CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES
COLLOQUIUM
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3:00 – 4:00 PM
Maria Sanford, Room 101

PROBABILITY OR ODDS: CONSIDERATIONS FOR REGRESSION MODELS

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Abstract: This is a continuation of our adventure into building models for odds and probabilities, with a focus on methods in health and medical sciences. Logistic regression (LR) allows data analysts to estimate the odds of a binary outcome based on covariates. LR can be modified to allow ordinal and nominal outcomes. One consideration in using LR is a potential to misinterpret odds as probabilities. To bypass this issue, models such as the Log-Binomial Regression model (LB) and Log-cumulative probability model (LCPM) have been proposed for binary and ordinal outcomes, respectively. A strength of these models is the estimation of probability but the constraints in these models can make statistical inference difficult in certain settings.

This talk will start with an introduction to linear models and then bridge to generalized linear models for the estimation of odds and probabilities. The goal is to raise awareness of potential challenges of each regression model. Several results presented are in collaboration with Dr. Gordon H. Fick from the University of Calgary.

This talk is for an audience with an introductory understanding of probability and linear regression models. Attendance of the previous talks is not required.

To join us online use the following link: https://ccsu.webex.com/meet/gotchev

For further information: gotchevi@ccsu.edu 860-832-2839; https://web.ccsu.edu/colloquium/