

# COLLOQUIUM

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## **Modeling Time to Event via Survival Analysis Using Latent Predictors with Multiple Indicators: Does Depression Warn of an Impending Stroke?**

Tuesday, March 1, 2011  
A405 Wells Hall  
10:20 a.m. - 11:10 a.m.  
Refreshments: 10:00 a.m.

### **Abstract**

This talk is concerned with an extension of the widely used classical Cox proportional hazards model to the case of fallible predictors, and its application to the study of the vascular depression hypothesis. Initially, after a brief introduction to the context of the latter, the concept of a latent variable is discussed, as well as the general framework of latent variable modeling. The extended Cox PH model including latent covariates measured by multiple predictors, is fitted using the Expectation-Maximization algorithm, which is implemented in the popular latent variable modeling program Mplus. Findings from a pilot vascular depression hypothesis study are discussed, as well as the current limitations of this modeling framework extension.

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