

The George Washington University  
Department of Statistics  
Fall 2005

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**SEMINAR ANNOUNCEMENT**

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**Title:** Composite Likelihood Inference in Spatial Generalized Linear Mixed Models

**Speaker:**

Professor Tatiyana V. Apanasovich  
School of Operations Research and Industrial Engineering  
Cornell University

**Abstract:** Spatial GLMMs (Diggle, et al. 1998) are flexible models for a variety of applications where we have observations of spatially dependent and non-Gaussian random variables. As in a standard GLMM (Breslow and Clayton, 1993) given the random effects, which they model by a Gaussian random field, the observations are conditionally independent and follow a generalized linear model. In a number of applications, neither Bayesian nor maximum likelihood approaches appear practical for large sets of correlated data. To gain computational efficiency, one may approximate the objective function. Instead of the likelihood, we consider a composite likelihood (Lindsay, 1988), which is the product of likelihoods for subsets of data, and estimate parameters by maximizing this product. The asymptotic properties of such estimators will be outlined. The application of the methods to the data from the experiment on aberrant crypt foci (ACF), which are precursors of colon cancer, will be presented.

**Date:** Friday, November 11, 2005

**Time:** 11:00 am - 12:00 pm

**Location:** Rome Hall (801 22nd Street NW), Room 351

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**Directions:** Foggy Bottom-GWU Metro Stop on the Orange and Blue Lines. The campus map is at <http://www.gwu.edu/~map>.

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