

# The Medical College of Wisconsin

## Division of Biostatistics

Proudly Presents:

A Seminar Talk

By:



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### **Semiparametric Fractional Imputation using Gaussian Mixture Models for Handling Multivariate Missing Data**

Item nonresponse is frequently encountered in practice. Ignoring missing data can lose efficiency and lead to misleading inference. Fractional imputation is a statistical tool for handling missing data. However, the parametric fractional imputation of Kim (2011) may be subject to bias due to model misspecification. In this paper, we propose a novel semiparametric fractional imputation method using Gaussian mixture model. The proposed method is computationally efficient and leads to robust estimation. The proposed method is further extended to incorporate the categorical auxiliary information. The asymptotic model consistency under missing data is also established. Several numerical studies are performed to check the finite sample performance of the proposed method. This is a joint work with Hejian Sang at Iowa State University.

**Tuesday, April 10, 2018**

**3:30 PM – 4:30 PM**

**Medical College of Wisconsin**

**MEB M2050**

*Light snacks provided*