

*Holcombe Department of Electrical and Computer Engineering
Seminar Series*

A Demand Side Approach to Smart Grid

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Abstract

This talk presents a summary of the presenter’s research progress on the demand side approach to smart grid. Completed and ongoing research projects on load management, energy efficiency, customer engagement, distributed generation planning, active network management, optimal power flow, plant-wide power and energy system management, performance evaluation, etc., are highlighted. Future research plan on these topics, and potential collaborations and funding applications are discussed too.

Biography of Speaker

Jiangfeng (Jeff) Zhang obtained his B. Sc. and Ph. D. in computing mathematics from Xi’an Jiaotong University (China) in July 1995 and December 1999, respectively. From February 2000 to August 2002, he was a lecturer at the Shanghai Jiaotong University (China). Then he was a postdoctoral researcher in the Chinese University of Hong Kong, Ecole Centrale de Nantes (France), Nanyang Technological University (Singapore), University of Liverpool (UK), and the University of Pretoria (South Africa). He was appointed as a senior lecturer and then an associate professor in electrical power systems at the University of Pretoria from 2008 to 2013. During 08/2013~09/2016, he was a senior lecturer at the University of Strathclyde (UK). Then he joined the School of Electrical, Mechanical and Mechatronic Systems at the University of Technology Sydney (Australia) in September 2016. His research interest is on the application of optimization and control modelling techniques in smart grid and renewable energy. His investigated problems include solar PV fault diagnosis and power maximization, solar water heater control, power dispatch, distributed renewable generation planning and renewable curtailment minimization, residential microgrid demand response, renewable grid integration and control, electric vehicle modelling and control, and industrial energy systems optimization (e.g., pumps, crushers, conveyors and winders).