



Department of Mathematics and Statistics

Colloquium

Thursday September 27

AMB 164 4:00 pm

Examining Rhesus Macaques Computer-Usage Using Functional Regression Models

Mark Meyer

Assistant Professor of Statistics, Georgetown University

Abstract

Over the course of four years, a group of socially-housed of rhesus macaques (*Macaca mulatta*) at a primate facility in Atlanta, GA were given access to touch-screen computers. The goal of the study was to determine demographic factors that contribute to usage with the ultimate goal of building a better understanding of how the group's social structure functions when exposed to a new tool like computers. Usage data was collected for every minute of the four year period resulting in a large quantity of information that can be considered functional data. While there are many ways to analyze this data, we will discuss and implement a novel method for conducting functional regression where the outcome is not only a function of time but also non-normally distributed—in this case a function of either binary or ordinal responses. In this talk, we will develop the methodology in the Bayesian context, examine its properties in simulation, and, of course, talk a lot about monkeys using computers.

Refreshments at 3:45

Note that this week's colloquium is on Thursday, not Tuesday.