

Department of Statistics & Biostatistics Hill Center, Room 501 School of Arts & Sciences Rutgers, The State University of New Jersey 848-445-2690 110 Frelinghuysen Road. Piscataway, New Jersey 08854-8019

www.stat.rutgers.edu office@stat.rutgers.edu

Fax: 732-445-3428

## **RUTGERS UNIVERSITY** DEPARTMENT OF STATISTICS AND BIOSTATISTICS www.stat.rutgers.edu

## Seminar

- Speaker: Professor Elizabeth Ogburn **Department of Statistics** Johns Hopkins University
- Title: Some Challenges and Tools for Casual and Statistical Inference with Social **Network Data**
- 3:20 4:20pm, Wednesday, October 9, 2013 Time:
- Place: **552 Hill Center**

## Abstract

Interest in and availability of network data has sparked new work in causal and statistical inference for observations linked by network ties. My talk is motivated by the Health Outcomes, Progressive Entrepreneurship, and Networks (HopeNet) Study, which will collect three waves of complete social network data and implement clean water and microenterprise interventions in a small community in southwestern Uganda. Causal effects of interest include the effects of an individual's exposure to each intervention on his own outcome and several different types of effects of an individual's exposure on the outcomes of his social contacts. Estimation of these and other effects is challenging when only a single network of non-independent observations is observed and the dependence among observations is informed by network topology. I explain why results on spatial-temporal dependence are not immediately applicable to this new setting and present some new methods for estimation in the presence of network dependence.

