

The Hong Kong University of Science and Technology

## Joint Statistics Seminar

Department of Information Systems, Business Statistics and  
Operations Management

and

Department of Mathematics

# Multi-Threshold Accelerated Failure Time Model

by

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**Date: December 7, 2017 (Thursday)**

**Time: 11:00 am – 12:00 noon**

**Venue: Room 4047 (LSK Business Building)**

## *Abstract*

A two-stage procedure for simultaneously detecting multiple thresholds and achieving model selection in the segmented accelerated failure time (AFT) model is developed in this paper. In the first stage, we formulate the threshold problem as a group model selection problem so that a concave 2-norm group selection method can be applied. In the second stage, the thresholds are finalized via a refining method.

We establish the strong consistency of the threshold estimates and regression coefficient estimates under some mild technical conditions. The proposed procedure performs satisfactorily in our simulation studies. Its real world applicability is demonstrated via analyzing a follicular lymphoma data.

All interested are welcome!  
For details, please contact ISOM Department.