DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Seminar

Dr. Henry LAM
Department of Mathematics and Statistics
Boston University
U.S.A.

will give a talk

entitled

A HEAVY TRAFFIC APPROACH TO MODELING LARGE LIFE INSURANCE PORTFOLIOS

Abstract

We explore a framework to approximate life insurance risk processes in the scenario of plentiful policyholders, via a bottom-up approach. Given the insurance contract structure, we aggregate the balance of individual policy accounts, and derive an approximating Gaussian process with computable correlation structure. The methodology is borrowed from heavy traffic theory in the literature of many-server queues, and involves so-called fluid and diffusion approximations. Our framework is different from individual risk model by taking into account the time dimension and the specific policy structure including the premium payments. It is also different from classical risk theory by building the risk process from micro-level contracts and parameters instead of assuming claim and premium processes outright. As a result, our approximating process behaves differently depending on the issued contract structure. Lastly, we shall also discuss efficient computation targeted at our modeling framework.

on

Friday, December 28, 2012

2:30 p.m. – 3:30 p.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