WEDNESDAY, AUGUST 9

Tours

2:00 p.m.–5:00 p.m. CC-Convention Place
TR08 - Seattle City Highlights Tour (fee event)

3:00 p.m.–6:00 p.m. CC-Convention Place
TR09 - Lifestyles and Lakes Cruise (fee event)

Committee/Business Meetings & Other Activities

7:00 a.m.–8:30 a.m. CC-301
Committee on Career Development Meeting (closed)
Chair(s): Janice Lent, Research and Innovative Technology Administration

7:00 a.m.–8:30 a.m. S-Everett
ASA/AMATYC Joint Committee Meeting
Chair(s): Robert Del Mas, University of Minnesota

7:00 a.m.–8:30 a.m. S-Aspen Room
***Journal of Computational and Graphical Statistics* Editorial Board Meeting (closed)**
Chair(s): Luke Tierney, University of Iowa

7:00 a.m.–8:30 a.m. CC-306
Friends and Alumni of Brigham Young University Open House/Breakfast
Organizer(s): Del Scott, Brigham Young University

7:00 a.m.–8:30 a.m. H-Chatham
Committee of Representatives to AAAS Business Meeting
Organizer(s): Michael P. Cohen, Bureau of Transportation Statistics

7:00 a.m.–6:00 p.m. CC-507, CC-508
Speaker Work Rooms

7:00 a.m.–10:00 p.m. CC-Level 4 South Lobby
Cyber Center

7:30 a.m.–9:30 a.m. S-Cedar Room
Statistics in Biopharmaceutical Research Advisory Committee (closed)
Chair(s): Karen Kafadar, University of Colorado

7:30 a.m.–9:30 a.m. S-Douglas Room
***Sequential Analysis Journal* Editorial Board's Breakfast Meeting (closed)**
Organizer(s): Nitis Mukhopadhyay, University of Connecticut

7:30 a.m.–9:30 a.m. S-Spruce Room
ASA Engagement with Other Organizations Task Force (closed)
Chair(s): Darryl Downing, GlaxoSmithKline

7:30 a.m.–4:30 p.m. CC-Level 4 South Lobby
JSM Main Registration
ASA Membership/Special Assistance Desk

8:00 a.m.–9:00 a.m. CC-302
Noether Award Committee Business Meeting (closed)
Chair(s): Regina Liu, Rutgers University

8:00 a.m.–2:00 p.m. CC-Exhibit Hall 4A
Exhibitor Lounge

8:00 a.m.–6:00 p.m. CC-Exhibit Hall 4B
Career Placement Service

8:00 a.m.–6:00 p.m. CC-209
Amgen Inc. Interview Room (by invitation only)
Organizer(s): Chander Varma, Amgen Inc.

9:00 a.m.–11:00 a.m. CC-301
Committee on Outreach Education (closed)
Chair(s): Wendy Martinez, Office of Naval Research

9:00 a.m.–11:00 a.m. S-Aspen Room
Focus Group To Explore the Introductory Statistics Course (by invitation only)
Organizer(s): Angela Battle, John Wiley & Sons

9:00 a.m.–11:00 a.m. S-Juniper
Council of Sections Publication and Newsletter Editors Meeting
Chair(s): E. Jacquelin Dietz, Meredith College

9:00 a.m.–2:00 p.m. CC-Exhibit Hall 4A
EXPO 2006
ASA Communities Booth #101

9:00 a.m.–5:00 p.m. CC-Level 4 South Lobby
ASA Marketplace

9:00 a.m.–5:00 p.m. CC-Level 1
Citywide Concierge Center

11:30 a.m.–2:00 p.m. CC-302
Committee on Meetings (closed)
Chair(s): Xiao-Li Meng, Harvard University

12:00 p.m.–1:30 p.m. S-Cedar Room
Noether Award Committee Luncheon (closed)
Chair(s): Regina Liu, Rutgers University

12:00 p.m.–2:00 p.m. S-Aspen Room
Focus Group to Explore the Introductory Statistics Course (by invitation only)
Organizer(s): Angela Battle, John Wiley & Sons

12:00 p.m.–2:30 p.m. H-Chatham
ENAR 2006 Spring Meetings Planning Committee Meeting (by invitation only)
Organizer(s): Kathy Hoskins, ENAR

12:30 p.m.–1:30 p.m. CC-401
Making the Most of Your Degree: Opportunities and Obstacles
Chair(s): Dayanand Naik, Old Dominion University

2:00 p.m.–8:00 p.m. CC-Exhibit Hall 4A
Exhibitor Move Out

3:00 p.m.–5:00 p.m. S-Aspen Room
Focus Group To Explore the Engineering Statistics Course (by invitation only)
Organizer(s): Jennifer Welter, John Wiley & Sons

4:00 p.m.–6:00 p.m. CC-302
ICES III Program Committee (closed)
Chair(s): Eva Elvers, Statistics Sweden

5:30 p.m.–7:00 p.m. CC-606
Section on Statistical Education Business Meeting
Chair(s): Christine Franklin, University of Georgia

5:45 p.m.–6:45 p.m. CC-603
International Chinese Statistical Association (ICSA) Annual Members Meeting
Organizer(s): Ivan Chan, Merck & Co., Inc.

6:00 p.m.–7:30 p.m. S-Governors Suite
JSM 2006 Program Committee/ACCE/COM Reception (by invitation only)
Chair(s): William Smith, American Statistical Association

Continuing Education (Fee Events)

CE_31T CC-305
8:30 a.m.–10:15 a.m.
Time Series in SPSS: Automatic Model Selection and Outlier Detection
The ASA
Instructor(s): Dongping Fang, SPSS Inc.

CE_32T CC-304
8:30 a.m.–10:15 a.m.
Meta-analysis: Concepts and Applications
The ASA
Instructor(s): Michael Borenstein, Biostat, Inc.; Hannah R. Rothstein, Biostat, Inc.

CE_33T CC-303
8:30 a.m.–10:15 a.m.
Power and Sample Size Analysis Using SAS/STAT Software
The ASA
Instructor(s): John Castelloe, SAS Institute, Inc.

CE_34T CC-305
10:30 a.m.–12:15 p.m.
Introduction to CART: Data Mining with Decision Trees
The ASA
Instructor(s): Mikhail Golovnya, Salford Systems

CE_35T CC-304
10:30 a.m.–12:15 p.m.
Power Analysis: a Simple and Effective Approach
The ASA
Instructor(s): Michael Borenstein, Biostat, Inc.

CE_36T CC-303
10:30 a.m.–12:15 p.m.
Modern Regression Analysis in SAS Software
The ASA
Instructor(s): Robert Cohen, SAS Institute, Inc.

CE_37T CC-305
2:00 p.m.–3:45 p.m.
Advances in Data Mining: Jerome Friedman's TreeNet/MART and Leo Breiman's Random Forests
The ASA
Instructor(s): Mikhail Golovnya, Salford Systems

CE_38T CC-304
2:00 p.m.–3:45 p.m.
East 4: a Comprehensive Package for Adaptive and Group Sequential Design, Interim Monitoring, and Simulation
The ASA
Instructor(s): Cyrus Mehta, Cytel Inc.

CE_39T CC-303
2:00 p.m.–3:45 p.m.
Quantile Regression Using the SAS QUANTREG Procedure
The ASA
Instructor(s): Colin Chen, SAS Institute, Inc.

CE_40T CC-305
4:00 p.m.–5:45 p.m.
Introduction to MARS: Predictive Modeling with Nonlinear Automated Regression Tools
The ASA
Instructor(s): Mikhail Golovnya, Salford Systems

CE_41T CC-303
4:00 p.m.–5:45 p.m.
From Software to Solutions in Statistics and Risk Analysis
The ASA
Instructor(s): Shawn Harahush, Palisade Corporation

Roundtables with Coffee 7:00 a.m.–8:15 a.m.

348 CC-4C-1
Section on Bayesian Statistical Science Roundtable with Coffee (fee event)

Section on Bayesian Statistical Science

Organizer(s): Merlise Clyde, Duke University

WL01 Model Selection in Hierarchical Models—❖David B. Dunson, National Institute of Environmental Health Sciences

349 CC-4C-1
Section on Statistical Education Roundtable with Coffee (fee event)

Section on Statistical Education

Organizer(s): Patti Collings, Brigham Young University

WL02 An Open Discussion about Quantitative and Qualititative Research in Statistics Education—❖Jackie Miller, The Ohio State University

350 CC-4C-1
Section on Statistics and the Environment Roundtables with Coffee (fee event)

Section on Statistics and the Environment

Organizer(s): Peter Guttorp, University of Washington

WL03 Keeping Our Jobs: Relevance of Statistical Research in a Production Environment—❖Gretchen Moisen, U.S. Forest Service

WL04 Current Issues in Space-Time Modeling of Environmental Data—❖Montserrat Fuentes, North Carolina State University

351 CC-4C-1
Section on Statistics in Epidemiology Roundtable with Coffee (fee event)

Section on Statistics in Epidemiology, Section on Statistical Consulting

Organizer(s): Jennifer Clark Nelson, Group Health Cooperative

WL05 Developing and Cultivating Successful Collaborations—❖Robert F. Woolson, Medical University of South Carolina

352 CC-4C-1
Section on Physical and Engineering Sciences Roundtable with Coffee (fee event)

Section on Physical and Engineering Sciences

Organizer(s): Winson Taam, The Boeing Company

WL06 Catching up on Wavelets: Recent Advances, Future Directions—❖Donald B. Percival, University of Washington

353 CC-4C-1
Statistical Society of Canada Roundtable with Coffee (fee event)

SSC, Section on Statistical Consulting

Organizer(s): X. Joan Hu, Simon Fraser University

WL07 Tips for Academic Medical Statisticians—❖Karen Kopciuk, Alberta Cancer Board; Rhonda Rosychuk, University of Alberta

Special Presentation 8:30 a.m.–10:20 a.m.

354 CC-400
Late-Breaking Session #2: What Is the Role of Statistics in Public Policy Debates about Climate Change?—Other

The ASA, ENAR, IMS, SSC, WNAR

Organizer(s): Edward Wegman, George Mason University; Richard L. Smith, The University of North Carolina at Chapel Hill

Chair(s): Douglas W. Nychka, National Center for Atmospheric Research

8:40 a.m. **The Kyoto Accord, the 2001 IPCC Third Assessment Report, and the Academic Papers Underpinning Them—**❖Edward Wegman, George Mason University

9:05 a.m. **National Research Council Report on the 'Hockey Stick Controversy'—**❖J. Michael Wallace, University of Washington

9:30 a.m. **The CCSP Report on Temperature Trends in the Lower Atmosphere—**❖Richard L. Smith, The University of North Carolina at Chapel Hill

9:55 a.m. **Floor Discussion**

355 CC-4C-4
Introductory Overview Lectures: Image Statistics and Bootstrap—Other

The ASA, ENAR, IMS, SSC, WNAR

Organizer(s): Jianwen Cai, The University of North Carolina at Chapel Hill
Chair(s): Chris Fraley, Insightful Corporation

8:35 a.m. **Introduction to Bootstrapping—**❖Tim C. Hesterberg, Insightful Corporation

9:25 a.m. **Image Statistics—**❖Eugene Demidenko, Dartmouth Medical School

10:15 a.m. **Floor Discussion**

Invited Sessions 8:30 a.m.–10:20 a.m.

356 CC-614
Estimation and Inference for Models with Many Parameters—Invited

Business and Economics Statistics Section

Organizer(s): Robert J. Kohn, University of New South Wales
Chair(s): Thomas S. Shively, The University of Texas at Austin

8:35 a.m. **Objective Bayesian Analysis for Multivariate Dynamic Models—**❖Dongchu Sun, Virginia Polytechnic Institute and State University/ University of Missouri-Columbia; Shawn Ni, University of Missouri-Columbia

9:00 a.m. **Bayesian Inference for Gaussian Copula Models—**❖Robert J. Kohn, University of New South Wales

9:25 a.m. **Spatial Bayesian Variable Selection with Application to Functional Magnetic Resonance Imaging—**❖Michael Smith, University of Sydney; Daniel Smith, University of Sydney

9:50 a.m. **Statistical Inference for Highly Parameterized Models for Discrete-Valued Data—**❖Sylvia Frühwirth-Schnatter, Johannes Kepler University

10:15 a.m. **Floor Discussion**

357 CC-203
● ✪ Statistical Models in Computational Biology—Invited

WNAR, Biometrics Section, ENAR

Organizer(s): Raquel Prado, University of California, Santa Cruz
Chair(s): Daniel Merl, University of California, Santa Cruz

8:35 a.m. **Spatial Smoothing To Map HIV Recombination Hotspots: Associations with RNA Secondary Structure—**❖Marc A. Suchard, University of California, Los Angeles; Vladimir N. Minin, University of California, Los Angeles; Karin S. Dorman, Iowa State University

8:55 a.m. **Computational and Statistical Algorithms for Parentage Inference with Single Nucleotide Polymorphisms—**❖Eric C. Anderson, Southwest Fisheries Science Center

9:15 a.m. **Detecting Positive Selection in Protein-Coding DNA Sequences in Absence of Substantial Phylogenetic Information—**❖Raquel Prado, University of California, Santa Cruz; Daniel Merl, University of California, Santa Cruz

9:35 a.m. **Inferring Maximum-Likelihood Species Phylogenies under Coalescence—**❖Laura S. Kubatko, University of New Mexico

9:55 a.m. **A Bayesian Approach to Gene Tree Concordance—**❖Bret Larget, University of Wisconsin-Madison

10:15 a.m. **Floor Discussion**

358 CC-201
● Complex Sampling Designs and Related Inference Issues in Epidemiologic Studies—Invited

Section on Statistics in Epidemiology

Organizer(s): Bhramar Mukherjee, University of Florida
Chair(s): Malay Ghosh, University of Florida

8:35 a.m. **Complex Case-Control Sampling Methods: Solutions to Some Diverse Problems in Epidemiological Research—**❖Bryan Langholz, Keck School of Medicine of USC

9:00 a.m. **Confounding of Genetic Association Studies by Population Structure—**❖Alice S. Whittemore, Stanford University

9:25 a.m. **Case-Control Studies of Gene-Environment Interaction: a Bayesian Approach—**❖Bhramar Mukherjee, University of Florida; Li Zhang, University of Florida; Malay Ghosh, University of Florida

9:50 a.m. Disc: Peter Kraft, Harvard University

10:10 a.m. **Floor Discussion**

359 CC-602

● Rare Trait Inference—Invited

Section on Survey Research Methods

Organizer(s): Myron J. Katzoff, National Center for Health Statistics
Chair(s): Myron J. Katzoff, National Center for Health Statistics

8:35 a.m. **Network Sampling: a Potential Tool for Survey Estimates about Rare Populations—**❖Iris M. Shimizu, National Center for Health Statistics; Monroe G. Sirken, National Center for Health Statistics

9:00 a.m. **Design and Likelihood-Based Inference for Sample Surveys on Rare Traits—**❖Steve Thompson, Simon Fraser University

9:25 a.m. **Testing Logistic Regression Coefficients with Clustered Data and Few Positive Outcomes—**❖Sally Hunsberger, National Cancer Institute; Barry I. Graubard, National Cancer Institute; Edward Korn, National Cancer Institute

9:50 a.m. **Analytic Issues for Rare Events in the NHANES Survey—**❖Lester R. Curtin, Centers for Disease Control and Prevention

10:15 a.m. **Floor Discussion**

360 CC-612

● ✪ New Directions in Statistical Machine Learning—Invited

Section on Statistical Computing, Section on Statisticians in Defense and National Security, Section on Nonparametric Statistics

Organizer(s): Yufeng Liu, The University of North Carolina at Chapel Hill
Chair(s): Yufeng Liu, The University of North Carolina at Chapel Hill

8:35 a.m. **Margin-Based, Semisupervised Learning—**Junhui Wang, University of Minnesota; ❖Xiaotong Shen, University of Minnesota

9:05 a.m. **Classification and Feature Selection for High-Dimensional Data—**❖Hao Zhang, North Carolina State University

9:35 a.m. **Bias and Variance of Bagging Based on Subsampling with and without Replacement—**❖Andreas Buja, University of Pennsylvania

10:05 a.m. **Floor Discussion**

361 CC-607

● Causal Inference and the Estimation of Neighborhood Health Effects—Invited

Section on Health Policy Statistics, Biometrics Section

Organizer(s): Bob Gerzoff, Centers for Disease Control and Prevention
Chair(s): Bob Gerzoff, Centers for Disease Control and Prevention

8:35 a.m. **The (Mis)estimation of Neighborhood Effects: Identification Problems and the Multilevel Model—**❖J. Michael Oakes, University of Minnesota

9:00 a.m. **Response to 'The (Mis)estimation of Neighborhood Effects'—**❖Jay S. Kaufman, The University of North Carolina at Chapel Hill

9:25 a.m. **Forming Better Guesses about Neighborhood Effects on Health—**❖Brian Krauth, Simon Fraser University

9:50 a.m. **Causal Diagrams To Express Identification of Place Effects Using Multilevel Models—**❖M. Maria Glymour, Harvard School of Public Health; S. V. Subramanian, Harvard School of Public Health

10:15 a.m. **Floor Discussion**

362 CC-401

✪ Detecting Anomalies in Dynamic Multivariate Data—Invited

Section on Statisticians in Defense and National Security, Section on Physical and Engineering Sciences, Section on Statistical Graphics

Organizer(s): Deepak K. Agarwal, AT&T Labs-Research
Chair(s): Chuanhai Liu, Purdue University

8:35 a.m. **Aggregation Queries at Streaming Speeds—**❖Divesh Srivastava, AT&T Labs-Research

9:00 a.m. **Dynamic Thresholds: Monitoring Streams of Counts Online—**❖Diane Lambert, Google, Inc.; Chuanhai Liu, Purdue University

9:25 a.m. **Monitoring Massive Streams Simultaneously: a Holistic Approach—**❖Deepak K. Agarwal, AT&T Labs-Research

9:50 a.m. **Two-Dimensional Variable Window Scan Statistics—**❖Joseph Glaz, University of Connecticut

10:15 a.m. **Floor Discussion**

363 CC-617
● Design and Analysis of Experiments for Complex Computer Simulators —Invited

Section on Physical and Engineering Sciences
Organizer(s): Derek Bingham, Simon Fraser University
Chair(s): Derek Bingham, Simon Fraser University

8:35 a.m. **Designs for Integrated Computer and Physical Experiments—**❖C. Shane Reese, Brigham Young University; Derek Bingham, Simon Fraser University; Wilson Lu, Simon Fraser University

9:05 a.m. **Sequential Experiment Design for Contour Estimation from Complex Computer Codes—**❖Pritam Ranjan, Simon Fraser University

9:35 a.m. **Uncertainty Quantification for Combining Experimental Data and Computer Simulations from Multiple Data Sources—**❖Brian J. Williams, Los Alamos National Laboratory; Dave Higdon, Los Alamos National Laboratory; Jim Gattiker, Los Alamos National Laboratory

10:05 a.m. **Floor Discussion**

Invited Panels 8:30 a.m.–10:20 a.m.

364 CC-206
● Status of Disability Information in Surveys—Invited

Committee on Statistics and Disability
Organizer(s): Michele Connolly, U.S. Social Security Administration
Chair(s): Michele Connolly, U.S. Social Security Administration

Panelists: ❖Susan Schechter, Office of Management and Budget
❖Jennifer Madans, National Center for Health Statistics
❖Martin Gould, National Council for Disability
❖Philip Rones, Bureau of Labor Statistics
❖Mary Grace Kovar, National Opinion Research Center

10:15 a.m. **Floor Discussion**

365 CC-3B
National Science Foundation Invited Session—Invited

National Science Foundation, Section on Statistical Education
Organizer(s): Grace Yang, National Science Foundation
Chair(s): Grace Yang, National Science Foundation

Panelists: ❖Cheryl Eavey, National Science Foundation
❖Dean Evasius, National Science Foundation
❖Wen C. Masters, National Science Foundation
❖Ronald S. Fecso, National Science Foundation

10:15 a.m. **Floor Discussion**

Topic-Contributed Sessions 8:30 a.m.–10:20 a.m.

366 CC-618
✪ Sparse Inference and Multiple Comparisons—Topic-Contributed

IMS
Organizer(s): Jiashun Jin, Purdue University
Chair(s): Pei Wang, Fred Hutchinson Cancer Research Center

8:35 a.m. **False Discovery Rates for Spatial Signals—**❖Ruth Heller, Tel-Aviv University; Yoav Benjamini, Tel-Aviv University

8:55 a.m. **Large Dimensional Covariance Matrix Estimation Using a Factor Model—**❖Jinchi Lv, Princeton University

9:15 a.m. **A Bayesian Approach for Incomplete Paired Data—**❖Feng Liang, Duke University; Woncheol Jang, Duke University; Fei Liu, Duke University

9:35 a.m. **Quantile Coupling for Median and Its Application to Nonparametric Robust Estimation—**❖Harrison Zhou, Yale University

9:55 a.m. **Sparse Principal Component Analysis—**❖Hui Zou, University of Minnesota

10:15 a.m. **Floor Discussion**

367 CC-2B
Adaptive Dose Response—Topic-Contributed

Biopharmaceutical Section, Biometrics Section, ENAR
Organizer(s): Jose Pinheiro, Novartis Pharmaceuticals Corporation
Chair(s): Jeffrey Maca, Novartis Pharmaceuticals Corporation

8:35 a.m. **Implementing Bayesian Adaptive Dose-Response Finding Studies: a Clinical Perspective—**❖Michael Krams

8:55 a.m. **Adaptive Dose-Response Phase II Trials for Clinical Development—**❖Qing Liu, Johnson & Johnson

9:15 a.m. **Evaluating Rolling Dose Designs and Methods—**❖Amit Roy, Bristol-Myers Squibb Company; Frank Shen, Bristol-Myers Squibb Company

9:35 a.m. Disc: Greg Enas, Eli Lilly and Company
9:55 a.m. Disc: Jerald Schindler, Cytel Inc.
10:15 a.m. **Floor Discussion**

368 CC-2A
Biomarker—Topic-Contributed

Biopharmaceutical Section, Biometrics Section, ENAR
Organizer(s): Viswanath Devanarayan, Merck Research Laboratories
Chair(s): Christopher Tong, Merck Research Laboratories

8:35 a.m. **Biomarker Analysis of Medical Imaging and Radiotelemetry Signals—**❖Christopher Tong, Merck Research Laboratories; Yevgen Tymofyeyev, Merck Research Laboratories; Karim Azer, Merck Research Laboratories; Philip E. Brandish, Merck Research Laboratories; Hongxing Chen, Merck Research Laboratories; James C. Hershey, Merck Research Laboratories; Matthew Walker, III, Merck Research Laboratories; Barry R. Campbell, Merck Research Laboratories; Kaijie Fang, Merck Research Laboratories; Donald S. Williams, Merck Research Laboratories; Alexandre Coimbra, Merck Research Laboratories

8:55 a.m. **Statistical Considerations for Protein Biomarker Discovery from Human Plasma and Cerebrospinal Fluid—**❖Richard Higgs, Eli Lilly and Company

9:15 a.m. **Model Selection and Cross-Validation for Biomarker Discovery and Validation—**❖Annette Molinaro, Yale University School of Medicine

9:35 a.m. **Application of RandomForest as a Variable Selection Tool on Biomarker Data—**❖Katja Remlinger, GlaxoSmithKline

9:55 a.m. **Floor Discussion**

369 CC-615
● Ranked Set Sampling II—Topic-Contributed

Section on Nonparametric Statistics
Organizer(s): Omer Ozturk, The Ohio State University
Chair(s): Omer Ozturk, The Ohio State University

8:35 a.m. **Confidence Intervals for Quantiles Based on Ranked Set Samples—**❖Tao Li, St. Francis Xavier University; Narayanaswamy Balakrishnan, McMaster University

8:55 a.m. **Missing Data and Consequences in Ranked Set Sampling—**❖Jessica Kohlschmidt, The Ohio State University; Elizabeth Stasny, The Ohio State University; Douglas Wolfe, The Ohio State University

9:15 a.m. **Ranked Set Sampling for Ordered Categorical Variables—**❖Haiying Chen, Wake Forest University; Elizabeth Stasny, The Ohio State University; Douglas Wolfe, The Ohio State University

9:35 a.m. **Order-Restricted, Randomized Designs for Linear Models Using L1 Norm—**❖Shannon Markiewicz, The Ohio State University; Omer Ozturk, The Ohio State University

9:50 a.m. **Two-Sample, Ranked-Sum Test for Order-Restricted Randomized Designs—**❖Yiping Sun, The Ohio State University; Omer Ozturk, The Ohio State University

10:15 a.m. **Floor Discussion**

370 CC-604
From Policy to Application: a Health and Mortality Case Study—Topic-Contributed

Section on Government Statistics
Organizer(s): Wendy Alvey, U.S. Census Bureau; Norman Johnson, U.S. Census Bureau
Chair(s): Paul D. Sorlie, National Heart, Lung, and Blood Institute/NIH

8:35 a.m. **The National Longitudinal Mortality Study—**❖Norman Johnson, U.S. Census Bureau

8:55 a.m. **The National Death Index: an Overview—**❖Robert Bilgrad, National Center for Health Statistics

9:15 a.m. **The NLMS: Data Stewardship Policies at Work—**❖Wendy Alvey, U.S. Census Bureau

9:35 a.m. **U.S. Census Bureau Administrative Record Data Stewardship Policies for Administrative Records Use—**❖Patricia Melvin, U.S. Census Bureau

9:55 a.m. Disc: Daniel J. Wilson, Federal Reserve Bank of San Francisco

10:15 a.m. **Floor Discussion**

371 CC-619
● Visual Sampling Plan Software for Designing Environmental Sampling Plans for Chem/Bio/Rad and Munitions Contamination—Topic-Contributed

Section on Statistics and the Environment
Organizer(s): Richard Gilbert, Pacific Northwest National Laboratory
Chair(s): Richard GIlbert, Pacific Northwest National Laboratory

8:35 a.m. **Visual Sample Plan (VSP) Software: What Is It, and How To Use It?—**❖John Wilson, Pacific

Northwest National Laboratory; Lisa Nuffer, Pacific Northwest National Laboratory; Brent A. Pulsipher, Battelle-PNNL

8:55 a.m. **Sampling Designs for Surfaces within Buildings—**❖Brett D. Matzke, Battelle-PNNL; Brent A. Pulsipher, Battelle-PNNL; John Wilson, Pacific Northwest National Laboratory; Richard Gilbert, Pacific Northwest National Laboratory; Lisa Nuffer, Pacific Northwest National Laboratory; Nancy Hassig, Pacific Northwest National Laboratory; John Hathaway, Battelle-PNNL

9:15 a.m. **Geophysical Survey Designs To Aid the Identification and Remediation of Ordnance-Related Contaminants—**❖John Hathaway, Battelle-PNNL; Brent A. Pulsipher, Battelle-PNNL; John Wilson, Pacific Northwest National Laboratory; Richard Gilbert, Pacific Northwest National Laboratory; Brett D. Matzke, Battelle-PNNL

9:35 a.m. **A Practical Application of VSP to an Environmental Question: Abraham's Creek—**❖Kelly Black, Neptune & Company; Michele Wolf, Neptune & Company

Disc: Nagaraj Neerchal, University of Maryland Baltimore County

9:55 a.m. **Floor Discussion**

372 CC-310
● ✪ Statistics in the Aerospace Industry: Human Factor Studies—Topic-Contributed

Biometrics Section, Section on Statisticians in Defense and National Security, Section on Physical and Engineering Sciences

Organizer(s): I-Li Lu, The Boeing Company

Chair(s): Winson Taam, The Boeing Company

8:35 a.m. **Using Statistical Methods in the Design of the 787 Cabin Environment—**❖Martin Meckesheimer, The Boeing Company

8:55 a.m. **Predicted Arterial Oxygenation at Commercial Aircraft Cabin Altitudes—**❖Mike Muhm, The Boeing Company

9:15 a.m. **Protocol Development of the Cabin Altitude Study—**❖Dianne McMullin, The Boeing Company; Mike Muhm, The Boeing Company; Stephen P. Jones, The Boeing Company; I-Li Lu, The Boeing Company; Paul Rock, Oklahoma State University

9:35 a.m. **Statistical Methods in Cabin Altitude Study—**❖Stephen P. Jones, The Boeing Company

9:55 a.m. **Applications of Structural Equation Models: Case Studies in Biomedical and Aerospace Engineering Research—**❖I-Li Lu, The Boeing Company

10:15 a.m. **Floor Discussion**

373 CC-603
● ✪ Medical Expenditures: Data Collection, Estimation, and Evaluations—Topic-Contributed

Section on Survey Research Methods, Section on Health Policy Statistics, Biometrics Section, ENAR

Organizer(s): Trena Ezzati-Rice, Agency for Healthcare Research and Quality

Chair(s): Steven B. Cohen, Agency for Healthcare Research and Quality

8:35 a.m. **Evaluation of the Completeness of Household Reports of Medical Expenditures for Visits to Physician Offices—**Steven R. Machlin, Agency for Healthcare Research and Quality; ❖Diana Wobus, Westat; David Kashihara, Agency for Healthcare Research and Quality

8:55 a.m. **Evaluation of the Accuracy of Household Reports of Medical Expenditures for Visits to Physician Offices—**Steven R. Machlin, Agency for Healthcare Research and Quality; ❖David Kashihara, Agency for Healthcare Research and Quality; Diana Wobus, Westat

9:15 a.m. **The Impact of Medical Expenditure Predictors in MEPS Nonresponse Adjustments—**❖Lap-Ming Wun, Agency for Healthcare Research and Quality; Trena Ezzati-Rice, Agency for Healthcare Research and Quality; Steven B. Cohen, Agency for Healthcare Research and Quality; William Yu, Agency for Healthcare Research and Quality

9:35 a.m. **Evaluation of Expenditure Estimates When Including a High-Expenditure Predictor in Nonresponse Adjustments—**Lap-Ming Wun, Agency for Healthcare Research and Quality; Steven B. Cohen, Agency for Healthcare Research and Quality; ❖Trena Ezzati-Rice, Agency for Healthcare Research and Quality; William Yu, Agency for Healthcare Research and Quality

9:55 a.m. **Approximation of Skewed Health Care Expenditure Distribution Using a Mixture Model—**❖William Yu, Agency for Healthcare Research and Quality

10:15 a.m. **Floor Discussion**

374 CC-205
✪ Analyses of Studies Using Biomarkers—Topic-Contributed

Section on Statistics in Epidemiology, Biometrics Section, ENAR
Organizer(s): Estelle Russek-Cohen, U.S. Food and Drug Administration
Chair(s): Alex Bajamonde, Genentech, Inc.

8:35 a.m. **Array Spatial Variability and Normalization Techniques for Microarray Gene Expression Signals—**❖Samir Lababidi, U.S. Food and Drug Administration; Daya Ranamukhaarachchi, U.S. Food and Drug Administration

8:55 a.m. **Statistical Issues in Incorporating and Testing Biomarkers in Clinical Trials—**❖Daniel Sargent, Mayo Clinic College of Medicine; Sumithra Mandrekar, Mayo Clinic College of Medicine

9:15 a.m. **Statistical Design and Multiple Testing Analysis of Microarray—**❖Jane Chang, Bowling Green State University; Jason Hsu, The Ohio State University

9:35 a.m. **Prediction Modeling Using Survival Data for Gene Expression Prognostic Test for Breast Cancer—**❖Kit Lau, Celera Diagnostics; Alice Wang, Celera Diagnostics; John Sninsky, Celera Diagnostics; Trevor Hastie, Stanford University

9:55 a.m. Disc: Estelle Russek-Cohen, U.S. Food and Drug Administration

10:05 a.m. **Floor Discussion**

Topic-Contributed Panels 8:30 a.m.–10:20 a.m.

375 CC-606
● ✪ What Is Feminist Statistics?—Topic-Contributed

Social Statistics Section, Caucus for Women in Statistics, Section on Government Statistics, Section on Statistical Education
Organizer(s): Mary W. Gray, American University
Chair(s): Mary W. Gray, American University

Panelists: ❖Martha Aliaga, American Statistical Association
❖Arlene Ash, Boston University
❖Eduardas Valaitis, American University

10:15 a.m. **Floor Discussion**

376 CC-609
● Mentoring Statisticians—Topic-Contributed

Section on Statistical Education, Committee on Career Development
Organizer(s): Snehalata Huzurbazar, University of Wyoming
Chair(s): Snehalata Huzurbazar, University of Wyoming

Panelists: ❖Amy Froelich, Iowa State University
❖Sastry Pantula, North Carolina State University
❖Sally C. Morton, RTI International
❖Cynthia Clark, U.K. Office for National Statistics
❖Ronald Menton, Wyeth Research

10:15 a.m. **Floor Discussion**

Regular Contributed Sessions 8:30 a.m.–10:20 a.m.

377 CC-309
● Capture-Recapture and Other Problems in Environmental and Ecological Statistics—Contributed

Biometrics Section, ENAR
Chair(s): Linda Young, University of Florida

8:35 a.m. **Semiparametric Models for Capture-Recapture Experiments with Behavoral Response—**❖Wen-Han Hwang, Feng Chia University; Richard Huggins, University of Melbourne

8:50 a.m. **Population Estimation for Noninvasive Trapping—**❖Emily Murphree, Miami University

9:05 a.m. **Assessing Similarity of Two Assemblages with Unseen Species in Samples—**❖Tsung-Jen Shen, National Chung Hsing University; Anne Chao, National Tsing Hua University; Robin L. Chazdon, University of Connecticut; Robert L. Colwell, University of Connecticut

9:20 a.m. **Estimating the Species Richness by a Poisson-Compound Gamma Model—**❖Ji-Ping Wang, Northwestern University

9:35 a.m. **Mixtures of Exponential Distributions To Describe the Distribution of Poisson Means in Estimating the Number of Unobserved Classes—**❖Kathryn Barger, Cornell University

9:50 a.m. **Principle Component Analysis as a Statistical Tool To Investigate the Role of Specific Habitat Variables in Lyme Disease Ecology—**❖Haiyan Chen, Dana-Farber Cancer Institute

10:05 a.m. **Floor Discussion**

378 CC-308

● Models for Multivariate (Longitudinal) Data—Contributed

Biometrics Section, ENAR

Chair(s): Armando Teixeira-Pinto, Harvard School of Public Health

8:35 a.m. **Alternative Structural Models for Analyzing Multivariate Longitudinal Data**—❖Feng Gao, Washington University School of Medicine; Paul Thompson, Washington University School of Medicine; Chengjie Xiong, Washington University School of Medicine; J. Philip Miller, Washington University School of Medicine

8:50 a.m. **Unconstrained Models for the Covariance Structure of Multivariate Longitudinal Data**—❖Chulmin Kim, University of Minnesota, Morris; Dale Zimmerman, The University of Iowa

9:05 a.m. **Multilevel Flexible Models for Mixed Longitudinal Data**—❖Nuoo-Ting Molitor, University of Southern California; Kiros Berhane, University of Southern California

9:20 a.m. **Conditional Estimation for Joint Models for a Primary Endpoint and Multivariate Longitudinal Data**—❖Erning Li, Texas A&M University; Naisyin Wang, Texas A&M University; Nae-Yuh Wang, The Johns Hopkins University School of Medicine

9:35 a.m. **A Bayesian Approach to Modeling Associations between Pulsatile Hormones**—❖Nichole Carlson, Oregon Health & Science University; Timothy D. Johnson, University of Michigan; Morton B. Brown, University of Michigan

9:50 a.m. **Floor Discussion**

379 CC-608

● Robust Solutions—Contributed

Business and Economics Statistics Section

Chair(s): Michael Sverchkov, Bureau of Labor Statistics/BAE Systems IT

8:35 a.m. **On Robust Forecasting in Dynamic Vector Time Series Models**—❖Pierre Duchesne, Université de Montréal; Christian Gagné, Université de Montréal

8:50 a.m. **A Test of the Modality of the Variance Function in Modulated Autoregressive Models**—❖Gabe Chandler, Connecticut College

9:05 a.m. **Multiple Imputation of Right-Censored Data: an Application to Wage Data and Understanding the Changing Wage Gap by Gender in Germany**—❖Hermann Gartner, Institute for Employment Research

9:20 a.m. **A New Approach to Univariate Unit Root Tests Robust to Structural Change**—❖Seong-Tae Kim, North Carolina State University

9:35 a.m. **Testing for Threshold Moving Average with Conditional Heteroscedasticity**—❖Guodong Li, The University of Hong Kong; Wai K. Li, The University of Hong Kong

9:50 a.m. **A New Approach for Calculating Sample Size To Detect Desired Difference between Treatment Groups with Intended Power**—❖Seemit Sheth, Capital One Financial Corporation

10:05 a.m. **Competitiveness Analysis of the Italian Firms: Use of Robust Classification Methods**—❖Matilde Bini, University of Florence; Luigi Biggeri, Italian National Statistical Institute

380 CC-204
● Flexible Methods for Longitudinal Data—Contributed

ENAR, Biometrics Section

Chair(s): Andres Houseman, Harvard School of Public Health

8:35 a.m. **Efficient Estimation in Semiparametric Generalized Linear Model for Longitudinal Data**—❖Lu Wang, Harvard University; Xihong Lin, Harvard School of Public Health; Andrea Rotnitzky, Harvard University

8:50 a.m. **Varying-Coefficient Model with Unknown within-Subject Covariance for the Analysis of Tumor Growth Curves**—❖Robert Krafty, University of Pennsylvania; Wensheng Guo, University of Pennsylvania; Phyllis Gimotty, University of Pennsylvania; George Coukos, University of Pennsylvania

9:05 a.m. **Modeling Plasma HIV Viral Load by a Piecewise Polynomial Linear Mixed Model**—❖Hsiao-Chuan Tien, The University of North Carolina at Chapel Hill; Pai-Lien Chen, Family Health International

9:20 a.m. **Nonparametric Inference in the Heteroscedastic Two-Way Random Effects Model Based on Ranks**—❖Zhe Shang, Wyeth Research

9:35 a.m. **Marginal Regression Modeling under Irregular, Biased Sampling**—❖Petra Buzkova, The University of North Carolina at Chapel Hill; Thomas Lumley, University of Washington

9:50 a.m. **Projected Multivariate Linear Mixed-Effects Models for Clustered Angular Data**—❖Daniel Hall, University of Georgia; Lewis Jordan, University of Georgia; Jinae Lee, University of Georgia

10:05 a.m. **Optimal Estimators from Generalized Estimating Equations (GEE) for Longitudinal Data**—❖Ioana Schiopu-Kratina, Statistics Canada; Raluca M. Balan, University of Ottawa

381 CC-3A
● Survival, Time to Event—Contributed

Biopharmaceutical Section, Biometrics Section, ENAR

Chair(s): B. Christine Clark, ICON Clinical Research

8:35 a.m. **Predicting Time of Completion in Multiphase Survival Trials**—❖Dennis Sweitzer, AstraZeneca Pharmaceuticals

8:50 a.m. **Power Calculation for Log-Rank Test under a Nonproportional Hazards Model**—❖Daowen Zhang, sanofi-aventis; Hui Quan, sanofi-aventis

9:05 a.m. **Use of Life Tables To Extrapolate Survival from Clinical Trial Data**—❖W. J. Hall, University of Rochester Medical Center; Hongyue Wang, University of Rochester Medical Center

9:20 a.m. **Analyzing Change in Hazard for Time-to-Event Endpoints in Clinical Trials**—❖Rafia Bhore, U.S. Food and Drug Administration; Sandra Gardner, Sunnybrook Health Sciences Centre

9:35 a.m. **Time to Rescue as a Surrogate Endpoint for Analgesic Efficacy in Acute Pain Studies**—❖Julia Wang, Johnson & Johnson Pharmaceutical R&D; Akiko Okamoto, Johnson & Johnson Pharmaceutical R&D; Surya Mohanty, Johnson & Johnson Pharmaceutical R&D

9:50 a.m. **On Analysis of Time to Progression**—❖Zhiping Sun, Merck & Co., Inc.; Cong Chen, Merck & Co., Inc.

10:05 a.m. **Testing for Change-Points in Waiting Time Distributions**—❖Thomas Hammerstrom, U.S. Food and Drug Administration; Rafia Bhore, U.S. Food and Drug Administration

382 CC-307
● Clustering and Classification—Contributed

Biometrics Section, ENAR

Chair(s): David B. Hitchcock, University of South Carolina

8:35 a.m. **Classification by Ensembles from Random Partitions of High-Dimensional Genomic Data**—❖Hojin Moon, U.S. Food and Drug Administration; Hongshik Ahn, Stony Brook University; James J. Chen, U.S. Food and Drug Administration; Ralph L. Kodell, U.S. Food and Drug Administration

8:50 a.m. **Ensemble Methods for Classifying an Ordinal Response**—❖Kellie J. Archer, Virginia Commonwealth University

9:05 a.m. **Tree-Based Integration of One-versus-Some Classifiers for Multiclass Classification**—❖Yuejing Ding, Columbia University; Tian Zheng, Columbia University

9:20 a.m. **Clustering Genes in Genetical Genomics Experiments**—❖Joshua Sampson, University of Washington; Steve Self, University of Washington

9:35 a.m. **A Divisive Method via Multivariate Hypothesis Testing for Clustering Gene Expression Patterns**—❖Haiyan Wang, Kansas State University

9:50 a.m. **On Comparing the Clustering of Regression Models Method with K-Means Clustering**—❖Li-Xuan Qin, Memorial Sloan-Kettering Cancer Center; Steve Self, University of Washington

10:05 a.m. **Floor Discussion**

383 CC-616
Clustering—Contributed

Section on Statistical Computing, Section on Nonparametric Statistics

Chair(s): Guei-Feng Tsai, Northwestern University

8:35 a.m. **Clustering by Intersection-Merging**—❖Qunhua Li, University of Washington; Marina Meila, University of Washington

8:50 a.m. **Strategies for Scaling and Weighting Variables in Cluster Analysis**—❖Srinivas Maloor, Rutgers University; Ramanathan Gnanadesikan, Rutgers University; Jon Kettenring, Drew University

9:05 a.m. **Model-Based Projection Pursuit Clustering**—❖Jie Ding, GlaxoSmithKline

9:20 a.m. **Estimating the Number of Data Clusters via Agreement Measure–Based Statistics**—❖Heng Liu, University of Illinois at Urbana-Champaign; Michelle Wang, University of Illinois at Urbana-Champaign; Douglas Simpson, University of Illinois at Urbana-Champaign

9:35 a.m. **Clustering of Longitudinal Data: a Functional Data Approach**—❖Jeng-Min Chiou, Academia Sinica; Pai-Ling Li, National Tsing Hua University

9:50 a.m. **Initializing Optimization Partition Algorithms**—❖Ranjan Maitra, Iowa State University

10:05 a.m. **A Scale-Independent Clustering Method with Automatic Variable Selection Based on Trees**—❖Samuel Buttrey, Naval Postgraduate School

384 CC-610
● Examples for the Statistics Classroom—Contributed

Section on Statistical Education

Chair(s): Tena Katsaounis, The Ohio State University

8:35 a.m. **Making Babies by the Flip of a Coin?**—❖Matthew Carlton, California Polytechnic State University, San Luis Obispo

8:50 a.m. **Illuminating the Confidence Interval Concept Activity**—❖Alicia Graziosi, Temple University; Jeffrey Lidicker, Temple University

9:05 a.m. **Learning Activities for Large Classes**—❖Patti Collings, Brigham Young University

9:20 a.m. **How Low Can You Go?**—❖Paul Stephenson, Grand Valley State University; Mary Richardson, Grand Valley State University; John Gabrosek, Grand Valley State University

9:35 a.m. **Conditional Probability and 'Who Wants To Be a Millionaire?'**—❖Diane Evans, Rose-Hulman Institute of Technology

9:50 a.m. **Post-Hoc Analysis for a Class of Chi-Square Tests**—❖Edward Markowski, Old Dominion University; Carol A. Markowski, Old Dominion University

10:05 a.m. **Keeping an Introductory Statistics Course Interesting: Use of Demonstrations, Examples, Rewards, and a Little Humor**—❖Harry Norton, Carolinas Medical Center

385 CC-611
Bayesian Design and High-Dimensional Inference—Contributed

Section on Bayesian Statistical Science
Chair(s): Ming Yuan, Georgia Institute of Technology

8:35 a.m. **Automatic Estimation of Multivariate Spectra via Smoothing Splines**—❖Ori Rosen, The University of Texas at El Paso; David Stoffer, University of Pittsburgh

8:50 a.m. **Bayesian Curve Estimation with Overcomplete Wavelet Dictionary**—❖Jen-hwa Chu, Duke University; Merlise Clyde, Duke University; Feng Liang, Duke University

9:05 a.m. **Bayesian LAGO for Statistical Detection Problems**—❖Wanhua Su, University of Waterloo; Mu Zhu, University of Waterloo; Hugh A. Chipman, Acadia University

9:20 a.m. **Avoiding Bias from Feature Selection in Classification and Regression Models**—❖Longhai Li, University of Toronto; Jianguo Zhang, University of Toronto; Radford Neal, University of Toronto

9:35 a.m. **Dose-Schedule Finding in Phase I/II Clinical Trials Using Bayesian Isotonic Transformation**—❖Yisheng Li, M. D. Anderson Cancer Center; Nebiyou B. Bekele, M. D. Anderson Cancer Center; Yuan Ji, M. D. Anderson Cancer Center; John Cook, M. D. Anderson Cancer Center

9:50 a.m. **Bayesian Two-Stage Optimal Design for Generalized Linear Models**—❖Ying Zhang, Virginia Polytechnic Institute and State University

10:05 a.m. **Floor Discussion**

386 CC-613
● ✪ Bayesian Applications to Genetics—Contributed

Section on Bayesian Statistical Science, Biometrics Section, ENAR
Chair(s): Leanna House, Duke University

8:35 a.m. **The Evolutionary Forest Algorithm**—❖Scotland Leman, Duke University

8:50 a.m. **Bayesian Inference for Estimating Migration Rate, Mutation Rate, and Population Size in Microsatellite Loci**—❖Seongho Song, University of Cincinnati; Dipak Dey, University of Connecticut; Kent E. Holsinger, University of Connecticut

9:05 a.m. **Bayesian Discovery of Regulatory Motifs Using Reversible Jump Markov Chain Monte Carlo**—❖Min Li, University of Washington

9:20 a.m. **Detection of Quantitative Trait Loci on Multiple Linkage Groups**—❖Patrick Gaffney, ImClone Systems

9:35 a.m. **Bayesian Clustering of SNP Genotypes**—❖Guohua Yan, The University of British Columbia; William J. Welch, The University of British Columbia; Ruben H. Zamar, The University of British Columbia

9:50 a.m. **Bayesian Clustering of Short Temporal Gene Expression Dynamics**—❖Ling Wang, Boston University; Paola Sebastiani, Boston University; Marco Ramoni, Harvard Medical School

10:05 a.m. **A Bayesian Retrospective Classification Model**—❖Jingqin Luo, Duke University

387 CC-601
● Sample Survey Quality IV—Contributed

Section on Survey Research Methods
Chair(s): Rita Petroni, U.S. Census Bureau

8:35 a.m. **Changing to Register-Based Statistics**—❖Anders Wallgren, Statistics Sweden; Britt Wallgren, Statistics Sweden

8:50 a.m. **Longitudinal Evaluation of Point and Variance Estimates in an Establishment Survey after Ratio Imputation**—❖Adriana Perez, The University of Texas Health Science Center at Houston

9:05 a.m. **Experimental Design for the 2006 American Community Survey Content Test**—❖Mark Asiala, U.S. Census Bureau; Alfredo Navarro, U.S. Census Bureau

9:20 a.m. **A Comparison of Two Ratio Edit Methods for the Annual Survey of Government Finances**—❖Elizabeth Cornett, U.S. Census Bureau; Joanna F. McLaughlin, U.S. Census Bureau; Carma R. Hogue, U.S. Census Bureau; Stephen D. Owens, U.S. Census Bureau

9:35 a.m. **Evaluation of the Detectability and Inferential Impact of Nonresponse Bias in Establishment Surveys**—❖Randall Powers, Bureau of Labor Statistics; John L. Eltinge, Bureau of Labor Statistics

9:50 a.m. **A Coverage Profile of Area Frame Blocks on the United States Census Bureau's Master Address File**—❖Timothy Kennel, U.S. Census Bureau

10:05 a.m. **Floor Discussion**

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388 CC-211

● ✪ Cluster Modeling and Cluster Detection—Contributed

Section on Statistics in Epidemiology

Chair(s): Margaret Nemeth, Monsanto Regulatory Sciences

8:35 a.m. **P-Values for the Besag-Newell Cluster Detection Test**—❖Ronald Gangnon, University of Wisconsin-Madison

8:50 a.m. **On Detecting a Rate Increase Using a Bernoulli-Based Scan Statistic**—❖Michael Joner, Virginia Polytechnic Institute and State University; William H. Woodall, Virginia Polytechnic Institute and State University; Marion Reynolds, Virginia Polytechnic Institute and State University

9:05 a.m. **Spatial Survival Clusters of Patients Diagnosed with Lung Cancer and Late-Stage Colorectal Cancer in California**—❖Lan Huang, National Cancer Institute

9:20 a.m. **A Latent Model for Highly Skewed and Grouped Data**—❖Huichao Chen, Emory University; Amita K. Manatunga, Emory University; Robert Lyles, Emory University; Michele Marcus, Emory University

9:35 a.m. **Local Likelihood Models for Disease Cluster Modeling: a Space-Time Extension**—❖Monir Hossain, University of South Carolina; Andrew B. Lawson, University of South Carolina

9:50 a.m. **Approximating the Multiple-Width-Window Scan Statistic for Nonuniform Background**—❖Joseph Naus, Rutgers University

10:05 a.m. **Cluster Analysis Using Methods of Pairwise Weight on Mixed Type Attributes**—❖William Warde, Oklahoma State University

389 CC-620

Methodology for Spatial Data—Contributed

Section on Statistics and the Environment, WNAR

Chair(s): Eric Slud, U.S. Census Bureau

8:35 a.m. **Spatial Multivariate EOFs: Discrete to Continuous Approximations**—❖Yonggang Yao, The Ohio State University; Noel Cressie, The Ohio State University

8:50 a.m. **Spatial Designs and Strength of Spatial Signal: Effects on Covariance Estimation**—❖Kathryn Irvine, Oregon State University; Alix Gitelman, Oregon State University; Jennifer A. Hoeting, Colorado State University

9:05 a.m. **Spatial Models, Spatial Integrals, and Green's Theorem**—❖Gary Simon, New York University

9:20 a.m. **A Variation on Spike-Time Distance Prototypes**—❖Katherine Tranbarger, Amherst College

9:35 a.m. **A Method for Multiscale Spatio-Temporal Analysis**—❖Mary Louie, National Center for Health Statistics

9:50 a.m. **A Weighting Class Adjustment Estimator in a Continuous Domain**—❖Breda Munoz, RTI International; Virginia M. Lesser, Oregon State University; Leigh Harrod, Oregon State University

10:05 a.m. **Floor Discussion**

390 CC-605

● Survey-Based Estimation IV—Contributed

Section on Survey Research Methods

Chair(s): Mansour Fahimi, RTI International

8:35 a.m. **Effects of Uncontrolled Factors at the Collection Stage on the Canadian Nutrition Survey**—❖François Verret, Statistics Canada; Steven Thomas, Statistics Canada

8:50 a.m. **Regression Diagnostics for Survey Data**—❖Jianzhu Li, University of Maryland; Richard Valliant, University of Michigan

9:05 a.m. **Design Effects in Randomized Experiments Based on Sample Surveys**—❖K. P. Srinath, Abt Associates Inc.

9:20 a.m. **Using Census Data to Define Estimation Areas for the American Community Survey: a Case Study**—❖Joseph Powers, U.S. Census Bureau; Alfredo Navarro, U.S. Census Bureau

9:35 a.m. **Estimating Birth Counts for Small Geographical Domains Used for Control Totals in Raking Adjustment**—❖Amang Sukasih, Mathematica Policy Research, Inc.; Donsig Jang, Mathematica Policy Research, Inc.; Mary Edith Bozylinsky, Mathematica Policy Research, Inc.; Barbara L. Carlson, Mathematica Policy Research, Inc.

9:50 a.m. **Iteration of Second-Stage and Composite Procedures in the Current Population Survey**—❖Samantha Cruz, Bureau of Labor Statistics; Edwin L. Robison, Bureau of Labor Statistics; Tamara S. Zimmerman, Bureau of Labor Statistics

10:05 a.m. **Estimation and Reliability Issues of Health Estimates from the Behavioral Risk Factor Surveillance System for U.S. Counties Contiguous**

to the United States-Mexico Border—❖Joe Fred Gonzalez, Jr., National Center for Health Statistics; Machell Town, National Center for Chronic Disease Prevention and Health Promotion; Jay J. Kim, National Center for Health Statistics; Sam Notzon, National Center for Health Statistics; Juan R. Albertorio, National Center for Health Statistics

Invited Sessions 10:30 a.m.–12:20 p.m.

391 CC-4C-4

● ✪ Noether Award Invited Session—Invited

Noether Award Committee, Section on Nonparametric Statistics

Organizer(s): Regina Liu, Rutgers University

Chair(s): Regina Liu, Rutgers University

10:35 a.m. **Doing Thousands of Hypothesis Tests at the Same Time**—❖Bradley Efron, Stanford University

11:25 a.m. **Bayesian Mixed Models for Functional Data**—❖Jeffrey S. Morris, M. D. Anderson Cancer Center

12:15 p.m. **Floor Discussion**

392 CC-607

● ✪ Government Statistical Agencies Are Now Offering Electronic Reporting to Their Respondents, but Is It Worth the Effort?—Invited

Section on Government Statistics

Organizer(s): Robert Lussier, Statistics Canada

Chair(s): Robert Lussier, Statistics Canada

10:35 a.m. **Qui Bono: Who Benefits from Web Data Collection?**—❖Michael D. Levi, Bureau of Labor Statistics

10:55 a.m. **The Development of Electronic Data Collection Techniques**—❖Rami Peltola, Statistics Finland

11:15 a.m. **Statistics Canada's Electronic Data Reporting Experience**—❖Jocelyn Burgess, Statistics Canada

11:35 a.m. **Improving the Provider Experience: the Vision for Multi-Modal Data Collection in Australia**—❖Sean Thompson, Australian Bureau of Statistics

11:55 a.m. Disc: Thomas L. Mesenbourg, U.S. Census Bureau

12:15 p.m. **Floor Discussion**

393 CC-601

● ✪ Bayesian Methods in Cancer Genomics—Invited

WNAR, Biometrics Section, Section on Bayesian Statistical Science, ENAR

Organizer(s): Sonia Jain, University of California, San Diego

Chair(s): Sonia Jain, University of California, San Diego

10:35 a.m. **Variable Selection in Regression Mixture Modeling for the Discovery of Gene Regulatory Networks**—❖Joseph G. Ibrahim, The University of North Carolina at Chapel Hill; Mayetri Gupta, The University of North Carolina at Chapel Hill

11:00 a.m. **Variable Selection in Clustering via Dirichlet Process Mixture Models**—❖Marina Vannucci, Texas A&M University

11:25 a.m. **Nonparametric Models for Proteomic Peak Identification, Quantification, and Classification**—❖Merlise Clyde, Duke University; Leanna House, Duke University; Robert Wolpert, Duke University

11:50 a.m. Disc: Steven N. MacEachern, The Ohio State University

12:10 p.m. **Floor Discussion**

394 CC-307

✪ Building Statistical Capacity in Developing Countries—Invited

Committee on International Relations in Statistics, Section on Statistical Education

Organizer(s): Louise Ryan, Harvard School of Public Health

Chair(s): Martha Aliaga, American Statistical Association

10:50 a.m. **Statistics in Argentina**—❖Diana Kelmansky, University of Buenos Aires

12:15 p.m. **Floor Discussion**

395 CC-611

● Latent Class Models for Disease Classification—Invited

ENAR, Biometrics Section, WNAR

Organizer(s): Rebecca Betensky, Harvard School of Public Health

Chair(s): Rebecca Betensky, Harvard School of Public Health

10:35 a.m. **Diagnosing Sepsis in Patients with SIRS**—❖Klaus Larsen, University of Copenhagen

11:05 a.m. **Penalized Latent Class Methods for Disease Classification**—❖Andres Houseman, Harvard School of Public Health; Brent A. Coull, Harvard School of Public Health; Rebecca Betensky, Harvard School of Public Health

11:35 a.m. **Latent Class Measurement of Frailty and Dysregulation in Older Adults**—❖Karen Bandeen-Roche, The Johns Hopkins Bloomberg School of Public Health

12:05 p.m. **Floor Discussion**

396 CC-2A
Semiparametric Inference in Practice—Invited

IMS, Section on Nonparametric Statistics

Organizer(s): Florentina Bunea, Florida State University

Chair(s): Florentina Bunea, Florida State University

10:35 a.m. **Semiparametric Approaches To Model the Survival and Longitudinal Data Simultaneously**—❖Jane-Ling Wang, University of California, Davis; Jimin Ding, University of California, Davis; Fushing Hsieh, University of California, Davis

11:05 a.m. **Semiparametric Models with Data Missing by Design and Inverse Probability Weighted Empirical Processes: Partial Results and Open Problems**—❖Jon A. Wellner, University of Washington

11:35 a.m. **Statistical Inference for Variable Importance**—❖Mark van der Laan, University of California, Berkeley

12:05 p.m. **Floor Discussion**

397 CC-308
● Balanced Sampling—Invited

SSC

Organizer(s): Pierre Lavallée, Statistics Canada

Chair(s): Pierre Lavallée, Statistics Canada

10:35 a.m. **Balanced Sampling by Means of the Cube Method**—❖Yves Tillé, Université of Neuchâtel

11:00 a.m. **Stochastic Imputation Using Balanced Sampling**—❖Jean-Claude Deville, CREST/ENSAI

11:25 a.m. **Use of Balanced Sampling in the Framework of the Master Sample for French Household Surveys**—❖Marc Christine, Institut National de la Statistique et des Études Économiques

11:50 a.m. **Sampling and Estimation Strategies for the Canadian Unincorporated Business Population**—❖Wisner Jocelyn, Statistics Canada

12:15 p.m. **Floor Discussion**

398 CC-608
Statistical Challenges in Analyzing Highly Stratified Data—Invited

Biometrics Section, WNAR

Organizer(s): Bhramar Mukherjee, University of Florida

Chair(s): Bhramar Mukherjee, University of Florida

10:35 a.m. **Semiparametric Transformation Models with Random Effects for Highly Stratified Survival Data**—❖Danyu Lin, The University of North Carolina at Chapel Hill

11:00 a.m. **Connections between Bayesian and Conditional Inference in Matched Studies**—❖Kenneth Rice, University of Washington

11:25 a.m. **Model-Based Profile Confidence Intervals for Stratified Contingency Tables**—❖Joseph B. Lang, The University of Iowa

11:50 a.m. **Fixed-Effects Models for Longitudinal Binary Data with Drop-Outs Missing at Random**—❖Paul Rathouz, The University of Chicago

12:15 p.m. **Floor Discussion**

399 CC-401
● Human Perception and Statistical Graphics—Invited

Section on Statistical Graphics, Section on Statisticians in Defense and National Security

Organizer(s): Naomi B. Robbins, NBR

Chair(s): Naomi B. Robbins, NBR

10:35 a.m. **Attention, Consciousness, and Data Display**—❖Ronald A. Rensink, The University of British Columbia

11:05 a.m. **Perception of Scene Spatial Layout and Complex Visual Displays**—❖Aude Oliva, Massachusetts Institute of Technology

11:35 a.m. **Toward Integrating Perception, Cognition, and Visual Statistical Analytics in Quantitative Visualization**—❖Daniel B. Carr, George Mason University

12:05 p.m. **Floor Discussion**

400 CC-400

● ✪ Haplotype Analysis—Invited

Section on Risk Analysis, ENAR

Organizer(s): Ingo Ruczinski, The Johns Hopkins University

Chair(s): Hua Tang, Fred Hutchinson Cancer Research Center

10:35 a.m. **Haplotype Analysis in Related Individuals—** ❖Hongyu Zhao, Yale University; Ning Sun, Yale University

11:00 a.m. **A Comparison of Haplotype-Based and Tree-Based SNPs Imputation in Association Studies—** ❖James Y. Dai, University of Washington; Ingo Ruczinski, The Johns Hopkins University; Michael LeBlanc, Fred Hutchinson Cancer Research Center; Charles Kooperberg, Fred Hutchinson Cancer Research Center

11:25 a.m. **Haplotype and SNP Analyses in Genetic Epidemiology with Application to Longitudinal Data—** ❖M. Daniele Fallin, The Johns Hopkins Bloomberg School of Public Health; Kelly S. Benke, The Johns Hopkins Bloomberg School of Public Health

11:50 a.m. Disc: Nilanjan Chatterjee, National Cancer Institute

12:10 p.m. **Floor Discussion**

401 CC-201

● Bayesian Hierarchical Modeling of Exposure Pathways—Invited

Section on Statistics and the Environment, Section on Bayesian Statistical Science

Organizer(s): Noel Cressie, The Ohio State University

Chair(s): Noel Cressie, The Ohio State University

10:35 a.m. **Regional Spatial Modeling of Toxic Metals in Various Environmental Media—** ❖Catherine A. Calder, The Ohio State University

11:00 a.m. **Characterizing Human Exposure to Toxic Metals Using a Bayesian Pathways Model—** ❖Nancy J. McMillan, Battelle

11:25 a.m. **Computational Strategies for Fitting and Learning from Complex Bayesian Hierarchical Models—** ❖Peter F. Craigmile, The Ohio State University

11:50 a.m. Disc: Louise Ryan, Harvard School of Public Health

12:10 p.m. **Floor Discussion**

Invited Panels 10:30 a.m.–12:20 p.m.

402 CC-609

● Statistical Consulting for Clinical Research—Invited

Section on Statistical Consulting, Section on Statistical Education

Organizer(s): Jeff Sloan, Mayo Clinic College of Medicine

Chair(s): Joseph Cappelleri, Pfizer Inc.

Panelists: ❖Jeff Sloan, Mayo Clinic College of Medicine

❖Todd Nick, Cincinnati Children's Hospital Medical Center

❖Felicity B. Enders, Mayo Clinic College of Medicine

❖Michael Griswold, The Johns Hopkins Bloomberg School of Public Health

12:15 p.m. **Floor Discussion**

Topic-Contributed Sessions 10:30 a.m.–12:20 p.m.

403 CC-612

● ✪ Statistics for Weather Forecasting I: Challenges and Opportunities—Topic-Contributed

Section on Statisticians in Defense and National Security, Section on Physical and Engineering Sciences, Section on Statistics and the Environment

Organizer(s): Tilmann Gneiting, University of Washington

Chair(s): Tilmann Gneiting, University of Washington

10:35 a.m. **General Introduction to Weather Prediction—** ❖Clifford Mass, University of Washington

10:55 a.m. **Local Bayesian Model Averaging for Calibrated Weather Forecast Probabilities—** ❖Eric Grimit, University of Washington

11:15 a.m. **Combining Spatial Statistical and Ensemble Information in Probabilistic Weather Forecasts—** ❖Veronica Berrocal, University of Washington

11:35 a.m. **Use of Uncertainty Information in Deterministic Weather Forecasting Decisions—** ❖Susan Joslyn, University of Washington

11:55 a.m. Disc: Brad Colman, National Oceanic & Atmospheric Administration

12:15 p.m. **Floor Discussion**

404 CC-2B
Dose-Finding—Topic-Contributed

Biopharmaceutical Section, Biometrics Section, ENAR
Organizer(s): Naitee Ting, Pfizer Inc.
Chair(s): Greg C. G. Wei, Pfizer Inc.

10:35 a.m. **Hypothesis Testing and Bayesian Estimation Applied to Sparse Dose Response Designs—**❖Neal Thomas

10:55 a.m. **Phase I Studies of Chemotherapeutic Agents in Cancer Patients: a Review of the Designs—**❖Douglas Potter, University of Pittsburgh

11:15 a.m. **Design and Analysis of Dose-Finding Studies Combining Multiple Comparisons and Modeling Procedures—**❖Frank Bretz, Novartis Pharma AG; Jose Pinheiro, Novartis Pharmaceuticals Corporation; Bjoern Bornkamp, University of Dortmund

11:35 a.m. **Optimal Dose Response Studies with Potentially Missing Observations—**❖Weng Kee Wong, University of California, Los Angeles; InYoung Baek, Stony Brook University; Wei Zhu, Stony Brook University

11:55 a.m. **Experimental Design for Experiments with Toxicity and Efficacy Response Functions—**❖Nancy Flournoy, University of Missouri-Columbia

12:15 p.m. **Floor Discussion**

405 CC-204
● Modeling and Adjustment of Economic Time Series—Topic-Contributed

Business and Economics Statistics Section
Organizer(s): Thomas D. Evans, Bureau of Labor Statistics
Chair(s): Thomas D. Evans, Bureau of Labor Statistics

10:35 a.m. **Reference Week Adjustment of Labor Force Series with X-12-ARIMA—**❖Zhao-Guo Chen, Statistics Canada; Thierno A. Balde, Statistics Canada; Benoit Quenneville, Statistics Canada; Helen Fung, Statistics Canada

10:55 a.m. **Issues in Identifying Easter Effects in Economic Time Series—**❖Kellie Wills, U.S. Census Bureau

11:15 a.m. **A New Time Series Model for Seasonally Adjusting Economic Data with Trend-Cycle Movement and Irregular, Sharply Pronounced Seasonal Fluctuations—**❖Stephanus Arz, Deutsche Bundesbank

11:35 a.m. **An ARIMA Model–Based Approach To Estimate Evolving Trading Day Effect—**❖Xichuan Zhang, Australian Bureau of Statistics; Anna Poskitt, Australian Bureau of Statistics

11:55 a.m. **Modeling CPS Labor Force Time Series in Selected Metropolitan Areas—**❖Jennifer Oh, Bureau of Labor Statistics; Richard Tiller, Bureau of Labor Statistics

12:15 p.m. **Floor Discussion**

406 CC-606
● ✪ When Disaster Strikes: Responses from the Survey Community—Topic-Contributed

Section on Survey Research Methods, Section on Statisticians in Defense and National Security
Organizer(s): Rachel Harter, National Opinion Research Center
Chair(s): David Banks, Duke University

10:35 a.m. **Conducting Surveys When Disasters Strike—**❖Rachel Harter, National Opinion Research Center; Judith Petty, National Opinion Research Center; Jenny Kelly, National Opinion Research Center

10:55 a.m. **On the Use of Survey Methods in Assessing Large-Scale Human Rights Violations in Conflict Zones: Lessons-Learned from Timor-Leste and Sierra Leone—**❖Romesh Silva, Human Rights Data Analysis Group; Patrick Ball, Human Rights Data Analysis Group

11:15 a.m. **Impact of Gulf Hurricanes on the National Immunization Survey—**❖Kirk Wolter, National Opinion Research Center; James Singleton, Centers for Disease Control and Prevention

11:35 a.m. **Local Data Coordination and Dissemination in Post-Katrina New Orleans—**❖Allison Plyer, Greater New Orleans Nonprofit Knowledge Works

11:55 a.m. Disc: Alan R. Tupek, U.S. Census Bureau

12:15 p.m. **Floor Discussion**

407 CC-614
● Statistical Issues in Diagnostic Devices Including ROC Methods—Topic-Contributed

Section on Statistics in Epidemiology, Biometrics Section, ENAR
Organizer(s): R. Lakshmi Vishnuvajjala, U.S. Food and Drug Administration
Chair(s): Kyunghee Song, U.S. Food and Drug Administration

10:35 a.m. **ROC Graphs for Assessing the Ability of a Diagnostic Marker To Detect Three Disease Classes with an Umbrella Ordering—**❖Todd Alonzo, University of Southern California; Christos Nakas, University of the Aegean

10:55 a.m. **Random Effects Modeling Approaches for Estimating ROC Curves from Repeated Ordinal Tests without a Gold Standard**—❖Paul S. Albert, National Cancer Institute

11:15 a.m. **Diagnostic Imaging Procedures: Defining and Analyzing Test Results To Account for Unknown Disease Loci**—❖Gene Pennello, U.S. Food and Drug Administration; Brandon D. Gallas, U.S. Food and Drug Administration

11:35 a.m. **A Model-Free Approach to Combining Diagnostic Markers**—❖Ruth Pfeiffer, National Cancer Institute; Efstathia Bura, The George Washington University

11:55 a.m. **Statistical Issues in Diagnostic Devices Including ROC Methods**—❖R. Lakshmi Vishnuvajjala, U.S. Food and Drug Administration

12:15 p.m. **Floor Discussion**

408 CC-605

● Innovative Uses of Longitudinal Panels, Information Documents, and Time-Series Analysis to Study the Impact of the U.S. Tax System—Topic-Contributed

Section on Government Statistics

Organizer(s): Barry Johnson, Internal Revenue Service

Chair(s): Arthur Kennickell, Federal Reserve Board

10:35 a.m. **Analysis of the Distributions of Income, Taxes, and Payroll Taxes via Cross-Section and Panel Data**—❖Thomas Petska, Internal Revenue Service; Michael Strudler, Internal Revenue Service; Ryan Petska, Ernst & Young LLP

10:55 a.m. **Social Security Taxes, Social Security Benefits, and Social Security Benefits Taxation: 2002**—❖Peter J. Sailer, Internal Revenue Service; Evgenia Lomize, Internal Revenue Service

11:15 a.m. **Longitudinal Analysis of the Earned Income Tax Credit**—❖Karen Masken, Internal Revenue Service

11:35 a.m. **The 1999–2003 Individual Income Tax Return Panel: a First Look at the Data**—❖Michael Weber, Internal Revenue Service

11:55 a.m. **Constructing a Panel of Income and Estate Tax Data for Wealthy Individuals: Creativity and Compromise**—❖Barry Johnson, Internal Revenue Service; Lisa Schreiber, Internal Revenue Service

12:15 p.m. **Floor Discussion**

409 CC-211

● ✪ Statistical Phylogenetics—Topic-Contributed

IMS, Biometrics Section, ENAR

Organizer(s): Bret Larget, University of Wisconsin-Madison

Chair(s): Laura S. Kubatko, University of New Mexico

10:35 a.m. **A Model of AFLP Evolution and Its Use in Bayesian Estimation of Phylogenies**—❖Ruiyan Luo, University of Wisconsin-Madison; Bret Larget, University of Wisconsin-Madison

10:55 a.m. **A Random Duplication/Deletion Model in Genome Rearrangement**—❖Soowan Sohn, University of Wisconsin-Madison; Bret Larget, University of Wisconsin-Madison

11:15 a.m. **Spatially Smoothed Change-Point Processes for Phylogenetic Mapping of Recombination Hot Spots**—❖Vladimir N. Minin, University of California, Los Angeles; Marc A. Suchard, University of California, Los Angeles; Karin S. Dorman, Iowa State University; Fang Fang, Iowa State University

11:35 a.m. **Reconstructing Posterior Distributions of a Species Phylogeny Using Estimated Gene Tree Distributions**—❖Liang Liu, The Ohio State University; Dennis K. Pearl, The Ohio State University

11:55 a.m. **Reconstructing Evolutionary Trees Using Amino Acid Substitution Models That Allow Rate Variation To Depend on Spatial Location**—❖Xueliang Pan, The Ohio State University; Dennis K. Pearl, The Ohio State University; Liang Liu, The Ohio State University; Dennis J. Pollack, The Ohio State University

12:15 p.m. **Floor Discussion**

410 CC-3B

● ✪ Bayesian Spatial Models—Topic-Contributed

Section on Bayesian Statistical Science

Organizer(s): Paul Speckman, University of Missouri-Columbia

Chair(s): Galin Jones, University of Minnesota

10:35 a.m. **Hierarchical Bayes Estimation of Response Rates with Spatial Correlations**—❖Xiaoming Gao, Missouri Department of Conservation; Chong He, University of Missouri-Columbia; Dongchu Sun, Virginia Polytechnic Institute and State University/University of Missouri-Columbia

10:55 a.m. **Reference Priors for Gaussian Processes with Spatial Correlation Structure**—❖Mi Hyun Lee, Virginia Polytechnic Institute and State University; Dongchu Sun, Virginia Polytechnic Institute and State University/University of Missouri-Columbia

11:15 a.m. **Bayesian Spatial-Temporal Smoothing of Cancer Mortality Rates**—❖Gentry White, University of Missouri-Columbia; Dongchu Sun, Virginia Polytechnic Institute and State University/University of Missouri-Columbia; Paul Speckman, University of Missouri-Columbia

11:35 a.m. **Spatially Adaptive Bayesian Thin-Plate Splines**—❖Yu Yue, University of Missouri-Columbia

11:55 a.m. **Bayesian Smoothing of Density Estimation via Hazard Rates**—❖Luyan Dai, University of Missouri-Columbia

12:15 p.m. **Floor Discussion**

411 CC-610
Multidimensional Scaling and Manifold Learning—Topic-Contributed

Section on Statistical Computing, IMS, Section on Statisticians in Defense and National Security

Organizer(s): Michael W. Trosset, The College of William & Mary
Chair(s): David W. Scott, Rice University

10:35 a.m. **Parametric Mapping (PARAMAP): an Approach to Nonlinear Mapping**—❖Ulas Akkucuk, Bogazici University

10:55 a.m. **Metric MDS to Surfaces**—❖David Johannsen, Naval Surface Warfare Center; Jeffrey L. Solka, Naval Surface Warfare Center

11:15 a.m. **Local Multidimensional Scaling: a Nonlinear Dimension Reduction Method for Data Visualization**—❖Lisha Chen, University of Pennsylvania; Andreas Buja, University of Pennsylvania

11:35 a.m. **Classical Multidimensional Scaling and Laplacian Eigenmaps**—❖Michael W. Trosset, The College of William & Mary

11:55 a.m. **Manifold Learning and Dimensionality Reduction for Classification**—❖Alfred Hero, University of Michigan; Raviv Raich, University of Michigan; Jose Costa, California Institute of Technology

12:15 p.m. **Floor Discussion**

412 CC-205
● Multivariate Control Charts and Other Related Topics—Topic-Contributed

Section on Quality and Productivity, Section on Physical and Engineering Sciences

Organizer(s): Arthur Yeh, Bowling Green State University
Chair(s): Jane Chang, Bowling Green State University

10:35 a.m. **Single Variables Control Chart: an Overview**—❖Smiley Cheng, University of Manitoba; Keoagile Thaga, University of Botswana

10:55 a.m. **Multivariate Process Control for Improving Detection of Out-of-Control Conditions**—❖Amit Mitra, Auburn University

11:15 a.m. **The Multivariate Exponentially Weighted Moving Average**—❖Steve Rigdon, Southern Illinois University; Nicole Munden, University of Missouri

11:35 a.m. **Monitoring Multivariate Process Variability for Individual Observations**—❖Baiyau Yeh, Bowling Green State University

11:55 a.m. Disc: Herb McGrath, Bowling Green State University

12:15 p.m. **Floor Discussion**

Topic-Contributed Panels
10:30 a.m.–12:20 p.m.

413 CC-206
● Assessing Student Retention of Essential Statistical Concepts, Issues, and Topics—Topic-Contributed

Section on Statistical Education

Organizer(s): Mark L. Berenson, Montclair State University
Chair(s): Mark L. Berenson, Montclair State University

Panelists: ❖Leonard Gaines, Empire State Development
❖Albyn Jones, Reed College
❖Deborah Rumsey, The Ohio State University
❖Jessica Utts, University of California, Davis
❖Karen Kinard, Tallahassee Community College

12:15 p.m. **Floor Discussion**

Regular Contributed Sessions 10:30 a.m.–12:20 p.m.

414 CC-602
● Unit Nonresponse in Surveys III—Contributed

Section on Survey Research Methods

Chair(s): Barbara L. Carlson, Mathematica Policy Research, Inc.

10:35 a.m. **A Comparison of a Model-Assisted Estimator and a Model-Based Estimator under Ignorable and Nonignorable Nonresponse—**❖Jill A. Dever, University of Maryland; Richard Valliant, University of Michigan

10:50 a.m. **Modeling Nonresponse Adjustment Factors—**❖Hee-Choon Shin, National Opinion Research Center

11:05 a.m. **Use of Propensity Scores To Estimate and Adjust Nonresponse Bias in Complex Surveys—**❖Leigh Harrod, Oregon State University; Virginia M. Lesser, Oregon State University

11:20 a.m. **Are Refusal Conversions Different from Willing Respondents on Demographic, Cardiovascular, and Sensitive Items? National Health and Nutrition Examination Survey, 1999–2002—**❖Margaret Carroll, National Center for Health Statistics; Yinong Chong, National Center for Health Statistics

11:35 a.m. **Response Process Models for Unit Nonresponse Adjustment—**❖Courtney Kies-Bokenkroger, Iowa State University; Sarah M. Nusser, Iowa State University

11:50 a.m. **A Nonresponse Bias Analysis To Inform the Use of Incentives in Multistage Telephone Surveys—**❖Benjamin Skalland, National Opinion Research Center; Kirk Wolter, National Opinion Research Center; Hee-Choon Shin, National Opinion Research Center; Stephen Blumberg, National Center for Health Statistics

12:05 p.m. **Floor Discussion**

415 CC-603
● Sample Survey Quality V—Contributed

Section on Survey Research Methods

Chair(s): Mary March, Statistics Canada

10:35 a.m. **Efficiently Limiting Census Errors When Quality Control Parameters Range Freely—**❖Glenn Wolfgang, U.S. Census Bureau

10:50 a.m. **Precision of Compositional Data in a Stratified Two-Stage Cluster Sample: Comparison of the Swiss Earnings Structure Survey 2002 and 2004—**❖Monique Graf, Swiss Federal Statistical Office

11:05 a.m. **Independent School Survey Coverage Study—**❖Dedrick Owens, U.S. Census Bureau

11:20 a.m. **Cluster Analysis for Outlier Detection and Its Application in a Large-Scale Survey—**❖Jianqiang Wang, Iowa State University; Jean D. Opsomer, Iowa State University

11:35 a.m. **Using Evaluations To Plan and Integrate Survey Programs—**❖Shawna Waugh, Energy Information Administration

11:50 a.m. **Modeling Nonsampling Errors in Agricultural Surveys—**❖James Gentle, George Mason University; Charles R. Perry, National Agricultural Statistics Service; William Wigton, National Agricultural Statistics Service

12:05 p.m. **Interviewer Burden and Its Effects on Data Quality in the Swedish Part of the European Social Survey (ESS)—**❖Lilli Japec, Statistics Sweden

416 CC-3A
Nonparametric Bayesian Methods—Contributed

Section on Bayesian Statistical Science, Section on Nonparametric Statistics

Chair(s): Fabrizio Ruggeri, CNR-IMATI

10:35 a.m. **Bayesian Analysis for Quantile Regression of Correlated Data—**❖Chin-Hua Wang, Family Health International; Pai-Lien Chen, Family Health International

10:50 a.m. **Sequentially Allocated Merge-Split Sampler for Conjugate and Nonconjugate Dirichlet Process Mixture Models—**❖David Dahl, Texas A&M University

11:05 a.m. **Fast Nonparametric Bayes Testing of Distribution Changes in Large Datasets—**❖Michael Pennell, National Institute of Environmental Health Sciences; David B. Dunson, National Institute of Environmental Health Sciences

11:20 a.m. **On the Random Functional of the Ferguson-Dirichlet Process—**❖Thomas J. M. Jiang, National Chengchi University; Kun-Lin Kuo, National Chengchi University

11:35 a.m. **Bayesian Circular Regression—**❖Barbara Jane George, U.S. Environmental Protection Agency; Kaushik Ghosh, New Jersey Institute of Technology

11:50 a.m. **Nonparametric Bayesian Bootstrap in ROC Curve Study**—❖Jiezhun Gu, North Carolina State University; Subhashis Ghosal, North Carolina State University

12:05 p.m. **Floor Discussion**

417 CC-604

● Combining Information, Missing Data, and Hierarchical Bayesian Methods for Health Outcomes Data—Contributed

Section on Health Policy Statistics, Biometrics Section, Section on Bayesian Statistical Science, ENAR

Chair(s): Christopher Schmid, Tufts-New England Medical Center

10:35 a.m. **Imputation and Forecasting for State Mortality**—❖Guanhua Lu, University of Maryland/National Center for Health Statistics; Benjamin Kedem, University of Maryland; Rong Wei, National Center for Health Statistics

10:50 a.m. **The Impact of Using Different Imputation Methods for Missing Quality-of-Life Scores on the Estimation of the Cost-Effectiveness of Lung Volume Reduction Surgery**—❖David Blough, University of Washington; Sean Sullivan, University of Washington; Scott Ramsey, Fred Hutchinson Cancer Research Center; Roger Yusen, Washington University School of Medicine

11:05 a.m. **Combining Information from Various Data Sources To Improve Analyses of Adjuvant Cancer Therapies**—❖Yulei He, Harvard Medical School; Alan M. Zaslavsky, Harvard Medical School

11:20 a.m. **Do Teenagers Always Tell the Truth? Bayesian Methods To Estimate the Prevalence of Adolescent Risk Behaviors from Self-Report**—❖Janet Rosenbaum, Harvard University

11:35 a.m. **Bayesian Simultaneous Intervals for Small Areas: an Application to Variation in Maps**—❖Erik B. Erhardt, University of New Mexico; Balgobin Nandram, Worcester Polytechnic Institute; Jai Choi, National Center for Health Statistics

11:50 a.m. **Spatial Statistical Methods for Small-Area Health Data with Application to the Association of Breast Cancer Incidence and Local Power Plant Emissions**—❖Heather Watson, New York University; Judith D. Goldberg, New York University School of Medicine; Mengling Liu, New York University School of Medicine

12:05 p.m. **Floor Discussion**

418 CC-613

● ✪ Bioinformatics—Contributed

Section on Statistical Computing, Biometrics Section, ENAR

Chair(s): Jie Ding, GlaxoSmithKline

10:35 a.m. **Linker DNA Length Preference in Human Chromatin Revealed by a Two-State Duration Hidden Markov Model**—❖Guei-Feng Tsai, Northwestern University; Ji-Ping Wang, Northwestern University; Jonathan Widom, Northwestern University

10:50 a.m. **A Systematic Benchmark of Dimension Reduction in Remote Homology Detection with Support Vector Machines**—❖Melissa M. Matzke, Pacific Northwest National Laboratory; Bobbie-Jo Webb-Robertson, Pacific Northwest National Laboratory; Christopher S. Oehmen, Pacific Northwest National Laboratory; Jorge F. Reyes Spindola, Pacific Northwest National Laboratory

11:05 a.m. **Using Microarray Gene-Coexpression Networks To Increase Gene Screening Validation Success and To Build Accurate Classifiers**—❖Wei Zhao, University of California, Los Angeles; Steve Horvath, University of California, Los Angeles; Paul Mischel, University of California, Los Angeles; Aldons J. Lusis, University of California, Los Angeles; Stanley Nelson, University of California, Los Angeles

11:20 a.m. **ANOVA Model-Based Pattern Recognition Technique**—❖Yushu Liu, University of Kentucky; R. Lakshman Chelvarajan, University of Kentucky; Thomas Getchell, University of Kentucky; Subbarao Bondada, University of Kentucky; Arnold J. Stromberg, University of Kentucky

11:35 a.m. **Canonical Parallel View and Adjustment for the Difference between Paired High-Dimensional Datasets**—❖Xuxin Liu, The University of North Carolina at Chapel Hill

11:50 a.m. **ProMAT: Protein Microarray Analysis Tool**—❖Amanda M. White, Pacific Northwest National Laboratory; Don S. Daly, Pacific Northwest National Laboratory; Susan S. Varnum, Pacific Northwest National Laboratory; Kevin K. Anderson, Pacific Northwest National Laboratory; Nikki Bollinger, Pacific Northwest National Laboratory; Rachel M. Gonzalez, Pacific Northwest National Laboratory; Richard C. Zangar, Pacific Northwest National Laboratory

12:05 p.m. **Uncertainty in Clustering Posterior Distributions of Gene Expression Levels Using MCMC Samples**—❖Tanzy Love, Carnegie Mellon University

419 CC-309

● Nonparametric Statistics with Censored Data—Contributed

Section on Nonparametric Statistics, ENAR

Chair(s): Sarah Baraniuk, The University of Texas School of Public Health

10:35 a.m. **Nonparametric Significance Tests for Sums of Censored Random Variables**—❖Golde Holtzman, Virginia Polytechnic Institute and State University; Carl E. Zipper, Virginia Polytechnic Institute and State University

10:50 a.m. **Nonparametric Tests for Covariate Effects with Multistate Survival Data**—❖Limin Peng, Emory University; Jason P. Fine, University of Wisconsin-Madison

11:05 a.m. **Estimation for Two-Sample, Location-Scale Models under Type I Censorship**—❖Xuewen Lu, University of Calgary

11:20 a.m. **Nonparametric Maximum Likelihood Estimation of Hazard Function under Shape Restrictions**—❖Desale Habtzghi, University of Georgia; Mary Meyer, University of Georgia; Somnath Datta, University of Louisville

11:35 a.m. **Inference on the Quantile Function under Left Truncation and Right Censoring**—❖Sana Buhamra, Kuwait University; Noriah Al-Kandari, Kuwait University

11:50 a.m. **Empirical Likelihood Method for Heteroscedastic Linear Model**—❖Hua Zhu, University of Kentucky; Mi-Ok Kim, University of Kentucky; Mai Zhou, University of Kentucky

12:05 p.m. **Empirical Likelihood and Marginal Confidence Interval**—❖Mi-Ok Kim, University of Kentucky

420 CC-310

Time Series and Temporal Correlation with Regression Applications—Contributed

Section on Physical and Engineering Sciences, Section on Statistics and the Environment

Chair(s): Stephan Sain, University of Colorado at Denver and Health Sciences Center

10:35 a.m. **Spectral Analysis of Nonstationary Time Series with Piece-Wise Monotonic Time-Varying Frequencies**—❖Md. Jobayer Hossain, Southern Methodist University; Wayne A. Woodward, Southern Methodist University; Henry L. Gray, Southern Methodist University

10:50 a.m. **Nonparametric Kernel Estimates of Autocorrelation Structure from Single-Molecule Experimental Data**—❖Tingting Zhang, Harvard University; Samuel Kou, Harvard University

11:05 a.m. **Exploring Statistical Correlations among Nonlinear Time Series/Signals**—❖Carolyn Morgan, Hampton University; Morris H. Morgan, Hampton University

11:20 a.m. **Wavelet Variance Analysis for Random Fields**—❖Debashis Mondal, University of Washington; Donald B. Percival, University of Washington

11:35 a.m. **Wavelet-Based Estimation of Linear Regression Models with Two Errors: a Long Memory and a White Noise**—❖Kyungduk Ko, Boise State University

11:50 a.m. **Calibrating OLS Estimators in Linear Regression with Long Memory Error**—❖Jaechoul Lee, Boise State University; Kyungduk Ko, Boise State University

12:05 p.m. **On Improved Estimation in Linear Regression with Long Memory Errors**—❖Mohamedou Ould Haye, Carleton University; A. K. Saleh, Carleton University

421 CC-615

● QTL Analysis and Mapping—Contributed

Biometrics Section

Chair(s): Haiyan Wang, Kansas State University

10:35 a.m. **Strategies for Fine Mapping of QTL in Complex Pedigrees Using Combined Linkage and Linkage Disequilibrium Method**—❖Natascha Vukasinovic, Monsanto Company; Fengxing Du, Monsanto Company

10:50 a.m. **A New Statistical Model for Dissecting the Genetic Basis of Heterosis through Multiple Interval Mapping (MIM) in Design III Populations**—❖Antonio A. F. Garcia, Escola Superior de Agricultura "Luis de Queiroz"; Zhao-Bang Zeng, Bioinformatics Research Center

11:05 a.m. **A Semiparametric Approach for Functional Genetic Mapping of Long-Term HIV Dynamics**—❖Song Wu, University of Florida; Jie Yang, University of Florida; Rongling Wu, University of Florida

11:20 a.m. **A Semiparametric Approach to K Mixtures of Two Components with Application to the**

Mapping of Quantitative Trait Loci—❖Shiju Zhang, The University of Toledo; Biao Zhang, The University of Toledo; Grier P. Page, The University of Alabama at Birmingham

11:35 a.m. **Functional Mapping of Time-Warped Developmental Trajectories Based on B-Splines—**❖Xueli Liu, University of Florida; Rongling Wu, University of Florida

11:50 a.m. **Combining QTL Analysis and Bayesian Network Discovery Methods To Determine Genetic Relationships in a Micorarray/Marker Dataset—**❖Christine W. Duarte, North Carolina State University; Zhao-Bang Zeng, Bioinformatics Research Center

12:05 p.m. **A Statistical Approach for Genome-Wide Scan and Testing Imprinted Quantitative Trait Loci—**❖Yuehua Cui, Michigan State University

422 CC-617
● The Cox Model and Methods for Recurrent Events—Contributed

Biometrics Section, ENAR

Chair(s): Huichao Chen, Emory University

10:35 a.m. **Methods To Distinguish between the Cox and Aalen's Model for Right-Censored Data—**❖Yinghua Zhang, Medical College of Wisconsin; John Klein, Medical College of Wisconsin

10:50 a.m. **Asymptotic Theory for the Proportional Hazards Model with Random Effects—**Anthony C. Gamst, University of California, San Diego; ❖Michael Donohue, University of California, San Diego; Ronghui Xu, University of California, San Diego

11:05 a.m. **Comparing Two Crossing Hazard Rates by Cox Proportional Hazards Modeling—**❖Kejian Liu, Novartis Pharmaceuticals Corporation; Peihua Qiu, University of Minnesota; Jun Sheng, University of Minnesota

11:20 a.m. **Robust Method for Analyzing Recurrent Events Data in the Presence of Terminal Events—**❖Rajeshwari Sundaram, The University of North Carolina at Charlotte

11:35 a.m. **Estimation of Gap-Time Distribution with Recurrent Event Data under an Informative Monitoring Period—**❖Akim Adekpedjou, University of South Carolina; Edsel A. Peña, University of South Carolina

11:50 a.m. **Floor Discussion**

423 CC-619
● Binary Data—Contributed

Biopharmaceutical Section, Biometrics Section, ENAR

Chair(s): Keith Soper, Merck & Co., Inc.

10:35 a.m. **A Multiplicative Heteroscedasticity Model for Clustered Binary Data—**❖Mitchell Rosen, Omnicare Clinical Research

10:50 a.m. **Design and Analysis of Active Control Noninferiority Trials with Binary Data—**❖Yu-Yun Ho, Johnson & Johnson Pharmaceutical R&D; Sudhakar Rao, Johnson & Johnson Pharmaceutical R&D; George Chi, Johnson & Johnson Pharmaceutical R&D

11:05 a.m. **A Note on Sample Size Re-estimation with Interim Binary Data for Double-Blind Clinical Trials—**❖Xiaohui Luo, Merck & Co., Inc.; Peng-Liang Zhao, Kyowa Pharmaceutical, Inc.

11:20 a.m. **More Powerful Analyses of Stratified NonInferiority Trials with Binary Endpoints—**❖Devan V. Mehrotra, Merck Research Laboratories; William W. B. Wang, Merck Research Laboratories

11:35 a.m. **Estimation of Multiple Response Rates in Clinical Trials with Missing Observations—**❖Myron Chang, University of Florida

11:50 a.m. **Choice of Working Correlation Structure for a GEE-Based Analysis of Incomplete Longitudinal Binary Data—**❖Priya Kulkarni, Merck Research Laboratories; Devan V. Mehrotra, Merck Research Laboratories; Xiaoming Li, Novartis Pharmaceuticals Corporation

12:05 p.m. **Constructing Better Binomial Confidence Intervals by Remembering Three Lessons from Normal Data—**❖Craig Borkowf, Centers for Disease Control and Prevention

424 CC-620
● Missing Data—Contributed

Biopharmaceutical Section, Biometrics Section

Chair(s): Soomin Park, Eli Lilly and Company

10:35 a.m. **Statistical Methods To Analyze Incomplete Clinical Trial Data—**❖Ohidul Siddiqui, U.S. Food and Drug Administration

10:50 a.m. **Mixed Model: an Alternative to LOCF as Primary Analysis—**❖Cunshan Wang, Pfizer Inc.; Naitee Ting, Pfizer Inc.; Greg C. G. Wei, Pfizer Inc.

11:05 a.m. **Estimating Treatment Effect in Clinical Trials with Disease-Dependant Noncompliance—**❖Kuenhi Tsai, Vertex Pharmaceuticals Incorporated; Peter Westfall, Texas Tech University; Stephan Ogenstad, Vertex Pharmaceuticals Incorporated; Miles Dunn, Vertex Pharmaceuticals Incorporated

11:20 a.m. **Variability in Visit Times in Clinical Trials and the Implications for a Common Mixed Model for Repeated Measures—**❖Tristan Massie, U.S. Food and Drug Administration

11:35 a.m. **Using Stochastic Differential Equations for Imputation of Missing Values in Longitudinal Clinical Data—**❖Naum Khutoryansky, Novo Nordisk

11:50 a.m. **What Is a Suitable Definition of Study Information in Longitudinal Clinical Trials?—**❖Guoguang Ma, Merck & Co., Inc.; Michael Nessly, Merck Research Laboratories

12:05 p.m. **A Local Influence Sensitivity Analysis for Incomplete Longitudinal Depression Data—**❖Shuyi Shen, Eli Lilly and Company; Caroline Beucnkens, Limburgs Universitair Centrum; Craig Mallinckrodt, Eli Lilly and Company; Geert Molenberghs, Limburgs Universitair Centrum

425 CC-203

● Time Series Outliers and Filters—Contributed

Business and Economics Statistics Section

Chair(s): Moon Jung Cho, Bureau of Labor Statistics

10:35 a.m. **Forecasting and Dynamic Updating of Time Series of Curves—**❖Haipeng Shen, The University of North Carolina at Chapel Hill; Jianhua Z. Huang, Texas A&M University

10:50 a.m. **Tests for Changing Mean with Monotonic Power—**❖Ted Juhl, The University of Kansas

11:05 a.m. **Some Ruin Problems with the Mixture Distribution—**❖Min Deng, Maryville University

11:20 a.m. **An Asymmetric Information Modeling Framework for Ultra-High-Frequency Transaction Data: a Nonlinear Filtering Approach—**❖Yoonjung Lee, Harvard University

11:35 a.m. **Variance Change in Time Series ARIMA Models—**❖Dongping Fang, SPSS Inc.

11:50 a.m. **Outlier Detection in Multiple Time Series by Projection Pursuit—**Galeano Pedro, Universidad Santiago de Compostela ; ❖Daniel Peña, Universidad Carlos III de Madrid; Ruey S. Tsay, The University of Chicago

12:05 p.m. **Longitudinal Microdata Outlier Detection Techniques—**❖Eric Simants, Bureau of Labor Statistics

426 CC-616

● Modeling of Genetic Data—Contributed

Biometrics Section, ENAR

Chair(s): Yi He, University of Minnesota

10:35 a.m. **Likelihood of a Particular Order of Genetic Markers and the Construction of Genetic Maps—**❖Susanta Tewari, University of Georgia

10:50 a.m. **Estimating Population Structure—**❖Suvajit Samanta, North Carolina State University; Bruce S. Weir, University of Washington

11:05 a.m. **Inference of Dynamic Activity of Transcriptional Modules—**❖Ron Yu, University of California, San Diego; Jie Liu, University of California, San Diego; Wei Wang, University of California, San Diego

11:20 a.m. **Performance of Phylo-HMM for Evolutionary Conserved Element Detection in Promoter Region—**❖Xiaodan Fan, Harvard University; Jun Liu, Harvard University

11:35 a.m. **A Mixture Model Approach in Analyzing Genotype-Phenotype Association—**❖Jason Robarge, Indiana University School of Medicine; Lang Li, Indiana University; David Flockhart, Indiana University School of Medicine

11:50 a.m. **On the Detection of DNA Copy Number Changes—**❖Jie Chen, University of Missouri-Kansas City; Yu-Ping Wang, University of Missouri-Kansas City

12:05 p.m. **Including Current Ages in Aggregation and Linkage Analysis of Longevity—**❖Jeanine Houwing-Duistermaat, Leiden University Medical Center; Andrea Callegaro, Leiden University Medical Center; Marian Beekman, Leiden University Medical Center; Rudi Westendorp, Leiden University Medical Center; Eline Slagboom, Leiden University Medical Center; Hans van Houwelingen, Leiden University Medical Center

427 CC-618
● Statistical Methods in Genetics—Contributed

Biometrics Section, ENAR

Chair(s): Tracy Bergemann, University of Minnesota

10:35 a.m. **Regional Admixture Mapping and Structured Association Testing: Conceptual Unification Using a General Linear Model**—❖David Redden, The University of Alabama at Birmingham; Jasmin Divers, The University of Alabama at Birmingham; Kelly Vaughan, The University of Alabama at Birmingham; Hemant Tiwari, The University of Alabama at Birmingham; Mark Beasley, The University of Alabama at Birmingham; Jose R. Fernandez, The University of Alabama at Birmingham; Robert Kimberly, The University of Alabama at Birmingham; Rui Feng, The University of Alabama at Birmingham; Miguel Padilla, The University of Alabama at Birmingham; Nianjun Liu, The University of Alabama at Birmingham; Michael Miller, University of Minnesota; David B. Allison, The University of Alabama at Birmingham

10:50 a.m. **Data Normalization of Stable-Isotope Labeled Peptides in Mass Spectrometry**—❖Douglas Mahoney, Mayo Clinic College of Medicine; Ann L. Oberg, Mayo Clinic College of Medicine; Jeanette E. Eckel-Passow, Mayo Clinic College of Medicine; Terry M. Therneau, Mayo Clinic College of Medicine; Suresh T. Chari, Mayo Clinic College of Medicine; Unnikrishnan Gopinathan, Mayo Clinic College of Medicine; Lawrence E. Ward, Mayo Clinic College of Medicine; Xuan-Mai T. Persson, Mayo Clinic College of Medicine; Sreekumar Raghavakaimal, Mayo Clinic College of Medicine

11:05 a.m. **A Genome-Wide Study on Transcriptional Regulation of Protein Complex in Saccharomyces Cerevisiae**—❖Ching-Ti Liu, University of California, Los Angeles; Shinsheng Yuan, University of California, Los Angeles; Ker-Chau Li, University of California, Los Angeles

11:20 a.m. **Comparative Validity and Power of Methods for Association-Testing with Related Individuals**—❖Hemant Tiwari, The University of Alabama at Birmingham; Amit Patki, The University of Alabama at Birmingham; Mark Beasley, The University of Alabama at Birmingham; David B. Allison, The University of Alabama at Birmingham

11:35 a.m. **Measuring Deviations from Hardy Weinberg Equilibrium in SNP Data**—❖Vernon S. Pankratz, Mayo Clinic College of Medicine; Robert Vierkant, Mayo Clinic College of Medicine

11:50 a.m. **An Algorithm for Finite Markov Chain Imbedding Approach**—❖Lung-An Li, Academia Sinica

12:15 p.m. **Floor Discussion**

Regular Contributed Posters 10:30 a.m.–12:20 p.m.

428 CC-Level 6 East Lobby
Contributed Posters—Contributed

General Methodology, Section on Bayesian Statistical Science, Section on Statistics in Epidemiology, Biometrics Section, Section on Statistical Computing, Section on Health Policy Statistics, Section on Physical and Engineering Sciences, IMS, Section on Quality and Productivity

Organizer(s): Maura E. Stokes, SAS Institute, Inc.

Chair(s): Maura E. Stokes, SAS Institute, Inc.

Bayesian statistics, hierarchical models

01 **The Relative Contribution Measures in Multilevel Modeling**—❖Liyi Cen, University of Pennsylvania; Zhen Chen, University of Pennsylvania; Daniel E. Polsky, University of Pennsylvania; Kevin G. Volpp, University of Pennsylvania

02 **Uncertainty Computation for the Virtual Cement and Concrete Testing Laboratory Measurements**—❖Blaza Toman, National Institute of Standards and Technology; Charles Hagwood, National Institute of Standards and Technology; Adriana Hornikova, National Institute of Standards and Technology; Hung-kung Liu, National Institute of Standards and Technology; Nien Fan Zhang, National Institute of Standards and Technology

03 **Alternative Methods for Variable Selection in Generalized Linear Models with Binary Outcomes for Incomplete Data**—❖Gang Liu, University of California, Los Angeles

04 **Analysis in Opinions about the Death Penalty in U.S. States**—❖Shouhao Zhou, Columbia University; Andrew Gelman, Columbia University

05 **Join-Point Analysis of Survival Data**—❖Sandra Hurtado Rua, Northern Illinois University; Sanjib Basu, Northern Illinois University

Biometrics, biostatistics, epidemiology

06 **Design-Based Calibration Estimators for Measurement**

Error in the Cox Model—❖Thomas Lumley, University of Washington; Pam Shaw, University of Washington

07 **ROC Curve Analysis in Osteoporosis Screening—**❖James Powers, The University of North Carolina at Chapel Hill; Margaret Gourlay, The University of North Carolina at Chapel Hill; Kristine Ensrud, VA Medical Center

08 **A Soft Endpoint for HIV-1Ba-l Growth in Cervical, Rectal, and Tonsular in vitro Assays—**❖Sandra Senneke, BioStat Solutions Inc.; Nicola Richardson-Harman, BioStat Solutions Inc.; James Cummins, Southern Research Institute; Carol Lackman-Smith, Southern Research Institute; Christina Bromley, BioStat Solutions Inc.; Patricia Reichelderfer, Nationa**l Institute of Child Health & Human Development**

09 **Feasibility of Genome-Wide Haplotype Association Studies with Small Sample Size and Sparsely Spaced SNPs—**❖Shaokun Chuai, University of Pennsylvania; Nandita Mitra, University of Pennsylvania; Nathan Ellis, The University of Chicago

10 **Bayesian State-Space Models for Predicting Temporal Gene Expression Profiles—**❖Yulan Liang, University at Buffalo; Arpad Kelemen, Niagara University

11 **Handling Missing Data for Smoking Cessation with Bootstrap, Trees, and Multiple Imputation—**❖Jeff Thostenson, University of Arkansas for Medical Sciences; Lowell C. Dale, Mayo Clinic College of Medicine; Darrell Schroeder, Mayo Clinic College of Medicine; Heike Hofmann, Iowa State University

12 **Analysis of Longitudinal Case-Control Zero-Heavy Data: Vaginal Shedding of HIV—**❖Leann Myers, Tulane University; Hao He, Tulane University; Patricia Kissinger, Tulane University

13 **SAS Estimation of Standard Errors for Partial Least Squares Regression—**❖April Grant, University of Arkansas for Medical Sciences; David K. Williams, University of Arkansas for Medical Sciences; Zoran Bursac, University of Arkansas for Medical Sciences; Geoffrey M. Curran, University of Arkansas for Medical Sciences

14 **Assessment of Capture-Recapture Methods in Estimating Populations of Oklahomans with Birth Defects—**❖Robert C. Wild, The University of Oklahoma Health Sciences Center; Barbara Neas, The University of Oklahoma Health Sciences Center

15 **Comparing Methods of Examining Trend Data for a Large Population—**❖Kristen Eberly, The University of Oklahoma; Barbara Neas, The University of Oklahoma Health Sciences Center; David M. Thompson, The University of Oklahoma

16 **Repeated Measurement of Gastric Myoelectric Activity in Obese Participants—**❖Jiangyue Wang, The Pennsylvania State University

17 **Salamander Cannibalism—**❖Jean Ellis, California State University, East Bay; Erica Wildy, California State University, East Bay

18 **Determining an Optimal Exposure Metric from a Bivariate Distribution of Asbestos Exposures (Length, Diameter) in a Cohort of South Carolina Textile Workers—**❖Stephen Gilbert, National Institute for Occupational Safety and Health; Leslie T. Stayner, University of Illinois at Chicago; Eileen D. Kuempel, National Institute for Occupational Safety and Health; John D. Dement, Duke University Medical Center

19 **Analysis of Respiratory Viral Exposure and Timing of Exposure During Infancy with Development of Childhood Asthma—**❖Pingsheng Wu, Vanderbilt University School of Medicine; Tebeb Gebretsadik, Vanderbilt University School of Medicine; William Dupont, Vanderbilt University School of Medicine; Marie Griffin, Vanderbilt University School of Medicine; Rachel Enriquez, Vanderbilt University School of Medicine; Kecia Carroll, Vanderbilt University School of Medicine; Tina Hartert, Vanderbilt University School of Medicine

20 **Evaluating the Predictiveness of a Continuous Marker in Case-Control Design—**❖Ying Huang, University of Washington; Margaret S. Pepe, Fred Hutchinson Cancer Research Center/University of Washington

21 **Variable Selection in the Multivariate Adaptive Regression Splines (MARS)-Logit Models To Detect Gene-Gene Interactions—**❖Huiyi Lin, Louisiana State University Health Sciences Center; Cruz Velasco, Louisiana State University Health Sciences Center; Jennifer J. Hu, Louisiana State University Health Sciences Center

22 **A Comparison of Three Categorical Data Analysis Methods Applied to Survey Data—**❖Barbara Neas, The University of Oklahoma Health Sciences Center; Hani Dimassi, The University of Oklahoma Health Sciences Center; David M. Thompson, The University of Oklahoma; Betty J. Pfefferbaum, The University of Oklahoma Health Sciences Center

23 **Discrete Time Analysis of Mortality among Persons with Diabetes Using the Logit Model—**❖Edward Tierney, Centers for Disease Control and Prevention

Bootstrap, resampling methods

24 **Permutation Test and Its Application to the Youth Partners in Care (YPIC) Study**—❖Lingqi Tang, University of California, Los Angeles; Naihua Duan, University of California, Los Angeles; Joan Asarnow, University of California, Los Angeles

25 **Comparison of Resampling Methods to Least Squares and Maximum Likelihood Methods for Estimating Fracture Strength Parameters of Glass Test Specimens**—❖Gerald Shaughnessy, University of Dayton; Peter Hovey, University of Dayton

26 **Stepwise Permutation Tests Using Medians**—❖Scott Richter, The University of North Carolina at Greensboro; Melinda McCann, Oklahoma State University

27 **Resampling Methods in Asymptotic Statistical Inferences**—❖Fassil Nebebe, Concordia University; Tak K. Mak, Concordia University

Neuroscience, brain imaging

28 **Surface Shape Analysis with an Application to Brain Cortical Surface Analysis in Schizophrenia**—❖Christopher Brignell, University of Nottingham; Ian Dryden, University of Nottingham; William Browne, University of Nottingham

Speaker Luncheon 12:30 p.m.–1:50 p.m.

429 **CC-4C-1**

Health Policy Statistics Speaker with Lunch (fee event)—Speaker with Lunch

Section on Health Policy Statistics

Organizer(s): Bonnie Ghosh-Dastidar, RAND Corporation

WL08 Mapping and Applications in Spatio-Temporal Public Health Data—❖Bradley P. Carlin, University of Minnesota

Roundtables with Lunch 12:30 p.m.–1:50 p.m.

430 **CC-4C-2**

Biopharmaceutical Section Roundtables with Lunch (fee event)

Biopharmaceutical Section, Section on Statistical Consulting, Section on Statistical Graphics

Organizer(s): Amit Bhattacharyya, GlaxoSmithKline

WL09 Procedures for Controlling the False Discovery Rate in the Multiple Comparison Problems Involving Multiple Endpoint Tests in Clinical Trials—❖Arunava Chakravartty, University of California, Riverside

WL10 Bayesian Approaches to Clinical Trials—❖Dinesh Kumar, Eisai Medical Research

WL11 How Can Statisticians Better Contribute to Clinical Trials and Intervention Studies in Developing Countries?—❖Craig Borkowf, Centers for Disease Control and Prevention

WL12 Use of Propensity Scoring in Clinical Trials—❖Daniel P. Reyner, Zimmer, Inc.

WL13 Increasing the Usage of Data from Cross-Over Studies—❖Yonghua Wang, Bristol-Myers Squibb Company

WL14 Statistical Methods for Optimization of Development of Combination Products—❖Timothy Montague, GlaxoSmithKline

WL15 How To Explain Complex Statistical Methods to Life Scientists—❖Vadim Kutsyy, Cytokinetics, Inc.

WL16 R-Based Data Analysis and Graphics Applications for Scientists: Moving beyond Excel—❖Bert Gunter, Genentech, Inc.

WL17 Translational Medicine: from R to D and from D to R—❖Chi-Hse Teng, Pfizer Inc.; Patricia English, Pfizer Inc.

WL18 Proof-of-Concept Studies—❖Robert Smith, Bristol-Myers Squibb Company

WL19 Sensitivity Analysis for Missing Data in Clinical Trials—❖Jie Zhang, Novartis Pharmaceuticals Corporation

WL20 Analysis of Cell-Based, High-Content Imaging Data—❖Shuguang Huang, Eli Lilly and Company

WL21 Interval Censored Time-to-Event Data: Examples, Analyses, and Assumptions—❖Daohai Yu, Duke University

431 **CC-4C-2**

Business and Economics Statistics Section Roundtable with Lunch (fee event)

Business and Economics Statistics Section

Organizer(s): David Dickey, North Carolina State University

WL22 Economic Aspects of Alternative Energy—❖Margaret F. Land, TeXas Environmental Studies and Analysis, LLC

432 CC-4C-2
Section on Statistical Computing Roundtables with Lunch (fee event)

Section on Statistical Computing

Organizer(s): Edward Wegman, George Mason University

WL23 S-PLUS and R: Working Together?—❖Tim C. Hesterberg, Insightful Corporation

433 CC-4C-3
Section on Statistical Consulting Roundtable with Lunch (fee event)

Section on Statistical Consulting

Organizer(s): Phillip Chapman, Colorado State University

WL24 Statistical Consulting in (and around) the Bayesian Paradigm—❖Alix Gitelman, Oregon State University

434 CC-4C-3
Section on Statisticians in Defense and National Security Roundtable with Lunch (fee event)

Section on Statisticians in Defense and National Security, Section on Statistical Consulting

Organizer(s): Lara S. Schmidt, RAND Corporation

WL25 Defense-Related Consulting Projects—❖John Crown, RAND Corporation

435 CC-4C-3
Section on Statistical Education Roundtables with Lunch (fee event)

Section on Statistical Education

Organizer(s): Patti Collings, Brigham Young University

WL26 Analogies and Other Strategies To Help Students Use Intuition To Understand Concepts—❖Lawrence M. Lesser, The University of Texas at El Paso

WL27 How I Use the ARTIST Web Site in My Teaching—❖John Holcomb, Jr., Cleveland State University

436 CC-4C-3
Section on Statistics in Epidemiology Roundtable with Lunch (fee event)

Section on Statistics in Epidemiology

Organizer(s): Jennifer Clark Nelson, Group Health Cooperative

WL28 Relative Risk Regression as an Alternative to Logistic Regression in Cross-Sectional and Longitudinal Studies—❖Richard Kronmal, University of Washington

437 CC-4C-3
Section on Government Statistics Roundtable with Lunch (fee event)

Section on Government Statistics

Organizer(s): Roberta Sangster, Bureau of Labor Statistics

WL29 Journal of Empirical Research on Human Research Ethics—❖Joan E. Sieber, California State University, East Bay

438 CC-4C-3
Section on Statistical Graphics Roundtable with Lunch (fee event)

Section on Statistical Graphics

Organizer(s): Simon Urbanek, AT&T Labs-Research

WL30 Biostatistical Graphics: Large, Weak Datasets—❖Thomas Lumley, University of Washington

439 CC-4C-3
Section on Quality and Productivity Roundtable with Lunch (fee event)

Section on Quality and Productivity

Organizer(s): William R. Myers, Procter & Gamble

WL31 Communicating Statistics to Nonstatisticians in Industry—❖Philip Scinto, The Lubrizol Corporation

440 CC-4C-3
Section on Risk Analysis Roundtable with Lunch (fee event)

Section on Risk Analysis

Organizer(s): Duane Steffey, Exponent, Inc.

WL32 Results of a Post-Katrina Survey of New Orleans Residents—❖David Banks, Duke University

441 CC-4C-3
Section on Survey Research Methods Roundtables with Lunch (fee event)

Section on Survey Research Methods

Organizer(s): Steven G. Heeringa, University of Michigan

WL33 Survey Research and Its Role in Improving the Health and Lives of the World's Poor—❖David J. Fitch, Universidad del Valle de Guatemala

WL34 Cross-Cultural Issues in Survey Research—❖Peter P. Mohler, ZUMA

442 CC-4C-3
Social Statistics Section Roundtable with Lunch (fee event)
Social Statistics Section
Organizer(s): Allen Schirm, Mathematica Policy Research, Inc.
WL35 The Next Survey Imperative: Being Proactive on Privacy—❖Gerald Gates, U.S. Census Bureau

443 CC-4C-3
Section on Teaching Statistics in the Health Sciences Roundtable with Lunch (fee event)
Section on Teaching Statistics in the Health Sciences
Organizer(s): Patrick Tarwater, The University of Texas Health Science Center at Houston
WL36 Distance Teaching and Learning in the Health Sciences—❖T. Robert Harris, The University of Texas at Dallas

Invited Sessions 2:00 p.m.–3:50 p.m.

444 CC-617
JASA Applications and Case Studies Invited Session—Invited
JASA, Applications and Case Studies, Section on Nonparametric Statistics
Organizer(s): Mark S. Kaiser, Iowa State University
Chair(s): Mark S. Kaiser, Iowa State University
2:05 p.m. **Model-Assisted Estimation of Forest Resources with Generalized Additive Models—**❖Jean D. Opsomer, Iowa State University; F. Jay Breidt, Colorado State University; Gretchen Moisen, U.S. Forest Service; Goeran Kauermann, Universitaet Bielefeld
2:40 p.m. Disc: David Ruppert, Cornell University
2:55 p.m. Disc: Roderick J. Little, University of Michigan
3:10 p.m. Disc: Mary C. Christman, University of Florida
3:35 p.m. **Floor Discussion**

445 CC-211
New Methods for Modeling Choice in Marketing—Invited
Section on Statistics and Marketing
Organizer(s): Andrew Ainslie, University of California, Los Angeles
Chair(s): Andrew Ainslie, University of California, Los Angeles
2:05 p.m. **Structural Estimation of Retail Demand and Inventory Decisions—**❖Andres Musalem, The Wharton School of the University of Pennsylvania
2:55 p.m. **Estimating Willingness To Pay with Random Coefficient Models—**❖Garrett Sonnier, University of California, Los Angeles
3:45 p.m. **Floor Discussion**

446 CC-606
Nonparametric Inference—Invited
IMS, Section on Nonparametric Statistics
Organizer(s): Tony Cai, University of Pennsylvania
Chair(s): Jiashun Jin, Purdue University
2:05 p.m. **Statistical Inference for Evolving Periodic Functions—**❖Peter G. Hall, Australian National University
2:25 p.m. **On Nonparametric Confidence Sets—**❖Tony Cai, University of Pennsylvania; Mark Low, University of Pennsylvania
2:50 p.m. **Nonparametric Estimation of Eigenvectors—**❖Iain Johnstone, Stanford University
3:15 p.m. **Adaptive Generalized Likelihood Inferences for Additive Models—**❖Jianqing Fan, Princeton University; Jiancheng Jiang, Princeton University
3:40 p.m. **Floor Discussion**

447 CC-604
● Split-Plot Designs and Response Surface Analysis: the Interface—Invited
Section on Quality and Productivity, Section on Physical and Engineering Sciences
Organizer(s): Martha Gardner, GE Global Research
Chair(s): Martha Gardner, GE Global Research
2:05 p.m. **Standard Error Calculations for Estimators of Regression Coefficients in Split-Plot Designs—**Shaun Wulff, University of Wyoming; ❖Timothy Robinson, University of Wyoming; Christine M. Anderson-Cook, Los Alamos National Laboratory
2:30 p.m. **A Bayesian Approach to the Analysis of Split-Plot Experiments—**❖Peter Goos, Universiteit Antwerpen; Steven G. Gilmour, Queen Mary, University of London
2:55 p.m. **Randomization-Based Analysis of Multistratum Response Surface Designs—**❖Steven G. Gilmour, Queen Mary, University of London
3:20 p.m. **Testing for Lack-of-Fit in Split-Plot Response Surface Models—**❖Scott Kowalski, Minitab Inc.;

Geoff Vining, Virginia Polytechnic Institute and State University

3:45 p.m. **Floor Discussion**

448 CC-3B

● Adaptive Designs in Clinical Trials—Invited

Biopharmaceutical Section, ENAR, WNAR

Organizer(s): Sue-Jane Wang, U.S. Food and Drug Administration
Chair(s): Kao-Tai Tsai, Organon

2:05 p.m. **Weighted and Unweighted Z-Tests in Sample Size Re-estimation—**❖Kuang-Kuo G. Lan, Johnson & Johnson Pharmaceutical R&D

2:30 p.m. **Considerations in Use of Adaptive Designs in Drug Development—**❖Hsien-Ming Hung, U.S. Food and Drug Administration

2:55 p.m. **Adaptive Designs in Clinical Trials—**❖Yu Shen, M. D. Anderson Cancer Center

3:20 p.m. Disc: Sue-Jane Wang, U.S. Food and Drug Administration

3:40 p.m. **Floor Discussion**

449 CC-4C-4

● ✪ A Tribute to Yehuda Vardi—Invited

Memorial, IMS, Section on Physical and Engineering Sciences

Organizer(s): Christopher Genovese, Carnegie Mellon University
Chair(s): Daryl Pregibon, Google Labs

2:05 p.m. **Statistical Inverse Problems in Active Network Tomography—**❖Vijay Nair, University of Michigan

2:35 p.m. **Fast Functional MRI—**❖Cun-Hui Zhang, Rutgers University

3:05 p.m. **Duration Data: Poisson Process and Bias Correction—**❖Zhiliang Ying, Columbia University

3:35 p.m. **Floor Discussion**

450 CC-607

● New Statistical Methodology for Genomic Applications with Focus on Array CGH and Gene Networks—Invited

ENAR, Biometrics Section, WNAR

Organizer(s): Jeffrey S. Morris, M. D. Anderson Cancer Center
Chair(s): Jeffrey S. Morris, M. D. Anderson Cancer Center

2:05 p.m. **A Bayesian Hierarchical Model for Integrating Biological Data—**❖Shane Jensen, The Wharton School of the University of Pennsylvania

2:35 p.m. **A Statistics Method for Array CGH Analysis—**❖Pei Wang, Fred Hutchinson Cancer Research Center

3:05 p.m. **On Detecting Chromosomal Aberrations Using Copy Number Data—**Xuesong Yu, University of Washington; Tim Randolph, University of Washington; Hua Tang, Fred Hutchinson Cancer Research Center; ❖Li Hsu, Fred Hutchinson Cancer Research Center

3:35 p.m. **Floor Discussion**

451 CC-608

● ✪ The Role of Administrative Records in 21st-Century Surveys and Censuses—Invited

Social Statistics Section, Section on Health Policy Statistics

Organizer(s): Ronald Prevost, U.S. Census Bureau
Chair(s): Lisa Blumerman, U.S. Census Bureau

2:05 p.m. **Methods and File Acquisitions Supporting the Expanded Use of Administrative Records—**❖Dean Resnick, U.S. Census Bureau

2:25 p.m. **Administrative Records and Survey Data Reuse: a Muse on Their Future—**❖Ronald Prevost, U.S. Census Bureau

2:45 p.m. **Why Are Survey Counts of Medicaid Enrollees Lower Than Administrative Enrollment Counts?—**❖Michael Davern, University of Minnesota; David Baugh, Centers for Medicare and Medicaid Services; Christine Cox, National Center for Health Statistics; Kim Lochner, National Center for Health Statistics; Jacob Klerman, RAND Corporation

3:05 p.m. **Combining Social Program Administrative Data with Census Bureau Survey Data—**❖Robert Goerge, The University of Chicago

3:25 p.m. Disc: Joel Cohen, Agency for Healthcare Research

3:45 p.m. **Floor Discussion**

452 CC-612

Using Empirical Likelihood Methods in Survey Sampling—Invited

Section on Survey Research Methods, Section on Nonparametric Statistics

Organizer(s): Phillip S. Kott, National Agricultural Statistics Service
Chair(s): Charles R. Perry, National Agricultural Statistics Service

2:05 p.m. **Empirical Likelihood Inference from Sample Survey Data—**❖Jon N. K. Rao, Carleton University; Changbao Wu, University of Waterloo

2:30 p.m. **Variance Estimation for Empirical Likelihood Calibration Estimators in Unequal Probability Sampling—**❖Jae-kwang Kim, Yonsei University

2:55 p.m. **Empirical Likelihood Methods for Raking in Complex Surveys—**❖Randy R. Sitter, Simon Fraser University; Changbao Wu, University of Waterloo

3:20 p.m. Disc: Phillip S. Kott, National Agricultural Statistics Service

3:40 p.m. **Floor Discussion**

453 CC-201

● ✪ Advanced Statistical Methods in Psychological Research—Invited

Section on Bayesian Statistical Science, Biometrics Section, ENAR

Organizer(s): Dongchu Sun, Virginia Polytechnic Institute and State University/University of Missouri-Columbia

Chair(s): Dongchu Sun, Virginia Polytechnic Institute and State University/University of Missouri-Columbia

2:05 p.m. **Combining Speed and Accuracy To Assess Error-Free Cognitive Processes—**❖Mark Glickman, Boston University

2:30 p.m. **Long-Range Trends and Short-Range Dependencies in Response Time Data—**❖Mario Peruggia, The Ohio State University; Peter F. Craigmile, The Ohio State University; Trisha Van Zandt, The Ohio State University

2:55 p.m. **Hierarchical Bayesian Methods for Models of Memory Processes—**❖Paul Speckman, University of Missouri-Columbia; Jeff Rouder, University of Missouri-Columbia; Dongchu Sun, Virginia Polytechnic Institute and State University/University of Missouri-Columbia; Jun Lu, American University

3:20 p.m. Disc: Jay Myung, The Ohio State University

3:40 p.m. **Floor Discussion**

454 CC-401

● A Statistician's Summer Reading List: Modern Topics To Check Out—Invited

Section on Statistical Education, Section on Teaching Statistics in the Health Sciences

Organizer(s): Paul Roback, St. Olaf College

Chair(s): Paul Roback, St. Olaf College

2:05 p.m. **Analyzing DNA Microarrays with Undergraduate Statisticians—**❖Johanna Hardin, Pomona College; Laura Hoopes, Pomona College; Ryan Murphy, Pomona College

2:30 p.m. **An Introduction to Incomplete Data Regression Methods Used in Practice—**❖Nicholas J. Horton, Smith College; Ken P. Kleinman, Harvard Medical School

2:55 p.m. **A Data Mining Reading List—**❖Richard De Veaux, Williams College

3:20 p.m. **Introducing Bayes in a First Statistics Course—**❖James Albert, Bowling Green State University

3:45 p.m. **Floor Discussion**

Topic-Contributed Sessions 2:00 p.m.–3:50 p.m.

455 CC-618

● Recent Advances in Brain Imaging—Topic-Contributed

Biometrics Section, Section on Nonparametric Statistics, ENAR

Organizer(s): Daniel Rowe, Medical College of Wisconsin

Chair(s): Daniel Rowe, Medical College of Wisconsin

2:05 p.m. **Modeling State-Related fMRI Activity Using Change Point Theory—**❖Martin A. Lindquist, Columbia University; Tor D. Wager, Columbia University

2:25 p.m. **Wild Bootstrap for Functional Magnetic Resonance Imaging Data—**❖Hongtu Zhu, Columbia University/New York State Psychiatric Institute; Bradley S. Peterson, Columbia University/New York State Psychiatric Institute

2:45 p.m. **Predicting Post-Treatment Brain Activity Using a Bayesian Hierarchical Model—**❖F. DuBois Bowman, Emory University; Ying Guo, Emory University

3:05 p.m. **Power Calculations for Group fMRI Studies Accounting for Arbitrary Design and Temporal Autocorrelation—**❖Jeanette Mumford, University of Michigan; Thomas Nichols, University of Michigan

3:25 p.m. **New Kernel Method on Unit Sphere and Its Application to Brain Imaging—**❖Moo Chung, University of Wisconsin-Madison

3:45 p.m. **Floor Discussion**

456 CC-614

Measuring, Monitoring, and Evaluating Internal Revenue Service Data—Topic-Contributed

Section on Government Statistics

Organizer(s): Kevin Cecco, Internal Revenue Service

Chair(s): Thomas Petska, Internal Revenue Service

2:05 p.m. **Monitoring SOI Samples—**❖Joseph Koshansky, Internal Revenue Service

2:25 p.m. **Measuring Nonsampling Error in Exempt Organization Business Income Tax Data—**❖Tamara Rib, Internal Revenue Service

2:45 p.m. **Customer Satisfaction Initiatives at IRS's Statistics of Income: Using Surveys To Improve Customer Service—**❖Ruth Schwartz, Internal Revenue Service; Beth Kilss, Internal Revenue Service

3:05 p.m. **Performance Measures within the Statistics of Income Division—**❖Kevin Cecco, Internal Revenue Service

3:25 p.m. Disc: John Czajka, Mathematica Policy Research, Inc.

3:45 p.m. **Floor Discussion**

457 CC-308

Visualization of Large Datasets—Topic-Contributed

Section on Statistical Graphics, Section on Statisticians in Defense and National Security

Organizer(s): Simon Urbanek, AT&T Labs-Research

Chair(s): Deborah F. Swayne, AT&T Labs-Research

2:05 p.m. **Tours of Large Multivariate Data—**❖Dianne Cook, Iowa State University

2:25 p.m. **Visualization of Features in Curve Estimates and Application to Genetic Loci Mapping—**❖Myung Hee Lee, The University of North Carolina at Chapel Hill; Ivan Rusyn, The University of North Carolina at Chapel Hill; David Threadgill, The University of North Carolina at Chapel Hill; J. Stephen Marron, The University of North Carolina at Chapel Hill

2:45 p.m. **Upscaling Statistical Graphics—**❖Martin Theus, University of Augsburg

3:05 p.m. **Visualization of Statistical Models on a Billion Cases—**❖Graham Wills, SPSS Inc.

3:25 p.m. Disc: Antony Unwin, Universität Augsburg

3:45 p.m. **Floor Discussion**

458 CC-204

● Topics in Univariate and Multivariate Time-to-Events Analysis—Topic-Contributed

Section on Bayesian Statistical Science, Biometrics Section, ENAR

Organizer(s): Nalini Ravishanker, University of Connecticut

Chair(s): Paola Sebastiani, Boston University

2:05 p.m. **Bayesian Modeling of Multiple Episode Occurrence and Severity with a Terminating Event—**❖Amy Herring, The University of North Carolina at Chapel Hill

2:25 p.m. **Bayesian Semiparametric Inference for the Accelerated Failure Time (AFT) Model Using Hierarchical Mixture Modeling with N-IG Priors—**❖Alessandra Guglielmi, Politecnico di Milano; Raffaele Argiento, Università Commerciale Luigi Bocconi/CNR-IMATI; Antonio Pievatolo, CNR-IMATI; Fabrizio Ruggeri, CNR-IMATI

2:45 p.m. **A Bayesian Dynamic Frailty Model for Recurrent Events—**❖Changhong Song, University of Connecticut; Lynn Kuo, University of Connecticut

3:05 p.m. **Multivariate Times-to-Events Analysis for Marketing Data Using Frailty Models—**❖Nalini Ravishanker, University of Connecticut; V. Kumar, University of Connecticut; Rajkumar Venkatesan, University of Connecticut

3:25 p.m. **Flexible Models for Quantile Regression—**❖Milovan Krnjajic, Lawrence Livermore National Laboratory; Athanasios Kottas, University of California, Santa Cruz

3:45 p.m. **Floor Discussion**

459 CC-611

● ✪ Statistical Approaches to Handling Data Quality: Issues and Evaluating Intervention Effectiveness in HIV/AIDS Research—Topic-Contributed

Section on Statistics in Epidemiology, Biometrics Section, ENAR

Organizer(s): Felicia Hardnett, Centers for Disease Control and Prevention

Chair(s): Timothy Green, Centers for Disease Control and Prevention

2:05 p.m. **Assessing Mediation in HIV Intervention Studies—**❖Felicia Hardnett, Centers for Disease Control and Prevention; Craig Borkowf, Centers for Disease Control and Prevention; Sherri Pals, Centers for Disease Control and Prevention;

Ann O'Leary, Centers for Disease Control and Prevention; Jeffrey Parsons, City University of New York-Hunter College; Cynthia Gomez, University of California, San Francisco

2:25 p.m. **Are Higher Levels of Multilevel (Hierarchical) Models Necessary? Application to High-Risk Sexual Behavior Data—**❖DeMarc Hickson, Emory University/Centers for Disease Control and Prevention; Lance Waller, Emory University; Lillian Lin, Centers for Disease Control and Prevention

2:45 p.m. **How Good Is Good Enough? An Investigation of the Effect of Uncertainty in Survey Parameters on Estimates of HIV Prevalence, Guyana 2004—**❖Maxine Denniston, Centers for Disease Control and Prevention; Nicole Seguy, Centers for Disease Control and Prevention; Wolfgang Hladik, Centers for Disease Control and Prevention

3:05 p.m. **A Multiple-Recapture Approach When a Unique Identifier Is Not Available—**❖Ruiguang Song, Centers for Disease Control and Prevention; H. Irene Hall, Centers for Disease Control and Prevention; John Gerstle, Centers for Disease Control and Prevention; Lisa Lee, Centers for Disease Control and Prevention

3:25 p.m. **Floor Discussion**

460 CC-602

● Statistical Applications in Water Quality and Monitoring—Topic-Contributed

Section on Statistics and the Environment

Organizer(s): Keying Ye, The University of Texas at San Antonio
Chair(s): Ilya Lipkovich, Eli Lilly and Company

2:05 p.m. **Clustering Using Stressor-Response Relationships—**❖Samantha C. Prins, Virginia Polytechnic Institute and State University; Eric P. Smith, Virginia Polytechnic Institute and State University

2:25 p.m. **Composite Sampling for Environmental Variables—**❖Sylvia Esterby, The University of British Columbia; Abdel H. El-Shaarawi, National Water Research Institute

2:45 p.m. **Modified Power Priors with Multiple Historical Datasets in Water Quality Evaluation—**❖Yuyan Duan, Bristol-Myers Squibb Company; Keying Ye, The University of Texas at San Antonio; Eric P. Smith, Virginia Polytechnic Institute and State University

3:05 p.m. **Model-Based Clustering in a Brook Trout Classification Study within the Eastern United States—**❖Huizi Zhang, Virginia Polytechnic Institute and State University; Samantha C. Prins, Virginia Polytechnic Institute and State University; Eric P. Smith, Virginia Polytechnic Institute and State University

3:25 p.m. **Nonparametric Harmonic Regression for Estuarine Water Quality Data—**❖Melanie Autin, University of South Carolina; Don Edwards, University of South Carolina

3:45 p.m. **Floor Discussion**

461 CC-310

● ✪ Statistics for Weather Forecasting II: Challenges and Opportunities—Topic-Contributed

Section on Statisticians in Defense and National Security, Section on Physical and Engineering Sciences, Section on Statistics and the Environment

Organizer(s): Tilmann Gneiting, University of Washington
Chair(s): Matthew Stephens, University of Washington

2:05 p.m. **Probabilistic Forecasting in Meteorology—**❖Barbara Brown, National Center for Atmospheric Research

2:25 p.m. **Probabilistic Forecasts, Calibration, and Sharpness—**❖Fadoua Balabdaoui, Institut für Mathematische Stochastik; Tilmann Gneiting, University of Washington; Adrian E. Raftery, University of Washington

2:45 p.m. **Calibrated Probabilistic Forecasting at the Stateline Wind Energy Center: the Regime-Switching Space-Time (RST) Method—**❖Tilmann Gneiting, University of Washington; Kristin Larson, 3 Tier Environmental Forecast Group, Inc.; Kenneth Westrick, 3 Tier Environmental Forecast Group, Inc.; Marc G. Genton, Texas A&M University; Eric Aldrich, Duke University

3:05 p.m. **Detection and Modeling of Long Memory in Biases of Daily Forecasts of Surface Air Pressure and Temperature—**❖Yulia Gel, University of Waterloo; Bovas Abraham, University of Waterloo

3:25 p.m. Disc: Wendy Martinez, Office of Naval Research

3:45 p.m. **Floor Discussion**

462 CC-609

● ✪ Reducing the Risk of Data Disclosure through Swapping and Other Masking Procedures—Topic-Contributed

Section on Survey Research Methods, Section on Statisticians in Defense and National Security

Organizer(s): Thomas Krenzke, Westat

Chair(s): Leyla Mohadjer, Westat

2:05 p.m. **Reducing the Risk of Data Disclosure through Area Masking: Limiting Biases in Variance Estimation**—❖Inho Park, Westat; Sylvia Dohrmann, Westat; Jill Montaquila, Westat; Leyla Mohadjer, Westat; Lester R. Curtin, Centers for Disease Control and Prevention

2:25 p.m. **Disclosure Limitation in NAEP: a Probabilistic Approach to Swapping Sample Selection**—❖David Freund, Educational Testing Service; Andreas Oranje, Educational Testing Service

2:45 p.m. **Tactics for Reducing the Risk of Disclosure Using the NCES DataSwap Software**—❖Thomas Krenzke, Westat; Stephen E. Roey, Westat; Sylvia Dohrmann, Westat; Leyla Mohadjer, Westat; Wen-Chau Haung, Westat; Steve Kaufman, Retired; Marilyn Seastrom, National Center for Education Statistics

3:05 p.m. **Combinations of SDC Methods for Numerical Microdata**—❖Anna Oganian, National Institute of Statistical Sciences; Alan Karr, National Institute of Statistical Sciences

3:25 p.m. Disc: Jerome Reiter, Duke University

3:45 p.m. **Floor Discussion**

Topic-Contributed Panels 2:00 p.m.–3:50 p.m.

463 CC-206

Making Statistical History: Collecting, Preserving, and Providing Access to Records of the American Statistical Community—Topic-Contributed

General Methodology, Section on Statistical Education

Organizer(s): John Paul Deley, Energy Information Administration

Chair(s): John McKenzie, Babson College

Panelists: ❖John Paul Deley, Energy Information Administration

❖Pat McClellan, American Statistical Association

❖Rich Allen, ASA Committee on Archives and History

3:45 p.m. **Floor Discussion**

Regular Contributed Sessions 2:00 p.m.–3:50 p.m.

464 CC-616

● Unit Nonresponse in Surveys IV—Contributed

Section on Survey Research Methods

Chair(s): Christopher Johnson, Centers for Disease Control and Prevention

2:05 p.m. **Evaluation of Using a Model-Assisted Sampling Paradigm versus a Traditional Sampling Paradigm in a Nationally Representative Establishment Survey**—❖Marcus Berzofsky, RTI International; Brandon Welch, RTI International; Rick L. Williams, RTI International; Paul Biemer, RTI International

2:20 p.m. **Using Telephone-Exchange Data To Adjust for Nonresponse: Application in an Establishment Survey**—❖Stephen R. Williams, Mathematica Policy Research, Inc.; Ronghua Lu, Mathematica Policy Research, Inc.

2:35 p.m. **Nonresponse Adjustment Using Logistic Regression: To Weight or Not To Weight?**—❖Eric A. Grau, Mathematica Policy Research, Inc.; Frank Potter, Mathematica Policy Research, Inc.; Stephen R. Williams, Mathematica Policy Research, Inc.; Nuria Diaz-Tena, Mathematica Policy Research, Inc.

2:50 p.m. **Response Rates and Response Patterns among New Enterprises: Results from the Kauffman Firm Survey**—❖Frank Potter, Mathematica Policy Research, Inc.; Yuhong Zheng, Mathematica Policy Research, Inc.; David DesRoches, Mathematica Policy Research, Inc.; Janice Ballou, Mathematica Policy Research, Inc.; Zhanyun Zhao, Mathematica Policy Research, Inc.

3:05 p.m. **Estimation of Attrition Biases in SIPP**—❖Eric Slud, U.S. Census Bureau; Leroy Bailey, U.S. Census Bureau

3:20 p.m. **Subsampling Nonrespondents: Issues of Calculating Response Rates**—❖Sonya

Vartivarian, Mathematica Policy Research, Inc.; Sameena Salvucci, Mathematica Policy Research, Inc.; Donsig Jang, Mathematica Policy Research, Inc.; Daniel Kasprzyk, Mathematica Policy Research, Inc.

3:35 p.m. **Physician Survey Response Methods Research—**❖Catharine Burt, National Center for Health Statistics; David Woodwell, National Center for Health Statistics

465 CC-615

● Survey-Based Variance Estimation II—Contributed

Section on Survey Research Methods

Chair(s): Yahia Ahmed, Internal Revenue Service

2:05 p.m. **Study of Volatility and Smoothing of Estimated Variances in the Employment Cost Index Program—**❖Meghan S. O'Malley, Bureau of Labor Statistics; Daniell Toth, Bureau of Labor Statistics; Chester Ponikowski, Bureau of Labor Statistics

2:20 p.m. **Estimation of Generalized Variance Functions for the 2003 Survey of Doctorate Recipients—**❖Michael Yang, National Opinion Research Center; Yongyi Wang, National Opinion Research Center

2:35 p.m. **Stability of Jackknife Variance Estimates for Prescription Count Estimates over Time Intervals—**❖Christina Gaughan, IMS Health; Heather Zuleba, IMS Health; Chris Boardman, IMS Health; Kennon Copeland, IMS Health

2:50 p.m. **To Replicate (a Weight Adjustment Procedure) or Not To Replicate? An Analysis of the Variance Estimation Effects of a Shortcut Procedure Using the Stratified Jackknife—**❖Katherine Thompson, U.S. Census Bureau; Wesley Yung, Statistics Canada

3:05 p.m. **On Generalized Variance Functions—**❖Donsig Jang, Mathematica Policy Research, Inc.; Amang Sukasih, Mathematica Policy Research, Inc.; Xiaojing Lin, Mathematica Policy Research, Inc.

3:20 p.m. **Generalized Variance Functions To Create Stable and Timely Variance Estimates for Prescription Count Estimates—**❖Kennon Copeland, IMS Health; Christina Gaughan, IMS Health; Chris Boardman, IMS Health

3:35 p.m. **Standard Error Estimation for County-Level Radio Listening—**❖Mandy Webb, Arbitron Inc.; Richard Griffiths, Arbitron Inc.

466 CC-603

● Studies in Air Quality and Pollution—Contributed

Section on Statistics and the Environment, WNAR

Chair(s): Jay Ver Hoef, National Marine Mammal Lab

2:05 p.m. **Comparing CMAQ to Observations—**❖Li Chen, The University of Chicago; Michael L. Stein, The University of Chicago

2:20 p.m. **A Case Study in Estimating Percentage Detection Biases along a Recorded Ozone Profile—**❖Wendy Meiring, University of California, Santa Barbara

2:35 p.m. **Statistical Conditional Simulation of a Multiresolution Numerical Air Quality Model—**❖Xiaofeng Shao, The University of Chicago; Michael L. Stein, The University of Chicago

2:50 p.m. **New Classes of Asymmetric Spatial-Temporal Covariance Models—**❖Man Sik Park, Colorado State University

3:05 p.m. **Multivariate Spatio-Temporal Model for Speciated Fine Particle Matter—**❖Jungsoon Choi, North Carolina State University; Montserrat Fuentes, North Carolina State University; Brian Reich, North Carolina State University

3:20 p.m. **Fast and Flexible Statistical Techniques for the Analysis of Space-Time Data with Complex Structures—**Dana Draghicescu, City University of New York-Hunter College; ❖Michael Porter, City University of New York

3:35 p.m. **Statistical Challenges in Comparisons of Measured Indoor and Outdoor Exposures in an Urban Setting—**❖Sorina Eftim, The Johns Hopkins Bloomberg School of Public Health; Alison Geyh, The Johns Hopkins Bloomberg School of Public Health; Patrick Breysse, The Johns Hopkins Bloomberg School of Public Health

467 CC-610

Quality Measures for Human Populations—Contributed

Social Statistics Section, Section on Health Policy Statistics

Chair(s): Kelly H. Zou, Harvard Medical School

2:05 p.m. **Individuals with Disabilities: How They Impact Research—**❖Larry Featherston, University of Arkansas

2:20 p.m. **Statistical Methodology for Longitudinal Social Network Data**—❖Anton Westveld, University of Washington; Peter Hoff, University of Washington

2:35 p.m. **Testing for Differential Responses in a Multiple Category Scale: a Case Study on Self-Rated Health among Foreign- and Native-Born Asian Americans**—❖Elena Erosheva, University of Washington; Emily C. Walton, University of Washington; David T. Takeuchi, University of Washington

2:50 p.m. **Quality Management at the National Center for Health Statistics (NCHS)**—❖Kenneth Harris, National Center for Health Statistics

3:05 p.m. **Achieving Clinical Satisfaction with the Desirability Function**—❖Terrence Murphy, Yale University

3:20 p.m. **Temporary Help and Leased and Contract Workers: Designing and Testing a Supplement to the Current Employment Statistics Survey**—❖Polly Phipps, Bureau of Labor Statistics; Kathy Downey, Bureau of Labor Statistics; Christopher Manning, Bureau of Labor Statistics; Kirk Mueller, Bureau of Labor Statistics

3:35 p.m. **Multilevel Structural Equation Model for Ordinal Responses**—❖Sophia Rabe-Hesketh, University of California, Berkeley; Xiaohui Zheng, University of California, Berkeley

468 CC-203
Confidence Intervals and Hypothesis Testing—Contributed

Business and Economics Statistics Section

Chair(s): Edward Melnick, New York University

2:05 p.m. **New Tests for Joint Hypothesis of a Unit Root When There Is a Break in the Innovation Variance**—❖Amit Sen, Xavier University

2:20 p.m. **Easily Implemented Confidence Intervals and Hypothesis Tests for Sharpe Ratios under General Conditions**—❖J. D. Opdyke, DataMineIt

2:35 p.m. **Parameters Estimation and Bias Corrections for Diffusion Processes**—❖Chengyong Tang, Iowa State University; Song X. Chen, Iowa State University

2:50 p.m. **New Tests for Endogeneity in a Simultaneous Equation System with Discrete Endogenous Variable**—❖Xu Cao, University of Missouri-Rolla; V. A. R. Samaranayake, University of Missouri-Rolla

3:05 p.m. **Causality Tests in Cointegrated Systems and Temporal Aggregation of Multivariate Autoregressive Moving Average Processes**—❖Ceylan Yozgatligil, Temple University; William W. S. Wei, Temple University

3:20 p.m. **LAD Estimation of ARFIMA-GARCH Models**—❖Wai K. Li, The University of Hong Kong; Guodong Li, The University of Hong Kong

3:35 p.m. **A Note on the Inequality Constraints for the GARCH Models**—❖Henghsiu Tsai, Academia Sinica; Kung-Sik Chan, The University of Iowa

469 CC-2A
● Equivalence, Superiority, and Noninferiority—Contributed

Biopharmaceutical Section

Chair(s): Amit Bhattacharyya, GlaxoSmithKline

2:05 p.m. **Simultaneous Test for Superiority and Noninferiority Hypotheses in Active Controlled Clinical Trials**—❖Joanne Zhang, Center for Drug Evaluation and Research; Yi Tsong, U.S. Food and Drug Administration

2:20 p.m. **Testing Equality of Medians in Two Independent Lognormal Distributions**—❖Hongwei Wang, Merck & Co., Inc.; Arvind K. Shah, Merck & Co., Inc.

2:35 p.m. **Likelihood Ratio Tests for Equivalence Hypotheses**—❖Shun-Yi Chen, Tamkang University; Ching-Feng Hsu, Tamkang University

2:50 p.m. **Simultaneous Testing of Noninferiority and Superiority Increases the False Discovery Rate**—❖Tie-Hua Ng, U.S. Food and Drug Administration

3:05 p.m. **New Tests for Null Hypotheses of Nonunity Relative Risk**—❖Kallappa Koti, U.S. Food and Drug Administration

3:20 p.m. **Assessing the Superiority of a Combination Drug**—Jianjun Li, Merck Research Laboratories; Steven Snapinn, Amgen Inc.; ❖Guoyong Jiang, Cephalon, Inc.

3:35 p.m. **To Permute or Not Permute**—❖Haiyan Xu, Johnson & Johnson Pharmaceutical R&D; Jason Hsu, The Ohio State University; Yifan Huang, H. Lee Moffitt Cancer Center & Research Institute; Violeta Calian, University of Iceland

470 CC-619
● Semiparametric Methods—Contributed

Biometrics Section, Section on Nonparametric Statistics, ENAR

Chair(s): Sally Hunsberger, National Cancer Institute

2:05 p.m. **The Efficiency of Multivariate Pseudo-Likelihood Estimation—**❖Park Bum Hee, Hankuk University of Foreign Studies; Park Heungsun, Hankuk University of Foreign Studies

2:20 p.m. **Confidence Intervals Based on Non-Smooth Estimating Equations for Longitudinal Data Using Markov Chain Marginal Bootstrap—**❖Di Li, University of Illinois at Urbana-Champaign

2:35 p.m. **Hierarchical Quasi-Likelihood Approach to Bioavailability and Bioequivalence Analysis—**❖Changchun Xie, McMaster University

2:50 p.m. **Analysis of Linear Transformation Models with Covariate Transformations—**❖Chunpeng Fan, University of Wisconsin-Madison; Jason P. Fine, University of Wisconsin-Madison

3:05 p.m. **Smoothing Spline ANOVA Model for Bivariate Bernoulli Outcome—**❖Hyonho Chun, University of Wisconsin-Madison

3:20 p.m. **Statistical Inference for Multivariate Outcome-Dependent Sampling Design—**❖Tsui-Shan Lu, The University of North Carolina at Chapel Hill; Haibo Zhou, The University of North Carolina at Chapel Hill

3:35 p.m. **Floor Discussion**

471 CC-620
● Inference and Models for Censored Data—Contributed

Biometrics Section, ENAR

Chair(s): Petra Buzkova, The University of North Carolina at Chapel Hill

2:05 p.m. **Statistical Analysis of Survival Data under Informative Truncation—**❖Shu-Hui Chang, National Taiwan University

2:20 p.m. **Medical Cost Estimation under Dependent Censoring—**❖Wenqin Pan, Duke University; Donglin Zeng, The University of North Carolina at Chapel Hill

2:35 p.m. **A General Semiparametric Transformation Model for Survival Data—**❖Hao Liu, University of California, Davis; Alexander Tsodikov, University of California, Davis

2:50 p.m. **Estimation of a Survival Curve with Unlinked Entry and Failure Times—**❖Yujun Wu, University of Medicine & Dentistry of New Jersey; Weichung J. Shih, University of Medicine & Dentistry of New Jersey; Dirk Moore, University of Medicine & Dentistry of New Jersey

3:05 p.m. **Comorbidity through the Life Span—**❖John Dixon, Florida State University; Eric Chicken, Florida State University; Myles Hollander, Florida State University; Dan McGee, Florida State University

3:20 p.m. **Goodness-of-Fit Tests for Left-Truncated and Right-Censored Data—**❖Yi-Ting Hwang, National Taipei University

3:35 p.m. **A Goodness-of-Fit Test for Copula Models—**❖Antai Wang, Georgetown University

472 CC-2B
● Osteoporosis, Contraceptive, and Vaccine Trials—Contributed

Biopharmaceutical Section, Biometrics Section, ENAR

Chair(s): Margaret Minkwitz, AstraZeneca Pharmaceuticals

2:05 p.m. **Quantitative Risk-Benefit Assessment in the Multiple Outcomes of Raloxifene Evaluation (MORE) Trial: an Application of the Global Benefit-Risk Assessment—**❖Messan G. Amewou-Atisso, Eli Lilly and Company; Yili Pritchett, Abbott Laboratories

2:20 p.m. **Quantifying the Effect of the Surrogate Marker by Information Gain—**❖Yongming Qu, Eli Lilly and Company; Michael Case, Eli Lilly and Company

2:35 p.m. **Assessing Learning Effect and Nonrandom Dropout in a Contraceptive Device Trial—**❖Pai-Lien Chen, Family Health International

2:50 p.m. **An Improved Exact Method for the Estimation and Testing of a Rate Ratio—**❖William W. B. Wang, Merck Research Laboratories; Ivan Chan, Merck & Co., Inc.

3:05 p.m. **Utilizing Statistical Models To Predict the Duration of Protection of Vaccines—**❖Liwen Xi, Merck & Co., Inc.

3:20 p.m. **A Statistical Framework for Quantile Equivalence Clinical Trials with Application to Pharmacokinetic Studies That Bridge from HIV-Infected Adults to Children—**❖Lixia Pei, Harvard University; Michael Hughes, Harvard University

3:35 p.m. **The Use of an Internal Unblinded Statistician with a Data-Monitoring Committee**—❖David Radley, Merck & Co., Inc.; Gregory Golm, Merck & Co., Inc.

473 CC-3A

● Oncology Trials—Contributed

Biopharmaceutical Section, Biometrics Section, ENAR

Chair(s): David Manner, Eli Lilly and Company

2:05 p.m. **Evaluating the Quality Reporting of Clinical Trials in Primary Treatment of Brain Tumors**—❖Lehana Thabane, McMaster University; Rose Lai, Columbia University; Rong R. Rachel, The University of British Columbia; Michael Fraumeni, Juravinski Cancer Centre

2:20 p.m. **Predicting Malignant Renal Lesions by Using Preoperative Color Doppler Ultrasonography: Building a Nomogram**—❖Alexia Iasonos, Memorial Sloan-Kettering Cancer Center; Ganesh V. Raj, Memorial Sloan-Kettering Cancer Center; Paul Russo, Memorial Sloan-Kettering Cancer Center

2:35 p.m. **Statistical Properties of a Modified Accelerated Design for Phase I Cancer Clinical Trials**—❖Weili He, Merck & Co., Inc.; Jun Liu, Rutgers University; Hui Quan, sanofi-aventis

2:50 p.m. **Using Marginal Structural Model To Adjust for Post-Discontinuation Chemotherapy in Cancer Clinical Trials**—❖Yanping Wang, Eli Lilly and Company; Jim Symanowski, Eli Lilly and Company

3:05 p.m. **On Dose Escalation Rules in Phase I Cancer Clinical Trials**—❖Susan Li, Centocor R&D, Inc.

3:20 p.m. **Identifying Patients with Newly Diagnosed; Histologically Proven; Untreated; Symptomatic Stage I, II, or III Myeloma Who May Benefit from Dexamethasone**—❖Keyue Ding, Queen's University

3:35 p.m. **A Statistical Method To Integrate Independent Review and Investigator Review in Clinical Cancer Trial**—❖Xiaolong Luo, Johnson & Johnson Pharmaceutical R&D

474 CC-601

✪ Network Analysis and Spatial Applications—Contributed

Section on Physical and Engineering Sciences

Chair(s): Dave Higdon, Los Alamos National Laboratory

2:05 p.m. **Dynamic Origin-Destination Matrix Estimation from Partially Observed Trajectories in a Large Network**—❖Jaimyoung Kwon, California State University, East Bay; Pravin Varaiya, University of California, Berkeley

2:20 p.m. **Network Tomography Problems**—❖Jiangang Fang, Rutgers University; Cun-Hui Zhang, Rutgers University

2:35 p.m. **A Bayes/Empirical Bayes Approach for Service-Level Network Reliability/Survivability Measure**—❖Cheng Chen, Texas A&M University; Margaret F. Land, TeXas Environmental Studies and Analysis, LLC; Rajat Sethi, Texas A&M University-Kingsville

2:50 p.m. **Calibration and Prediction for Computer Experiment Output Having Qualitative and Quantitative Input Variables**—❖Gang Han, The Ohio State University; Thomas Santner, The Ohio State University; William Notz, The Ohio State University

3:05 p.m. **Validity of Likelihood and Bayesian Inference for Gaussian Process Regression**—❖Bela Nagy, The University of British Columbia; Jason Loeppky, The University of British Columbia; William J. Welch, The University of British Columbia

3:20 p.m. **Exploiting Spatial Information in Multivariate Calibration**—❖Brian Marx, Louisiana State University; Paul H. C. Eilers, Leiden University Medical Center

3:35 p.m. **Representations of Spatial Surface Models**—❖James Yen, National Institute of Standards and Technology

475 CC-309

Dimension Reduction and Image Analysis—Contributed

Section on Statistical Computing, Section on Statistical Graphics

Chair(s): Ranjan Maitra, Iowa State University

2:05 p.m. **Assessment of Influential Observations Using Alpha Factor Analysis**—❖Zenaida F. Mateo, University of Manitoba; Yutaka Tanaka, Nanzan University

2:20 p.m. **Factor Analysis for Multiattribute Ranked Data**—❖Philip L. H. Yu, The University of Hong Kong; Wai Ming Wan, The University of Hong Kong

2:35 p.m. **Sufficient Dimension Reduction, Regardless of (n, p) Relation**—❖Lexin Li, North Carolina State University

2:50 p.m. **Linear Dimension Reduction in Image Analysis Using Geometrical Tools**—❖Evgenia Rubinshtein, Florida State University; Anuj Srivastava, Florida State University

3:05 p.m. **Inferring Galaxy Morphology through Texture Analysis**—❖Kinman Au, Carnegie Mellon University; Christopher Genovese, Carnegie Mellon University; Andrew Connolley, University of Pittsburgh

3:20 p.m. **Image Analysis Using the EM Algorithm with Stochastic Variation**—❖Xiaoxi Zhang, University of Michigan; Roderick J. Little, University of Michigan

3:35 p.m. **Validity Diagnostics for DTI Heterogeneity Models**—❖Meagan E. Clement, Rho, Inc.; Keith E. Muller, The University of North Carolina at Chapel Hill; Guido Gerig, The University of North Carolina at Chapel Hill; Matthew Gribbin, The University of North Carolina at Chapel Hill; Joseph Piven, The University of North Carolina at Chapel Hill

476 CC-205
The Practice of Statistical Consulting: Study Design and Sample Size—Contributed

Section on Statistical Consulting

Chair(s): Harold Dyck, California State University

2:05 p.m. **The Joys (and Perils) of Professional Statistical Consulting**—❖Nestor Rohowsky, IDCS, Inc.

2:20 p.m. **Impact of Effect Size, Sample Size, and Crossover Percent on Intention-to-Treat (ITT) Analysis: Do Subjects Need To Stay in the Group They Were Assigned?**—❖Thomas Wasser, Lehigh Valley Hospital; Christopher S. Hollenbeak, The Pennsylvania State University; Stephen Matchett, Lehigh Valley Hospital

2:35 p.m. **Comparison of Effect Size, Power, and Type I Error Rate in Simulated Efficacy and Effectiveness Trials**—❖Mary Z. Mays, Arizona State University; Jan Jirsak, University of Arizona

2:50 p.m. **Reporting Significant Results for a Large Sample Study**—❖Gloria Caldito, LSU Health Sciences Center

3:05 p.m. **Uncontrolled Variation in Multistage Experiments**—❖T. B. Bailey, Iowa State University

3:20 p.m. **Dose Ranging Studies in Acupuncture, Manipulative Therapy, and Mind Body Research**—❖Laura L. Johnson, National Center for Complementary and Alternative Medicine; Catherine Stoney, National Center for Complementary and Alternative Medicine; Partap Khalsa, National Center for Complementary and Alternative Medicine

3:35 p.m. **A General Serial Gatekeeping Procedure To Control Studywise Error Rate**—❖Fang Xie, Cephalon, Inc.; Chung-Kuei Chang, Cephalon, Inc.; Guoyong Jiang, Cephalon, Inc.

477 CC-307
Dimension Reduction Methods—Contributed

Section on Nonparametric Statistics

Chair(s): Ann Kalinowski, WIHS UCSF

2:05 p.m. **Sliced Inverse Moment Regression Using Weighted Chi-Squared Tests for Dimension Reduction**—❖Jie Yang, The University of Chicago; Zhishen Ye, Eli Lilly and Company

2:20 p.m. **Selecting Tuning Parameters in Dimension Reduction Methods in Regression**—❖Peng Zeng, Auburn University

2:35 p.m. **Projection-Directed Nonparametric Omnibus Test for the Multivariate Multisample Problem**—❖Xiaobin Yuan, St. Jude Children's Research Hospital; Cheng Cheng, St. Jude Children's Research Hospital

2:50 p.m. **Aggregation of Nonparametric Estimators for Volatility Matrix**—❖Yingying Fan, Princeton University

3:05 p.m. **Dimensionality Reduction of High-Dimensional Tables**—❖Siamak Noorbaloochi, VAMC, University of Minnesota; David Nelson, VAMC, University of Minnesota; Joe Grill, VAMC, Minneapolis

3:20 p.m. **Statistical Inference of Distributions on Manifold**—❖Wanli Min, IBM T. J. Watson Research Center

3:35 p.m. **Floor Discussion**

478 CC-400

● Applied Bayesian Modeling—Contributed

Section on Bayesian Statistical Science

Chair(s): Dan Spitzner, Virginia Polytechnic Institute and State University

2:05 p.m. **Tree-Based and Bayesian Modeling of Food Web Collapse in the Permian Mass Extinction**—❖Steve C. Wang, Swarthmore College; Peter D. Roopnarine, California Academy of Sciences; Kenneth D. Angielczyk, University of Bristol

2:20 p.m. **Bayesian Calibration Models for Obsidian Hydration Dating**—❖Andrew Schaffner, California Polytechnic State University, San Luis Obispo

2:35 p.m. **Bayesian Semiparametric Analysis for a Single-Item Maintenance Optimization**—❖Elmira Popova, The University of Texas at Austin; Paul Damien, The University of Texas at Austin; Timothy Hanson, University of Minnesota

2:50 p.m. **Bayesian Modeling of the Effect of Four-to-Three-Lane Conversion on the Number of Crashes and Crash Rates for Iowa Roads**—❖Wen Li, Iowa State University; Alicia Carriquiry, Iowa State University

3:05 p.m. **Bayesian Procrustes Analysis**—Athanasios Micheas, University of Missouri-Columbia; ❖Yuqiang Peng, University of Missouri-Columbia

3:20 p.m. **Statistical Analysis of Single-Unit Firing Rate**—❖Sam Behseta, California State University; Robert E. Kass, Carnegie Mellon University

3:35 p.m. **Floor Discussion**

479 CC-613

Nonresponse Bias and Other Estimation Challenges—Contributed

Section on Government Statistics

Chair(s): Carolyn Shettle, Westat

2:05 p.m. **Nonresponse Bias in the Omnibus Household Survey**—❖Promod Chandhok, Bureau of Transportation Statistics

2:20 p.m. **Nonresponse Bias of Time-Use Measures' Inter-Relationships**—❖John Dixon, Bureau of Labor Statistics

2:35 p.m. **Using Survival Analysis To Predict Sample Retention Rates**—❖Andy Sadler, Bureau of Labor Statistics

2:50 p.m. **Comparison of the Income Items from the CPS and Census 2000**—❖Bruce H. Webster, Jr., U.S. Census Bureau

3:05 p.m. **Multiple-Record Applicants in the Analysis of Hiring Disparity**—❖Charles McGhee, U.S. Department of Labor; Marika Litras, Office of Federal Contract Compliance Programs; Michael Sinclair, Office of Federal Contract Compliance Programs

3:20 p.m. **The Use of the Peters-Belson Method in Hiring Discrimination Assessments**—Michael Sinclair, Office of Federal Contract Compliance Programs; ❖Shirong Leu, U.S. Department of Labor; Arline Easley, U.S. Department of Labor

3:35 p.m. **Estimating Missing Prices in Producer Price Index**—❖Onimissi Sheidu, Bureau of Labor Statistics

480 CC-605

Stochastic Process and Mixture Models—Contributed

IMS

Chair(s): Marloes Maathuis, University of Washington

2:05 p.m. **A Class of Probability Measures on the Simplex**—❖Zach Dietz, Tulane University

2:20 p.m. **The Bahadur Representation for Sample Quantiles under Weak Dependence**—❖Shuxia Sun, Wright State University

2:35 p.m. **Long-Time Asymptotics for Constrained Diffusions in Polyhedral Domains**—❖Chihoon Lee, The University of North Carolina at Chapel Hill; Amarjit Budhiraja, The University of North Carolina at Chapel Hill

2:50 p.m. **The Mixture-Labeling Problem: a Frequentist View**—❖Daeyoung Kim, The Pennsylvania State University; Bruce G. Lindsay, The Pennsylvania State University

3:05 p.m. **Stability and Tail Properties of Nonlinear Stochastic Recursions with Application to Nonlinear AR-GARCH Models**—❖Daren B. H. Cline, Texas A&M University

3:20 p.m. **Noncommutative Stochastic Convergence of the Bounded Besicovitch Sequence**—❖Larisa Shwartz, IBM; Genady Grabarnik, IBM T. J. Watson Research Center

3:35 p.m. **Floor Discussion**

Regular Contributed Posters 2:00 p.m.–3:50 p.m.

481 CC-Level 6 East Lobby

Contributed Posters—Contributed

General Methodology, Social Statistics Section, Section on Survey Research Methods, Biopharmaceutical Section, Section on Physical and Engineering Sciences, Section on Statistics and the Environment, Section on Statistics and Marketing, Section on Statistical Consulting, Biometrics Section, Section on Statistical Computing, Section on Statistics in Sports, Section on Statistics in Epidemiology

Organizer(s): Maura E. Stokes, SAS Institute, Inc.
Chair(s): Maura E. Stokes, SAS Institute, Inc.

Archeology, anthropology, humanities

01 **A Multivariate Statistical Analysis of Female Empowerment—**❖Janelle Jones, SUMSRI; Adrianne Demski, SUMSRI

General

02 **Examination of Structure Coefficient Interpretation in Descriptive Discriminant Analysis: the Three-Group Case—**❖Mercedes Schneider, Ball State University

03 **Computer Literacy of Adolescents in Grades 9 to 12: an Exploratory Study—**❖Matthew Sink, Shoreline Christian High School; Christopher A. Sink, Seattle Pacific University

04 **Partial Least Squares Regression and Its Application in Drug Discovery—**❖Jingjing Chen, Merck & Co., Inc.

05 **Quasi-Probability Distributions Based on the Lagrange Expansions—**vShubiao Li, Central Michigan University; Carl Lee, Central Michigan University; Felix Famoye, Central Michigan University

06 **Data Analysis of Virtual Cement Measurements—**❖Adriana Hornikova, National Institute of Standards and Technology; Charles Hagwood, National Institute of Standards and Technology; Hung-kung Liu, National Institute of Standards and Technology; Blaza Toman, National Institute of Standards and Technology; Nien Fan Zhang, National Institute of Standards and Technology; Edward J. Garboczi, National Institute of Standards and Technology; Jeffrey W. Bullard, National Institute of Standards and Technology

07 **Analysis of Number of Components in Mixture Model—**❖Yan Wang, Southern Methodist University; S. Lynne Stokes, Southern Methodist University

08 **The Impact of Erroneous Inclusion and Exclusion of Variables in Multivariate Inference—**❖Youfeng Nie, Sam Houston State University; Cecil Hallum, Sam Houston State University

09 **On Testing about a Construct Mean for Likert-Scale Data—**❖Cherng Ding, National Chiao Tung University; Hsiu-Yu Lee, National Chiao Tung University

10 **Caution When Using Covariate Adjustment in Mixed Effect ANOVA—**❖Zhenxu Ma, Battelle; Paul Feder, Battelle

11 **Estimating a Population Median from a Small Sample—**❖Boris Shulkin, Christy Industries/Magna International; Shlomo Sawilowsky, Wayne State University

12 **On the Use of Heywood Cases for Specification Testing in SEM—**❖Stanislav Kolenikov, University of Missouri-Columbia; Kenneth A. Bollen, The University of North Carolina at Chapel Hill

Linear models, GLMs, parametric methods

13 **S-PLUS and R Package for Least Angle Regression—**❖Tim C. Hesterberg, Insightful Corporation

14 **Partially Repeated Measurements—**❖Mitchell Watnik, California State University, East Bay; Erica Wong, California State University, East Bay; David Schlessinger, California State University, East Bay

15 **Selecting the Best Confidence Interval for a Variance Ratio (or Heritability)—**❖Brent Burch, Northern Arizona University

16 **Calculating Power for Generalized Linear Models Using the Wald Test—**❖Jonathan Mahnken, The University of Kansas Medical Center

17 **Confidence Interval Coverage for Four Effect Sizes for Predictor Variables in a Multiple Linear Regression Model—**❖Todd Bodner, Portland State University

Longitudinal data, repeated measurements, cluster data

18 **Large-Cluster Asymptotics for GEE: Working Correlation Models—**❖Hyoju Chung, University of Washington; Thomas Lumley, University of Washington

19 **Free SAS/IML® Software for Computing Confidence Limits for Power in the Univariate and Multivariate Approaches to Repeated Measures—**❖Jacqueline Johnson, The University of North Carolina at Chapel Hill; Matthew Gribbin, The University of North Carolina at Chapel Hill; Sola Park, The University of North Carolina at Chapel Hill; Keith E. Muller, The University of North Carolina at Chapel Hill

20 **Goodness-of-Fit Tests for Proportional Odds Model with GEE for Ordinal Categorical Responses—**❖Junxiang Luo, University of Cincinnati; Rakesh Shukla, University of Cincinnati; Qi Zhang, University of Cincinnati

21 **Latent Class Growth Models: an Application**—❖Maragatha Kuchibhatla, Duke University Medical Center; Gerda Fillenbaum, Duke University Medical Center

22 **Model Selection for the Impact Evaluation of Energy Efficiency Programs**—❖Kathryn Parlin, West Hill Energy and Computing, Inc.; Larry Haugh, University of Vermont

23 **An Empirical Power Analysis of Hierarchical Multivariate Linear Model under Three Covariance Structures in Longitudinal Data Analysis**—❖Hua Fang, Ohio University; Gordon P. Brooks, Ohio University; Maria L. Rizzo, Ohio University; Robert S. Barcikowski, Ohio University

Probability, mathematical statistics, stochastic processes

24 **A General Probability Distribution Using B¸rmann Power Series**—❖Pali Sen, University of North Florida; Richard F. Patterson, University of North Florida

25 **A Modified Asymmetric Simes Procedure for Multiple Tests of Significance**—❖Li Deng, New England College of Optometry

Simulation and Monte Carlo methods

26 **An Examination of the Utility of Bonferroni Adjustments for Tests of Regression Coefficients**—❖Daniel Mundfrom, University of Northern Colorado; Jamis Perrett, University of Northern Colorado; Jay Schaffer, University of Northern Colorado; Adam Piccone, University of Northern Colorado

Sports, art, entertainment

27 **The Brave New Hockey World: a Statistical Assessment of NHL Rules Changes**—❖Paramjit Gill, The University of British Columbia

Incomplete data analysis, imputation methods

28 **Statistical Approches To Analyze Censored Data with Multiple Detection Limits**—❖Wei Zhong, ICON Clinical Research; Linda Levin, University of Cincinnati; Paul Succop, University of Cincinnati; Rakesh Shukla, University of Cincinnati; Jeffrey Welge, University of Cincinnati

Invited Sessions 4:00 p.m.–5:50 p.m.

482 **CC-Ballroom 6ABC**

COPSS Awards and Fisher Lecture—Invited

Committee of Presidents of Statistics Societies (COPSS), The ASA, ENAR, WNAR, IMS, SSC

Organizer(s): Karen Bandeen-Roche, The Johns Hopkins Bloomberg School of Public Health

Chair(s): Karen Bandeen-Roche, The Johns Hopkins Bloomberg School of Public Health

4:00 p.m. **Presentation of Awards**—❖Karen Bandeen-Roche, The Johns Hopkins Bloomberg School of Public Health

4:20 p.m. **Recombination and Linkage**—❖Terence P. Speed, University of California, Berkeley

5:35 p.m. **Floor Discussion**