "Assessment of Risk Paths in Construction Projects", *International Journal of Project Organisation and Management (IJPOM), Special Issue on "Risk Management in Projects and Enterprises"*, Vol. 3, Nos. ¾, doi: <http://dx.doi.org/10.1504/IJPOM.2011.042036>.