DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Seminar

Dr. ZHANG Ying

Department of Mathematics and Statistics
Acadia University
Canada

will give a talk

entitled

INTEGRATING POPULATION DYNAMICS MODELS AND POPULATION ABUNDANCE/INDICES DATA

Abstract

A time series of animal abundance estimates, together with stochastic population dynamics (SPD) models, are key ingredients of a population viability analysis (PVA) routinely used to estimate extinction risk of the species. Recently, population abundance/indices methodologies have become increasingly popular for wildlife abundance estimation owing to its cost-effectiveness and ease of implementation. In this work we use density dependent SPD models to model long-term dynamics of wildlife populations using distance sampling data and pallet data. We employ hierarchical state-space models (HSSMs) to link the stochastic distance sampling model to the SPD model, while simultaneously allowing for valid inference on both model components. In this talk, we will discuss the model formulation and estimability and simulation results. We also illustrate the proposed modeling approach in the context of white-tailed deer (Odocoileus virginianus) population indices and trend reconstruction in Nova Scotia, Canada.

on

Friday, December 12, 2014

(Refreshments will be served from 10:30 a.m. in Common Room, Room 204, 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