

Department of Systems Engineering and Engineering Management

Seminar Series

Reliability assessment and optimization of new energy systems

Dr. Yan-Fu Li

Assistant Professor
CentraleSupélec, Paris, France

Date	31 Aug 2015 (Monday)
Time	2:00pm (Tea/Coffee service at 1:45pm)
Venue	P6921, 6/F, AC1

Abstract

The increasing popularity of renewable energy sources has enabled the end-users of the power grid to install renewable generators (e.g. solar generators and wind turbines) on-site, connect them to the distribution network and trade energy in the electricity market. This evolution has led to a fundamental change of the power grid from the conventional 'hierarchical structure' where the power flows merely from the centralized production centers to the end-users, to a 'flat structure' which allows the power flows in various directions (e.g. end-user to end-user). The extent of the interconnectedness, the number and variety of power sources and generators, of controls and loads make electric power grids among the most complex engineered systems today. Given the key role played by energy in our Societies, reliability of power supply is a central feature to be guaranteed. Optimal design and operation planning of modern energy systems with respect to the reliability related attributes are of important academic and practical values as well as pose significant research challenges. This presentation will summarize the research works carried out in the past 4 years in response to these challenges.

About the Speaker

Yan-Fu Li is an Assistant Professor of CentraleSupélec, Paris, France. Dr. Li completed his PhD research in 2009 at National University of Singapore, and

went to the University of Tennessee as a research associate. His current research interests include reliability modeling, uncertainty analysis and evolutionary optimization with applications on energy systems. He is the author of over 30 publications on peer-refereed international journals, such as Reliability Engineering & Systems Safety, IEEE Transactions on Reliability, IEEE Transactions on Power Systems and Applied Energy. He is a senior member of IEEE and a member of INFORMS.

Enquiry: 3442 8408

All are Welcome!

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