



Fall 2011 Colloquium

Temple University

Computer and Information Sciences

Dynamic Spectrum Access: from Cognitive Radio to Network Radio

Distinguished Speaker

Min Song

National Science Foundation

Wednesday 11/2, 2pm, Wachman 447

Abstract: In this talk, Dr. Min Song will explore one national technological priority, Wireless Innovation and Infrastructure Initiative, and present some NSF programs that are closely related to wireless networking research and education.

Radio spectrum is a finite but exceedingly valuable natural resource that facilitates a tremendous variety of wireless applications. Efficient access to the radio spectrum is critical to the growth of global economy. The current spectrum management policies, however, are under increasing strain as the demand for existing wireless applications grows exponentially. On one side, the spectrum available for wireless communications has been exhausted; on the other side, the licensed spectrum is underutilized across both temporal and spatial dimensions. To combat these problems, a critical rethinking of the radio spectrum management policies is essential. One disruptive technology developed recently is dynamic spectrum access, in which licensed users and unlicensed users are able to share the radio spectrum in a dynamic manner. The paradigm shift from today's spectrum management policies to dynamic spectrum access inevitably requires coordinated innovations in radio technology, regulatory policy, business practices, and market structures. In this talk, Dr. Song will elaborate his research endeavors in the area of dynamic radio spectrum management and outline future research directions. In the second part of the talk, Dr. Song will present some NSF programs that are closely related to wireless networking research and education, such as Networking Technology and Systems (NeTS), Enhanced Access to Radio Spectrum (EARS), and Research Experiences for Undergrads (REU).

Bio: Dr. Min Song is currently a Program Director in the Division of Computer and Network Systems, Directorate for Computer and Information Science and Engineering, National Science Foundation. He is also an Associate Professor in the Department of Electrical and Computer Engineering at Old Dominion University. Dr. Song received his PhD in Computer Science from the University of Toledo. His primary research interests are in the area of wireless networking. Dr. Song's professional career is comprised of a total of 20 years of work experience in academia, government, and industry. Over the years, Dr. Song has secured more than \$1.76 million research funding from NSF, DOE, and NASA, published more than 110 technical papers in prestigious journals and conference proceedings, received three Best Paper awards, and produced five Ph.D. students. He is the Founding Director of the Wireless Networking @ ODU Laboratory. In addition to his academic work, Dr. Song was also the Founding Director of a Networking System Division in an IT company, and launched an international journal and served as the Editor-in-Chief. Dr. Song has acted as an Editor or Guest Editor of 13 international journals, and served as a Steering Committee member, General chair, TPC chair, Workshop chair, and TPC member for numerous conferences. He is the recipient of NSF CAREER Award and DOE GAANN Award. Dr. Song is an IEEE Senior member.