

For favour of posting

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Seminar

Professor Ying YUAN

Department of Biostatistics
The University of Texas MD Anderson Cancer Center, Houston, TX
USA

will give a talk

entitled

**ROBUST TREATMENT COMPARISON BASED ON
UTILITIES OF SEMI-COMPETING RISKS IN
NON-SMALL-CELL LUNG CANCER**

Abstract

A design is presented for a randomized clinical trial comparing two second-line treatments, chemotherapy versus chemotherapy plus re-irradiation, for treatment of recurrent non-small-cell lung cancer. The central research question is whether the potential efficacy benefit that adding re-irradiation to chemotherapy may provide justifies its potential for increasing the risk of toxicity. The design uses two co-primary outcomes: time to disease progression or death, and time to severe toxicity. Because patients may be given an active third-line treatment at disease progression that confounds second-line treatment effects on toxicity and survival following disease progression, for the purpose of this comparative study follow-up ends at disease progression or death. In contrast, follow-up for disease progression or death continues after severe toxicity, so these are semi-competing risks. A conditionally conjugate Bayesian model that is robust to misspecification is formulated using piecewise exponential distributions. A numerical utility function is elicited from the physicians that characterizes desirabilities of the possible co-primary outcome realizations. A comparative test based on posterior mean utilities is proposed. A simulation study is presented to evaluate test performance for a variety of treatment differences.

on

Monday, September 5, 2016

(Refreshments will be served from 3:15 p.m. outside Room 301 Run Run Shaw Building)

3:30 p.m. – 4:30 p.m.

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