
Date: Tuesday, 3 June 2014
Venue: Civil & Environmental Engineering Building H20, Level 1, Room 102
Time: 2:00 – 3:00pm

Guest Speaker: Guoqiang Mao
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Professor Guoqiang Mao received his PhD in telecommunications engineering in 2002 from Edith Cowan University, Australia. Between 2002 and 2013, he was with the School of Electrical and Information Engineering, the University of Sydney, as a Lecturer, a Senior Lecturer and an Associate Professor. He joined the University of Technology, Sydney as a Professor of Wireless Networking and Director of UTS Centre for Real-Time Information Networks in February 2014. He has published more than 100 papers in top international conferences and journals, which have been cited more than 2000 times (Google Scholar). His research interest includes intelligent transport systems, applied graph theory and its applications in networking, wireless multihop networks, wireless localization techniques and network performance analysis. He is a Senior Member of IEEE, an Editor of IEEE Transactions on Vehicular Technology and IEEE Transactions on Wireless Communications, and a co-chair of IEEE Intelligent Transport Systems Society Technical Committee on Communication Networks. He has served as a chair and a technical committee member in a number of international conferences.

Abstract:
Intelligent transport systems (ITS) refer to the application of modern telecommunications technology to the operation and control of transport systems. The key to ITS is "intelligence", which was made possible by advances in telecommunications. Communication systems play a key role in transforming ordinary transport system into intelligent ones. Existing communication systems however fail to meet the needs of ITS. The solutions are, to a very large extent, designed by telecom engineers for telecom companies and fail to consider particular communication needs of ITS. In this talk, based on the observation that the information needs and interactions among vehicles in ITS can be naturally separated into several spatial and temporal scales, I present a multiscale framework to ITS modelling, network architecture design and traffic control of ITS. On that basis, the need for a responsive navigation and traffic control system that can cope with possible disruptions caused by intelligent road users is also pointed out. I will also present a list of current ITS related projects at the UTS centre for real-time information networks.

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