



THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

Seminar

**Network Science and Its Application
in Wireless Networking**

by

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Date : May 30, 2013 (Thursday)
Time : 11:00am – 12:00noon
Venue : Room 833 Ho Sin Hang Engineering Building
The Chinese University of Hong Kong

Abstract

Network science is a new and emerging scientific discipline that examines the interconnections among diverse physical or engineered networks (such as power grid and transportation networks), information networks, biological networks, cognitive and semantic networks, economic networks (such as stock markets), and social networks. This field of science seeks to discover common principles, algorithms and tools that govern network structures, functionalities, and behaviors. In this talk, I will discuss some major problems and methodologies in network science. To illustrate the application domains of network science, I will focus on distributed control in wireless networks. In particular, I will present how to apply the decomposition principle in network science to the problem of joint congestion control and scheduling in multi-hop ad hoc networks with multi-class services.

Biography

Dapeng Oliver Wu received Ph.D. in Electrical and Computer Engineering from Carnegie Mellon University, Pittsburgh, PA, in 2003. Since 2003, he has been on the faculty of Electrical and Computer Engineering Department at University of Florida, Gainesville, FL, where he is currently Professor. His research interests are in the areas of networking, communications, video coding, image processing, computer vision, signal processing, and machine learning. He received University of Florida Research Foundation Professorship Award in 2009, AFOSR Young Investigator Program (YIP) Award in 2009, ONR Young Investigator Program (YIP) Award in 2008, NSF CAREER award in 2007, the IEEE Circuits and Systems for Video Technology (CSVT) Transactions Best Paper Award for Year 2001, the Best Paper Award in Globecom 2011, and the Best Paper Award in QShine 2006. Currently, he serves as an Associate Editor for IEEE Transactions on Circuits and Systems for Video Technology. He is the founder of the newly established IEEE Transactions on Network Science and Engineering. He was the founding Editor-in-Chief of Journal of Advances in Multimedia between 2006 and 2008, and an Associate Editor for IEEE Transactions on Wireless Communications and IEEE Transactions on Vehicular Technology between 2004 and 2007. He is also a guest-editor for IEEE Journal on Selected Areas in Communications (JSAC), Special Issue on Cross-layer Optimized Wireless Multimedia Communications. He has served as Technical Program Committee (TPC) Chair for IEEE INFOCOM 2012, and as TPC Chair for IEEE International Conference on Communications (ICC 2008), Signal Processing for Communications Symposium. He served as Chair for the Award Committee, Technical Committee on Multimedia Communications, IEEE Communications Society. He is an IEEE Fellow.

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