

UMW Department of Mathematics Announcement

Robust Functional Logistic Regression

Presented by

Melody Denhere

*Department of Mathematics & Statistics
Auburn University*

Monday, February 4, 2013, 5 p.m.
140 Trinkle Hall

Abstract: Over the last decade or so, a lot of interest has emerged in the field of functional data analysis. This interest spans from a broad spectrum of fields such as brain imaging studies, bio-metrics, genetics, e-commerce and computer science. Statistical tools, models and methods, whose strength is in recognizing this structural aspect of data are being discussed and developed; ranging from functional linear regression, functional ANOVA, functional principal component analysis and functional outlier detection. In this work, we discuss the estimation of the parameter function for a functional logistic regression model; a model where the response is binary and the covariate(s) functional. We consider ways that allow for the parameter estimator to be resistant to outliers, in addition to eliminating multicollinearity problems; issues which are inherent with functional data. Results from a simulation study and a real world example are also presented to illustrate the performance of the proposed estimator.

“Ms. Denhere is a candidate for an open position in the department”

