

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, December 2
2:00 – 3:00 PM
Maria Sanford, Room 101

DISCRETE DATA MODELING AND ANALYSIS

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Abstract

Discrete data such as count data or data in the form of proportions arise in biology, biomedical, toxicology, epidemiology and other similar fields. These data often exhibit variation greater or smaller than predicted by the simple probability models such as the Poisson or the binomial model. Failure to take into account of this over or under dispersion, estimates of the mean or the regression parameters will be less efficient than the standard probability model-based formula provides us. Thus, in practice, a model having an over or under dispersion parameter might be necessary. In this presentation I will introduce several discrete models for over or under dispersed binomial or count data. The estimation and the goodness of fit for those models will be discussed. A set of toxicological data and a set of biological data will be analyzed to demonstrate the procedure using R or S-PLUS.

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