MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

COLLOQUIUM

Peter Song

University of Michigan

Regression Analysis of Networked Data

Tuesday, March 25, 2014
10:20 a.m. - 11:10 am
Refreshments 10:00 am
C405 Wells Hall

Abstract:

We develop a new regression analysis approach to evaluating associations of covariates with outcomes measured from networks. This development is motivated from a study of infant growth that collects outcomes of event related potentials (ERP, a type of neuroimaging) measured over electroencephalogram (EEG) electrodes on the scalp. We propose a new generalized method of moments (GMM) that incorporates both established and data-driven knowledge of network topology among nodes in the estimation and inference to achieve robustness and efficiency. The GMM approach is computationally fast and stable to handle the regression analysis of network data, and conceptually it is simple with desirable properties in both estimation and inference.
Both simulation studies and real EEG data analysis will be presented for illustration.

To request an interpreter or other accommodations for people with disabilities, please call the Department of Statistics and Probability at 517-355-9589.