



Technical Co-sponsor: IEEE Hong Kong Section
Robotics and Automation/Control Systems Joint Chapter

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SEMINAR SERIES ON COMPLEX SYSTEMS, NETWORKS, CONTROL AND APPLICATIONS

Modeling Cascading Failure in Power Systems from a Network Perspective

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Date and Time: **Wednesday, April 24, 2019, 10:00am – 11:00am**

Venue: Room **G6302**, City University of Hong Kong

Reception starts at **9:45am**

(Language: English)

Abstract

Recent attempts in applying complex network analysis to the study of cascading failures have gained new insights into the effects of network structure on the extent and rapidity of failure events that occur in large-scale power systems. Results generated from such studies, though being able to shed some light on the effective assessment of the robustness of power systems, are not always consistent with historical data. Our recent efforts in incorporating physical power flow processes in the model of failure propagation and our latest findings using this new model have attracted much attention from the engineering community. The consistency with historical data verified the importance of incorporating physical processes in the model and the appropriate application of complex network concepts for the study of cascading failure in physical systems. This talk describes the recent progress in the study of cascading failures in physical systems.

About the Speaker

C. K. Michael Tse obtained the BEng(Hons) and PhD degrees from the University of Melbourne, Australia, in 1987 and 1991, respectively. Presently, he is Chair Professor of Electronic Engineering with the Hong Kong Polytechnic University, and from 2005 to 2012 he was Head of its Department of Electronic and Information Engineering. His research interests include power electronics, nonlinear systems, and network applications. In 2005 he was elected IEEE Fellow, and in 2009 he was appointed Chang Jiang Scholars Chair Professor by the Ministry of Education of China. Prof. Tse received numerous research and invention prizes, was conferred honorary professorships by a few Australian and Chinese universities and was awarded distinguished fellowships by a few Australian and Canadian universities. He serves/has served as Editor-in-Chief for IEEE Transactions on Circuits and Systems II, IEEE Circuits and Systems Magazine, as Editor for a few other journals, and as member of a few IEEE institute-level committees. Locally, he serves/has served on panels of ITF, RGC and ITC-ESS and on Quality Education Fund Committee of HKSAR Government, and is a broad member of the Hong Kong Sinfonietta.