

学术报告会

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地点：电院群楼2-410会议室

Energy-Efficient Wireless Communications-Interference Free and Limited Scenarios

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Abstract:

The future success of communication networks hinges on the ability to overcome the mismatch between requested quality of service (QoS) and limited network resources. Energy efficiency (EE) is becoming increasingly important as battery technology and energy industry has not kept up with the growing requirements stemming from ubiquitous mobile multimedia applications. This presentation introduces cross-layer technologies to improve energy efficiency from different perspectives of wireless systems. We will first discuss technology trend and the methodologies needed to enable highly energy-efficient wireless networks. Then we will introduce state-of-art cross-layer wireless communication technologies that enable high energy efficiency for both individual users (interference free) and multi-user (interference limited) networks. The presentation will be concluded by the discussion of the tradeoff between spectral and energy efficiency in both interference-free and -limited wireless networks.

Biography:

Dr. Guowang Miao (S' 05 - M' 10) received a B.S. and a M.S. degree, in 2003 and 2006, in electronic engineering from Tsinghua University, Beijing, China, and a M.S. degree and a Ph.D. degree, both in 2009, in electrical and computer engineering from Georgia Institute of Technology, Atlanta, GA, USA. He joined Dallas Telecom Lab of Samsung, Texas, in 2010 as a Senior Algorithms and Standards Engineer and worked on next generation wireless communications technologies and 3GPP Long Term Evolution - Advanced (LTE-A) Standard, with a focus on both PHY and MAC layers. Starting in Fall 2011, he is a tenure-track assistant professor in the Department of Communications Systems, KTH - The Royal Institute of Technology, Stockholm, Sweden. He serves as a technical program committee member of more than ten international conferences and a technical reviewer of more than twenty international journals and conferences. He is also on the editorial board of several international journals. In 2011, he won an Individual Gold Award from Samsung Telecom America for his contribution in LTE-A standardization. He was an exemplary reviewer for IEEE Communications Letters in 2011.