

For favour of posting

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Departmental Seminar

Dr. Eric C.K. CHEUNG

School of Risk and Actuarial Studies
UNSW Sydney, Australia

will give a talk
entitled

**PART I - USING DIGITAL RESOURCES TO ENHANCE STUDENTS'
LEARNING AT UNSW**

**PART II - OPTIMAL RELATIVITIES IN A MODIFIED BONUS-MALUS
SYSTEM WITH LONG MEMORY TRANSITION RULES AND
FREQUENCY-SEVERITY DEPENDENCE**

Abstract

In Part I, I will share some of my teaching experience at UNSW in the past two years, in particular on the development and use digital resources to enhance teaching and learning. These include, for example, interactive materials to help students master programming skills in R to solve problems related to the course, as well as short introductory video for each chapter to emphasize the key ideas or threshold concepts. I will talk about the preparation of materials, the challenges involved and the lessons learnt.

In Part II, we revisit a modified Bonus-Malus System (BMS) which was briefly introduced in e.g. Lemaire (1995) and Pitrebois, Denuit and Walhin (2003). In the classical BMS, the Bonus-Malus (BM) level of a policyholder may go up or down (and consequently his/her next year's premium will be adjusted) according to his/her claim history (particularly frequency) in the previous year only. But in practice it is common for a BMS to adopt transition rules according to the claim history for the past multiple years (e.g. in Belgium, Korea, and Singapore). Taking this into account, we first extend the BM levels with the aim to grant more reasonable bonus to careful drivers. Then, we provide the optimal BM relativities under an aggregate risk model where the frequency and severity can be dependent. BM relativity, commonly used in auto-insurance, is a multiplicative factor applied to the base premium when a policyholder occupies a given BM level.) Here optimality is based on minimization of the mean squared difference between the 'correct' premium (that should be charged if we knew the unobservable risk) and the actual premium charged. Numerical results will be illustrated. Part II is joint work with Jae Youn Ahn, Rosy Oh and Jae-Kyung Woo, and is funded by Casualty Actuarial Society's CKER Grant.

on

Friday, July 19, 2019

(Refreshments will be served from 10:45 a.m. outside Room 301 Run Run Shaw Building)

11:00 a.m. – 12:00 noon

at

Room 301, Run Run Shaw Building

Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 3917 2466 for parking arrangement.

All interested are welcome