NYU Stern School of Business
Department of Information, Operations & Management Sciences
IOMS Research Seminar Series

TOPIC: Managing congestion in decentralized matching markets
SPEAKER: Ramesh Johari (Stanford University)
DATE: Wednesday, March 26, 2014
TIME: 12:15 PM – 1:45PM (Lunch at 12:00 pm)
PLACE: KMC 3-90

ABSTRACT

We consider a decentralized two-sided matching market in which agents arrive and depart asynchronously. As a result, it is possible that an agent on one side of the market (a "buyer") identifies an agent on the other side of the market (a "seller") who is a suitable match, only to find that the seller is already matched. We find using a mean field approach that lack of knowledge about availability can create large welfare losses to both buyers and sellers. We consider a simple intervention available to the platform: limiting visibility of sellers. We find that this intervention can significantly improve the welfare of agents on both sides of the market; sellers pay lower application costs, while buyers are less likely to find that the sellers they screen have already matched. Somewhat counterintuitively, the benefits of showing fewer sellers to each buyer are greatest in markets in which there is a shortage of sellers.

Joint work with Nick Arnosti and Yash Kanoria.

BIO:

Ramesh Johari is an Associate Professor at Stanford University and the Cisco Faculty Scholar in the School of Engineering, with a full-time appointment in the Department of Management Science and Engineering (MS&E), and courtesy appointments in the Departments of Computer Science (CS) and Electrical Engineering (EE). He is a member of the Operations Research group in MS&E, the Information Systems Laboratory in EE, and the Institute for Computational and Mathematical Engineering. He received an A.B. in Mathematics from Harvard (1998), a Certificate of Advanced Study in Mathematics from Cambridge (1999), and a Ph.D. in Electrical Engineering and Computer Science from MIT (2004).

He is the recipient of a British Marshall Scholarship (1998), First Place in the INFORMS George E. Nicholson Student Paper Competition (2003), the George M. Sprowls Award for the best doctoral thesis in computer science at MIT (2004), Honorable Mention for the ACM Doctoral Dissertation Award (2004), the Okawa Foundation Research Grant (2005), the MS&E Graduate Teaching Award (2005, 2010), the INFORMS Telecommunications Section Doctoral Dissertation Award (2006), and the NSF CAREER Award (2007). He has served on the program committees of ACM Electronic Commerce (2007, 2009-2011), ACM SIGCOMM (2006, 2011), IEEE Infocom (2007-2011), and ACM SIGMETRICS (2008-2009).