Title: Network Characteristics and Efficient Coordination

Frank Thuijsman (Maastricht University)
(joint work with A. Khan, R. Peeters, P. Uyttendaele.

Abstract:

In coordination games, with multiple pure strategy Nash equilibria, the primary question concerns the possibility of achieving efficient coordination. We address this question for a model in which individuals from a finite population are randomly matched to play the coordination game. While this interaction is global in the sense that the co-player can be drawn from the entire population, individuals observe only the strategies and payoffs of the immediate connections (or neighbors) in their (social) network. Each individual then imitates the most successful strategy used in the immediate neighborhood. This process continues until all individuals coordinate on the same action. We examine the influence of network characteristics on (1) achieving efficient coordination in the population, and (2) the time it takes to reach coordination. Our study is based on simulations using two types of networks: free scale networks and small world networks.