

DEPARTMENT OF STATISTICS COLLOQUIUM SERIES

Texas A&M University

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THE JOYS OF GEOCODING (FROM A SPATIAL STATISTICIAN'S PERSPECTIVE)

ABSTRACT:

In many applications of spatial statistics to public health and the social sciences, the spatial locations of study subjects are taken to be the geographic (lat-long) coordinates of their places of residence. The process by which these coordinates are determined is known as geocoding. Typically, geocodes are determined using geographic information system software that attempts to match each address to an address-ranged street segment within a road database and then inter-polates the position of the address within that segment. Unfortunately, this process results in many errors (incorrect geocoding), and for various reasons many addresses simply fail to geocode (incomplete geocoding). In this talk, I describe common features of these errors and the missingness, and I show how some existing spatial statistical methods can be modified to properly account for the measurement error and selection bias induced by them. Geocoded data from a rural health study in Carroll County, Iowa will be used to illustrate the issues and methods.

DATE: Thursday, October 21, 2010

TIME: 3:45 p.m. – 4:45 p.m.

PLACE: Room 457, Blocker

Refreshments will be served in the Statistics Conference Room at 3:30 pm for those attending the seminar.