

For favour of posting

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Seminar

Professor J. Jack LEE

Department of Biostatistics
The University of Texas M.D. Anderson Cancer Center
Houston, Texas, U.S.A.

will give a talk

entitled

BAYESIAN CLINICAL TRIALS IN ACTION

Abstract

Although frequentist paradigm has been the predominant approach for modern clinical trials in the past 60+ years, its limitation has been well recognized. Due to the advancement in both computational algorithm (e.g., Markov chain Monte Carlo) and computer hardware, Bayesian computation is no longer a formidable obstacle starting in the 1990's. Bayesian framework has several unique advantages over the frequentist's counterpart: (1) it conforms to the likelihood principle; (2) it models the unknown parameters with a distribution and can properly address various levels of uncertainty; (3) it can naturally incorporate the prior information and information available inside and outside of the trial; (4) it allows more frequent monitoring and decision making during the trial; (5) it gives the direct answer to the question that most people wants to know, e.g., the probability that the null hypothesis is true or the probability that an interval covers the true parameter; (6) it provides a uniform way to solve complex problems, etc.

Following much theoretical development in Bayesian methods, more and more clinical trials start to incorporate Bayesian thinking in the study design, conduct, and analysis. In this presentation, I will give examples on how Bayesian methods are used in practice and share the M.D. Anderson experience. Commonly used Bayesian design and analysis include efficacy monitoring, toxicity monitoring, adaptive randomization, dose finding, hierarchical modeling, the calculation of posterior probability or predictive probability, and the decision theoretical approach, etc. Bayesian methods are particularly suitable for adaptive designs such that interim data can be used intelligently to guide the study conduct. More such trials should be carried out so we can learn and refine the Bayesian approach with a goal of conducting better clinical trials to benefit patients.

on

Thursday, December 23, 2010

2:00 p.m. – 3:00 p.m.

at

**Room 524, Meng Wah Complex
(behind the Chong Yuet Ming Amenities Centre)**

Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 2859 2466 for parking arrangement.

All interested are welcome