

DEPARTMENT OF STATISTICS COLLOQUIUM SERIES

Texas A&M University

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(Guest of Mikyoung Jun/IAMCS)

KERNEL-BASED MODELS FOR SPACE-TIME DATA

ABSTRACT:

Kernel-based models offer a flexible and descriptive framework for studying a variety of space-time processes. Nonstationary and anisotropic covariance structures can be readily accommodated by allowing kernel parameters to vary smoothly over space and time or by allowing kernel parameters to depend on covariate information. In addition, dimension reduction strategies make model fitting computationally feasible for large datasets. We explore various properties of this class of statistical models, as well as the implications of dimension reduction strategies on these properties. We also illustrate the use of these models in studying atmospheric chemical processes. In particular, we develop a kernel-based space-time model for carbonaceous aerosols over mainland Southeast Asia using output from NCAR's Model for Ozone And Related Chemical Tracers (MOZART).

DATE: Thursday, April 9, 2009

TIME: 11:10 a.m. – 12:10 p.m.

PLACE: Room 150, Blocker

Refreshments will be served in the Statistics Conference Room at 10:30 am for those attending the seminar.