

THE CHINESE UNIVERSITY OF HONG KONG

Department of Statistics

will present a seminar entitled

Identifying and Tracking Turbulence Structures

by

**Professor Thomas C.M. Lee
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Colorado State University, Fort Colins**

on

Tuesday, 14 March 2006

2:00pm – 3:00pm

in

**Lady Shaw Building C4
The Chinese University of Hong Kong**

Abstract:

In atmospheric science, the understanding of the evolution and interaction of turbulence systems has been the focus of many studies. In this talk, we describe methods for (i) identifying and (ii) tracking such turbulence structures captured in image sequences. For the identification problem, we develop a multi-resolution statistical model that utilizes the non-decimated discrete wavelet transform, while for the tracking problem the following two approaches are investigated. In the first approach a bivariate AR time series is used to model the trajectory of each vortex, and in the second approach the trajectory is modeled by integrated Brownian motion. A major application of this work is the automatic tracking of storm activities observed in remote sensing images.

All are Welcome