CCSU

DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, September 26
3:00 – 4:00 PM
Maria Sanford, Room 101

VARIABLE AND INFLATION SELECTIONS IN MULTIPLE-INFLATED COUNT DATA

JOHN KOOMSON

CENTRAL CONNECTICUT STATE UNIVERSITY

Abstract: Count data are common in many fields, including biomedical research, economics, and the social sciences. These data often display unusual patterns, such as an excess of observations at specific count values making standard models inadequate. A key challenge in analyzing such data is two folds: (i) identifying true inflations in the data, and (ii) selecting the covariates that explain variation in both the inflation and the overall count process.

In this talk, I will present a new methodology designed to address these challenges simultaneously. The proposed approach combines regularization techniques with a continuous approximation to the L0-norm, and it adopt a tuning-free "subtle uprooting penalty" to encourage sparsity and improve interpretability. This methodology avoids the computational burden of extensive parameter tuning and is well-suited for finite mixture models commonly used in count data analysis.

I will also illustrate the practical utility of the methodology with a real-world application to doctor visit counts. Joint work with Xiaogang Su.

To join us online use the following link: https://ccsu.webex.com/meet/gotchev
For further information: gotchevi@ccsu.edu; 860-832-2839;
http://mathcolloquium.sites.ccsu.edu/