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Seminar

Speaker: **Professor Xuming He**
Department of Statistics
University of Michigan

Title**:** **Scalable Model Selection for Logistic Regression**

Time: **3:20 – 4:20pm, *Wednesday*, November 19, 2014**

Place: **552 Hill Center**

Abstract

Bayesian model selection faces challenges both in theory and in computation when the number of potential covariates p is large. We consider a variable selection method under the Bayesian computation framework for logistic regression that adapts to both the sample size n and the number of potential covariates p with two important features. First, it has strong model selection consistency even when p is large. Second, we propose a new Gibbs sampler that does not require p-squared operations in each of its iterations. In contrast with the standard Gibbs sampler which requires sampling from a p-dimensional multivariate normal distribution with a non-sparse covariance matrix, the new algorithm is much more scalable to high dimensional problems, both in memory and in computational efficiency. We compare our proposed method with several leading variable selection methods through a simulation study to show that our proposed approach selects the correct model with higher probabilities than most competitors.

The talk is based on ongoing work with Naveen Narisetty and Juan Shen.

***** Refreshments will be served @2:50pm in Room 502 Hill Center *****