

COLLOQUIUM

Department of Statistics
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Detecting Changes in Trend Data

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Date: **March 29, 2002 (Friday)**

Time: **2:30-3:30PM**

Place: **LeConte College Room 210A**

Refreshments: 3:30-4:00 LC 213

Abstract

This talk will discuss estimation of the number and location of change points in a longitudinal series. Motivation arises from the need to model national cancer incidence and mortality data. Hence, the focus is on identification of changes in trend that have practical significance and on appropriately conveying the uncertainty surrounding the number, magnitude and location of these changes. A Bayesian free-knot spline model is proposed that can be estimated using reversible jump MCMC. The model has a number of features that simplify the computation required for estimation. Several illustrations are given, with emphasis on graphical displays of the uncertainty on the number of change points, as well as on the location and magnitude of changes.

About the Speaker: Dr. Elizabeth Slate obtained her Ph. D. in 1991 from Carnegie Mellon University. She is currently an Associate Professor at the Medical University of South Carolina (MUSC). Prior to joining MUSC in 2000, she was a faculty at Cornell University from 1992-2000, and during that period also visited Stanford University and the National Cancer Institute. Her current research interests are in Bayesian statistics, longitudinal data analysis, clinical trials and statistical computing. She is involved in an ARO-funded project to develop methods for systematically using repeated PSA measurements to diagnose PCa onset.