Data-Centric Methods for Resilient Urban Systems

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Zoom Link:
https://purdue-edu.zoom.us/j/94879906671?pwd=TFJ1ZEdCeElNR3IyQTdoMFJUMWRZQT09

Abstract:
   Reliable provision of critical services such as energy and water, supplied through civil infrastructure systems, is essential for ensuring the national security, economic productivity and social well-being of every modern society. The critical infrastructure in the U.S. is increasingly prone to climatic risks that cause widespread disruptions; negatively affecting many communities and causing billions of dollars in losses. In this talk, I will discuss my research on leveraging statistical learning theory and simulation to develop, validate, and operationalize accurate predictive risk models to inform resilience investment decisions. To demonstrate the applicability of my approach for modeling infrastructure risk and resilience, I will present various case studies focused on the energy sector in the U.S.

Bio: Dr. Roshi Nateghi is an assistant professor of Industrial Engineering at Purdue University and the director of the Laboratory for Advancing Sustainable Critical Infrastructure (LASCI). Her research is highly interdisciplinary and focuses on advancing the theory and practice of community-centric resilience through developing advanced analytics to facilitate better anticipation and mitigation of both rapid and slow-onset hazards. Her research program has been primarily funded by the NSF CBET and CMMI divisions.

Prior to starting at Purdue, she was an NSF Science Engineering and Education for Sustainability (SEES) fellow; jointly appointed between Johns Hopkins University and Resources for the Future. She completed her undergraduate degree in Mechanical Engineering at Imperial College London. She then received her MSE and PhD degrees in Environmental Engineering at Johns Hopkins University.