



Fall 2009 CIS Colloquium Series

The Science and Engineering of Protocols for Dynamic Complex Networks

Alhussein Abouzeid

(National Science Foundation and Rensselaer Polytechnic Institute)

*11am-12pm, Thursday, October 22, 2009
Tech Center 111*

Abstract: Over the past few years, we have witnessed the growing pervasiveness of networking technologies, notably wireless and mobile, in our day-to-day lives, including areas of critical national importance, ranging from commercial to military. Various new architectures and attributes of networks have crystallized, such as wireless Mesh Networks, Sensor Networks, Mobile Networks and Delay Tolerant Networks. This poses fundamental new questions for network science and engineering research and education. In particular, the need for new theories as well as new engineering tools will be discussed. I will present a brief overview of my recent research characterizing network protocols in dynamic networks. In particular, I will focus on approaches to apply decision theory and information theory to gain insights into the salient features of evolving complex networks, and design systems that leverage network dynamics to improve performance. I will also discuss some of the funding opportunities at the National Science Foundation.

Bio: Alhussein A. Abouzeid received the B.S. degree with honors from Cairo University, Cairo, Egypt in 1993, and the M.S. and Ph.D. degrees from University of Washington, Seattle, WA in 1999 and 2001, respectively, all in electrical engineering. From 1993 to 1994, he was with the Information Technology Institute, Information and Decision Support Center, The Cabinet of Egypt, where he received a software engineering diploma. From 1994 until 1997, he served as a Project Manager in the Middle East Regional Office of Alcatel telecom, designing integrated voice/data enterprise solutions, and responsible for the technical launch of new Alcatel enterprise and public data switches. During his PhD study, he held summer appointments with Allied Signal -now Honeywell- Redmond, WA, in 1999 and Hughes Research Labs, Malibu, CA, in 2000. In 2001 he joined Rensselaer Polytechnic Institute (RPI), Troy, NY, where he is currently an associate professor in the Electrical, Computer and Systems Engineering Department, and Deputy Director of the Center for Pervasive Computing and Networking, which he co-founded. Since December 2008, he has been Program Director (on leave from RPI), Directorate for Computer & Information Science & Engineering, Division of Computer & Network Systems, National Science Foundation, Arlington, VA, where he is responsible for the Networking Technology and Systems program. He received the NSF Faculty Early Career Development Award (CAREER) in 2006. His research focuses on protocols for dynamic networks. He serves on various conferences organization committees and is an Area Editor for Elsevier Computer Networks journal. He is an active member of IEEE and ACM.

Refreshments will be served!