Electrical & Computer Engineering

S E M I N A R

Louisiana State University

ECE Advisory Board Seminar Series

From Data to Decision in Smart and Connected Communities

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Abstract—As urbanization moves towards globalization in the next century, the evolution of smart city technologies has also brought new approaches to help communities tackle local challenges and improve city services. Technology implemented using the Internet of Things (IoT) and data analytics offers unique advantages and challenges to address important problems in a community. In addition, interdisciplinary efforts are necessary to effectively utilize emerging technologies to address a problem while considering the underlying complex social, economic, and environmental dimensions. Improving quality of life, economic competitiveness, and sustainability are the three main goals for a smart city initiative. The development of a smart city that tracks and incorporates all urban facilities and resources comes with many challenges. One of the important research challenges that the development of smart cities faces is the assurance that the data-driven management systems that control and monitor the city's operations are working in a safe, secure and reliable manner. This talk will introduce a data-driven management approach to support smart city services, applications, and infrastructures. It will also discuss the necessity of interdisciplinary efforts for providing a unique perspective as a part of a community-engaged smart city development.

Bio—Dr. Nasibeh Zohrabi is an assistant professor of electrical engineering at Penn State Brandywine. Prior to joining Penn State, she was a Postdoctoral Researcher in VCU Center for Analytics and Smart Technologies (VCAST) at Virginia Commonwealth University. She received her Ph.D. in Electrical and Computer Engineering from Mississippi State University in 2018, and her M.S. in Control and Industrial Automation from Tarbiat Modares University in 2013. Dr. Zohrabi specializes in the field of control and dynamical systems, with specific interests in cyber-physical systems (CPS), model-based control, distributed control, and stochastic hybrid systems. Her current focus is mainly on the challenges of cyber physical systems for smart cities and connected communities. She is investigating the integration of learning-based and model-based control, aiming to take advantage of both domains, for addressing challenges of complex cyber-physical systems. She is interested in wide range of applications such as smart buildings, intelligent transportation systems/smart mobility, microgrids/shipboard power systems, and renewable energy systems. She is currently working on interdisciplinary research projects for addressing different problems in community (e.g., food desert problem, opioid overdose crisis) through harnessing the power of data analytics, smart technologies, and community engagement.

When: Tuesday, **8 March 2022,** 14:30 - 15:30
Where: Room 3316E Patrick F. Taylor Hall
Info: `https://www.lsu.edu/eng/ece/seminar`