

# FREE WORKSHOP

## INTRODUCTION TO UNDERSTANDING AND HANDLING MISSING DATA: FROM DESCRIPTIVES TO REPLACEMENT

### WITH VISITING SCHOLAR

Lauree Tilton-Weaver, Ph.D.

Professor of Psychology Örebro University, Sweden

Email: [lauree.tilton-weaver@oru.se](mailto:lauree.tilton-weaver@oru.se)

This workshop focuses on understanding missing data and learning principled methods of replacing missing data. The workshop includes understanding how to describe missing data (amount, patterns, mechanisms, newer assessments) and how to deal with missing data. We will cover proactive methods (planned missingness) and reactive methods for handling missing data. More coverage of two modern methods—maximum likelihood estimation and multiple imputation—will be presented in more depth, with an introduction to R packages that can be used to maximize these methods, including derivation of principled components to be used as auxiliary variables for estimation and imputation. Participants are encouraged to bring their own computers and data, for exploring these methods in their own studies. *Note: understanding of basic to intermediate statistics is assumed (measurement levels, descriptive and inferential statistics, basic understanding of data reduction techniques and linear models*

## SEPTEMBER 19-21, 2017

Registration limited; RSVP for registration, UBC locations and recommended readings to:

**Monica Shannon: [mshannon93@alumni.ubc.ca](mailto:mshannon93@alumni.ubc.ca)**



THE UNIVERSITY OF BRITISH COLUMBIA

School of Nursing



[www.saravyc.ubc.ca](http://www.saravyc.ubc.ca)

Stigma and Resilience  
Among Vulnerable  
Youth Centre

### DAY 1 (9-12; 1:30-3:30)

Introduction (lecture and discussions):

- The importance of handling missing data
- Descriptives: amounts and patterns
- Mechanisms of missingness — and attempting to identify them
- Proactive methods: planned missingness
- Reactive methods: Traditional versus modern methods
- Descriptions of maximum likelihood estimation and multiple imputation
- Description of the principle component method for auxiliary variables

### DAY 2 (9-12; 1:30-5)

The PCA method of auxiliary variables

- Verbal walkthrough, R walkthrough, practice tutorials
- Verbal walkthrough of multiple imputations using R, practice with R tutorials
- Pooling estimates from multiple imputation — practice

### DAY 3 (9:30-12;1:30-5)

Individual practice—on tutorials or own data, with guidance from Tilton-Weaver