

Conference Program

AISC 2016: September 30 - October 2, 2016; UNC Greensboro

- **Please Note: At UNCG Campus, shuttles will always drop off and pick up from Sterling Street between Elliott University Center (EUC: conference venue) and Walker Parking Deck**
- **The printed program shows some sessions scheduled in the Joyner Room. These have been shifted to the Maple Room**

September 29, 2016, Thursday

5:00 - 7:00 pm Registration Desk at the conference hotel, Holiday Inn

September 30, 2016, Friday

8:00-8:30 Shuttles from Holiday Inn to UNCG

7:30- Registration Desk, Refreshments, EUC Auditorium Lobby

9:00 – 9:30 Inaugural Remarks – EUC Auditorium
Sat Gupta – Conference Chair
John Kiss – Dean College of Arts and Sciences, UNCG
R. Shivaji – Head, Mathematics and Statistics, UNCG
Weston McManus – SAS, NC-ASA Vice President

9:30 – 11:00 September 30 - Plenary Session I – EUC Auditorium
Chair: Mike Larsen – George Washington University

Jerry Reiter – Duke University
Data Dissemination: A Survey of Recent Approaches and Challenges

Vishesh Karva – Harvard University
Sharing Social Network Data: Differentially Private Estimation of Exponential-Family Random Graph Models

11:00-11:30 Coffee Break

11:30 – 1:00

September 30 - Plenary Session 2 – EUC Auditorium
Chair: Jerry Reiter – Duke University

Tapan Nayak - George Washington University

A Novel Approach to Setting a Strict Identity Disclosure Control Goal and achieving It Efficiently

Mike Larsen – George Washington University

Statistical Challenges in Probabilistic Record Linkage

1:00 – 2:30

Lunch in EUC Cone Ball Rooms

2:30 – 4:30

September 30 - Parallel Session 1A – EUC Auditorium

Design of Experiments: Applications

Organizers: John Stufken (Arizona State University) & Abhyuday Mandal (University of Georgia)

Chair: Abhyuday Mandal

Arman Sabbaghi, Purdue University

Hidden Connections between Different Projections under the Linear-Quadratic Parameterization

Karabi Nandy - University of North Texas Health Science Center

Finite Sample Properties of A-Optimal Designs for a Dose-Response Model

Jon Stallings – North Carolina State University

Analysis of Split-Plot Designs with Whole- and Split-Plot Measurements

2:30 – 4:30

September 30 - Parallel Session 1B – **Maple Room EUC**

Recent Development in Statistical Genetics and Genomics

Organizer & Chair: Jung-Ying Tzeng – N C State University

Quefeng Li - UNC Chapel Hill,

Pathway and Gene Identification from Integrative Analysis of Omics Data

Dmitri Zaykin - Biostatistics & Computational Biology Branch, National Institute of Environmental Health Sciences

Full Posterior Inference via Simple Transformations of P-Values in the Thick of Replicability Crisis

Arnab Maity - North Carolina State University

Association Study of Children's Methylation and Growth Trajectory Using Functional Mixed Models

Fang-Chi Hsu - Wake Forest University
Using Large-Scale Machine Learning Methods in Neuroimaging and Genetics

Jingkang Zhao - Duke University
Quantifying the impact of non-coding variants on TF-DNA binding

Jung-Ying Tzeng - North Carolina State University
A False Negative Control Procedure for Rare Variant Association Analysis at Single Locus Level

2:30 – 4:30

September 30 - Parallel Session 1C – Sharpe Room EUC
Survey and Instrument Methods
Organizer & Chair: Jason Brinkley, American Institutes for Research

Manshu Yang - American Institutes for Research
Using Bifactor Models and Statistical Indices to Evaluate Essential Unidimensionality in Developing Survey Instrument for Patient-Reported Outcomes

Michelle Langer - American Institutes for Research
Using Small Sample Sizes with Latent Variable Models in Scale Development

Christian Evensen - American Institutes for Research
Reliability of Measures of Patient Experience with Health Care

Jason Brinkley - American Institutes for Research
Issues in Identifying Case-Mix Adjustment Factors in CAHPS Surveys

Jianxuan Liu - American Institutes for Research
Examining the Impact of Alternative Scoring and Ranking Metrics for Consumer Assessment of Health Products and Plans via Consumer Surveys

2:30 – 4:30

September 30 - Parallel Session 1D – Claxton Room EUC
Bayesian Methods in Survey Sampling
Organizers & Chair: Jerry Reiter – Duke University

Nicole Dalzell – Duke University
Regression Modeling and File Matching Using Possibly Erroneous Matching Variables

Maria De Yoreo – Duke University

Flexible Bayesian Modeling for Mixed Data

Mauricio Sadinle - Duke University

Bayesian Estimation of Bipartite Matchings for Record Linkage

Felipe Barrientos - Duke University

Differential Private Sign and Significance of Regression Coefficients

Jichong Chai - George Washington University

A Generalized Privacy Measure and Its Implication in Randomized Response

2:30 – 4:30

September 30 - Parallel Session 1E – Alexander Room EUC

Special Session for Conference Sponsors

Scott Richter – UNC Greensboro

Walt Kristick – APEX Analytics

How Analytics can help in Account Payables Auditing

Karen Montgomery & Kate Ratigan – Pearson

Increasing Student Success in a First Years Statistics Course

4:30 – 5:00

Coffee Break

5:00 – 6:30

September 30, Plenary Session 3 – EUC Auditorium

Chair: Tapan Nayak – George Washington University

Ramesh Gupta – University of Maine

General Frailty Model in Survival Analysis

Frank Coolen – Durham University, UK

Nonparametric Predictive Inference for Reproducibility of Tests

6:30 – 7:00

**September 30 - NC-ASA Chapter Meeting (non-members also invited) –
Maple Room EUC**

7:00 – 8:30

September 30 - Reception Cone Ball Rooms

8:30 – 9:00

Shuttles Back to Holiday Inn

October 1, 2016, Saturday

8:00 - 8:30 **Shuttles from Holiday Inn to UNCG**

8:00 – 9:00 **Registration/Refreshments – EUC Auditorium Lobby**

9:00 – 10:30 **October 1 - Plenary Session 4 – EUC Auditorium**
Chair: Ramesh Gupta – University of Maine

Bob Rodriguez - SAS Institute and 2012 President, American Statistical Association

Moving to the Middle: Meeting Rising Expectations for Statisticians as Leaders

N. Balakrishnan - McMaster University

Cure Rate and Destructive Cure Rate Models and Applications

10:30 - 11:00 **Coffee Break**

11:00 – 1:00 **October 1 - Parallel Sessions 2A – EUC Auditorium**
Design of Experiments: Big Data and Computing
Organizers: John Stufken (Arizona State University) & Abhyuday Mandal (University of Georgia)
Chair: John Stufken

Haiying Wang - University of New Hampshire
Information-Based Optimal Subdata Selection for Big Data Linear Regression

Min Yang - University of Illinois at Chicago
Information-Based Optimal Subdata Selection for Big Data Logistic Regression

Ping Ma - University of Georgia
Leveraging Methods for Big Data Analytics

Seongho Kim - Wayne State University
Efficient Algorithms for Two-stage Designs on Phase II Clinical Trials

11:00 – 1:00 **October 1 - Parallel Session 2B – Sharpe Room EUC**
Undergraduate Research
Organizer & Chair: Xiaoli Gao – UNC Greensboro

David Suarez – UNC Greensboro
Variations of the Greenberg Unrelated Question Binary Model

Julia Thompson – UNC Chapel Hill
Weighted Hard Threshold Signal Approximation for Robust Change Point
Detection with Application to Copy Number Variation Detection

Nikunj Goel – Yale University
Early Warning Signals of Financial Meltdowns

Sarah Robinson - University of Georgia
Functional Data Analysis of Copy Number Alterations in Bladder Cancer
Tumors

Emily Johnson – UNC Greensboro
Comparing Perceptions of an Emergency Nursing Academy through
Survey Data

Vinila Baljepally - Bearden High School, Knoxville
Novel Mathematical Model to Predict Repeat Ablation for Recurrent
Atrial Fibrillation

11:00 – 1:00

**October 1 - Parallel Sessions 2C – Maple Room EUC
Issues in Complex Inference
Organizer & Chair: David Banks - Duke University**

Lu Wang - Duke University
A Hierarchical Eigenmodel for Replicated Networks

Victor Pena - Duke University
A New Empirical Bayes Prior for Model Selection

Christine Chai – Duke University
Quantifying Improvement of Topic Modeling Results by N-Gramming

11:00 – 1:00

**October 1 - Parallel Sessions 2D – Claxton Room EUC
Big Data Challenges
Organizers & Co-Chairs: Rajeev Agrawal & Cameron Seay - ERDC-
IT & North Carolina A&T State University**

Cameron Seay - North Carolina A&T State University
Big Data Challenges: Building Scalable and Secure Platforms for Big Data
Projects Using Linux on System z

Prashanti Manda – UNC Greensboro
A Data-Driven Approach for Creating Better Conference Schedules

Rajeev Agrawal - ERDC-IT
Topic Modelling: A Big Data Challenge

Jannatun Naher – North Carolina A&T State University
Deep Learning: Next Generation of Big Data Analytics

11:00 – 1:00

October 1 - Parallel Sessions 2E – Alexander Room EUC
Statistical Methods
Chair: Ram Tripathi – University of Texas at San Antonio

Indranil Ghosh - University of North Carolina, Wilmington
Some Alternative Bivariate Kumaraswamy Models

Filipe J. Marques - Universidade NOVA de Lisboa (FCT/UNL) & Center
for Mathematics and Applications (CMA)
The Simultaneous Test of Equality and Circularity of q Covariance
Matrices

AbouEl-Makarim Aboueissa – University of Southern Maine
Confidence Intervals for the Ratio and the Difference of Lognormal
Means from Left Censored Samples

Mohammed Alqawba – Old Dominion University
Analysis of Soccer Data using Poisson Distribution

Monika Arora – Old Dominion University
On fitting Zero and K inflated Poisson Models using EM algorithm

11:00 – 1:00

October 1 - Parallel Session 2F – Kirkland Room EUC
Invited Best Presentation Award Session for PhD Students
Chair: Sujit Ghosh – SAMSI & North Carolina State University

Zhongshen Wang - Arizona State University
Locally D-optimal Designs for Generalized Linear Models with Group
Effects

Yibo Zhao - Rutgers University
Markov Switching Autoregressive Models for the Analysis of Cell
Adhesion

Teague Henry - UNC Chapel Hill
Text Networks for Political Blogs

Cheng Zhang - George Washington University
Data Utility of Post-Randomization Method when incorporating Survey Weights

Austin Ford Ramsey – North Carolina State University
How High the Hedge? Relationships between Prices and Yields in the Federal Crop Insurance Program

1:00 – 2:30

October 1 - Lunch in Cone Ball Rooms

2:30 – 4:30

October 1 - Parallel Session 3A - EUC Auditorium
Design of Experiments: GLMs and Nonlinear Models
Organizers: John Stufken (Arizona State University) & Abhyuday Mandal (University of Georgia)
Chair: Min Yang - University of Illinois at Chicago

Abhyuday Mandal - University of Georgia
Optimal Design of Experiments for Generalized Linear Models

John Stufken - Arizona State University
Optimal designs for GLMs with multiple covariates

Wanchunzi Yu - Arizona State University
Optimal Designs for Generalized Linear Mixed Models using Penalized Quasi-likelihood Method

2:30 – 4:30

October 1 - Parallel Session 3B – Sharpe Room EUC
Forensic Statistics
Organizer & Chair: Duy Hong Thai - Duke University

Duy Thai – Duke University & SAMSI
The TV-L2-like model based Riesz Quincunx Wavelet

Vered Madar - SAMSI
A More Flexible Tikhonov Regularization based on Cholesky Factorization

David Banks – Duke University
Statistical Issues in Forensic Science

2:30 – 4:30

October 1 - Parallel Session 3C – Maple Room EUC

High Dimensional Variable Selection

Chair: Hrishikesh Chakraborty

Department of Epidemiology and Biostatistics, University of South Carolina

Qifan Song - Purdue University

Nearly Optimal Bayesian Shrinkage for High Dimensional Regression

Qing Mai - Florida State University

On the Estimation of Ultra-High Dimensional Semiparametric Gaussian Copula Models

Ujjwal Das - Indian Institute of Management – Udaipur, India

Identification of Active Factors in Supersaturated Designs

Priyam Das - North Carolina State University

Black-box Optimization on Hyper-rectangle using Recursive Modified Direct Search

2:30 – 4:30

October 1 - Parallel Session 3D – Claxton Room EUC

Innovations in Econometric Methods

Organizer: Sujit Ghosh - SAMSI / North Carolina State University

Chair: Peter Bloomfield – N C State University

Sujit Ghosh – SAMSI / North Carolina State University

Dynamic Correlation Multivariate Stochastic Volatility with Latent Factors

Hyeongyul Roh – North Carolina State University

Adaptive Resistance Management with Uncertain Fitness Costs

Bo Ning - North Carolina State University

Bayesian Analysis for Dynamic Generalized Extreme Value Model

Rajeev Agrawal - ERDC-ITL

A Dynamic Multivariate Time Series Similarity Measure

Hem C. Basnet – Methodist University

International Migration, Workers' Remittances and Permanent Income Hypothesis

2:30 – 4:30

October 1 - Parallel Session 3 E – Alexander Room EUC

Recent Developments in Spatial Statistics and Environmentrics

Organizer: Haimeng Zhang - UNC Greensboro

Wei Chen – UNC Greensboro
Spectral Estimation for Random Processes with Stationary Increments

Christopher Vanlangenbergh – UNC Greensboro
Global Data Generation on the Sphere

Wendy "Wenshuang" Wang - Mississippi State University
Discrete Fourier Transform on Global Data Analysis

Guannan Wang - College of William & Mary
Variable Selection for Semiparametric Geospatial Models

Haimeng Zhang – UNC Greensboro
Covariance and Variogram Estimators on the Circle

2:30 – 4:30

**October 1 - Parallel Sessions 3F – Kirkland Room EUC
Interdisciplinary Statistics
Organizer & Chair: Pushpa Gupta - University of Maine**

Frank Coolen - Durham University (UK)
The Survival Signature for System Reliability

Joel Michalek – UT Health Sciences Center, San Antonio
Department of Epidemiology and Biostatistics
Agent Orange Exposure and Monoclonal Gammopathy of Undetermined

Sophia Waymyers - University of South Carolina
A Reflected-Shifted-Truncated-Gamma Distribution for Negatively
Skewed Survival Data

Ram Tripathy – University of Texas – San Antonio
Review of Generalized Log-Series Distributions and Some Recent Results
with Applications

Ahtasham Gul - COMSATS Institute of Information Technology, Lahore
Generating a New Family of Truncated Distributions

4:30 – 5:00

Coffee Break

5:00 – 6:30

**October 1 - Plenary Session 4 – EUC Auditorium
Chair: Sujit Ghosh – North Carolina State University**

Peter Qian - University of Wisconsin-Madison

Some Statistical Aspects of Uncertainty Quantification

Merlise Clyde - Duke University

Bayesian Model Choice: Past, Present, Future

6:45 – 9:30 **October 1 - Conference Banquet & Chapter Awards Ceremony, EUC
Cone Ball Rooms**

6:45 – Dinner

7:15 - Awards

8:15 - A Small Cultural Program (Holding Room – Azealia)

9:00 – 9:30 **Shuttles back to Holiday Inn**

October 2, 2016, Sunday

8:00 - 8:30 **October 2 - Shuttles from Holiday Inn to UNCG**

8:00 – 9:00 **Registration/Refreshments – EUC Auditorium Lobby**

9:00 – 9:45 **October 2 - Plenary Session 5 – EUC auditorium
Chair: John Stufken – Arizona State University**

Jim Chromy - Senior Fellow Emeritus, RTI International

Target Population Definitions: Real and Hypothetical

10:00 - 10:30 **Coffee Break**

10:30 - 12:30 **October 2 - Parallel Sessions 4A – EUC Auditorium
Design of Experiments: Combinatorial Structures
Organizers: John Stufken (Arizona State University) & Abhyuday
Mandal (University of Georgia)
Chair: John Stufken**

Ching-Shui Cheng - Academia Sinica, Taiwan

A Bayesian Approach to the Selection of Multi-Stratum Factorial Designs

Frederick Phoa - Academia Sinica, Taiwan

A New Construction Method for Space-Filling Designs via Factor
Collapse

Jason Kao - Arizona State University

Experimental Designs for Functional MRI with Uncertain Model Matrix

JP Morgan - Virginia Tech

Optimal Block Designs under Resolvability Constraints

10:30 - 12:30

October 2 - Parallel Sessions 4B – Sharpe Room EUC

Recent Developments in Complex High Dimensional Data Analysis

Organizer & Chair: Xiaoli Gao - UNC Greensboro

Li Ma - Duke University

Scalable Bayesian Model Averaging Through Local Information Propagation

Jichun Xie – Duke University

Testing and Multiple Testing Arbitrary Dependence

Ping-Shou Zhong - Michigan State University

Test for Temporal Homogeneity of High-Dimensional Means with Application to fMRI Studies

Somya Mohanty – UNC Greensboro

Anomaly/Event Prediction in High-Velocity Streaming Data

Xiaoli Gao – UNC Greensboro

Penalize Weighted Least Absolute Deviation Regression

10:30 - 12:30

October 2 - Parallel Sessions 4C – **Maple Room EUC**

Novel Applications of Spatial Statistics

Organizer & Chair: Brian Reich – North Carolina State University

Elizabeth Mannshardt – EPA

Spatial and Temporal Data Fusion for Remotely Sensed Albedo Products

Kimberly Kaufeld – North Carolina State University

Estimating Impacts of Pollutants on California Mortality

Rob Erhardt - Wake Forest University

Using Bayesian Hierarchical Models to Study the Spatial Distribution of Mammals in Serengeti National Park: Part 1

Stacy Hepler – Wake Forest University

Using Bayesian Hierarchical Models to Study the Spatial Distribution of Mammals in Serengeti National Park: Part 2

Neal Grantham – N C State University

Deep Spatial Learning for Forensic Geolocation with Microbiome Data

10:30 - 12:30

October 2 - Parallel Sessions 4D – Claxton Room EUC
Recent Advances in Statistical Modeling for Biomedical Data
Organizer: Yichao Wu – North Carolina State University
Chair: Xinwei Deng - North Carolina State University

Shaoyu Li - UNC-Charlotte
A Gene Network Based Approach for the Correction of Cell Type Heterogeneity

Jiajia Zhang - University of South Carolina
Modelling County Level Cancer Survival Data Using a Covariate-Adjusted Frailty Model

Jiancheng Jiang - UNC-Charlotte
Interval Estimation for Semiparametric Predictive Regression

Alexander McLain - University of South Carolina,
Prediction Intervals for Penalized Longitudinal Small Area Estimation Models

10:30 - 12:30

October 2 - Parallel Sessions 4E – Alexander Room EUC
Recent Developments in AstroStatistics
Organizer & Chair: Sujit Ghosh – SAMSI / North Carolina State University

Jogesh Babu, Penn State University
Overview of SAMSI ASTROSTAT program

David Jones, SAMSI/Duke University
Bayesian Separation of Close Astronomical Sources using Spatial, Spectral, and Temporal Information

David Stenning, SAMSI/Duke University
Bayesian Analysis of Multiple Stellar Populations in Galactic Globular Clusters

Hyunshuk Tak, SAMSI/UNC-Chapel Hill
A Repelling-Attracting Metropolis Algorithm for Multimodality

10:30 - 12:30

October 2 - Parallel Sessions 4F – Kirkland Room EUC
Sampling Theory and Methods
Chair: Geeta Kalucha – University of Delhi

Zaheen Khan – Federal Urdu University of Arts, Science & Technology,
Islamabad, Pakistan
Modified Systematic Sampling with Multiple Random Starts

Qi Zhang – UNC Greensboro
Ratio Estimation of the Mean under RRT Models

Tanja Zatezalo – UNC Greensboro
On First Order Approximations and the Assumption of Bivariate
Normality in Ratio Type Estimators

Rita Sousa - New University of Lisbon & Bank of Portugal
Weighted Regression Estimation of the Mean of a Sensitive Variable in
the Context of Confidentiality

12:30 – 2:00

October 2 - Lunch in Cone Ball Rooms

2:00 – 4:00

October 2 - Parallel Session 5A – EUC Auditorium
Design of Experiments: Computer Experiments
Organizers: John Stufken (Arizona State University) & Abhyuday
Mandal (University of Georgia)
Chair: Abhyuday Mandal

Angela Dean - The Ohio State University
Pareto Minimization of Multi-Output Physical System Means Using
Calibrated Simulators

Devon Lin - Queens University, Canada
A General Construction for Space-filling Latin Hypercubes

Xinwei Deng - Virginia Tech
Online Updating of Computer Model Output Using Real-time Sensor Data

Ying Hung - Rutgers University
A Sequential Split-Conquer-Combine Approach for Gaussian Process
Modeling in Computer Experiments

2:00 – 4:00

October 2 - Parallel Sessions 5B – Sharpe Room
Statistical Consulting
Organize & Chair: Scott Richter -UNC Greensboro

Sat Gupta – UNC Greensboro
Statistical Consultant – Representing the Client in Front of Third Parties

Jason Brinkley – American Institutes for Research

Statistical Consulting with Quantitative Savvy Researchers: Replacing Criticism with Curiosity

Scott Richter – UNC Greensboro

Making Everyone Happy—When Best Statistical Practice and Reviewer Expectations Don't Converge

Jason Osborne – North Carolina State University

The All-Configurations Maximum-Interaction F-test for Non-additivity and the hiddenf Package in R

2:00 – 4:00

October 2 - Parallel Session 5C – Maple Room EUC

Statistical Methods and Analysis of Health Data

Organizer & Chair: Hrishikesh Chakraborty

Department of Epidemiology and Biostatistics, University of South Carolina

Sophia Waymyers - University of South Carolina

A Reflected-Shifted-Truncated-Gamma Distribution for Negatively Skewed Survival Data

Farahnaz Islam - University of South Carolina

Comparison of Distributions Appropriate for Left Censored Data

Akhtar Hossain - University of South Carolina

A Multistate Continuous Time Markov Chain Model for HIV/AIDS Disease Burden

Md. Shahjahan - Daffodil International University, Dhaka, Bangladesh
Use of Smokeless Tobacco by Low Socioeconomic Populations and Risk Factors Associated with it

M. Amir Hossain - University of Dhaka, Bangladesh

Ineffectiveness and Poor Reliability of Arsenic Removal Plants in West Bengal, India

2:00 – 4:00

October 2 - Parallel Session 5D – Alexander Room EUC

Sampling Theory and Methods

Organizer & Chair: Javid Shabbir - Quaid-I-Azam University

Javid Shabbir – Quaid-I-Azam University, Pakistan

Estimating Population Distribution Function under Stratified Random Sampling in the Presence of Non-response

Jeong Sihm – UNC Greensboro

A Modified Warner's Binary Optional RRT Model

Nursel Koyuncu - Hacettepe University, Turkey
Efficient Estimators of Population Mean Under Stratified Ranked Set
Sampling

Geeta Kalucha – University of Delhi
Improved Ratio and Regression Estimators of the Mean of a Sensitive
Variable in Stratified Sampling

4:15

Shuttle back to Holiday Inn (There will be only one trip)