

THE UNIVERSITY OF GEORGIA.



DEPARTMENT OF STATISTICS

FRANKLIN COLLEGE OF ARTS AND SCIENCES

The University of Georgia
Department of Statistics

Colloquium Series

Vijay Nair

Department of Statistics

Department of Industrial & Operations Engineering

University of Michigan, Ann Arbor

“Reliability Inference Based on Multistate and Degradation Models”

Reliability or survival analysis is traditionally based on time-to-failure data. In high-reliability applications, there is usually a high degree of censoring, which causes difficulties in making reasonable inference. There are a number of alternatives to increasing the efficiency of reliability inference in such cases: accelerated testing, collection and use of extensive covariate information, and the use of multistate and degradation data when available. This talk will focus on the last topic. The first part of the talk deals with degradation data. We will review some common models for analyzing degradation data and then describe a class of models based on non-homogeneous Gaussian processes. Properties of the models and methods for inference will be discussed. We will then describe different multistate models that arise in applications and discuss inference for semi-Markov multistate models with panel data (interval censoring), a common type of data collection scheme. The talk is based on joint work with Yang Yang.

For more information,
please contact:
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Thursday, April 28th, 2011

3:30 PM at 306 Statistics Building

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