1125-62-3032 **Deidra Andrea Coleman*** (dcoleman@philander.edu), **Brian J Reich** and **Donald E. K. Martin**. *A Bayesian False Discovery Approach to Syndromic Surveillance.*

We give a procedure to detect outbreaks using epidemiological data while controlling the Bayesian False Discovery Rate (BFDR). The procedure entails choosing an appropriate Bayesian model that captures the spatial dependency inherit in epidemiological data and considers all days of interest, selecting a test statistic based on a chosen measure that provides the magnitude of the maximum spatial cluster for each day, and identifying a cutoff value that controls the BFDR for rejecting the collective null hypothesis of no outbreak over a collection of days for a specified region. We use our procedure to analyze botulism-like syndrome data collected by the North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT). (Received September 20, 2016)