

*For favour of posting*

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE  
THE UNIVERSITY OF HONG KONG

STAT6003 Research Postgraduate Seminar

**Ms. WANG Quanqing**

*Department of Statistics and Actuarial Science  
The University of Hong Kong*

will give a talk

entitled

## **ON A MULTI-DIMENSIONAL RISK MODEL WITH REGIME SWITCHING**

Abstract

We consider an insurer with  $n$  ( $n \geq 2$ ) classes of insurance business. The surplus process for each class of insurance business is assumed to follow a compound Cox risk process. Assume that  $n$  surplus processes are correlated with thinning dependence and regime switching. By summing up the  $n$  surplus processes we obtain a correlated risk process. Upper bounds for the ruin probability under certain assumptions are derived. The joint ruin probability for  $n$  classes of insurance business, the distribution of the number of the ruined business classes in a finite time interval and the Laplace transform of the ruin time of the correlated risk process are investigated. Some closed form results are obtained. Numerical examples are presented to explain how the collection of insurance risk increases the solvency of an insurer.

on

**Friday, October 28, 2016**

**2:30 p.m. – 3:30 p.m.**

at

**Room 301, Run Run Shaw Building**

All interested are welcome