

1086-VI-2573

**Melody B. Denhere\***, Department of Mathematics and Statistics, 221 Parker Hall, Auburn, AL 36849, and **Nedret Billor**, Department of Mathematics and Statistics, 221 Parker Hall, Auburn, AL 36849. *Robust Functional Logistic Regression*.

In this work, we discuss the estimation of the parameter function for a functional logistic regression model. We consider ways that allow for the parameter estimator to be resistant to outliers, in addition to minimizing multicollinearity and reducing the high dimensionality which is inherent with functional data. To achieve this, the functional covariates and functional parameter of the model are approximated in a finite dimensional space generated by an appropriate basis. This approach reduces the functional model to a standard multiple logistic model with highly collinear covariates and potential high dimensionality issues. The proposed estimator tackles these issues and also minimizes the effect of functional outliers. Results from a simulation study and a real world example are also presented to illustrate the performance of the proposed estimator. (Received September 25, 2012)