



ANNOUNCES A  
COLLOQUIUM

**Dr. Bo Zhang**

*Biostatistics and Bioinformatics Branch  
National Institutes of Health*

will speak on

**Adaptive Model Selection in Linear Mixed Models  
with Application to Hormone Levels Data**

**Time: 3:00 – 4:00 PM**

**Date: Friday, December 3, 2010**

**Place: Alter Hall 746**

**Abstract**

Linear mixed models involve fixed effects, random effects and covariance structure, which require model selection to simplify a model and to enhance its interpretability and predictability. In this article, we develop, in the context of linear mixed models, the generalized degrees of freedom and an adaptive model selection procedure defined by a data-driven model complexity penalty. Numerically, the procedure performs well against its competitors not only in selecting fixed effects but in selecting random effects and covariance structure as well. Theoretically, asymptotic optimality of the proposed methodology is established over a class of information criteria. The proposed methodology is motivated by and applied to the BioCycle study, to determine predictors of hormone levels among premenopausal women and to assess variation in hormone levels both between and within women across the menstrual cycle.

Guest Parking Available in the **Liacouras Garage**  
(Located on **15th Street between Montgomery and Cecil B. Moore Avenues**)