

For favour of posting

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE  
THE UNIVERSITY OF HONG KONG

Seminar

**Dr. Jessica TRESSOU**

INRA Met@risk, Chargee de Recherche  
Visiting Scholar, Department of Information Systems,  
Business Statistics and Operations Management (ISOM)  
The Hong Kong University of Science and Technology  
Hong Kong

will give a talk

entitled

## **MODELLING EXPOSURE TO FOOD CONTAMINANTS: A DYNAMIC APPROACH**

Abstract

This talk introduces a continuous-time piecewise deterministic Markov process for describing the temporal evolution of exposure to a given food contaminant. The quantity of food contaminant present in the body evolves through its accumulation after repeated dietary intakes on the one hand, and the pharmacokinetics behavior of the chemical on the other hand. Via embedded chain analysis, ergodic properties of this extension of the standard compound Poisson dam with linear release rate are investigated, the latter being of crucial importance in describing the long-term behavior of the exposure process and assessing values such as the proportion of time the contaminant body burden is over a certain threshold. Since the exposure process is generally not directly observable in practice, a validity framework for simulation-based statistical methods is established by coupling analysis and various techniques for the estimation of the probability of occurrence of rare events are presented. The case of methylmercury exposure in the French population will be my running illustration of the proposed model outcomes.

on

**Tuesday, March 17, 2009**

**10:30 a.m. – 11:30 a.m.**

at

**Room 524, Meng Wah Complex  
(behind the Chong Yuet Ming Amenities Centre)**

**Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 2859 2466 for parking arrangement.**

All interested are welcome