



ICWS Seminar Series



BARGAINING DYNAMICS IN EXCHANGE NETWORKS

Yashodhan Kanoria
PhD Candidate in Electrical Engineering
Stanford University

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4:00-5:00 p.m.
141 Coordinated Science Lab

Abstract: Social and economic networks are becoming increasingly important, both on the internet and otherwise. Agents in these networks possess limited information, and interact chiefly with their local neighborhood. Yet these networks have proven remarkably effective at the aggregation of 'information' at massive scales. It is of great scientific and commercial interest to build realistic models for phenomena in networks of agents.

Exchange networks model the behavior of a set of players who need to reach pairwise agreements for mutual benefit, as in the labor market, the housing market and the 'market' for social relationships. A crucial but little understood aspect of exchange networks is the dynamics of bargaining between players. We present a natural model of the bargaining dynamics on general networks, and show rapid convergence to certain socially optimal outcomes. We also describe ongoing internet-based experiments on bargaining in networks.

Biography: Yashodhan Kanoria is a PhD student in Electrical Engineering at Stanford University. His advisor is Andrea Montanari.

His core research interests are:

- Learning in social and economic networks (theory and web experiments).
- Mechanisms for the smart grid.
- Graphical models, message passing algorithms, probability and game theory.

Website: <http://www.stanford.edu/~ykanoria/>