DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

<u>Departmental Seminar</u>

Dr. Xin ZHANG

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will give a talk
entitled

OPEN-LOOP AND CLOSED-LOOP SOLVABILITIES FOR STOCHASTIC LINEAR QUADRATIC OPTIMAL CONTROL PROBLEMS OF MARKOVIAN REGIME-SWITCHING SYSTEM

Abstract

In this talk, we consider the stochastic linear-quadratic (LQ, for short) optimal control problem of Markovian regime-switching system. The representation of the cost functional for the stochastic LQ optimal control problem of Markovian regime-switching system is derived by the technique of Itô's formula with jumps. For the stochastic LQ optimal control problem of Markovian regime-switching system, we establish the equivalence between the open-loop (closed-loop) solvability and the existence of an adapted solution to the corresponding forward-backward stochastic differential equation with constraint (the existence of a regular solution to the Riccati equation). Also, we analyze the interrelationship between the strongly regular solvability of the Riccati equation and the uniform convexity of the cost functional.

on

Wednesday, August 14, 2019

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

11:00 a.m. – 12:00 noon

at

Room 301, Run Run Shaw Building

<u>Visitors Please Note</u> 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