DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

<u>Departmental Seminar</u>

# Professor Antai WANG

Department of Mathematical Sciences
New Jersey Institute of Technology
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will give a talk
entitled

# ANALYSIS OF SEMI-COMPETING RISKS DATA USING COPULA MODELS

Abstract

In this talk, we derive the copula-graphic estimator (Zheng and Klein 1996) for marginal survival functions using Archimedean copula models based on competing risks data subject to univariate right censoring and prove its uniform consistency and asymptotic properties. We then propose a parameter estimation strategy to analyze the semi-competing risks data using Archimedean copula models. Our method is important and flexible in that it allows us to determine dependence levels between competing risks when two dependent competing risks are subject to independent censoring. We will also briefly discuss the model selection issue for this type of data. Simulation studies have shown that our parameter estimator outperforms the estimator proposed by Lakhal, Rivest and Abdous (2008) for the Hougaard model. We fit a leukemia data set using our model and end our paper with some discussion.

on

**Tuesday, January 21, 2020**

*(Refreshments will be served from 3:45 p.m. <u>outside Room 301 Run Run Shaw Building</u>)*

**4:00 p.m. – 5:00 p.m.**

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