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香港中文大學
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Institute of Theoretical Computer Science and Communications

ITCSC Seminar

Feedback-driven Opportunistic Access Strategies in Cognitive Radio Networks

By
Prof. Xin Liu
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Nov 17, 2010 (Wednesday)
11:00am – 12:00 noon
Rm. 121, 1/F., Ho Sin Hang Engineering Building, CUHK

Abstract:
Cognitive radio is a promising technology to mitigate spectrum shortage in wireless communications. It enables secondary users (SUs) to opportunistically access low-occupancy primary spectral bands as long as the primary user (PU) access is protected. In this talk, I will first give an overview of the field. I will then discuss our recent venture beyond the "listen-before-talk" strategy that is common in many traditional cognitive radio access schemes by exploiting the bi-directional nature of most primary communication systems. By intelligently choosing their transmission parameters based on the observation of primary user (PU) communications, we show that secondary users (SUs) in a cognitive network can achieve higher spectrum usage while protecting the PU with neither a central controller nor message passing.

Biography:
Xin Liu is an associate professor in the Computer Science Department at the University of California, Davis. She received her Ph.D. degree in electrical engineering from Purdue University in 2002. Her research is on wireless communication networks, with a focus on resource allocation and cognitive radio networks. She received the Best Paper of Year Award of the Computer Networks Journal in 2003 for her work on opportunistic scheduling. She received NSF CAREER award in 2005 for her research on cognitive radio networks. She received the Outstanding Engineering Junior Faculty Award from the College of Engineering, University of California, Davis, in 2005.

***** ALL ARE WELCOME *****

Hosted by: Prof. Huang Jianwei Tel: 2609 8353
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