MONDAY, AUGUST 5

Committee/Business Meetings & Other Activities

7:00 a.m.–8:00 a.m. W-Youville
Section on Teaching of Statistics in the Health Sciences Executive Committee Meeting
Chair(s): Steven Grambow, Duke University-Veteran's Affairs

7:00 a.m.–8:00 a.m. I-Saint-Gabriel
***Significance* Editorial Board Meeting (Closed)**

7:00 a.m.–8:30 a.m. W-Notre Dame
Council of Chapters International Science and Engineering Fair Meeting Breakfast (Closed)
Chair(s): Theresa Utlaut, Intel Corporation

7:00 a.m.–8:30 a.m. I-Saint-Jacques
Section on Statistical Education Executive Committee Meeting
Chair(s): Deborah Nolan, University of California at Berkeley

7:00 a.m.–8:30 a.m. I-Saint-Paul
Committee on Privacy and Confidentiality Annual Meeting
Chair(s): Julia Lane, American Institutes for Research

7:00 a.m.–8:30 a.m. W-Papineau
SPAIG Committee Business Meeting
Chair(s): Barry D. Nussbaum, U.S. Environmental Protection Agency

7:00 a.m.–8:30 a.m. I-Saint-Jean-Baptiste
Health Policy Statistics Section Executive Committee Meeting
Chair(s): Mary Beth Landrum, Harvard Medical School

7:00 a.m.–8:30 a.m. I-Saint-Alexandre
Committee on Professional Ethics Business Meeting
Chair(s): Howard R. Hogan, U.S. Census Bureau

7:00 a.m.–8:30 a.m. I-Saint-Helene
ASA/SIAM Book Series
Chair(s): Lisa LaVange, FDA/CDER

7:00 a.m.–8:30 a.m. CC-523a
***Technometrics* Management Committee**
Chair(s): David Steinberg, Tel Aviv University

7:00 a.m.–8:30 a.m. I-Saint-Pierre
Ad Hoc Advisory Committee on Forensic Science
Chair(s): Karen Kafadar, Indiana University

7:00 a.m.–8:30 a.m. CC-441
Committee on Career Development Meeting
Chair(s): Karla Ballman, Mayo Clinic

7:00 a.m.–9:00 a.m. CC-441
Social Statistics Executive Board Meeting
Chair(s): Linda Jacobsen, Population Reference Bureau

7:00 a.m.–6:00 p.m. CC-513c
Speaker Management Room

7:00 a.m.–10:00 p.m. CC-200 Viger Hall
Cyber Center, Sponsored by IBM

7:30 a.m.–8:30 a.m. I-Saint-Francois Xavier
Section on Statistics and Disability Research Meeting
Chair(s): Long H. Ngo, Harvard Medical School

7:30 a.m.–9:00 a.m. CC-524c
Carnegie Mellon Alumni and Faculty Breakfast
Organizer(s): Margaret Smykla, Carnegie Mellon University

7:30 a.m.–12:30 p.m. I-Maisonneuve
Biopharmaceutical Section Executive Committee Meeting
Chair(s): Amit Bhattacharyya, GlaxoSmithKline

7:30 a.m.–6:00 p.m.
JSM Main Registration

7:30 a.m.–6:00 p.m. CC-200 Viger Hall
ASA Membership/Help Desk/Press Desk

8:00 a.m.–9:00 a.m. I-Le Cave
Communications in Statistics Annual Editorial Board Meeting
Organizer(s): Narayanaswamy Balakrishnan, McMaster University

8:00 a.m.–10:00 a.m. CC-449
Section on Statistical Graphics Business Meeting
Chair(s): Webster West, North Carolina State University

8:00 a.m.–5:30 p.m. CC-220d
Career Placement Service

8:00 a.m.–6:00 p.m. CC-220bc
Exhibitor Lounge

8:30 a.m.–9:30 a.m. I-Saint-Laurent
Transportation Special Interest Group Business Meeting
Chair(s): David Banks, Duke University

8:30 a.m.–10:30 a.m. I-Saint-Gabriel
ACCE Business Meeting
Chair(s): Amita Manatunga, Emory University

9:00 a.m.–11:00 a.m. I-Saint-Francois Xavier
JSM Diversity Mentoring Program
Chair(s): Sydeaka Watson, The University of Chicago

9:00 a.m.–5:30 p.m.
American Statistical Association Booth #201

9:00 a.m.–5:30 p.m. CC-220bc
EXPO 2013

9:00 a.m.–5:30 p.m. CC-220bc
ASA Marketplace

10:00 a.m.–12:00 p.m. W-Notre Dame
Council of Chapters Governing Board Executive Committee Meeting (Closed)
Chair(s): Dan Kasprzyk, NORC at the University of Chicago

10:00 a.m.–12:00 p.m. W-Youville
Council of Chapters Governing Board Committee on Chapter Status Meeting (Closed)
Chair(s): Bonnie LaFleur, University of Arizona

11:00 a.m.–12:30 p.m. I-Saint-Jean-Baptiste
Section on Statistical Computing Executive Committee Meeting
Chair(s): Montse Fuentes, North Carolina State University

12:00 p.m.–5:00 p.m. W-Youville
Council of Chapters Governing Board Meeting (Closed)
Chair(s): Dan Kasprzyk, NORC at the University of Chicago

12:30 p.m.–1:30 p.m. I-Saint-Alexandre
Editorial Meeting: Statistics, Politics, and Policy

12:30 p.m.–2:00 p.m. I-Saint-Laurent
2014 JSM Program Committee Meeting
Chair(s): Jean Opsomer, Colorado State University

12:30 p.m.–2:00 p.m. I-Saint-Gabriel
***Biostatistics* Journal Editorial Board Meeting**
Organizer(s): Anastasios Tsiatis, North Carolina State University

12:30 p.m.–2:00 p.m. I-Saint-Jacques
IMS Editors Meetings
Organizer(s): Elyse Gustafson, IMS Executive Director

12:30 p.m.–2:00 p.m. I-Le Cave
***Statistics in Medicine* Editorial Board Meeting Luncheon**
Organizer(s): Ralph D'Agostino, Boston University

12:30 p.m.–2:00 p.m. I-Saint-Louis
***JBES* Associate Editor Lunch**
Chair(s): Jamie Hutchens, *JBES* Editorial Coordinator

12:30 p.m.–2:00 p.m. W-Bonsecours
Committee on Federally Funded Research Meeting
Chair(s): Michelle Christine Dunn, National Cancer Institute

12:30 p.m.–2:30 p.m. I-Les Huitres
JSM Media Information Luncheon
Chair(s): Ron Wasserstein, American Statistical Association

12:30 p.m.–2:30 p.m. CC-523a
***Annals of Applied Statistics* Editors Meeting**
Organizer(s): Elyse Gustafson, IMS Executive Director

12:30 p.m.–2:30 p.m. I-Saint-Pierre
***JCGS* Editors Lunch**
Chair(s): Thomas Lee, University of California at Davis

2:00 p.m. CC-220bc
Popcorn Break, Sponsored by RTI International

2:00 p.m.–3:30 p.m. I-Saint-Paul
Finance Committee Meeting
Chair(s): Keith Ord, Georgetown University

2:00 p.m.–3:30 p.m. I-Maisonneuve
National Institute of Health/National Cancer Institute Directors of Training Programs
Organizer(s): Michelle Christine Dunn, National Cancer Institute

4:00 p.m.–5:30 p.m. I-Saint-Gabriel
Caucus for Women in Statistics Business Meeting and Social
Organizer(s): Susmita Datta, University of Louisville

4:00 p.m.–5:30 p.m. I-Saint-Jacques
StatCom Annual Business Meeting
Organizer(s): Andrew Hoegh, Virginia Tech

4:00 p.m.–6:00 p.m. CC-510d
Section on Nonparametric Statistics Student Paper Awards
Chair(s): Rui Song, North Carolina State University

4:30 p.m.–6:00 p.m. I-Saint-Helene
Section on Statistics and the Environment Executive Committee Meeting
Chair(s): Petrutza Caragea, Iowa State University

4:30 p.m.–6:30 p.m. CC-511b
Section for Statistical Programmers and Analysts (SSPA) Business Meeting and Mixer
Chair(s): Jyoti Rayamajhi, Eli Lilly and Company

5:00 p.m.–6:00 p.m. CC-525b
Business and Economic Statistics Section Officers Meeting
Chair(s): John M. Abowd, Chair, Business and Economic Statistics Section

5:00 p.m.–6:00 p.m. CC-516d
Statistical Interest Group for Medical Devices and Diagnostics Meeting
Chair(s): Scott M. Berry, Berry Consultants

● Themed Session ■ Applied Session ✦ Presenter CC-Palais des congrès de Montréal W-Le Westin Montréal I-International Montréal

5:00 p.m.–6:30 p.m. CC-523a
Centers for AIDS Research Statisticians Annual Meeting at JSM
Organizer(s): Susan Ellenberg, University of Pennsylvania Perleman School of Medicine

5:00 p.m.–7:00 p.m. CC-513b
University of Washington - Alumni Reception, Departments of Biostatistics and Statistics
Organizer(s): Bruce Weir, University of Washington

5:00 p.m.–7:00 p.m. CC-710a
NISS/SAMSI Reception
Organizer(s): Alan F. Karr, National Institute of Statistical Sciences

5:00 p.m.–7:00 p.m. CC-522a
University of California at Los Angeles Department of Statistics Mixer
Organizer(s): Rick Paik Schoenberg, Distinguished Professor

5:00 p.m.–8:00 p.m. CC-516c
Texas A&M University, Department of Statistics, Aggie Reunion
Organizer(s): Simon Sheather, Professor and Head

5:30 p.m.–6:00 p.m. CC-516b
Section on Statistics in Epidemiology Executive Committee Meeting
Chair(s): M. Elizabeth Halloran, Fred Hutchinson Cancer Research Center

5:30 p.m.–6:30 p.m. I-Saint-Jean-Baptiste
***JQT* Editorial Review Board Meeting**
Organizer(s): Bradley Jones, SAS Institute, JMP Division

5:30 p.m.–7:00 p.m. I-Saint-Alexandre
Section on Teaching Statistics in the Health Sciences Open Mixer and Business Meeting
Chair(s): Steven Grambow, Duke University-Veteran's Affairs

5:30 p.m.–7:00 p.m. I-Saint-Pierre
Biometrics Section Mixer and Business Meeting
Chair(s): Jianwen Cai, The University of North Carolina at Chapel Hill

5:30 p.m.–7:00 p.m. Offsite
Section on Statistics in Sports Business Meeting (offsite)
Chair(s): Michael A. Rutter, Penn State Erie, The Behrend College

5:30 p.m.–7:00 p.m. CC-510b
Department of Biostatistics and Department of Statistics and Operations Research Joint Alumni, Students, and Friends Reception
Organizer(s): Michael Kosorok, The University of North Carolina at Chapel Hill

5:30 p.m.–7:30 p.m. CC-516a
Yale University Biostatistics Alumni Reception
Organizer(s): Haiqun Lin, Yale University

5:30 p.m.–7:30 p.m. Offsite
Health Policy Statistics Section Business Meeting (offsite)
Chair(s): Mary Beth Landrum, Harvard Medical School

5:30 p.m.–7:30 p.m. I-Les Huitres
Social Statistics Business Meeting
Chair(s): Linda Jacobsen, Population Reference Bureau

5:30 p.m.–7:30 p.m. CC-510a
Iowa State University Reception for Alumni and Friends
Organizer(s): Kenneth Koehler, Iowa State University

6:00 p.m.–7:30 p.m. CC-524c
Section on Statistics and the Environment Business Meeting and Mixer
Chair(s): Petrutza Caragea, Iowa State University

6:00 p.m.–7:30 p.m. I-Saint-Paul
Joint Mixer and Business Meeting of the Sections on Risk Analysis and Defense and National Security
Chair(s): Murali Haran, Penn State University

6:00 p.m.–7:30 p.m. W-St. Antoine
Taylor & Francis Author/Editor Appreciation Reception
Organizer(s): Joanna Knight, Marketing Manager, CRC Press/Taylor & Francis Group

6:00 p.m.–7:30 p.m. I-Le Cave
CAUSE Activists and Institutional Members Meeting

6:00 p.m.–7:30 p.m. I-Saint-Louis
Christian Statisticians Informal Discussion Group Meeting
Organizer(s): Jason Wilson, Coordinator

6:00 p.m.–7:30 p.m. CC-523b
Annals of Statistics Editors Meeting
Organizer(s): Elyse Gustafson, IMS Executive Director

6:00 p.m.–7:30 p.m. CC-710b
Korean International Statistical Society Annual Meeting
Organizer(s): Dongseok Choi, Oregon Health & Science University

6:00 p.m.–8:00 p.m. W-Fortifications
Section on Statistical Computing/Graphics Business Meeting
Chair(s): Montse Fuentes, North Carolina State University

6:00 p.m.–8:00 p.m. I-Maisonneuve
JSM Student Mixer, Sponsored by Pfizer Inc.

6:00 p.m.–8:00 p.m. W-Ville-Marie
COPSS Anniversary Reception
Organizer(s): Jane Pendergast, University of Iowa

6:00 p.m.–8:00 p.m. CC-521c
University of Wisconsin-Madison Welcome Reception
Organizer(s): Brian Yandell, University of Wisconsin-Madison

6:00 p.m.–9:00 p.m. I-Saint-Francois Xavier
Section on Physical and Engineering Sciences Annual Business Meeting
Chair(s): Winson Taam

6:30 p.m.–7:30 p.m. I-Saint-Jacques
ASA Longtime Member Reception (by Invitation Only), Sponsored by RTI International and Westat

6:30 p.m.–8:00 p.m. CC-516b
Section on Statistician Epidemiology Business Meeting and Awards Reception
Chair(s): M. Elizabeth Halloran, Fred Hutchinson Cancer Research Center

7:00 p.m.–8:30 p.m. CC-445
Survey Research Methods Section Executive Committee Meeting
Chair(s): Jill Montaquila, Westat

7:00 p.m.–8:30 p.m. CC-510c
International Indian Statistical Association General Body Meeting and Mixer
Organizer(s): Cyrus Mehta, Cytel Inc.

9:00 p.m.–11:00 p.m. CC-517d
IMS Presidential Address Reception
Organizer(s): Elyse Gustafson, IMS Executive Director

Continuing Education (Fee Events)

CE_12C
Crowdsourcing for Statisticians
8:00 a.m.–12:00 p.m. W-St. Antoine
ASA, Section on Statistical Learning and Data Mining
Instructor(s): Lyle Ungar, University of Pennsylvania; Adam Kapelner, The Wharton School

CE_13C
Techniques for Simulating Data in SAS
8:00 a.m.–12:00 p.m. W-Palais
ASA, Section for Statistical Programmers and Analysts
Instructor(s): Rick Wicklin, SAS Institute

CE_14C
Analysis of Clinical Trials: Theory and Applications
8:30 a.m.–5:00 p.m. W-Fortifications
Biopharmaceutical Section, ASA
Instructor(s): Devan Mehrotra, Merck; Alexei Dmitrienko, Quintiles; Jeff Maca, Quintiles

CE_15C
Successful Data Mining in Practice
8:30 a.m.–5:00 p.m. W-Ville-Marie
ASA, Section on Statistical Learning and Data Mining
Instructor(s): Richard D. De Veaux, Williams College

CE_16C
Monte Carlo and Bayesian Computation with R
8:30 a.m.–5:00 p.m. W-Saint-Helene
ASA, Section on Bayesian Statistical Science
Instructor(s): Jim Albert, Bowling Green State University; Maria L. Rizzo, Bowling Green State University

CE_17C
Practical Tools for Designing and Weighting Survey Samples
8:30 a.m.–5:00 p.m. W-Beaver Hall
ASA, Survey Research Methods Section
Instructor(s): Richard Valliant, University of Michigan and University of Maryland; Frauke Kreuter, University of Maryland; Jill Dever, RTI International

CE_18C
Meta-Analysis: Combining the Results of Multiple Studies
1:00 p.m.–5:00 p.m. W-St. Antoine
ASA, Health Policy Statistics Section
Instructor(s): Christopher Schmid, Brown University; Ingram Olkin, Stanford University

CE_19C
Practical Software Engineering for Statisticians
1:00 p.m.–5:00 p.m. W-Palais
ASA, Section on Statistical Computing, Biometrics Section
Instructor(s): Murray Stokely, Google

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

93 CC-517d
Government Statistics Section A.M. Roundtable Discussion (Fee Event)
Government Statistics Section
Organizer(s): Grace O'Neil, Energy Information Administration

ML01 **Sampling Asians in the National Health and Nutrition Examination Survey—**✦Margaret Carroll, NCHS/CDC

94 CC-517d
Health Policy Statistics Section A.M. Roundtable Discussion (Fee Event)
Health Policy Statistics Section
Organizer(s): Juned Siddique, Northwestern University

ML02 **Statistical Methods for Mediation Analysis—**✦Douglas Gunzler, Case Western Reserve University

95 CC-517d
Section on Physical and Engineering Sciences A.M. Roundtable Discussion (Fee Event)
Section on Physical and Engineering Sciences
Organizer(s): James Wendelberger, Urban Science

ML03 **Boost Your Spatiotemporal Data Analysis with Physical Knowledge—**✦Alexander Kolovos, SpaceTimeWorks, LLC

96 CC-517d
Section on Statistical Education A.M. Roundtable Discussion (Fee Event)
Section on Statistical Education
Organizer(s): Ming-Wen An, Vassar College

ML04 **Discussing 'Connecting Research to Practice in a Culture of Assessment for Introductory College-Level Statistics'—**✦Herle McGowan, North Carolina State University

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97 CC-517d

Section on Statistics and the Environment A.M. Roundtable Discussion (Fee Event)

Section on Statistics and the Environment

Organizer(s): Mevin Hooten, Colorado State University

ML05 **Statistics for Spatio-Temporal Data: New Challenges**—✦Christopher K. Wikle, University of Missouri

98 CC-517d

Section on Statistics in Epidemiology A.M. Roundtable Discussion (Fee Event)

Section on Statistics in Epidemiology

Organizer(s): Madhuchhanda Mazumdar, Weill Cornell Medical College

ML06 **Challenges and Strategies for Analysis of Complex Survey Data When Statistical Methodology and Software Package Are Underdeveloped**—✦Yan Ma, Hospital for Special Surgery-Weill Medical College of Cornell University

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

99 CC-710a

Introductory Overview Lecture: Twenty Years of Gibbs Sampling/MCMC—Other

ENAR, WNAR, IMS, International Chinese Statistical Association, International Indian Statistical Association, Korean International Statistical Society, International Society for Bayesian Analysis (ISBA), ASA, SSC, Section on Statistical Computing

Organizer(s): Ken Rice, University of Washington

Chair(s): Ken Rice, University of Washington

8:35 a.m. **Gibbs Sampling and Markov Chain Monte Carlo: A Modeler's Perspective**—✦Alan E. Gelfand, Duke University

9:25 a.m. **The Theoretical Underpinnings of MCMC**—✦Jeffrey S. Rosenthal, University of Toronto

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

Invited Sessions 8:30 a.m.–10:20 a.m.

100 CC-520c

■ ● Opening the Doors to Open Source Programming in Drug Development—Invited

Section for Statistical Programmers and Analysts, Section on Statistical Computing

Organizer(s): Vipin Arora, AbbVie, Inc.

Chair(s): Stephen Wilson, FDA/CDER/OTS/OB/DBIII

8:35 a.m. **Advantages of Open Source Software in Clinical Trials**—✦Frank Harrell, Vanderbilt University

8:55 a.m. **Open Source and Commercialized Open Source: Risks, Mitigations, and Upsides for Commercial Regulated R&D**—✦Anthony Joseph Rossini, Novartis Pharma AG

9:15 a.m. **Opening the Doors to Open Source Programming in Drug Development**—✦Narinder K. Nangia, AbbVie, Inc.; Annie Wang, Astellas

9:35 a.m. **Open Source Software in the Biopharma Industry: Challenges and Opportunities**—✦Jose Carlos Pinheiro, Janssen Research & Development

9:55 a.m. Disc: Jyoti Rayamajhi, Eli Lilly and Company

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

101 CC-520d

■ Advances in Nonstationary Spatial Modeling—Invited

Section on Statistics and the Environment, International Indian Statistical Association, Section on Statistics in Epidemiology

Organizer(s): Luke Bornn, Harvard University

Chair(s): Luke Bornn, Harvard University

8:35 a.m. **Nonstationary and Nonparametric Modeling of Multivariate Spatial Processes**—✦Montserrat Fuentes, North Carolina State University; Brian J. Reich, North Carolina State University

9:00 a.m. **Nonstationary Latent Effects in Models for Animal Counts**—✦Alexandra M Schmidt, Universidade Federal do Rio de Janeiro; Marco A. Rodríguez, Université du Québec à Trois-Rivières

9:25 a.m. **Parameterization of Nonstationarity in Stochastic PDE Models**—✦Finn Lindgren, University of Bath

9:50 a.m. **Spatial Methods for Nonstationary Fields Using Compact Basis Functions**—✦Douglas Nychka, National Center for Atmospheric Research; Soutir Bandyopadhyay, Lehigh University

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

102 CC-515c

● The Profession of Statistics and Its Impact on the Media—Invited

Committee on Excellence in Statistical Reporting, Scientific and Public Affairs Advisory Committee

Organizer(s): Morteza Marzjarani, Saginaw Valley State University
Chair(s): Morteza Marzjarani, Saginaw Valley State University

8:35 a.m. **Media and Statistics: Of Excellence and Otherwise**—✦Donald Arthur Berry, The University of Texas MD Anderson Cancer Center

9:00 a.m. **Two Ideas We Need to Teach the Media (and Everyone Else)**—✦Howard Wainer, National Board of Medical Examiners

9:25 a.m. **Statistics and the Media**—Andrew Gelman, Columbia University; ✦Mark Hansen, Columbia University

9:50 a.m. **The Concussion Crisis: Football's New Math**—✦Alan Schwarz, *The New York Times*

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

103 CC-511c

Dynamic Treatment Regimes and Adaptive Designs Toward Personalized Health Care—Invited

Biometrics Section, Mental Health Statistics Section, SSC, Health Policy Statistics Section, Section on Statistics in Epidemiology, Scientific and Public Affairs Advisory Committee

Organizer(s): Lu Wang, University of Michigan
Chair(s): Lu Wang, University of Michigan

8:35 a.m. **Personalized Medicine and Statistical Learning**—✦Michael R. Kosorok, The University of North Carolina at Chapel Hill

9:00 a.m. **Adaptive Designs for Comparative Effectiveness Experiments of Treatment Strategies**—✦Philip William Lavori, Stanford University; Mei-Chiung Shih, Stanford University

9:25 a.m. **Clinical Studies of Dynamic Treatment Strategies**—✦Michael Baiocchi, Stanford University; Tze Lai, Stanford University

9:50 a.m. Disc: Peter Thall, The University of Texas MD Anderson Cancer Center

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

104 CC-511a

■ JABES Showcase: Modern Dimension-Reduction Methods for Big Data Problems in Ecology—Invited

ENAR, Section on Statistics and the Environment, Scientific and Public Affairs Advisory Committee

Organizer(s): Mevin Hooten, Colorado State University
Chair(s): Ephraim Hanks, Colorado State University

8:35 a.m. **Modeling Spatially Dependent Forest Diameter Class Distributions Using High-Dimensional Lidar Data**—✦Andrew Oliver Finley, Michigan State University; Sudipto Banerjee, University of Minnesota

9:00 a.m. **Hierarchical Bayesian Spatio-Temporal Conway-Maxwell Poisson Models with Dynamic Dispersion**—✦Scott H. Holan, University of Missouri; Guohui Wu, University of Missouri; Christopher K. Wikle, University of Missouri

9:25 a.m. **Estimation and Selection of Autologistic Regression Models for Spatial Binary Data**—✦Jun Zhu, University of Wisconsin-Madison; Rao Fu, University of Wisconsin-Madison; Andrew L. Thurman, University of Wisconsin-Madison; Michelle M. Steen-Adams, University of New England

9:50 a.m. **Ecological Prediction with Nonlinear Multivariate Time-Frequency Functional Data Models**—✦Christopher K. Wikle, University of Missouri; Wen-Hsi Yang, University of Missouri; Scott H. Holan, University of Missouri; Mark L. Wildhaber, U.S. Geological Survey

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

105 CC-511f

■ Recent Development in the Analysis of Repeated Survey Data—Invited

Survey Research Methods Section, International Indian Statistical Association, Section on Statistics in Epidemiology

Organizer(s): Yang Cheng, U.S. Census Bureau
Chair(s): Ruth Ann Killion, U.S. Census Bureau

8:35 a.m. **Single-Stage Generalized Raking Weight Adjustments in the Current Population Survey**—✦Eric Victor Slud, U.S. Census Bureau; Reid Rottach, U.S. Census Bureau; Christopher Grieves, U.S. Census Bureau

9:00 a.m. **Composite Estimation in Current Population Survey**—Jun Shao, University of Wisconsin; ✦Zhou Yu, University of Wisconsin-Madison

9:25 a.m. **Analysis of Longitudinal Complex Survey Data Using Parametric Bootstrap**—✦Snigdhansu Chatterjee, University of Minnesota; Partha Lahiri, University of Maryland

9:50 a.m. Disc: Edwin Robison, Bureau of Labor Statistics

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

106 CC-514a

Random Matrices and Statistical Applications—Invited

IMS, Statistical Learning and Data Mining Section

Organizer(s): Natesh S. Pillai, Harvard University

Chair(s): Natesh S. Pillai, Harvard University

9:05 a.m. **Binary Matrix Completion**—✦Yaniv Plan, University of Michigan; Mark Davenport, Georgia Institute of Technology; Mary Wootters, University of Michigan; Ewout van den Berg, Stanford University

9:35 a.m. **Multiple Linear Regression with Latent Factors**—✦Patrick O. Perry, NYU Stern; Natesh S. Pillai, Harvard University; Paul Bourgade, Harvard University

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

107 CC-519a

■ From Real Time to Long Term: Applications of Big Data in Sports—Invited

Section on Statistics in Sports, Statistical Learning and Data Mining Section, Section on Statistical Computing

Organizer(s): Michael A. Rutter, Penn State Erie, The Behrend College

Chair(s): Michael A. Rutter, Penn State Erie, The Behrend College

8:35 a.m. **Big Data in Professional Football**—✦Brian John Burke, Advanced NFL Stats

9:00 a.m. **Using Pattern Recognition to Classify Pitch Types from MLB PITCHf/x Data**—✦Michael D. Schader, George Mason University

9:25 a.m. **A First Look at Real-Time Player-Tracking Data That Is Changing the Game for NHL Statistics**—✦Marc Appleby, PowerScout Hockey

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

108 CC-519b

■ Functional Data Analysis in Neuroimaging—Invited

Section on Nonparametric Statistics, Section on Statistics in Imaging, Mental Health Statistics Section, Statistical Learning and Data Mining Section, WNAR

Organizer(s): Lei Huang, The Johns Hopkins University

Chair(s): Vadim Zipunnikov, Johns Hopkins Bloomberg School of Public Health

8:35 a.m. **A Bayesian Model of Activation and Functional Connectivity for Event-Related fMRI**—✦Wesley K. Thompson, University of California at San Diego; Dongli Zhou, Forest Labs

9:00 a.m. **Functional Data Techniques for Mapping of Neurodevelopmental Trajectories**—✦Philip Reiss, New York University; Lei Huang, The Johns Hopkins University; Huaihou Chen, New York University; Thaddeus Tarpey, Wright State University

9:25 a.m. **Nonparametric Response Function Estimation via FPCA with an Application to Dynamic Pet Data**—✦Ci-Ren Jiang, Academia Sinica; John Aston, University of Warwick; Jane-Ling Wang, University of California at Davis

9:50 a.m. **Two-Way Regularized Logistic Regression with Dynamic Image Regressors**—✦T Siva Tian, University of Houston; Jianhua Z. Huang, Texas A&M University

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

109 CC-520f

■ ● Large-Scale Statistical Computing: Methodologies, Tools, and Applications—Invited

Section on Statistical Computing, Statistical Learning and Data Mining Section, Section on Statistical Graphics, International Indian Statistical Association

Organizer(s): Landon H Sego, Pacific Northwest National Laboratory

Chair(s): Landon H Sego, Pacific Northwest National Laboratory

8:35 a.m. **Statistical Theory and Methods for the Divide and Recombine (D&R) Statistical Approach to Large Complex Data**—✦William S. Cleveland, Purdue University

9:05 a.m. **Recent Developments in Large-Scale Data Analysis Tools and Methodologies Based on the R and Hadoop Integrated Programming Environment (RHIPE)**—✦Saptarshi Guha, Mozilla Corp.

9:35 a.m. **Visualization of Databases: Detailed Visualization of Large, Complex Data**—✦Ryan Paul Hafen, Pacific Northwest National Laboratory

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

110 CC-710b

Medallion Lecture II—Invited

IMS, SSC

Organizer(s): David B. Dunson, Duke University

Chair(s): Neal Madras, York University

8:35 a.m. **The Kardar-Parisi-Zhang Equation and Universality Class**—✦Jeremy Quastel, University of Toronto

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

111 CC-516d

Statistical Methods for High-Dimensional Data: Presentations by Junior Researchers—Invited

ASA, Statistical Learning and Data Mining Section, International Indian Statistical Association, Section on Statistics in Epidemiology

Organizer(s): Bhramar Mukherjee, University of Michigan
Chair(s): Amy Herring, The University of North Carolina at Chapel Hill

8:35 a.m. **A Data-Adaptive Approach to Modeling Propensity Scores for Inverse Weighted Estimation of Causal Effects**—✦Yeying Zhu, Penn State University

9:00 a.m. **Statistical Modeling of Epigenomewide Data**—✦Kasper Daniel Hansen, The Johns Hopkins University

9:25 a.m. **A Closer Look at the Median Probability Model for Bayesian Model Selection**—✦Joyee Ghosh, University of Iowa

9:50 a.m. **Adaptive Shrinkage via the Hyperpenalized EM Algorithm**—✦Philip S. Boonstra, University of Michigan; Bhramar Mukherjee, University of Michigan; Jeremy Taylor, University of Michigan

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

Invited Panels
8:30 a.m.–10:20 a.m.

112 CC-516b

● Memorial Session: Genichi Taguchi—Invited

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

Organizer(s): Roshan Joseph Vengazhiyil, Georgia Tech
Chair(s): Roshan Joseph Vengazhiyil, Georgia Tech

Panelists: ✦Madhav Phadke, Phadke Associates, Inc.
✦Shin Taguchi, American Supplier Institute
✦Vijay Nair, University of Michigan
✦C. F. J. Wu, Georgia Institute of Technology

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

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

113 CC-510d

■ Design and Methods for Comparative Effectiveness Research in Mental Health and Other Biomedical Studies—Topic-Contributed

Mental Health Statistics Section, Biometrics Section, Health Policy Statistics Section, Section on Statistics in Epidemiology, Scientific and Public Affairs Advisory Committee, Korean International Statistical Society

Organizer(s): Zhehui Luo, Michigan State University
Chair(s): Joseph Gardiner, Michigan State University

8:35 a.m. **Heterogeneous Treatment Effects and Decisionmaking**—✦Zhehui Luo, Michigan State University; Joseph Gardiner, Michigan State University

8:55 a.m. **Causal Inference of Maternal Antidepressant Use and Pregnancy Outcomes Using Propensity Scores for Multi-Level Treatment**—✦Chang Yu, Vanderbilt University; Huiyun Wu, Vanderbilt University; William Dupont, Vanderbilt University; Richard C. Shelton, The University of Alabama at Birmingham; Tina Hartert, Vanderbilt University; Edward Mitchel, Vanderbilt University; Jeffrey Horner, Vanderbilt University; Pingsheng Wu, Vanderbilt University; Hui Nian, Vanderbilt University School of Medicine

9:15 a.m. **Estimating Causal Effects in an Observational Study with a Survival Time Endpoint: Comparing Reformulated Versus Original Antidepressants**—✦Jaeun Choi, Harvard Medical School; Mary Beth Landrum, Harvard Medical School; A. James O'Malley, Harvard Medical School

9:35 a.m. **Effect Modification by Post-Treatment Variables in Mental Health Research**—✦Alisa J Stephens, University of Pennsylvania; Marshall M. Joffe, University of Pennsylvania

9:55 a.m. Disc: Sue M. Marcus, Columbia University/New York State Psychiatric Institute

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

114 CC-510b

■ Model Selection and Uncertainty in Causal Effect Estimation—Topic-Contributed

Health Policy Statistics Section, International Chinese Statistical Association, Section on Statistics in Epidemiology

Organizer(s): Francesca Dominici, Harvard School of Public Health

Chair(s): Francesca Dominici, Harvard School of Public Health

8:35 a.m. **Double-Robust Estimators: Slightly More Bayesian Than Meets the Eye?**—✦Paul Gustafson, University of British Columbia

8:55 a.m. **Uncertainty in Propensity Score Estimation: Bayesian Methods for Variable Selection and Model-Averaged Causal Effects**—✦Corwin Zigler, Harvard University

9:15 a.m. **Bayesian Estimation of Average Causal Effect with Adjustment for Confounding**—✦Chi Wang, University of Kentucky; Giovanni Parmigiani, Dana-Farber Cancer Institute; Francesca Dominici, Harvard School of Public Health

9:35 a.m. **Penalized Regression Approaches to Variable Selection in the Potential Outcomes Framework**—✦Debashis Ghosh, Penn State University

9:55 a.m. Disc: Elizabeth Stuart, Johns Hopkins Bloomberg School of Public Health

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

115 CC-512g

■ ● Recent Developments in Statistical Adjustment for Measurement Error/ Misclassification—Topic-Contributed

Section on Statistics in Epidemiology, SSC, Biometrics Section, Korean International Statistical Society

Organizer(s): Yan Ma, Hospital for Special Surgery-Weill Medical College of Cornell University

Chair(s): Jaya M. Satagopan, Memorial Sloan-Kettering Cancer Center

8:35 a.m. **Bias Correction Methods for Misclassified Covariates in the Cox Model: Comparison of Five Correction Methods by Simulation and Data Analysis**—✦Heejung Bang, University of California at Davis

8:55 a.m. **Measurement Error Correction for Survival Data Analysis with†Covariates That Are Functions of Time-Varying Exposure Histories**—✦Xiaomei Liao, Harvard School of Public Health; Donna Spiegelman, Harvard School of Public Health

9:15 a.m. **Varying-Coefficient Deming Regression (VCDR) and Its Application in Bone Densitometry**—✦Ying Lu, VA Palo Alto Health Care System & Stanford University; Chong Gu, Purdue University; Bo Fan, University of California at San Francisco; Selwyn Au, VA Palo Alto Health Care System; John A Shepherd, University of California at San Francisco

9:35 a.m. **Discordance in Estrogen Receptor Status Between Two Primary Breast Cancers: Impact of Misclassification**—✦Juxin Liu, University of Saskatchewan; Paul Gustafson, University of British Columbia; Dezheng Huo, The University of Chicago

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

116 CC-512ab

■ ● Statistical Modeling of fMRI Data—Topic-Contributed

Section on Statistics in Imaging, International Chinese Statistical Association

Organizer(s): Jaroslaw Harezlak, Indiana University Fairbanks School of Public Health

Chair(s): Jaroslaw Harezlak, Indiana University Fairbanks School of Public Health

8:35 a.m. **Search for Default Network Using Likelihood-Based Population Independent Component Analysis**—✦Lei Huang, The Johns Hopkins University; Shaojie Chen, The Johns Hopkins University; Huitong Qiu, The Johns Hopkins University; Ani Eloyan, The Johns Hopkins Bloomberg School of Public Health; Ciprian M. Crainiceanu, The Johns Hopkins University; Brian Caffo, The Johns Hopkins University

8:55 a.m. **A Semiparametric Model of the Hemodynamic Response for Multi-Subject fMRI Data**—✦Tingting Zhang, University of Virginia; Fan Li, Duke University

9:15 a.m. **Semiparametric Wavelet Estimation of the Hemodynamic Response Function (HRF) and Its Application in a Gustatory Functional Magnetic Resonance Imaging (fMRI) Study**—✦Maria Aleksandra Kudela, Indiana University Fairbanks School of Public Health; Mario Dzemidzic, Indiana University School Medicine; Brandon Oberlin, Indiana University School Medicine; David Kareken, Indiana University School Medicine; Jaroslaw Harezlak, Indiana University Fairbanks School of Public Health

9:35 a.m. **Inferring 3D Images from Lower-Dimensional Measurements**—✦Ke Deng, Harvard University

9:55 a.m. Disc: Jimin Ding, Washington University

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

117 CC-516a

■ The Analysis of Recurrent Event Data in the Presence of Competing Risks and Informative Censoring—Topic-Contributed

Biopharmaceutical Section, SSC, Biometrics Section

Organizer(s): Byron Jones, Novartis

Chair(s): Byron Jones, Novartis

8:35 a.m. **The Analysis of Recurrent Event Data in the Presence of Competing Risks and Informative Censoring—**✦Lee-Jen Wei, Harvard University

8:55 a.m. **Semiparametric Proportional Rate Regression for the Composite Endpoint of Recurrent and Terminal Events—**✦Danyu Lin, The University of North Carolina; Lu Mao, The University of North Carolina

9:15 a.m. **Recurrent Event Data Approaches in Cardiovascular Outcome Trials: A Case Study—**✦Mouna Akacha, Novartis

9:35 a.m. **The Role of Recurrent Event Analysis in Cardiovascular Trials: A Trialist's Perspective—**✦Scott Solomon, Harvard University

9:55 a.m. Disc: H. M. James Hung, FDA

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

118 CC-520a

Innovative Bayesian Methods for Big, Complex Object Data Sets—Topic-Contributed

Section on Bayesian Statistical Science, International Society for Bayesian Analysis (ISBA), Section on Statistical Computing

Organizer(s): Jeffrey S. Morris, The University of Texas MD Anderson Cancer Center

Chair(s): Michele Guindani, The University of Texas MD Anderson Cancer Center

8:35 a.m. **Shrink Large Covariance Matrix Without Penalty: An Empirical Nonparametric Bayesian Framework for Brain Connectivity Network Analysis—**✦Shuo Chen, University of Maryland

8:55 a.m. **Novel and Computationally Efficient Bayesian Methods in Neuroimaging—**✦Theodore Kypraios, University of Nottingham

9:15 a.m. **Variable Selection in High-Dimensional Problems with Complex Structures—**✦Subharup Guha, University of Missouri; Veera Baladandayuthapani, The University of Texas MD Anderson Cancer Center

9:35 a.m. **Bayesian Models for Integrative Analysis of High-Dimensional Genomics Data—**✦Veera Baladandayuthapani, The University of Texas MD Anderson Cancer Center; Jeffrey S. Morris, The University of Texas MD Anderson Cancer Center; wenting wang, The University of Texas MD Anderson Cancer Center; Kim-Ahn Do, The University of Texas MD Anderson Cancer Center

9:55 a.m. **Bayesian Object Regression for Complex, High-Dimensional Data—**✦Jeffrey S. Morris, The University of Texas MD Anderson Cancer Center; Veera Baladandayuthapani, The University of Texas MD Anderson Cancer Center

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

119 CC-524b

● Time Series Signal Extraction—Topic-Contributed

Business and Economic Statistics Section

Organizer(s): Tucker S. McElroy, U.S. Census Bureau

Chair(s): Brian C. Monsell, U.S. Census Bureau

8:35 a.m. **The Trilemma Between Accuracy, Timeliness, and Smoothness in Real-Time Forecasting and Signal Extraction—**✦Marc Wildi; Tucker S. McElroy, U.S. Census Bureau

8:55 a.m. **General and Consistent Signal Extraction for Nonstationary Time Series with Diverse Sampling Rules—**✦Thomas Trimbur, Federal Reserve Board; Tucker S. McElroy, U.S. Census Bureau

9:15 a.m. **Seasonal Adjustment of CPS Labor Force Series During the Latest Recession—**✦Thomas Evans, Bureau of Labor Statistics; Richard Tiller, Bureau of Labor Statistics

9:35 a.m. **Weighted-Covariance Reduction of Vector Autoregressive Moving Average Models—**✦Peter Zadrozny, Bureau of Labor Statistics; Baoline Chen, Bureau of Economic Analysis

9:55 a.m. **An Appraisal of Multivariate Seasonal Adjustment—**✦Tucker S. McElroy, U.S. Census Bureau

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

120 CC-522bc

■ Non-Negative Matrix Factorization—Topic-Contributed

Section on Statistical Learning and Data Mining, Section on Physical and Engineering Sciences

Organizer(s): S. Stanley Young, National Institute of Statistical Sciences

Chair(s): S. Stanley Young, National Institute of Statistical Sciences

8:35 a.m. **Introduction to Non-Negative Matrix Factorization—**✦George Luta, Georgetown University; Fajwel Fogel, Ecole Polytechnique ParisTech; Douglas A. Marsteller, PepsiCo; Joe Maisog, Glotech, Inc.

8:55 a.m. **sNMF for Sparse Data and Method for Determining Matrix Degree from Noisy Data—**✦Jiayang Sun, Case Western Reserve University; Kenneth Lopiano, SAMSI; S. Stanley Young, National Institute of Statistical Sciences

9:15 a.m. **A Unified Statistical Approach to Non-Negative Matrix Factorization and Probabilistic Latent Semantic Indexing**—✦Karthik Devarajan, Fox Chase Cancer Center; Guoli Wang, SRA International Inc.; Nader Ebrahimi, Northern Illinois University

9:35 a.m. **Contingency Table Analysis via Matrix Factorization**—✦Kumer Das, Lamar University; Jay Powell, Better Schooling Systems; Myron Katzoff,

9:55 a.m. Disc: Jon Kettenring, Drew University - RISE

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

121 CC-511e

■ ● Cash in Hand or Under the Mattress? Analyzing Consumer Payment Surveys—Topic-Contributed

Survey Research Methods Section, Section on Statistics in Marketing, Scientific and Public Affairs Advisory Committee

Organizer(s): Kim P. Huynh, Bank of Canada

Chair(s): Marcin Hitczenko, Federal Reserve Bank of Boston

8:35 a.m. **The Role of Risk Perception in Determining Consumer Cash Balances: A Study of Three Countries**—✦Ben Mazzotta, Tufts University; Bhaskar Chakravorti, Tufts University

8:55 a.m. **Cash Versus Cards: The Role of Budget Control**—✦Anneke Kosse, De Nederlandsche Bank; Nicole Jonker, De Nederlandsche Bank; Lola Hernández, De Nederlandsche Bank

9:15 a.m. **Experimental Results from a Consumer Diary**—✦Kevin Foster, Federal Reserve Bank of Boston

9:35 a.m. **Bayesian Solutions to Missing Data Problems in a Consumer Payments Survey**—✦Christopher Henry, Bank of Canada; Kyle Vincent, Bank of Canada

9:55 a.m. **Measuring Payment Choice from Bank Survey Data: Can We Identify Consumer and Business Payments?**—✦Geoffrey Gerdes, Federal Reserve Board; Xuemei Liu, Federal Reserve Board

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

NEW for 2013 – SPEED Sessions

Be sure to catch the new JSM SPEED sessions! Each SPEED session will consist of oral presentations of approximately five minutes each and floor discussion time, followed by a poster session later on the same day. All poster presentations will include use of the new electronic poster boards.

SPEED Sessions

Analytic Challenges in Epidemiological Studies and Public Health

Part 1, Oral Presentations – Monday, August 5, 8:30 a.m. – 10:20 a.m., Room CC-516c

Part 2, Poster Presentations – Monday, August 5, 10:30 a.m. – 12:20 p.m., Room CC-220bc

Methods and Applications in Biomedical Data and Clinical Trials

Part 1, Oral Presentations – Tuesday, August 6, 8:30 a.m. – 10:20 a.m., Room CC-516c

Part 2, Poster Presentations – Tuesday, August 6, 10:30 a.m. – 12:20 p.m., Room CC-220bc

Methods and Applications in High-Dimensional Data

Part 1, Oral Presentations – Tuesday, August 6, 10:30 a.m. – 12:20 p.m., Room CC-516c

Part 2, Poster Presentations – Tuesday, August 6, 2:00 p.m. – 3:50 p.m., Room CC-220bc

Statistical Challenges with Measurement, Complex Design, and Missing Data

Part 1, Oral Presentations – Wednesday, August 7, 8:30 a.m. – 10:20 a.m., Room CC-516c

Part 2, Poster Presentations – Wednesday, August 7, 10:30 a.m. – 12:20 p.m., Room CC-220bc

122 CC-511b

■ Patient Report Outcome and Biomarkers in Asthma—Topic-Contributed

Biometrics Section, Biopharmaceutical Section, Section on Statistical Consulting, Health Policy Statistics Section, Korean International Statistical Society

Organizer(s): Hyun (Grace) Kim, University of California at Los Angeles
Chair(s): Hyun (Grace) Kim, University of California at Los Angeles

8:35 a.m. **Asthma and Clinical Challenges in Clinical Trials**—✦Jonathan Goldin, University of California at Los Angeles Radiology

8:55 a.m. **Patient-Reported Outcome and Biomarkers in Asthma**—✦Wen-Hung Chen, United BioSource Corporation; Gary Globe, Amgen, Inc.; Ingela Wiklund, United BioSource Corporation; Seppi Lin, Amgen, Inc.; Michael Schatz, Kaiser Permanente Medical Center; Maria Mattera, United BioSource Corporation; Yun Chon, Amgen, Inc.

9:15 a.m. **Missing Data Handling for Daily Diary Data with Application to Asthma Symptoms eDiary**—✦Nan Zhang, Amgen, Inc.; Yun Chon, Amgen, Inc.; Jia Cao, Amgen, Inc; Trina Patel, University of California at Los Angeles

9:35 a.m. **Heterogeneity Index for Spatial Distribution in CT Images and Correlation with Symptom Scores**—✦Eran Barnoy, University of California at Los Angeles; Hyun (Grace) Kim, University of California at Los Angeles; Jonathan Goldin, University of California at Los Angeles; Eric Kleerup, University of California at Los Angeles; Peiyun Lu, University of California at Los Angeles

9:55 a.m. Disc: Yun Chon, Amgen, Inc.

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

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

123 CC-515b

■ ● Estimating Mortality Among Indigenous Populations: An International Collaboration—Topic-Contributed

Committee on Scientific Freedom and Human Rights, Scientific and Public Affairs Advisory Committee, Statistics Without Borders

Organizer(s): Fritz J. Scheuren, NORC at the University of Chicago
Chair(s): F. Sam Notzon, National Center for Health Statistics, Centers for Disease Control and Prevention

Panelists: ✦Fritz J. Scheuren, NORC at the University of Chicago; Lisa Jackson Pulver, University of New South Wales; Malcolm King, Institute of Aboriginal Peoples' Health; John Waldon, University of New South Wales; Teshia Solomon, The University of Arizona

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

124 CC-524a

■ ● Understanding and Improving the Client-Consultant Interaction—Topic-Contributed

Section on Statistical Consulting

Organizer(s): Doug Zahn, Zahn and Associates
Chair(s): Eric A. Vance, LISA-Virginia Tech

Panelists: ✦Doug Zahn, Zahn and Associates
✦Heather Smith, Cal Poly
✦Sandra Stinnett, Duke University
✦Rob Fowler, Telligen

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

125 CC-510a

■ Hurricanes, Damned Hurricanes, and Statistics—Topic-Contributed

Social Statistics Section, Section on Statistics and the Environment, Scientific and Public Affairs Advisory Committee

Organizer(s): Allison Plyer, Greater New Orleans Community Data Center
Chair(s): Linda Jacobsen, Population Reference Bureau

Panelists: ✦Joseph Salvo, New York City Department of City Planning
✦David Bowman, State of Louisiana Office of Community Development Disaster Recovery Unit
✦Christopher Emrich, Hazards and Vulnerability Research Institute, University of South Carolina

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

126 CC-516e

■ ● Statistical Practice Without Borders: Consulting Opportunities and Challenges to Overcome in Developing Countries—Topic-Contributed

Statistics Without Borders, Scientific and Public Affairs Advisory Committee

Organizer(s): Asaph Young Chun, U.S. Census Bureau

Chair(s): Rebecca Scherzer, University of California at San Francisco

Panelists:
✦Krisztina Filep, Statistics without Borders
✦Vinh Nguyen, Statistics Without Borders
✦Pinar Ucar, Pyongyang Summer Institute in Survey Science and Quantitative Methodology
✦Jackie Pennings, Pyongyang Summer Institute in Survey Science and Quantitative Methodology
✦Marina Hanna, Texas A&M University
✦William Fripp, Stephen F. Austin State University

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

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

127 CC-512e

■ High-Dimensional Problems in Statistical Genetics—Contributed

Biometrics Section, WNAR, Health Policy Statistics Section, Korean International Statistical Society

Chair(s): Ruixiao Lu, Novartis Vaccine and Diagnostics

8:35 a.m. **A General Framework for Association Tests with Multivariate Traits in Large-Scale Genomics Studies**—✦Chad He, Fred Hutchinson Cancer Research Center; Christy L. Avery, The University of North Carolina at Chapel Hill; Danyu Lin, The University of North Carolina

8:50 a.m. **Functional Genome-Wide Association Studies Using Sparse Group Lasso**—✦Qing Pan, George Washington University; Yunpeng Zhao, George Mason University

9:05 a.m. **Identifying Regulatory Regions in Drosophila**—✦Jennifer Tom, University of California at Berkeley

9:20 a.m. **Monte Carlo Null Models for Genomic Data**—✦Egil Ferkingstad, Norwegian Computing Center; Lars Holden, Norwegian Computing Center; Geir Kjetil Sandve, University of Oslo

9:35 a.m. **A Method for Calling Copy Number Polymorphism Using Haplotypes**—✦Gun Ho Jang, Ontario Institute for Cancer Research; Jason Christie, University of Pennsylvania; Rui Feng, University of Pennsylvania

9:50 a.m. **Predicting Phenotypes of Arbitrary Related Individuals Using Penalized Maximum Likelihood Method**—✦Xuesong Li, Oklahoma State University; Lan Zhu, Oklahoma State University

10:05 a.m. **Prediction of Active Molecular Modules Through Integrated Expression Analysis**—✦Christine Duarte, Maine Medical Center

128 CC-512f

Semiparametric and Nonparametric Methods for Survival Analysis—Contributed

Biometrics Section

Chair(s): Bonnie LaFleur, University of Arizona

8:35 a.m. **Nonparametric Comparison of Survival Functions Based on Interval-Censored Data with Unequal Censoring**—✦Ran Duan, Missouri-Columbia; Yanqin Feng, Wuhan University; Jianguo Sun, University of Missouri-Columbia

8:50 a.m. **A Semiparametric Bayesian Approach to an Instrumental Variable Model with Right-Censored Time-to-Event Outcome**—✦Xuyang Lu, University of California at Los Angeles; Gang Li, University of California at Los Angeles

9:05 a.m. **Nonparametric Testing Methods for Treatment-Biomarker Interaction Based on Local Partial-Likelihood**—✦Yicong Liu, Queen's University; Wenyu Jiang, Queen's University; Bingshu E. Chen, NCIC Clinical Trials Group and Department of Community Health and Epidemiology, Queen's University

9:20 a.m. **Estimation on the Semiparametric Transformation Models with Length-Biased Data**—✦Yu-Jen Cheng, National Tsing Hua University; Chiung-Yu Huang, National Institute of Allergy and Infectious Diseases; Meng-Tang Pan, Institute of Statistics, National Tsing Hua University

9:35 a.m. **Semiparametric Methods to Contrast Restricted Mean Gap Times**—✦Xu Shu, University of Michigan; Douglas Earl Schaubel, University of Michigan

9:50 a.m. **Nonparametric Adjustment for Measurement Error in Time-to-Event Data**—✦Danielle Braun, Harvard University; Malka Gorfine, Technion - Israel Institute of Technology; Hormuzd Katki, National Cancer Institute; Giovanni Parmigiani, Dana-Farber Cancer Institute

10:05 a.m. **A Class of Weighted Estimating Equations for Semiparametric Transformation Models with Missing Covariates**—✦Yang Ning, University of Waterloo; Grace Y. Yi, University of Waterloo; Nancy Reid, University of Toronto

129 CC-525b

■ Customers and Clickstreams—Contributed

Section on Statistics in Marketing

Chair(s): Yesim Orhun, Ross School of Businenss

8:35 a.m. **Clustering Analysis of Clickstream Data in Consumer Path to Purchase**—✦Mark Irwin, Compete; Amit Phansalkar, Compete

8:50 a.m. **Performance Tournaments with Crowdsourced Judges**—✦William Heavlin, Google; Daryl Pregibon, Google

9:05 a.m. **A Model for Estimation of Anonymous Visits on Websites**—✦Julie Novak

9:20 a.m. **Detecting Consumer Experience Comments off the Web**—✦Kurt Pflughoeft, Martiz Research; Joseph J. Retzer, MarketTools Inc.

9:35 a.m. **Agent-Based Model and Statistical Engineering of Automobile Purchase Behavior and Retail Actions**—✦James Wendelberger, Urban Science

9:50 a.m. **Application of Statistical Analysis of Extreme Values to Customer Journeys**—✦Rainhard Bengez

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

130 CC-513b

■ Statistical Issues in Personalized Medicine—Contributed

Biopharmaceutical Section, Mental Health Statistics Section, Biometrics Section

Chair(s): Michael Crager, Genomic Health

8:35 a.m. **Post-GWAS Analysis of Snip Data with Applications to Systolic Blood Pressure Sensitivity to Weight and Sodium Change**—✦Jie Liu, Rutgers University; Javier Cabrera, Rutgers University; Jerry Q. Cheng, University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School; John Kostis, Robert Wood Johnson Medical School, Rutgers University

8:50 a.m. **Biomarker Cutoff Identification in Clinical Trials with Biomarker-Driven Subgroups**—✦Lin Wang, Sanofi; Lynn Wei, Sanofi

9:05 a.m. **Overview of Study Designs for Personalized Medicine**—Lei Zhu, Boston University; ✦Sandeep Menon, Pfizer Inc.; Siyan Xu, Boston University

9:20 a.m. **Personalized Medicine in Oncology: A Statistical Perspective**—✦Cheng Rong, Amgen, Inc.

9:35 a.m. **Trial Duration and Sample Size Trade-Off When There Are Subgroups with Different Expected Treatment Effects**—✦Kyle D. Rudser, University of Minnesota; Edward Bendert, Statistics Collaborative; Joseph S. Koopmeiners, University of Minnesota

9:50 a.m. **Mixture Representation of Efficacy Measures in Biomarker Studies**—✦Jason Hsu, The Ohio State University; Szu-Yu Tang, Ventana Medical Systems, Inc.

10:05 a.m. **Evaluating Marker-Guided Treatment Selection Strategies**—✦Junlong Li, Harvard University; Roland Matsouaka, Harvard University; Tianxi Cai, Harvard University

131 CC-525a

■ Physical and Engineering Sciences—Contributed

Section on Physical and Engineering Sciences

Chair(s): Peter W. Hovey, University of Dayton

8:35 a.m. **Dimensional Analysis and Its Applications in Statistics**—✦Weijie Shen, Penn State University; Dennis Kon-Jin Lin, Penn State University; Christopher J. Nachtsheim, University of Minnesota

8:50 a.m. **Inference with Interference and Interference for Inference: Modeling Potential Outcomes and Interference in a 3D Printing Experiment**—✦Arman Sabbaghi, Harvard University; Tirthankar Dasgupta, Harvard University; Jizhe Zhang, University of Southern California; Qiang Huang, University of Southern California

9:05 a.m. **Chip Placement Design in Capacitive Proximity Communication**—✦Yu-Jung Huang, I-Shou University

9:20 a.m. **Using Statistical Moments to Improve the Control of Chaotic Oscillators**—✦Morris Morgan, Hampton University; Carolyn Morgan, Hampton University

9:35 a.m. **Modeling of Multi-Modal Diffusion Processes with Applications to Protein Folding**—✦Julie Forman, University of Copenhagen; Michael Sørensen, University of Copenhagen

9:50 a.m. **Statistical Forecasting of Hurricane Power Outages**—✦Seth Guikema, The Johns Hopkins University; Roshanak Nateghi, The Johns Hopkins University; Steven Quiring, Texas A&M University

10:05 a.m. **The T-X Class of Probability Distributions**—✦Felix Famoye, Central Michigan University; Carl Lee, Central Michigan University; Ayman Alzaatreh, Austin Peay State University

132 CC-518

■ Financial Econometrics—Contributed

Business and Economic Statistics Section, International Chinese Statistical Association, International Indian Statistical Association, Scientific and Public Affairs Advisory Committee

Chair(s): Kathy Ensor, Rice University

8:35 a.m. **Regularized Portfolio Optimization Using Constrained Hierarchical Bayes Models**—✦Jiangyong Yin, The Ohio State University; Xinyi Xu, The Ohio State University

8:50 a.m. **Generalized Variance Inference for Alternative Measures of Income Inequality Based on the Pareto Distribution Function**—✦Sumith Gunasekera, University of Tennessee-Chattanooga

9:05 a.m. **Reduced-Rank Stochastic Intensity Modelling for Multivariate Point Processes**—✦Victor Solo, University of New South Wales; Ahmed Pasha, University of Sydney

9:20 a.m. **Homogeneity Test for Hidden Markov Models Using Penalized Composite Likelihood**—✦Yi Huang; Jiahua Chen, University of British Columbia

9:35 a.m. **Estimation of the Leverage Effect in Jump Processes**—✦Dan Christina Wang, Princeton University

9:50 a.m. **An Information-Theoretic Approach to Learning from Mergers and Acquisitions**—✦Padma Rao Sahib, University of Groningen; Harmen de Weerd, University of Groningen; Katrin Muehlfeld, University of Utrecht

10:05 a.m. **An Importance Sampling Approach for Exploring Likelihoods of Stochastic Differential Equations**—✦Grant Schneider, The Ohio State University

133 CC-513a

Statistical Topics in Non-Clinical Studies—Contributed

Biopharmaceutical Section, Biometrics Section

Chair(s): Jing Han, FDA CVM

8:35 a.m. **Determination of Acceptance Criteria for Statistical Equivalence Testing in CMC Applications**—✦Richard Burdick, Amgen, Inc.; Leslie Sidor, Amgen, Inc.

8:50 a.m. **Use of Acceptance Sampling Plan for Stability Studies**—✦Frank Ye, Amgen, Inc.

9:05 a.m. **Estimating Shelf Life via Mixed-Model Quantile Regression**—✦Michelle Quinlan, Novartis Oncology; Walt W. Stroup, University of Nebraska-Lincoln; Dave Christopher, Merck

9:20 a.m. **Estimation of Tukey G - and - H Distributional Family Parameters by Quantile Least Squares Method**—✦Yihuan Xu, ImClone Systems, a wholly-owned subsidiary of Eli Lilly and Company; Boris Iglewicz, Temple University

9:35 a.m. **Information Criteria as Alternatives to Hypothesis Testing**—✦Charles Tan, Pfizer Inc.

9:50 a.m. **Finding D-Optimal Design for Multi-Toxicant Poisson Model via Ultra-Dimensional Particle Swarm Optimization**—✦Jiaheng Qiu, University of California at Los Angeles; Weng Kee Wong, University of California at Los Angeles

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

134 CC-520e

Bayesian Modeling—Contributed

Section on Statistical Computing, International Indian Statistical Association

Chair(s): Derek Feng, Yale University

8:35 a.m. **A Bayesian Spatio-Temporal Geostatistical Model with an Auxiliary Lattice for Large Data Sets**—✦Ganggang Xu, Texas A&M University; Faming Liang, Texas A&M University; Marc G. Genton, KAUST

8:50 a.m. **A Product Partition Model for Detecting Change Points on General Graphs**—✦Xiaofei Wang, Yale University; John W. Emerson, Yale University

9:05 a.m. **Parameterizing Individual-Level Models of Infectious Disease Spread Using Sampling-Based Likelihood Approximations**—✦Rajat Malik, University of Guelph; Rob Deardon, University of Guelph; Grace Pui Sze Kwong, Ontario Veterinary College, University of Guelph

9:20 a.m. **Bayesian Bivariate Linear Mixed-Effects Models with Skewed Distributions, with Application to AIDS Studies**—✦Yangxin Huang, University of South Florida; Ren Chen, University of South Florida

9:35 a.m. **Prediction Intervals for Future Order Statistics from Generalized Modified Weibull Distribution**—✦Yuhlong Lio, University of South Dakota; Yu-Jau Lin, Chung Yuan Christian University; H. M. Okasha, Department of Statistics

9:50 a.m. **Sequential Bayesian Inference in Hidden Markov Stochastic Kinetic Models with Application to Detection and Response to Seasonal Epidemics**—✦Junjing Lin, University of California at Santa Barbara; Michael Ludkovski, University of California at Santa Barbara

10:05 a.m. **Convergence Assessment in Large Finite State Space MCMC with an Application to Bayesian Clustering**—✦Masoud Asgharian, McGill University; Ioana Ada Coxma, University of Ottawa; Vahid Partovi Nia, École Polytechnique Montréal

135 CC-521ab

■ Assessment of Students, Instructors, and Teaching Approaches—Contributed

Section on Statistical Education

Chair(s): Walt W. Stroup, University of Nebraska-Lincoln

8:35 a.m. **Investigation of the Impact of Nonrandomization and Ceiling Effects on Estimates of Classroom Effects from Value-Added Models**—✦Pamela Fellers, University of Nebraska-Lincoln; Walt W. Stroup, University of Nebraska-Lincoln; Jennifer Green, University of Nebraska-Lincoln

8:50 a.m. **Using Technology to Support In-Service Teachers' Conjecturing in Statistics Professional Development**—✦Jeremy Strayer, Middle Tennessee State University; Brandon Hanson, Middle Tennessee State University

9:05 a.m. **Identifying Statistical Concepts Associated with High and Low Self-Efficacy to Teach Statistics: Using the Sets Instrument with Pre-Service Middle-Grades Teachers**—✦Leigh Harrell-Williams, Georgia State University; M. Alejandra Sorto, Texas State University; Rebecca Pierce, Ball State University; T. J. Murphy, Northern Kentucky University; Lawrence M. Lesser, The University of Texas at El Paso

9:20 a.m. **Using Explanatory Item Response Model to Assess the Impact of an Inquiry-Based Science Teaching Approach**—✦Dai-trang Le, Iowa State University; Mack Shelley, Iowa State University; Brian Hand, University of Iowa; William Therrien, University of Iowa

9:35 a.m. **Does Making Connections Improve Student Attitudes?**—✦Jacqueline Wroughton, Northern Kentucky University; April Kerby, Winona State University

9:50 a.m. **Exploring the Mechanisms Underlying Gender Differences in Statistical Reasoning: A Focus on Experience and Individual Differences**—✦Nadia Martin, University of Waterloo; Jonathan Fugelsang, University of Waterloo

10:05 a.m. **Research Study to Assess Whether Mentors and Research Projects Positively Impact Student Performance**—✦Carolyn Morgan, Hampton University; Anne Pierce, Hampton University

136 CC-514b

High-Dimensional Covariance and Precision Matrix Estimation—Contributed

IMS

Chair(s): Margaret Carroll, NCHS/CDC

8:35 a.m. **Band-Width Selection for High-Dimensional Covariance Matrix Estimation**—✦Yumou Qiu; Song Xi Chen, Peking University and Iowa State University

8:50 a.m. **Statistical Inference and Optimalities in Estimation of Gaussian Graphical Model**—✦Zhao Ren, Yale University; Harrison Zhou, Yale University; Tingni Sun, University of Pennsylvania; Cun-Hui Zhang, Rutgers University

9:05 a.m. **Thresholding Test for Bandedness of Covariance Matrices**—✦Jing He, Peking University; Song Xi Chen, Peking University and Iowa State University

9:20 a.m. **Law of Log Determinant of Sample Covariance Matrix and Optimal Estimation of Differential Entropy for High-Dimensional Gaussian Distributions**—✦Tengyuan Liang, University of Pennsylvania; Tony Cai, University of Pennsylvania; Harrison Zhou, Yale University

9:35 a.m. **A Fiducial Approach to Sparse Covariance Estimation**—✦Wen Shi, The University of North Carolina; Jan Hannig, The University of North Carolina at Chapel Hill

9:50 a.m. **Sparse Precision Matrix Estimation via Vector Half Operator**—✦Shota Katayama, Osaka University

10:05 a.m. **Permutation Tests for Comparison of Covariance Operators**—✦Davide Pigoli, University of Warwick; John Aston, University of Warwick; Ian L. Dryden, University of Nottingham; Piercesare Secchi, Politecnico di Milano

137 CC-512h

■ Recent Advances in Categorical and Survival Data Analysis—Contributed

Section on Statistics in Epidemiology

Chair(s): Feng Dai, Yale Center for Analytical Sciences

8:35 a.m. **Log-Binomial Model and Its Comparison with Suitable Models**—✦Shailendra Banerjee, Centers for Disease Control and Prevention

8:50 a.m. **Are Robust Poisson Models Less Affected by Outliers Comparing to Log-Binomial Models When Estimating Relative Risks for Common Binary Outcomes?**—✦Wansu Chen, Kaiser Permanente; Bonnie H. Li, Kaiser Permanente Southern California; Jiaxiao Shi, Kaiser Permanente; Lei Qian, Kaiser Permanente Southern California; Robert S. Zeiger, Kaiser Permanente Southern California; Michael Schatz, Kaiser Permanente Medical Center

9:05 a.m. **Case-Wise Diagnostics for the Multinomial Log-Link Regression Model**—✦Leigh Blizzard, University of Tasmania; David W. Hosmer, University of Massachusetts-Amherst; Stephen J. Quinn, Flinders Clinical Effectiveness; Jana D. Canary, Menzies Research Institute Tasmania

9:20 a.m. **Predictors of Colon Cancer Screening Among Older Adults in East South Central**—✦Yating Yeh

9:35 a.m. **Application of a Reconstructed Population Method to the Global Enteric Multicenter Study Mortality Data**—✦Yukun Wu, University of Maryland School of Medicine; Diluba Nasrin, University of Maryland School of Medicine; Tamer Farag, University of Maryland School of Medicine; Karen Kotloff, University of Maryland School of Medicine; Myron Levine, University of Maryland School of Medicine; Halvor Sommerfelt, University of Bergen; William C. Blackwelder, University of Maryland School of Medicine

9:50 a.m. **Adjustment to the Proportion of Suicides to Incorporate Suicide Attempts**—✦David Lawrence, Department of Veterans Affairs Cooperative Studies Program West Haven Coordinating Center

10:05 a.m. **'Bootstrapping' by Variables: Using Resampling to Test the Robustness of Index Variables - an Application to Health Assessments**—✦Arnold Mitnitski, Dalhousie University; Melissa Andrew, Dalhousie University; Kenneth Rockwood, Dalhousie University

138 CC-512c

Disclosure Risk and Confidentiality Protection with Complex Survey Data—Contributed

Survey Research Methods Section, Health Policy Statistics Section, Scientific and Public Affairs Advisory Committee

Chair(s): Daniell Toth, Bureau of Labor Statistics

8:35 a.m. **Generation of Linearly Representative Samples**—✦F. Berenice Baez-Revueltas, ITAM; ✦Rafael Gamboa-Hirales, Tecnologico de Monterrey

8:50 a.m. **Kuk's Model Adjusted for Efficiency and Protection Using Two Non-Sensitive Questions Unrelated to the Characteristic of Interest**—✦Stephen Andrew Sedory, Texas A&M University at Kingsville; Shu-Ching Su, Texas A&M University at Kingsville; Sarjinder Singh, Texas A&M University at Kingsville

9:05 a.m. **Quasi-Empirical Bayes Estimates in Randomized Response Sampling**—✦Oluseun Odumade, Best Buy; Stephen Andrew Sedory, Texas A&M University at Kingsville; Sarjinder Singh, Texas A&M University at Kingsville

9:20 a.m. **Alternative Variance Estimators for Data Perturbed for Confidentiality Protection**—✦Jianzhu Li, Westat; Michael D. Larsen, The George Washington University; Tom Krenzke, Westat; Laura Zayatz, U.S. Census Bureau

9:35 a.m. **Likelihood-Based Finite Sample Inference Based on Synthetic Data**—✦Bimal Sinha, University of Maryland, Baltimore County

9:50 a.m. **Measures of Disclosure Risk for Functions of Totals**—✦Ann-Marie Flygare, Statistics Sweden; Helen Lindkvist, Statistics Sweden

10:05 a.m. **Alternative Disclosure Limitation Methodologies for Small Establishments in the Quarterly Census of Employment and Wages Program**—✦Spencer Jobe, Bureau of Labor Statistics; Michael Buso, Bureau of Labor Statistics; Shail Butani, Bureau of Labor Statistics; David Hiles, Bureau of Labor Statistics; Randall Powers, Bureau of Labor Statistics; Daniell Toth, Bureau of Labor Statistics

139 CC-512d

Inference and Variance Estimation with Complex Survey Data—Contributed

Survey Research Methods Section

Chair(s): Jamie Ridenhour, RTI International

8:35 a.m. **Calibration and Evaluation of Generalized Variance Functions**—✦Julie Gershunskaya, Bureau of Labor Statistics; Alan H. Dorfman, Bureau of Labor Statistics

8:50 a.m. **Variance Estimation for High-Income Tables**—✦Wei Qian, Statistics Canada

9:05 a.m. **Estimating the Variance of a Two-Phase Estimator with Sudaan 11**—✦Dhuly Chowdhury, RTI International; Phil Kott, RTI International

9:20 a.m. **An Evaluation of Successive Difference Replication Variance Estimation for Systematic Sampling**—✦Yao Li, Colorado State University; Jean Opsomer, Colorado State University

9:35 a.m. **Weighted Least Squares Estimation with Sampling Weights**—✦Hee-Choon Shin, National Center for Health Statistics

9:50 a.m. **Evaluations of Design- and Model-Based Regression Methods in Analyzing Complex Survey Data: A Simulation Study**—✦Van Parsons, National Center for Health Statistics; Rong Wei, National Center for Health Statistics; Jennifer D. Parker, National Center for Health Statistics

10:05 a.m. **Aerial-Access Creel Surveys with Incomplete Matching of Aerial and Access Components**—✦Audrey Béliveau, Simon Fraser University; Carl Schwarz, Simon Fraser University; Richard Lockhart, Simon Fraser University; Steve Arndt, Fish & Wildlife Compensation Program

140 CC-520b

Bayesian Modeling in the Life Sciences and Medicine II—Contributed

Section on Bayesian Statistical Science

Chair(s): Yan He, University of California at Irvine

8:35 a.m. **Joint Nonlinear Mixed-Effects Models and Diagnostics for Censored HIV Viral Loads with CD4 Measurement Error**—✦Mauricio Castro, University of Concepción; Dipankar Bandyopadhyay, University of Minnesota; Victor Lachos, University of Campinas

8:50 a.m. **Bayesian Smoothing Spline ANOVA for Binary Response with Dimension Reduction**—✦Chin-I Cheng; Paul Speckman, University of Missouri-Columbia

9:05 a.m. **Informative Priors for Modeling Immunogenic Responses of Biopharmaceuticals**—✦Rinke Klein Entink, TNO; Babs O. Fabriek, TNO; Geertje van Mierlo, TNO; Frans Tielen, TNO; Esther Reefman, TNO

9:20 a.m. **Bayesian Functional Regression Model for Analyzing Intracranial Pressure Data**—✦Lu Wang, University of California at Los Angeles; Donatello Telesca, University of California at Los Angeles

9:35 a.m. **A Bayesian Hierarchical Repeated Measures Model to Estimate the ED50 of Known Teratogens in Sea Urchin Eggs**—✦Martiniano Flores, University of California at Los Angeles Fielding School of Public Health; Robert E. Weiss, University of California at Los Angeles; Michael D. Collins, University of California at Los Angeles Fielding School of Public Health

9:50 a.m. **Spatial Modeling of Visual Field Data for Assessing Glaucoma Progression**—✦Brigid Betz-Stablein, Massey University; William H. Morgan, University of Western Australia; Philip H. House, University of Western Australia; Martin L. Hazelton, Massey University

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

141 CC-510c

Advances in Methods for Causal Inference—Contributed

Social Statistics Section, Korean International Statistical Society

Chair(s): Robert A. Kominski, U.S. Census Bureau

8:35 a.m. **A Causal Framework for Intervention Evaluation with Survey Data**—✦Robert Ashmead

8:50 a.m. **Principal Surrogacy in a Time-to-Event Setting**—✦Xin Gao, University of Michigan; Michael Elliott, University of Michigan

9:05 a.m. **Measuring Individual Propensity to Follow a Developmental Trajectory with Application to Real Data in the Sample of Quebec Longitudinal Study of Child Development**—✦Xuecheng Liu, University of Montréal; Richard Tremblay, University of Montréal; Sylvana Cote, University of Montréal; Rene Carbonneau, University of Montréal

9:20 a.m. **Matching on Double Balancing Scores for Estimating Average Treatment Effect in a Small Sample**—✦Xiaoshan Wang, Forsyth Institute; Jacqueline Starr, Forsyth Institute

9:35 a.m. **Enhancing Respondent Representativeness Through Responsive Design and External Benchmarks**—✦Shin-Jung Lee, University of Michigan

9:50 a.m. **Structural Equation Modeling: An Alternative to Predictive Modeling**—✦An-Lin Cheng, University of Missouri-Kansas City; Patricia J. Kelly, University of Missouri-Kansas City

10:05 a.m. **Estimating Cross-Site Impact Variation in the Presence of Heteroscedasticity**—✦Kristin Porter, MDRC; Howard S. Bloom, MDRC; Michael J. Weiss, MDRC; Stephen Raudenbush, The University of Chicago

142 CC-511d

Frames and Other Census Issues—Contributed

Government Statistics Section, Social Statistics Section, Scientific and Public Affairs Advisory Committee

Chair(s): David Dolson, Statistics Canada

8:35 a.m. **An Examination of Coverage Issues Associated with the U.S. Census Bureau's National Address List**—✦Nancy Johnson, U.S. Census Bureau; Kathleen Kephart, U.S. Census Bureau

8:50 a.m. **Improving Coverage of New College Housing in the Group Quarters Frame for the Household Surveys**—✦Bonnie Moore, U.S. Census Bureau

9:05 a.m. **Effects of Missing Data on Modeling Enumeration Status in the U.S. Census**—✦Ryan Janicki, U.S. Census Bureau; Eric Victor Slud, U.S. Census Bureau

9:20 a.m. **Research Using Administrative Records for Address List Maintenance**—Christine Tomaszewski, U.S. Census Bureau; ✦Kathleen Kephart, U.S. Census Bureau

9:35 a.m. **Model-Based Targeted Address Canvassing: A Simulation Based on the 2009 Address Canvassing Program**—✦John Boies, U.S. Census Bureau; Kevin M. Shaw, U.S. Census Bureau; Jonathan Holland, U.S. Census Bureau

9:50 a.m. **Nonresponse Followup Modeling and Microsimulation: Examining Cost-Benefit Tradeoffs for 2020**—✦Kevin M. Shaw, U.S. Census Bureau; John Boies, U.S. Census Bureau

10:05 a.m. **Constructing Tax Units from the American Community Survey**—✦Bruce Webster, U.S. Census Bureau; John Coder, U.S. Census Bureau

143 CC-514c

High-Dimensional Data Nonparametrics—Contributed

Section on Nonparametric Statistics, International Chinese Statistical Association

Chair(s): Ani Eloyan, Johns Hopkins Bloomberg School of Public Health

8:35 a.m. **On Testing Common Indices for Two Multi-Index Models**—✦Xuejing Liu; Zhou Yu, University of Wisconsin; Xuerong Meggie Wen, Missouri University of Science and Technology; Robert Paige, Missouri University of Science and Technology

8:50 a.m. **A Two-Sample Test for Equality of Means in High Dimension**—✦Karl Gregory; Soumendra N. Lahiri, North Carolina State University

9:05 a.m. **Profile Thresholded Partial Correlation Approach for Variable Selection in Partial Linear Models**—✦Lejia Lou; Runze Li, Penn State University

9:20 a.m. **Covariance-Assisted Screening and Estimation**—✦Tracy Ke, Princeton University; Jiashun Jin, Carnegie Mellon University; Jianqing Fan, Princeton University

9:35 a.m. **Fourier Analysis of Stationary Time Series in Function Space**—✦Shahin Tavakoli, EPFL; Victor Panaretos, EPFL

9:50 a.m. **Matrix Recovery by Bilinear Random Measurements**—✦Anru Zhang, University of Pennsylvania; Tony Cai, University of Pennsylvania

10:05 a.m. **A New Semiparametric Framework for Modeling Group Testing Data**—✦Dewei Wang, Clemson University; Karunarathna B. Kulasekera, University of Louisville; Colin M. Gallagher, Clemson University; Christopher S. McMahan, Clemson University

144 CC-515a

Techniques for Functional Data—Contributed

Section on Statistical Learning and Data Mining

Chair(s): Cuixian Chen, The University of North Carolina at Wilmington

8:35 a.m. **Functional Generalized Model**—✦Yichi Zhang, North Carolina State University; Ana-Maria Staicu, North Carolina State University; Arnab Maity, North Carolina State University

8:50 a.m. **Dynamic Functional Principal Components**—✦Lukasz Kidzinski, Université libre de Bruxelles

9:05 a.m. **New Ideas for Sufficient Dimension Reduction for Functional Data**—✦James Wright

9:20 a.m. **Structured Functional Principal Component Analysis**—✦Haochang Shou, Johns Hopkins Bloomberg School of Public Health; Vadim Zipunnikov, Johns Hopkins Bloomberg School of Public Health; Ciprian M. Crainiceanu, The Johns Hopkins University; Sonja Greven, Ludwig-Maximilians-Universität München

9:35 a.m. **Optimizing Spline Approximation of Functional Data**—✦Lu Wang, Rice; Dennis Cox, Rice University

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

145 CC-516c

Analytic Challenges in Epidemiological Studies and Public Health, Part 1—Contributed

Biometrics Section, Section on Statistics in Epidemiology, Scientific and Public Affairs Advisory Committee, Korean International Statistical Society

Chair(s): Bhramar Mukherjee, University of Michigan

8:35 a.m. **A Comparison of Methods and Platforms for Copy Number Variation Studies**—✦Siddharth Roy, North Carolina State University; Alison Motsinger-Reif, North Carolina State University

8:40 a.m. **Addressing Within-Subject Genomic Heterogeneity**—✦Matthew Nicholson McCall, University of Rochester Medical Center; Anthony Almudevar, University of Rochester Medical Center

8:45 a.m. **Designing a Genome-Based HIV Incidence Assay with High Sensitivity and Specificity**—Sung Yong Park, University of Southern California; ✦Tanzy Love, University of Rochester; Sally W. Thurston, University of Rochester; Alan S. Perelson, Los Alamos National Laboratory; Ha Youn Lee, University of Southern California

8:50 a.m. **Detecting Rare Variant Effects Using Extreme Phenotype Sampling in Sequencing Association Studies**—✦Ian Barnett, Harvard University; Seunggeun Lee, Harvard School of Public Health; Xihong Lin, Harvard School of Public Health

8:55 a.m. **Nonlinear Mixed Effects Models to Study Determinants of Local Airway Inflammation Using Multiple Flow Exhaled Nitric Oxide Data**—✦Sandrah Eckel, University of Southern California; Kiros Berhane, University of Southern California; Meng Liu, University of Southern California; Linn S. William, University of Southern California; Muhammad T. Salam, University of Southern California; Edward B. Rappaport, University of Southern California; Frank D. Gilliland, University of Southern California

9:00 a.m. **Excess Lung Cancer Risk Attributable to Low-Dose CT Screening Among Long-Term Smokers**—✦Rui Yang, Quintiles; Deborah Goldwasser, Rice Univeristy

9:05 a.m. **Challenges in Age-Period-Cohort Modeling of Breast Cancer Incidence**—✦Ronald Gangnon, University of Wisconsin; Brian Sprague, University of Vermont; Natasha Stout, Harvard Medical School and Harvard Pilgrim Health Care; Oguzhan Alagoz, University of Wisconsin; Amy Trentham-Dietz, University of Wisconsin

9:10 a.m. **Efficient Estimation of Relative Risk in Case-Cohort Studies**—✦Emmanuel Sampene; Abdus Wahed, University of Pittsburgh

9:15 a.m. **Incorporating Variation of Group Exposure Levels Into Estimation of Dose Response Relation in Meta-Analyses**—✦Junshan Qiu, FDA

9:20 a.m. **Correcting Bias in Effects of Risk Factors in Longitudinal Studies Due to Non-Random Missingness Using Auxiliary Data**—✦Charles Hall, Albert Einstein College of Medicine; Culing Wang, Albert Einstein College of Medicine; Mindy Katz, Albert Einstein College of Medicine; Richard Lipton, Albert Einstein College of Medicine

9:30 a.m. **Combined Statistical Approaches for Comparing Performances of Two Independent Prediction Models**—✦Hui Zhou, Kaiser Permanente; Jeff M. Slezak, Southern California Permanante Medical Group; Stephen F. Derose, Southern California Permanente Medical Group; Don Morris, Archimedes; Anny H. Xiang, Kaiser Permanente; Steve J. Jacobsen, Southern California Permanente Medical Group

9:35 a.m. **Identifying Predictors for HIV/AIDS Disease Progression and Compare Estimates from Separate and Joint Modeling of Longitudinal HIV-RNA Measurements and Survival Outcome (AIDS)**—✦Prosanta Mondal, University of Saskatchewan; Stuart Skinner, University of Saskatchewan; Hyun-Ja Lim, University of Saskatchewan

9:40 a.m. **Gene-Environment Interaction Analysis for Repeated Measures Data with AMMI Models**—✦Yi-An Ko, University of Michigan; Bhramar Mukherjee, University of Michigan

9:45 a.m. **A Standardization Initiative to Link Public Health Surveillance Problem Owners to Solution Developers**—✦Howard Burkom, Johns Hopkins Applied Physics Lab

9:50 a.m. **A Comparison of Knot Selection Algorithms for B-Spline Varying-Coefficient Methods When Controlling for Nonignorable Dropout**—✦Camille Moore, Colorado School of Public Health, University of Colorado at Denver; Samantha MaWhinney, Colorado School of Public Health; Jeri Forster, Colorado School of Public Health; Nichole Carlson, Colorado School of Public Health, University of Colorado at Denver

9:55 a.m. **Point and Interval Estimation of Average Population Attributable Fraction in a Matched Case Control Design**—✦Lin H. Tian, Centers for Disease Control and Prevention; Laura A. Schieve, Centers for Disease Control and Prevention; Owen Devine, Centers for Disease Control and Prevention

10:00 a.m. **Risk-Ranking: Is It Meta-Meta-Analysis?**—✦Mary Bartholomew, FDA Center for Veterinary Medicine

10:05 a.m. **Current European Perspective in Structured Benefit-Risk Assessment**—✦Shihua Wen, AbbVie

10:10 a.m. **Using Delong, Fligner, and Birnbaum's Method to Estimate Standard Errors of AUC Regression with Covariates**—✦Amy Buros, Baylor University; Jack Tubbs, Baylor University

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

146 CC-510a

■ ● Paper Highlights from Bayesian Analysis—Invited

Section on Bayesian Statistical Science, International Society for Bayesian Analysis (ISBA), Korean International Statistical Society

Organizer(s): Herbie Lee, University of California at Santa Cruz

Chair(s): Marina Vannucci, Rice University

10:35 a.m. **Spatial Quantile Multiple Regression Using the Asymmetric Laplace Process**—✦Kristian Lum, Virginia Tech; Alan E. Gelfand, Duke University

11:05 a.m. **Combining Expert Knowledge Elicited from Experts for Bayesian Priors**—✦Samantha Low-Choy, Queensland University of Technology

11:35 a.m. **Bayesian Clustering in Decomposable Graphs**—✦Luke Bornn, Harvard University; François Caron, INRIA Bordeaux-Sud-Ouest

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

147 CC-511c

■ Recent Advances in Dose-Finding Methods Addressing Practical Issues—Invited

ENAR, Biopharmaceutical Section, Biometrics Section

Organizer(s): Shing M. Lee, Columbia University

Chair(s): Shing M. Lee, Columbia University

10:35 a.m. **How Good (or How Bad) Are New (or Old) Dose-Finding Designs?**—✦John O'Quigley, Universsity Paris 6

11:00 a.m. **Challenges of Phase I Trials with Dose Expansion Cohorts**—✦Alexia Iasonos, Memorial Sloan-Kettering Cancer Center; John O'Quigley, Universsity Paris 6

11:25 a.m. **Objective Calibration of the Bayesian Continual Reassessment Method**—✦Ken Cheung, Columbia University; Shing M. Lee, Columbia University

11:50 a.m. **An Adaptive Study Design for Dose-Finding Based on Both Safety and Immunologic Response for Oncology Clinical Trials**—✦Elizabeth Garrett-Mayer, Hollings Cancer Center, Medical University of South Carolina; Cody Chiuzan, Hollings Cancer Center, Medical University of South Carolina

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

148 CC-516c

Shrinkage and Variable Selection—Invited

SSC, Statistical Learning and Data Mining Section

Organizer(s): Jianan Peng, Acadia University

Chair(s): Patrick Brown, University of Toronto

10:35 a.m. **Variable Selection and Inference Procedures for Marginal Analysis of Longitudinal Data with Missing Observations or Measurement Error—** ✦Grace Y. Yi, University of Waterloo

11:00 a.m. **Regularization on Multivariate Functional-Coefficient Regression Models—**✦Jiancheng Jiang, The University of North Carolina at Charlotte

11:25 a.m. **Estimation of Symmetry-Constrained Gaussian Graphical Models: Application to Clustered Dense Networks—**✦Xin Gao, York University; Helene Massam, York University

11:50 a.m. **Shrinkage Estimation for High Dimensional—** Xiaoli Gao, Oakland University; ✦Ejaz Syed Ahmed, Brock University

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

149 CC-511f

■ Mendelian Randomization Methods for Causal Inference—Invited

Section on Statistics in Epidemiology, Biometrics Section

Organizer(s): Dylan S. Small, University of Pennsylvania

Chair(s): Dylan S. Small, University of Pennsylvania

10:35 a.m. **Mendelian Randomization Analysis for Dichotomous Disease Traits Under Outcome-Dependent Sampling—**✦James Dai, Fred Hutchinson Cancer Research Center

11:00 a.m. **Methodological Challenges in Mendelian Randomization Analysis—**✦Tyler J. VanderWeele, Harvard School of Public Health

11:25 a.m. **Mendelian Randomization Assumptions Revisited—** ✦Vanessa Didelez, Bristol University

11:50 a.m. **Genome-Wide Quantification of Expression QTLs for Mendelian Randomization—**✦Nancy Zhang, University of Pennsylvania; Dylan S. Small, University of Pennsylvania; Yang Jiang, University of Pennsylvania

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

150 CC-516b

■ Getting It Right in Comparative Effectiveness Research: Design Matters!—Invited

Health Policy Statistics Section, Section on Statistics in Epidemiology

Organizer(s): Elizabeth R. Zell, Centers for Disease Control and Prevention

Chair(s): Sue M. Marcus, Columbia/New York State Psychiatric Institute

10:35 a.m. **A Propensity Score Design That Parallels a Large Randomized Experiment: Effect of Single Versus Double Embryo Transfer for in Vitro Fertilization—** ✦Cassandra Wolos Pattanayak, Harvard University; Donald B. Rubin, Harvard University

11:00 a.m. **Assessing the Effectiveness of Intrapartum Antibiotic Prophylaxis for Prevention of Early-Onset Group B Streptococcal Disease Through Propensity Score Design—**✦Elizabeth R. Zell, Centers for Disease Control and Prevention; Stephanie Schrag, Centers for Disease Control and Prevention; Tarayn Fairlie, Centers for Disease Control and Prevention

11:25 a.m. **Use and Misuse of Observational Data: The Critical Importance of Sound Study Design—**✦Allen Heller, Bayer HealthCare Pharmaceuticals

11:50 a.m. Disc: Donald B. Rubin, Harvard University

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

151 CC-710b

■ ● Annals of Applied Statistics Discussion Paper: Estimating the Historical and Future Probabilities of Large Terrorist Events—Invited

IMS, Section on Statistics in Defense and National Security, Scientific and Public Affairs Advisory Committee

Organizer(s): Stephen E. Fienberg, Carnegie Mellon University

Chair(s): Susan Paddock, RAND Corporation

10:35 a.m. **Estimating the Historical and Future Probabilities of Large Terrorist Events—**✦Aaron Clauset, University of Colorado at Boulder; Ryan Woodard, ETH Zurich

11:15 a.m. Disc: Cosma Shalizi, Carnegie Mellon University

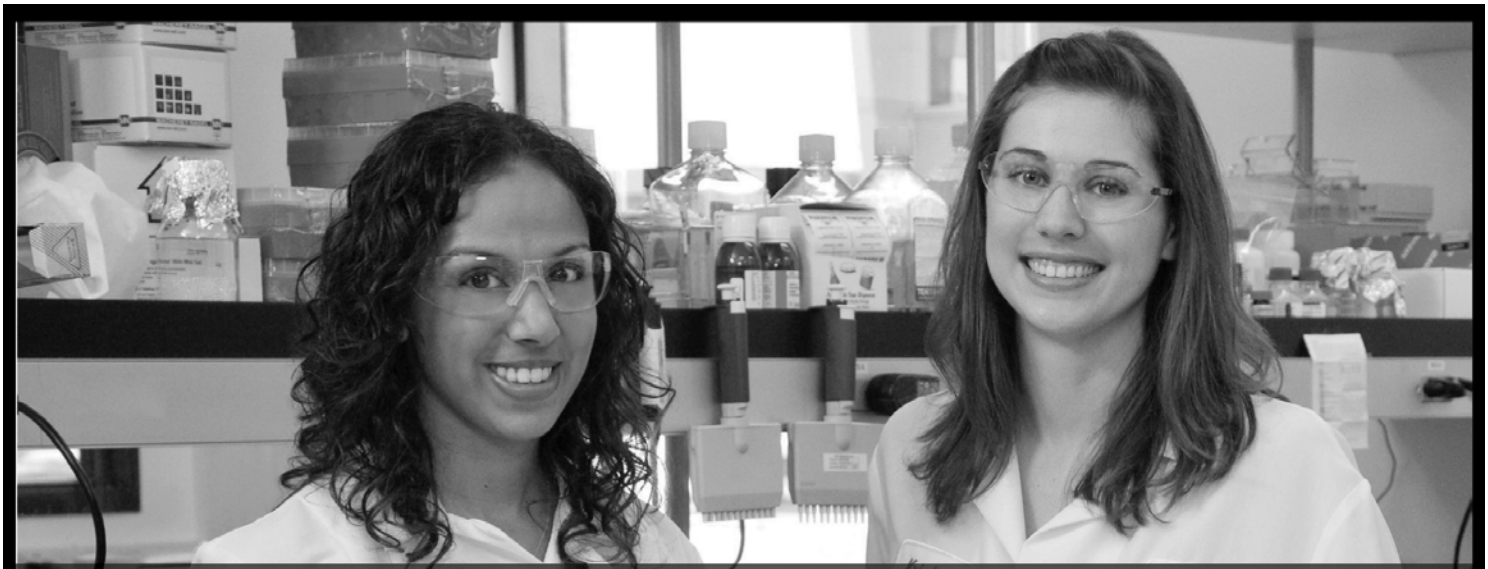
11:25 a.m. Disc: Brian J. Reich, North Carolina State University

11:35 a.m. Disc: George Mohler, Santa Clara State University

11:45 a.m. Disc: Gentry White, University of Queensland

11:55 a.m. Disc: Michael Porter, The University of Alabama

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



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Senior Statistical Programmer – Req. #12210
- Acts as lead statistical programmer for multiple projects.
- Identifies potential issues in statistical analysis and proposes solutions.
- Work as a primary programmer for multiple Phase 1-3 studies and as a secondary programming contact for one or more Phase 1-3 studies.

Applications Analyst II SharePoint – Req. #9523
- Participates in the evaluation, design and development of database applications that automate and support Biometrics internal processes.
- Provides end-user support for multiple systems.

Associate Director, Biostatistics – Req. #10662
- Uses knowledge of regulatory requirements regarding statistical principles to ensure the company meets regulatory, scientific and business objectives.
- Oversees and contributes to the completion of all technical and operational statistical activities.

Senior Manager, Biostatistics – Req. #11378
- Provides overall leadership for a departmental strategic initiative.
- Uses knowledge of regulatory requirements regarding statistical principles to ensure the company meets regulatory, scientific and business objectives.

Senior Biostatistician – Req. #11926
- Provides statistical consultation on trial design and study endpoints.
- Calculates sample sizes and authors statistical analysis plans.
- Works on 4-6 clinical trials as well as other assigned tasks.

Manager, Statistical Programming – Req. #12458
- Generates and oversees the production of statistical output.
- Responsible for all statistical programming activities within a therapeutic project or equivalent.

Assoc. Manager, Clinical Data Management – Req. #12502
- Works to meet project deliverables and timelines for moderately complex clinical data and data structure across all projects.
- Trains and mentors CDM staff on business process and clinical programs.

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152 CC-516a

Toward Better Statistical Methods for Causal Inference—Invited

Social Statistics Section, SSC, Section on Statistics in Epidemiology

Organizer(s): Zhiqiang Tan, Rutgers University

Chair(s): Eric Tchetgen Tchetgen, Harvard University

10:35 a.m. **Set-Valued Dynamic Treatment Regimes for Competing Outcomes**—✦Eric Laber, North Carolina State University; Daniel J. Lizotte, University of Waterloo; Bradley Ferguson, North Carolina State University

10:55 a.m. **Robust Estimation of Inverse Probability Weights for Marginal Structural Models**—✦Kosuke Imai, Princeton University; Marc Ratkovic, Princeton University

11:15 a.m. **Improving the Finite-Sample Performance of Doubly Robust Estimators Through Focused Nuisance Parameter Estimation**—✦Karel Vermeulen, Ghent University; Stijn Vansteelandt, Ghent University

11:35 a.m. **Improving Doubly Robust Estimation via Model Comparison**—✦Zhiqiang Tan, Rutgers University

11:55 a.m. Disc: James Robins, HSPH

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

153 CC-519b

■ Statistics in Chemistry and Chemical Biology—Invited

Section on Physical and Engineering Sciences, Korean International Statistical Society

Organizer(s): Kirby Shedden, University of Michigan

Chair(s): Kirby Shedden, University of Michigan

10:35 a.m. **Robust Analysis of High-Throughput Screening (HTS) Assay Data**—✦Changwon Lim, Loyola University; Pranab K. Sen, The University of North Carolina at Chapel Hill; Shyamal D. Peddada, NIEHS, National Institutes of Health

11:05 a.m. **Statistical Analysis of Raman Spectroscopy Data in a Bone Healing Study**—✦Arash Amini, University of Michigan; Liza Levina, University of Michigan; Kirby Shedden, University of Michigan

11:35 a.m. **Local Kernel Canonical Correlation Analysis with Application to Virtual Drug Screening**—✦Daniel Victor Samarov, National Institute of Standards and Technology; Yufeng Liu, The University of North Carolina; Christopher Grulke, Environmental Protection Agency; Alexander Tropsha, The University of North Carolina at Chapel Hill; J. S. Marron, The University of North Carolina

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

154 CC-511d

Showcase of Analysis of Correlated Measurements—Invited

International Chinese Statistical Association, SSC, Statistical Learning and Data Mining Section, WNAR, Biometrics Section

Organizer(s): Naisyin Wang, University of Michigan

Chair(s): Naisyin Wang, University of Michigan

10:35 a.m. **Challenges and New Approaches to Merging Longitudinal or Clustered Studies**—✦Lu Wang, Univeristy of Michigan; Fei Wang, Wayne State University; Peter X.K. Song, University of Michigan

11:00 a.m. **Joint Analysis of Multivariate Spatial Count and Zero-Heavy Count Outcomes Using Common Spatial Factor Models**—✦Charmaine Dean, University of Western Ontario; Cindy Feng, University of Saskatchewan

11:25 a.m. **Varying-Coefficient Additive Model for Functional Data**—✦Jane-Ling Wang, University of California at Davis; Xiaoke Zhang, University of California at Davis

11:50 a.m. **The Prevention and Detection of Differential Measurement Biases in Analyses of Multiply Measured Outcomes**—✦Karen Bandeen-Roche, Johns Hopkins Bloomberg School of Public Health; Yuxin Zhu, Nanjing University

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

155 CC-510c

■ Scaling Bayes Up and Out—Invited

IMS, International Society for Bayesian Analysis (ISBA), Section on Statistical Computing

Organizer(s): James G. Scott, The University of Texas at Austin

Chair(s): James G. Scott, The University of Texas at Austin

10:35 a.m. **Bayesian Estimation on High-Frequency Time Series Data**—✦Natesh S. Pillai, Harvard University

11:05 a.m. **Massive Data, Massive Parallelization, and the Bayesian Self-Controlled Case Series**—✦Marc A. Suchard, University of California at Los Angeles; Trevor Shaddox, University of California at Los Angeles; David Madigan, Columbia University

11:35 a.m. **MCMC and the Bias-Variance Tradeoff**—✦Anoop Korattikara, University of California; Yutian Chen, University of California at Irvine; Max Welling, University of Amsterdam

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

156 CC-513b

■ ● Vertical Integration of High-Throughput Biological Data—Invited

WNAR, Statistical Learning and Data Mining Section, Biometrics Section, Section on Statistics in Epidemiology, Korean International Statistical Society

Organizer(s): Jean Yee Hwa Yang, University of Sydney
Chair(s): Katerina Kechris, University of Colorado

10:35 a.m. **Removing Unwanted Variation from High-Dimensional Data with Negative Controls**—✦Johann Gagnon-Bartsch, University of California at Berkeley; Laurent Jacob, University of California at Berkeley; Terence Speed, The Walter & Eliza Hall Institute of Medical Research

11:00 a.m. **Genomic Data Integration to Improve Disease Subtype Discovery**—✦George Tseng, University of Pittsburgh; Sunghwan Kim, University of Pittsburgh; Caleb Huo, University of Pittsburgh

11:25 a.m. **Integrating Multi-Layered Data for Biomarker Discovery**—✦Jean Yee Hwa Yang, University of Sydney; Kaushala Jayawardana, University of Sydney; Samuel Mueller, University of Sydney

11:50 a.m. **Connecting the Layers of the Epigenome**—✦Nicola Joy Armstrong, Garvan Institute of Medical Research

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

157 CC-710a

JASA Theory and Methods—Invited

JASA, Theory and Methods

Organizer(s): Jun S. Liu, Harvard University
Chair(s): Jun S. Liu, Harvard University

10:35 a.m. **Generalized Jackknife Estimators of Weighted Average Derivatives**—✦Matias Damian Cattaneo, University of Michigan; Richard Crump, Federal Reserve Bank of New York; Michael Jansson, University of California at Berkeley

11:15 a.m. Disc: Enno Mammen, University of Mannheim

11:35 a.m. Disc: Holger Dette, Ruhr-Universitä Bochum

11:55 a.m. Disc: Donglin Zeng, The University of North Carolina

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

Invited Panels
10:30 a.m.–12:20 p.m.

158 CC-516e

■ Help, I'm Supposed to Teach! How to Teach Biostatistics to Nonstatisticians in Biomedical Environments—Invited

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

Organizer(s): Constantine Daskalakis, Thomas Jefferson University
Chair(s): Constantine Daskalakis, Thomas Jefferson University

Panelists: ✦Scott Evans, Haravard University School of Public Health
✦Vincent Lo Re, University of Pennsylvania
✦Megan Mocko, University of Florida
✦Lisa Sulllivan, Boston University School of Public Health
✦Roger Vaughan, Columbia University

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

159 CC-524a

■ ● Secrets to Effective Communication for Statistical Consultants—Invited

Section on Statistical Consulting, Statistics Without Borders

Organizer(s): Isabella R. Ghement, Ghement Statistical Consulting Company Ltd.
Chair(s): Isabella R. Ghement, Ghement Statistical Consulting Company Ltd.

Panelists: ✦Jeffrey A. Bakal, Canadian VIGOUR Centre, Faculty of Medicine and Dentistry
✦Alan Salzberg, Analysis & Inference Inc.
✦David R. Bristol, Statistical Consulting Services, Inc.
✦Ralph M. Turner, Healthcore
✦John (Jack) H Schuenemeyer, Southwest Statistical Consulting, LLC
✦Colleen Mangeot, Cincinnati Children's Hospital
✦Elena G. Rantou (Randou), George Mason University

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

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

160 CC-521ab

■ ● Risk Assessment in Lifetime Data Analysis—Topic-Contributed

Section on Risk Analysis, SSC

Organizer(s): Mei-Ling Ting Lee, University of Maryland

Chair(s): Mei-Ling Ting Lee, University of Maryland

10:35 a.m. **Evaluating Readmission Rates in Dialysis Facilities with or Without Adjustment for Hospital Effects**—✦Kevin (Zhi) He, University of Michigan; John David Kalbfleisch, University of Michigan; Yijiang Li, Google; Yi Li, University of Michigan

10:55 a.m. **Semiparametric Estimation Methods for Longitudinal Data with Informative Observation Times**—✦Xingqiu Zhao, The Hong Kong Polytechnic University

11:15 a.m. **Predictiveness in the Presence of Censoring**—✦David Oakes, University of Rochester Medical Center

11:35 a.m. **Semiparametric Extended Hazard Cure Models**—✦Chen-Hsin Chen, Academia Sinica (Institute of Statistical Science); Ken-Ning Hsu, Academia Sinica (Institute of Statistical Science)

11:55 a.m. **Modeling Composite Degradation Processes in Lifetime Data Analysis**—✦George Whitmore, McGill University; Mei-Ling Ting Lee, University of Maryland

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

161 CC-512c

Disparities as Nonparametric Interfaces to Parametric Models—Topic-Contributed

Section on Nonparametric Statistics

Organizer(s): Giles Hooker, Cornell University

Chair(s): Anand Vidyashankar, George Mason University

10:35 a.m. **Robust Dimension Reduction in Regression Using Divergences**—✦Tharuvai Sriram, University of Georgia

10:55 a.m. **Robust High-Dimensional Testing Using a Minimum Hellinger Distance Procedure**—✦Bret Hanlon

11:15 a.m. **Measures of Robustness in Regularized Estimates**—✦Giles Hooker, Cornell University

11:35 a.m. **Large Deviations for Minimum Hellinger Distance Estimators**—✦Jeffrey F. Collamore, University of Copenhagen; Anand Vidyashankar, George Mason University

11:55 a.m. **Measuring and Testing Mutual Multivariate Independence**—✦David Matteson, Cornell University

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

162 CC-515c

● Celebrating 30 Years of the Survey of Consumer Finances—Topic-Contributed

Survey Research Methods Section, Social Statistics Section, Scientific and Public Affairs Advisory Committee

Organizer(s): Steven Pedlow, NORC at the University of Chicago

Chair(s): Steven Pedlow, NORC at the University of Chicago

10:35 a.m. **Some Almost-Forgotten SCF Days, Imputed, Occasionally Multiply**—✦Daniel Lee, NORC, at the University of Chicago; Fritz J. Scheuren, NORC at the University of Chicago

10:55 a.m. **An Enduring Partnership: Incorporating Administrative Data Into Sample Design for the Survey of Consumer Finances**—✦Barry Johnson, Statistics of Income, IRS

11:15 a.m. **The Worst of Times, the Best of Times: A History of Coping in the SCF**—✦Arthur Kennickell, Federal Reserve Board

11:35 a.m. **Identifying Data Problems and Improving Data Quality in the Survey of Consumer Finances**—✦Catherine Haggerty, NORC at the University of Chicago; Micah Sjoblom, NORC at the University of Chicago; Steven Pedlow, NORC at the University of Chicago

11:55 a.m. **Using the Survey of Consumer Finances in Federal Reserve Board Policy Analysis**—✦John Sabelhaus, Federal Reserve Board; Kevin Moore, Federal Reserve Board; Jesse Bricker, Federal Reserve Board

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

163 CC-511b

■ Enrichment Clinical Trials: Design, Implementation, and Regulatory Perspectives—Topic-Contributed

Biopharmaceutical Section, Mental Health Statistics Section, International Chinese Statistical Association, Biometrics Section, International Indian Statistical Association, Scientific and Public Affairs Advisory Committee

Organizer(s): Ray Liu, Millennium: The Takeda Oncology Company
Chair(s): Gregory Hather, Millennium: The Takeda Oncology Company

10:35 a.m. **Challenges in Oncology Drug-Diagnostics Co-Development**—✦Ru-Fang Yeh, Genentech, Inc.

10:55 a.m. **Quantitative Considerations for Enrichment Clinical Trial Implementation: Marker Prevalence, Effect Size, Diagnostic Assay Performance, Sample Size, and Beyond**—✦Ray Liu, Columbia University

11:15 a.m. **Decisionmaking for Enrichment Clinical Trial Implementation: Effect of Trial Strategies on Operations and Revenues**—✦Feng Gao, Millennium; Hongliang Shi, Millennium; Yanyan Zhu, Millennium

11:35 a.m. **Biomarker Thresholding to Identify Subgroup of Patients with Treatment Benefit**—✦Yi Liu, Millennium: The Takeda Oncology Company; Jason Hsu, The Ohio State University

11:55 a.m. **A Brief Overview of the Draft Enrichment Guidance**—✦Boguang Zhen, FDA

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

164 CC-510d

■ ● Stochastic Downscaling Methods in Geosciences—Topic-Contributed

Section on Statistics and the Environment

Organizer(s): Julie Carreau, Institut de Recherche pour le Développement (IRD)
Chair(s): Julie Carreau, Institut de Recherche pour le Développement (IRD)

10:35 a.m. **Stochastic Downscaling for Large Spatial Data Sets**—✦William Kleiber, University of Colorado

10:55 a.m. **Spatio-Temporal Change of Support Methods in Aquarius Sea Surface Salinity Data**—✦Elizabeth Mannshardt, North Carolina State University; Katarina Sucic, North Carolina State University; Frederick Bingham, The University of North Carolina at Wilmington; Montserrat Fuentes, North Carolina State University

11:15 a.m. **Spatial Modeling of Rainfall Intensity-Frequency-Duration Curves**—✦Aloke Phatak, CSIRO Mathematics, Informatics and Statistics; Mark Palmer, CSIRO Mathematics, Informatics and Statistics; Eric Lehmann, CSIRO Mathematics, Informatics and Statistics; Kwok Wai Lau, CSIRO Mathematics, Informatics and Statistics

11:35 a.m. **Flexible, Nonlinear Probabilistic Downscaling Models: Conditional Density Estimation Networks and Quantile Regression Neural Networks**—✦Alex Cannon, Pacific Climate Impacts Consortium

11:55 a.m. **Floor Discussion**

165 CC-512e

■ ● Statistical Methodology for High-Dimensional and High-Throughput Biomedical Data—Topic-Contributed

Biometrics Section, Section on Statistics in Epidemiology

Organizer(s): Sujay Datta, University of Akron
Chair(s): Sujay Datta, University of Akron

10:35 a.m. **Issues in Constructing 3D Chromosome Configurations from Chromatin Conformation Capture Assays**—✦Mark Segal, University of California at San Francisco

10:55 a.m. **Hierarchical Geostatistical Analysis in Clustering fMRI Time Series**—✦Jun Ye, University of Akron

11:15 a.m. **A Stratified Sampling Scheme for Clique Estimation in Bait-Prey Graphs**—✦Denise Scholtens, Northwestern University Medical School

11:35 a.m. **ROCs: Receiver Operating Characteristic Surface for Class-Skewed High-Throughput Data**—✦Tianwei Yu, Emory University

11:55 a.m. **Leverage GPU Computing Power for High-Dimensional Data Analysis in R**—✦Nathan Morris, Case Western Reserve University

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

166 CC-520c

■ Statistical Learning and Data Mining: Winners of Student Paper Competition—Topic-Contributed

Section on Statistical Learning and Data Mining, Section on Statistical Computing

Organizer(s): Mu Zhu, University of Waterloo
Chair(s): Mu Zhu, University of Waterloo

10:35 a.m. **Multicategory Angle-Based Large Margin Classification**—✦Chong Zhang, The University of North Carolina at Chapel Hill; Yufeng Liu, The University of North Carolina

10:55 a.m. **Discrepancy Pursuit: A Nonparametric Framework for High-Dimensional Variable Selection**—✦Li Liu, Carnegie Mellon University; Kathryn Roeder, Carnegie Mellon University; Han Liu, Princeton University

11:15 a.m. **PenPC: A Two-Step Approach to Estimate the Skeletons of High-Dimensional Directed Acyclic Graphs**—✦Min Jin Ha; Wei Sun, The University of North Carolina at Chapel Hill; Jichun Xie, Temple University

11:35 a.m. **An Underdetermined Peaceman-Rachford Splitting Algorithm with Application to Highly Nonsmooth Sparse Learning Problems**—✦Zhaoran Wang, Princeton University; Han Liu, Princeton University; Xiaoming Yuan, Hong Kong Baptist University

11:55 a.m. **Latent Supervised Learning**—✦Susan Wei, The University of North Carolina

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

167 CC-524b

■ Business Analytics: The Role of Statistics—Topic-Contributed

Business and Economic Statistics Section, Section on Statistics in Marketing, Scientific and Public Affairs Advisory Committee

Organizer(s): Sinjini Mitra, California State University at Fullerton

Chair(s): Randy Bartlett, Blue Sigma Analytics

10:35 a.m. **The State of Business Analytics in Academia and Practice**—✦Bhushan Kapoor, California State University at Fullerton; Ofir Turel, California State University at Fullerton

10:55 a.m. **Analytics in Health Care: A Health Plan Case Study**—✦Sinjini Mitra, California State University at Fullerton; Rema Padman, Carnegie Mellon University

11:15 a.m. **Analytics on Ice: Financial Evaluations of Player Contributions in Hockey**—✦Andrew Thomas, Carnegie Mellon University

11:35 a.m. **Design and Analysis of Marketing Experiments on Social Networks**—✦Michael Finegold, Carnegie Mellon University

11:55 a.m. **Are the Classical Variable Selection Techniques Obsolete?**—✦F. Michael Speed, SAS Institute

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

168 CC-519a

■ ● Statistical Literacy 2013—Topic-Contributed

Section on Statistical Education, Scientific and Public Affairs Advisory Committee

Organizer(s): Milo Schield, Augsburg College

Chair(s): Daniel Theodore Kaplan, Macalester College

10:35 a.m. **The Relevance of Rhetoric to Statistical Literacy**—✦Joel Best

10:55 a.m. **Getting to Know Your Variables: A Critical Element of a Statistical Analysis**—✦Jane Miller, Rutgers University

11:15 a.m. **Adding Context to the Introductory Statistics Course**—✦Milo Schield, Augsburg College

11:35 a.m. **Challenging Statistical Claims in the Media: Course and Gender Effects**—✦Rose Martinez-Dawson, Clemson University

11:55 a.m. **The Key Components of a Numeracy Infusion Course for Higher Education (NICHE): Using Best Practices to Train Faculty**—✦Esther Wilder, Lehman College, CUNY; Elin Waring, Lehman College; Frank Wang, LaGuardia Community College; Dene Hurley, Lehman College

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

169 CC-522bc

■ Statistical Process Control Research: Some Recent Advances—Topic-Contributed

Quality and Productivity Section

Organizer(s): Subha Chakraborti, The University of Alabama

Chair(s): Subha Chakraborti, The University of Alabama

10:35 a.m. **Statistical Quality Control in a Service Environment**—✦Fugee Tsung, The Hong Kong University of Science & Technology

10:55 a.m. **On the Design and Implementation of a Phase II Distribution-Free CUSUM Exceedance Control Chart for Monitoring Unknown Location**—✦Marien Graham, University of Pretoria; Amitava Mukherjee, Indian Institute of Management; Subha Chakraborti, The University of Alabama

11:15 a.m. **A Distribution-Free CUSUM Control Chart for Joint Monitoring of Location and Scale**—✦Amitava Mukherjee, Indian Institute of Management

11:35 a.m. **A Linear Rank Nonparametric CUSUM Control Chart for Detecting Mean Shifts**—✦Gary Mercado, Utah Valley University; Subha Chakraborti, The University of Alabama

11:55 a.m. **State of the Art in Sequential Change-Point Detection**—✦Aleksey Polunchenko, Binghamton University

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

170 CC-514a

■ Issues in Building Imputation Models for Missing Data Techniques—Topic-Contributed

Biopharmaceutical Section, Biometrics Section

Organizer(s): Robert D. Small, Sanofi Pasteur

Chair(s): Aleksandra Kolenc-Saban, Sanofi Pasteur

10:35 a.m. **Missing Data Imputation Under Intention-to-Treat—**✦Steven Snapinn, Amgen, Inc.

10:55 a.m. **Some Statistical Issues in Estimating Slope Effect for Repeated Measures—**✦Tao Song, Biogen Idec

11:15 a.m. **A Two-Step Multiple Imputation for Analysis of Repeated Measures with Left-Censored and Missing Data—**✦G. Frank Liu, Merck Research Laboratories; Peter Hu, Bristol-Myers Squibb; Devan Mehrotra, Merck

11:35 a.m. **Issues in Building Imputation Models for Missing Data Techniques—**Robert D. Small, Sanofi Pasteur; ✦Christele Augard, Sanofi Pasteur

11:55 a.m. Disc: Tom Permutt, FDA/CDER

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

171 CC-515a

Design and Adjustment Challenges in Modern Surveys—Topic-Contributed

Government Statistics Section, Survey Research Methods Section, International Chinese Statistical Association, Section on Statistics in Epidemiology, Statistics Without Borders

Organizer(s): Denise A. Abreu, USDA/NASS

Chair(s): Denise A. Abreu, USDA/NASS

10:35 a.m. **Adjustment Methodologies for the Census of Agriculture—**✦Andrea Lamas, USDA/National Agricultural Statistics Service; Linda Young, University of Florida; Denise A. Abreu, USDA/NASS; Shu Wang, University of Florida; Daniel Adrian, USDA/National Agricultural Statistics Service

10:55 a.m. **Properties of Some Size-Based Sample Designs Based on Imperfect Frame Information—**✦Randall Powers, Bureau of Labor Statistics; John Eltinge, Bureau of Labor Statistics

11:15 a.m. **Cellular RDD Sampling Enhancements for the Behavioral Risk Factor Surveillance System—**✦G. Machell Town, Centers for Disease Control and Prevention; Ashley Hyon, Marketing Systems Group; Denise Bradford, Centers for Disease Control and Prevention and Northrop Grumman; Carol Pierannunzi, Centers for Disease Control and Prevention; Carol Gotway Crawford, Centers for Disease Control and Prevention

11:35 a.m. Disc: Wendy Barboza, USDA/NASS

11:55 p.m. **Floor Discussion**

172 CC-520b

■ ● Bayesian Computations: Challenges, Solutions, and Implementations in Medical Product Development—Topic-Contributed

Section on Statistical Computing, International Society for Bayesian Analysis (ISBA), Scientific and Public Affairs Advisory Committee

Organizer(s): Fanni Natanegara, Eli Lilly and Company

Chair(s): Fanni Natanegara, Eli Lilly and Company

10:35 a.m. **Bayesian Computation Without Tears—**✦Mani Lakshminarayanan, Merck Research Laboratories

10:55 a.m. **Learning Bayesian Computation from A to Z—**✦Aijun Gao, inVentiv Health Clinical; Fanni Natanegara, Eli Lilly and Company; Jinghui Liu, inVentiv Health Clinical; Wei Zou, inVentiv Health Clinical

11:15 a.m. **Practical Bayesian Computation in Clinical Trials—**✦Karen Lynn Price, Eli Lilly and Company; Fang Chen, SAS Institute; Baoguang Han, Eli Lilly and Company

11:35 a.m. **Advances in Facilitated Prior Elicitation—**✦David Kahle, Baylor University; James D. Stamey, Baylor University; Karen Lynn Price, Eli Lilly and Company; Fanni Natanegara, Eli Lilly and Company; Baoguang Han, Eli Lilly and Company

11:55 a.m. Disc: Neal Thomas, Pfizer Inc.

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

173 CC-511a

■ ● Nontraditional Approaches to Process Models in Space and/or Time—Topic-Contributed

Biometrics Section, Section on Statistical Learning and Data Mining, Section on Statistical Computing

Organizer(s): Cynthia Rudin, Massachusetts Institute of Technology

Chair(s): Ali Shojaie, University of Washington

10:35 a.m. **Valid Post-Selection Inference—**✦Andreas Buja, University of Pennsylvania

10:55 a.m. **Geometric Analysis of Textured 3D Scenes via Locally Scaled Point Processes—**✦Thordis Thorarinsdottir, Norwegian Computing Center; Eva-Maria Didden, Heidelberg University; Alex Lenkoski, Norwegian Computing Center; Christoph Schnoerr, Heidelberg University

11:15 a.m. **Spatio-Temporal Models for Point Pattern Data with Network-Dependent Sampling—**✦Tyler H. McCormick, University of Washington

11:35 a.m. **The Reactive Point Process Model and Its Application to Electrical Grid Reliability—**✦Seyda Ertekin, Massachusetts Institute of Technology; Tyler H. McCormick, University of Washington; Cynthia Rudin, Massachusetts Institute of Technology

11:55 a.m. **Floor Discussion**

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

174 CC-515b

Herd Immunity: Teaching Techniques for the Health Sciences—Topic-Contributed

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

Organizer(s): Johanna Hardin, Pomona College

Chair(s): Johanna Hardin, Pomona College

Panelists: ✦Dalene K. Stangl, Duke University

✦Keith Williams, University of Arkansas Medical Sciences

✦John McGready, The Johns Hopkins University

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

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

175 CC-512f

■ Clinical Trials—Contributed

Biometrics Section, Biopharmaceutical Section, Korean International Statistical Society

Chair(s): Catherine Crespi, University of California at Los Angeles

10:35 a.m. **Confidence Interval Construction for the Ratio of Two Treatment Means: An Application to Clinical Trial Data**—✦Krishna K. Saha, Central Connecticut State University; Roger Bilisoly, Central Connecticut State University; Darius Dziuda, Central Connecticut State University

10:50 a.m. **Longitudinal Trials with Adaptive Choice of Follow-Up Time**—✦Neal Jeffries, National Heart, Lung, and Blood Institute, National Institutes of Health; Nancy L. Geller, National Heart, Lung, and Blood Institute, National Institutes of Health

11:05 a.m. **Identifying Immune Response Combinations Associated with Heterogeneous Infectious Risk in HIV Vaccine Studies**—✦Chaeryon Kang, Fred Hutchinson Cancer Research Center; Ying Huang, Fred Hutchinson Cancer Research Center; Michael R. Kosorok, The University of North Carolina at Chapel Hill

11:20 a.m. **Risk of Using Instruments in International Clinical Trials: The Scores May Not Be Comparable Across Different Countries**—✦Chengwu Yang, Penn State University College of Medicine; Weiquan Wei, Huazhong University of Science and Technol; Zengzhen Wang, Huazhong University of Science and Technology

11:35 a.m. **Estimating Intraclass Correlation Coefficient Using Data from Pilot Study of Two Clusters**—✦Zhiying You, Michigan State University; Lorraine Robbins, Michigan State University

11:50 a.m. **Classification of Disease States Under a Mixed-Effects Hidden Markov Model with Application to a Smoking Cessation Clinical Trial**—✦Jesse Raffa, University of Washington; Joel A. Dubin, University of Waterloo

12:05 p.m. **Time-to-Event Surrogate Endpoint Predicting Overall Survival**—✦Susan Halabi, Duke University; Chen-Yen Lin, Duke University

176 CC-512g

High-Dimensional Regression and Graphic Model—Contributed

Biometrics Section, International Chinese Statistical Association, Section on Statistical Graphics, Korean International Statistical Society

Chair(s): Huaqing Zhao, Temple University School of Medicine

10:35 a.m. **An Alternative Sample Size Method for Training Survival Risk Predictors in High Dimensions**—✦Kevin Dobbin, University of Georgia; Xiao Song, University of Georgia

10:50 a.m. **Estimating Simultaneous Confidence Bands for the Mean Function: A Wild Bootstrap Approach**—✦Chung Chang, NSYSU; R. Todd Ogden, Columbia University

11:05 a.m. **Variable Selection of Spatial Generalized Linear Models: A Penalized Quasi-Likelihood Approach**—✦Wenning Feng, Michigan State University; Chae Young Lim, Michigan State; Tapabrata Maiti, Michigan State University

11:20 a.m. **Regularized Canonical Correlation and Application to High-Dimensional Biomarker Data with Survival Endpoint**—✦Li Liu, Sanofi

11:35 a.m. **Detection Boundary of a Particular Class of Tests in Sparse High-Dimensional Regression**—✦Rajarshi Mukherjee, Harvard University

11:50 a.m. **Direct Estimation of the Difference of Two Precision Matrices**—✦Sihai Zhao; Tony Cai, University of Pennsylvania; Hongzhe Li, University of Pennsylvania

12:05 p.m. **Sensitivity Analysis for Inference with Partially Identifiable Covariance Matrices**—✦Maxwell Grazier G'Sell, Stanford University; Shai S. Shen-Orr, Technion; Rob Tibshirani, Stanford University

177 CC-514b

Statistical Methods in Oncology Trials and Studies—Contributed

Biopharmaceutical Section, Biometrics Section, Section for Statistical Programmers and Analysts

Chair(s): Ying Wan, Janssen Research & Development

10:35 a.m. **Assessing Methods for Dealing with Crossover in Active-Control Trials**—✦Jihong Chen, Astellas; Jay Yang, Astellas Pharma Global Development Inc.; Xiaosha Sherman Zhang, Astellas Pharma Global Development, Inc.; Andrew Strahs, AVEO

10:50 a.m. **Continuous Longitudinal Tumor Measurement-Based Phase II Endpoints for Predicting Overall Survival (OS) Using the RECIST 1.1 Data Warehouse**—✦Ming-Wen An, Vassar College; Sumithra Mandrekar, Mayo Clinic; Daniel J. Sargent, Mayo Clinic; Xinxin Dong, University of Pittsburgh; Axel Grothey, Mayo Clinic; Jan Bogaerts, EORTC

11:05 a.m. **Tumor Dynamics and Central-Review Bias in Progression-Free Survival Clinical Trials**—✦Jonathan Siegel, Bayer HealthCare Pharmaceuticals

11:20 a.m. **Study Designs in Induction/Maintenance Trials**—✦Lixia Pei, Janssen Research & Development; Kevin Liu, Janssen Reseach & Development

11:35 a.m. **A Weighted Harrell-Davis Distance Test with Applications to Censored Data**—✦Dongliang Wang, State University of New York Upstate Medical University; Alan D. Hutson, University at Buffalo

11:50 a.m. **Identifying the Potential Risk Factors of a Safety Event in Clinical Trials**—✦Kao-Tai Tsai

12:05 p.m. **Meeting the Demand for More Sophisticated Study Designs: A Proposal for a New Type of Clinical Trial--The Hybrid Design**—Guoxing (Greg) Soon, FDA; ✦Lei Nie, FDA

178 CC-512ab

Bayesian Methods in Early-Phase Clinical Trials—Contributed

Biopharmaceutical Section, International Society for Bayesian Analysis (ISBA), International Chinese Statistical Association, Biometrics Section

Chair(s): John Scott, Center for Biologics Evaluation and Research/FDA

10:35 a.m. **Bayesian PPOS Design for Pilot Drug Development**—✦Zhongwen Tang, Novartis Oncology; Jyotirmoy Dey, Novartis Oncology

10:50 a.m. **A Two-Stage Bayesian Design with Sample-Size Re-Estimation and Subgroup Analysis for Phase II Binary Response Trials**—✦Wei Zhong, Genentech Inc.; Joseph S. Koopmeiners, University of Minnesota; Bradley P. Carlin, University of Minnesota

11:05 a.m. **A Novel Bayesian Approach to Designing Dose-Ranging Clinical Trials: A More Efficient Alternative to Traditional Approaches**—✦Jianjun Gan, GlaxoSmithKline; Amy Cutrell, GlaxoSmithKline

11:20 a.m. **Bayesian Adaptive Design in a Dose-Finding Study**—✦Zijiang Yang, Merck

11:35 a.m. **Dose-Finding Using Bayesian E-Max Model to Find Minimum Effective Dose**—✦Yukiko Imai, GlaxoSmithKline

11:50 a.m. **A Bayesian Design for Phase II Clinical Trials with Delayed Responses Based on Multiple Imputation**—✦Chunyan Cai, The University of Texas Health Science Center at Houston; Suyu Liu, The University of Texas MD Anderson Cancer Center

12:05 p.m. **Bayesian Dose-Finding for Combined Drugs with Discrete and Continuous Doses**—✦Lin Huo, Novartis Oncology; Ying Yuan, The University of Texas MD Anderson Cancer Center; Guosheng Yin, University of Hong Kong

179 CC-514c

Topics in Bioequivalence and Biosimilarity—Contributed

Biopharmaceutical Section

Chair(s): Stella Grosser, U.S. Food and Drug Administration

10:35 a.m. **Stability Design and Analysis of Biosimilar Products**—✦Annpey Pong, Merck Research Laboratories; Shein-Chung Chow, Duke University

10:50 a.m. **Improved Biosimilar Design via Disease-Progression Model**—✦Russell Reeve, Quintiles; Guochen Song, Quintiles; Michael O'Kelly, Quintiles

11:05 a.m. **Multiplicity Adjustment in Bioequivalence Using Two One-Sided Tests (TOST)**—✦Steven Hua, Pfizer Research; Siyan Xu, Boston University; Ronald Menton, Pfizer Inc.

11:20 a.m. **Assessment of Exchangeability in Equivalence Trial**—✦Yi Tsong, FDA; Xiaoyu Dong, FDA; Meiyu Shen, FDA

11:35 a.m. **A Comparison of Different Development Strategies and Study Designs for Device-Bridging Bioequivalence Studies**—✦Ying "Denise" Wang, Amgen, Inc.; Tony Sabin, Amgen, Inc.

11:50 a.m. **Sample-Size Determination for Equivalence Trial of Continuous Responses**—✦Yu-Wei Chang, Temple University; Xiaoyu Dong, FDA; Yi Tsong, FDA

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

180 CC-520a

■ ● Statistical Computing with Big Data—Contributed

Section on Statistical Computing, Section on Statistical Graphics, Section for Statistical Programmers and Analysts, Scientific and Public Affairs Advisory Committee

Chair(s): Matthew Austin, Amgen, Inc.

10:35 a.m. **Making Rules Human-Interpretable for Alarm Prediction in Sensor Network**—✦Hongfei Li, IBM T. J. Watson Research; Buyue Qian, University of California at Davis; Dhaivat Parikh, IBM GBS; Arun Hampapur, IBM Research

10:50 a.m. **ANOVA for Symbolic Data**—✦Yi Chen, University of Georgia; Lynne Billard, University of Georgia

11:05 a.m. **SeqArray: An R/Bioconductor Package for Big Data Management of Genome-Wide Sequencing Variants**—✦Xiuwen Zheng

11:20 a.m. **Multiple Test Functions for Discrete Data**—✦Josh Habiger, Oklahoma State University

11:35 a.m. **Tensor Regression with Applications in Neuroimaging Data Analysis**—✦Xiaoshan Li, North Carolina State University

11:50 a.m. **Evolving Visualization of Intruder Paths in Sensor Networks**—✦James Shine; James E. Gentle, George Mason University

12:05 p.m. **Estimating Average Proportional Changes in Large, Sparse Data**—✦Ryan Giordano

181 CC-525a

■ Economic Modeling of Income, Tax, Growth, and Employment—Contributed

Business and Economic Statistics Section, Scientific and Public Affairs Advisory Committee

Chair(s): Kevin L. McKinney, University of California at Los Angeles-CCRDC

10:35 a.m. **Joint Distributions of Expenditures, Income, and Wealth Using the Consumer Expenditure Survey**—✦Thesia Garner, Bureau of Labor Statistics; Kathleen Short, U.S. Census Bureau

10:50 a.m. **Gini Indices by Quantile Range**—✦Chaitra Nagaraja, Fordham University

11:05 a.m. **Estimation in the Weighted Generalized Beta Distributions of the Second Kind with Applications to U.S. Family Income Data**—✦Broderick Oluyede, Georgia Southern University

11:20 a.m. **Evaluating Tax Data Generated Using the Survey of Consumer Finances and TAXSIM**—John Sabelhaus, Federal Reserve Board; ✦Kevin Moore, Federal Reserve Board; Robert Argento, Federal Reserve Board

11:35 a.m. **Differential Migration Costs and the Lessons for Progressivity in State-Level Taxes**—✦Jeffrey Thompson, Federal Reserve Board

11:50 a.m. **Role of Science and Engineering Education and R&D in U.S. State Growth and Innovation**—✦Juana Sanchez, University of California at Los Angeles; Weisong Lin, University of California at Los Angeles; Vincent Vu, University of California at Los Angeles

12:05 p.m. **Implementation of National Bureau of Economic Research's Taxism in the Consumer Expenditure Survey: How Do the Estimates Measure Up?**—✦Laura Paszkiewicz, Bureau of Labor Statistics

182 CC-511e

■ Challenges in Parameter Estimation and Inference for Environmental Applications—Contributed

Section on Statistics and the Environment, Scientific and Public Affairs Advisory Committee, Korean International Statistical Society

Chair(s): Raymond Mooring, Analysis Made Easy

10:35 a.m. **Adaptive Probability-Based Sampling for Environmental Studies**—✦Huijuan Li, Rutgers University; Hung Ying, Rutgers University

10:50 a.m. **Penalized Importance Sampling for Parameter Estimation in Stochastic Differential Equations for Two Chronic Wasting Disease Epidemics**—✦Libo Sun, Colorado State University; Chihoon Lee, Colorado State University; Jennifer Hoeting, Colorado State University

11:05 a.m. **Two Sample Comparisons for Non-Normal Data**—✦Luna Sun, Oregon State University; Alix I. Gitelman, Oregon State University

11:20 a.m. **Generalized Method of Moments Approach for Spatial-Temporal Binary Data**—✦Kimberly Kaufeld, University of Northern Colorado

11:35 a.m. **Estimation of the Linear Model with Right-Censored Covariates**—✦Folefac Atem, Harvard University; Rebecca A. Betensky, Harvard School of Public Health

11:50 a.m. **Reducing Dimensionality in Multitemporal MODIS Data Using Principal Component Analysis for Land Cover Mapping**—✦Hunter Glanz, Boston University; Luis E. Carvalho, Boston University; Mark Friedl, Boston University; Damien Sulla-Menashe, Boston University

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

183 CC-513a

Multivariate Data Analysis and Genetics—Contributed

ENAR, WNAR, International Indian Statistical Association

Chair(s): Melanie M. Wall, Columbia University

10:35 a.m. **Statistical Linkage Across High-Dimensional Observational Domains**—✦Leonard Hearne; Toni Kazic, University of Missouri-Columbia

10:50 a.m. **The Role of Covariate Heterogeneity in Meta-Analysis of Gene-Environment Interactions with Quantitative Traits**—✦Shi Li, University of Michigan; Bhramar Mukherjee, University of Michigan

11:05 a.m. **Elucidating Heritability via Kernel Machine Testing for Epistasis**—✦Jennifer Clark, The University of North Carolina; Michael Wu, The University of North Carolina; Arnab Maity, North Carolina State University

11:20 a.m. **Weight Optimization for Comparing Areas Under ROC Curve for a Repeated Marker Between Correlated Groups**—✦Ping Xu, University of South Florida; Yougui Wu, University of South Florida

11:35 a.m. **Multiord: An R Package for Generating Correlated Ordinal Data**—✦Anup Amatya

11:50 a.m. **Comparative Study of Tests for the Equality of Multivariate Mean Ratios**—✦Chand Chauhan, Indiana-Purdue University; Yvonne M. Zubovic, Indiana-Purdue University

12:05 p.m. **Efficient Estimation of Approximate Factor Models**—✦Yuan Liao, University of Maryland; Jushan Bai, Columbia University

184 CC-512h

Assorted Topics in Mathematical Statistics I—Contributed

IMS, Korean International Statistical Society

Chair(s): Silas Bergen, University of Washington

10:35 a.m. **Improving Experiments by Optimal Blocking: Minimizing the Maximum Inter-Block Distance**—✦Michael Higgins; Jasjeet S. Sekhon, University of California at Berkeley

10:50 a.m. **Characterizations Based on Regression Assumptions of Order Statistics**—✦Wen-Jang Huang, National University of Kaohsiung; Nan-Cheng Su, National Taipei University

11:05 a.m. **Copula Calibration of Multivariate Probabilistic Forecasts**—✦Johanna F. Ziegel, University of Bern; Tilmann Gneiting, Heidelberg University

11:20 a.m. **Marketing on Dynamical Random Networks and Related Inference**—✦Daniel Saxton; Anand Vidyashankar, George Mason University

11:35 a.m. **Best Power-Divergence Confidence Interval for a Binomial Proportion**—✦Shaobo Jin, Uppsala University

11:50 a.m. **Empirical Likelihood-Based Deviance Information Criterion**—✦Teng Yin; Sanjay Chaudhuri, National University of Singapore

12:05 p.m. **Leave-K-Out Likelihood: Alternative for Selecting the Best Likelihood-Based Estimator in the Presence of Multiple Local Maximizers**—✦Daeyoung Kim, University of Massachusetts, Amherst; Byungtae Seo, Sungkyunkwan University

185 CC-520f

■ Statistical Methods for Applied Problems—Contributed

Korean International Statistical Society

Chair(s): Hang Joon Kim, Duke University and NISS

10:35 a.m. **New Method on Nonlinearity Test in Time Series**—✦Hang Kim, Temple University

10:50 a.m. **Intermediate Order Statistics Under Progressive Type-II Censoring and Applications to Nonparametric Confidence Intervals of Quantiles**—✦David Han, The University of Texas at San Antonio

11:05 a.m. **Approximate Confidence Limits for the Ratio of Two Binomials with Sequential Sampling**—✦Hokwon Cho, University of Nevada, Las Vegas

11:20 a.m. **Corrected False-Discovery Rate for Removing the Gene-Set-Level Bias of RNA-Seq**—✦Seongmun Jeong, Myongji University; Tae Young Yang, Myongji University

11:35 a.m. **Accelerated Life Testing Case Study**—✦Jaiwook Baik, Korea National Open University

11:50 a.m. **Statistical Evaluation Process of Material Unaccounted for and It's Application to Bulk Handling Facility**—✦Min-Su KIM, Korea Institute of Nuclear Nonproliferation and Control; Hyewon Shim, Korea Institute of Nuclear Nonproliferation and Control; Seung Ho Ahn, Korea Institute of Nuclear Nonproliferation and Control; Ki Hyun KIM, Korea Institute of Nuclear Nonproliferation and Control; Seong Yeon Jo, Korea Institute of Nuclear Nonproliferation and Control

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

186 CC-516d

Current Topics in Phone Surveys—Contributed

Survey Research Methods Section

Chair(s): Kristen Cyffka, U.S. Census Bureau

10:35 a.m. **How Representative Are Google Consumer Surveys?: Results from an Analysis of Google Consumer Survey Questions Relative to National Level Benchmarks**—✦Erin Tanenbaum, NORC at the University of Chicago; Michael Stern, NORC at the University of Chicago; Parvati Krishnamurty, NORC at the University of Chicago

10:50 a.m. **How Changes to Improve the Reliability of Telephone Status Items Affect Telephone Status Estimates**—✦Vince Welch, Jr., NORC at the University of Chicago; Robert Montgomery, NORC at the University of Chicago

11:05 a.m. **Nationwide Surveys in Mexico Based on a Mobile Phone Sampling Design**—✦Olivia Carrillo-Gamboa, ITESM

11:20 a.m. **2013 National Census Contact Test**—✦Timothy Stewart, U.S. Census Bureau

11:35 a.m. **Weighting for Dual-Frame Designs Where Nonresponse Differs Between Frames**—✦Olena Kaminska, Institute for Social and Economic Research; Peter Lynn, University of Essex

11:50 a.m. **Simulation of Alternative Single-Frame and Dual-Frame Sample Designs for the NIS**—Kirk Wolter, NORC at the University of Chicago; ✦Nadarajasundaram Ganesh, NORC at the University of Chicago; Wei Zeng, NORC at the University of Chicago; Kennon Copeland, NORC; Stacie Greby, Centers for Disease Control and Prevention; Meena Khare, NCHS/CDC

12:05 p.m. **Location, Location, Location: Incentives and Geography**—✦Alicia M. Frasier, NORC at the University of Chicago; Jacquelyn M. George, NORC at the University of Chicago; Heather M. Morrison, NORC at the University of Chicago; Matthew D. Bramlett, National Center for Health Statistics

187 CC-510b

Bayesian Networks, Graphs, and Mixture Models—Contributed

Section on Bayesian Statistical Science, International Chinese Statistical Association, Korean International Statistical Society

Chair(s): Abel Rodriguez, University of California at Santa Cruz

10:35 a.m. **A Bayesian Graphical Model for Integrative Analysis of TCGA Data**—✦Yanxun Xu

10:50 a.m. **Preimage Reconstruction of Molecules with a Graph Kernel**—✦Ryo Yoshida, The Institute of Statistical Mathematics; Hiroshi Yamashita, Graduate University for Advanced Studies; Yukito Iba, Institute of Statistical Mathematics; Tomoyuki Higuchi, Institute of Statistical Mathematics

11:05 a.m. **A Bayesian Infinite Factor Model for Learning and Content Analytics**—✦Kassie Fronczyk

11:20 a.m. **Efficient Inference in Large Graphical Models Using Bayesian Non-Negative Tensor Decompositions**—✦Hongxia Yang, IBM T.J. Watson Research Center; Yinglong Xia, IBM T.J. Watson Research Center; Yasuo Amemiya, IBM T.J. Watson Research Center; Ching-Yung Lin, IBM T.J. Watson Research Center

11:35 a.m. **Integrated Modelling of European Migration: Age and Sex-Specific Estimates**—✦Peter W.F. Smith, University of Southampton; Arkadiusz Wisniowski, University of Southampton

11:50 a.m. **Efficient Parameter Estimation for Models of Health Care--Associated Infection in Continuous Time with Bayesian Networks**—✦Andrew Reed, University of Utah; Alun Thomas, University of Utah; Karim Khader, University of Utah; Molly Leecaster, University of Utah; Tom Greene, University of Utah; Matthew Samore, University of Utah

12:05 p.m. **Bayesian Mixture Model--Based Clustering with Unknown Number of Components**—✦Taiyeong Lee, SAS Institute; Jaeseok Kim, Samsung Electronics; Yongdai Kim, Seoul National University

188 CC-512d

Nonparametric Methods for Big Data—Contributed

Section on Nonparametric Statistics, Scientific and Public Affairs Advisory Committee

Chair(s): Bruce Swihart, Johns Hopkins School of Public Health

10:35 a.m. **Bayesian Bandwidth Estimation for a Semi-Functional Partial Linear Regression Model with Unknown Error Density**—✦Han Lin Shang, University of Southampton

10:50 a.m. **The Convergence Rate of Majority Vote Under Exchangeability**—✦Miles Lopes, University of California at Berkeley

11:05 a.m. **Comparison of Nonparametric Functional Data Analysis Methods**—✦Kathryn Prewitt, Arizona State University

11:20 a.m. **Penalized Isotonic Regression**—✦Jiwen Wu, Colorado State University; Mary Meyer, Colorado State University; Jean Opsomer, Colorado State University

11:35 a.m. **Time-Spatial Correlation Patterns for Global Temperature and Humidity Components**—✦Ming Luo, State University of New York at Albany; Igor Zurbenko, State University of New York at Albany

11:50 a.m. **Nonparametric Regression Method for ECG Signal Pre-Processing Under Heteroscedasticity**—✦Donghui Zhang, Sanofi Aventis; Cun-Hui Zhang, Rutgers University

12:05 p.m. **Group Thresholding for Principal Component Selection and Estimation in Functional Data Analysis**—✦Mark Koudstaal; Fang Yao, University of Toronto

189 CC-518

■ Hybrid or Online Teaching and Quantitative Reasoning—Contributed

Section on Statistical Education

Chair(s): Sam Behseta, California State University at Fullerton

10:35 a.m. **Evaluating a Hybrid Learning Environment in an Introductory Statistics Course**—✦Herle McGowan, North Carolina State University

10:50 a.m. **Student Choices of Reduced Seat Time in a Blended Introductory Statistics Course**—✦James R. Schmidt, University of Nebraska-Lincoln; Carlos J. Asarta, University of Nebraska-Lincoln

11:05 a.m. **A Slightly Inverted Classroom**—✦Shonda Kuiper, Grinnell College

11:20 a.m. **Using Electronic Homework Systems in Introductory Statistics**—✦Roger Woodard, North Carolina State University

11:35 a.m. **Enhancing Student Education Through Quantitative Reasoning**—✦Ermine Orta, The University of Texas at San Antonio; Kimberly Massaro, The University of Texas at San Antonio; Rajendra Boppana, The University of Texas at San Antonio; Nandini Kannan, The University of Texas at San Antonio

11:50 a.m. **Examples of Quantitative Reasoning**—✦Kimberly Massaro, The University of Texas at San Antonio

12:05 p.m. **From In-Class Lectures to Online Delivery**—✦Cathy Poliak, University of Wisconsin-Milwaukee

190 CC-520d

Techniques for High-Dimensional Data—Contributed

Section on Statistical Learning and Data Mining

Chair(s): Hao Helen Zhang, University of Arizona

10:35 a.m. **Variable Length Markov Chains for Sequential Prediction in Dependence Time Series**—Abraham J. Wyner, The Wharton School; ✦Joshua Magarick, University of Pennsylvania

10:50 a.m. **Graph Estimation from Multi-Attribute Data**—✦Mladen Kolar, Carnegie Mellon University; Han Liu, Princeton University; Eric P. Xing, Carnegie Mellon University

11:05 a.m. **Optimization of PRIM Under Normality**—✦Daniel A. Diaz, University of Miami; J. Sunil Rao, University of Miami; Jean-Eudes Dazard, Center for Proteomics and Bioinformatics-Case Western Reserve University

11:20 a.m. **Thresholded Reduced-Rank Multivariate Regression**—✦Ranye Sun, Texas A&M University; Mohsen Pourahmadi, Texas A&M University

11:35 a.m. **Sequential Reduced-Dimension Change-Point Detection**—✦Yao Xie, Duke University; Meng Wang, Rensselaer Polytechnic Institute; Robert Calderbank, Duke University

11:50 a.m. **Factoring Hidden State Spaces for HMMs**—✦Jordan Rodu, The Wharton School

12:05 p.m. **Seqclock: Analysis Pipeline for Time Course Genomic Sequencing Experiments**—✦Xuekui Zhang, The Johns Hopkins University

191 CC-520e

Variable Selection for Regression—Contributed

Section on Statistical Learning and Data Mining

Chair(s): Kai Zhang, The University of North Carolina at Chapel Hill

10:35 a.m. **Sparse Multivariate Factor Regression Models and Its Application to High-Throughput Array Data Analysis**—✦Yan Zhou, University of Michigan; Peter X.K. Song, University of Michigan; Ji Zhu, University of Michigan

10:50 a.m. **Tuning Parameter Selection in Bridge Regression Modeling**—✦Shuichi Kawano, Osaka Prefecture University

11:05 a.m. **Iterative Selection Using Orthogonal Regression Techniques**—✦Bradley Turnbull, North Carolina State University; Subhashis Ghosal, North Carolina State University; Hao Helen Zhang, North Carolina State University

11:20 a.m. **Large Sample Properties of Model Selection Criteria in High-Dimensional Regression**—✦Peng Yang, North Carolina State University; Soumendra N. Lahiri, North Carolina State University

11:35 a.m. **Variable Selection in Regression Using Maximal Correlation and Distance Correlation**—✦Deniz Yenigun, Bilkent University; Maria L. Rizzo, Bowling Green State University

11:50 a.m. **Regression with Generalized Elastic Net Penalty**—✦Geoffroy Mouret, École Polytechnique de Montréal; Jean-Jules Brault, École Polytechnique de Montréal; Vahid Partovi Nia, École Polytechnique Montréal

12:05 p.m. **On the Sensitivity of the Lasso to the Number of Predictor Variables**—✦Cheryl Flynn, New York University; Clifford M. Hurvich, Stern School of Business, New York University; Jeffrey S. Simonoff, Stern School of Business, New York University

192 CC-525b

■ ● Customer Preferences and Lifetime Value—Contributed

Section on Statistics in Marketing, Scientific and Public Affairs Advisory Committee

Chair(s): Song Lin, Massachusetts Institute of Technology Sloan School of Management

10:35 a.m. **The Effect of Service Quality on Customer Lifetime Value**—✦Michael Braun, Massachusetts Institute of Technology Sloan School of Management; David Schweidel, Goizueta Business School, Emory University; Eli Stein, Harvard University

10:50 a.m. **Simulation and Modeling of Churn and Customer Lifetime Value in Mobile Applications**—✦Alex Zolot, Medio Systems; Yakov Keselman, Medio Systems

11:05 a.m. **Monetizing Rating Scales**—✦Nino Hardt, The Ohio State University, Fisher College of Business; Greg M. Allenby, The Ohio State University; Alex Varbanov, The Procter & Gamble Company

11:20 a.m. **Optimality of Reduced-Size Choice Sets**—✦Pallavi Chitturi, Temple University; Ke Huang, Temple University

11:35 a.m. **Is What You Choose What You Want? Uncertainty in Choice-Based Conjoint Analysis**—✦Yu-Cheng Ku, Fannie Mae

11:50 a.m. **Clustering of Respondents and Diagnostics for Choice-Based Conjoint**—✦Robert Mee, University of Tennessee; Wenjun Zhou, University of Tennessee

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

SPEED Contributed Poster Presentations 10:30 a.m.–12:20 p.m.

193 CC-220bc

Analytic Challenges in Epidemiological Studies and Public Health, Part 2—Contributed Poster Presentations

Biometrics Section, Section on Statistics in Epidemiology, Scientific and Public Affairs Advisory Committee

Chair(s): Joyee Ghosh, University of Iowa

1 **A Comparison of Methods and Platforms for Copy Number Variation Studies**—✦Siddharth Roy, North Carolina State University; Alison Motsinger-Reif, North Carolina State University

2 **Addressing Within-Subject Genomic Heterogeneity** —✦Matthew Nicholson McCall, University of Rochester Medical Center; Anthony Almudevar, University of Rochester Medical Center

3 **Designing a Genome-Based HIV Incidence Assay with High Sensitivity and Specificity**—Sung Yong Park, University of Southern California; ✦Tanzy Love, University of Rochester; Sally W. Thurston, University of Rochester; Alan S. Perelson, Los Alamos National Laboratory; Ha Youn Lee, University of Southern California

4 **Detecting Rare Variant Effects Using Extreme Phenotype Sampling in Sequencing Association Studies**—✦Ian Barnett, Harvard University; Seunggeun Lee, Harvard School of Public Health; Xihong Lin, Harvard School of Public Health

5 **Nonlinear Mixed Effects Models to Study Determinants of Local Airway Inflammation Using Multiple Flow Exhaled Nitric Oxide Data**—✦Sandrah Eckel, University of Southern California; Kiros Berhane, University of Southern California; Meng Liu, University of Southern California; Linn S. William, University of Southern California; Muhammad T. Salam, University of Southern California; Edward B. Rappaport, University of Southern California; Frank D. Gilliland, University of Southern California

6 **Excess Lung Cancer Risk Attributable to Low-Dose CT Screening Among Long-Term Smokers**—✦Rui Yang, Quintiles; Deborah Goldwasser, Rice Univeristy

7 **Challenges in Age-Period-Cohort Modeling of Breast Cancer Incidence**—✦Ronald Gangnon, University of Wisconsin; Brian Sprague, University of Vermont; Natasha Stout, Harvard Medical School and Harvard Pilgrim Health Care; Oguzhan Alagoz, University of Wisconsin; Amy Trentham-Dietz, University of Wisconsin

8 **Efficient Estimation of Relative Risk in Case-Cohort Studies**—✦Emmanuel Sampene; Abdus Wahed, University of Pittsburgh

9 **Incorporating Variation of Group Exposure Levels Into Estimation of Dose Response Relation in Meta-Analyses**—✦Junshan Qiu, FDA

10 **Correcting Bias in Effects of Risk Factors in Longitudinal Studies Due to Non-Random Missingness Using Auxiliary Data**—✦Charles Hall, Albert Einstein College of Medicine; Culing Wang, Albert Einstein College of Medicine; Mindy Katz, Albert Einstein College of Medicine; Richard Lipton, Albert Einstein College of Medicine

11 **Combined Statistical Approaches for Comparing Performances of Two Independent Prediction Models**—✦Hui Zhou, Kaiser Permanente; Jeff M Slezak, Southern California Permanante Medical Group; Stephen F. Derose, Southern California Permanente Medical Group; Don Morris, Archimedes; Anny H Xiang, Kaiser Permanente; Steve J. Jacobsen, Southern California Permanente Medical Group

12 **Identifying Predictors for HIV/AIDS Disease Progression and Compare Estimates from Separate and Joint Modeling of Longitudinal HIV-RNA Measurements and Survival Outcome (AIDS)**—✦Prosanta Mondal, University of Saskatchewan; Stuart Skinner, University of Saskatchewan; Hyun-Ja Lim, University of Saskatchewan

13 **Gene-Environment Interaction Analysis for Repeated Measures Data with AMMI Models**—✦Yi-An Ko, University of Michigan; Bhramar Mukherjee, University of Michigan

14 **A Standardization Initiative to Link Public Health Surveillance Problem Owners to Solution Developers**—✦Howard Burkom, Johns Hopkins Applied Physics Lab

15 **A Comparison of Knot Selection Algorithms for B-Spline Varying--Coefficient Methods When Controlling for Nonignorable Dropout**—✦Camille Moore, Colorado School of Public Health, University of Colorado Denver; Samantha MaWhinney, Colorado School of Public Health; Jeri Forster, Colorado School of Public Health; Nichole Carlson, Colorado School of Public Health, University of Colorado Denver

16 **Point and Interval Estimation of Average Population Attributable Fraction in a Matched Case Control Design**—✦Lin H. Tian, Centers for Disease Control and Prevention; Laura A. Schieve, Centers for Disease Control and Prevention; Owen Devine, Centers for Disease Control and Prevention

17 **Risk-Ranking: Is It Meta-Meta-Analysis?**—✦Mary Bartholomew, FDA Center for Veterinary Medicine

18 **Current European Perspective in Structured Benefit-Risk Assessment**—✦Shihua Wen, AbbVie

19 **Using Delong, Fligner, and Birnbaum's Method to Estimate Standard Errors of AUC Regression with Covariates**—✦Amy Buros, Baylor University; Jack Tubbs, Baylor University

Contributed Poster Presentations 10:30 a.m.–12:20 p.m.

194 CC-220bc

Contributed Oral Poster Presentations: Biometrics Section — Contributed Poster Presentations

Biometrics Section, Korean International Statistical Society

Chair(s): Joyee Ghosh, University of Iowa

1 **Gauss´s Mortality Formula: A Demometric Analysis with Application to the Feral Camel Population in Central Australia**—✦Peter Pflaumer, Technical University

2 **Bayesian Semiparametric Modeling of Clustered Interval-Censored Data Through a Mixture Frailty**—✦Chun Pan, University of South Carolina; Bo Cai, University of South Carolina; Lianming Wang, University of South Carolina

3 **Semiparametric Approach for Regression with Covariate Subject to Limit of Detection**—✦Shengchun Kong; Bin Nan, University of Michigan

4 **Detection of Statistically Significant Sub-Clusters in Biological Data**—✦Guoli Sun, Stony Brook University; Alexander Krasnitz, Cold Spring Harbor Laboratory

5 **A Random-Effect Model on Correlated Health Care Costs with Zeroes**—✦Y. V. Hui, City University of Hong Kong; Andy H. Lee, Curtin University; Kelvin K. W. Yau, City University of Hong Kong

6 **A Bayesian Dose-Finding Design for Drug Combination Trials with Delayed Toxicities**—✦Suyu Liu, The University of Texas MD Anderson Cancer Center; Jing Ning, The University of Texas MD Anderson Cancer Center

7 **Comparing Different Methods of Handling Overrun in Group Sequential Trials**—✦Timothy Skalland, Oregon State University; Sarah Emerson, Oregon State University

8 **A Multivariate Semiparametric Model for Longitudinal Binary Data with Application in Sexually Transmitted Infection Research**—✦Zhuokai Li, Indiana University School of Medicine; Hai Liu, Indiana University School of Medicine; Wanzhu Tu, Indiana University School of Medicine

9 **Combining Several Pairwise Comparisons in Meta-Analysis for Joint Test of Effect Size**—✦Shaheena Bashir, University Health Network, Toronto; Celia M.T. Greenwood, McGill University

10 **After-Treatment Quality-of-Life Assessment in Breast Cancer Patients**—✦Cynthia Fuentes, University of Concepcion; Marcela Valdes, University of Bio Bio; Luis Cid-Serrano, University of Bio Bio

11 **Intra-Examiner Reproducibility of the Agar Plate Method for Estimation of Phospholipase Activity in Candida Albicans**—✦Livia Nordi Dovigo, Araraquara Dental School, UNESP-Universidade Estadual Paulista; Paula Volpato Sanitá Dantas, Araraquara Dental School, UNESP-Universidade Estadual Paulista; Juliana Alvares Duarte Bonini Campos, Araraquara Dental School, UNESP-Universidade Estadual Paulista

12 **Flipped-Data Survival Analysis for Metabolomics Data with Non-Detects**—✦Eric Siegel, University of Arkansas for Medical Sciences

13 **Functional Analysis of Variance with Application to Genetic Association Study**—✦Olga Vsevolozhskaya, Montana State University; Mark C. Greenwood, Montana State University

14 **A Review of the Illumina Infinium Humanmethylation450 Beadchip Assay Design and Implications for Normalization**—✦Cong Lu, Carnegie Mellon University; Diane E. Grill, Division of Biomedical Statistics, Division of Health Sciences Research, Mayo Clinic; Douglas W. Mahoney, Division of Biomedical Statistics, Division of Health Sciences Research, Mayo Clinic; Gregory A. Poland, Mayo Clinic Vaccine Research Group, Mayo Clinic; Ann L. Oberg, Division of Biomedical Statistics, Division of Health Sciences Research, Mayo Clinic

15 **Graph-Based Shrinkage as an Alternative for Linear Mixed Models in Plant Association Studies**—✦Wei Liu, University of Nebraska-Lincoln; Dong Wang, University of Nebraska-Lincoln

16 **A Coexpression Network for Biological Pathways** —✦Yered Hammurabi Pita-Juarez, Harvard University

17 **Wavelet-Based Principal Component Analysis for Functional Mixed Effects Models**—✦Xiaochen Cai, Columbia University; R. Todd Ogden, Columbia University

18 **A Comparison of Methods for Analysis of Longitudinal Categorical Data with Dropouts**—✦Takayuki Abe, Keio University School of Medicine; Yuji Sato, Keio Univeristy School of Medicine; Manabu Iwasaki, Seikei University

19 **Joint Modeling of Latent Group-Based Trajectory Models with Subdistributions**—✦Nilesh Shah, University of Pittsburgh; Chung-Chou H. Chang, University of Pittsburgh; John A. Kellum, University of Pittsburgh

20 **Bayesian Framework for Estimating the Incremental Value of a Diagnostic Test in the Absence of a Gold Standard**—✦Nandini Dendukuri, McGill University; Madhukar Pai, McGill University; Daphne Ling, Health Quality Ontario; Ian Schiller, Division of Clinical Epidemiology, McGill Univerity Health Centre

21 **Statistics for Quantifying Heterogeneity in Univariate and Multivariate Meta-Analyses of Binary Data: The Case of Meta-Analyses for Diagnostic Accuracy**—✦Yan Zhou, McGill University; Nandini Dendukuri, McGill University

22 **Local Likelihood-Based Estimation for Quantile Classification in the Logistic Regression Model**—✦John Rice, University of Michigan; Jeremy Taylor, University of Michigan

23 **Assessing Models of RNA-Sequencing Data**—✦Yanming Di, Oregon State University; Gu Mi, Oregon State University; Sarah Emerson, Oregon State University; Daniel Schafer, Oregon State University

24 **Simulation Study for the Zero-Inflated Negative Binomial**—✦Jelani Wiltshire, University of Rochester; David Oakes, University of Rochester Medical Center

25 **Forecasting the Cognitive Status in an Aging Population**—✦Georgios Tripodis, Boston University; Nikolaos Zirogiannis, University of Massachusetts, Amherst

26 **An Assessment of the Impact of Missing Values on Statistical Methods for Binary Repeated Measures and Hierarchical Data**—✦Elmabrok Masaoud; Henrik Stryhn, University of Prince Edward Island

27 **A Two-Dimensional Multiple Testing Procedure Using Voronoi Tessellations**—✦Daisy Phillips, Penn State University; Debashis Ghosh, Penn State University

28 **Modeling Longitudinal Changepoint Data: Gradual or Abrupt Transition, or Simply a Linear Trend?**—✦Shahedul Khan, University of Saskatchewan

29 **Strategies for Developing Prediction Models from Genome-Wide Association Studies**—✦Jincao Wu, National Cancer Institute; Ruth M. Pfeiffer, National Cancer Institute; Mitchell Gail, National Cancer Institute

30 **NextAllele: A Bioinformatic Pipeline to Infer Full-Length Haplotypes**—✦Edward Roualdes, Deptartment of Statistics

31 **Doubly Robust G-Estimation for Time-Varying Outcome via the Kalman Filter**—✦Sepideh Farsinezhad, McGill University; Masoud Asgharian, McGill University; Russell J. Steele, McGill University

32 **Extended Tests for Non-Zero Between-Study Variance**—Kepher H. Makambi, Georgetown University; ✦Jing Wu, Georgetown University, Lombardi Comprehensive Cancer Center

33 **Variance Smoothing with Multiple Groups via Fully Moderated T-Statistic**—✦Lianbo Yu, The Ohio State University; David Jarjoura, The Ohio State University

34 **Normalization and Extraction of Interpretable Metrics from Raw Accelerometry Data**—✦Jiawei Bai, The Johns Hopkins University; Bing He, The Johns Hopkins University; Thomas A. Glass, The Johns Hopkins University; Ciprian M. Crainiceanu, The Johns Hopkins University

35 **A Novel Method for Analysis of Health Indices Data**—Huann-Sheng Chen, National Cancer Institute/NIH; ✦Shunpu Zhang, University of Nebraska

36 **Dispersion Estimation and Its Effect on Test Performance in RNA-Seq Data Analysis**—✦William Landau, Iowa State University; Peng Liu, Iowa State University

37 **A Dynamic Mover-Stayer Model for Recurrent Event Processes Subject to Resolution**—✦Hua Shen, University of Waterloo; Hua Shen, University of Waterloo; Richard Cook, University of Waterloo

38 **An Examination of the Accuracy of a Composite Reference**—✦Ian Schiller, Division of Clinical Epidemiology, McGill Univerity Health Centre; Nandini Dendukuri, McGill University; Michael Libman, Division of Infectious Diseases, McGill Univerity Health Centre; Alula Hadgu, Centers of Disease Control and Prevention

39 **Estimation for Some Functions of Covariance Matrix for Multivariate Linear Model Under Non-Normality**—✦Tetsuto Himeno, Seikei University; Takayuki Yamada, The Institute of Statistical Mathematics

40 **Gene Expression Profiling of Bone Marrow Biopsy in Multiple Myeloma Patients Under Treatment Helps Define Duration of Maintenance Therapy**—✦Pingping Qu, Cancer Research And Biostatistics; Christoph Heuck, University of Arkansas for Medical Sciences; Qing Zhang, University of Arkansas for Medical Sciences; Antje Hoering, Cancer Research And Biostatistics; Joshua Epstein, University of Arkansas for Medical Sciences; Bart Barlogie, University of Arkansas for Medical Sciences; John Crowley, Cancer Research And Biostatistics

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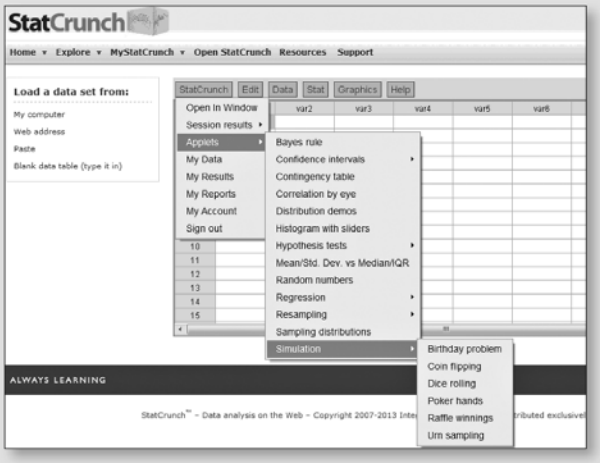

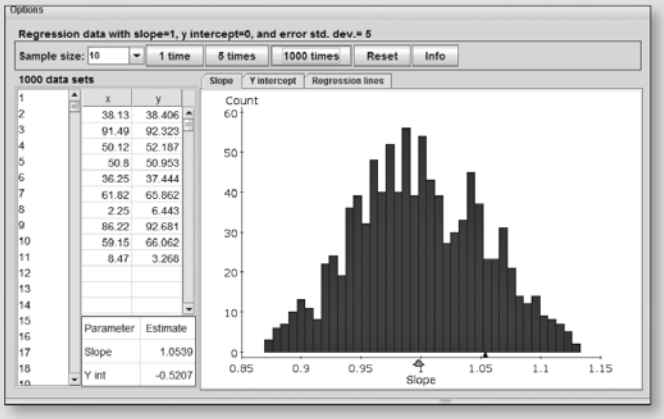

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41 **Adjusting for Missing Covariates in Bayesian Latent Class Models for Diagnostic Test Data**—✦ZhuoYu Wang, McGill University; Nandini Dendukuri, McGill University; Lawrence Joseph, McGill University

42 **Semiparametric Regression Modeling of Longitudinal Binary Outcomes with Outcome-Dependent Observation Times**—✦Kay See Tan, Unniversity of Pennsylvania; Andrea Troxel, University of Pennsylvania School of Medicine; Stephen E. Kimmel, University of Pennsylvania Perelman School of Medicine; Kevin G. Volpp, University of Pennsylvania Perelman School of Medicine; Benjamin French, University of Pennsylvania Perelman School of Medicine

43 **A Natural B-Spline Varying-Coefficient Method for Longitudinal Binary Response Data with Nonignorable Dropout**—✦Jeri Forster, Colorado School of Public Health; Samantha MaWhinney, Colorado School of Public Health; Xinshuo M. Wang, Colorado School of Public Health

44 **Efficient Estimation in Additive Hazards Model for Stratified Case-Cohort Design**—✦Soyoung Kim, The University of North Carolina at Chapel Hill

195 CC-220bc

Contributed Oral Poster Presentations: Section on Statistics and the Environment—Contributed

Section on Statistics and the Environment

Chair(s): Joyee Ghosh, University of Iowa

Section on Statistics and the Environment

45 **Maximum Likelihood Estimation of Multivariate Normal Parameters in the Presence of Left-Censored and Missing Data: A Pseudo-Likelihood Approach**—✦Heather Hoffman, George Washington University; Robert E. Johnson, Vanderbilt University

46 **Protozoa Co-Occurrence in Surface Water Sources of Drinking Water**—✦Michael Messner, U.S. Environmental Protection Agency

47 **Quantifying Model Error in Posterior Distributions**—✦Staci White, The Ohio State University; Radu Herbei, The Ohio State University

48 **K Distribution Related to Environmental Statistics**—✦Koji Kanefuji, Institute of Statistical Math; Kosei Iwase, Hokohama College of Pharmacy

49 **Predicting the Geographic Distribution of Two Invasive Termite Species in Florida Using a Bayesian Logistic Model for Presence-Only Data**—✦Francesco Tonini; Fabio Divino, University of Molise; Giovanna Jona Lasinio, University of Rome, La Sapienza; Hartwig Hochmair, University of Florida; Rudolf H. Scheffrahn, University of Florida

50 **Examining the Heterogeneity of the Elemental Composition of Indoor, Outdoor, and Personal PM2.5 Samples**—✦Jenny Chen, University of Cincinnati; Marepalli Rao, University of Cincinnati; Patrick Ryan, Cincinnati Children's Hospital Medical Center

51 **Modeling Spatial Binary Fields Over Time With Dynamic Markov Random Fields**—✦Kenneth Wakeland, Iowa State University

52 **A Nonstationary Spatial Covariance Regression Model**—✦Mark Risser, The Ohio State University; Catherine A. Calder, Ohio State University

53 **Inter-Laboratory Quality Control on Indoor Air Quality Analysis**—✦Guang-Hwa Chang, Youngstown State University

54 **Model Averaging Predictions Is Good; Model Averaging Multiple Regression Coefficients Is Bad**—✦Philip Dixon, Iowa State University

55 **Investigating the Variation in the Annual Progression of Snow Accumulation and Melt in the Sierra Nevada: A Functional Data Analysis Approach**—✦Eduardo Montoya, California State University at Bakersfield; Wendy Meiring, University of California at Santa Barbara; Jeff Dozier, University of California at Santa Barbara

56 **Detecting Clustering in Inhomogeneous Point Processes with Applications to Duck Nesting Locations**—✦Daniel Fortin, Iowa State University; Philip Dixon, Iowa State University; William Clark, Iowa State University; Nicholas Michaud, Iowa State University

57 **Statistical Models for Global Phenological Phenomena**—✦Maggie Johnson, Iowa State University; Petrutza Caragea, Iowa State University

58 **Evaluating Radar Reflectivity Measurements as Predictors of Rainfall**—✦Marisa Akers; Meera Venkataraman, North Carolina State University

59 **Spatial Analysis to Predict Minimum Temperature and Initial Spring Freeze in the Southeast United States**—✦Meagan Gentry, North Carolina State University; Austin John, North Carolina State University

60 **Smooth Change-Point Estimation for Spatial Image Intensity Profiles**—✦Joseph Usset, North Carolina State University

61 **Fitting an AR(1) Model to Environmental Measurements with Non-Detects**—✦John Rogers

62 **Imputation of Missing Data Under a Spatial-Temporal Autologistic Regression Model**—✦Yanbing Zheng, University of Kentucky; Zilong Wang, University of Kentucky

63 **Using Ripley's L-Function to Examine Spatial Clustering in Duck Nests**—✦Nicholas Michaud, Iowa State University; Philip Dixon, Iowa State University; William Clark, Iowa State University; Daniel Fortin, Iowa State University; David Howerter, Ducks Unlimited Canada

64 **Diagnostics to Assess Toxicokinetic-Toxicodynamic Models**—✦Xia Xu, Merck Research Laboratories; Philip Dixon, Iowa State University

65 **Analysis and Modeling of Major Power Outages in Northeast U.S.**—✦David Trindade, Bloom Energy

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

196 CC-524c

Section on Statistics in Sports Speaker with Lunch (Fee Event)—Speaker with Lunch

Section on Statistics in Sports

Organizer(s): Shane Reese, Brigham Young University

ML07 **What Statistical Analyses Tell Us About Ice Hockey**—✦Michael Schuckers, St. Lawrence University

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

197 CC-517d

Biopharmaceutical Section P.M. Roundtable Discussion (Fee Event)

Biopharmaceutical Section

Organizer(s): Ivan S. F. Chan, Merck Research Laboratories

ML08 **Randomization Methods Used in Clinical Trials**—✦Dennis Sweitzer, Medidata Solutions

ML09 **Overcoming Challenges with Implementing CRM Designs**—✦Aileen Murphy, Seattle Genetics, Inc.; Alan Hartford, Agensys, Inc

ML10 **Impact of Missing Data on the Approvability of Potentially Efficacious Therapies**—✦Abdul Sankoh, Vertex Pharmaceuticals

198 CC-517d

Health Policy Statistics Section P.M. Roundtable Discussion (Fee Event)

Health Policy Statistics Section

Organizer(s): Juned Siddique, Northwestern University

ML11 **From Accelerometers to Androids: Design and Analytic Issues in Mobile Phone--Based Health Studies**—✦Warren Comulada, University of California at Los Angeles Center for Community Health

ML12 **Integrating Health Policy Concepts Into Graduate Education in Statistics and Biostatistics**—✦Thomas R. Belin, University of California at Los Angeles

199 CC-517d

Quality and Productivity Section P.M. Roundtable Discussion (Fee Event)

Quality and Productivity Section

Organizer(s): Ming Li, GE Global Research

ML13 **Using Statistical Engineering to Attack Large, Complex, Unstructured Problems**—✦Roger W. Hoerl, GE Global Research

200 CC-517d

Section for Statistical Programmers and Analysts P.M. Roundtable Discussion (Fee Event)

Section for Statistical Programmers and Analysts

Organizer(s): Mario A. Morales, Simulmedia Inc.

ML14 **Allocating Programming Resources in a Dynamic Environment**—✦William Coar, Axio Research; Amber Randall, Axio Research

201 CC-517d

Section on Bayesian Statistical Science P.M. Roundtable Discussion (Fee Event)

Section on Bayesian Statistical Science

Organizer(s): Sudipto Banerjee, University of Minnesota

ML15 **Interdisciplinary Research: Role of the Statistician and Opportunities for Funding and Leadership**—✦Montserrat Fuentes, North Carolina State University

ML16 **Ticks, Tweets, and Trails of Pain: Some Examples of Big Data in Business Research**—✦James G. Scott, The University of Texas at Austin

202 CC-517d

Section on Statistical Consulting P.M. Roundtable Discussion (Fee Event)

Section on Statistical Consulting

Organizer(s): Nicholas Pajewski, Wake Forest University

ML17 **How You Can Help with the LISA 2020 Initiative to Build Statistics Capacity in Developing Countries**—✦Eric A. Vance, LISA-Virginia Tech

203 CC-517d

Section on Statistical Education P.M. Roundtable Discussion (Fee Event)

Section on Statistical Education

Organizer(s): Ming-Wen An, Vassar College

ML18 **Exploring (and Removing) Hesitations to Using (Thoughtful) Fun in Statistics Classes**—✦Lawrence M. Lesser, The University of Texas at El Paso

ML19 **Statistics Projects from the 'Real World'**—✦Laura Chihara, Carleton College

ML20 **Hands-on Activities and Other Tools for Teaching Hypothesis Testing**—✦Georgette Nicolaides, Syracuse University Whitman School of Management

204 CC-517d

Section on Statistics in Defense and National Security P.M. Roundtable Discussion (Fee Event)

Section on Statistics in Defense and National Security

Organizer(s): Laura June Freeman, Institute for Defense Analyses

ML21 **Statistical Rigor in DOD Test and Evaluation**—✦Alyson Wilson, IDA

205 CC-517d

Section on Statistics in Epidemiology P.M. Roundtable Discussion (Fee Event)

Section on Statistics in Epidemiology

Organizer(s): Madhuchhanda Mazumdar, Weill Cornell Medical College

ML22 **Dissemination of Novel Quantitative Methods**—✦Paul Nietert, Medical University of South Carolina

206 CC-517d

Social Statistics Section P.M. Roundtable Discussion (Fee Event)

Social Statistics Section, Korean International Statistical Society

Organizer(s): Michael Sinclair, NORC

ML23 **The National Children's Study (NCS) Vanguard Study Data Analytics**—✦Christina Park, Eunice Kennedy Shriver National Institute of Child Health and Human Development

207 CC-517d

Survey Research Methods Section P.M. Roundtable Discussion (Fee Event)

Survey Research Methods Section

Organizer(s): Karol Krotki, RTI International

ML24 **Calibration Weighting: What We Know Now, What We Still Need to Know**—✦Phil Kott, RTI International

Invited Sessions 2:00 p.m.–3:50 p.m.

208 CC-516d

■ ● Impact of Bayesian Methods in Medical Product Development—Invited

Biopharmaceutical Section, International Society for Bayesian Analysis (ISBA), ASA Special Interest Group for Medical Devices and Diagnostics, Pharmaceutical Statistics

Organizer(s): Karen Lynn Price, Eli Lilly and Company

Chair(s): Nelson Kinnersley, Roche Products Limited

2:05 p.m. **An Overview of Current State of Bayesian Methods in Medical Product Development**—✦Fanni Natanegara, Eli Lilly and Company; Beat Neuenschwander, Novartis

2:30 p.m. **Assessing Drug Safety Using Bayesian Evidence Synthesis**—✦David I. Ohlssen, Novartis; Amy Xia, Amgen, Inc.

2:55 p.m. **The Use of Historical Information in Clinical Trials**—Scott M. Berry, Berry Consultants; ✦Kert Viele, Berry Consultants

3:20 p.m. Disc: Lisa LaVange, FDA/CDER

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

209 CC-510a

● Signal Identification in High-Dimensional Settings—Invited

Section on Statistical Learning and Data Mining, Biometrics Section

Organizer(s): Moulinath Banerjee, University of Michigan
Chair(s): George Michailidis, University of Michigan

2:05 p.m. **A Classification Rule of Feature Augmentation via Nonparametrics and Selection (FANS) in High-Dimensional Space**—Jianqing Fan, Princeton University; ✦Yang Feng, Columbia University; Xin Tong, Massachusetts Institute of Technology

2:30 p.m. **On Consistency of Community Detection in Networks**—Yunpeng Zhao, George Mason University; Liza Levina, University of Michigan; ✦Ji Zhu, University of Michigan

2:55 p.m. **Independent Component Analysis via Nonparametric Maximum Likelihood**—✦Richard Samworth, University of Cambridge; Ming Yuan, University of Wisconsin-Madison

3:20 p.m. **Fast Network Community Detection by Score**—✦Jiashun Jin, Carnegie Mellon University

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

210 CC-510c

■ ● Toward Big Data in Teaching Statistics—Invited

Section on Statistical Education, SSC, Statistical Learning and Data Mining Section, Section on Statistical Graphics, Section on Statistical Computing, Section on Teaching of Statistics in the Health Sciences, Statistics Without Borders

Organizer(s): John G. Gabrosek, Grand Valley State University
Chair(s): John G. Gabrosek, Grand Valley State University

2:05 p.m. **Statistical Inference at Google Scale**—✦Nicholas Chamandy, Google

2:25 p.m. **Introducing Science Students to Big Data**—✦Randall Pruim, Calvin College, Daniel Theodore Kaplan, Macalester College; Elizabeth Shoop, Macalester College

2:45 p.m. **Precursors to the Data Explosion: Teaching How to Compute with Data**—✦Nicholas J. Horton, Smith College; Benjamin S. Baumer, Smith College; Daniel Theodore Kaplan, Macalester College; Randall Pruim, Calvin College

3:05 p.m. **Big Data: Does the Song Remain the Same?**—✦Chris J. Wild, University of Auckland; Antony Unwin, IUniversity of Augsburg

3:25 p.m. Disc: Rob Gould, University of California at Los Angeles

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

211 CC-515a

■ ● Gene-Environment Interaction in Disease Risks: Beyond Logistic Rmodels—Invited

International Indian Statistical Association, International Chinese Statistical Association, Statistical Learning and Data Mining Section, WNAR, Section on Statistics and the Environment, Section on Statistics in Epidemiology

Organizer(s): Nilanjan Chatterjee, National Cancer Institute
Chair(s): Nilanjan Chatterjee, National Cancer Institute

2:05 p.m. **Statistical Interactions, Link Functions, and Bayes Estimation of Log Odds for Case-Control Studies**—✦Jaya M. Satagopan, Memorial Sloan-Kettering Cancer Center; Sara H. Olson, Memorial Sloan-Kettering Cancer Center; Robert C. Elston, Case Western Reserve University

2:30 p.m. **Informed Conditioning on Environmental Covariates Increases Power in Case-Control Association Studies**—✦Noah Aaron Zaitlen, University of California at San Francisco; Sara Lindstrom, HSPH; Bogdan Pasaniuc, University of California at Los Angeles; Marilyn Cornelis, HSPH; Giulio Genovese, HMS; Samuela Pollack, HSPH; Benjamin Voight, University of Pennsylvania; Peter Kraft, HSPH; Nick Patterson, Broad Institute; Alkes L. Price, Harvard School of Public Health

2:55 p.m. **A Unified Framework for Testing Genetic Associations Integrating Environmental Exposures**—✦Summer S. Han, Stanford University; Philip S. Rosenberg, National Cancer Institute; Nilanjan Chatterjee, National Cancer Institute

3:20 p.m. Disc: Charles Kooperberg, Fred Hutchinson Cancer Research Center

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

212 CC-511a

■ A Decade of Profile Monitoring: What's Next?—Invited

Quality and Productivity Section

Organizer(s): Willis Jensen, W.L. Gore & Associates
Chair(s): Willis Jensen, W.L. Gore & Associates

2:05 p.m. **An Overview of Profile Monitoring**—✦William H. Woodall, Virginia Tech

2:30 p.m. **Parametric Methods: Review and Future Work**—✦Mahmoud A. Mahmoud, Cairo University

2:55 p.m. **Nonparametric Profile Monitoring**—✦Peihua Qiu, University of Minnesota

3:20 p.m. **Profile- and Surface-Monitoring Methods for Shapes**—✦Bianca Maria Colosimo, Politecnico Milano

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

213 CC-524a

■ Graphical Approaches for Survey Data—Invited

Government Statistics Section, Section on Statistical Graphics, Section on Statistical Computing, Statistics Without Borders

Organizer(s): Wendy L. Martinez, Bureau of Labor Statistics

Chair(s): Gwyn R. Ferguson, Bureau of Labor Statistics

2:05 p.m. **Dynamic Visualization of Economic Indicators—** ✦Katherine Jenny Thompson, U.S. Census Bureau; Mark Wallace, U.S. Census Bureau

2:40 p.m. **Visualizing Survey Data: Uncertainty, Outliers, and More—**✦Wendy L. Martinez, Bureau of Labor Statistics; Richard Holden, Bureau of Labor Statistics

3:15 p.m. Disc: Daniel Carr, George Mason University

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

214 CC-511c

■ Causal Inference in Observational Studies with Time-Varying Treatments—Invited

Section on Statistics in Epidemiology, SSC, Biometrics Section

Organizer(s): Yun Li, University of Michigan

Chair(s): Yun Li, University of Michigan

2:05 p.m. **Q-Learning with a Useful Utility—** ✦Erica E. M. Moodie, McGill University

2:30 p.m. **Assessing the Effect of Organ Transplantation on the Distribution of Residual Lifetime—**✦David Michael Vock, University of Minnesota; Anastasios (Butch) Tsiatis, North Carolina State University; Marie Davidian, North Carolina State University; Eric Laber, North Carolina State University; Wayne M. Tsuang, Duke University; C. Ashley Finlen Copeland, Duke University; Scott M. Palmer, Duke University

2:55 p.m. **Estimating the Average Treatment Effect on Mean Survival Time When Treatment Is Time-Dependent and Censoring Is Dependent—**✦Douglas Earl Schaubel, University of Michigan; Qi Gong, Amgen, Inc.

3:20 p.m. **The Extended G-Formula—**✦James Robins, HSPH

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

215 CC-522bc

■ Advanced Methods in Brain Imaging Research—Invited

Section on Statistics in Imaging, Mental Health Statistics Section, Statistical Learning and Data Mining Section, WNAR, Korean International Statistical Society

Organizer(s): Hakmook Kang, Vanderbilt University

Chair(s): Martin Lindquist, Johns Hopkins Bloomberg School of Public Health

2:05 p.m. **Methods for Detecting Functional Connectivity Change Points in fMRI Data—**✦Ivor Cribben, University of Alberta School of Business; Tor D. Wager, University of Colorado, Boulder; Martin Lindquist, Johns Hopkins Bloomberg School of Public Health

2:25 p.m. **Spectral Density Shrinkage for High-Dimensional Time Series—**✦Mark Fiecas, University of California at San Diego; Rainer von Sachs, Universite Catholique de Louvain

2:45 p.m. **Longitudinal Analysis of Resting-State fMRI Functional Connectivity Networks—**✦Hakmook Kang, Vanderbilt University; Mark Fiecas, University of California at San Diego

3:05 p.m. **A Model for the Detection of Abnormal Regions in Quantitative Cerebral Maps with Application to Myelin Water Fraction Maps—**✦Sandra Milena Hurtado Rúa, Weill Medical College of Cornell University

3:25 p.m. **Confidence Envelopes for Population-Level Activations in fMRI Studies—**✦David Degras, DePaul University; Martin Lindquist, Johns Hopkins Bloomberg School of Public Health

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

216 CC-511b

■ Bayesian Finance—Invited

Business and Economic Statistics Section, International Society for Bayesian Analysis (ISBA)

Organizer(s): Robert E. McCulloch, The University of Chicago Booth School of Business

Chair(s): Alan L. Montgomery, Carnegie Mellon University

2:05 p.m. **Asset Allocation: A Bayesian Perspective—** ✦Nicholas G. Polson, The University of Chicago Booth School of Business

2:30 p.m. **Shrinking Toward Models with Time-Varying Parameters—**✦Satadru Hore, Federal Reserve, Boston; Robert E. McCulloch, The University of Chicago Booth School of Business

2:55 p.m. **A New Class of Bayesian Semiparametric Models with Applications to Option Pricing—**✦Paul Damien, The University of Texas

3:20 p.m. **On the Long Run Volatility of Stocks: A Bayesian Perspective—**✦Carlos Carvalho, The University of Texas

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

217 CC-510b

■ ● Visualizing Big Data Interactively—Invited

Section on Statistical Graphics, Statistical Learning and Data Mining Section, Section on Physical and Engineering Sciences, Section on Statistical Computing

Organizer(s): Kary Myers, Los Alamos National Laboratory
Chair(s): Kary Myers, Los Alamos National Laboratory

2:05 p.m. **Web-Based Interactive Graphics for Big Data**—✦Simon Urbanek, AT&T Labs

2:35 p.m. **Expert-Guided Generative Topographic Modeling with Visual to Parametric Interaction**—✦Leanna House, Virginia Tech; Chao Han, Virginia Tech; Scotland Charles Leman, Virginia Tech

3:05 p.m. **Feature-Based Statistical Analysis of Extreme-Scale Physics Simulation Data**—Janine Camille Bennett, Sandia National Laboratories; ✦Timo Bremer, Lawrence Livermore National Laboratory

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

218 CC-520f

■ Sampling and Model-Based Inference for Network Data—Invited

IMS, International Chinese Statistical Association, Statistical Learning and Data Mining Section, Biometrics Section, Section on Statistics in Epidemiology

Organizer(s): Anton H. Westveld, University of Arizona
Chair(s): Anton H. Westveld, University of Arizona

2:05 p.m. **A Bayesian Model for the Study of Interpersonal Perception**—✦Paramjit S. Gill, UBC Okanagan

2:30 p.m. **Detecting Perturbed Biological Pathways Through Latent Network Modeling of Gene Expression**—✦Eric Kolaczyk, Boston University; Lisa Pham, Boston University; Luis E. Carvalho, Boston University; Scott E. Schaus, Boston University

2:55 p.m. **Inference from Nonignorable Network Sampling Designs**—Edo Airoldi, Harvard University; ✦Simon Lunagomez, Harvard University

3:20 p.m. **Modeling Networks When Data Is Missing or Sampled**—✦Mark Stephen Handcock, University of California at Los Angeles; Krista J. Gile, University of Massachusetts, Amherst; Ian Fellows, University of California at Los Angeles

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

219 CC-512h

■ Multi-Armed Bandits and Adaptive Marketing Experiments—Invited

Section on Statistics in Marketing

Organizer(s): Eric M. Schwartz, The Wharton School
Chair(s): William Rand, Center for Compexity in Business

2:05 p.m. **Learning from Experience, Simply**—✦Song Lin, Massachusetts Institute of Technology Sloan School of Management; Juanjuan Zhang, Massachusetts Institute of Technology Sloan School of Management; John Hauser, Massachusetts Institute of Technology Sloan School of Management

2:30 p.m. **Thompson Sampling for Solving Multi-Armed Bandits**—✦Lihong Li, Microsoft Research; Olivier Chapelle, Criteo

2:55 p.m. **Bandit's Paradise: Customer Acquisition Through Online Display Advertising**—✦Eric M. Schwartz, The Wharton School; Eric Bradlow, The Wharton School; Peter Fader, The Wharton School

3:20 p.m. Disc: Steven L Scott, Google

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

220 CC-710b

Medallion Lecture III—Invited

IMS

Organizer(s): David B. Dunson, Duke University
Chair(s): Bin Yu, University of California at Berkeley

2:05 p.m. **Statistics Meets Computation: Efficiency Trade-Offs in High Dimensions**—✦Martin Wainwright, University of California at Berkeley

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

Invited Panels 2:00 p.m.–3:50 p.m.

221 CC-516e

■ ● Post PhD: What to Expect in Your First Year?—Invited

ENAR, Mental Health Statistics Section, Biometrics Section

Organizer(s): Layla Parast, RAND Corporation Chair(s): Jennifer Sinnott, Harvard University

Panelists: ✦Layla Parast, RAND Corporation
✦Miguel Marino, Oregon Health and Science University
✦Jessica Minnier, Fred Hutchinson Cancer Research Center
✦Gourab De, Analysis Group Inc.
✦Violeta Hennessey, Amgen, Inc.

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

222 CC-516b

Reflection of Statistical Sciences: Past, Present, and Future---Celebration of the COPSS 50th Anniversary—Invited

ASA, Committee of Presidents of Statistical Societies, SSC

Organizer(s): Xihong Lin, Harvard School of Public Health
Chair(s): Xihong Lin, Harvard School of Public Health

Panelists:
✦Norman Breslow, University of Washington
✦Rob Tibshirani, Stanford
✦Bernard Silverman, St. Petere's College, University of Oxford
✦Nancy Reid, University of Toronto
✦Donald B. Rubin, Harvard University
✦Kathryn Roeder, Carnegie Mellon University

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

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

223 CC-510d

■ Challenges in Using Markov Chain Monte Carlo in Modern Applications—Topic-Contributed

Section on Statistical Computing, SSC

Organizer(s): Galin Jones, University of Minnesota
Chair(s): Felipe Acosta Archila, University of Minnesota

2:05 p.m. **MCMC for Co-Ancestry in Pedigrees and Populations**—✦Elizabeth Thompson, University of Washington

2:25 p.m. **Relative Fixed-Width Stopping Rules for Markov Chain Monte Carlo Simulations**—✦James M. Flegal, University of California at Riverside

2:45 p.m. **Bayesian Latent Variable Modelling of Longitudinal Family Data for Genetic Pleiotropy Studies**—✦Radu Craiu, University of Toronto; Lizhen Xu, Princess Margaret Hospital; Lei Sun, University of Toronto

3:05 p.m. **Exact MCMC Using Approximations**—✦Radu Herbei, The Ohio State University

3:25 p.m. **Advances in MCMC for Spatial Generalized Linear Mixed Models**—✦John Hughes, University of Minnesota

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

224 CC-520c

■ Statistics as Support: Why Statistical Research on the Mental Health Conditions of United States Veterans Is a National Priority—Topic-Contributed

Mental Health Statistics Section, Section on Statistics in Defense and National Security, Scientific and Public Affairs Advisory Committee, Korean International Statistical Society

Organizer(s): Frank B. Yoon, Mathematica Policy Research
Chair(s): Frank B. Yoon, Mathematica Policy Research

2:05 p.m. **Assessing Alcohol and Drug Use Following Return from Deployment to Iraq or Afghanistan: A Statistical Perspective**—✦Mark Glickman, Boston University; Sue Eisen, Center for Health Quality, Outcomes and Economics Research; Mark Schultz, Center for Health Quality, Outcomes and Economics Research

2:25 p.m. **Adjustments for Temporal Misclassification of Exposure Status in Surveys of Health Outcomes**—✦Donsig Jang, Mathematica Policy Research, Inc; Frank B Yoon, Mathematica Policy Research; Amang Sukasih, Mathematica Policy Research; Amii Kress, Department of Veteran Affairs; Shannon K. Barth, Veterans Health Administration; Clare M. Mahan, Veterans Health Administration; Steven S. Coughlin, Veterans Health Administration; Erin K. Dursa, Veterans Health Administration; Aaron Schneiderman, Department of Veteran Affairs

2:45 p.m. **Overview: Injury Mechanisms and Psychiatric Stressors During the Conflicts in Afghanistan and Iraq**—✦Aaron Schneiderman, Department of Veteran Affairs

3:05 p.m. **Is Time from Separation/Deactivation Associated with Suicide Incidence Rate Among OEF/OIF Veterans?**—✦Amii Kress, Department of Veteran Affairs

3:25 p.m. **Suicide Re-Event Measure, Adjusting for Suicidal History**—✦Brady Stephens, Department of Veteran Affairs; Robert Bossarte, Veterans Administration Medical Center

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

225 CC-511d

■ ● Recent Developments on Learning Methods from Manifold Data and Related Theory—Topic-Contributed

Section on Statistical Learning and Data Mining, Korean International Statistical Society

Organizer(s): Sungkyu Jung, University of Pittsburgh; Lingsong Zhang, Purdue University

Chair(s): Sungkyu Jung, University of Pittsburgh

2:05 p.m. **Bayesian Analysis of Functions and Curves Using Registration**—✦Wen Cheng; Ian L. Dryden, University of Nottingham; David Hitchcock, University of South Carolina; Xianzheng (Shan) Huang, University of South Carolina; Huiling Le, University of Nottingham

2:25 p.m. **A Longitudinal Functional Analysis Framework**—✦Ying Yuan, St. Jude; Hongtu Zhu, The University of North Carolina at Chapel Hill; Jane-Ling Wang, University of California at Davis; John Gilmore, The University of North Carolina; Martin Styner, The University of North Carolina at Chapel Hill; Xiujuan Geng, The University of North Carolina

2:45 p.m. **Statistical Summarization, Modeling, and Evaluation of Temporally Registered Trajectories on Riemannian Manifolds**—✦Jingyong Su

3:05 p.m. **Problems in Approximating and Estimating Mean Shapes of Planar Contours**—✦Leif Ellingson, Texas Tech University; Chalani Prematilake, Texas Tech University

3:25 p.m. **Nested Semi-Definite Cone Analysis with Application to Diffusion Tensor Image Data**—✦Lingsong Zhang, Purdue University; Sungkyu Jung, University of Pittsburgh

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

226 CC-511f

■ Translation of Innovative Dose-Finding Designs Into Phase I Trials—Topic-Contributed

Biometrics Section, Biopharmaceutical Section

Organizer(s): Bo Huang, Pfizer Inc.

Chair(s): Yufan Zhao, Boston Scientific Neuromodulation

2:05 p.m. **Translation of Innovative Dose-Finding Designs Into Practical Phase I Trials**—✦Yuan Ji, NorthShore University HealthSystem Research Institute; Sue-Jane Wang, FDA

2:25 p.m. **Adaptive Dose-Finding Designs in Industry-Sponsored Oncology Trials: Where the Rubber Meets the Road**—✦Bo Huang, Pfizer Inc.; Paul Bycott, Pfizer Inc.; Enayet Talukder, Pfizer Inc.

2:45 p.m. **FDA and Innovative Designs: Case Study of a Missed Opportunity**—✦Andre Rogatko, Samuel Oschin Comprehensive Cancer Institute At Cedars Sinai Medical Center; Galen Cook-Wiens, Cedars Sinai Medical Center; Mourad Tighiouart, Cedars Sinai Medical Center

3:05 p.m. **Calibration in the Continual Reassessment Method for Phase I Clinical Trials**—✦Xiaoyu Jia, Columbia University; Shing M. Lee, Columbia University

3:25 p.m. **Combination Dose-Finding for Targeted Agents: A Bayesian Case Study in Oncology**—✦Suman Sen, Novartis Pharmaceuticals Corp; Meredith Goldwasser, Novartis Pharmaceuticals Corp; Stuart Bailey, Novartis Pharma AG

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

227 CC-514a

■ ● An Overview of Recent Advances in Adaptive and Nonlinear Estimation in Nonparametrics—Topic-Contributed

Section on Nonparametric Statistics

Organizer(s): Piotr Fryzlewicz, London School of Economics

Chair(s): Sam Efromovich, The University of Texas at Dallas

2:05 p.m. **Instantaneous Frequency, Shape Functions, Synchrosqueezing Transform, and Some Applications**—✦Hau-Tieng Wu, University of California at Berkeley

2:25 p.m. **From Unbalanced and Shape-Adaptive Wavelets to Wild Binary Segmentation**—✦Piotr Fryzlewicz, London School of Economics

2:45 p.m. **Multiscale Approximation in Function Spaces**—✦Laurie Davies, University of Duisburg Essen

3:05 p.m. **Adaptive Forecasting with a Functional AR Model**—✦Ying Chen, National University of Singapore; Bo Li, National University of Singapore

3:25 p.m. **Extending the Scope of Empirical Mode Decomposition by Smoothing**—✦Hee-Seok Oh, Seoul National University

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

228 CC-516c

■ Future Evolution of Data Monitoring Committees—Topic-Contributed

Biopharmaceutical Section, Biometrics Section

Organizer(s): Zoran Antonijevic, Cytel Inc.

Chair(s): Christy J. Chuang-Stein, Pfizer Inc.

2:05 p.m. **The Role of the Data-Monitoring Committee: The Past and the Present in Preparation for the Future**—✦John Loewy, Dataforethought

2:25 p.m. **General Considerations for Data Monitoring of Adaptive Trials**—✦Zoran Antonijevic, Cytel Inc.

2:45 p.m. **Communication, Confidentiality, and Oversight Issues for DMCs in Adaptive Trials**—✦Paul Gallo, Novartis

3:05 p.m. Disc: Matilde Sanchez, Arena Pharmaceuticals, Inc.

3:25 p.m. Disc: Kerry Barker, Pfizer Inc.

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

229 CC-516a

Pharmacogenomics: Statistical Challenges and Opportunities on the Journey to Personalized Medicine—Topic-Contributed

Biopharmaceutical Section, Biometrics Section

Organizer(s): Gary L. Rosner, The Johns Hopkins University

Chair(s): Gary L. Rosner, The Johns Hopkins University

2:05 p.m. **Statistical Analysis of Methylation Array Data**—✦Brooke Fridley, University of Kansas Medical Center

2:25 p.m. **Phenotype-Specific Genomic Network Discovery**—✦Cheng Cheng, St. Jude Children's Research Hospital

2:45 p.m. **Overview of Pharmacogenomics, Gene-Gene Interaction, System Genomics**—✦Marylyn Ritchie, Penn State University

3:05 p.m. **Pharmacogenomics: Statistical Challenges and Opportunities on the Journey to Personalized Medicine**—✦Nicholas Tatonetti, Columbia University

3:25 p.m. Disc: Paul Scheet, The University of Texas MD Anderson Cancer Center

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

230 CC-520d

Advances in Bayesian Variable Selection—Topic-Contributed

Section on Bayesian Statistical Science, International Society for Bayesian Analysis (ISBA)

Organizer(s): Edward George, The Wharton School

Chair(s): Merlise Clyde, Duke University

2:05 p.m. **Bayesian Additive Regression Trees for Variable Selection in Biological Data**—✦Shane T. Jensen, The Wharton School; Justin Bleich, The Wharton School; Adam Kapelner, The Wharton School; Edward George, The Wharton School

2:25 p.m. **EMVS: The EM Approach to Bayesian Variable Selection**—✦Veronika Rockova, Erasmus University; Edward George, The Wharton School

2:45 p.m. **Structuring Dependence in Regression: Spherical Symmetry and Variable Selection**—✦Christopher Hans, The Ohio State University; Steven MacEachern, The Ohio State University; Agniva Som, The Ohio State University

3:05 p.m. **Defining Testing Priors from Estimation Priors via Truncation**—✦David Rossell, IRB Barcelona; Donatello Telesca, University of California at Los Angeles

3:25 p.m. Disc: Daniel Zantedeschi, The Wharton School

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

231 CC-519a

■ Data Collection, Processing, and Analysis in the Energy Industry—Topic-Contributed

Survey Research Methods Section, Section on Physical and Engineering Sciences, Scientific and Public Affairs Advisory Committee

Organizer(s): Cha-Chi Fan, U.S. Energy Information Administration
Chair(s): Samson Adeshiyan, U.S. Energy Information Administration

2:05 p.m. **Inter-Agency Energy Data Standardization: Combining Multi-Source Data with Imperfect Information**—✦Carrie Milton, U.S. Energy Information Administration

2:25 p.m. **Research Into Alternative Imputation Protocols for the Eia-857 Monthly Report of Natural Gas Purchases and Deliveries to Consumers**—✦Joseph Conklin, U.S. Energy Information Administration

2:45 p.m. **A Hierarchical State-Space Model for Short-Term Forecasting of Residential Electricity Demand**—✦Jonathan Hosking, IBM Research Division; Ramesh Natarajan, IBM Research; Soumyadip Ghosh, IBM Research; Shivaram Subramanian, IBM Research; Xiaoxuan Zhang, IBM Research

3:05 p.m. **Examining and Estimating Power Plant Operations and Maintenance (O&M) Costs**—✦Cha-Chi Fan, U.S. Energy Information Administration

3:25 p.m. Disc: Barry D. Nussbaum, U.S. Environmental Protection Agency

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

232 CC-519b

■ Under-Reporting in Filter and Screener Questions: Interviewer and Respondent Effects—Topic-Contributed

Survey Research Methods Section, Social Statistics Section, Scientific and Public Affairs Advisory Committee

Organizer(s): Mark Trappmann, IAB (Institute for Employment Research)
Chair(s): Shelton M. Jones, RTI International

2:05 p.m. **Face-to-Face Screening Interviews: Tradeoffs Between Coverage and Nonresponse Errors**—✦Roger Tourangeau, Westat; Frauke Kreuter, University of Maryland; Stephanie Eckman, IAB (Institute for Employment Research)

2:25 p.m. **Does Data Quality Decrease Over the Course of an Expenditure Survey?**—✦David Cantor, Westat; Cong Ye, American Institute for Research; Brandon Kopp, Bureau of Labor Statistics

2:45 p.m. **Design Principles for the Use of Filter Questions**—✦Stephanie Eckman, IAB; Frauke Kreuter, University of Maryland; Annette Jaeckle, ISER; Antje Kirchner, IAB; Stanley Presser, JPSM; Roger Tourangeau, Westat

3:05 p.m. **Interviewer Behavior and Survey Data Quality: The Case of Social Network Data**—✦Bernadette Huyer-May; Josef Brüderl, University of Munich; Claudia Schmiedeberg, University of Munich

3:25 p.m. **Interviewer Effects on a Network-Size Filter Question**—✦Mark Trappmann, IAB (Institute for Employment Research); Michael Josten, University of Mannheim

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

233 CC-520a

■ Recent Developments in Statistical Methods for Ecological Data—Topic-Contributed

Section on Statistics and the Environment, Section on Statistics in Epidemiology

Organizer(s): Devin Johnson, National Marine Mammal Laboratory
Chair(s): Devin Johnson, National Marine Mammal Laboratory

2:05 p.m. **Detection Probability Estimates from Ice-Based Surveys of Bowhead Whales Near Barrow, Alaska, Using a Weighted Recapture Model**—✦Geof Givens, Colorado State University; Stacy Edmondson, Colorado State University; Craig George, North Slope Borough, Alaska, Department of Wildlife Management; Barbara Tudor, North Slope Borough, Alaska, Department of Wildlife Management; Rob DeLong, DeLongView Enterprises; Robert Suydam, North Slope Borough, Alaska, Department of Wildlife Management

2:25 p.m. **Adjusting for Recapture Uncertainty: Improved Abundance Estimates from Capture-Recapture Surveys**—✦Stacy Edmondson, Colorado State University

2:45 p.m. **Fringe Benefits: The Hidden Utility of Constraints in Telemetry Studies**—✦Mevin Hooten, Colorado State University; Ephraim Hanks, Colorado State University; Brian Brost, Colorado State University

3:05 p.m. **Spatio-Temporal Analysis for Bird Migration Phenology**—✦Ali Arab, Georgetown University; Jason Courter, Taylor University

3:25 p.m. **Properties of Slope Estimators Associated with Random Slope Models**—Brian Gray, U.S. Geological Survey; ✦Vyacheslav Lyubchich, University of Waterloo, Canada; Yulia R. Gel, University of Waterloo

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

234 CC-512d

■ ● Replicable Science and Metadata—Topic-Contributed

Business and Economic Statistics Section, Survey Research Methods Section, International Indian Statistical Association

Organizer(s): John M. Abowd, Chair, Business and Economic Statistics Section
Chair(s): Warren Brown, Cornell University

2:05 p.m. **Data Management of Confidential Data**—✦Lars Vilhuber, Cornell University/ILR

2:25 p.m. **Administrative Data and Replicable Science: Does It Fit?**—✦Stefan Bender, IAB (Institute for Employment Research); David Schiller, IAB

2:45 p.m. **Managing Disclosure Risks in the Curation and Dissemination of Research Data**—✦John E. Marcotte, University of Michigan; George Alter, University of Michigan; Susan Jekielek, University of Michigan

3:05 p.m. **Meeting the Long-Term Needs of Scientific Progress Through Data-Collection Standards**—✦Richard Welpton, UK Data Archive; Matthew Woollard, UK Data Archive; Melanie Wright, UK Data Archive

3:25 p.m. Disc: John M. Abowd, Chair, Business and Economic Statistics Section

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

235 CC-710a

■ ● Data and Safety Monitoring Boards: Current Issues and Challenges—Topic-Contributed

Biometrics Section, Section on Teaching of Statistics in the Health Sciences, Scientific and Public Affairs Advisory Committee

Organizer(s): Rebecca DerSimonian, National Institute of Allergy and Infectious Diseases

Chair(s): Rebecca DerSimonian, National Institute of Allergy and Infectious Diseases

2:05 p.m. **Making Judgments About What to Report to Your DSMB**—✦Susan Ellenberg, University of Pennsylvania Perleman School of Medicine

2:25 p.m. **How Blind Should the Investigators and Sponsors Be?**—✦James Neaton, University of Minnesota

2:45 p.m. **DMCs and the New Final Rule: How Will We (Should We) Respond?**—✦Janet Wittes, Statistics-Collaborative

3:05 p.m. **DSMB Review for Cluster Randomized Trials of HIV Prevention**—✦Victor De Gruttola, Harvard School of Public Health; Quanhong Lei, Harvard School of Public Health; Rui Wang, Harvard School of Public Health; Max Essex, Harvard School of Public Health

3:25 p.m. Disc: David Demets, University of Wisconsin

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

236 CC-525a

HPSS Student Paper Competition—Topic-Contributed

Health Policy Statistics Section

Organizer(s): Juned Siddique, Northwestern University

Chair(s): Juned Siddique, Northwestern University

2:05 p.m. **A Hybrid Bayesian Hierarchical Model Combining Cohort and Case-Control Studies for Meta-Analysis of Diagnostic Test: Accounting for Disease Prevalence and Partial Verification Bias**—✦Xiaoye Ma, University of Minnesota; Haitao Chu, University of Minnesota School of Public Health; Yong Chen, The University of Texas School of Public Health; Stephen R. Cole, The University of North Carolina at Chapel Hill

2:25 p.m. **Effectiveness of Biological Drug Testing Among Adolescent Substance Users: A Multiple Group Propensity Score Analysis**—✦Megan Schuler, Johns Hopkins Bloomberg School of Public Health; Beth Ann Griffin, RAND; Rajeev Ramchand, RAND; Daniel Almirall, University of Michigan; Daniel McCaffrey, RAND

2:45 p.m. **Composite Kaplan-Meier and Semiparametric Commensurate Bayesian Methods for Post-Market Medical Device Surveillance with Historical Survival Information**—✦Thomas Murray, University of Minnesota; Brian Hobbs, The University of Texas MD Anderson Cancer Center; Ted Lystig, Medtronic, Inc.; Bradley P. Carlin, University of Minnesota

3:05 p.m. **A Bayesian Missing Data Framework for Generalized Multiple Outcome Mixed Treatment Comparisons**—✦Hwanhee Hong, Division of Biostatistics, University of Minnesota; Haitao Chu, University of Minnesota School of Public Health; Jing Zhang, University of Minnesota School of Public Health; Bradley P. Carlin, University of Minnesota

3:25 p.m. **Estimating the Average Treatment Effects of Nutritional Label Use Using Subclassification with Regression Adjustment**—✦Michael Lopez, Brown University

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

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

237 CC-515b

■ ● Statistical Challenges in Nursing Research—Topic-Contributed

ENAR

Organizer(s): Matthew J. Hayat, College of Nursing, Rutgers University
Chair(s): Patricia Eckardt, School of Nursing, Stony Brook University

Panelists: ✦Matthew J. Hayat, College of Nursing, Rutgers University
✦Todd Schwartz, The University of North Carolina at Chapel Hill
✦Vincent Staggs, University of Kansas Medical Center

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

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

238 CC-220bc

Topic-Contributed Poster Presentations: Data Expo 2013—Topic-Contributed

Section on Statistical Graphics

Organizer(s): Heike Hofmann, Iowa State University
Chair(s): Joyee Ghosh, University of Iowa

Section on Statistical Graphics

1 **Can You Buy a President? Politics After the Tillman Act**—✦Eric Hare, Iowa State University; Andrea Kaplan, Iowa State University

2 **Resources, Perceptions, and Outcomes: What Builds a Strong Community?**—✦Michael C. Minnotte, University of North Dakota; Krista Lynn Minnotte, University of North Dakota

3 **Dynamic Exploration of the Soul of the Community**—✦Samuel Gardner, SAS Institute; Nicole Jones, SAS Institute, JMP Division; Michael Crotty, SAS Institute; Justin Mosiman, SAS Institute, JMP Division

4 **Soul of the Community**—✦Anna Quach; Juergen Symanzik, Utah State University; Nicole Velasquez, Utah State University

5 **Exposing the Soul of a Community**—✦Millicent Grant, Iowa State University

6 **Data Expo 2013: Locating the Heart of the Community**—✦Karsten Tait Maurer, Iowa State University; David Osthus, Iowa State University; Adam Loy, Iowa State University

7 **Data Expo 2013: What Attaches People to Their Community?**—✦Xiaoyue Cheng, Iowa State University; Dianne H. Cook, Iowa State University

8 **Data Expo 2013: Data-Conforming Visualization**—✦Graham Wills, IBM; Alan Keahey, IBM

9 **Data Expo 2013: Data Visualization on the Soul of the Community**—✦Amelia McNamara, University of California at Los Angeles

10 **Data Expo 2013: Using Data to Find Your Way Home**—✦Niladri Roy Chowdhury, Iowa State University; Luke Fostvedt, Iowa State University

11 **Putting Down Roots: A Graphical Exploration of Community Attachment**—✦Andrea Kaplan, Iowa State University; Eric Hare, Iowa State University

12 **Seeing the Soul of the Community**—✦Angela Minster

13 **Data Expo 2013**—✦Samantha Tyner, Iowa State University; Susan VanderPlas, Iowa State University

14 **Dynamic Graphics: An Interactive Analysis of What Attaches People to Their Communities**—✦Jessica Orth, University of Iowa

15 **A Geographic Analysis of Survey Responses in Long Beach**—✦Samuel Ackerman, Temple University

16 **Clicks and Cliques: What Makes a Community Work (Data Expo '13)**—✦Dianne H. Cook, Iowa State University; Natalia Da Silva, Iowa State University; Ignacio Alvarez-Castro, Iowa State University

17 **Soul of the Community**—✦Cynthia Rush, Yale University; William Brinda, Yale University; Yuezhu He, Yale University; Dingjie Wang, Yale University; Xiaofei Wang, Yale University

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

239 CC-513a

Random Effects and Variance Component Estimation—Contributed

Biometrics Section

Chair(s): Kiros Berhane, University of Southern California

2:05 p.m. **Multiple Local Maxima in Restricted Likelihoods and Posterior Distributions for Mixed Linear Models**—✦Lisa Henn, University of Minnesota; James Hodges, University of Minnesota

2:20 p.m. **An Alternative REML Estimation of Covariance Matrices in Linear Mixed Models**—✦Erning Li, University of Iowa; Mohsen Pourahmadi, Texas A&M University

2:35 p.m. **Bias Correction for Covariance Parameter MLEs in GLMMs**—✦Elizabeth Claassen, University of Nebraska-Lincoln; Christopher Gotwalt, SAS Institute; Walt W. Stroup, University of Nebraska-Lincoln

2:50 p.m. **Estimating Kurtosis and Approximate Confidence Intervals for Variance Components—**✦Brent Burch, Northern Arizona University

3:05 p.m. **Improving the Estimates of Variance Ratios and BLUPs of Mixed-Effects Models—**✦Samaradasa Weerahandi, Pfizer; Malwane Ananda, University of Nevada, Las Vegas

3:20 p.m. **Design Effects in the Estimation of Variance Components for Mixed-Effects Models—**✦Li Guo; Subir Ghosh, University of California at Riverside

3:35 p.m. **Estimation of Random Effects in a Logistic Regression—**✦Jorgen Holm Petersen, Kobenhavns Universitet

240 CC-513b

Semiparametric Modeling—Contributed

Biometrics Section

Chair(s): Jeff M. Szychowski, The University of Alabama at Birmingham

2:05 p.m. **Dual-Likelihood Ratio Test for Type-I Censored Multiple Samples Under Semiparametric Density Ratio Models—**✦Song Cai, University of British Columbia; Jiahua Chen, University of British Columbia

2:20 p.m. **Statistical Inference for Nonlinear Functional Models with Application to Copy Number Variation and Multiple Myeloma Data—**✦Adrian Coles, North Carolina State University; Arnab Maity, North Carolina State University; Veera Baladandayuthapani, The University of Texas MD Anderson Cancer Center; Ganiraju Manyam, The University of Texas MD Anderson Cancer Center

2:35 p.m. **On the Asymptotic Behavior of the Pseudolikelihood Ratio Test Statistic with Boundary Problems in Semiparametric Models—**✦Yong Chen, The University of Texas School of Public Health; Jing Ning, The University of Texas MD Anderson Cancer Center; Kung-Yee Liang, National Yang Ming University

2:50 p.m. **Integrating M-Regression with False Discovery Rates for Outlier Detection in Genetic Association Studies of Quantitative Traits—**✦Vanda Lourenco, CMA, FCT - Universidade Nova de Lisboa; Ana Maria Pires, CEMAT, IST - Universidade Técnica de Lisboa

3:05 p.m. **Methods and Dilemmas of Using Patient Registries in Evidence-Based Research—**✦Carolyn Carroll, Stat Tech Inc; Jan F. Nygard, Norwegian Cancer Registry

3:20 p.m. **Model Selection and Model Averaging Partially Linear Single-Index Models—**✦Yao Yu, University of Rochester; Sally W. Thurston, University of Rochester; Russ Hauser Hauser, Harvard School of Public Health; Hua Liang, University of Rochester

3:35 p.m. **Risk Prediction in Consecutive Time-to-Event Outcome Subject to a Competing Event—**✦Joanna Shih, National Cancer Institute; Paul Albert, NICHD

241 CC-520b

■ Statistical Methods and Inference for Extreme Environmental Events—Contributed

Section on Statistics and the Environment, Scientific and Public Affairs Advisory Committee

Chair(s): William Christensen, Brigham Young University

2:05 p.m. **M-Estimation for Max-Stable Random Fields via CRPS—**✦Robert Yuen, University of Michigan; Stilian A. Stoev, University of Michigan

2:20 p.m. **Design Life Level: Quantifying the Risk of Extreme Events in a Changing Climate—**✦Richard Katz, NCAR/IMAGe; Holger Rootzen, Chalmers and Gothenburg University

2:35 p.m. **Downscaling Precipitation Extremes from Regional Climate Model Outputs—**✦Eric Laflamme, University of New Hampshire; Ernst Linder, University of New Hampshire; Yibin Pan, University of New Hampshire

2:50 p.m. **Spatio-Temporal Downscaling of Daily Precipitation Extremes in New England from Regional Climate Model Outputs—**✦Yibin Pan; Ernst Linder, University of New Hampshire; Eric Laflamme, University of New Hampshire

3:05 p.m. **Functional ANOVA of Precipitation Extremes from Regional Climate Model Output—**✦Ernst Linder, University of New Hampshire; Yibin Pan, University of New Hampshire; Eric Laflamme, University of New Hampshire

3:20 p.m. **A Study on Spatio-Temporal Extremes—**✦Whitney Huang, Purdue University; Hao Zhang, Purdue University

3:35 p.m. **Estimation of a Time-Varying Extreme Quantile with Application to the Measurement of the Activity of Bivalves in an Environmental Context—**✦Ion Grama, University of South Brittany; Gilles Durrieu, University of South Brittany; Jean-Charles Massabuau, University of Bordeaux; Quang Khoai Pham, University of South Brittany; Jean-Marie TRICOT, University of South Brittany

242 CC-512ab

■ Methods for Dealing with Missing Data—Contributed

Biopharmaceutical Section, International Indian Statistical Association, Section for Statistical Programmers and Analysts

Chair(s): Davis Gates, Merck

2:05 p.m. **Effects of Interval Censoring on Kaplan-Meier Estimates of Median Survival and Difference in Median Survival**—✦Ying Zhou, Amgen, Inc.; Chunlei Ke, Amgen, Inc.

2:20 p.m. **Simulation Study to Compare New Hybrid Model with Pattern Mixture Model Under Missing Not at Random**—✦Fang Liu, Merck & Co., Inc; Jingjing Chen, Accenture PLC

2:35 p.m. **Asymptotic Biases and Misspecified Models for Missing Data**—Melanie Poulin-Costello, Amgen, Inc.; ✦Michael McIsaac, University of Waterloo; Richard Cook, University of Waterloo

2:50 p.m. **Handling of Not-Missing-at-Random Data**—✦Madhuja Mallick, Forest Research Institute, Inc.

3:05 p.m. **Multivariate Longitudinal Analysis with Missing Data**—✦Priya Kohli, Assistant Professor; Tanya Garcia, Texas A&M University; Mohsen Pourahmadi, Texas A&M University

3:20 p.m. **Inference for Treatment Effects in Clinical Trials with Nonrandom Dropouts**—✦Shan Kang, University of Michigan; Roderick J. Little, University of Michigan

3:35 p.m. **Missing Data Sensitivity Analyses with Small Sample Sizes**—✦Susan Huyck, Merck

243 CC-512c

■ Reliability Testing and Prediction—Contributed

Section on Physical and Engineering Sciences, Quality and Productivity Section

Chair(s): Yili Hong, Virginia Tech

2:05 p.m. **Reliability Analysis of Random Shape Deformation Problems: A Criterion for Switching from Gradient-Enhanced Kriging to Importance Sampling**—✦Thomas P. Scholcz, Delft University of Technology; Jouke H.S. de Baar, Delft University of Technology; Richard P. Dwight, Delft University of Technology; Alexander H. van Zuijlen, Delft University of Technology; Hester Bijl, Delft University of Technology

2:20 p.m. **Optimal Design for Accelerated Destructive Degradation Tests**—✦Chih-Chun Tsai, Tamkang University; Sheng-Tsaing Tseng, Institute of Statistics, National Tsing-Hua University; Narayanaswamy Balakrishnan, McMaster University; Chien-Tai Lin, Tamkang University

2:35 p.m. **Better Confidence Limits for System Reliability**—✦Wayne Nelson, Wayne Nelson Stat Consulting; J. Brian Hall, U.S. Army, Office of the Secretary of Defense

2:50 p.m. **Product Component Genealogy Modeling and Warranty Return Prediction**—✦Caleb B. King, Virginia Tech; Yili Hong, Virginia Tech; William Q. Meeker, Iowa State University

3:05 p.m. **Lower Prediction and Tolerance Bounds in Accelerated Life Testing for the Rayleigh Distribution**—✦Ananda Jayawardhana, Pittsburg State University; Yang Song, University of Illinois Urbana-Champagne

3:20 p.m. **Nonparametric Tolerance Intervals to Evaluate Reliability of Two Respiration Devices with Skewed Data**—✦Xuan Wang, Baylor Healthcare System

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

244 CC-515c

■ The Analysis of Time-to-Event Data—Contributed

Biopharmaceutical Section, Biometrics Section, Section for Statistical Programmers and Analysts

Chair(s): Wenquan Wang, Morphotek Inc

2:05 p.m. **A Multivariate Frailty Model for the Multi-Type Recurrent Event Data Using an Automated Monte Carlo EM Algorithm**—✦Khaled Bedair, Virginia Tech; Yili Hong, Virginia Tech

2:20 p.m. **U-Statistics for Multiple Censored Outcomes with Varying Frequency, Severity, Attribution**—✦Knut Wittkowski, The Rockefeller University

2:35 p.m. **Sample Size Considerations When Using Two Time-to-Event Outcomes for Comparing Two Interventions in Clinical Trials**—✦Toshimitsu Hamasaki, Osaka University Graduate School of Medicine; Tomoyuki Sugimoto, Hirosaki University Graduate School of Science and Technology; Takashi Sozu, Kyoto University School of Public Health; Scott Evans, Haravard University School of Public Health

2:50 p.m. **Causal Multiple Comparisons for Survival Data**—✦Hong Zhu, The Ohio State University; Bo Lu, The Ohio State University

3:05 p.m. **A Frailty-Based Progressive Multistate Model for Progression and Death in Cancer Studies**—✦Chen Hu, American College of Radiology; Alex Tsodikov, University of Michigan

3:20 p.m. **Predicting Analysis Time in Event-Driven Clinical Trials When There Are Multiple Correlated Time-to-Event Endpoints**—✦Jianming Wang, Celgene; Zhinuan Yu, Celgene

3:35 p.m. **Making Medical Transfer Mode Decisions Under Time Pressure: Understanding How Decisionmakers Interpret Historical Data**—Birsen Donmez, University of Toronto; ✦Wayne Giang, University of Toronto; Russell D. MacDonald, Ornge; Mahvareh Ahghari, Ornge

245 CC-511e

Statistical Computing and Machine Learning—Contributed

Section on Statistical Computing

Chair(s): Sandra De Iaco, University of Salento

2:05 p.m. **Squeezing the Margins to Improve Ensemble Performance**—✦Waldyn Martinez, The University of Alabama; J. Brian Gray, The University of Alabama

2:20 p.m. **The Superior Prediction Accuracy of the Random Generalized Linear Model Predictor (RandomGLM)**—✦Lin Song, University of California at Los Angeles; Peter Langfelder, Genetics, University of California at Los Angeles; Steve Horvath, University of California at Los Angeles

2:35 p.m. **Particle Swarm Stepwise (PASS) Algorithm for Variable Selection**—✦Ray-Bing Chen, National Cheng Kung University; Chien-Chih Huang, National Taiwan University; Weichung Wang, National Taiwan University

2:50 p.m. **Generating CHAID Trees on Large and Distributed Data**—✦Damir Spisic, IBM; Jing Xu, IBM; Xue Ying Zhang, IBM

3:05 p.m. **Merging Mixture Components for Model-Based Clustering**—✦Volodymyr Melnykov, The University of Alabama

3:20 p.m. **The Lasso: Backward and Forward**—✦David Scott, Rice University

3:35 p.m. **Boosting with Fully Grown Trees**—J. Brian Gray, The University of Alabama; ✦Jie Xu, The University of Alabama

246 CC-512e

■ Genetic Epidemiology and Sequencing Data Analysis—Contributed

Section on Statistics in Epidemiology

Chair(s): Chao Xing, The University of Texas Southwestern Medical Center

2:05 p.m. **Adjusting a Quantitative Trait for Medication Effects When the Medication Received Depends on the Trait**—✦Yildiz Yilmaz, University of Toronto; Stefan Konigorski, University of Toronto; Shelley Bull, University of Toronto

2:20 p.m. **Binary Trait Analysis in Sequencing Studies with Trait-Dependent Sampling**—✦Zheng-Zheng Tang, The University of North Carolina at Chapel Hill; Danyu Lin, The University of North Carolina

2:35 p.m. **Massively Parallel Sequencing of FIV Reveals Compartmental Differences Among Tissues in Dual and Single Infections**—✦Yang Liu, Penn State University; Francesca Chiaromonte, Penn State University; Howard Ross, University of Auckland; Daniel Elleder, Penn State University; Mary Poss, Penn State University

2:50 p.m. **A Bayesian Approach to Two-Phase Designs for Regional Sequencing**—✦Zhijian Chen, Samuel Lunenfeld Research Institute; Radu Craiu, University of Toronto; Shelley Bull, University of Toronto

3:05 p.m. **Stochastic Modeling of Systems Mapping in Pharmacogenomics**—✦Zuoheng Wang, Yale University; Jiangtao Luo, University of Nebraska Medical Center; Guifang Fu, Utah State University; Zhong Wang, Yale University; Rongling Wu, Pennsylvania State University

3:20 p.m. **Nonparametric Regression via Supervised Partition of the Features Space**—✦Luca Pozzi, University of California at Berkeley; Alan Hubbard, University of California at Berkeley; Nicholas Jewell, University of California at Berkeley

3:35 p.m. **A Tree-Based Approach for Gene-Gene Interaction Detection in DNA Sequencing Data**—✦Chi Song, Yale Univeristy; Heping Zhang, Yale University

247 CC-521ab

Topics in Sample Design and Data Collection—Contributed

Survey Research Methods Section, Korean International Statistical Society

Chair(s): Iris Shimizu, CDC/OSELS/NCHS

2:05 p.m. **Simulation Study to Validate Sample Allocation for the National Compensation Survey**—✦Hyunshik Lee, Westat; Tiandong Li, Westat; Klaus Teuter, Westat; Chester H. Ponikowski, Bureau of Labor Statistics; Gwyn R. Ferguson, Bureau of Labor Statistics

2:20 p.m. **Study and Sample Design Plan Review for Federal Compliance Programs: NHTSA's State Seat Belt Use Study**—✦Martha Rozsi, Westat; James L. Green, Westat

2:35 p.m. **Expanding the Number of Primary Sampling Units for the National Health Interview Survey**—✦Chris Moriarity, National Center for Health Statistics; Van Parsons, National Center for Health Statistics

2:50 p.m. **Impact on Weights and Sampling Errors of Using Hybrid Frame and Composite MOS**—✦John Hall, Mathematica Policy Research; Mark Denbaly, Economic Research Service-USDA; Pheny Weidman, Economic Research Service USDA

3:05 p.m. **Changes in the Selection of Dwellings in the Labour Force Survey of Argentina: A Simulation**—Augusto Hoszowski, INDEC-Argentina; ✦Claudio Comari, INDEC-Argentina

3:20 p.m. **Redesigning the Sample of the Company Organization Survey Using Predictive Modeling**—✦Matthew Thompson, U.S. Census Bureau; Chrishelle Lawrence, U.S. Census Bureau

3:35 p.m. **Indirect Sampling in Case of Asymmetrical Link Structures**—✦Torsten Harms, ISS Hamburg, International Business School

248 CC-520e

Bayesian Computation and Algorithms I—Contributed

Section on Bayesian Statistical Science, Section on Statistical Computing

Chair(s): Brigid Betz-Stablein, Massey University

2:05 p.m. **Metropolis Unchained: Generalizing and Parallelizing the Metropolis-Hastings Algorithm**—✦Serge Sverdlov, University of Washington

2:20 p.m. **A Geometrically Adaptive Metropolis-Hastings Algorithm with Gaussian Calibration**—✦Wen Zhou, Iowa State University; Stephen Bruce Vardeman, Iowa State University; Huaiqing Wu, Iowa State University

2:35 p.m. **Repulsive Parallel MCMC for Motif Discovery**—✦Hisaki Ikebata, The Graduate University for Advanced Studies; Ryo Yoshida, The Institute of Statistical Mathematics

2:50 p.m. **Analysis of Mortality Trends Using a Mixture of Reference Priors**—✦Michael Sonksen, The University of New Mexico

3:05 p.m. **Efficient Bayesian Inference for Multivariate Factor Stochastic Volatility (SV) Models**—✦Gregor Kastner, WU Vienna University of Economics and Business; Sylvia Frühwirth-Schnatter, WU Vienna University of Economics and Business; Hedibert Freitas Lopes, The University of Chicago Booth School of Business

3:20 p.m. **Information Theoretic Sensitivity Analysis for Stochastic Simulators**—✦Yu-Jay Huoh, University of California at Berkeley; Cari Kaufman, University of California at Berkeley

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

249 CC-518

Estimation and Inference Methods with Complex Survey Data—Contributed

Survey Research Methods Section

Chair(s): Deborah Mayo, Virginia Tech

2:05 p.m. **A Comparison of Methods for Estimating Confidence Intervals for Proportions in Clustered Surveys**—✦Natalie Exner, Harvard University; Marcello Pagano, Harvard University

2:20 p.m. **Analysis of Variance as a Basis for Sample Surveys**—✦Andrew Vogt, Georgetown University; Dhiren Ghosh, Synectics for Management Decisions, Inc.

2:35 p.m. **Pre-Sampling Model-Based Inference V: Applications to Longitudinal Data**—✦Stephen Woodruff, Specified Designs

2:50 p.m. **Partially Linear Models in Dual-Frame Surveys**—✦Yan Lu, University of New Mexico; Yang Cheng, U.S. Census Bureau

3:05 p.m. **A Comparison of Design-Based and Calibrated-Bayes Estimates Using Data from a Health Survey**—✦Meena Khare, NCHS/CDC; Hee-Choon Shin, National Center for Health Statistics; Alena S. Maze, NCHS/CDC

3:20 p.m. **An Empirical Study to Evaluate the Performance of Synthetic Estimates of Substance Use in the National Survey of Drug Use and Health**—✦Akhil Vaish, RTI International; Neeraja Sathe, RTI International; Kathryn Spagnola, RTI International; Ralph Folsom, RTI International; Art Hughes, Center for Behavioral Health Statistics and Quality, SAMHSA

3:35 p.m. **Confidence Intervals for Population Size Based on a Capture-Recapture Design**—✦Jianjun Hua, Dartmouth College; Paul Nelson, Kansas State University

250 CC-524b

Strategic and Programmatic Changes: Applications in Government Organizations—Contributed

Social Statistics Section, Scientific and Public Affairs Advisory Committee

Chair(s): Frank Anthony Vitrano, U.S. Census Bureau

2:05 p.m. **Strategic Change at the Census Bureau**—✦Nancy Potok, U.S. Census Bureau

2:20 p.m. **Organizational Change Within the Decennial Census Programs Directorate: Preparing for the Future**—✦Tiwanda M. Burse, U.S. Census Bureau

2:35 p.m. **Program-Level Organizational Change: Results of the American Community Survey Program Review**—✦Sally Obenski, U.S. Census Bureau

2:50 p.m. **Program-Level Organizational Change: American Community Survey Key Methods and Content Changes**—✦James Treat, U.S. Census Bureau

3:05 p.m. **Transformation at the U.S. Census Bureau: Balancing the Need for Change with the Capacity to Absorb It**—✦Ty Mitchell, U.S. GAO

3:20 p.m. **Development and Implementation of a Data Coordinating Center for Managing Complex HIV Surveillance Systems**—✦Tonja Kyle, ICF; Alicia Edwards, Centers for Disease Control and Prevention

3:35 p.m. **Bridging Government Offices of Inspectors General and Academic Statistics to Reduce Fraud and Abuse**—✦Cathy Furlong, Caucus for Women; Timothy F. Champney, Integrity Management Services, LLC; Richard Kusserow, Strategic Management Systems

251 CC-525b

■ Application of Modern Regression Methodology to Health Policy Studies—Contributed

Health Policy Statistics Section, Mental Health Statistics Section, Scientific and Public Affairs Advisory Committee

Chair(s): Robert Gerzoff

2:05 p.m. **Two Ways of Modeling Hospital Readmissions: Mixed and Marginal Models**—✦Hui Fen Tan; Ronald Low, New York City Health and Hospitals Corporation; Shunsuke Ito, New York City Health and Hospitals Corporation; Raymond Gregory, New York City Health and Hospitals Corporation; Van Dunn, Metroplus Health Plan

2:20 p.m. **Inference for Identifying Outlying Health Care Providers**—✦Michael Racz, Albany College of Pharmacy and Health Sciences

2:35 p.m. **Conditional Trajectory Class Modeling for Bivariate Outcomes**—✦Shu-Xia Li, Yale University; Haiqun Lin, Yale University; Xiao Xu, Yale University; Harlan Krumholz, Yale University

2:50 p.m. **A Latent Mixture Approach to Modeling Zero-Inflated Bivariate Ordinal Data**—✦Rajendra Kadel, University of South Florida; Gatachew Dagne, University of South Florida

3:05 p.m. **The Relationship Between Cluster Size, Between-Cluster Variance, and a Performance Measurement from Hierarchical Generalized Linear Models**—✦Fu-Chi Hsieh, Yale University, Center for Outcome Research and Evaluation; Harlan Krumholz, Yale University; Zhenqiu Lin, Yale Center for Outcome Research and Evaluation; Haiqun Lin, Yale University

3:20 p.m. **Mixture Model for Multilevel Data**—✦Haiqun Lin, Yale University; Shu-Xia Li, Yale University; Xiao Xu, Yale University; Harlan Krumholz, Yale University

3:35 p.m. **Growth Curves, BMI, and Childhood Obesity: An Assessment of Measurement Issues from NYC Public Schools**—✦Stuart Sweeney, University of California; Kevin Konty, NYCDOHMH; Sophia Day, NYCDOHMH

252 CC-514b

Nonparametric Modeling and Prediction—Contributed

Section on Nonparametric Statistics

Chair(s): Jeff Goldsmith, Columbia University

2:05 p.m. **Infinite Order Cross-Validated Local Polynomial Regression**—✦Jeffrey Racine, McMaster University; Peter Gavin Hall, University of Melbourne

2:20 p.m. **Semiparametric Rank Regression with Missing Responses**—✦Huybrechts Bindele, University of South Alabama; Asheber Abebe, Auburn University

2:35 p.m. **Bias and Variance Improvements in Nonparametric Estimation of Time-Dependent Accuracy Measures**—✦Chin-Tsang Chiang, National Taiwan University

2:50 p.m. **A Study of Random Forests Using Robust Aggregation Methods and Splitting Criterion**—✦Marie-Hélène Roy, HEC Montréal; Denis Larocque, HEC Montréal

3:05 p.m. **PHM and Logistic Regression Model Using Time-Dependent Covariates for Survival Analysis**—✦Alexandre Mendes, Northeastern University; Nasser Fard, Northeastern University

3:20 p.m. **Switching Nonparametric Regression Models**—✦Camila De Souza, University of British Columbia; Nancy Heckman, University of British Columbia

3:35 p.m. **Nonparametric Regression in the Secondary Analysis of the Case-Control Studies**—✦Shahina Rahman, Texas A&M University; Raymond J. Carroll, Texas A&M University

253 CC-514c

● New Methods on Complex Lifetime Data and Beyond—Contributed

SSC, Scientific and Public Affairs Advisory Committee, Korean International Statistical Society

Chair(s): Neil Klar, University of Western Ontario

2:05 p.m. **Multistate Modeling of Intermittent Observations with Application to Viral Load Measurements in HIV-Positive Patients**—✦Narges Nazeri Rad, University of Waterloo; Jerald F Lawless, University of Waterloo

2:20 p.m. **Multistate Models for the Evaluation of Screening Interventions in Family Designs**—✦Laurent Briollais, Samuel Lunenfeld Research Institute; Yun-Hee Choi, Western University; Yildiz Yilmaz, University of Toronto

2:35 p.m. **Copula Models for Multivariate Multistate Markov Processes Observed Subject to Right Censoring**—✦Liqun Diao, University of Waterloo; Richard Cook, University of Waterloo

2:50 p.m. **Statistical Methods for Bivariate Failure Times Under Event-Dependent Censoring**—✦Yujie Zhong; Richard Cook, University of Waterloo

3:05 p.m. **Nonparametric Estimation of Copula by Empirical Copula Spline Smoothing**—✦Ayi Ajavon; François Perron, Université de Montréal

3:20 p.m. **Comparison of Statistical Harmonization Methods in Individual Participant Data Meta-Analysis**—✦Jinhui Ma, McMaster University; Parminder Raina, McMaster University; Lauren Griffth, McMaster University

3:35 p.m. **A Valid Parametric Test of Significance for the Average R2 in Redundancy Analysis with Spatial Data**—✦Pierre Dutilleul, McGill University, Macdonald Campus; Bernard Pelletier, McGill University, Macdonald Campus

254 CC-512g

Techniques for Graph and Network Analysis—Contributed

Section on Statistical Learning and Data Mining, International Chinese Statistical Association, Korean International Statistical Society

Chair(s): Jeremy Sabourin, The University of North Carolina

2:05 p.m. **Estimation of Sparse Directed Acyclic Graphs Through a Penalized Likelihood**—✦Sung Won Han, Hoffmann-La Roche / New York University; Hua Zhong, New York University; Gong Chen, Hoffmann-La Roche Inc.; Belousov Anton, Hoffmann-La Roche Inc.; Laurent Essioux, Hoffmann-La Roche Inc.

2:20 p.m. **Estimation of Time-Varying Networks Using Latent Dynamics**—✦Sandipan Roy, University of Michigan; Yves Atchade, University of Michigan; George Michailidis, University of Michigan

2:35 p.m. **Sufficient Statistic Selection for Dynamic Networks**—✦Xizhen Cai, Penn State University; David Hunter, Penn State University

2:50 p.m. **Pathway Enrichment Analysis Based on Estimating the Underlying Network**—✦Jing Ma, University of Michigan; George Michailidis, University of Michigan; Ali Shojaie, University of Washington

3:05 p.m. **Multilevel Gaussian Graphical Model for Gene and Pathway Networks**—✦Lulu Cheng, Virginia Tech; Inyoung Kim, Virginia Tech

3:20 p.m. **Extraction of Statistically Significant Communities in Undirected Networks**—✦James Wilson, The University of North Carolina at Chapel Hill; Simi Wang, The University of North Carolina at Chapel Hill; Andrew Nobel, The University of North Carolina at Chapel Hill; Peter Mucha, The University of North Carolina at Chapel Hill; Shankar Bhamidi, The University of North Carolina at Chapel Hill

3:35 p.m. **Approximate Conditional Inference for Degree-Corrected Network Models**—✦Daniel Klein, Brown University

255 CC-512f

■ New Methods and Applications to Cancer and Psychiatric Research—Contributed

Section on Statistics in Epidemiology, Section on Statistics and the Environment, Scientific and Public Affairs Advisory Committee

Chair(s): Ronald Gangnon, University of Wisconsin

2:05 p.m. **Estimation of Limited-Time Cure Rate for Population-Based Cancer Relative Survival Data**—✦Binbing Yu, MedImmune, LLC.

2:20 p.m. **A New Marginal Approach to Model Clustered Survival Data with a Cure Fraction**—✦Yingwei Peng, Queen's University; Yi Niu, Queen's University

2:35 p.m. **A Semiparametric Model of Personal Cure**—✦Margaret Stedman, National Cancer Institute; Joanne Chang, National Cancer Institute; Kathleen Cronin, National Cancer Institute; Angela Mariotto, National Cancer Institute

2:50 p.m. **Bi-Factor Models in Health-Related Quality-of-Life Measurements**—✦Zugui Zhang, Christiana Care Health System

3:05 p.m. **The Effects of Sampling Frame on Estimates of Violence and Injury Outcomes in a National Surveillance System**—✦Jieru Chen, Centers for Disease Control and Prevention

3:20 p.m. **Modeling Volatility Characteristics of Epileptic EEGs Using GARCH Models**—✦Jack Follis, University of St. Thomas; Dejian Lai, Univeristy of Texas Health Science Center at Houston School of Public Health; Giridhar Kalamangalam, Univeristy of Texas Medical School at Houston

3:35 p.m. **Multilevel Structural Models of Quality of Life of Breast Cancer Survivors**—✦Shahid Kamal, University of the Punjab, Q.A. Campus; Rehan Ahmad Khan, University of the Punjab

Contributed Poster Presentations 2:00 p.m.–3:50 p.m.

256 CC-220bc

Contributed Oral Poster Presentations: Mental Health Statistics Section— Contributed Poster Presentations

Mental Health Statistics Section

Chair(s): Joyee Ghosh, University of Iowa

18 **Using Item Response Theory to Create a Screening Test—**✦Douglas Tommet, Institute for Aging Research / Hebrew Senior Life; Frances Yang, Insitute for Aging Research / Hebrew Senior Life; Alden Gross, Institute for Aging Research / Hebrew Senior Life; Richard Jones, Institute for Aging Research / Hebrew Senior Life

19 **Trajectories to Dementia Identified with Mixed Membership Models—**✦Fabrizio Lecci, Carnegie Mellon University; Brian Junker, Carnegie Mellon University; James Becker, University of Pittsburgh; Oscar Lopez, University of Pittsburgh

20 **Fused Lasso to Determine the Risk Factors for Dementia —**✦Samrachana Adhikari, Carnegie Mellon University; Fabrizio Lecci, Carnegie Mellon University; Ryan Tibshirani; Brian Junker, Department of Statistics, Carnegie Mellon University; James Becker, University of Pittsburgh; Oscar Lopez, University of Pittsburgh

21 **Semi-Markov Models for Interval-Censored Transient Cognitive States with Competing Risk—**✦Shaoceng Wei, University of Kentucky; Richard J. Kryscio, University of Kentucky

22 **Methods of Handling Missing Data in a Cluster-Randomized Community-Partnered Participatory Research Project to Reduce the Burden of Depression —**✦Lingqi Tang, University of California at Los Angeles Center for Health Services & Society; Thomas R. Belin, University of California at Los Angeles; Susan Stockdale, VA Greater Los Angeles HCS, Sepulveda; Difan Zhao, University of California at Los Angeles Center for Health Services and Society; Elizabeth Dixon, QueensCare Health and Faith Partnership; Jim Gilmore, Behavioral Health Services; Felica Jones, Healthy African American Families II; Klap Klap, VA Greater Los Angeles HCS, Sepulveda; Kenneth B. Wells, University of California at Los Angeles Center for Health Services and Society; Loretta Jones, Healthy African American Families II

257 CC-220bc

Contributed Oral Poster Presentations: Section for Statistical Programmers and Analysts — Contributed Poster Presentations

Section for Statistical Programmers and Analysts

Chair(s): Joyee Ghosh, University of Iowa

23 **Partially Linear Single Index Survival Model: Case Study of Calf Survival Data—**✦Asheber Sewalem, AAFC-CDN; Antony F. Desmond, University of Guelph; Radhey S. Singh, University of Guelph; Xuewen Lu, University of Calgary

24 **A Primer for Integrating Microsoft Excel, Access, and SAS—**✦Martin Selzer, Genzyme

25 **An Exploration of the GSIMEX Approach to Modeling Variables with Correlated Measurement Errors in R—**✦Jennifer Weeding; Mark C. Greenwood, Montana State University

26 **Categorical Predictors and Pairwise Comparisons in Logistic Regression via Penalization and Bregman Methods—**✦Tian Chen, North Carolina State University; Howard Bondell, North Carolina State University

258 CC-220bc

Contributed Oral Poster Presentations: Section on Risk Analysis—Contributed Poster Presentations

Section on Risk Analysis

Chair(s): Joyee Ghosh, University of Iowa

27 **Risk Assessment for Rare Events Using Logistic Model Averaging—**✦Chun-Shu Chen, National Changhua University of Education; Jin-Hua Chen, Graduate Institute of Biostatistics, China Medical University; Meng-Fan Huang, National Changhua University of Education

259 CC-220bc

Contributed Oral Poster Presentations: Section on Statistical Consulting—Contributed Poster Presentations

Section on Statistical Consulting

Chair(s): Joyee Ghosh, University of Iowa

28 **Accomplishments of STATCOM Chicago**—✦Haopeng Wang, DePaul University; Yuxin Zhong, DePaul University; Hoa Le, STATCOM Chicago

29 **Longitudinal Patterns in the Un-Belted North Carolinian**—✦Cynthia Augustine, RTI International

30 **Statistical Consulting and Scale Development: Refinement Without Loss of Precision**—✦Richard Ittenbach, Cincinnati Children's Hospital Medical Center; Resmi Gupta, Cincinnati Children's Hospital Medical Center; Kim D. Barber Foss, Cincinnati Children's Hospital Medical Center; Gregory D. Myer, Cincinnati Children's Hospital Medical Center

31 **STATCOM at Virginia Tech: An Overview of Student-Led Pro Bono Statistical Consulting**—✦Andrew Hoegh, Virginia Tech

32 **Using Proportional Odds Model of Ordinal Logistic Regression to Rate National Reporter Panel**—✦Xuemei Pan

260 CC-220bc

Contributed Oral Poster Presentations: Section on Statistical Education—Contributed Poster Presentations

Section on Statistical Education

Chair(s): Joyee Ghosh, University of Iowa

33 **Looking Forward: Data Mining and the Business Curriculum**—✦Deborah Gougeon

34 **A Comprehensive Analytics (Statistics, Data, and Technology) Sequence for Business Students**—✦Scott Toney, University of Denver

35 **Improving Efficiency of Computerized Classification Tests Using Modified SPRT**—✦Haskell Sie, Penn State University; Jim Rosenberger, Penn State University

36 **The Evolution of an Online Program in Applied Statistics at Penn State**—✦Glenn Johnson, Penn State University; Mosuk Chow, Penn State University

37 **A Monte Carlo Investigation of the Effectiveness of Backward Elimination Analysis as a Multivariate Analysis of Variance (MANOVA) Post Hoc Procedure**—✦Chittanun Sitthisan, University of Northern Colorado

38 **Assessing Limitations and Uses of Convenience Samples: A Guide for Graduate Students**—✦S. David Kriska, Walden University; Marcia M. Sass, UMDNJ; Mark C. Fulcomer, Restat Systems, Inc.

39 **Using Media Resources and Journal Articles to Teach Statistics**—✦Phyllis Curtiss, Grand Valley State University

40 **Classroom Demonstrations of Parallel Processing for Statistics**—✦Eric Suess, California State University at East Bay

41 **Innovative Data Visualization: Activities for Your Class**—✦Kirk Anderson, Grand Valley State University

42 **Using Internet Videos to Address Availability Stress at Oglala Lakota College for Introduction to Statistics**—✦Frank Matejcik, South Dakota School of Mines

43 **Designing a GAISE-Inspired Statistics Course for Current High-School and Community College Mathematics Instructors**—✦Amy Froelich, Iowa State University

44 **Recommendations/Learning Outcomes for Master's Degree Programs in Statistics: Report of ASA Workgroup**—✦A. John Bailer, Miami University; Roger W. Hoerl, GE Global Research; David Madigan, Columbia University; Jill Montaquila, Westat; Tommy Wright, U.S. Census Bureau/Center for Statistical Research and Methodology

45 **Cookies in the Classroom: Specific Instructions for Implementation**—✦Wilmina Siegfried, Iowa State University; Ulrike Genschel, Iowa State University; Juliane Janek, Iowa State University

46 **The Data Scientist Degree: A Necessity for Growth in Our Discipline**—✦April Kerby; Brant Deppa, Winona State University; Chris J. Malone, Winona State University; Tisha Hooks, Winona State University

47 **Stochastic Challenge**—✦Timothy Matis, Texas Tech University; Doug Timmer, The University of Texas Pan American; Ivan Guardiola, Missouri University of Science and Technology

48 **Ethical Reasoning for Quantitative Scientists: Portfolios and Developmental Trajectories**—✦Rochelle Tractenberg

49 **Statway Successes**—✦Mary Parker, Austin Community College

50 **Measurement Usage in Self-Assessment**—✦Julia Norton, California State University at East Bay; John Dewey Lovell, California State University at East Bay; John Alva Norton, California State University at East Bay; Yaelan Wong, California State University at East Bay

261 CC-220bc
Contributed Oral Poster Presentations: Section on Statistical Graphics—Contributed Poster Presentations

Section on Statistical Graphics

Chair(s): Joyee Ghosh, University of Iowa

51 **Respondent Behavior in Respondent-Driven Sampling: Sensitivity Analysis Based on Real Network Data—** ✦Isabelle Beaudry; Krista J. Gile, University of Massachusetts, Amherst; Corinne M. Mar, University of Washington

262 CC-220bc
Contributed Oral Poster Presentations: Section on Statistics in Marketing—Contributed Poster Presentations

Section on Statistics in Marketing

Chair(s): Joyee Ghosh, University of Iowa

52 **Making Launch Decisions Using a Bayesian Treatment of Competing Risks—**✦Qian Weng; Tony Thrall, eBay Inc.; Jing Xia, eBay Inc.; Lili Zhuang, eBay Inc.

263 CC-220bc
Contributed Oral Poster Presentations: Section on Statistics in Sports—Contributed Poster Presentations

Section on Statistics in Sports

Chair(s): Joyee Ghosh, University of Iowa

53 **The Effect of 'Freebies' on Run Production in Major League Baseball—**✦Jay Schaffer, University of Northern Colorado; Daniel Mundfrom, Eastern Kentucky University; Michelle L. Smith, Eastern Kentucky University

54 **Creating an NFL Dynasty: There Is Always Next Year—** ✦Raymond Mooring, Analysis Made Easy

55 **Predicting Owner Tendencies in Fantasy Football Drafts —**✦Ivan Ramler, St. Lawrence University; Nobu Yamanashi, St. Lawrence University

56 **A Statistical Analysis of the 'Fairness' of the NCAA Basketball Tournaments—**✦Tracy Morris, University of Central Oklahoma; Minzhe Wu, University of Central Oklahoma

264 CC-220bc
Contributed Oral Poster Presentations: Section on Teaching of Statistics in the Health Sciences — Contributed Poster Presentations

Section on Teaching of Statistics in the Health Sciences

Chair(s): Joyee Ghosh, University of Iowa

57 **Utilizing Linear and Nonlinear Random-Effects Modeling to Understand Temporal Change in Rehabilitation Medicine Outcomes: A NIDRR Traumatic Brain Injury Model Systems Presentation —** ✦Christopher Pretz, Craig Hospital

58 **Evaluation of Undergraduate Nursing Students' Attitudes Toward a Mandatory Introductory Course in Statistics—**✦Oluwagbohunmi Awosoga, University of Lethbridge; Bradley Hagen, University of Lethbridge; Peter Kellett, University of Lethbridge; Samuel Ofori Dei, University of Lethbridge

59 **Tools for Presenting Examples of Sampling Distributions and Hypothesis Testing —** Mark C. Fulcomer, Restat Systems, Inc.; S. David Kriska, Walden University; Marcia M. Sass, UMDNJ

265 CC-220bc
Contributed Oral Poster Presentations: SSC—Contributed Poster Presentations

SSC

Chair(s): Joyee Ghosh, University of Iowa

60 **The ROC Curve and the Hit Curve: A Close Look —** ✦Yan Yuan, University of Alberta; Wanhua Su, MacEwen University; Mu Zhu, University of Waterloo

61 **Improved Portmanteau Diagnostic Check for ARFIMA Time Series Models—**✦Jinkun Xiao, University of Western Ontario; Ian McLeod, University of Western Ontario

62 **Sample Size Calculations for Treatment and Biomarker Interactions—**✦Scarlett Kazimer

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Contributed Oral Poster Presentations: Statistics Without Borders—Contributed

Statistics Without Borders

Chair(s): Joyee Ghosh, University of Iowa

63 **Statistical Analysis of Whale Shark Population in the Red Sea**—✦Kun Xu, Texas A&M University; Michael Berumen, King Abdullah University of Science and Technology; Marc G. Genton, KAUST; Yanyuan Ma, Texas A&M University

64 **My Observation of Statistics/Statisticians**—✦Shriniwas Katti, University of Missouri

65 **Tbd**—✦Yalan Hu

66 **Score Test in a Pseudo-Value Regression Setting with Correlated Survival Data**—✦Yanzhi Wang, Medical College of Wisconsin; Brent Logan, Medical College of Wisconsin

67 **Internet-Based Biostatistics Education in Low- to Middle-Income Countries: A 5-Year Experience at Peoples-uni.org**—✦Abdulaziz Farooq, Aspetar-Qatar Orthopaedic and Sports Medicine; Victoriya Repka, Peoples-uni.org; Suresh V. Merdabala, Peoples-uni.org; Laurie Budd, Peoples-uni.org; Richard Heller, Peoples-uni.org

Invited Sessions 4:00 p.m.–5:50 p.m.

267 CC-517ab

ASA President's Invited Address—Invited

ASA, ENAR, IMS, International Chinese Statistical Association, International Indian Statistical Association, SSC, WNAR, Korean International Statistical Society, International Society for Bayesian Analysis (ISBA), Statistics Without Borders

Chair(s): Marie Davidian, North Carolina State University

4:05 p.m. **JSM Welcomes Nate Silver**—✦Nate Silver, FiveThirtyEight.com

Invited Sessions 8:00 p.m.–9:30 p.m.

268 CC-517ab

IMS Presidential Address—Invited

IMS

Organizer(s): David B. Dunson, Duke University

Chair(s): Hans Rudolf Kunsch, Seminar fur Statistik, ETH Zurich

8:05 p.m. **Ars Conjectandi: 300 Years Later**—✦Hans Rudolf Kunsch, Seminar fur Statistik, ETH Zurich