**Energy Harvesting Wireless Networks**

Abstract:

An energy harvesting wireless network consists of nodes that acquire their energy to transmit/process/receive from external sources. The intermittency of energy availability in such a network brings in interesting new communication network design problems starting at the physical layer and up. In this talk, we will focus on new transmission policies that arise in energy harvesting wireless networks, and present the new insights and resulting design trade-offs for different network primitives. These models range from single link with energy storage constraints and inefficiencies to various multi-terminal models such as an interference channel and cooperative communications. We will conclude by presenting current directions and future open problems.

Speaker Bio:

Aylin Yener received the B.Sc. degree in electrical and electronics engineering, and the B.Sc. degree in physics, from Bogazici University, Istanbul, Turkey; and the M.S. and Ph.D. degrees in electrical and computer engineering from Wireless Information Network Laboratory (WINLAB), Rutgers University, New Brunswick, NJ. Commencing fall 2000, for three semesters, she was a P.C. Rossin Assistant Professor at the Electrical Engineering and Computer Science Department, Lehigh University, PA. In 2002, she joined the faculty of The Pennsylvania State University, University Park, PA, where she was an Assistant Professor, then Associate Professor, and is currently Professor of Electrical Engineering since 2010. During the academic year 2008-2009, she was a Visiting Associate Professor with the Department of Electrical Engineering, Stanford University, CA. Her research interests are in information theory, communication theory and network science, with recent emphasis on green communications and information security. She received the NSF CAREER award in 2003.

Dr. Yener previously served as a technical program chair or co-chair for various conferences for the IEEE Communications Society, as an associate editor for the IEEE Transactions on Communications, as an associate editor and an editorial advisory board member for the IEEE Transactions on Wireless Communications. She served as the student committee chair for the IEEE Information Theory Society 2007-2011, and was the co-founder of the Annual School of Information Theory in North America co-organizing the school in 2008, 2009 and 2010. Dr. Yener currently serves on the board of governors of the IEEE Information Theory Society as its treasurer.