

The Fox School of Business

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Department of Statistics



 Temple University

ANNOUNCES A
COLLOQUIUM

Dr. Haiyan Su

*Department of Biostatistics and Computational Biology
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will speak on

Comparison of Treatment Effects—An Empirical Likelihood Based Method

Time: 3:30 – 4:30 PM

Date: Friday, January 23, 2009

Place: Speakman Hall 113

Abstract

In epidemiologic, biomedical, economic research, a common concern that often arises is how to evaluate the difference between two treatments/groups. Many methods have been proposed for evaluating the difference of the parameters in two linear models under assumptions such as normally distributed and homogeneous errors, and equal sample sizes, for example, by Chow (1960, *Econometrica*), Weerahandi (1987, *Econometrica*), and Bhuyan and Majumder (1996, *Biometrical Journal*). These assumptions may not be satisfied or at least need to be diagnosed. To avoid making these assumptions, we proposed a more efficient approach for treatment comparison based on the empirical likelihood, and showed that the resulting statistic is chi-squared asymptotically, which can be used to make inference and to derive confidence intervals for the difference. The Bartlett correction was applied to obtain the adjusted confidence interval. Simulation experiments illustrate that our method outperforms the published ones. Our method is used to analyze a data set from a drug study.

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