JOINT PROGRAM IN SURVEY METHODOLOGY/MICHIGAN PROGRAM IN SURVEY METHODOLOGY, AND STATISTICS PROGRAM IN MATH DEPARTMENT AT UNIVERISTY OF MARYLAND (JPSM-MPSM-STAT)

Title: Propensity-Score-Adjustment Method for Nonignorable Nonresponse

Propensity score adjustment is a popular technique for handling unit nonresponse in sample surveys. If the response probability depends on the study variable that is subject to missingness, estimating the response probability often relies on additional distributional assumptions about the study variable. Instead of making fully parametric assumptions about the population distribution of the study variable and the response mechanism, we propose a new approach of maximum likelihood estimation that is based on the distributional assumptions of the observed part of the sample. Since the model for the observed part of the sample can be verified from the data, the proposed method is less sensitive to failure of the assumed model of the outcomes. Generalized method of moments can be used to improve the efficiency of the proposed estimator. Results from two limited simulation studies are presented to compare the performance of the proposed method with the existing methods. The proposed method is applied to the missing data in the exit poll for the 19th legislative election in Korea.

SPEAKER: Dr. Jae Kwang Kim is currently a Professor of Statistics and Member of Center for Survey Statistics and Methodology at Iowa State University. Professor Kim is a Fellow for American Statistical Association, Associate Editor of Annals of Applied Statistics, Survey Methodology, and Journal of Korean Statistical Society. He is an author of the book "Statistical methods for handling incomplete data" (2013, Chapman& Hall) and his research interests include imputation methods, nonresponse adjustments, and variance estimations, etc.

Date: Thursday, Oct 16, 2014

Time: 3:40 – 4:40 p.m.

Location: Speaking will be at 2208 Lefrak Hall, University of Maryland,

Video Room 368 – ISR South Basement, University of Michigan