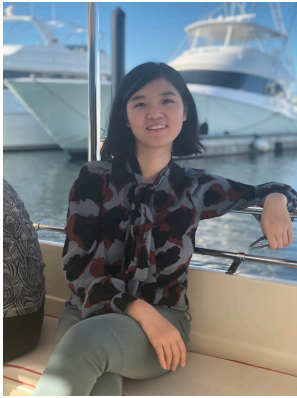# ASA-BI-NESS Statistics Webinar Series

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May 26th, Tuesday 9-10 am EST

For more information regarding upcoming webinar schedule, please contact medecc.us@boehringer-ingelheim.com

Title

Community level analysis for microbiome association

Abstract

Paramount evidence has suggested the critical role that human microbiota plays in our health and diseases. The advent of the second generation sequencing technology has revolutionized our research tools and enabled a full and complete investigation of thousands of bacterial species without the need of laborious cell culture. A lot of statistical effort has been devoted to understand the microbiome community structure between conditions, including visualization tools, ordination analysis, and more recently, kernel based association tests. In this talk, I am going to overview the major tools for community level association testing, focusing of more-complex study designs, such as with clustered data (e.g., longitudinal microbiome data, family studies etc).

Professional Biography

Graduated from University of North Carolina at Chapel Hill in 2013, I am currently an assistant professor of Biostatistics in the Johns Hopkins University. My major research interest lies in statistical methodology and application in large scale "omics" data, including in the field of metagenomics, metabolomics, genomics and epigenomics. My recent statistical research interest lies in developing tools for analyzing microbiome data collected from complex study design, including longitudinal and clustered designs, community level association testing, and for integrative analysis of microbiome data. Over the last 10 years, I have published 40 papers in top ranked journals on multiple disciplines, including statistics, epidemiology, and biomedical and clinical research. My R package MiRKAT that implements the kernel machine regression model for microbiome community level analysis has been downloaded for thousands of times, and used by many scientists in the field.

Sponsored by

- American Statistical Association (Boston, Connecticut, Florida, New Jersey, Princeton/Trenton, and Washington chapters)
- Boehringer Ingelheim Pharmaceuticals, Inc. (Biostatistics and Data Sciences Department)
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For interested participants

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