Joint Seminar

UNIVERSITY OF GEORGIA
DEPARTMENT OF STATISTICS
DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS

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"K-scan for anomaly detection in spatial point patterns"

We consider the problem of detecting hotspots in spatial point patterns observed over time while accounting for an inhomogeneous background intensity. For example, in disease surveillance, the interest is often in identifying regions of unusually high incidence rate given a background incidence rate that may be spatially varying due to underlying variation in population density, say. I will present a K-scan method that uses components of the inhomogeneous K function to identify such anomalies or hotspots. The significance of detected hotspots is assessed using either bootstrap or a p value approximation based on a Gumbel distribution. I will show some results from a simulation study, as well as applications of this method to dead bird sighting data from Contra Costa County in California and to fast food restaurant location data in New York City.

Thursday, April 19th, 2012

3:30 PM at 306 Statistics Building

Refreshments will be immediately after the talk in The Cohen Room, room 230, Statistics Building