April 24 – May 05, 2023

RODERICK LITTLE & TRIVELLORE RAGHUNATHAN
University of Michigan

COURSE OBJECTIVES
This course will cover a variety of methods for analyzing data with unit and item nonresponse. It will start with an introduction to the main ideas using several examples. The topics that follow will include: Definition of missing values, patterns and mechanisms, Adjustment methods through weighting; imputation methods, multiple imputations; maximum likelihood for incomplete data; modern computationally intensive methods including data augmentation and Gibbs sampling methods; Selection and Pattern Mixture models for nonignorable missing data mechanism; and other applications, such as measurement error, disclosure limitation, causal inference etc. using the missing data framework..

WHO SHOULD ATTEND
The course is designed for persons with a masters level background in Statistics or related field and above. Knowledge of complete data methods including likelihood based methods and familiarity with linear and logistic regression models and repeated measure analyses will be assumed. The major emphasis of this course will be on the basic conceptual issues in dealing with missing data, available methods for analyzing such data and their applications.

THE INSTRUCTORS
RODERICK LITTLE is Richard D. Remington Distinguished University Professor of Biostatistics, School of Public Health and Research Professor, Survey Research Center, Institute for Social Research at the University of Michigan. His areas of research expertise primarily focus on how to handle missing data in variety of statistical analyses, and inference from sample surveys. He has published numerous articles on these topics, chaired a National Research Council Study on missing data in clinical trials, and is the coauthor with Donald Rubin of the book, Statistical Analysis with Missing Data. He is the 2005 Wilks Award recipient from the American Statistical Association, was the 2012 COPSS Fisher Lecturer at the Joint Statistical Meetings, and is an elected member of the National Academy of Medicine and the American Academy of Arts and Sciences.
TRIVELLORE RAGHUNATHAN (Raghu) is Professor of Biostatistics, University of Michigan School of Public Health, Research Professor in the Survey Research Center, University of Michigan Institute for Social Research, and Research Professor, the Joint Program in Survey Methodology at the University of Maryland. Until recently he was Director of the Survey Research Center at Michigan. His research interests are in the analysis of incomplete data, Bayesian methods, design and analysis of sample surveys, small area estimation, statistical disclosure longitudinal data analysis and statistical methods for epidemiology. He has published two books, Missing Data Analysis in Practice and Multiple Imputation in Practice (co-authored with Patricia Berglund and Peter Solenberger).

COURSE MATERIALS AND MEALS
Registrants will be provided with a course lecture notebook, this will be send by mail.

CLASS STRUCTURE
The course will be in an online format from April 24 to May 05, 2023. Participants will have online access to the course packet (slides) and to the recorded lectures. Participants can watch the videos at their own pace. Live group online discussions are scheduled for Friday 04/28/23 and 05/05/23, from 1:00pm to 2:30pm ET. These sessions will be used to discuss questions that came up over the week when watching the videos.