Joint Statistics Seminar

The Hong Kong University of Science and Technology

A New Model for Dynamic Social Network and Behavior

by

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Time: 4:00 p.m. – 5:00 p.m.
Venue: Room 3412 (near Lift 17/18)

Abstract

An individual's behaviors may be influenced by the behaviors of friends, such as hours spent watching television, playing sports, and unhealthy eating habits. However, preferences for these behaviors may also influence the choice of friends; for example, two children who enjoy playing the same sport are more likely to become friends. To study the interdependence of social network and behavior, Snidjers et al. has developed the actor based stochastic modeling (SABM) methods for the co-evolution process, which turns out to be useful when dealing with longitudinal social network and behavior data when behavior variables are discrete and have limited number of possible values. Unfortunately, since the evolution function for behavior variable is in exponential format, the ABSM can generate unrealistic results when the behavior variable is continuous or has a large range. To realistically model continuous behavior variable, we propose a coevolution process so that the network evolution is based on an exponential random graph model and the behavior evolution is based on a linear model.

This is joint work with David Shoham and Richard Cooper.

❖ ***All interested are welcome!*** ❖
For details, please contact ISOM Department.