

**South Carolina Chapter
American Statistical Association
48th Annual Meeting**

SC-ASA Palmetto Symposium



Friday, March 8th, 2019

**Capstone House
Campus Room (1st floor)
University of South Carolina
Columbia, SC 29208**



Promoting the Practice and Profession of Statistics

Schedule

10:15 AM	Introductions
10:30 AM	Student presentations
11:30 AM	Networking and lunch
12:45 PM	SC-ASA business meeting
1:00 PM	Student presentations
2:00 PM	Short recess
2:30 PM	Invited speaker
3:30 PM	Student awards

Invited Presentation

Xihong Lin, Harvard University
Professor of Biostatistics, Professor of Statistics

Title: Scalable Statistical Inference for Dense and Sparse Signals in Analysis of Massive Health Data

Abstract: Massive data in health science, such as whole genome sequencing data and electronic medical record (EMR) data, present many exciting opportunities as well as challenges in data analysis, e.g., how to develop effective strategies for signal detection using whole-genome data when signals are weak and sparse, and how to analyze high-dimensional phenome-wide (PheWAS) data in EMRs. In this talk, I will discuss scalable statistical inference for analysis of high-dimensional independent variables and high-dimensional outcomes in the presence of dense and sparse signals. Examples include testing for signal detection using the Generalized Higher Criticism (GHC) test, and the Generalized Berk-Jones test, the Cauchy-based omnibus for combining different correlated tests, and omnibus principal component analysis of multiple phenotypes. The results are illustrated using data from genome-wide association studies and sequencing studies.

Students' Presentations

- 1) **Taeho Kim** (University of South Carolina)
Improved multiple confidence intervals via thresholding informed by prior information
- 2) **Zichen Ma** (University of South Carolina)
Bayesian nonparametric test for independence between random variables
- 3) **Jonathan Beall** (Medical University of South Carolina)
Estimating severity from videofluoroscopic metric: what is mild, moderate or severe?
- 4) **Xizhi Luo** (University of South Carolina)
LDSaRa: a powerful tool for high resolution copy number variation detection
- 5) **Michael Stutz** (University of South Carolina)
EM algorithms for estimation and classification of group testing data
- 6) **Zequn Sun** (Medical University of South Carolina)
A Bayesian framework for pathway-guided identification of cancer subgroups by integrating multiple types of genomic data

Did you know?

The American Statistical Association, a scientific and educational society founded in Boston in 1839, is the second-oldest, continuously operating professional society in the United States. For 169 years, the ASA has provided its members and the public with up-to-date, useful information about statistics. The ASA has a proud tradition of service to statisticians, quantitative scientists, and users of statistics across a wealth of academic areas and applications.

ASA Mission

The ASA mission is to promote excellence in the application of statistical science across the wealth of human endeavor, specifically to:

- Support excellence in statistical practice, research, journals, and meetings
- Work for the improvement of statistical education at all levels
- Promote the proper application of statistics
- Anticipate and meet member needs
- Use the discipline of statistics to enhance human welfare
- Seek opportunities to advance the statistics profession

Organizing Committee

The SC ASA Executive Committee organized the meeting.

Alexander McLain, PhD, USC
Dewei Wang, PHD, USC
Bethany Wolf, PhD, MUSC
Andrew Brown, PhD, Clemson University