South Carolina Chapter American Statistical Association 44th Annual Meeting

SC-ASA Palmetto Symposium

Friday, March 28th, 2014

Lumpkin Auditorium
Moore School of Business
University of South Carolina
Columbia, SC 29208

Schedule

10:15 AM	**Introductions (Lumpkin Auditorium)**
10:30 AM	**Student presentations (J. Speiser, H. Zhou, B. Yao, J. Zhou)**
12:00 PM	**Networking and lunch**
12:30 PM	**SC ASA business meeting**
1:00 PM	**Student Presentations (JM. Hendrickson, S. Tu, D. Wang)**
2:00 PM	**Invited Presentation (Peter Müller)**
3:00 PM	**Student Awards**

Invited Presentation

Peter Müller, University of Texas at Austin
Professor, Department of Mathematics
A Bayesian Feature Allocation Model for Tumor Heterogeneity

Abstract: We characterize tumor variability by hypothetical latent cell types that are defined by the presence of some subset of recorded SNV's. (single nucleotide variants, that is, point mutations). Assuming that each sample is composed of some sample-specific proportions of these cell types we can then fit the observed proportions of SNV's for each sample. In other words, by fitting the observed proportions of SNV's in each sample we impute latent underlying cell types, essentially by a deconvolution of the observed proportions as a weighted average of binary indicators that define cell types by the presence or absence of different SNV's. Taking a Bayesian perspective, we proceed with a prior probability model for all relevant unknown quantities, including in particular a prior probability model on the binary indicators that characterize the latent cell types by selecting (or not) the recorded SNV's. Such prior models are known as feature allocation models. We define a simplified version of the Indian buffet process, one of the most traditional feature allocation models.

Students' Presentations

Jamie Lynn Speiser
Random Forest Procedure for Classification of Etiologies of Acute Liver Failure in Patients
Haiming Zhou
A Spatial Copula Approach to Fully Bayesian Nonparametric Survival Analysis
Bin Yao
Semiparametric regression analysis of panel count data using EM algorithm
Jiera Zhou
A Multiple Imputation Approach for Mixture Cure model with Interval Censoring
Jean-Marie Hendrickson
An Extension to the Gower (1971) Coefficient
Shiyi Tu
Bayesian analysis of two-piece location-scale model with partial information
Dongmei Wang
Analysis on U.S. Canine Heartworm (Dirofilaria immitis) Prevalence

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 175 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.

Mulugeta Gebregziabher, PhD, MUSC
Chris McMahan, PhD, Clemson University
Alexander Mclain, PhD, USC
Xiaoyan Lin, PhD, USC