# 7ᵀᴴ ANNUAL PROBABILITY AND STATISTICS DAY AT UMBC

## FUNDED BY NATIONAL SECURITY AGENCY

### FRIDAY, APRIL 26, 2013
### ROOM 105, PUBLIC POLICY BUILDING

Workshop on
## *Multiple Imputation – Theory and Applications*
presented by
### *Professor Jerry Reiter*
### *Duke University*

## FINAL PROGRAM

### PROGRAM CHAIR
Thomas Mathew, Professor, Department of Mathematics and Statistics, UMBC

**1:30PM — 2:00PM  REGISTRATION**
*LOBBY*

**2:00PM — 2:15PM  WELCOME**

- Nagaraj Neerchal, Chair, Department of Mathematics & Statistics, UMBC
- Bimal Sinha, Conference Chair, UMBC

**2:15PM — 3:15PM  LECTURE 1:  Overview of Multiple Imputation**

1.1 Problems caused by missing data
1.2 Various solutions and their limitations
1.3 Multiple imputation idea, including inference and data generation
1.4 Other adaptations of multiple imputation, including data confidentiality and measurement error

**3:15PM — 3:30PM  COFFEE BREAK**

**3:30PM — 4:30PM  LECTURE 2:  Implementing Multiple Imputation**

2.1 Approaches to implementation, including multivariate modeling, conditional modeling, and machine learning based approaches
2.2 Checking adequacy of imputations via graphical display and posterior predictive checks
2.3 Demonstration on genuine examples

**4:30PM — 4:45PM  COFFEE BREAK**

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**4:45PM — 5:45PM** <span style="color:green">**LECTURE 3: Advances in Multiple Imputation Methodology**</span>

3.1 Multiple imputation when records used for imputation are not used for analysis

3.2 Dealing with panel attrition using multiple imputation and refreshment samples

3.3 Multiple imputation for editing faulty data