



Department of Mathematical Sciences welcomes

Guanqun Cao **Auburn University**

Estimation and Inference for Functional Linear Regression Models with Varying Regression Coefficients

ABSTRACT:

In this work, motivated by a real data example, we present a class of functional linear regression models of a functional response on one or multiple functional predictors and scalar predictors. In particular, the approach can accommodate a densely or sparsely sampled functional response as well as multiple scalar and functional predictors. It also allows for the integration of continuous or categorical covariates. Tensor product B-spline basis is proposed for the estimation of the bivariate coefficient functions. We show that our estimators hold asymptotic consistency and normality. Several numerical examples demonstrate a superior performance of the proposed methods against several existing approaches. The proposed method is also applied to the motivating example.

ABOUT THE SPEAKER:

Guanqun Cao is an Associate Professor in the Department of Mathematics and Statistics at Auburn University. She obtained her Ph.D. from the Department of Statistics and Probability at Michigan State University in 2012. Her research interests include functional data analysis, nonparametric regression, simultaneous inference and spline smoothing.

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Hosted by:
Honglang Wang

Tea begins at 3:00
in LD 259

Research Topic
begins at 3:30
in LD 229

