

# Southern Regional Council on Statistics (SRCOS) Summer Research Conference

Hickory Knob State Resort  
McCormick, South Carolina  
June 5–8, 2011

## Conference Organizing Committee

- Don Edwards, Committee co-chair (University of South Carolina)
- Colin Gallagher, Committee co-chair (Clemson University)
- Varghese George (Medical College of Georgia)
- David Hitchcock (University of South Carolina)
- Mike Kutner (Emory University)
- D'Arcy Mays (Virginia Commonwealth University)
- Edsel Peña (University of South Carolina)
- John Wierman (Johns Hopkins University)

## Conference Program Committee

- Edsel Peña, Committee co-chair (University of South Carolina)
- Colin Gallagher, Committee co-chair (Clemson University)
- Yong Chen (University of Texas, Health Science Center at Houston)
- K.B. Kulasekera (Clemson University)
- Mike Kutner (Emory University)
- Robert Lund (Clemson University)
- Wenguang Sun (North Carolina State University)
- Joshua Tebbs (University of South Carolina)

## Conference Sponsors

- Southern Regional Council on Statistics
- National Institutes of Statistical Sciences
- American Statistical Association

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## *Program of Events*

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**Sunday, June 5, 2011**

- 5:00–7:00PM: Registration and Mixer
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**Monday, June 6, 2011**

- 7:30–8:15AM: Registration and Continental Breakfast
  - 8:15–8:30AM: Welcome, D'Arcy Mays, Virginia Commonwealth University. SRCOS President.
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### **Session I**

**Time:** June 6, Monday, 8:30-10:30AM

**Topic:** Multivariate Methods and Censored Regression

**Organizer:** KB Kulasekera, Clemson University

**Chair:** KB Kulasekera, Clemson University

- 8:30–9:05  
Title of Talk: *Statistical Inference on the High-Dimensional Covariance Matrix*  
**Xiaoqian Sun** [xsun@clemson.edu]  
Department of Mathematical Sciences, Clemson University, Clemson, SC.
  - 9:05-9:40  
Title of Talk: *Modeling and Forecasting Functional Time Series*  
**Lily Wang** [lilywang@uga.edu]  
Department of Statistics, University of Georgia, Athens, GA.
  - 9:40–10:15  
Title of Talk: *Local linear regression with censored data*  
**Meng Zhao** [mzhao@math.msstate.edu]  
Department of Mathematics and Statistics, Mississippi State University, Starkville, MS.
  - 10:15–10:30: Discussion
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**10:30–10:45: Coffee Break**

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## Session II

**Time:** June 6, Monday, 10:45AM–12:45PM

**Topic:** New Directions in Clinical Trials

**Organizer:** Michael Kutner, Emory University, Atlanta, GA

**Chair:** Michael Kutner, Emory University, Atlanta, GA

- 10:45–11:20  
Title of Talk: *Clinical Trials and Personalized Medicine*  
**Michael Kosorok** [kosorok@unc.edu]  
Department of Biostatistics, University of North Carolina, Chapel Hill, NC.
- 11:20–11:55  
Title of Talk: *Innovative Clinical Trial Designs*  
**Sin-Ho Jung and Stephen George** [stephen.george@duke.edu]  
Department of Biostatistics, Duke University, Durham, NC.
- 11:55–12:30  
Title of Talk: *Improving Efficiency of Inferences on Treatment Effect and Identifying Optimal Treatment Strategies*  
**Marie Davidian** [davidian@ncsu.edu]  
Department of Statistics, North Carolina State University, Raleigh, NC.
- 12:30–12:45: Discussion

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## June 6, Monday

**12:45–7:15PM**

### Open Time for Discussions and Other Activities

Conference participants are free to discuss among themselves, play tennis, play golf, or go around the park. Mike Kutner (Emory University) will organize the golfing activities and David Hitchcock (University of South Carolina) will organize tennis-related activities.

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## Session III

**Time:** June 6, Monday, 7:15PM–9:15PM

**Topic:** Panel Discussion on Effective Teaching of Introductory Statistics/Biostatistics Courses

**Organizer:** Michael Kutner, Emory University, Atlanta, GA

**Chair:** Michael Kutner, Emory University, Atlanta, GA

- Panelist 1:  
Title of Talk: *Teaching the BIG IDEAS of Statistics in the Introductory Course*  
**Christine Franklin** [chris@stat.uga.edu]  
Department of Statistics, University of Georgia, Athens, GA.

- Panelist 2:  
Title of Talk: *Teaching Introductory Statistics in the Information Age*  
**Patrick Kilgo** [pkilgo@sph.emory.edu]  
Department of Biostatistics and Bioinformatics, Emory University, Atlanta, GA.
  - Panelist 3:  
Title of Talk: *Introductory Statistics Courses for the Modern Day Masses*  
**Azhar Nizam** [anizam@sph.emory.edu]  
Department of Biostatistics and Bioinformatics, Emory University, Atlanta, GA.
  - 8:45–9:15: Discussion with the General Audience
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**Tuesday, June 7, 2011**

- 7:30–8:30AM: Continental Breakfast
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**Session IV**

**Time:** June 7, Tuesday, 8:30-10:30AM

**Topic:** Statistical Genetics

**Organizer:** Yong Chen, University of Texas School of Public Health, Houston, TX

**Chair:** Yong Chen, University of Texas School of Public Health, Houston, TX

- 8:30–9:15  
Title of Talk: *Genetics Studies of Multivariate Traits*  
**Heping Zhang** [Heping.Zhang@Yale.EDU]  
Department of Biostatistics, Yale University, New Haven, CT.
  - 9:15-9:45  
Title of Talk: *Network-based Bayesian Variable Selection Approach to Genome-wide Association Studies Data*  
**Peng Wei** [Peng.Wei@uth.tmc.edu]  
Division of Biostatistics, University of Texas School of Public Health, Houston, TX.
  - 9:45–10:15  
Title of Talk: *Assessing Genetic Association in Case-Control Studies with Unmeasured Population Substructure*  
**Yong Chen** [Yong.Chen@uth.tmc.edu]  
Division of Biostatistics, University of Texas School of Public Health, Houston, TX.
  - 10:15–10:30: Discussion
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**10:30–10:45: Coffee Break**

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### Session V

**Time:** June 7, Tuesday, 10:45AM–12:45PM

**Topic:** Analysis of Large and High-Dimensional Data

**Organizer:** Wenguang Sun, North Carolina State University, Raleigh, NC

**Chair:** Wenguang Sun, North Carolina State University, Raleigh, NC

- 10:45–11:30  
Title of Talk: *Paradigm Free Mapping with Sparse Regression*  
**Ian Dryden** [dryden@mailbox.sc.edu]  
Department of Statistics, University of South Carolina, Columbia, SC.
- 11:30–12:00  
Title of Talk: *Multiple Testing for Pattern Identification, with Applications to Microarray Time-Course Experiments*  
**Zhi Wei** [zhiwei@njit.edu]  
New Jersey Institute of Technology, Newark, NJ.
- 12:00–12:30  
Title of Talk: *Shrinkage Estimators for Out-of-Sample Prediction in High-Dimensional Linear Models*  
**Lee Dicker** [ldicker@stat.rutgers.edu]  
Department of Statistics and Biostatistics, Rutgers University, Piscataway, NJ.
- 12:30–12:45: Discussion

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**June 7, Tuesday, 12:45–2:00**

**R. L. Anderson Student and Junior Researcher Poster Session**

**Organized by Colin Gallagher, Clemson University**

During this period, boxed lunch will be provided to the conference participants and the posters will be presented. Selected judges will evaluate the posters to determine the winners of the student poster competition.

#### **List of Poster Presenters with Title of Poster and their Affiliation**

(Travel support to some poster presenters were provided by the American Statistical Association and SRCOS. Recipients are indicated by an \* in their name.)

1. **Andy Bartlett**, Estimation for the General Autoregressive Processes with an unknown location parameter and heavy-tailed innovation distribution, University of Georgia.
2. **Patrick Breheny**, Genetic association studies of copy-number variation: should assignment of copy number states precede testing?, University of Kentucky.
3. **Jiejun Du\***, Measurement Error Models in Shape Analysis, University of South Carolina.

4. **Christine W. Duarte**, High-dimensional pharmacogenetic prediction of a continuous trait using machine learning techniques with application to warfarin dose prediction in African Americans, University of Alabama at Birmingham.
5. **Cong Feng\***, Efficient semiparametric Garch modeling of financial volatility, University of Georgia.
6. **Jie Gao**, Indirect Estimation and Inference for a Model-Based Measure of Agreement, University of South Carolina.
7. **Jesse Yen-Chih Hsu\***, Inference for Depression Treatment Regimes from Two-stage Longitudinal Studies using Weighted Estimating Equations, University of Pittsburgh.
8. **Jie Huang**, Defining Rare Variants for Collapsing Methods in Sequence-based Association Studies, Georgia Health Sciences University.
9. **Seunggeun Hyun**, Confidence bands for the difference of two survival functions under the additive risk model, University of South Carolina Upstate.
10. **Zhen Jiang\***, Joint modeling of ordinal and binary longitudinal outcomes using GEE: application to medication adherence, University of Pittsburgh.
11. **Ali Jinnah\***, Empirical likelihood inference for the bivariate survival function under univariate censoring, Georgia State University.
12. **Kelley Kidwell\***, Weighted Log-rank Statistic to Compare Adaptive Treatment Strategies Sharing Common Treatment Paths, University of Pittsburgh.
13. **Jimin Lee**, Testing independent censoring for longitudinal data, University of North Carolina Asheville.
14. **JungAe Lee**, Study of Batch Effect Adjustment for Microarray Gene Expression Data, University of Georgia.
15. **Mengya Liu**, Study on Cell Phone Connection Time, Southern Methodist University.
16. **Shuling Liu\***, Joint Modeling of Longitudinal Outcomes and Discrete Survival Times Using a Copula, Emory University.
17. **Daniel Osborne\***, 3D Size-and-Reflection Shape Analysis for Planning Reconstructive Surgery of the Skull, Florida State University.
18. **Mavis Pararai**, Modeling Underreporting Number of Sexual Partners Using the Generalized Poisson Regression Model, Indiana University of Pennsylvania.
19. **Anthony Parker**, A Spatial Beta Regression Model for Periodontal Data, Medical University of South Carolina.
20. **Hewa Anuradha Priyadarshani**, Statistical Properties of Weighted Generalized Gamma Distribution, Georgia Southern University.
21. **Hao Wang\***, Efficient Bayesian Inference in Graphical Lasso Models, University of South Carolina.

22. **Ming Wang\***, A conditional likelihood approach for regression analysis using biomarkers measured with batch-specific errors, Emory University.
23. **Yanqiu Weng\***, Quantification of impact of safety monitoring on type I error and power of efficacy analysis in phase III group sequential clinical trial, Medical University of South Carolina.
24. **Wensong Wu\***, Bayes Multiple Decision Functions, University of South Carolina.
25. **Tao Yang**, Properties of Generalized Inverse Weibull and Kumaraswamy Generalized Inverse Weibull Distributions, Georgia Southern University.
26. **Hanfang Yang\***, Jackknife empirical likelihood for ROC curves with missing data, Georgia State University.
27. **Yuan Ye**, Weighted Generalized Beta Distribution of the Second Kind and Related Statistical Properties, Department of Mathematical Sciences , Georgia Southern University.
28. **Miao Zang\***, Hidden Markov Modeling for Analysis of Promoter Tiling Arrays in Psychiatric Studies, Southern Methodist University.

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**June 7, Tuesday, 2:00–7:30**  
**Open Time for Discussions and Other Activities**

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**June 7, Tuesday, 7:30–9:30**  
**Banquet and Awards Presentation**  
**Master of Ceremonies: Don Edwards, University of South Carolina, Columbia, SC**

- Buffet Dinner.
- Presentation of the Winners of the Golf and Tennis Events.
- Presentation of the Boyd Harshbarger Travel Award Recipients.
- Presentation of the R. L. Anderson Runner-Up Poster Award Recipients.
- Presentation of the Clint Miller Best Poster Award Winner.
- Presentation of the Paul Minton Service Award.

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**Banquet Talk**

Title of Talk: *Recollections and Reflections*

**Michael Kutner** [mcutner@emory.edu]

Department of Biostatistics and Bioinformatics, Emory University, Atlanta, GA.

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Wednesday, June 8, 2011

- 7:30–8:30AM: Continental Breakfast
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**Session VI**

**Time:** June 8, Wednesday, 8:30-10:30AM

**Topic:** Measurement Error and Latent Modeling

**Organizer:** Joshua Tebbs, University of South Carolina, Columbia, SC

**Chair:** David Hitchcock, University of South Carolina, Columbia, SC

- 8:30–9:05

Title of Talk: *On Measurement Error Problems with Predictors Derived from Stationary Stochastic Processes and Application to Cocaine Dependence Treatment Data*

**Yehua Li** [yehuali@uga.edu]

Department of Statistics, University of Georgia, Athens, GA.

- 9:05-9:40

Title of Talk: *Informative Model Specification Tests Using Coarsened Data*

**Xianzheng (Shan) Huang** [huang@stat.sc.edu]

Department of Statistics, University of South Carolina, Columbia, SC.

- 9:40–10:15

Title of Talk: *Testing for the effect of a genetic pathway in longitudinal/clustered data using kernel machine regression*

**Arnab Maity** [amaity@ncsu.edu]

Department of Statistics, North Carolina State University, Raleigh, NC.

- 10:15–10:30: Discussion
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**10:30–10:45: Coffee Break**

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**Session VII**

**Time:** June 8, Wednesday, 10:45AM–12:45PM

**Topic:** Time Ordered Data

**Organizer:** Robert Lund, Clemson University

**Chair:** Robert Lund, Clemson University

- 10:45–11:30

Title of Talk: *A New Method of Modeling Integer Count Time Series*

**Robert Lund** [Lund@clemson.edu]

Department of Mathematical Sciences, Clemson University, Clemson, SC.

- 11:30-12:00  
Title of Talk: *A Bayesian Approach to Seasonal Adjustment of Long Memory Time Series*  
**Scott Holan** [HolanS@missouri.edu]  
Department of Statistics, University of Missouri, Columbia, MO.
  - 12:00-12:30  
Title of Talk: *Renewal Processes with Periodic Dynamics*  
**Brian Fralix** [bfralix@clemson.edu]  
Department of Mathematical Sciences, Clemson University, Clemson, SC.
  - 12:30-12:45: Discussion
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**Announcements**  
**End of Conference**