

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, February 25

2:00 – 3:00 PM

Maria Sanford, Room 101

TESTING THE EQUALITY OF THE PROPORTIONS IN THE ANALYSIS OF CLUSTERED BINARY DATA

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ABSTRACT

There has been considerable interest in analyzing clustered binary data that often exhibit extra-dispersion in many applications. Standard approaches of analyzing such data are based on the assumption that the binary responses of the individuals within cluster are independent. However, in many real-life applications in biological investigations, it often shows that these responses within a cluster are likely correlated. Therefore, analyzing such data based on the standard approaches, which ignore the litter effect, would give misleading inferences by producing biased estimates of the parameters and inflating the type I error rates of the hypothesis testing about the parameters. In this study, we introduce a simple test procedure for testing the homogeneity of proportions of several treatment groups of clustered binary data in the presence of unequal dispersions. I will start my talk with the basic concepts of the hypothesis testing of a single proportion, along with all basic definitions related with this topic.

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