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DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Seminar

Prof. Tak Kuen SIU

Department of Actuarial Studies
Faculty of Business and Economics
Macquarie University, Sydney
Australia

will give a talk

entitled

A STOCHASTIC DIFFERENTIAL GAME FOR OPTIMAL INVESTMENT OF AN INSURER IN CHANGING ECONOMIC CONDITIONS

Abstract

How does an insurance company make a rational and justified investment decision in changing economic conditions? What if the company also faces model uncertainty? These seem frequently asked questions during the periods of financial crises, say the recent global financial crisis. In this talk, we discuss these questions from a game theoretic perspective. Regime-switching models are used to describe the impact of structural changes in economic conditions on investment returns and insurance liabilities. We adopt a robust approach to model uncertainty and consider the situation that the insurance company selects an optimal investment strategy to maximize either the expected exponential utility of terminal wealth or the survival probability in the "worst-case" scenario. The optimal investment problem is formulated as a two-player, zero-sum, stochastic differential game between the insurance company and the market. We discuss the dynamic programming approach to the problem and present explicit solutions for optimal strategies in some particular cases.

This is joint work with Professor Robert J. Elliott from Haskayne School of Business, University of Calgary, Canada and School of Mathematical Sciences, University of Adelaide, Australia.

on

Wednesday, April 21, 2010

2:00 p.m. – 3:00 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