WCAS Center for Economic Theory
Kellogg Center for Mathematical Studies in
Economics and Management Science
Bag Lunch Theory Seminar

Thursday, April 16, 2015
12:15-1:15pm
Jacobs G27

Terence Johnson, University of Notre Dame
Dynamic Network Formation: Theory and Estimation

Abstract: I characterize the Markov perfect equilibria of a dynamic network formation game and show that payoffs and costs can be consistently estimated from data on the network's structure over time alone. Network activity varies systematically in equilibrium, with calm periods where there are few changes to the network as well as periods of frantic activity where agents scramble for scarce opportunities. There is a unique equilibrium value function, which forms the basis of the estimation framework. Both parametric and non-parametric approaches to estimating payoffs and costs are provided, and can be used to fit theory-driven payoff functions or flexible functions of network characteristics such as vertex degree, eigenvector centrality, or the presence of cut vertexes. Additional results characterize efficiency, stability, and allow for strategic entry.

http://www.kellogg.northwestern.edu/research/math/centerinfo/baglunch.htm