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Bio

Dr. Javad Khazaei is an Assistant Professor in the Department of Electrical and Computer Engineering at Lehigh University, U.S. and the Director of the INTEGrated, Resilient, and Intelligent Energy Systems ([INTEGRITY](#)) Laboratory. Between 2016 and 2021, he was an Assistant Professor at Penn State Harrisburg and an Affiliated Assistant Professor in the Architectural Engineering Department at Penn State University Park, U.S. He earned his Ph.D. in Electrical Engineering (Power and Energy) from the University of South Florida (USF) in 2016. Dr. Khazaei's research focuses on smart grid dynamics and control, data-driven model identification and control, water-energy microgrids, smart grid cybersecurity, and the integration of renewable energy into cyber-physical power systems. In this tutorial, he will introduce the fundamentals of energy management in microgrids, with a focus on modeling, control, and optimization techniques, and provide a hands-on MATLAB session to demonstrate implementation and simulation strategies