



IEEE Industrial Electronics Society NSW Chapter Distinguished Lecture

Complex Networks for Modelling, Control and Optimisation: Theory and Applications

Distinguished Lecturer:

Prof. Xinghuo Yu, IEEE Fellow
RMIT University, Melbourne, Australia

Date: Tuesday 14 October 2014

Time: 14:00 – 15:30

Venue: Room **CB04.5.01**, (City Campus, Building 04, Level 5, Room 501, *see attached map*)
School of Electrical, Mechanical and Mechatronic Systems
University of Technology, Sydney, 15 Broadway, Ultimo, NSW 2007

Cost: Free

RSVP: **RSVP is required** for the purpose of catering. Please send your RSVP to Ms Enid Tu by email to Enid.Tu@uts.edu.au **by 17:00 Friday 10 October 2014**.

Abstract:

Complex networks are everywhere, which are a network with non-trivial topological characteristics which do not occur in traditional networks such as lattices or random graphs. Typical examples are neural systems, food webs, metabolic networks, ecological networks, power grids, and wireless communication networks. The study of complex networks is an emerging research field stimulated by empirical investigations of many real-world complex networks.

In this talk, we will first give a brief overview of Complex Networks research in Modelling, Control and Optimisation, focusing on recent developments and challenges from a spatio-temporal viewpoint. We will then report some of our recent work in this field, especially the applications in money laundering network detection, power grid vulnerability analysis, power network augmentation design, and economic energy dispatch in smart grids.

About the Speaker:

Professor Xinghuo Yu is the Founding Director of Platform Technologies Research Institute, RMIT University, Melbourne, Australia. His research interests include variable structure and nonlinear control, complex and intelligent systems and their applications. He has published over 500 refereed papers in technical journals, books and conference proceedings. He received a number of awards and honours for his achievements, including the 2013 IEEE-IES Dr.-Ing Eugene Mittelmann Achievement Award and 2012 IEEE Industrial Electronics Magazine Best Paper Award.

Professor Yu is a Fellow of the IEEE, Vice-President for Publications and an IEEE Distinguished Lecturer of IEEE Industrial Electronics Society. He is also Fellow of Engineers Australia, Institution of Engineering and Technology (UK), Australian Computer Society and Australian Institute of company Directors.

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