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Interdisciplinary Data Sciences Consortium

Seminar Series

October 19, 2018 2:00-3:00pm
Location: CMC 109

Featuring Dr. Tapas K Das
Professor & Chair - Industrial Engineering
University of South Florida

Title: Data-Driven Learning Model for Dynamic Pricing and Demand Response in Smart and Connected Communities

Abstract: Electric power grid modernization will continue to enhance timely communication among the system operator, power generators, and consumers, thus bring us closer to being smart and connected communities (S&CC). This will provide the infrastructure to implement dynamic pricing (DP) of electricity and increase demand response (DR) participation. Dynamic pricing refers to the practice of offering binding prices ahead of consumption, and demand response refers to the collective action by aggregators managing consumer loads (households, businesses, and industries). However, both practitioners and researchers have expressed fear that wild load fluctuations from demand response may adversely affect the stability of both the power network and the financial markets where electricity is traded as a commodity. In this talk we will explore two ideas: (1) A data driven methodology to obtain stable and coordinated strategies for both dynamic pricing and demand response that can reduce price of electricity as well as improve network load balance. (2) The emerging concept and feasibility of peer-to-peer load sharing in S&CCs.

To learn more, visit: http://www.eng.usf.edu/~das/

Biography: Tapas K. Das is a professor and chair of the department of Industrial and Management Systems Engineering at the University of South Florida. He is a past chair of the Council of Industrial Engineering Academic Departments Heads (CIEADH), Fellow of IISE, and members of INFORMS and IEEE. His research interest includes policy studies in electric power markets (impact of CO_2 emissions control policies on the market, incentive strategies for promoting net zero building, and dynamic pricing and demand response in IoE supported power market) as well as in disease diagnosis and treatment strategies in healthcare delivery.

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