# TUESDAY, AUGUST 6

## Committee/Business Meetings & Other Activities

7:00 a.m.–8:30 a.m. I-Saint-Pierre
***Technometrics* Editorial Board Meeting**
Chair(s): Hugh A. Chipman, Acadia University

7:00 a.m.–8:30 a.m. I-Saint-Louis
**Government Statistics Section Executive Board Meeting**
Chair(s): Lisa Blumerman, U.S. Census Bureau

7:00 a.m.–8:30 a.m. W-Papineau
**ASA-MAA Statistics Education Business Meeting**
Chair(s): Shonda Kuiper, Grinnell College

7:00 a.m.–8:30 a.m. I-Saint-Alexandre
**ASA Advisory Committee on Climate Change Policy**
Chair(s): Richard Katz, NCAR/IMAGe

7:00 a.m.–8:30 a.m. I-Saint-Jean-Baptiste
**Committee of Representatives to AAAS Business Meeting**
Chair(s): Robert Fay, Westat

7:00 a.m.–8:30 a.m. I-Saint-Gabriel
***JOS* Editorial Meeting**
Organizer(s): Ingeged Jansson, Statistics Sweden; Annica Isaksson, Statistics Sweden; Liu, Statistics Sweden

7:00 a.m.–8:30 a.m. W-Bonsecours
**ASA Development Committee Meeting**
Chair(s): Jim Landwehr, Avaya Labs

7:00 a.m.–8:30 a.m. CC-445
**Mental Health Statistics Section Executive Committee Meeting (Closed)**
Chair(s): Naihua Duan, Columbia University; Robert Gibbons, The University of Chicago

7:00 a.m.–9:00 a.m. W-Notre Dame
**Committee on ASA Archives and Historical Materials Business Meeting**
Chair(s): John McKenzie, Babson College

7:00 a.m.–10:00 a.m. I-Saint-Laurent
**Council of Chapters Business Meeting and Breakfast**
Chair(s): Dan Kasprzyk, NORC at the University of Chicago

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.–9:00 a.m. I-Saint-Jacques
**OSU Department of Statistics Alumni and Friends Breakfast**
Organizer(s): Elizabeth Stasny, The Ohio State University

7:30 a.m.–12:00 p.m. I-Saint-Francois Xavier
***SBR* Editorial Board Meeting**
Chair(s): Steven Snapinn, Amgen, Inc.

7:30 a.m.–4:30 p.m. CC-200 Viger Hall
**ASA Membership/Help Desk/Press Desk**

7:30 a.m.–4:30 p.m. CC-200 Viger Hall
**JSM Main Registration**

8:00 a.m.–9:00 a.m. I-Saint-Helene
***JASA* Editors Meeting**
Chair(s): Joseph G. Ibrahim, The University of North Carolina

8:00 a.m.–9:30 a.m. W-Youville
***CHANCE* Editors Meeting**
Chair(s): Sam Behseta, California State University at Fullerton

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.–12:00 p.m. I-Les Huitres
**COPSS Executive Committee Meeting**
Organizer(s): Jane Pendergast, University of Iowa

9:00 a.m.–11:00 a.m. W-Ramezay
**JSM Diversity Mentoring Program**
Chair(s): Sydeaka Watson, The University of Chicago

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

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

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

10:00 a.m.–12:00 p.m. CC-445
**Aptiv Solutions SAB/IC Meeting**
Organizer(s): Laura Saklad, Aptiv Solutions

12:00 p.m.–1:30 p.m. I-Saint-Jacques
***Journal of Agricultural, Biological, and Environmental Statistics* Editorial Board Meeting**
Organizer(s): Montse Fuentes, North Carolina State University

12:00 p.m.–2:00 p.m. I-Saint-Gabriel
***The American Statistician* Editors Lunch**
Chair(s): Ronald Christensen, University of New Mexico

12:30 p.m.–1:30 p.m. CC-510a
**Informational Meeting on ASA Accreditation**
Chair(s): Theresa Utlaut, Intel

12:30 p.m.–2:00 p.m. I-Saint-Paul
***JQAS* Editorial Panel Meeting**
Organizer(s): Jim Albert, Bowling Green State University

12:30 p.m.–2:00 p.m. I-Saint-Alexandre
***JCGS* Management Committee Business Meeting**
Chair(s): Roy Welsch, Massachusetts Institute of Technology

12:30 p.m.–2:00 p.m. W-Bonsecours
**International Statistics Institute (ISI) Editorial Board Meeting**

12:30 p.m.–2:00 p.m. I-Saint-Louis
***Journal on Uncertainty Quantification* Editorial Board Meeting**
Organizer(s): Jim Berger, Duke University

12:30 p.m.–2:00 p.m. I-Saint-Jean-Baptiste
**Deming Committee Luncheon**
Chair(s): Marilyn Seastrom, NCES/U.S. Department of Education

12:30 p.m.–2:00 p.m. I-Saint-Laurent
***JASA* Editorial Board Associate Editors Lunch**
Chair(s): Jamie Hutchens, *JASA* Editorial Coordinator

12:30 p.m.–2:30 p.m. W-Ramezay
**IMS Council Meeting**
Organizer(s): Elyse Gustafson, IMS Executive Director

12:30 p.m.–4:30 p.m. I-Saint-Pierre
**RAB/RECOM Luncheon Meeting**
Organizer(s): Dan Heitjan, ENAR; DuBois Bowman, ENAR

2:00 p.m.–3:30 p.m. I-Saint-Helene
**Council of Chapters Traveling Course Committee Meeting**
Chair(s): Anwar Hossain, Eli Lilly and Company

2:30 p.m.–3:30 p.m. W-Ramezay
**IMS Business Meeting**
Organizer(s): Elyse Gustafson, IMS Executive Director

2:30 p.m.–4:30 p.m. CC-523a
**Committee on Applied Statisticians Social Mixer**
Chair(s): Amarjot Kaur, Merck Research Labs

4:00 p.m.–5:30 p.m. CC-516b
**Funding Opportunities for Statistics (Open to All)**
Chair(s): Stephan Sain, National Center for Atmospheric Research

4:00 p.m.–5:30 p.m. I-Saint-Francois Xavier
**Statistics in Business Schools Interest Group Business Meeting**
Organizer(s): John McKenzie, Babson College

4:00 p.m.–5:30 p.m. CC-523b
**Mental Health Statistics Section Business Meeting & Mixer (Open)**
Chair(s): Naihua Duan, Columbia University; Robert Gibbons, The University of Chicago

4:00 p.m.–6:00 p.m. I-Saint-Laurent
**Council of Chapters Officer Appreciation Reception and Workshop**
Chair(s): John Stevens, Utah State University

4:30 p.m.–6:00 p.m. CC-524c
**Statistics Without Borders Business Meeting**
Organizer(s): Justin Fisher, Government Accountability Office

4:30 p.m.–6:00 p.m. CC-510a
**DIA Bayesian Scientific Working Group Meeting**
Organizer(s): Karen Lynn Price, Eli Lilly and Company

4:30 p.m.–6:00 p.m. CC-522a
**Biometrics Editorial Board Meeting**
Organizer(s): Marie Davidian, North Carolina State University

5:00 p.m.–6:00 p.m. CC-510b
**Section on Statistical Learning and Data Mining Business Meeting**
Chair(s): David Banks, Duke University

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

5:00 p.m.–7:00 p.m. I-Saint-Jacques
**North Carolina State University Reception for Department and Friends**
Organizer(s): Montse Fuentes, North Carolina State University

5:30 p.m.–6:30 p.m. CC-512d
**Russian-Speaking Statisticians Mixer**
Organizer(s): Stas Kolenikov, Abt SRBI

5:30 p.m.–6:30 p.m. CC-512c
**2015 JSM Program Committee Orientation Meeting**
Chair(s): Annie Qu, University of Illinois at Urbana-Champaign

5:30 p.m.–6:30 p.m. W-Papineau
**Committee on Gay and Lesbian Concerns in Statistics**
Chair(s): Christopher Johnson, CDC/NCHHSTP

5:30 p.m.–7:00 p.m. I-Saint-Louis
**Government Statistics Section Business Meeting**
Chair(s): Lisa Blumerman, U.S. Census Bureau

5:30 p.m.–7:00 p.m. I-Saint-Alexandre
**Colorado State Alumni and Friends Reception**
Organizer(s): Jean Opsomer, Colorado State University

5:30 p.m.–7:00 p.m. I-Saint-Gabriel
**Section on Statistical Consulting Business Meeting**
Chair(s): Marlene Egger, University of Utah, DFPM

5:30 p.m.–7:30 p.m. I-Sarah Bernhardt
**Section on Bayesian Statistical Sciences Business Meeting and Reception**
Chair(s): Alicia Carriquiry, Iowa State University

5:30 p.m.–7:30 p.m. CC-710a
**Biopharmaceutical Section Business Meeting**
Chair(s): Amit Bhattacharyya, GlaxoSmithKline

5:30 p.m.–7:30 p.m. I-Chez Plume
**Statistical Society of Canada Reception**
Organizer(s): Mike Evans, SSC, ASA, IMS

5:30 p.m.–7:30 p.m. I-Vieux Montreal/Vieux Port
**SPES and Q&P Joint Mixer**
Chair(s): Winson Taam

6:00 p.m.–7:00 p.m. CC-510c
**Section on Nonparametric Statistics Meeting**
Chair(s): Jianqing Fan, Princeton University

6:00 p.m.–7:00 p.m. I-Maisonneuve
**Friends of Australasia - Open Invitation**
Organizer(s): Mark Griffin, Australian Development Agency for Statistics

6:00 p.m.–7:30 p.m. CC-523b
**ASA Committee on Minorities in Statistics Networking Reception and Business Meeting**
Chair(s): Sydeaka Watson, The University of Chicago

6:00 p.m.–7:30 p.m. W-Palais
**HSPH Department of Biostatistics Alumni Reception**
Organizer(s): Shaina Andelman, Harvard School of Public Health

6:00 p.m.–7:30 p.m. CC-521c
**University of Michigan JSM Joint Alumni Reception**
Organizer(s): Trivellore E. Raghunathan, University of Michigan

6:00 p.m.–8:00 p.m. I-Saint-Paul
**Southern Methodist University Alumni Gathering**
Chair(s): Wayne Woodward, Southern Methodist University; Sheila Crane

6:00 p.m.–8:30 p.m. CC-523a
**Columbia University Joint Reception, Department of Statistics and Biostatistics**
Organizer(s): David Madigan, Columbia University

6:30 p.m.–10:00 p.m. I-Saint-Pierre
**Adaptive Design and ADDPLANÆ Network Meeting**
Organizer(s): Reinhard Eisebitt, Aptiv Solutions

9:30 p.m.–12:00 a.m. CC-517d
**JSM Dance Party and Lounge, Sponsored by IBM**

## Continuing Education (Fee Events)

CE_20C
**Personalized Medicine and Dynamic Treatment Regimes**
8:00 a.m.–12:00 p.m. W-Ville-Marie
ASA, Biometrics Section
Instructor(s): Eric Laber, North Carolina State University; Michael R. Kosorok, The University of North Carolina at Chapel Hill

CE_21C
**Causal Inference and Its Application in Health Sciences**
8:30 a.m.–5:00 p.m. W-Fortifications
ASA, Section on Statistics in Epidemiology
Instructor(s): Miguel A. Hernan, Harvard School of Public Health; Dylan S. Small, University of Pennsylvania

CE_22C
**Introduction to Statistical Learning**
8:30 a.m.–5:00 p.m. W-Palais
ASA, Section on Statistical Learning and Data Mining
Instructor(s): Daniela Witten, University of Washington

CE_23C
**Analysis of Interval-Censored Survival Data**
8:30 a.m.–5:00 p.m. W-St. Antoine B
ASA, Biometrics Section
Instructor(s): Philip Hougaard, Lundbeck

CE_24C
**Applied Bayesian Nonparametric Mixture Modeling**
8:30 a.m.–5:00 p.m. W-St. Antoine A
ASA, Section on Bayesian Statistical Science
Instructor(s): Athanasios Kottas, University of California at Santa Cruz; Abel Rodriguez, University of California at Santa Cruz

CE_25C
**Statistical Methods for Neuroimaging Data Analysis**
8:30 a.m.–5:00 p.m. W-McGill
ASA, Biometrics Section
Instructor(s): Hongtu Zhu, The University of North Carolina at Chapel Hill; Haipeng Shen, The University of North Carolina at Chapel Hill; Linglong Kong, University of Alberta

CE_26C
**Statistical Methods in Genetic Association Studies**
1:00 p.m.–5:00 p.m. W-Ville-Marie
ASA, Biometrics Section
Instructor(s): Danyu Lin, The University of North Carolina

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

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

TL01 **Publishing, Refereeing, and Editorial Service for Applied Statisticians—**✦Susan Paddock, RAND Corporation; ✦Marc Elliott, RAND Corporation

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

TL02 **Using R Markdown for Integrating Reproducibility Tools Into an Introductory Statistics Course—**✦Benjamin S. Baumer, Smith College

TL03 **Introducing Inference in Introductory Courses—**✦William Notz, The Ohio State University

271 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

TL04 **Development and Application of Statistical Methods in the International Tobacco Control Four-Country Survey—**✦Mary E. Thompson, University of Waterloo

272 CC-517d

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

Section on Statistics in Marketing

Organizer(s): Lynd D. Bacon, Loma Buena Associates

TL05 **Making Causal Inferences from Observed Web Visits**—✦Stephen Iaquaniello, SapientNitro

273 CC-517d

### Section on Teaching of Statistics in the Health Sciences A.M. Roundtable Discussion (Fee Event)

Section on Teaching of Statistics in the Health Sciences

Organizer(s): Jose-Miguel Yamal, The University of Texas School of Public Health

TL06 **Teaching Biostatistics with Technology, ITV Challenges, and Rewards**—✦Michael Swartz, The University of Texas Health Science Center at Houston, School of Public Health

274 CC-517d

### Survey Research Methods Section A.M. Roundtable Discussion (Fee Event)

Survey Research Methods Section

Organizer(s): Karol Krotki, RTI International

TL07 **Can Randomized Response Techniques Play a Role in the Era of Big Data?**—✦Sarjinder Singh, Texas A&M University at Kingsville

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

275 CC-710a

### Introductory Overview Lecture: Personalized Medicine: Tailoring Treatment to the Right Patient—Other

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

Organizer(s): Jeremy Taylor, University of Michigan

Chair(s): Bhramar Mukherjee, University of Michigan

8:35 a.m. **Introductory Overview Lecture 6: Personalized Medicine**—✦Anastasios (Butch) Tsiatis, North Carolina State University

9:25 a.m. **Introductory Overview Lecture 6: Personalized Medicine**—✦Stephen J. Ruberg, Eli Lilly and Company

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

## Invited Sessions 8:30 a.m.–10:20 a.m.

276 CC-524b

### ■ ● JBES Invited Session—Invited

JBES-Journal of Business & Economic Statistics

Organizer(s): Rong Chen, Rutgers University

Chair(s): Rong Chen, Rutgers University

8:35 a.m. **Quasi-Maximum Likelihood Estimation of GARCH Models with Heavy-Tailed Likelihoods**—✦Dacheng Xiu, The University of Chicago; Jianqing Fan, Princeton University

9:20 a.m. **Principal Volatility Component Analysis**—✦Ruey S. Tsay, The University of Chicago; Yu-Pin Hu, National Chi Nan University

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

277 CC-520d

### Statistical Knowledge for Teaching: Research Results and Implications for Professional Development—Invited

Section on Statistical Education

Organizer(s): Jennifer J. Kaplan, University of Georgia

Chair(s): Christine Franklin, University of Georgia

8:35 a.m. **Assessing Statistical Understanding of Students: Implications for Research and Teaching**—✦Tim Jacobbe, University of Florida

9:00 a.m. **The Influence of Statistical Knowledge for Teaching Theory on the Development of a Statistics Course for Pre-K-8 Teachers**—✦Randall Edgar Groth, Salisbury University

9:25 a.m. **Statistical Knowledge for Teaching Informal Line of Best Fit**—✦Stephanie Casey, Eastern Michigan University; Jennifer J. Kaplan, University of Georgia

9:50 a.m. **Preparing High-School Teachers to Teach Statistics in the Common Core: Effective Research-Based Resources**—✦Anna Emilia Bargagliotti, Loyola Marymount University

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

278 CC-512c

## ■ Recent Developments in Bayesian Computational Methods—Invited

Section on Bayesian Statistical Science, International Society for Bayesian Analysis (ISBA), International Chinese Statistical Association, Statistical Learning and Data Mining Section, Section on Statistical Computing

Organizer(s): Babak Shahbaba, University of California at Irvine
Chair(s): Fletcher Christensen, University of California at Irvine

8:35 a.m. **Exact Hamiltonian Monte Carlo for Truncated Multivariate Gaussians**—✦Ari Pakman, Columbia University; Liam Paninski, Columbia University

9:05 a.m. **Local Step Size Adaptation for Hamiltonian MCMC**—✦Matthew Douglas Hoffman, Adobe Research

9:35 a.m. **Split Hamiltonian Monte Carlo**—✦Babak Shahbaba, University of California at Irvine; Shiwei Lan, University of California at Irvine; Wesley O. Johnson, University of California at Irvine; Radford M. Neal, University of Toronto

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

279 CC-511d

## ■ ● Statistical Approaches for Modeling Mortality and Risk Factors in End-Stage Renal Disease—Invited

WNAR, SSC, Biometrics Section, Scientific and Public Affairs Advisory Committee

Organizer(s): Damla Senturk, University of California, Los Angeles
Chair(s): Donatello Telesca, University of California at Los Angeles

8:35 a.m. **Understanding Cardiovascular Event Risk Dynamics Over Time in Older Patients on Dialysis: A Generalized Multiple-Index Varying Coefficient Model Approach**—✦Damla Senturk, University of California at Los Angeles; Jason Estes, University of California at Los Angeles; Lorien Dalrymple, University of California at Sacramento; Yi Mu, University of California at Davis; Danh Nguyen, University of California at Davis

9:00 a.m. **Case Series Design, Inference, and Analysis of Infection-Cardiovascular Risk in Patients on Dialysis**—✦Danh Nguyen, University of California at Davis

9:25 a.m. **Strategies for Joint Modeling of Longitudinal Inflammation and Health Events for Patients on Hemodialysis**—✦Joel A. Dubin, University of Waterloo

9:50 a.m. **A Gaussian Process Model for Estimating Within-Subject Variation in Indices of Protein-Energy Malnutrition Among ESRD Patients**—✦Daniel L. Gillen, University of California at Irvine; Tracy Holsclaw, University of California at Irvine; Babak Shahbaba, University of California at Irvine

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

280 CC-510a

## ■ Statistical Inference for Large Matrices—Invited

IMS, Statistical Learning and Data Mining Section, Biometrics Section

Organizer(s): Lie Wang, Massachusetts Institute of Technology
Chair(s): Mladen Kolar, Carnegie Mellon University

8:35 a.m. **Conditional Sparsity in Large Covariance Matrix Estimation**—✦Jianqing Fan, Princeton University; Yuan Liao, University of Maryland; Martina Mincheva, Princeton University

9:05 a.m. **Multivariate Regression with Calibration**—✦Lie Wang, Massachusetts Institute of Technology; Han Liu, Princeton University; Tuo Zhao, The Johns Hopkins University

9:35 a.m. **Principal Component Analysis for High-Dimensional Non-Gaussian Data**—Fang Han, The Johns Hopkins University; ✦Han Liu, Princeton University

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

281 CC-516b

## ■ ● Health Policy Research with a Special Focus on Women—Invited

Health Policy Statistics Section, Scientific and Public Affairs Advisory Committee, Statistics Without Borders

Organizer(s): Kelly Zou, Pfizer Inc.
Chair(s): Kelly Zou, Pfizer Inc.

8:35 a.m. **The Courts and Women's Health**—✦Mary W. Gray, American University

9:00 a.m. **Some Statistical Challenges in the Design and Analysis of Gestational Diabetes Studies**—✦Aiyi Liu, National Institutes of Health/NICHD; Paul Albert, NICHD; Ruzong Fan, National Institutes of Health; Cuilin Zhang, NICHD

9:25 a.m. **Well-Studied Women Make History: Women's Health Research and the Future of Medicine**—Karen Freund, Tufts University School of Medicine; ✦Aimee R. Kroll-Desrosiers, University of Massachusetts Medical School; Arlene S. Ash, University of Massachusetts Medical School

9:50 a.m. Disc: Dalene K. Stangl, Duke University

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

## 282 CC-511f

### ■ New Developments in the Use of Smartphones for Survey Research—Invited

Social Statistics Section, Mental Health Statistics Section, Section on Statistics in Epidemiology, Scientific and Public Affairs Advisory Committee

Organizer(s): Robert Santos, The Urban Institute

Chair(s): Robert Santos, The Urban Institute

8:35 a.m. **Everyone Uses Smartphones, Right? Recruitment and Compliance Issues with Mobile-Based Behavior Diaries**—✦Michael W. Link, Nielsen; Jennie Lai, Nielsen

8:55 a.m. **Addressing Data Needs and User Requirements in the Future Mobility Survey**—Caitlin D. Cottrill, Singapore-MIT Alliance for Research and Technology; ✦Francisco C. Pereira, Singapore-MIT Alliance for Research and Technology; Fang Zhao, Singapore-MIT Alliance for Research and Technology; Moshe Ben-Akiva, Massachusetts Institute of Technology; Christopher P Zegras, Massachusetts Institute of Technology; Rukshan Batuwitage, Singapore-MIT Alliance for Research and Technology

9:15 a.m. **Using Smartphones for GPS Data Collection in Travel Surveys**—✦Sarah Griffith, NuStats; Martin Kunzmann, NuStats

9:35 a.m. **Use of Smartphone as a Methodology for Scientific Data Collection**—✦Raja Sengupta, University of California at Berkeley

9:55 a.m. **Recruiting, Retaining, and Engaging Participants in a Representative App-Based Smartphone Survey Panel**—✦David James Roe, RTI International; Joe James Murphy, RTI International; Michael James Keating, RTI International

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

## 283 CC-524a

### ■ ● Causal Inference for Outcomes Only Observed Among Survivors—Invited

Committee on Applied Statisticians, Section on Statistics in Epidemiology, Scientific and Public Affairs Advisory Committee, Statistics Without Borders

Organizer(s): Jing Cheng, University of California at San Francisco

Chair(s): Jing Cheng, University of California at San Francisco

8:35 a.m. **Simple Techniques to Assess the Principal Strata Effect: Estimation, Sensitivity Analysis, and Bounds**—✦Yasutaka Chiba, Kinki University School of Medicine

8:55 a.m. **Using Complications to Evaluate Neonatal Health Care: Controlling for Censoring by Death**—✦Dylan S. Small, University of Pennsylvania; Fan Yang, University of Pennsylvania; Jing Cheng, University of California at San Francisco; Scott Lorch, Children's Hospital of Philadelphia

9:15 a.m. **The Balanced Survivor Average Causal Effect**—✦Tom Greene, University of Utah

9:35 a.m. **The Survivor Average Causal Effect: Weaknesses and Alternatives**—✦Marshall M. Joffe, University of Pennsylvania

9:55 a.m. **On Partially Defined Outcomes in Experiments**—✦Donald B. Rubin, Harvard University

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

## 284 CC-519a

### ■ ● International Statistical Consulting: Current Initiatives to Build Statistics Capacity in Developing Countries—Invited

Section on Statistical Consulting, Section on Statistical Education, Statistics Without Borders

Organizer(s): Eric A. Vance, LISA-Virginia Tech

Chair(s): Türknur Hamsici Brand, Central Bank of Turkey

8:35 a.m. **Consulting with Colleagues in Developing Nations on Building Academic Programs in Statistics = Experiences in Buea**—✦James J. Cochran, Louisiana Tech University

9:00 a.m. **Lessons Learned from Consulting in 25 Developing Countries: Becoming a Culturally Intelligent International Statistical Consultant**—✦Brian Hannon, Independent International Consultant in Survey Statistics

9:25 a.m. **Beyond Consulting: Training to Become an Interdisciplinary Statistical Collaborator**—✦Marcos Carzolio, Virginia Tech

9:50 a.m. **LISA 2020: Building Statistics Capacity in Developing Countries by Training Statisticians to Communicate and Collaborate with Nonstatisticians**—✦Eric A. Vance, LISA-Virginia Tech

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

## 285 CC-519b

### ■ Change-Points and Related Processes in Economic Time Series—Invited

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

Organizer(s): John Aston, University of Warwick

Chair(s): Hernando Ombao, University of California at Irvine

8:35 a.m. **Locally Stationary Latent Factors**—✦Giovanni Motta, Columbia University; Michael Eichler, Maastricht University

9:00 a.m. **Piecewise Quantile Autoregressive Modeling for Nonstationary Time Series**—✦Alexander Aue, University of California at Davis; Thomas C.M. Lee, University of California at Davis; Ming Zhong, University of California at Davis

9:25 a.m. **Modeling Nonstationarities in Energy Time Series**—✦Idris Eckley, Lancaster University

9:50 a.m. Disc: John Aston, University of Warwick

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

286 CC-710b
### Medallion Lecture IV—Invited
IMS
Organizer(s): David B. Dunson, Duke University
Chair(s): Jon Wellner, University of Washington

8:35 a.m. **Multiscale Methods and Shape Constraints**—✦Lutz Duembgen, University of Bern
10:05 p.m. **Floor Discussion**

287 CC-520e
### Memorial Session: Kesar Singh—Invited
ASA, Memorial, International Indian Statistical Association
Organizer(s): Regina Liu, Rutgers University
Chair(s): Regina Liu, Rutgers University

8:35 a.m. **An Appreciation of the Work of a Gentle Man**—✦Peter Gavin Hall, University of Melbourne
8:55 a.m. **Confidence Distribution and the Contributions of Kesar Singh to Distributional Inference**—✦Min-ge Xie, Rutgers University
9:15 a.m. **Exact and Asymptotically Robust Permutation Tests**—✦Joseph Paul Romano, Stanford University
9:35 a.m. **Higher-Order Properties of the Bootstrap in High-Dimensional Problems**—✦Soumendra N. Lahiri, North Carolina State University; Arindam Chatterjee, Indian Statistical Institute
9:55 a.m. **Highlights of Kesar Singh's Contributions**—✦G. Jogesh Babu, Penn State University
10:15 a.m. **Floor Discussion**

## Invited Panels
## 8:30 a.m.–10:20 a.m.

288 CC-515b
### ■ Research Questions and Data Resources in Transportation Statistics—Invited
Transportation Statistics Interest Group, Scientific and Public Affairs Advisory Committee
Organizer(s): Li Leung, U.S. Department of Transportation
Chair(s): Feng Guo, Virginia Tech Transportation Institute

**Panelists:** ✦Rolf Schmitt, Bureau of Transportation Statistics
✦David Banks, Duke University
✦Alan F. Karr, National Institute of Statistical Sciences
✦Clifford H. Spiegelman, Texas A&M University
10:15 a.m. **Floor Discussion**

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

289 CC-520c
### ■ ● International Perspectives in Advanced Methodologies for Spatiotemporal Information Processing—Topic-Contributed
Section on Physical and Engineering Sciences, Section on Statistics and the Environment
Organizer(s): Alexander Kolovos, SpaceTimeWorks, LLC; Andreas Langousis, University of Patras
Chair(s): Alexander Kolovos, SpaceTimeWorks, LLC

8:35 a.m. **Objective Bayesian Analysis of Geometrically Anisotropic Spatial Data**—✦Hannes Kazianka, Austrian Central Bank
8:55 a.m. **A Goodness-of-Fit Measure for Spatio-Temporal Models**—✦Pavel Chernyavskiy; Aimee Schwab, University of Nebraska-Lincoln; David B. Marx, University of Nebraska-Lincoln
9:15 a.m. **Space-Time Covariance Functions on Spheres**—✦Emilio Porcu, Universidad Federico Santa Maria; Moreno Bevilacqua, University of Valparaiso; Marc G. Genton, KAUST
9:35 a.m. **Quantile-Based Bayesian Maximum Entropy Approach for Spatiotemporal Air Quality Modeling**—✦Hwa-Lung Yu, National Taiwan University; Yi-Jen Lien, National Taiwan University
9:55 a.m. Disc: George Christakos, San Diego State University
10:15 a.m. **Floor Discussion**

290 CC-513b
### ■ Spatial Uncertainty in Public Health Problems—Topic-Contributed
Section on Statistics in Epidemiology, Section on Statistical Graphics, Biometrics Section, Section on Statistics and the Environment, Health Policy Statistics Section, Scientific and Public Affairs Advisory Committee
Organizer(s): Li Zhu, National Cancer Institute
Chair(s): Huilin Li, New York University

8:35 a.m. **A Bayesian Analysis of Small-Area Infectious Disease Surveillance Data Using Syndromic Information**—✦Ana Corberan-Vallet, University of Valencia; Andrew B. Lawson, Medical University of South Carolina
8:55 a.m. **Time-Series Analysis of Air Pollution and Health Accounting for Spatial Exposure Uncertainty**—✦Howard Chang, Emory University; Yang Liu, Emory University; Stefanie Sarnat, Emory University
9:15 a.m. **Spatial Analysis of Environmental Risk in Cancer Case-Control Studies with Residential Histories**—✦David Wheeler, Virginia Commonwealth University; Catherine A. Calder, The Ohio State University; Kevin Donges, The Ohio State University

9:35 a.m. **NIH Funding Opportunity on Spatial Uncertainty and Q&A**—✦Li Zhu, National Cancer Institute

9:55 a.m. **Optimizing the Choice of Maximum Spatial Window Size in Spatial Scan Statistic**—✦Li Zhu, National Cancer Institute; Junhee Han, Unversity of Arkansas

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

## 291 CC-520a

## ■ ● Ideas and Issues Flowing Between Statistics and Machine Learning—Topic-Contributed

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

Organizer(s): Alejandro Murua, University of Montréal

Chair(s): Russell J. Steele, McGill University

8:35 a.m. **For Complex Data, Let's Give Up on Interpretability**—✦Bertrand Clarke, University of Miami; Jennifer Clarke, University of Miami; Camillo Valdes, University of Miami

8:55 a.m. **When Is the Majority-Vote Classifier Beneficial?**—✦Mu Zhu, University of Waterloo

9:15 a.m. **Variable Selection with Overlapping Clustering**—✦Thierry Chekouo Tekougang, The University of Texas MD Anderson Cancer Center; Alejandro Murua, University of Montréal

9:35 a.m. **Learning Latent Structures via Hierarchical Nonparametric Bayes: A Look at the Posterior Asymptotics**—✦Long Nguyen

9:55 a.m. **Manifold Learning: Nonlinear Dimension Reduction Sans Distortion**—✦Dominique Perrault-Joncas, Amazon.com; Marina Meila, University of Washington

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

## 292 CC-520f

## Student Paper Competition: Computing and Graphics—Topic-Contributed

Section on Statistical Computing, Section on Statistical Graphics

Organizer(s): Jay Emerson, Yale University

Chair(s): Jay Emerson, Yale University

8:35 a.m. **Are You Normal? The Problem of Confounded Residual Structures in Hierarchical Models**—✦Adam Loy, Iowa State University; Heike Hofmann, Iowa State University

8:55 a.m. **Fast and Stable Multiple Smoothing Parameter Selection in Smoothing Spline Analysis of Variance Models with Large Samples**—✦Nathaniel Helwig, University of Illinois; Ping Ma, University of Illinois at Urbana-Champaign

9:15 a.m. **Time-Varying Networks Estimation and Dynamic Model Selection**—✦Xinxin Shu, University of Illinois at Urbana-Champaign; Annie Qu, University of Illinois at Urbana-Champaign

9:35 a.m. **Multivariate Visual Data Mining Tools for Functional Actigraphy Data**—✦Abbass Sharif, Utah State University; Juergen Symanzik, Utah State University

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

## 293 CC-510c

## ■ ● Survey and Statistical Methods in Forestry Research—Topic-Contributed

Section on Statistics and the Environment

Organizer(s): Michael D. Larsen, The George Washington University

Chair(s): Andrew Oliver Finley, Michigan State University

8:35 a.m. **A Model-Dependent Ratio Estimator of Variance for Two-Stage with Regression Designs**—✦Steen Magnussen, Canadian Forest Service; Erik Næsset, Norwegian University of Life Sciences; Terje Gobakken, Norwegian University of Life Sciences

8:55 a.m. **The Estimators Used in the New Mexico Inventory: Practical Implications of Nonresponse Being 'Truly' Random Within Each Stratum**—✦Paul Patterson, U.S. Forest Service; Sara Goeking, U.S. Forest Service

9:15 a.m. **Maximum Likelihood Forest Canopy Profile Estimation**—✦Paul Van Deusen, NCASI

9:35 a.m. **An Emulator Approach to Upscaling an Individual-Based Model of Tree Growth for Learning About Tree Traits Affecting Forest Dynamics**—✦Jarrett Barber, Arizona State University; Darren Gemoets, University of Wyoming; Kiona Ogle, Arizona State University; Michael Fell, Arizona State University

9:55 a.m. **The Use of Composite Estimators for Estimating Forest Biomass and Growth from Permanent Sample Plots Established by the Angle Count Method**—✦John Paul McTague, Rayonier

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

## 294 CC-514a

## ■ ● Patient-Reported Outcomes in Mental and Behavioral Health—Topic-Contributed

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

Organizer(s): Douglas Gunzler, Case Western Reserve University

Chair(s): Samprit Banerjee, Weill Cornell Medical College

8:35 a.m. **Patient-Reported Outcomes and Endpoint Selection in Mental and Behavioral Health Research**—✦Laura Lee Johnson, National Center for Complementary and Alternative Medicine (NCCAM)

8:55 a.m. **Survival-Related Prognostic Threshold on Quantitative Biomarkers**—✦Xinhua Liu, Columbia University; Zhezhen Jin, Columbia University

9:15 a.m. **Modeling the Causal Pathways Between Multiple Sclerosis and Depression**—✦Douglas Gunzler, Case Western Reserve University

9:35 a.m. **Pain Intensity, Pain Interference, and Depression in Patients Treated for Low Back Pain: Linear Growth Model Analysis**—✦Dennis Revicki, United BioSource Corporation; Wen-Hung Chen, United BioSource Corporation; Dagmar Amtmann, University of Washington; Karon Cook, Northwestern University

9:55 a.m. **Development and Evaluation of Item Banks for Smoking-Related Assessment**—Maria Edelen, RAND Corporation; ✦Brian D Stucky, RAND Corporation

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

## 295 CC-512g

## ■ ● Nonparametric and Semiparametric Modeling for Modern Applications—Topic-Contributed

Section on Nonparametric Statistics

Organizer(s): Li-Shan Huang, National Tsing Hua University
Chair(s): Yu-Jen Cheng, National Tsing Hua University

8:35 a.m. **Principal Component Analysis for Multivariate Functional Data**—✦Jeng-Min Chiou, Academia Sinica

8:55 a.m. **Local Polynomial Density Estimation with Interval Censored Data**—✦Derick Peterson, University of Rochester; Mark J van der Laan, University of California at Berkeley

9:15 a.m. **On Sample Size for Nonparametric Regression and Partial Linear Models**—✦Li-Shan Huang, National Tsing Hua University; Hsiao-Hsian Gao, National Tsing Hua University

9:35 a.m. **Density-Based Clustering Using a Stochastic Approximation Mean-Shift Algorithm**—✦Ollivier Hyrien, University of Rochester

9:55 a.m. **Penalized Spline Regression for Comparing Spectroscopic Analyses of Protein Unfolding: Methods in a Bayesian Framework**—✦Miranda Lynch, University of Minnesota-Duluth

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



## 296 CC-511e

## Dimensional and Spatial Models—Topic-Contributed

ENAR, Section on Statistics and the Environment

Organizer(s): Zhulin He, National Institute of Statistical Sciences
Chair(s): Zhulin He, National Institute of Statistical Sciences

8:35 a.m. **Heat-Related Morbidity and Mortality in Florida**—✦Emily Leary, University of Florida; Linda Young, University of Florida

8:55 a.m. **Evaluation of Small-Area Estimation Methods for Use by the Behavioral Risk Factor Surveillance System**—Betsy Cadwell-Gunnels, Center for Disease Control and Prevention; Carol Gotway Crawford, Centers for Disease Control and Prevention; ✦Haci Akcin, Centers for Disease Control and Prevention; Theodore J. Thompson, Centers for Disease Control and Prevention; Derek Ford, Centers for Disease Control and Prevention and Northrop Grumman; Martin Frankel, Baruch College, City University of New York; Michael Battaglia, Battaglia Consulting Group; Xingyou Zhang, Centers for Disease Control and Prevention

9:15 a.m. **Oracle Inference for GMM Models**—✦Mihai Giurcanu, University of Florida; Brett Presnell, University of Florida

9:35 a.m. **Determining Dimensionality of a Cognitive Process: Testing Online Reading Comprehension**—✦Weiwei Cui, National Institute of Statistical Sciences; Nell Sedransk, National Institute of Statistical Sciences

9:55 a.m. **Conducting Inference on Ripley's K-Function for Spatial Point Processes**—✦Michael Hyman

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

## 297 CC-512d

## ● SBSS Student Paper Travel Award Winners I—Topic-Contributed

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

Organizer(s): Peter Thall, The University of Texas MD Anderson Cancer Center
Chair(s): Sudipto Banerjee, University of Minnesota

8:35 a.m. **Bayesian Hierarchical Feature Selection of Structured Functional Predictors for Multilevel Functional Data Measured with Error**—✦Yize Zhao, Emory University; Jian Kang, Emory University; Qi Long, Emory University

8:55 a.m. **Probabilistic Integration for Uncertainty Quantification in Differential Equation Models**—✦Oksana Chkrebtii, Simon Fraser University; Dave Campbell, Simon Fraser University; Mark Girolami, University College London; Ben Calderhead, University College London

9:15 a.m. **Bayesian Semiparametric Density Deconvolution in the Presence of Conditionally Heteroscedastic Measurement Errors**—✦Abhra Sarkar, Texas A&M University; Bani Mallick, Texas A&M; John Staudenmayer, University of Massachusetts; Debdeep Pati, Florida State University; Raymond J. Carroll, Texas A&M University

9:35 a.m. **Bayesian Modeling of Temporal Dependence in Large Sparse Contingency Tables**—✦Tsuyoshi Kunihama, Duke University; David B. Dunson, Duke University

9:55 a.m. **Sequential Monte Carlo with Adaptive Weights for Approximate Bayesian Computation**—✦Fernando Bonassi, Duke University; Mike West, Duke University

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

## 298 CC-512e

## ■ Bayesian Modeling of Populations—Topic-Contributed

Social Statistics Section, International Society for Bayesian Analysis (ISBA), Scientific and Public Affairs Advisory Committee

Organizer(s): Peter W.F. Smith, University of Southampton

Chair(s): Peter W.F. Smith, University of Southampton

8:35 a.m. **Bayesian Estimation of Child Mortality**—✦Leontine Alkema, National University of Singapore; Jin Rou New, National University of Singapore

8:55 a.m. **Volatility in International Migration Flows of Nordic Countries: Estimating Past Trends and Lessons for Forecasting with Uncertainty**—✦Guy Abel, Wittgenstein Centre (IIASA, VID/OAW, WU), Vienna Institute of Demography

9:15 a.m. **Bayesian Cohort Component Population Forecasts**—✦Arkadiusz Wisniowski, University of Southampton; Peter W.F. Smith, University of Southampton; James Raymer, Australian National University; Jakub Bijak, University of Southampton

9:35 a.m. Disc: Jakub Bijak, University of Southampton

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

## 299 CC-513a

## Recent Developments in High-Dimensional Statistical Learning—Topic-Contributed

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

Organizer(s): Peng Wang, Bowling Green State University

Chair(s): Peng Wang, Bowling Green State University

8:35 a.m. **High-Dimensional Learning for Ordinal and Multiclass Data**—✦Xingye Qiao, Binghamton University

8:55 a.m. **Sparse Singular Value Decomposition with Missing Data**—✦Tingni Sun, University of Pennsylvania; Zongming Ma, University of Pennsylvania

9:15 a.m. **Variable Selection and Estimation with Nonconvex Penalty Functions**—✦Sijian Wang, University of Wisconsin-Madison; Zhigeng Geng, University of Wisconsin-Madison; Grace Wahba, University of Wisconsin-Madison

9:35 a.m. **Learning Hierarchical Models**—✦Ruslan Salakhutdinov, University of Toronto

9:55 a.m. **Spatial Graphical Model for High-Dimensional Discrete Lattices**—✦Xuan Che, Oregon State University; Alix I. Gitelman, Oregon State University

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

## 300 CC-516d

## Recent Research on Interviewer Observations in Household Surveys—Topic-Contributed

Survey Research Methods Section, Social Statistics Section, Section on Statistics in Epidemiology

Organizer(s): Peter Miller, U.S. Census Bureau

Chair(s): Nicholas Beyler, Mathematica Policy Research

8:35 a.m. **Developing Interviewer Observations of the Neighborhood and Sample Unit for the National Health Interview Survey**—✦Peter Miller, U.S. Census Bureau; Nancy Bates, U.S. Census Bureau; James Dahlhamer, National Center for Health Statistics; Renee Gindi, National Center for Health Statistics

8:55 a.m. **The Implications of Differential Measurement Error in Interviewer Observations for Nonresponse Adjustment of Survey Estimates: A Simulation Study**—✦Brady West, Institute for Social Research

9:15 a.m. **Assessing Interviewer Observations in the NHIS**—✦Rachael Walsh, U.S. Census Bureau; James Dahlhamer, National Center for Health Statistics; Nancy Bates, U.S. Census Bureau

9:35 a.m. **Evaluating Interviewer Observations in the National Health Interview Survey: Associations with Response Propensity**—✦Chandra Erdman, U.S. Census Bureau; James Dahlhamer, National Center for Health Statistics

9:55 a.m. Disc: Thomas Louis, U.S. Census Bureau

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

301 CC-516a

## ■ Synthetic Data Approaches to Disclosure Limitation—Topic-Contributed

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

Organizer(s): Daniell Toth, U.S. Bureau of Labor Statistics
Chair(s): Wendy L. Martinez, U.S. Bureau of Labor Statistics

8:35 a.m. **Data Smearing: An Approach to Disclosure Limitation for Tabular Data**—✦Daniell Toth, U.S. Bureau of Labor Statistics

8:55 a.m. **Nonparametric Bayesian Models for Generating Synthetic Household Data**—✦Jingchen Hu, Duke University; Jerry Reiter, Duke University

9:15 a.m. **Generalized Linear Models with Variables Subject to Post-Randomization Method, with Dependent Covariates**—✦Yong Ming Woo, Penn State University; Aleksandra Slavkovic, Penn State University

9:35 a.m. **Balancing Use of Weights, Predictions, and Locality Effects in a Model-Assisted Constrained Hot Deck Approach for Perturbation**—✦Tom Krenzke, Westat; Jianzhu Li, Westat; Laura Zayatz, U.S. Census Bureau

9:55 a.m. **Generating Synthetic Graphs Under Differential Privacy**—✦Vishesh Karwa

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

302 CC-511a

## Key Subgroup Analysis Issues in Clinical Trials—Topic-Contributed

Biopharmaceutical Section, Mental Health Statistics Section, Biometrics Section, Scientific and Public Affairs Advisory Committee

Organizer(s): Alexei Dmitrienko, Quintiles; Sue-Jane Wang, FDA
Chair(s): Sue-Jane Wang, FDA

8:35 a.m. **Exploratory Subgroup Analysis: Subgroup Identification Approaches in Clinical Trials**—✦Ilya Lipkovich; Alexei Dmitrienko, Quintiles

8:55 a.m. **Confirmatory Subgroup Analysis: Multiple Testing Approaches**—✦Alexei Dmitrienko, Quintiles

9:15 a.m. **Decisionmaking in Confirmatory Multipopulation Tailoring Clinical Trials**—✦Brian Millen, Eli Lilly and Company; Alexei Dmitrienko, Quintiles

9:35 a.m. Disc: Olga Marchenko, Quintiles

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

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

303 CC-514b

## ■ High Throughput Sequencing Data—Contributed Papers

Biometrics Section, WNAR

Chair(s): Xinyi Lin, Harvard University

8:35 a.m. **Nonparametric Methods for Identifying Differential Binding Regions with ChIP-Seq Data**—✦Qian Wu, University of Pennsylvania; Kyoung-Jae Won, University of Pennsylvania; Hongzhe Li, University of Pennsylvania

8:50 a.m. **Testing for Differences Between Multiple Groups in High-Throughput Sequencing Data Using Bayesian Multiscale Models**—✦Heejung Shim, The University of Chicago; Ester Pantaleo, The University of Chicago; Matthew Stephens, The University of Chicago

9:05 a.m. **Goodness-of-Fit Tests and Diagnostics for Negative Binomial Regression of RNA-Seq Data**—✦Gu Mi, Oregon State University; Yanming Di, Oregon State University; Daniel Schafer, Oregon State University; Jeff Chang, Oregon State University

9:20 a.m. **Identification of Alternative Splicing Variation in RNA-Seq Time Series Data**—✦Sunghee Oh, CCHMC; Seongho Song, University of Cincinnati; Gregory Grabowski, CCHMC

9:35 a.m. **Detecting Differentially Methylated Genomic Regions with Generalized Gaussian Process Regression**—✦Dong Wang, University of Nebraska-Lincoln

9:50 a.m. **Analysis of Sequencing Studies Under Multivariate Trait-Dependent Sampling**—✦Ran Tao, The University of North Carolina; Danyu Lin, The University of North Carolina; Donglin Zeng, The University of North Carolina

10:05 a.m. **Adaptive Resistant Regression Method (ARM): A Better Alternative to Quantile Normalization for Methylation Data**—✦Jean-Philippe Fortin, Johns Hopkins School of Public Health; Aurélie Labbe, McGill University; Celia M.T. Greenwood, McGill University; Mathieu Lemire, Ontario Institute of Cancer Research; Brent W. Zanke, Ottawa Hospital Research Institute; Thomas J. Hudson, Ontario Institute of Cancer Research

## 304 CC-514c

## Methods and Application of Mixed Models—Contributed Papers

Biometrics Section, International Indian Statistical Association

Chair(s): Deborah Dawson, University of Iowa

8:35 a.m. **Estimation of Heterogeneity Parameters in Multivariate Meta-Analysis**—✦Abera Wouhib, NCHS/CDC

8:50 a.m. **Use of Mixed-Effect Models in Optimization of Risk-Based Monitoring of Multicenter Trials**—✦Xiaoqiang Xue; Valerii Fedorov, Quintiles

9:05 a.m. **Identifying Treatment Heterogeneity in Complex Experiments: A Linear Mixed Effects Model Approach**—✦Troy Richardson, Kansas State University; Gary L. Gadbury, Kansas State University

9:20 a.m. **Agreement Evaluation with Heteroscedastic Method Comparison Data**—✦Lakshika Shamalie Nawarathna, The University of Texas at Dallas; Pankaj Kumar Choudhary, The University of Texas at Dallas

9:35 a.m. **Multivariate Cumulative Incidence Models for Twin Data**—✦Klaus Holst, University of Copenhagen

9:50 a.m. **Joint Modeling of Multivariate Longitudinal Hearing Loss Data Ascertained at Multiple Frequencies**—✦Mulugeta Gebregziabher, Medical University of South Carolina; Mark Eckert, Medical University of South Carolina; Lois Mattews, Medical University of South Carolina; Judy Dubno, Medical University of South Carolina

10:05 a.m. **Markov-Dependent Models for Correlated Binary Responses**—✦Forrest Crawford, Yale University; Daniel Zelterman, Yale University

## 305 CC-512h

## Nonparametric Smoothing—Contributed Papers

Section on Nonparametric Statistics

Chair(s): Emily H. Griffith, North Carolina State University

8:35 a.m. **Two-Stage Subsampling-Extrapolation Techniques in Bandwidth Selection**—✦Qing Wang, Williams College; Bruce G. Lindsay, Penn State University

8:50 a.m. **Improving Sheather and Jones Bandwidth Selector for Difficult Densities in Kernel Density Estimation**—✦Jiangang Liao, Penn State

9:05 a.m. **Testing for the Covariate Effect in the Fully Nonparametric ANCOVA**—✦Shu-Min Liao, Amherst College; Michael G. Akritas, Penn State University

9:20 a.m. **Shape-Constrained Nonparametric Estimators of the Baseline Distribution in the Cox Proportional Hazards Model**—✦Gabriela Nane; Hendrik Lopuhaa, Delft University of Technology

9:35 a.m. **Kernel Estimation of a Quantile Partially Additive Linear Regression Model**—✦Dawit Zerom, California State University at Fullerton

9:50 a.m. **Parameterization and Smoothing Using Bernstein Polynomials: Another Look at Beta Mixture**—✦Zhong Guan, Indiana University South Bend

10:05 a.m. **New Kernel Density Estimates and Their Empirical Likelihood Versions and Applications**—✦Ningning Wang; Ibrahim Ahmad, Oklahoma State University

## 306 CC-510d

## ■ Time Series Methods for Environmental Data—Contributed Papers

Section on Statistics and the Environment

Chair(s): Tess Astatkie, Dalhousie University

8:35 a.m. **Flamelets and Wavelets: An EDA**—✦David Brillinger, University of California at Berkeley; Mark Finney, Missoula Fire Sciences Laboratory

8:50 a.m. **A Nonparametric Approach to Detecting Parametric Nonmonotonic Trends in Environmental Processes**—Vyacheslav Lyubchich, University of Waterloo; ✦Yulia R. Gel, University of Waterloo; Abdel El-Shaarawi, The American University in Cairo

9:05 a.m. **Practical Test for Goodness-of-Fit of Low-Order AR Models Applied to Pinot Noir Grape Harvest Dates**—✦Karim Rahim, Queen's University; David Thomson, Queen's University

9:20 a.m. **Bayesian Time Series Models of Ultrafine Particle Concentrations**—✦Heidi Fischer, University of California at Los Angeles; Robert E. Weiss, University of California at Los Angeles

9:35 a.m. **Joint Modeling of Paired Spatially Correlated Multilevel Functional Data**—✦Beth Tidemann-Miller, North Carolina State University; Brian J. Reich, North Carolina State University; Ana-Maria Staicu, North Carolina State University

9:50 a.m. **A Bayesian Hierarchical Chronology Model for Time Series Analysis of Paleoenvironmental Data**—✦Aaron Springford, Queen's University

10:05 a.m. **Changepoint Detection in Climate Time Series with Long-Term Trends**—✦Michael Robbins, University of Missouri, Columbia

## 307 CC-511b

## ■ Bayesian Approaches to Biopharmaceutical Applications—Contributed Papers

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

Chair(s): Anna McGlothin, Berry Consultants

8:35 a.m. **Bayesian Approach for Similarity Assessment of Treatment Effects in Bridging Studies—**✦Sinae Kim, University of Medicine and Dentistry of New Jersey; Weichung Joe Shih, University of Medicine and Dentistry of New Jersey

8:50 a.m. **Hierarchical Bayesian Approaches to the Subgroup Analysis Problem in Infectious Disease Clinical Trials—**✦Carl Dicasoli, Vertex Pharmaceuticals; Cynthia DeSouza, Vertex Pharmaceuticals; Lan Lan, Vertex Pharmaceuticals

9:05 a.m. **Monitoring Clinical Trials Based on the Bayesian Predictive Probability Using Data from Both Completers and Non-Completers—**✦Qi Tang, AbbVie; Weining Zhao Robieson, AbbVie; Yili Lu Pritchett, Astellas Pharma Global Development, Inc.

9:20 a.m. **Application of Bayesian Approaches to Noninferiority Trials—**✦Radha Railkar, Merck; Mani Lakshminarayanan, Merck Research Laboratories

9:35 a.m. **Bayesian Confidence Intervals in Stratified Matched Proportions with Incomplete Data—**✦Vivek Pradhan, Boston Scientific Corporation; Samiran Sinha, Texas A&M University

9:50 a.m. **A Bayesian Subgroup Analysis Using an Additive Model—**Sivaganesan Siva, University of Cincinnati; ✦Yang Xiao, University of Cincinnati; Purushottan Laud, Medical College of Wisconsin; Peter Müller, The University of Texas at Austin

10:05 a.m. **A Bayesian Hierarchical Model for Meta-Analysis of Rare Binary Adverse Event Data—**✦Ou Bai, Southern Methodist University; Xinlei Wang, Southern Methodist University; Min Chen, The University of Texas Southwestern Medical Center at Dallas; Guanghua Xiao, The University of Texas Southwestern Medical Center

## 308 CC-512ab

## Methods for Longitudinal Studies and/or Missing Data—Contributed Papers

Biopharmaceutical Section , International Chinese Statistical Association , Biometrics Section

Chair(s): Kevin Lawson, PPD INC

8:35 a.m. **Modeling High-Dimensional Longitudinal Data with Structural Equation Modeling—**Xinming An, SAS Institute; ✦Yiu-Fai Yung, SAS Institute; Qing Yang, University of California at Los Angeles

8:50 a.m. **Joint Modeling of Multivariate Longitudinal Measurements and Survival Data with Applications to Parkinson's Disease—**✦Sheng Luo, The University of Texas Health Science Center at Houston; Bo He, The University of Texas at Houston

9:05 a.m. **Constrained Longitudinal Data Analysis as an Alternative to Multiple Imputation for Handling Missing Data in Randomized Clinical Trials—**✦Jin Xu, Merck

9:20 a.m. **Marginal Treatment Effect Estimation Using Pattern Mixture Model—**✦Zhenzhen Xu, FDA

9:35 a.m. **Applying Weighted GEE for Sample-Size Estimation in Repeated Measurement Studies with Dropout—**✦Anna Sun, University of Maryland, Baltimore County

9:50 a.m. **Sensitivity Analyses in Clinical Trials via Pattern-Mixture Models Using Standard SAS Procedures for Multiple Imputations: How Much We Improve Over LOCF?—**✦Anjela Tzontcheva, Merck

10:05 a.m. **Assessing a Treatment Effect in Light of Rescue Therapy—**✦Judy Li, FDA; Jerry John Weaver, Novartis Pharmaceuticals Corporation; David I. Ohlssen, Novartis Pharmaceuticals Corporation

## 309 CC-518

## Monte Carlo Methodology—Contributed Papers

Section on Statistical Computing

Chair(s): Feng Liang, University of Illinois at Urbana Champaign

8:35 a.m. **Simulation Based Nearest Neighbor Entropy Estimation for MCMC Evaluation—**✦Didier Chauveau, CNRS; Pierre Vandekerkhove, University Marne la Vallée-CNRS

8:50 a.m. **Empirically Comparing the Performance of Local MCMC Algorithms with Pools of Proposals—**✦Mylène Bédard, Université de Montréal

9:05 a.m. **Continual Reassessment Method with Bayesian Variable Selection in Phase I Clinical Trails—**✦Zhenyu Zhao, Northwestern University

9:20 a.m. **Improved Estimation and Uncertainty Quantification Using Monte Carlo--Based Optimization Algorithms**—✦Cong Xu, University of California at Davis; Paul David Baines, University of California at Davis; Jane-Ling Wang, University of California at Davis

9:35 a.m. **Warp Bridge Sampling: The Next Generation**—✦Lazhi Wang, Harvard University; Xiao-Li Meng, Harvard University

9:50 a.m. **A Nonparametric Method for Extreme Values**—✦Mei Ling Huang, Brock University; Lucas Thorpe, Brock University

10:05 a.m. **EM Algorithm and Likelihood Inference for Flexible Cure Rate Models with Weibull Lifetimes**—✦Suvra Pal, McMaster University; Narayanaswamy Balakrishnan, McMaster University

## 310 CC-522bc

## ■ Statistical Methodology for Business and Economics—Contributed Papers

Business and Economic Statistics Section

Chair(s): Carol Corrado, The Conference Board

8:35 a.m. **Bias Reduction in Nonlinear and Dynamic Panels in the Presence of Cross-Section Dependence, with a GARCH Panel Application**—✦Cavit Pakel, Bilkent University

8:50 a.m. **Using Factor Scores to Predict Metropolitan Growth: Regional Indicators**—✦Merissa C. Piazza, Cleveland State University; Iryna V. Lendel, Cleveland State University

9:05 a.m. **Statistical Analysis of the Factors Affecting the Profitability of Commercial Banks in Pakistan**—✦Salahuddin Khan, University of Peshawar

9:20 a.m. **Factor Score Estimates in Clustered Data**—✦Albert Satorra, Universitat Pompeu Fabra; Peter M. Bentler, University of California at Los Angeles

9:35 a.m. **Methodological Implications of Conducting Multiplier-Based Economic Impact Assessments: A Case Study of Three Methodologies**—✦Candice Clouse, Cleveland State University; Merissa C. Piazza, Cleveland State University

9:50 a.m. **Forecasting Inflation from Disaggregated Data: The Colombian Case**—✦Wilmer Martinez, Central Bank of Colombia; Eliana Rocio Gonzalez, Central Bank of Colombia

10:05 a.m. **Case Studies Modeling Count Conditional Distributions**—✦Robert Jung, Univesitaet Hohenheim; A.R. Tremayne, University of New South Wales and University of Liverpool

## 311 CC-512f

## ■ Statistics in Genetic Epidemiology—Contributed Papers

Section on Statistics in Epidemiology

Chair(s): Huaqing Zhao, Temple University

8:35 a.m. **Using Stochastic Search Gene Suggestion to Identify Single Nucleotide Polymorphisms Associated with Childhood Leukemia Risk in Case-Parent Triads**—✦Michael Swartz, The University of Texas Health Science Center at Houston, School of Public Health; Ying Cao, The University of Texas Health Science Center of Houston, School of Public Health; Darryl Nousonme, University of Southern California; Philip Lupo, Baylor College of Medicine; Michael Scheurer, Baylor College of Medicine

8:50 a.m. **Analysis of SNP Data Through Sparse Principal Component Analysis with Altered Similarity Matrix**—✦Ashley Bonner

9:05 a.m. **Evaluation of Genetic Risk Score Models in the Presence of Interaction and Linkage Disequilibrium**—✦Ronglin Che, North Carolina State University; Alison Motsinger-Reif, North Carolina State University

9:20 a.m. **Extension of Within-Family Genetic Association to Polytomous Phenotypes and Two-Locus Models**—✦Alexandre Bureau, Université Laval; Jordie Croteau, Institut Universitaire en Santé Mentale de Québec; Thierry Duchesne, Université Laval

9:35 a.m. **Ascertaining the Effect Size Distribution for Mapping Genetic Determinants of Diseases**—✦Dmitri Zaykin, National Institute of Environmental Health Sciences; Chia-Ling Kuo, NIEHS

9:50 a.m. **Detecting Master Regulators in Methylation QTL Studies**—✦Jianxin Shi

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

## 312 CC-521ab

## Marketing Analytics—Contributed Papers

Section on Statistics in Marketing

Chair(s): Peter Ebbes, HEC Paris

8:35 a.m. **The Ten Killer Data-Mining Errors**—✦Samuel Koslowsky, Harte Hanks

8:50 a.m. **Customer Service Escalation Early Warning System: A Subsampling Approach**—✦Jiabin Zhao, Cisco Systems

9:05 a.m. **Statistical Modeling of Win Odds for Sales Opportunities**—✦Ta-Hsin Li, IBM

9:20 a.m. **Exploratory Data Analysis of the Presidential Political Campaign 2012**—✦Mario A. Morales, Simulmedia Inc.

9:35 a.m. **Statistical Sampling for Masking Saltiness and Enhancing Sweetness**—✦Shankang Qu, PepsiCo; Laura Nattress, PepsiCo; Winsome Johnson, PepsiCo; Robert Saunders, PepsiCo

9:50 a.m. **Shapley Value Line Optimization: Extension to Continuous Case**—✦Faina Shmulyian, Markettools; Michael Conklin, GfK

10:05 a.m. **Forecasting VOD Demand Curves: A Functional Spatial-Temporal Approach**—✦Yue Tian, University of Maryland

## 313 CC-520b

## ■ Using Commercial and Other Software for Report Generation and Improved Estimation —Contributed Papers

Section for Statistical Programmers and Analysts, Section on Statistical Computing

Chair(s): Kuolung Hu, Amgen, Inc.

8:35 a.m. **Medical History Reconciliation in Pharmacoepidemiology Studies**—✦Ying Su, Merck

8:50 a.m. **Using ODS and PROC Report to Generate in-Text Tables for a Clinical Study Report (CSR)**—✦Faye Yeh, Takeda

9:05 a.m. **CDISC Electronic Submission? Here Are How and What to Prepare** —✦Kevin Lee, Cytel

9:20 a.m. **Estimation in Partially Linear Model with Missing Covariates by Using Unified Approach**—✦Wei Tang

9:35 a.m. **Evaluating a Continuous Variable as a Proxy for Another Measure**—✦Jonathan Mahnken, The University of Kansas Medical Center; Eric D. Vidoni, The University of Kansas Medical Center; Sandra A. Billinger, The University of Kansas Medical Center; Xueyi Chen, The University of Kansas Medical Center

9:50 a.m. **Time Series Forecasting with R**—✦Deepak Sanjel

10:05 a.m. **Composite Change-Point Estimation for Bent Line Quantile Regression**—✦Liwen Zhang, Fudan University; Huixia Judy Wang, North Carolina State University; Zhongyi Zhu, Fudan University

## 314 CC-510b

## Bayesian Modeling in the Life Sciences and Medicine I — Contributed Papers

Section on Bayesian Statistical Science

Chair(s): Michael Sonksen, University of New Mexico

8:35 a.m. **Bayesian Inference for Assessing the Association Between Urinary Incontinence and Hormone Profiles During the Menopausal Transition**—✦Yan He, University of California at Irvine; Wesley O. Johnson, University of California at Irvine

8:50 a.m. **Mixture Models of Metagenomic Read Counts for Ecological Analysis**—✦John O'Brien, Bowdoin College

9:05 a.m. **A Bayesian Prediction Model of Severe Intra-Ventricular Hemorrhage in Very Pre-Term Infants**—✦Michael Anderson, University of Oklahoma; Suzanne Dubnicka, Kansas State University; Shahab Noori, Newborn and Infant Critical Care, Children's Hospital Los Angeles

9:20 a.m. **An Adaptive Design of Initial Therapy for Emergency Department Patients with Heart Failure**—Jing Ning, The University of Texas MD Anderson Cancer Center; ✦Sijin Wen, West Virginia University; Sean Collins, Vanderbilt University; Donald Arthur Berry, The University of Texas MD Anderson Cancer Center

9:35 a.m. **Modeling Health Outcomes via Values, Gradients, or Variation of Follicle-Stimulating Hormone in Penn Ovarian Aging Study**—✦Bei Jiang, University of Michigan; Michael Elliott, University of Michigan; Mary Sammel, University of Pennsylvania; Naisyin Wang, University of Michigan

9:50 a.m. **Predicting Rare Events in the Presence of Zero-Inflation and Covariate Misclassification: A Bayesian Approach**—✦MaryAnn Morgan-Cox, Eli Lilly and Company; James D. Stamey, Baylor University; John W. Seaman, Jr., Baylor University

10:05 a.m. **Bayesian Family Factor Models for Multiple Outcomes**—✦Qiaolin Chen, University of California at Los Angeles; Robert E Weiss, University of California at Los Angeles; Catherine Ann Sugar, University of California at Los Angeles; Keith Nuechterlein, University of California at Los Angeles; Asarnow Robert, University of California at Los Angeles

## 315 CC-516e

## Sampling Strategies for Rare and Hard-to-Reach Populations — Contributed Papers

Survey Research Methods Section, Social Statistics Section, Scientific and Public Affairs Advisory Committee, Korean International Statistical Society

Chair(s): Barbara Lepidus Carlson, Mathematica Policy Research

8:35 a.m. **Design Effects in Surveys That Require Oversampling of Certain Subpopulations**—✦Kadaba Srinath, Abt SRBI

8:50 a.m. **The Relative Statistical and Operational Plausibility of Multiple-Frame Sampling for Rare Population Subgroups**—✦William D. Kalsbeek, The University of North Carolina at Chapel Hill; Bruce D. Spencer, Northwestern University; Carol C. House, National Academy of Science

9:05 a.m. **Using Targeted Lists for Studies of Rare Populations: The Super Wealthy** — ✦Ned English, NORC; Steven Pedlow, NORC at the University of Chicago; Lee Fiorio, NORC at the University of Chicago; Catherine Haggerty, NORC at the University of Chicago; Benjamin Page, Northwestern University; Jason Seawright, Northwestern University

9:20 a.m. **Sampling Designs for Populations at High Risk for HIV** — ✦Lillian Lin, Centers for Disease Control and Prevention; Teresa Finlayson, Centers for Disease Control and Prevention; Ronaldo Iachan, ICF International; Maria C. B. Mendoza, Centers for Disease Control and Prevention; Cyprian Wejnert, Centers for Disease Control and Prevention

9:35 a.m. **Weighting Methods for a Study of Men Who Have Sex with Men (MSM3)** — ✦Ronaldo Iachan, ICF International; Teresa Finlayson, Centers for Disease Control and Prevention; Cyprian Wejnert, Centers for Disease Control and Prevention; Binh Le, Centers for Disease Control and Prevention; Gabriela Paz-Bailey, Centers for Disease Control and Prevention; Tonja Kyle, ICF International

9:50 a.m. **Sampling Designs for HIV Patient Populations** — ✦Christopher Johnson, CDC/NCHHSTP ; Ronaldo Iachan, ICF International; Richard Lee Harding, ICF International; Linda Beer, Centers for Disease Control and Prevention; Emma Frazier, Centers for Disease Control and Prevention; Christine Mattson, Centers for Disease Control and Prevention; Jacek Skarbinski, Centers for Disease Control and Prevention

10:05 a.m. **Sensitivity Analysis of Respondent-Driven Sampling** — ✦Sunghee Lee, University of Michigan; Tuba Suzer Gurtekin, University of Michigan; Michael Elliott, University of Michigan

## 316 CC-511c

## CPI and Indexes—Contributed Papers

Government Statistics Section, Scientific and Public Affairs Advisory Committee

Chair(s): Kimberly Henry, Statistics of Income, IRS

8:35 a.m. **Description of the Revised Commodities and Services Optimal Sample Design**—✦Onimissi Sheidu, Bureau of Labor Statistics

8:50 a.m. **Comparing New Final Demand Producer Price Indexes with Other Government Price Indexes**—✦Jonathan Weinhagen, Bureau of Labor Statistics

9:05 a.m. **10 Years of Comparative Results: Chained vs. Regular CPI-U**—✦Owen Shoemaker, Bureau of Labor Statistics

9:20 a.m. **Enhancing the Quality of Price Index Estimates Combining Updated Weights: A More Representative Sample Design and a Different Aggregation Structure**—✦Daniele Toninelli, University of Bergamo; Zdenek Patak, Statistics Canada; Martin Beaulieu, Statistics Canada

9:35 a.m. **The Consumer Price Index of GBA (Buenos Aires Metropolitan Area)**—Norberto Itzcovich, INDEC; Sebastián Ignacio González, INDEC; ✦Pablo Ezequiel Faifman, INDEC

9:50 a.m. **Evaluating the Consumer Price Index Using Nielsen's Scanner Data**—✦Jenny FitzGerald, Bureau of Labor Statistics

10:05 a.m. **Feasible Methods to Estimate Disease-Based Price Indexes**—✦Ralph Bradley, Bureau of Labor Statistics

## 317 CC-515c

## Modeling and Methods for Time-Dependent Data—Contributed Papers

SSC

Chair(s): Joseph Beyene, McMaster University

8:35 a.m. **Likelihood Inferences for Longitudinal Bivariate Multinomial Mixed Models**—✦Bingrui Sun, Memorial University of Newfoundland; Brajendra Sutradhar, Memorial University of Newfoundland

8:50 a.m. **Joint Trajectory Model for Parallel-Process Data with Distal Outcome**—✦Depeng Jiang, University of Manitoba; Robert Tate, University of Manitoba

9:05 a.m. **Analysis of Mis-Measured Longitudinal Count Data and Its Application to Epidemiology**—✦Yunqi Ji, Memorial University; Zhaozhi Fan, Memorial University

9:20 a.m. **Generalized Quasi-Likelihood Method in Quantile Regression for Longitudinal Data**—✦Xiaoming Lu, Memorial University of Newfoundland

9:35 a.m. **Modeling of Multinomial Data with Excess Zeros**—✦Gary Sneddon, Mount Saint Vincent University

9:50 a.m. **Spacing and Shape of Peaks in Nonparametric Spectrum Estimates**—✦Charlotte Haley; David Thomson, Queen's University

10:05 a.m. **A New Hybrid Estimation Method for the Generalized Pareto Distribution**—✦Chunlin Wang, University of Waterloo; Gemai Chen, University of Calgary

## 318 CC-525a

## ■ Clustering and Classification—Contributed Papers

Section on Statistical Learning and Data Mining

Chair(s): Dehan Kong, North Carolina State University

8:35 a.m. **Malware Detection Using Nonparametric Bayesian Clustering and Classification Techniques**—✦Yimin Kao, North Carolina State University; Brian J. Reich, North Carolina State University; Curtis Storlie, Los Alamos National Laboratory

8:50 a.m. **The Population Goal of Modal Clustering**—✦Jose E. Chacon, Universidad De Extremadura

9:05 a.m. **Distinctness Evaluation of Unknown Clustering Structure**—✦Ewa Nowakowska, Institute of Computer Science, PAS

9:20 a.m. **Semi-Supervised Model-Based Clustering with Regularized Covariance Matrix Estimation**—✦Brad Price, University of Minnesota; Charles J. Geyer, University of Minnesota; Adam J. Rothman, University of Minnesota

9:35 a.m. **Unsupervised Learning: Assessing Cluster Significance Through a Combination of Cross-Validation and Resampling**—✦Werner Stuetzle, University of Washington

9:50 a.m. **Time Course Classification of Treatment Response for Psoriatic Patients**—✦Joel Correa Da Rosa, Rockefeller University; James G. Krueger, Rockefeller University; Mayte Suarez-Farinas, Rockefeller University

10:05 a.m. **Estimation of Logistic Regression Parameter with Partially Labeled Data**—✦Keiji Takai, Kansai University

## 319 CC-525b

## Topics on Variable Selection—Contributed Papers

Section on Statistical Learning and Data Mining

Chair(s): Wen Shi, The University of North Carolina

8:35 a.m. **Variable Selection for Varying-Coefficient Models via the Elastic Net Regularization**—✦Hidetoshi Matsui, Kyushu University; Toshihiro Misumi, Astellas Pharma Inc.

8:50 a.m. **Screen and Clean on Ising Model**—✦Qi Zhang, University of Pittsburgh; Jiashun Jin, Carnegie Mellon University

9:05 a.m. **Variable Selection in Measurement Error Models via Least Squares Approximation**—✦Guangning Xu, North Carolina State University; Len Stefanski, North Carolina State University

9:20 a.m. **Controlling the Local False Discovery Rate in the Adaptive Lasso**—✦Joshua Sampson, DCEG, National Cancer Institute; Nilanjan Chatterjee, National Cancer Institute; Raymond J. Carroll, Texas A&M University; Samuel Mueller, University of Sydney

9:35 a.m. **Using Machine Learning to Identify Best Treatment Subgroup Characteristics**—✦Barry Eggleston, RTI International; Georgiy Bobashev, RTI International; Nikhil Garge, RTI International

9:50 a.m. **Bayesian Variable Selection for Skewed and Heteroscedastic Error**—Yuanyuan Tang, Florida State University; ✦Debajyoti Sinha, Florida State University; Yiyuan She, Florida State University; Stuart Lipsitz, Brigham and Women's Hospital

10:05 a.m. **Alternatives to Penalization for Sparse Models**—✦Sarah Emerson, Oregon State University

## 320 CC-515a

## ■ New Methods for Missing Data Analysis—Contributed Papers

Section on Statistics in Epidemiology

Chair(s): Allen Heller, Bayer HealthCare Pharmaceuticals

8:50 a.m. **Does Imputation Increase Statistical Power?**—✦Wenyaw Chan, The University of Texas Health Science Center at Houston; Xiaoying Yu, The University of Texas Health Science Center at Houston; Elaine Symanski, The University of Texas Health Science Center at Houston

9:05 a.m. **How Can We Combine Data Sets With an Unequal Number of Categories?**—✦Stef van Buuren, Netherlands Organization for Applied Scientific Research

9:05 a.m. **Imputation of Missing Longitudinal fMRI Data**—✦Maria Josefsson; Anders Lundquist, Umea University,

9:20 a.m. **A Multiple Imputation Strategy for Sequential Multiple Assignment Randomized Trials**—✦Susan Shortreed, Group Health Research Institute; Eric Laber, North Carolina State University; Joelle Pineau, McGill University; Susan Murphy, University of Michigan

9:35 a.m. **Estimation of Phylogenetic Clustering Rates in the Presence of Missing Data**—✦Nicole Carnegie, Harvard University; Rui Wang, Harvard School of Public Health; Victor DeGruttola, Harvard University; Vladimir Novitsky, Harvard School of Public Health

9:50 a.m. **Nonparametric Survival Function Estimation in the Presence of Uncertain Endpoints by Using an Internal Validation Subsample**—✦Jarcy Zee, University of Pennsylvania Perelman School of Medicine; Sharon X. Xie, University of Pennsylvania Perelman School of Medicine

10:05 a.m. **Computational Techniques to Recover Missing Data from Available Information in Gene Expression Data**—✦Mortaza Jamshidian, California State University at Fullerton; Amol Kumar, California State University at Fullerton

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

321 CC-516c

## Methods and Applications in Biomedical Data and Clinical Trials, Part 1—Contributed

Biopharmaceutical Section, Biometrics Section, Scientific and Public Affairs Advisory Committee

Chair(s): Lisa LaVange, FDA/CDER

8:35 a.m. **Pitfalls in Assessing Relative Efficacy Across Trials**—✦Xiao Sun, Merck

8:40 a.m. **Methods to Compare the Myeloproliferative Neoplasm Symptom Assessment Form (MPN-SAF) Across Nine Linguistic Translations**—✦Amylou Dueck, Mayo Clinic; Jeff Sloan, Mayo Clinic; Ruben Mesa, Mayo Clinic

8:45 a.m. **What Is the Probability of Detecting Large Treatment Effects in Randomized Controlled Trials: An Empirical Study**—✦Branko Miladinovic, University of South Florida Center for Evidence-based Medicine; Henian Chen, University of South Florida; Tea Reljic, University of South Florida Center for Evidence-based Medicine; Ruina He, University of South Florida; Benjamin Djulbegovic, University of South Florida Center for Evidence-based Medicine

8:50 a.m. **Analysis of Binary Data Arising from a Prospective Cluster Randomized Study on the Diagnosis of Chronic Obstructive Pulmonary Disease Using Overdispersed Binomial Models**—✦Santosh Sutradhar, Novartis; Valentina Bayer Zubek, Boehringer Ingelheim Pharmaceuticals, Inc.

8:55 a.m. **Strategy in Dichotomizing a Continuous Biomarker for Survival Data Analysis**—✦Dung-Tsa Chen, Moffitt Cancer Center; Ying-Lin Hsu, National Chung Hsing University; Po-Yu Huang, National Chung Hsing University

9:00 a.m. **M&N, Wald, and Skellam: Who Excels in Rare-Event, Small-Sample, Interval Estimation of Risk Differences?**—✦Oliver Bautista, Merck Sharp & Dohme Corp.; Josh Chen, Merck; Ivan S. F. Chan, Merck Research Laboratories

9:05 a.m. **Two-Sample Test for Differences in Survival at a Fixed Time Point with Small Sample Sizes**—✦Michael Fay, National Institute of Allergy and Infectious Diseases; Michael Proschan, National Institutes of Health; Erica H. Brittain, National Institute of Allergy and Infectious Diseases

9:10 a.m. **Extension of Interval Design to Finding Maximum Tolerated Combinations of Two Anti-Cancer Agents**—✦Lixin Han, Pfizer Inc.; Stephanie Green, Pfizer Inc.

9:15 a.m. **Single-Arm Phase IIa Oncology Clinical Trials with Sample Size Adaptation**—✦Bob Zhong, Johnson & Johnson

9:20 a.m. **Detailed Description of Derivation and Display of Delinquent and Delayed Data**—William Coar, Axio Research; ✦David Kerr, Axio Research

9:30 a.m. **Analysis of Semi-Continuous Longitudinal Physical Activity Data**—✦Peter John De Chavez, Northwestern University; Lei Liu, Northwestern University; Bonnie Spring, Northwestern University Feinberg School of Medicine; Juned Siddique, Northwestern University

9:35 a.m. **Mixed-Effects Models with Skewed Distributions for Time-Varying HIV Viral Decay Rate**—✦Yangxin Huang, University of South Florida; Ren Chen, University of South Florida

9:40 a.m. **Bayesian Nonlinear Regression for Neutralization Assays Using 4- and 5-Parameter Growth Curves**—✦James Slaughter, Vanderbilt University; John T. Bates, Vanderbilt University; James E. Crowe, Vanderbilt University

9:45 a.m. **Linear Regression Models with Epsilon Skew Gamma Error Term**—✦Ebtisam Abdulah, University of Arkansas at Little Rock; Hassan Elsalloukh, University of Arkansas at Little Rock

9:50 a.m. **Prior-Robust Designs for Nonlinear Models**—✦Sydney Akapame; John J. Borkowski, Montana State University-Bozeman

9:55 a.m. **Early Detection of Cardiovascular Signals: A Simulation Study About Power Enhancement**—✦Jing Huang; Ouhong Wang, Amgen, Inc.; Mike Hale, Amgen, Inc.

10:00 a.m. **Comparison of Permutation Tests and GEE Methods for Group-Randomized Trials with Count Data**—✦Ping Xu, Axio Research Coporation; Brian Leroux, University of Washington

10:05 a.m. **Comparing Candidate General Surrogates of Protection**—✦Erin Gabriel, Fred Hutchinson Cancer Research Center; M. Elizabeth Halloran, Fred Hutchinson Cancer Research Center

10:10 a.m. **Logistic Regression for Dichotomized Counts**—✦John Preisser, The University of North Carolina; Kalyan Das, University of Calcutta; John Stamm, The University of North Carolina

10:15 a.m. **Analysis of Left-Censored Multiplex Immunoassay Data: A Unified Approach**—✦Elizabeth Hill, Medical University of South Carolina; Elizabeth Slate, Florida State University

# THE CARTOON INTRODUCTION TO STATISTICS—TIMELY, AUTHORITATIVE, AND PERFECT FOR STUDENTS

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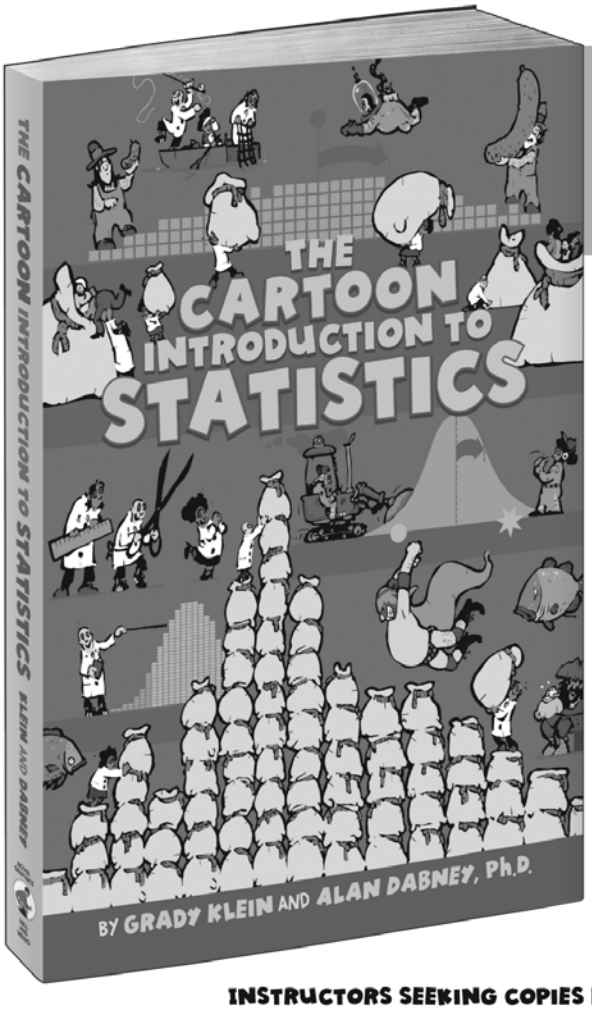


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# Special Presentation 10:30 a.m.–12:20 p.m.

## 322 CC-710a

### Introductory Overview Lecture: Inference from Complex Sample Surveys: Past Controversies, Current Orthodoxies, Future Paradigms—Other

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

Organizer(s): Frauke Kreuter, University of Maryland
Chair(s): Frauke Kreuter, University of Maryland

10:35 a.m. **Inference from Complex Sample Surveys: Past Controversies, Current Orthodoxies, Future Paradigms**—✦Roderick J. Little, University of Michigan

11:55 a.m. Disc: Ray Chambers, National Institute for Applied Statistics Research Australia (NIASRA)

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

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

## 323 CC-510c

### ■ ● Neuroimaging Statistics: A Memorial Session for Keith Worsley—Invited

ENAR, Section on Statistics in Imaging, SSC

Organizer(s): Armin Schwartzman, Harvard School of Public Health
Chair(s): Philip Reiss, New York University

10:35 a.m. **Keith Was (Almost) Right**—✦Robert J. Adler, Technion

11:00 a.m. **Detecting Sparse Cone Alternatives for Gaussian Random Fields**—✦Jonathan Taylor, Stanford University

11:25 a.m. **The Interplay Between Random Field Theory and Permutation Inference Methods**—✦Thomas Nichols, University of Warwick

11:50 a.m. **Inferring Anatomical Connectivity from Cortical Thickness**—✦Moo K. Chung, University of Wisconsin

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

## 324 CC-519b

### Developments in Markov Chain Monte Carlo Methodology—Invited

IMS, SSC, Section on Statistical Computing

Organizer(s): James M. Flegal, University of California at Riverside
Chair(s): Galin Jones, University of Minnesota

10:35 a.m. **Ergodicity of Adaptive MCMC Algorithms**—✦Jeffrey S. Rosenthal, University of Toronto

11:05 a.m. **Embedding Combinatorial Structures as Gibbs Distributions for Faster Approximation of Normalizing Constants**—✦Mark Lawrence Huber, Claremont McKenna College

11:35 a.m. **Convergence Rates for Hierarchical Gibbs Samplers**—✦Neal Madras, York University

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

## 325 CC-520b

### ■ ● Modern Nonparametric and High-Dimensional Statistics—Invited

IMS, Statistical Learning and Data Mining Section, Biometrics Section

Organizer(s): Han Liu, Princeton University
Chair(s): Lie Wang, Massachusetts Institute of Technology

10:35 a.m. **Simple Tiered Classifiers**—✦Peter Gavin Hall, University of Melbourne; Jinghao Xue, University College London; Yingcun Xia, National University of Singapore

11:05 a.m. **Sparse PCA: Optimal Rates and Adaptive Estimation**—✦Tony Cai, University of Pennsylvania

11:35 a.m. **Statistical Inference in Compound Functional Models**—✦Alexandre Tsybakov, CREST-ENSAE

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

## 326 CC-513b

### Critical Aspects of Dose-Finding in Drug Development—Invited

Biopharmaceutical Section, Biometrics Section

Organizer(s): David I. Ohlssen, Novartis
Chair(s): David I. Ohlssen, Novartis

10:35 a.m. **Contribution of Different Design Components to the Efficiency of Response-Adaptive Dose-Ranging Studies**—✦Vladimir Dragalin, Aptiv Solutions

11:00 a.m. **Leveraging Longitudinal Data in Dose-Finding Studies**—✦Chyi-Hung Hsu, Janssen Research & Development; Jose Carlos Pinheiro, Janssen Research & Development

11:25 a.m. **Sizing a Phase IIb Trial: Using the Predictive Values from a Nonlinear Model**—✦Jerry John Weaver, Novartis Pharmaceuticals Corporation

11:50 a.m. Disc: Yanming Yin, FDA

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

## 327 CC-520c

### ■ Analytics and Data Visualization in Professional Sports—Invited

Section on Statistics in Sports, Section on Statistical Graphics, Section on Statistical Computing

Organizer(s): Elaine Allen, University of California at San Francisco

Chair(s): Julia E. Seaman, University of California at San Francisco

10:35 a.m. **Disability-Adjusted Player Days: Epidemiology and Analytics in Baseball—**✦Elaine Allen, University of California at San Francisco; Julia E. Seaman, University of California at San Francisco

11:00 a.m. **Openwar: An Open Source System for Overall Player Performance in Major League Baseball—**✦Benjamin S. Baumer, Smith College; Shane T. Jensen, The Wharton School; Gregory Matthews, University of Massachusetts

11:25 a.m. **Geek or Sheik: Is Data in Sports Just for Super Fans?—**✦Ryan Zander, Sportvision

11:50 a.m. **Analytics for Fantasy Basketball—**✦George Recck, Babson College

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

## 328 CC-516d

### ■ ● The Secret Weapon of the Dark Knight Against the Joker: Statistical Methods for Big and Massive Data Sets—Invited

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

Organizer(s): Xingye Qiao, Binghamton University; Lingsong Zhang, Purdue University

Chair(s): Xingye Qiao, Binghamton University

10:35 a.m. **Modeling Visual Cortex V4 in Naturalistic Conditions with Invariant and Sparse Image Representations—**✦Bin Yu, University of California at Berkeley; Julien Mairal, Inria, Grunobel; Yuval Benjamini, University of California at Berkeley; Michael Oliver, University of California at Berkeley; Ben Willmore, University of Oxford Jack Gallant, University of California at Berkeley

11:00 a.m. **Recent Research on Deep Learning for AI—**✦Yoshua Bengio, University of Montréal

11:25 a.m. **Working with Massive and Raw Data for Power Grid Maintenance in NYC—**✦David Madigan, Columbia University; Cynthia Rudin, Massachusetts Institute of Technology; Rebecca Passonneau, Columbia University; Axinia Radeva, Columbia University; Steve Ierome, Consolidated Edison; Delfina Isaac, Consolidated Edison

11:50 a.m. **Bayesian Manifold Learning—**✦David B. Dunson, Duke University

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

## 329 CC-518

### ■ Recent Advances in the Design of Multi-Stratum Experiments—Invited

Section on Physical and Engineering Sciences, Quality and Productivity Section

Organizer(s): Peter Goos, University of Antwerp

Chair(s): Bradley A. Jones, SAS Institute, JMP Division

10:35 a.m. **Fractional Factorial Designs for Multistep Processes—**Jose Gregorio Ramirez, Amgen, Inc.; Murat Kulahci, Technical University of Denmark; ✦Randall David Tobias, SAS Institute

11:00 a.m. **Constructing General Orthogonal Fractional Factorial Split-Plot Designs—**✦Eric D Schoen, TNO, Department of Quality and Safety; Bagus Sartono, IPB; Peter Goos, University of Antwerp

11:25 a.m. **Use and Construction of Hasse Diagrams for Industrial Experiments Involving Restricted Randomization—**✦Heiko Grossmann, Queen Mary University of London

11:50 a.m. **Optimal Split-Plot Designs for Fixed-Effect and Variance-Component Estimation—**✦Peter Goos, University of Antwerp; Kalliopi Mylona, University of Southampton; Bradley A. Jones, SAS Institute, JMP Division

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

## 330 CC-511a

### ■ ● Environmental Degradation, Health Care, and Education: Risk Topics of Global Interest—Invited

Section on Risk Analysis, Mental Health Statistics Section, Section on Statistics and the Environment, Health Policy Statistics Section, Scientific and Public Affairs Advisory Committee, Statistics Without Borders

Organizer(s): Alexandra Kapatou, American University

Chair(s): Duane L. Steffey, Exponent

10:35 a.m. **Malnutrition-Environmental Degradation, Risk Tradeoffs with Special Emphasis on Wheat Protein Forecasting—**✦Michael E. Tarter, University of California at Berkeley

11:05 a.m. **Adjustment of Health Care Risk Estimates Based on Observational Data—**✦Kenneth Lopiano, SAMSI; Robert L. Obenchain, Risk Benefit Statistics LLC

11:35 a.m. **Improving Risk Literacy Through Supplemental Instruction—**✦Alexandra Kapatou, American University

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

331 CC-516e

## ■ Standardizing Methods for Margin and Uncertainty Analysis in Engineering Applications—Invited

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

Organizer(s): Alix Robertson, Sandia National Laboratories

Chair(s): Kathleen Diegert, Sandia National Laboratories

10:35 a.m. **Relating Margin to Engineering Performance**—✦Rene Lynn Bierbaum, Sandia National Laboratories

10:55 a.m. **A Tolerance Interval Approach for Physical Simulation Quantification of Margins and Uncertainties**—✦Justin T. Newcomer, Sandia National Laboratories

11:15 a.m. **Construction and Use of Tolerance Bounds Based on Binary Data to Assess Margin and Uncertainty**—✦Alix Robertson, Sandia National Laboratories; Edward V. Thomas, Sandia National Laboratories

11:35 a.m. **Methods for QMU Using Computational Simulation When Resources Are Limited**—✦Brian Milne Rutherford, Sandia National Laboratories

11:55 a.m. **Statistical Engineering Case Studies for Weapon System Reliability**—✦Joseph Davis Warfield, The Johns Hopkins University

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

332 CC-710b

## Medallion Lecture V—Invited

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

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

Chair(s): David Brillinger, University of California at Berkeley

10:35 a.m. **Pointing in New Directions**—✦Peter Guttorp, University of Washington; Aila Särkkä, Chalmers Technicl University; Thordis Thorarinsdottir, Norwegian Computing Center

Disc: Bruce Smith, Dalhousie University

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

# Invited Panels 10:30 a.m.–12:20 p.m.

333 CC-516b

## ■ ● Educating Future Leaders in Statistics and Maximizing the Likelihood of Leadership: Perspectives from and on Women in Statistics—Invited

Caucus for Women in Statistics, Statistics Without Borders

Organizer(s): Yulia R. Gel, University of Waterloo

Chair(s): Amanda L. Golbeck, University of Montana

**Panelists:** ✦Sally Morton, University of Pittsburgh

✦Cynthia Clark, USDA

✦Sallie Ann Keller, University of Waterloo

✦Roy Welsch, Massachusetts Institute of Technology

✦Sylvia Esterby, University of British Columbia

✦Kelly Zou, Pfizer Inc.

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

334 CC-515b

## Measuring Relationships in U.S. Federal Household Surveys—Invited

Government Statistics Section, Social Statistics Section, Section on Statistics in Epidemiology, Scientific and Public Affairs Advisory Committee

Organizer(s): Brian A. Harris-Kojetin, U.S. Office of Management and Budget

Chair(s): Brian A. Harris-Kojetin, U.S. Office of Management and Budget

**Panelists:** ✦Jamie Lewis Thomas, U.S. Census Bureau

✦Paul J. Scanlon, National Center for Health Statistics

✦Virginia Caine, National Center for Health Statistics

11:35 a.m. Disc: Kimber Bogard, Institute of Medicine/National Research Council

11:55 a.m. Disc: Gary J. Gates, University of California at Los Angeles School of Law

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

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

## 335 CC-511d

### ■ Novel Approaches for Modeling Variance in Longitudinal Studies—Topic-Contributed

Health Policy Statistics Section, Survey Research Methods Section, Section on Statistics in Epidemiology

Organizer(s): Juned Siddique, Northwestern University

Chair(s): Warren Comulada, University of California at Los Angeles Center for Community Health

10:35 a.m. **Methods for Studying Variability as a Predictor of Health Status**—✦Michael Elliott, University of Michigan; Bei Jiang, University of Michigan; Naisyin Wang, University of Michigan

10:55 a.m. **Bayesian Mixed-Effects Location Scale Models for the Analysis of Objectively Measured Physical Activity Data from a Lifestyle Intervention Trial**—✦Juned Siddique, Northwestern University; Donald Hedeker, University of Illinois at Chicago; Bonnie Spring, Northwestern University Feinberg School of Medicine

11:15 a.m. **Exploring the Relations Among Different Levels of Intraindividual Variability and Longitudinal Change in an Intensive Measurement Burst Design Study**—✦Philippe Rast, University of Victoria

11:35 a.m. **A Location Scale Item Response Theory (IRT) Model for Analysis of Ordinal Questionnaire Data**—✦Donald Hedeker, University of Illinois at Chicago; Robin Mermelstein, University of Illinois at Chicago; Hakan Demirtas, University of Illinois at Chicago

11:55 a.m. **Detangling the Effect Between Rate of Change and Within-Subject Variability in Longitudinal Risk Factors and Associations with a Binary Health Outcome**—✦Mary Sammel, University of Pennsylvania

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

## 336 CC-525b

### Endogeneity, Systems, and Markets—Topic-Contributed

Section on Statistics in Marketing

Organizer(s): Lynd D. Bacon, Loma Buena Associates

Chair(s): Nino Hardt, The Ohio State University, Fisher College of Business

10:35 a.m. **Modeling Choice Interdependence in a Social Network**—✦Anocha Aribarg, University of Michigan; Yves Atchade, University of Michigan; Jing Wang, McKinsey-Beijing

10:55 a.m. **Dealing with Endogeneity in Models of Discrete Choice Games**—✦Ayse Yesim Orhun, University of Michigan

11:15 a.m. **Modeling Endogeneity in the Formation of Trust Relationships Online**—✦William Rand, Center for Compexity in Business; Hossam Sharara, Google; Lise Getoor, University of Maryland

11:35 a.m. **Using Hidden Markov Models to Identify Job Seekers from Social Network Data**—✦Peter Ebbes, HEC Paris; Oded Netzer, Columbia University

11:55 a.m. **Quantifying the Spillover Effects of Customer Satisfaction**—✦Xiaojing Dong, Santa Clara University; Pradeep Chingtagunta, The University of Chicago

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

## 337 CC-511b

### ■ Statistics in Forensic Science—Topic-Contributed

Committee of Representatives to AAAS, Ad Hoc Advisory Committee on Forensic Science, Section on Statistics in Defense and National Security, Section on Physical and Engineering Sciences, Scientific and Public Affairs Advisory Committee

Organizer(s): Christopher Saunders, South Dakota State University

Chair(s): Matthew Schofield, University of Kentucky

10:35 a.m. **On Desiderata for Score-Based Likelihood Ratios for Forensic Evidence**—✦Christopher Saunders, South Dakota State University; John J. Miller, George Mason University

10:55 a.m. **A Quality Metric for Assessing Quality of Individual Minutiae in Latent Fingerprints**—✦Karen Kafadar, Indiana University; Adele Peskin, NIST-Boulder; Elham Tabassi, NIST-Gaithersburg

11:15 a.m. **A Similarity Score for Fingerprint Images**—✦Donald Gantz, George Mason University; Mark A. Walch, Gannon Technologies Group; Daniel T. Gantz, Gannon Technologies Group; John J. Miller, George Mason University

11:35 a.m. **Alternative Measures of Association Quality in Algorithmic Toolmark Identification**—✦Nicholas Petraco, City University of New York, John Jay College of Criminal Justice

11:55 a.m. Disc: Hal S. Stern, University of California

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

## 338 CC-512f

## ● Fresh Perspectives on Causal Inference—Topic-Contributed

Section on Statistics in Epidemiology, Biometrics Section

Organizer(s): Susan Gruber, Harvard School of Public Health

Chair(s): Susan Gruber, Harvard School of Public Health

10:35 a.m. **The Estimation of Direct and Indirect Causal Effects in the Presence of Misclassified Binary Mediator**—✦Linda Valeri, Harvard University; Tyler J. VanderWeele, Harvard School of Public Health

10:55 a.m. **A Stochastic Intervention Approach to Causal Mediation in a Survival Setting**—✦Wenjing Zheng, University of California at Berkeley; Mark Van der Laan, University of California at Berkeley

11:15 a.m. **Determining the Predictors for Negative HIV Outcomes Under a Suppressive ART Regime**—✦Mireille Schnitzer, Harvard School of Public Health; Judith J. Lok, Harvard School of Public Health; Ronald J. Bosch, Harvard School of Public Health

11:35 a.m. **Variable Importance and Prediction Methods for Longitudinal Problems with Missing Variables**—✦Ivan Diaz, University of California at Berkeley; Alan Hubbard, University of California at Berkeley; Anna Decker, University of California at Berkeley; Mitch Cohen, University of California at San Francisco

11:55 a.m. **Evaluating Treatment Effectiveness Under Model Misspecification: A Comparison of Targeted Maximum Likelihood Estimation with Bias-Corrected Matching**—✦Noemi Kreif, London School of Hygiene and Tropical Medicine; Susan Gruber, Harvard School of Public Health; Rosalba Radice, Birkbeck, University of London; Richard Grieve, London School of Hygiene and Tropical Medicine; Jasjeet S. Sekhon, University of California at Berkeley

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

## 339 CC-510d

## ■ Design of Confirmatory Clinical Trials with Flexibility and Adaptability: Case Studies and Discussions—Topic-Contributed

Biopharmaceutical Section, Mental Health Statistics Section, Biometrics Section, International Indian Statistical Association

Organizer(s): Yili Lu Pritchett, Astellas Pharma Global Development, Inc.

Chair(s): Qi Tang, AbbVie

10:35 a.m. **Confirmatory Enrichment Design: Adequate and Well-Controlled Trials with Population Selection**—✦Scott M. Berry, Berry Consultants

10:55 a.m. **Adaptive Sample Size Re-Estimation for Time-to-Event Confirmatory Studies with Application to the Design of a CV/Renal Outcome Study**—✦Yili Lu Pritchett, Astellas Pharma Global Development, Inc.; Hui Tang, AbbVie

11:15 a.m. **Information-Based Sample Size Re-Estimation for Longitudinal Trials**—✦Jing Zhou, The University of North Carolina at Chapel Hill; Yue Shentu, Merck; Jiajun Liu, Regeneron Pharmaceuticals, Inc.; Keaven Anderson, Merck Research Laboratories

11:35 a.m. **Practical Comparison of Sample Size Re-Estimation and Group Sequential Designs: Case Studies**—✦William Prucka, Eli Lilly and Company

11:55 a.m. Disc: Cyrus Mehta, Cytel Inc.

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

## 340 CC-514c

## Statistical Methods for Identification of Biosignatures of Treatment Response—Topic-Contributed

Mental Health Statistics Section, Biometrics Section

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

Chair(s): Yuanjia Wang, Columbia University

10:35 a.m. **Canonical K-Means Clustering for Constructing Moderator Importance Plots**—✦Thaddeus Tarpey, Wright State University; Eva Petkova, New York University

10:55 a.m. **Modeling Strategies for Developing Treatment Response Indices**—✦Eva Petkova, New York University

11:15 a.m. **Model Selection Criteria Based on Computationally Intensive Estimators of the Expected Optimism**—✦Joseph Cavanaugh, University of Iowa

11:35 a.m. **Functional Data Analytic Approaches to Identifying Biosignatures Based on Imaging Data**—✦R. Todd Ogden, Columbia University

11:55 a.m. Disc: Melanie M. Wall, Columbia University

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

## 341 CC-513a

## ■ Daily Predictions of Key Estimates and Models to Detect Nonsampling Errors in Census Bureau Household Surveys—Topic-Contributed

Survey Research Methods Section

Organizer(s): Reid Rottach, US Census Bureau

Chair(s): Edwin Robison, Bureau of Labor Statistics

10:35 a.m. **Challenges Faced in the Daily Modeling of Survey Responses**—✦Reid Rottach, U.S. Census Bureau; Mahdi Sundukchi, U.S. Census Bureau; Norilsa Toribio, U.S. Census Bureau

10:55 a.m. **Monitoring Key Estimates and Costs from the National Health Interview Survey Throughout the Realignment of Census Bureau Regional Offices**—✦Norilsa Toribio, U.S. Census Bureau; Reid Rottach, U.S. Census Bureau

11:15 a.m. **The Effect of the U.S. Census Bureau Realignment on the National Crime Victimization Survey and the Consumer Expenditure Quarterly Interview Survey**—✦Lindsay Longsine, U.S. Census Bureau; Danielle Castelo, U.S. Census Bureau

11:35 a.m. **Applications of Statistical Models That Detect Daily Changes Using Key Estimates from the American Community Survey Due to the U.S. Census Bureau Regional Office Restructure**—✦Lindsay McMillan, U.S. Census Bureau; Robyn Sirkis, U.S. Census Bureau

11:55 a.m. **Demographic Data-Monitoring System: Technology Used to Track Survey Quality**—✦Andre Harper, U.S. Census Bureau; Brian Dumbacher, U.S. Census Bureau

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

## 342 CC-511c

## ■ ● Current Research on Students' Attitudes Toward Statistics—Topic-Contributed

Section on Statistical Education

Organizer(s): Marjorie Bond, Monmouth College
Chair(s): Michael Posner, Villanova University

10:35 a.m. **Psychometric Properties of the Turkish Version of the Survey of Attitudes Toward Statistics**—✦Esma Emmioglu, Simon Fraser University

10:55 a.m. **The Effect of Conceptualization and Content Perception on Affect and Difficulty Subscales of the Survey of Attitudes Toward Statistics**—✦Marjorie Bond, Monmouth College; Susan Perkins, Northwest Nazarene University; Caroline Ramirez, University of the Pacific

11:15 a.m. **Examining Introductory Students' Attitudes in a Randomization-Based Curriculum**—✦Joshua Beemer, California Polytechnic State University at San Luis Obispo

11:35 a.m. **Comparing Apples with Apples: Assessing Student Attitudes in the Presence of Regression to the Mean**—✦Anne Michele Millar, Mount Saint Vincent University; Bethany White, Western University

11:55 a.m. Disc: Candace Schau, CS Consultants, LLC

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

## 343 CC-515c

## ■ ● Stories of Pioneer Statisticians: Impacts of Statistics in Early-Phase Drug Development—Topic-Contributed

International Chinese Statistical Association

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

10:35 a.m. **Preclinical to Human Translation: Correctable Errors?**—✦Mandy Bergquist, GlaxoSmithKline

10:55 a.m. **Efficient Design and Analysis for Tumor Xenograft Efficacy Studies**—✦Gregory Hather, Millennium: The Takeda Oncology Company; Ray Liu, Millennium: The Takeda Oncology Company; Syamala Bandi, Millennium: The Takeda Oncology Company; Wen Chyi Shyu, Millennium: The Takeda Oncology Company; Mark Manfredi, Millennium: The Takeda Oncology Company; Arijit Chakravarty, Millennium: The Takeda Oncology Company; Jill Donelan, Millennium: The Takeda Oncology Company

11:15 a.m. **Making an Impact with Customized and Automated Statistical Solutions: A Successful Example**—✦Lei Zhou, Amgen, Inc.; Cheng Su, Amgen, Inc.; Michael Eschenberg, Amgen, Inc.

11:35 a.m. **Efficient Outlier Identification in Lung Cancer Study**—✦Shibing Deng, Pfizer Inc.

11:55 a.m. **On the Development of a New Framework for the Joint Analysis of Genomic and Pharmacological Data**—✦Haisu Ma, Yale University; Ray Liu, Millennium: The Takeda Oncology Company

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

## 344 CC-516a

## ■ The World of Statistical Analysis Professionals—Topic-Contributed

Section for Statistical Programmers and Analysts, WNAR

Organizer(s): Nancy Wang, Celerion
Chair(s): Nancy Wang, Celerion

10:35 a.m. **Working in Biostatistics and Data Programming Management in an Early Phase--Focused CRO**—✦Tamara Cuddy, Celerion

10:55 a.m. **Career and Collaboration Opportunities at SAS**—✦John Castelloe, SAS Institute

11:15 a.m. **Advanced Analytics and Leadership for Statistical Programmers at Eli Lilly**—✦Jyoti Rayamajhi, Eli Lilly and Company

11:35 a.m. **Then and Now: A Career as a Statistician in Three Different Industries**—✦Mark Matthews, Inventiv Health Clinical

11:55 a.m. **Statistics in Operational Risks**—✦Colin Chen, Wells Fargo

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

345 CC-520d

## SBSS Student Paper Travel Award Winners II—Topic-Contributed

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

Organizer(s): Peter Thall, The University of Texas MD Anderson Cancer Center

Chair(s): Jean A. Roayaei, National Institutes of Health, National Cancer Institute

10:35 a.m. **Nonparametric Bayesian Inference for Mean Residual Life Functions in Survival Analysis—** ✦Valerie Poynor

10:55 a.m. **Spatial Regression Modeling for Compositional Data with Many Zeros—**✦Thomas Leininger, Duke University; Alan E. Gelfand, Duke University; Jenica Allen, University of Connecticut; John Silander, Jr., University of Connecticut

11:15 a.m. **Heteroscedastic CAR Models for Areally Referenced Temporal Processes with an Application to California Asthma Hospitalization Data—** ✦Harrison Quick, University of Minnesota; Bradley P. Carlin, University of Minnesota; Sudipto Banerjee, University of Minnesota

11:35 a.m. **Locally Adaptive Bayesian Covariance Regression—** ✦Daniele Durante, University of Padua; Bruno Scarpa, University of Padua; David B. Dunson, Duke University

11:55 a.m. **Posterior Convergence Rates for Estimating Large Precision Matrices Using Graphical Models—** ✦Sayantan Banerjee, North Carolina State University; Subhashis Ghosal, North Carolina State University

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

346 CC-520a

## Savage Award Finalist—Topic-Contributed

International Society for Bayesian Analysis (ISBA)

Organizer(s): Shane Reese, Brigham Young University

Chair(s): Alexandra M. Schmidt, Universidade Federal do Rio de Janeiro

10:35 a.m. **Small Areas, Benchmarking, and Political Battles: Today's Novel Demands in Small-Area Estimation—** ✦Rebecca C. Steorts, Carnegie Mellon University

10:55 a.m. **Dependent Completely Random Measures and Statistical Applications—**✦Bernardo Nipoti, University of Turin and Collegio Carlo Alberto

11:15 a.m. **Bayesian Shrinkage in High Dimensions—** ✦Anirban Bhattacharya, Duke University

11:35 a.m. **Floor Discussion**

347 CC-524a

## Recent Advances in Financial and Economic Statistics—Topic-Contributed

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

Organizer(s): Jian Zou, Indiana University-Purdue University Indianapolis

Chair(s): Xia Wang, University of Cincinnati

10:35 a.m. **Matching Quantiles Estimation—**✦Qiwei Yao, London School of Economics

10:55 a.m. **Optimal Sparse Volatility Matrix Estimation for High-Dimensional Ito Processes with Measurement Errors—**✦Minjing Tao, University of Wisconsin-Madison; Yazhen Wang, University of Wisconsin-Madison; Harrison Zhou, Yale University

11:15 a.m. **Large Portfolio Allocation Using High-Frequency Financial Data—**✦Jian Zou, Indiana University-Purdue University Indianapolis; Yichao Wu, North Carolina State University

11:35 a.m. **What's Beneath the Surface? Option Pricing with Multifrequency Latent States—**✦Laurent Calvet, HEC Paris; Marcus Fearnley, HEC Paris; Adlai Fisher, University of British Columbia; Markus Leippold, University of Zurich

11:55 a.m. **Ensemble Subsampling for Imbalanced Multivariate Two-Sample Tests—**✦Lisha Chen, Yale University; Wei Dou, Massachusetts Institute of Technology; Zhihua Qiao, JPMorgan Chase

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

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

348 CC-510a

## ■ Teaching Through Collaboration: Lessons from Clinical and Translational Science for Biostatisticians and Teachers of Statistics in the Health Sciences—Topic-Contributed

Section on Teaching of Statistics in the Health Sciences

Organizer(s): Misrak Gezmu, National Institutes of Health/National Institute of Allergy and Infectious Diseases

Chair(s): Laura Lee Johnson, National Center for Complementary and Alternative Medicine

**Panelists:** ✦Christopher Lindsell, University of Cincinnati
✦Leah Welty, Northwestern University
✦Melissa Begg, Columbia University
✦Thomas Love, Case Western Reserve University
✦Mary Putt, University of Pennsylvania

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

# SAVE THE DATE

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## *Innovations and Best Practices for the Applied Statistician*

February 20–22, 2014, Tampa, FL

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American Statistical Association Conference on
STATISTICAL PRACTICE
**Tampa, Florida** **February 20-22** **2014**

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

## 349 CC-512c

### ■ Frontiers in Statistical Genetics and Genomics—Contributed

Biometrics Section, Scientific and Public Affairs Advisory Committee

Chair(s): Janet Sinsheimer, University of California at Los Angeles

10:35 a.m. **Fast and Robust Association Testing for High-Throughput Testing**—✦Fred Wright, The University of North Carolina; Yihui Zhou, The University of North Carolina at Chapel Hill

10:50 a.m. **An Intuitive Correspondence Measure for Compositional Data with Applications in Understanding Metagenomic Systems**—✦Z. John Daye, University of Arizona; Lingling An, University of Arizona

11:05 a.m. **Regularization Methods for High-Dimensional Instrumental Variables Regression with an Application to Genetical Genomics**—✦Wei Lin, University of Pennsylvania; Rui Feng, University of Pennsylvania; Hongzhe Li, University of Pennsylvania

11:20 a.m. **Functional Linear Models for Association Analysis of Quantitative Traits**—✦Ruzong Fan, National Institutes of Health; Yifan Wang, National Institutes of Health; Momiao Xiong, The University of Texas; James L. Mills, NICHD, National Institutes of Health; Alexander F. Wilson, NHGRI, National Institutes of Health; Joan E. Bailey-Wilson, NHGRI, National Institutes of Health

11:35 a.m. **Consistency of Principal Component Scores in High-Dimensional Data**—✦Kristoffer Hellton, University of Oslo; Magne Thoresen, Institute of Basic Medical Sciences, University of Oslo

11:50 a.m. **On Estimating the Age-Dependent Population Attributable Fractions from Population-Based Case-Control Data**—✦Wei Zhao

12:05 p.m. **A Comprehensive Analytical Pipeline for a Genome-Wide Association Study of Bronchopulmonary Dysplasia: From SNP to Copy Number Variation and from Gene to Pathway**—✦Hui Wang, Stanford University; Krystal R. St. Julien, Stanford School of Medicine; David K. Stevenson, Stanford School of Medicine; Thomas J. Hoffmann, University of California at San Francisco; John S. Witte, University of California at San Francisco; Laura C. Lazzeroni, Stanford University; Mark A. Krasnow, Stanford School of Medicine; Cele C. Quaintance, Stanford School of Medicine; John W. Oehlert, Stanford School of Medicine; Laura L. Jelliffe-Pawlowski, California Genetic Disease Screening Program; Jeffrey B. Gould, Stanford School of Medicine; Gary M. Shaw, Stanford School of Medicine; Hugh O'Brodovich, Stanford School of Medicine

## 350 CC-512d

### Joint Model of Longitudinal and Survival Data—Contributed

Biometrics Section

Chair(s): Susan Stewart, University of California at Davis

10:35 a.m. **Joint Model of Multiple Longitudinal Processes and Survival Outcome**—✦Lili Yang, Indiana University School of Medicine; Sujuan Gao, Indiana University School of Medicine

10:50 a.m. **An Application of the Mediation Effect on Multivariate Survival Model with Time-Varying Covariates**—✦Yii-Chieh Huang, Kaiser Permanente; Karen J. Coleman, Kaiser Permanente; Corinna Koebnick, Kaiser Permanente; Kristi Reynolds, Kaiser Permanente; Anny H. Xiang, Kaiser Permanente; Mary Helen Black, Kaiser Permanente; Sami Alskaf, Kaiser Permanente

11:05 a.m. **Modeling Left-Truncated and Right-Censored Survival Data with Longitudinal Covariates**—✦Yu-Ru Su, National Cheng Kung University; Jane-Ling Wang, University of California at Davis

11:20 a.m. **Alternative Conditional Estimation of Time-Dependent and Nonlinear Effects of Covariates on the Hazard**—✦Willy Wynant, McGill University; Michal Abrahamowicz, McGill University; Amel Mahboubi, McGill University

11:35 a.m. **Joint Structure Selection and Estimation in Time-Varying Coefficient Cox Model**—✦Wei Xiao, North Carolina State University; Wenbin Lu, North Carolina State University

11:50 a.m. **A Joint Survival-Longitudinal Modelling Approach for the Dynamic Prediction of Rehospitalization in Telemonitored Chronic Heart Failure Patients**—✦Edmund Njeru Njagi, I-Biostat, Hasselt University; Dimitris Rizopoulos, Erasmus MC; Geert Molenberghs, Universiteit Hasselt & Katholieke Universiteit Leuven; Paul Dendale, Jessa Hospital, Heart Centre Hasselt; Koen Willekens, Katholieke Universiteit Leuven

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

## 351 CC-520f

## ■ Ambient Exposure to Air Pollution and Health: Statistical Issues and Modeling Approaches—Contributed

Section on Statistics and the Environment, Health Policy Statistics Section

Chair(s): Jenna Krall, The Johns Hopkins University

10:35 a.m. **Spatio-Temporal Patterns and Variation of Common PM Metals**—✦Boubakari Ibrahimou, Western Kentucky University and University of South Florida; Yiliang Zhu, University of South Florida

10:50 a.m. **Impact of Monitoring Network Design on Exposure Prediction and Measurement Error**—✦Adel Lee; Lianne Sheppard, University of Washington

11:05 a.m. **Bias in CMAQ Prediction for Ozone Concentration**—✦Ryan Durden, North Carolina State University; Sarah Cummings, North Carolina State University

11:20 a.m. **Bias Analysis for the Use of Spatially Predicted Air Pollution Exposures in Linear Models of Air Pollution Health Effects**—✦Stacey Alexeeff, Harvard University; Raymond J. Carroll, Texas A&M University; Brent A. Coull, Harvard School of Public Health

11:35 a.m. **A Novel Principal Component Analysis for Spatially Misaligned Multivariate Air Pollution Data**—✦Roman Jandarov, University of Washington; Adam Szpiro, University of Washington

11:50 a.m. **The Association Between Air Pollutants and Birth Weight Using Various Buffer Sizes**—✦Keita Ebisu, Yale University; Kathleen Belanger, Yale University; Michelle Bell, Yale University

12:05 p.m. **Investigating the Health Risks Associated with Long-Term Exposure to Coarse PM**—✦Helen Louise Powell, Johns Hopkins Bloomberg School of Public Health; Roger D. Peng, The Johns Hopkins University

## 352 CC-521ab

## Nonparametric Regression—Contributed

Section on Nonparametric Statistics, Korean International Statistical Society

Chair(s): Dawn B. Woodard, Cornell University

10:35 a.m. **Penalized Regression Spline Modeling of Dose-Response Functions and Its Application to Monitoring Malaria Drug Resistance in Drug Assays**—✦Samiha Sarwat; Jaroslaw Harezlak, Indiana University Fairbanks School of Public Health; Clarissa Valim, Harvard School of Public Health

10:50 a.m. **Efficiently Estimating the Error Distribution Function in Nonparametric Regression with Responses Missing at Random**—✦Justin Chown, Texas A&M University; Ursula U. Mueller, Texas A&M University

11:05 a.m. **Bayesian Semiparametric Inference for Frailty Model Using Levy Process Priors with Example**—✦Avik Halder, Queen's University; Glen Takahara, Queen's University

11:20 a.m. **A Nonparametric Method for Assessment of Interactions in a Survival Analysis Regression Model Based on Right-Censored Data**—✦MinJae Lee; Mohammad Rahbar, University of Texas Health Science Center

11:35 a.m. **Partially Linear Additive Quantile Regression with Missing Covariates**—✦Ben Sherwood, University of Minnesota

11:50 a.m. **Iteratively Reweighted Generalized Rank-Based Method in Mixed Models**—✦Yusuf Bilgic, State University of New York at Geneseo; Joseph McKean, Western Michigan University

12:05 p.m. **Constrained Spline Regression in the Presence of Correlated Errors**—✦Huan Wang, Colorado State University; Mary Meyer, Colorado State University; Jean Opsomer, Colorado State University

## 353 CC-512e

## Modeling Clinical Trial Data: PK and Other Applications—Contributed

Biopharmaceutical Section, Biometrics Section

Chair(s): John Han, Janssen Research & Development

10:35 a.m. **Unified Assessment of QTc and PK Concentration Data in a Thorough QTc Study Using an Index Set, Indexed by Monotonic Order of PK Concentrations**—✦Anura Abeyratne, Astellas Pharma Global Development, Inc

10:50 a.m. **Assessment on Efficiency of Drug Delivery via ET(p) Under Nonlinear Mixed Effects Models**—✦Qianqiu Li, Janssen Research & Development; Kedar Gokhale, Janssen Research & Development; Chao Wang, Janssen Research & Development; Dhammika Amaratunga, Janssen Research & Development

11:05 a.m. **On Optimal Model-Based Design of Pharmacokinetic/Pharmacodynamic Studies**—✦Sergei Leonov, AstraZeneca

11:20 a.m. **Model-Based Power Calculations for Clinical Pharmacology Studies with Illustration Using SAS Proc Power**—✦Peng Sun, GlaxoSmithKline

11:35 a.m. **Generalized Response Surface Models for Assessing Synergistic Effects of Three or More Drugs**—✦John Oleynick, Janssen Research and Development; Yong Lin, University of Medicine and Dentistry of New Jersey; Dirk Moore, University of Medicine and Dentistry of New Jersey; Weichung Joe Shih, University of Medicine and Dentistry of New Jersey

11:50 a.m. **Generalized Optimal Design for Two-Arm, Randomized Phase II Clinical Trials with Endpoints from the Single Parameter Exponential Family**—✦Wei Jiang, University of Kansas Medical Center; Jonathan Mahnken, University of Kansas Medical Center; Jianghua He, University of Kansas Medical Center; Matthew S. Mayo, University of Kansas Medical Center

12:05 p.m. **Adjusting for Partially Missing Baseline Measurements with Nonlinear Models in Randomized Trials**—✦Chunyao Feng, Amgen, Inc.; Chunlei Ke, Amgen, Inc.

## 354 CC-525a

## ■ Multivariate SPC and Profile Monitoring—Contributed

Quality and Productivity Section

Chair(s): Sharad Prabhu, SAS Institute

10:35 a.m. **Multivariate JS-Type Control Charts**—✦Hsiuying Wang, National Chiao Tung University

10:50 a.m. **Results of the Development of a Nonparametric Signed-Rank MEWMA Control Chart for Monitoring Location Process**—✦Jamil Zeinab, University of Northen Colorado; Jay Schaffer, University of Northern Colorado

11:05 a.m. **Performance of Processes with Multiple Variables**—✦Amitava Mitra, Auburn University

11:20 a.m. **Profile Monitoring Using Artificial Neural Network**—✦Yi-Hua Wang; Jen Tang, Purdue University

11:35 a.m. **Cluster-Based Profile Monitoring in Phase I Analysis**—✦Yajuan Chen, Virginia Tech; Jeffrey B. Birch, Virginia Tech; William H. Woodall, Virginia Tech

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

## 355 CC-510b

## ■ Statistical Issues in Noninferiority Trials—Contributed

Biopharmaceutical Section, Biometrics Section, Korean International Statistical Society

Chair(s): Anna Nevius, FDA/CVM

10:35 a.m. **Covariate Effect on Constancy Assumption in Noninferiority Clinical Trials**—✦Siyan Xu, Boston University; Kerry Barker, Pfizer Inc.; Sandeep Menon, Pfizer Inc.; Ralph D'Agostino, Sr., Boston University

10:50 a.m. **Misspecification of Event Rates and Sample Size Re-Evaluations in Noninferiority Trials**—✦Hwasoon Kim, The University of Alabama at Birmingham; Jeff M. Szychowski, The University of Alabama at Birmingham

11:05 a.m. **Choosing a Noninferiority Margin for NI Trials in Infectious Disease Therapeutic Area**—✦Jing Zhao, BMS; Seth Thompson, Merck

11:20 a.m. **Determine the Primary Endpoint in Infection Disease Studies**—✦Chunzhang Wu, Astellas Pharma Global Development, Inc.

11:35 a.m. **Two Approaches to Noninferiority Margin Derivation**—✦Kaihong Jiang, Sanofi; Xuezhou Mao, Columbia University; William Stager, Consultant; Hui Quan, Sanofi; Marilyn Maroni, Sanofi

11:50 a.m. **A Comparison of Group Sequential Strategies for Three-Arm Noninferiority Trials**—✦Toshimitsu Ochiai, Shionogi & Co., Ltd.; Toshifumi Sugitani, Osaka University Graduate School of Medicine; Yuko Ohno, Osaka University Graduate School of Medicine; Toshimitsu Hamasaki, Osaka University Graduate School of Medicine

12:05 p.m. **A Ranking Procedure of Significance Among Combined Noninferiority Studies Using Liapounov's Central Limit Theorem (LCLT)**—✦Jagannath Ghosh, PROUnlimited at Novartis; Mohamed Mubasher, Research and Scientific Publications Center

## 356 CC-524b

## ■ Financial Time Series Analysis—Contributed

Business and Economic Statistics Section, International Chinese Statistical Association

Chair(s): Carlos Carvalho, The University of Texas

10:35 a.m. **A Review of Tests for Randomness in Time Series Data**—✦Boris Iglewicz, Temple University; Alicia Graziosi Strandberg, Temple University

10:50 a.m. **Statistical Inference in Infinite-Order Cointegrated Vector Autoregressive Processes Under Uncorrelated but Dependent Errors**—✦Chafik Bouhaddioui, United Arab Emirates University

11:05 a.m. **Forecasting Multivariate Realized Stock Market Volatility: PCA or MFA?**—✦Xiaohang Wang, The University of Hong Kong; Jianhua Zhao, Yunnan University of Finance and Economics; Philip L.H. Yu, The University of Hong Kong

11:20 a.m. **Prior Specification in Multivariate Regime-Switching Lognormal Models**—✦Brian Hartman, University of Connecticut; David Engler, Brigham Young University

11:35 a.m. **Testing the Economic Value of Asset Return Predictability**—✦Michael McCracken, Federal Reserve Bank St. Louis

11:50 a.m. **Bootstrap Prediction Intervals for Conditional Heteroscedastic Models with Seasonally Varying Unconditional Variance—**✦Malaka Thilakaratne, Missouri University of Science & Technology; V. A. Samaranayake, Missouri University of Science and Technology

12:05 p.m. **Fitting Heavy-Tailed Nonlinear (Pareto) Autoregressive Time-Series Models—**✦Marcel Carcea; Robert Serfling, The University of Texas at Dallas

## 357 CC-519a
## Statistical Methodologies in Consulting—Contributed

Section on Statistical Consulting

Chair(s): James J. Grady, University of Connecticut Health Center

10:35 a.m. **On Sample Size Consideration in Nested Biological Data—**✦Borko Jovanovic, Northwestern University-Feinberg School of Medicine; Hariharan Subramanian, Northwestern University; Irene Helenowski, Northwestern University; Alfred Rademaker, Northwestern University; Angela Fought, Northwestern University; Hemant Roy, Northwestern University; Vadim Backman, Northwestern University

10:50 a.m. **Increasing Body Mass Index, Blood Pressure, and Acanthosis Nigricans Abnormalities in School-Age Children—**✦Xiaohui Wang, The University of Texas Pan American; Debra Otto, The University of Texas Pan American; Viola Garza, The University of Texas Pan American; Lilia Fuentes, The University of Texas Pan American; Pamela Sullivan, The University of Texas Pan American; Doreen Garza, The University of Texas Pan American; David Salazar, The University of Texas Pan American

11:05 a.m. **Statistical Approach for Prediction, Validation, and Creation of a Simple Score: An Application to a Neurocritical Care Study—**✦Jayawant Mandrekar, Mayo Clinic

11:20 a.m. **Using Logistic Regression for Inferences on Adjusted Estimates of Relative Risk in Randomized Comparative Trials—**✦William Johnson, Pennington Biomedical Research Center; William H. Replogle, University of Mississippi Medical Center; Hongmei Han, Pennington Biomedical Research Center

11:35 a.m. **Hidden Additivity in Complete Block Designs—**✦Jason Osborne, North Carolina State University; Christopher Franck, Virginia Tech

11:50 a.m. **A Regression Approach to Penalty Analysis to Assess the Relative Importance of JAR Attributes—**✦Jason Parcon, PepsiCo

12:05 p.m. **Marginalizable Conditional Model for Clustered Binary Data—**✦Rui Zhang; Gary Chan, University of Washington

## 358 CC-512ab
## ■ Teaching Outside the Box, Ever So Slightly—Contributed

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

Chair(s): Pat Humphrey, Georgia Southern University

10:35 a.m. **Introducing Statistical Inference with Resampling Methods (Part 1)—**✦Allan Rossman, Cal Poly at San Luis Obispo; Robin Lock, St. Lawrence University

10:50 a.m. **Introducing Statistical Inference with Resampling Methods (Part 2)—**✦Robin Lock, St. Lawrence University; Allan Rossman, Cal Poly at San Luis Obispo

11:05 a.m. **A Case Study on the Use of History in Statistics Classes: The Fisher-Neyman Dispute—**✦Ilhan Izmirli, George Mason University

11:20 a.m. **Why We Should Expose Students to Data of Questionable Quality, and How to Make Them Work to Obtain It—**✦William H. Rybolt, Babson College

11:35 a.m. **Introductory Statistics Students' Achievement in s Flipped-Concept Classroom Using Active Learning—**✦Natasha Gerstenschlager, Middle Tennessee State University; Ginger Rowell, Middle Tennessee State University; Nancy McCormick, Middle Tennessee State University; Lisa Green, Middle Tennessee State University; Jeremy Strayer, Middle Tennessee State University; Scott McDaniel, Middle Tennessee State University; Brandon Hanson, Middle Tennessee State University

11:50 a.m. **Teaching PhD Students How to Teach—**✦Kari Lock Morgan, Duke University

12:05 p.m. **Teaching Students How to Assess News Items That Have Statistical Content—**✦Alan Izenman, Temple University

## 359 CC-512g

## ■ Methods and Applications in Diagnostic Tests—Contributed

Section on Statistics in Epidemiology

Chair(s): Zhiwei Zhu, SCOR Global Life Americas

10:35 a.m. **A Model for Combining Case-Control and Cohort Studies in Systematic Reviews of Diagnostic Tests—** ✦Yulun Liu, The University of Texas School of Public Health; Yong Chen, The University of Texas School of Public Health; Jing Ning, The University of Texas MD Anderson Cancer Center; Haitao Chu, University of Minnesota School of Public Health; Janice Cormier, The University of Texas MD Anderson Cancer Center

10:50 a.m. **An Implement Method for Adjusted-AUC with Regarding Variance Estimate—**✦Chong Yau Fu, Institute of Public Health, National Yang-Ming University; Hsin-Yi Huang, Institute of Public Health, National Yang-Ming University

11:05 a.m. **Derivatives of Raman Spectra for Breast Cancer Diagnosis—**✦Richard Charnigo, University of Kentucky; Jing Guo, University of Kentucky; Cidambi Srinivasan, University of Kentucky; Ramachandra Dasari, Massachusetts Institute of Technology; Maryann Fitzmaurice, Case Western Reserve University; Abigail Haka, Cornell University

11:20 a.m. **Design of Repeated Sampling for Disease Detection Problem—**✦Yinan Fang, Iowa State University; Chong Wang, Iowa State University

11:35 a.m. **Estimation from a Two-Stage Biomarker Study Allowing Early Termination for Futility—** ✦Shanshan Zhao, Fred Hutchinson Cancer Research Center; Ziding Feng, Fred Hutchinson Cancer Research Center

11:50 a.m. **A Weighted Generalized Score Statistic for Comparison of Predictive Values of Diagnostic Tests—**✦Andrzej Kosinski, Duke University

12:05 p.m. **Using Incident Cases to Evaluate Prognostic Markers with Time-Varying Performance—** ✦Aasthaa Bansal, University of Washington; Patrick Heagerty, University of Washington

## 360 CC-512h

## ■ Propensity Score and Sensitivity Analysis in Observational Studies—Contributed

Section on Statistics in Epidemiology

Chair(s): Susan Shortreed, Group Health Research Institute

10:35 a.m. **Evaluation of Propensity Score Methods for Multiple Treatment Groups—**✦Lucia Mirea, Maternal-Infant Care Research Centre; Junmin Yang, Maternal-Infant Care Research Centre; Prakesh Shah, Maternal-Infant Care Research Centre; Shoo Lee, Maternal-Infant Care Research Centre

10:50 a.m. **Comparing the Performance of Various Disease Risk Scores, Propensity Scores, Multivariate Logistic Regression, and Log-Binomial Regression Using Simulation—**✦In-Lu Liu, Kaiser Permanente; Jiaxiao Shi, Kaiser Permanente; Wansu Chen, Kaiser Permanente

11:05 a.m. **Validation of Propensity Score Calibration Method to Control for Unmeasured Confounding in Time-to-Event Analyses—**✦Rebecca Burne, McGill University; Michal Abrahamowicz, McGill University

11:20 a.m. **Doubly Robust Testing and Estimation of Model-Adjusted Effect-Measure Modification with Complex Survey Data—**✦Babette Brumback, University of Florida; Hao Zheng, SunTrust Bank; Xiaomin Lu, University of Florida; Erin Bouldin, University of Washington; Michael Cannell, University of North Texas Health Science Center; Elena Andresen, Oregon Health and Science University

11:35 a.m. **Genetic Association Test Based on Nonparametric Stratification of Propensity Scores—**✦Yaji Xu, Yale University; Yuan Jiang, Oregon State University; Chi Song, Yale Univeristy; Heping Zhang, Yale University

11:50 a.m. **Estimating Effect of Time-Dependent Treatment in Observational Studies—**✦Pallavi Mishra-Kalyani, Emory University; Brent Johnson, Emory University; Qi Long, Department of Biostatistics

12:05 p.m. **Heterogeneity, Sensitivity, Resistance, Effectiveness—**✦Lev Sverdlov

## 361 CC-522bc

## High-Dimensional Inference—Contributed

IMS

Chair(s): Alexandra Chouldechova, Stanford University

10:35 a.m. **Marginal Empirical Likelihood and Sure Independence Feature Screening—**✦Jinyuan Chang, Peking University; Cheng Yong Tang, University of Colorado Denver; Yichao Wu, North Carolina State University

10:50 a.m. **James-Stein Estimation for P Bigger Than N and Unknown Covariance Matrix—**✦Didier Chetelat, Cornell University; Martin T. Wells, Cornell University

11:05 a.m. **Adaptive Threshold Estimation by FDR—** ✦Wenhua Jiang, Soochow University; Cun-Hui Zhang, Rutgers University

11:20 a.m. **Statistical Inference When Fitting Simple Models to High-Dimensional Data—**✦Lukas Steinberger, University of Vienna; Hannes Leeb, University of Vienna

11:35 a.m. **Estimating Bias-Corrected Mutual Information for Analysis of Large Complex Data Sets—**✦Susan Wilson, ANU & UNSW; Chris Pardy, University of New South Wales

11:50 a.m. **Bootstrap Inference for High-Dimensional Data**—✦Guoqing Diao, George Mason University; Anand Vidyashankar, George Mason University

12:05 p.m. **Sequential Tests of Multiple Hypotheses Controlling False Discovery Rate**—✦Jay Bartroff, University of Southern California; Jinlin Song, University of Southern California

## 362 CC-515a
## Novel Spatial Methods for Neuroimaging Data—Contributed

Section on Statistics in Imaging, Korean International Statistical Society

Chair(s): Daniel Rowe, Marquette University

10:35 a.m. **An Evaluation of Independent Component Analyses with an Application to Resting State fMRI**—✦Benjamin Risk; David Matteson, Cornell University; David Ruppert, Cornell University; Ani Eloyan, Johns Hopkins Bloomberg School of Public Health; Brian Caffo, The Johns Hopkins University

10:50 a.m. **Bayesian Probit Model with Spatially Varying Coefficients and Its Application to Functional Magnetic Resonance Imaging**—✦Fengqing (Zoe) Zhang, Northwestern University; Wenxin Jiang, Northwestern University; Patrick C.M. Wong, Northwestern University; Ji-Ping Wang, Northwestern University

11:05 a.m. **Identifying Functional Co-Activation Patterns in Neuroimaging Studies via Poisson Graphical Models**—Wenqiong Xue, Emory University; ✦Jian Kang, Emory University; DuBois Bowman, Emory University; Tor D. Wager, University of Colorado, Boulder; Jian Guo, Harvard University

11:20 a.m. **Population Inference for Differential Functional Brain Connectivity**—✦Manjari Narayan, Rice University; Genevera Allen, Rice University

11:35 a.m. **A Bayesian Vector Autoregressive Approach to Joint Connectivity and Activation Analysis in fMRI**—✦Zhe Yu, University of California at Irvine; Hernando Ombao, University of California at Irvine; Wesley K. Thompson, University of California at San Diego; Robert E. Kass, Carnegie Mellon University

11:50 a.m. **Spatial-Temporal Models for Image Data Analyses**—✦Chun-Jung Huang, University of California at Davis; Laurel Beckett, University of California at Davis; Danielle Harvey, University of California at Davis

12:05 p.m. **Alternative-Based Thresholding for Pre-Surgical fMRI**—✦Beatrijs Moerkerke, Ghent University; Joke Durnez, Ghent University; Andreas Bartsch, University of Heidelberg; Thomas Nichols, University of Warwick

## 363 CC-511f
## Advances in Missing Data Imputation—Contributed

Survey Research Methods Section

Chair(s): Meena Khare, NCHS/CDC

10:35 a.m. **A Proposed Revision of Wage Imputation Methods for the Occupational Employment Statistics Survey**—✦Jane Osburn, Bureau of Labor Statistics

10:50 a.m. **An Innovative Multiple Imputation Method to Accommodate Complex Sample Design Features**—✦Hanzhi Zhou, University of Michigan

11:05 a.m. **Quantile Estimation After Multiple Imputation**—✦Joerg Drechsler, Institute for Employment Research (IAB); Robin Mitra, University of Southampton

11:20 a.m. **Nonrespondent Subsample Multiple Imputation in Two-Phase Sampling for Nonresponse**—✦Nanhua Zhang, University of South Florida; Henian Chen, University of South Florida; Michael Elliott, University of Michigan

11:35 a.m. **Comparison of Imputation Techniques for Item Missing Data in the Survey of Income and Program Participation**—✦Sarah McMillan, U.S. Census Bureau

11:50 a.m. **Evaluating and Redesigning Imputation Methodologies for the 2015 American Housing Survey**—✦George Carter, U.S. Department of Housing and Urban Development; Brian Shaffer, U.S. Census Bureau

12:05 p.m. **Making Inference from Multiply Imputed Data Sets Using Mixture Distributions**—✦Sana Rashid, University of Southampton; Robin Mitra, University of Southampton; Russell J. Steele, McGill University

## 364 CC-520e
## Bayesian Theory and Methods—Contributed

Section on Bayesian Statistical Science, Korean International Statistical Society

Chair(s): Lynn Lin, Fred Hutchinson Cancer Research Center

10:35 a.m. **A Note on DIC Justification**—✦Shouhao Zhou, The University of Texas MD Anderson Cancer Center

10:50 a.m. **On the Birnbaum Argument for the Strong Likelihood Principle**—✦Deborah Mayo, Virginia Tech

11:05 a.m. **On the Geometry of Bayesian Inference: Bayes Meets Hilbert**—✦Garritt Page, Pontificia Universidad Catolica De Chile; Miguel de Carvalho, Pontificia Universidad Catolica de Chile; Jose Quinlan, Pontificia Universidad Catolica de Chile

11:20 a.m. **Bayesian Inference via the Blended Paradigm**—✦John Lewis, The Ohio State University; Steven MacEachern, The Ohio State University; Yoonkyung Lee, The Ohio State University

11:35 a.m. **Full Robustness to Outliers in a Bayesian Simple Linear Regression Model**—✦Philippe Gagnon, Université de Montréal; Alain Desgagné, UQAM

11:50 a.m. **Approximate Bayesian Inference for Double-Robust Estimation**—✦Daniel Graham, Imperial College London; David A. Stephens, McGill University; Emma McCoy, Imperial College London

12:05 p.m. **General Inequalities for Gibbs Posterior with Nonadditive Empirical Risk**—✦Cheng Li, Northwestern University; Wenxin Jiang, Northwestern University; Martin A. Tanner, Northwestern University

## 365 CC-511e

## Topics in Complex Survey Data Analysis—Contributed

Survey Research Methods Section

Chair(s): Trent Buskirk, Nielsen

10:35 a.m. **On the Choice of Tuning Constants for Winsorized Estimators**—✦David Haziza, Université de Montréal; Cyril Favre-Martinoz, CREST/ENSAI; Jean-Francois Beaumont, Statistics Canada

10:50 a.m. **Setting M-Estimation Parameters for Detection and Treatment of Influential Values**—✦Mary Mulry, Federal Employee; Broderick Oliver, U.S. Census Bureau; Stephen Kaputa, U.S. Census Bureau

11:05 a.m. **Aggregating Comparable Categorical Responses to the Unit of Observation in Employer Surveys**—✦Jeremy Pickreign, NORC at the University of Chicago

11:20 a.m. **On the Effects of Degree-Day Base Temperatures on Estimates of Residential Energy End Uses**—✦Edgardo Cureg, U.S. Energy Information Administration

11:35 a.m. **The Estimation Methodology of the 2011 National Household Survey**—✦Francois Verret, Statistics Canada

11:50 a.m. **Calculating Adjusted Survival Functions for Complex Sample Survey Data and Application to Vaccination Coverage Studies with National Immunization Survey (NIS)**—✦Zhen Zhao, Centers for Disease Control and Prevention; Philip J. Smith, Centers for Disease Control and Prevention; David Yankey, Centers for Disease Control and Prevention; Kirk Wolter, NORC at the University of Chicago; Kennon Copeland, NORC

12:05 p.m. **Using Mixture Distributions to Predict Radio Listening**—✦William Waldron, Arbitron

## 366 CC-514a

## Dimension Reduction and Variable Selection—Contributed

Section on Statistical Learning and Data Mining, Korean International Statistical Society

Chair(s): Bowei Xi, Purdue University

10:35 a.m. **Regularization and Estimation in Regression with Cluster Variables**—✦Qingzhao Yu, Louisiana State University Health Sciences Center; Bin Li, Louisiana State University

10:50 a.m. **On the Effect of Centering Kernels in Kernel PCA**—✦Zhiyu Liang, The Ohio State University; Yoonkyung Lee, The Ohio State University

11:05 a.m. **Two-Sample Tests for High-Dimensional Binary Data**—✦Amanda Peterson, University of Maryland, Baltimore County; Junyong Park, University of Maryland, Baltimore County

11:20 a.m. **Model Selection for Poisson Regression via Association Rules Analysis**—✦Pannapa Changpetch, Bentley University; Dennis Kon-Jin Lin, Penn State University

11:35 a.m. **Measurement Error Correction in High-Dimensional GLMs**—✦Øystein Sørensen, Institute of Basic Medical Sciences, University of Oslo; Arnoldo Frigessi, Institute of Basic Medical Sciences, University of Oslo; Magne Thoresen, Institute of Basic Medical Sciences, University of Oslo

11:50 a.m. **Variable Selection with Multiply Imputed Data When Considering Interaction Effects**—✦Aya Mitani, Stanford University; Allison W. Kurian, Stanford University; Amar K. Das, Dartmouth University; Manisha Desai, Stanford University

12:05 p.m. **A Mean Field Variational Bayes to the Selection of Linear Models**—✦John Ormerod

## 367 CC-514b

## New Methods for Classification—Contributed

Section on Statistical Learning and Data Mining

Chair(s): Chong Zhang, The University of North Carolina at Chapel Hill

10:35 a.m. **Probability-Enhanced Sufficient Dimension Reduction for Binary Classification**—✦Seung Jun Shin, North Carolina State University; Yichao Wu, North Carolina State University; Hao Helen Zhang, North Carolina State University; Yufeng Liu, The University of North Carolina

10:50 a.m. **Macrolevel Discriminant Analysis: An Extension of Linear Discriminant Analysis for Nested Data**—✦Jose-Miguel Yamal, The University of Texas School of Public Health; E. Neely Atkinson, The University of Texas MD Anderson Cancer Center; Getie Zewdie, The University of Texas School of Public Health; Dennis Cox, Rice University

11:05 a.m. **Multi-TGDR: An Extension of the Threshold Gradient Descent Regularization for Multiclass Classification of Microarray Experiments**—✦Mayte Suarez-Farinas, Rockefeller University; Suyan Tian, First Hospital of the Jilin University

11:20 a.m. **An Algorithm for Binary and Multi-Class Cancer Classification and Informative Genes Selection**—✦Haiyan Wang, Kansas State University

11:35 a.m. **On the Characterization of a Class of Fisher-Consistent Loss Functions and Its Application to Boosting for Hierarchical Outcomes**—✦Matey Neykov, Harvard University; Tianxi Cai, Harvard University

11:50 a.m. **Evaluating Discriminant Performance of a Semi-Supervised Linear Discriminant Analysis Against a Supervised One for Heteroscedastic Normal Populations**—✦Kenichi Hayashi, Osaka University Graduate School of Medicine

12:05 p.m. **High-Dimensional Quadratic Discriminant Analysis: A Convex Optimization Approach**—✦Lucy Xia, Princeton University; Tracy Ke, Princeton University; Jianqing Fan, Princeton University

## 368 CC-516c

## Methods and Applications in High-Dimensional Data, Part 1—Contributed

Section on Statistical Learning and Data Mining, Biometrics Section

Chair(s): J. S. Marron, The University of North Carolina

10:35 a.m. **Delving into Megadata: Evolving Challenges**—✦Turkan Gardenier, Pragmatica Corp.; John Stark Gardenier, Independent

10:40 a.m. **Composite Large-Margin Classifiers with Latent Subclasses**—✦Guanhua Chen, The University of North Carolina at Chapel Hill; Yufeng Liu, The University of North Carolina; Michael R. Kosorok, The University of North Carolina at Chapel Hill

10:45 a.m. **A Robust Likelihood Ratio Test for Testing Equal Means in the Presence of Unequal Variance**—✦Achut Adhikari, University of Northern Colorado

10:50 a.m. **Simultaneous Sparse Estimation of Canonical Vectors in the P>>N Setting**—✦Irina Gaynanova, Cornell University; James Booth, Cornell University; Martin T. Wells, Cornell University

10:55 a.m. **Statistical Modeling of Genomic Words and Motifs**—✦Guozhu Zhang, Bioinformatics Research Center, North Carolina State University; Stephen Sauchi Lee, University of Idaho

11:00 a.m. **Creating Gains Tables and Lift Charts Using R**—✦Craig Rolling, University of Minnesota

11:05 a.m. **Using Thresholding Difference-Based Estimators for Variable Selection in Partial Linear**—✦June Luo, Clemson University

11:10 a.m. **SPReM: Sparse Projection Regression Model for High-Dimensional Linear Regression**—✦Qiang Sun, The University of North Carolina at Chapel Hill; Hongtu Zhu, The University of North Carolina at Chapel Hill; Yufeng Liu, The University of North Carolina; Joseph G. Ibrahim, The University of North Carolina at Chapel Hill

11:15 a.m. **Locally Epistatic Relationship Matrices for Genome-Wide Association and Prediction**—✦Deniz Akdemir, Cornell University

11:20 a.m. **Variable Selection for Big Data via Bagging Adaptive Lasso and Precision Shrinking**—✦Cory Lanker, Iowa State University of Science and Technology; Wen Zhou, Iowa State University; Max Morris, Iowa State University; Stephen Bruce Vardeman, Iowa State University; Huaiqing Wu, Iowa State University

11:30 a.m. **A Multivariate Single Index Model for Longitudinal Data with Application in Clinical Investigation**—✦Jingwei Wu, Indiana University School of Medicine; Wanzhu Tu, Indiana University School of Medicine

11:35 a.m. **Overall Power Calculation for High-Dimensional Design**—✦Yueh-Yun Chi, University of Florida; Matthew J. Gribbin, MedImmune; Jacqueline J. Johnson, The University of North Carolina; Keith E. Muller, University of Florida

11:40 a.m. **Clustering to Strengthen a Categorical Instrument**—✦Douglas Lehmann, University of Michigan; Yun Li, University of Michigan; Yi Li, University of Michigan

11:45 a.m. **Variable Selection for High-Dimensional Multivariate Outcomes**—✦Tamar Sofer, Harvard School of Public Health; Lee Dicker, Rutgers University; Tamar Sofer, Harvard School of Public Health

11:50 a.m. **Empirical Bayesian Incorporation of Method Selection Into Massive Multiple Testing Analyses**—✦Stanley Pounds, St. Jude Children's Research Hospital; Cuilan L. Gao, University of Tennessee at Chattanooga; Shesh Nath Rai, University of Louisville; Demba Fofana, University of Memphis

11:55 a.m. **Manifold Regression for Functional Data**—✦Andrew Farris, University of California at Davis; Hans-Georg G. Müller, University of California at Davis

12:00 p.m. **Domain-Interaction Functional Regression Models for Functions with Varying Domains**—✦Jonathan Gellar, Johns Hopkins Bloomberg School of Public Health; Elizabeth Colantuoni, Johns Hopkins Bloomberg School of Public Health; Dale Needham, Johns Hopkins School of Medicine; Ciprian M. Crainiceanu, The Johns Hopkins University

12:05 p.m. **Risk Prediction from Electronic Health Record Data: A Naïve Bayes Approach**—✦Julian Wolfson, University of Minnesota

12:10 p.m. **A Flexible Correlation Structure for Joint Modeling of Multivariate Ordinal Medication Adherence Data**—✦Abdus Wahed, University of Pittsburgh; Zhen Jiang, FDA

12:15 p.m. **Identifying Epigenomic Biomarkers for Anticancer Drug Responses by Integrating Gene Expression and DNA Methylation Profiles**—✦Zhibao Mi, VA; Kui Shen, University of Pittsburgh; Nan Song, the NSABP Foundation, Inc.

# SPEED Contributed Poster Presentations 10:30 a.m.–12:20 p.m.

369 CC-220bc

## Methods and Applications in Biomedical Data and Clinical Trials, Part 2—Contributed Poster Presentations

Biopharmaceutical Section, Biometrics Section, Scientific and Public Affairs Advisory Committee

Chair(s): Ivan S. F. Chan, Merck Research Laboratories

1 **Pitfalls in Assessing Relative Efficacy Across Trials**—✦Xiao Sun, Merck

2 **Methods to Compare the Myeloproliferative Neoplasm Symptom Assessment Form (MPN-SAF) Across Nine Linguistic Translations**—✦Amylou Dueck, Mayo Clinic; Jeff Sloan, Mayo Clinic; Ruben Mesa, Mayo Clinic

3 **What Is the Probability of Detecting Large Treatment Effects in Randomized Controlled Trials: An Empirical Study**—✦Branko Miladinovic, University of South Florida Center for Evidence-based Medicine; Henian Chen, University of South Florida; Tea Reljic, University of South Florida Center for Evidence-based Medicine; Ruina He, University of South Florida; Benjamin Djulbegovic, University of South Florida Center for Evidence-based Medicine

4 **Analysis of Binary Data Arising from a Prospective Cluster Randomized Study on the Diagnosis of Chronic Obstructive Pulmonary Disease Using Overdispersed Binomial Models**—✦Santosh Sutradhar, Novartis; Valentina Bayer Zubek, Boehringer Ingelheim Pharmaceuticals, Inc.

5 **Strategy in Dichotomizing a Continuous Biomarker for Survival Data Analysis**—✦Dung-Tsa Chen, Moffitt Cancer Center; Ying-Lin Hsu, National Chung Hsing University; Po-Yu Huang, National Chung Hsing University

6 **M&N, Wald, and Skellam: Who Excels in Rare-Event, Small-Sample, Interval Estimation of Risk Differences?**—✦Oliver Bautista, Merck Sharp & Dohme Corp; Josh Chen, Merck; Ivan S. F. Chan, Merck Research Laboratories

7 **Two-Sample Test for Differences in Survival at a Fixed Time Point with Small Sample Sizes**—✦Michael Fay, National Institute of Allergy and Infectious Diseases; Michael Proschan, National Institutes of Health; Erica H. Brittain, National Institute of Allergy and Infectious Diseases

8 **Extension of Interval Design to Finding Maximum Tolerated Combinations of Two Anti-Cancer Agents**—✦Lixin Han, Pfizer Inc.; Stephanie Green, Pfizer Inc.

9 **Single-Arm Phase IIa Oncology Clinical Trials with Sample Size Adaptation**—✦Bob Zhong, Johnson & Johnson

10 **Detailed Description of Derivation and Display of Delinquent and Delayed Data**—William Coar, Axio Research; ✦David Kerr, Axio Research

11 **Analysis of Semi-Continuous Longitudinal Physical Activity Data**—✦Peter John De Chavez, Northwestern University; Lei Liu, Northwestern University; Bonnie Spring, Northwestern University Feinberg School of Medicine; Juned Siddique, Northwestern University

12 **Mixed-Effects Models with Skewed Distributions for Time-Varying HIV Viral Decay Rate**—✦Yangxin Huang, University of South Florida; Ren Chen, University of South Florida

13 **Bayesian Nonlinear Regression for Neutralization Assays Using 4- and 5-Parameter Growth Curves**—✦James Slaughter, Vanderbilt University; John T. Bates, Vanderbilt University; James E. Crowe, Vanderbilt University

14 **Linear Regression Models with Epsilon Skew Gamma Error Term**—✦Ebtisam Abdulah, University of Arkansas at Little Rock; Hassan Elsalloukh, University of Arkansas at Little Rock

15 **Prior-Robust Designs for Nonlinear Models**—✦Sydney Akapame; John J. Borkowski, Montana State University-Bozeman

16 **Early Detection of Cardiovascular Signals: A Simulation Study About Power Enhancement**—✦Jing Huang; Ouhong Wang, Amgen, Inc.; Mike Hale, Amgen, Inc.

17 **Comparison of Permutation Tests and GEE Methods for Group-Randomized Trials with Count Data**—✦Ping Xu, Axio Research Coporation; Brian Leroux, University of Washington

18 **Comparing Candidate General Surrogates of Protection**—✦Erin Gabriel, Fred Hutchinson Cancer Research Center; M. Elizabeth Halloran, Fred Hutchinson Cancer Research Center

19 **Logistic Regression for Dichotomized Counts—** ✦John Preisser, The University of North Carolina; Kalyan Das, University of Calcutta; John Stamm, The University of North Carolina

20 **Analysis of Left-Censored Multiplex Immunoassay Data: A Unified Approach—**✦Elizabeth Hill, Medical University of South Carolina; Elizabeth Slate, Florida State University

## Contributed Poster Presentations 10:30 a.m.–12:20 p.m.

### 370 CC-220bc
### Contributed Oral Poster Presentations: ENAR—Contributed Poster Presentations
ENAR, Korean International Statistical Society
Chair(s): Joyee Ghosh, University of Iowa

1 **Large Sample Randomization Inference of Causal Effects in the Presence of Interference—**✦Lan Liu, The University of North Carolina at Chapel Hill; Michael G. Hudgens, The University of North Carolina at Chapel Hill

2 **Uncertainty in Pilot Parameter Estimates: A Comparison of Methods to Size Full Trials—** ✦Elizabeth Handorf, Fox Chase Cancer Center; Eric A. Ross, Fox Chase Cancer Center

3 **Using Regression Discontinuity Designs to Enhance Power in Propensity Score Analysis—**✦T. Mark Beasley, The University of Alabama at Birmingham

4 **Efficient Estimation of the Regression Parameter in Forward and Backward Recurrence Time Data Using the Accelerated Failure Time Model—**✦Pourab Roy, The University of North Carolina at Chapel Hill; Michael R. Kosorok, The University of North Carolina at Chapel Hill; Jason Fine, The University of North Carolina Chapel Hill

5 **Identifying Gene-Gene Interaction Using RNA-Sequencing Data—**✦Kwang-Youn Kim, Northwestern University

### 371 CC-220bc
### Contributed Oral Poster Presentations: IMS—Contributed Poster Presentations
IMS
Chair(s): Joyee Ghosh, University of Iowa

6 **Nonparametric Estimation of Optimal Retention for Reinsurance Under Tail Risk Criterion—** ✦Desale Habtzghi, University of Akron; Dale Borowiak, The University of Akron

7 **A Generalization to the Family of Discrete Distributions—**Tareq F. Khan, Jahangirnagar University; Mian Adnan, Jahangirnagar University; Asif Shams Adnan, Jahangirnagar University

8 **Some Comments on Anderson Graphs for Classic Order-4 Magic Squares—**✦George Styan, McGill University

9 **Eyebrow Shape Analysis by Using a Modified Functional Curve Procrustes Distance—**✦Yishi Wang, The University of North Carolina at Wilmington; Cuixian Chen, The University of North Carolina at Wilmington; Yaw Chang, The University of North Carolina at Wilmington

### 372 CC-220bc
### Contributed Oral Poster Presentations: Korean International Statistical Society—Contributed Poster Presentations
Korean International Statistical Society
Chair(s): Joyee Ghosh, University of Iowa

10 **A Comparative Study on Semiparametric Estimation in Partially Linear Single-Index Model—**✦Young-Ju Kim, Kangwon National University

11 **A Case Study on Predicting Transcription Factors and Gene Networks—**✦Dongseok Choi, Oregon Health and Science University; Lauren Hayashi, Oregon Health and Science University; Kathryn Carr, Oregon Health and Science University; Mary J. Kelley, Oregon Health and Science University; Ted S. Acott, Oregon Health and Science University

### 373 CC-220bc
### Contributed Oral Poster Presentations: Quality and Productivity Section—Contributed Poster Presentations
Quality and Productivity Section
Chair(s): Joyee Ghosh, University of Iowa

12 **A Distribution-Free Procedure for Removing Multivariate Outliers—**✦Robert Mason, Southwest Research Institute; Youn-Min Chou, The University of Texas at San Antonio; John C. Young, Retired

13 **Process Control with Quality Gradations and Classification Errors—**✦William S. Griffith, University of Kentucky; Michelle L. Smith, Eastern Kentucky University

14 **Pareto Front Optimization for Multiple Process or Product Responses in the Presence of Model Parameter Uncertainty—**✦Jessica Chapman, St. Lawrence University; Lu Lu, Los Alamos National Laboratory; Christine Anderson-Cook, Los Alamos National Laboratory

374 CC-220bc

## Contributed Oral Poster Presentations: Section on Bayesian Statistical Science—Contributed Poster Presentations

Section on Bayesian Statistical Science

Chair(s): Joyee Ghosh, University of Iowa

15 **Using Bayesian Hierarchical Model to Detect Related Multiple SNPs Within Multiple Genes to Disease Risk—** ✦Lewei Duan

16 **Bayesian Multilevel Modeling for Calculating Small-Area Estimates of Diagnosed Diabetes, Obesity, and Physical Inactivity Prevalence in Puerto Rico—** ✦Elizabeth Ely, Centers for Disease Control and Prevention; Theodore J. Thompson, Centers for Disease Control and Prevention; Ed F. Tierney, Centers for Disease Control and Prevention; Roberta H. Hilsdon, Centers for Disease Control and Prevention; Deborah B. Rolka, Centers for Disease Control and Prevention

17 **Flexible Multivariate Imputation Modeling Based on Copulas and Dirichlet Processes—** ✦Patrick Joyce, U.S. Census Bureau; Joseph Schafer, U.S. Census Bureau; Joshua Tokle, U.S. Census Bureau

18 **Bayesian Network Analysis: HIV Spread in Indian Community—** ✦Daniel P. Heard, Duke University

19 **A Semiparametric Bayesian Clustering Method with Application to Zernike Aberration Coefficients of Eyes—** ✦Xin Tong, University of South Carolina; Hongmei Zhang, University of South Carolina

20 **Bayesian Estimation of Precision and Genetic Gain Due To Selection in Barley Trials—** ✦Murari Singh, ICARDA; Adnan Al- Yassin, ICARDA; Siraj Osman Omer Mohamed, ICARDA

21 **Biosimilar Sample Size Estimation by Leveraging Well-Established Information—** ✦William Atkinson, PPDI; Phil Young, PPDI

22 **Bayesian Sample-Size Determination for Studies with Censored Cost-Effectiveness—** ✦Daniel Beavers, Wake Forest School of Medicine; James D. Stamey, Baylor University

23 **Bayesian Evaluation of Informative Hypotheses in Multidimensional Scaling—** ✦Kensuke Okada, Senshu University

24 **Bayesian Decisive Prediction of the Future Optimal Cut-Off Score in Direct Marketing Using BLINEX Loss—** ✦Martin Levy, University of Cincinnati; Daling Wen, Genworth

375 CC-220bc

## Contributed Oral Poster Presentations: Section on Physical and Engineering Sciences—Contributed Poster Presentations

Section on Physical and Engineering Sciences

Chair(s): Joyee Ghosh, University of Iowa

25 **Reduced Major Axis Regression to Improve Oil and Gas Pipeline Integrity—** ✦William Harper; Neil A. Bates, Det Norske Veritas (Canada) Ltd.

26 **A Bayesian Approach to Model Criticism in Pedestrian Accident Reconstruction—** ✦Gary Davis, University of Minnesota

27 **Applications of Resampling and Bootstrap Methods to Estimate Prediction Intervals for Nonlinked Replicates in Method Comparison Studies—** ✦Maya Sternberg, Centers for Disease Control and Prevention; Sharon Flores, Centers for Disease Control and Prevention

28 **Evolutionary Algorithms and Swarm Intelligence to Solve Problems Applied to Complex Problems, Big Data, and Underground Mining Engineering—** ✦Douglas Moreira; Sylvie Nadeau, Université du Québec - École de Technologie Supérieure; Barthélemy Ateme-Nguema, Université du Québec en Abitibi-Témiscamingue

29 **Bayesian Analysis of Nonstationary Composite Gaussian Process Models—** ✦Casey Davis; Christopher Hans, The Ohio State University; Thomas Santner, The Ohio State University

30 **Teaching Measurement, Data Analysis, Experiments, and Modeling for Engineering Students—** ✦Paul Stephenson, Grand Valley State University; Chris Plouff, Grand Valley State University; Diann Reischman, Grand Valley State University; John G. Gabrosek, Grand Valley State University; David Zeitler, Grand Valley State University

31 **An Analysis of Motorcycle Fatality Risk Factors in Ohio—** ✦Peter W. Hovey, University of Dayton; Deogratias Eustace, University of Dayton; Vamsi K. Indupuru, Western Union

## 376 CC-220bc

## Contributed Oral Poster Presentations: Section on Statistical Computing—Contributed Poster Presentations

Section on Statistical Computing

Chair(s): Joyee Ghosh, University of Iowa

32 **Using Quantitative Content Analysis Followed by Principal Components Analysis and Factor Scoring to Identify Themes in Media Content: A Demonstration Using Pre- and Post-9/11 Text**—✦Brenda Osuna, University of Southern California; Reagan Rose, University of Southern California

33 **Restricted Scheffe Method Using Minimal Cone Approach in Multiple Comparisons**—Yimin Zhang, Oklahoma State University; Melinda McCann, Oklahoma State University

34 **Estimating Average Treatment Effect with Treatment Switching in Observational Studies**—✦Chunhao Tu, University of New England; Woon Yuen Koh, University of New England

35 **Introductory Statistics: Alternate Sequence Etext**—✦John G. Gabrosek, Grand Valley State University; Paul Stephenson, Grand Valley State University

36 **Reconstruction of Biological Networks Using Differential Equation Models**—✦James Henderson, University of Michigan

37 **Comparison of Means in Skewed Distributions**—✦Evren Ozkip; Ahmet Sezer, Anadolu University; Berna Yazici, Anadolu University

38 **Evaluation of a Survey Using Ordinal Logistic Regression**—✦Berna Yazici, Anadolu University; Ozlem Alpu, Eskisehir Osmangazi University; Ozlem Oktal, Anadolu University; Zerrin Sungur, Anadolu University

39 **Independent Approximate Draws from High-Dimensional Intractable Probability Distributions**—✦Andrew Olsen, The Ohio State University; Radu Herbei, The Ohio State University

40 **Addressing Overdispersion Using Finite Mixtures with a Regression Linked to the Mean**—✦Andrew Raim, University of Maryland, Baltimore County; Nagaraj Neerchal, University of Maryland, Baltimore County

41 **Similar Items for New Shops**—✦A. Santos, Etsy

42 **Computer-Aided Simulation Design**—✦Kasturi Talapatra, North Carolina State University; Eric Laber, North Carolina State University; Len Stefanski, North Carolina State University

43 **Comparison of One-Sided Tolerance Limits in Random Effects**—✦Jie Peng, St. Ambrose University; Kalimuthu Krishnamoorthy, University of Louisiana at Lafayette

44 **Bootstrapping Time Series Data**—✦Maher Qumsiyeh, University of Dayton; Robert Deis, University of Dayton

45 **Generalized P-Value in Regression Analysis**—✦Seray Mankir, Anadolu University; Berna Yazici, Anadolu University

46 **Quantile Regression Using a General Class of Probability Distributions**—✦Fassil Nebebe, Concordia University; Tak Mak, Concordia University

47 **An R Framework for Simulation Experiments**—✦David C. Cooper, GlaxoSmithKline

48 **Markov Chain Monte Carlo with Linchpin Variables**—✦Felipe Acosta Archila, University of Minnesota; Galin Jones, University of Minnesota

49 **Comparison of Bootstrapping Method with the Delta Method for Estimating Standard Errors of Relative Risks in the Assessment of Pneumococcal Serotype Replacement**—✦Abanti Sanyal; Richard E. Thompson, The Johns Hopkins University; Milo A. Puhan, The Johns Hopkins University; Eunice W. Kagucia, The Johns Hopkins University; Daniel R. Feikin, The Johns Hopkins University

50 **Statistical Hypothesis Testing Using Robustified Likelihood Function for Location Parameter**—✦Yichen Qin, The Johns Hopkins University; Carey E. Priebe, The Johns Hopkins University

51 **Monte Carlo Maximum Likelihood for the Two-Stage Hierarchical Model**—✦Christina Knudson, University of Minnesota

## 377 CC-220bc

## Contributed Oral Poster Presentations: Section on Statistical Learning and Data Mining—Contributed

Section on Statistical Learning and Data Mining

Chair(s): Joyee Ghosh, University of Iowa

52 **Prediction of Future Cost for Congestive Heart Failure Patients Using Heavy-Tailed Data**—✦Jun Han, Elsevier / MEDai

53 **Robust Data Mining and Variable Selection via Stochastic Gradient Boosting**—✦Chamont Wang, College of New Jersey; Leonardo Auslender, Cisco; Jana Gevertz, The College of New Jersey

54 **The Super Learner for Estimating Nonlinear Associations in the Cox Regression Model**—✦Elizabeth Malloy, American University; Philip Gautier, Purdue University; Cynthia Cook, American University; Melissa K. Bergeron, Freddie Mac

55 **Insight Discovery for Decision Tree Models**—✦Jane Chu, IBM; Jing Shyr, IBM; Weicai Zhong, IBM

56 **Robust Variable Selection for Functional Regression Models**—✦Jasdeep Pannu

57 **Variable Selection for Optimal Treatment Regime**—✦Na Zhang, North Carolina State University; Howard Bondell, North Carolina State University; Eric Laber, North Carolina State University

58 **A Robust Variable Selection Method for Grouped Data**—✦Kristin Lilly, Auburn University; Nedret Billor, Auburn University

59 **Use of Non-Negative Matrix Factorization to Understand Exercise Effects on Metabolites**—✦Douglas A. Marsteller, PepsiCo; S. Stanley Young, National Institute of Statistical Sciences; K. Eric Milgram, PepsiCo; John V. St. Peter, PepsiCo; Mark A. Pirner, PepsiCo

60 **Group Lasso in Functional Logistic Regression**—✦Jessica Godwin, Auburn University; Nedret Billor, Auburn University

61 **Longitudinal Trajectory Cluster Analysis: How Many Groups Are There?**—✦Alyssa B. Dufour, Hebrew SeniorLife & Harvard Medical School; L. Adrienne Cupples, Boston University; Timothy Heeren, Boston University; David R. Gagnon, Boston University

62 **Model-Based Classifications of High-Throughput Data Review, Design, and Application to a Cancer Clinical Study**—✦A.C. Cambon, University of Louisville; Shesh Nath Rai, University of Louisville

63 **Inference for Supervised Learning: Regression Trees and CLTs**—✦Lucas Mentch, Cornell University; Giles Hooker, Cornell University

64 **Survival Trees for Discrete Failure Times**—✦Matthias Schmid, University of Erlangen-Nuremberg; Helmut Küchenhoff, University of Munich; Gerhard Tutz, University of Munich

# Speaker with Lunch 12:30 p.m.–1:50 p.m.

## 378 CC-524c

### Economic Outlook Luncheon (Fee Event)—Speaker with Lunch

Business and Economic Statistics Section

Organizer(s): John M. Abowd, Chair, Business and Economic Statistics Section

TL08 **Will Western Labor Markets Ever Recover from the Great Recession?**—✦Thomas Lemieux, University of British Columbia

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

## 379 CC-517d

### Biometrics Section P.M. Roundtable Discussion (Fee Event)

Biometrics Section

Organizer(s): Jonathan S. Schildcrout, Vanderbilt University

TL09 **Recent Advances in Joint Models for Longitudinal and Time-to-Event Data**—✦Dimitris Rizopoulos, Erasmus MC

## 380 CC-517d

### Biopharmaceutical Section P.M. Roundtable Discussion (Fee Event)

Biopharmaceutical Section

Organizer(s): Ivan S. F. Chan, Merck Research Laboratories

TL10 **Globalization of Clinical Trials: The Development of Treatments and Preventative Products for Diseases and Allergies**—✦Tammy Massie, FDA/CBER

TL11 **Role of Statisticians in Pharmaceutical/Medical Device Industry**—✦Nfii Ndikintum, inVentiv Health Clinical

## 381 CC-517d

### Health Policy Statistics Section P.M. Roundtable Discussion (Fee Event)

Health Policy Statistics Section

Organizer(s): Juned Siddique, Northwestern University

TL12 **How to Succeed as an Academic Statistician in a Nonstatistics or Biostatistics Department**—✦Elizabeth Stuart, Johns Hopkins Bloomberg School of Public Health

TL13 **How to Write a Successful Statistics Book**—✦Sophia Rabe-Hesketh, University of California at Berkeley; Anders Skrondal, Norwegian Institute of Public Health

## 382 CC-517d

### Quality and Productivity Section P.M. Roundtable Discussion (Fee Event)

Quality and Productivity Section

Organizer(s): Ming Li, GE Global Research

TL14 **Achieving Process Excellence Using Design of Experiments**—✦Daksha Chokshi, Pratt & Whitney Rocketdyne

383 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

TL15 **The Role of Bayesian Analysis for an Emerging Class of Complex Data: Object Data**—✦Jeffrey S. Morris, The University of Texas MD Anderson Cancer Center

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

TL16 **Case Studies in Graphics: The Best Plot I Ever Made**—✦Elizabeth Schiferl, The Lubrizol Corporation

385 CC-517d
## Section on Statistical Computing P.M. Roundtable Discussion (Fee Event)
Section on Statistical Computing, Section for Statistical Programmers and Analysts
Organizer(s): Nicholas John I. Lewin-Koh, Genentech

TL17 **The Practical Aspects of Doing Statistics on Large Data Sets**—✦Joseph Rickert

386 CC-517d
## Section on Statistical Consulting P.M. Roundtable Discussion (Fee Event)
Section on Statistical Consulting
Organizer(s): Nicholas Pajewski, Wake Forest University

TL18 **Mentoring Applied Statisticians**—✦Marlene Egger, University of Utah, DFPM

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

TL19 **Lessons Learned from a Decade of Online Teaching**—✦Michelle G. Everson, University of Minnesota

TL20 **Using Simulation to Improve Students' Understanding in Statistical Theory**—✦Elena G. Rantou (Randou), George Mason University

TL21 **'Big Data' Data Sets for Undergraduate Applied Statistics Courses**—✦John McKenzie, Babson College

388 CC-517d
## Section on Statistics and the Environment P.M. Roundtable Discussion (Fee Event)
Section on Statistics and the Environment
Organizer(s): Mevin Hooten, Colorado State University

TL22 **Modeling Diseases in Wildlife**—✦Jennifer Hoeting, Colorado State University

389 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

TL23 **Bayesian Disease Mapping: Opportunities, Challenges, and New Frontiers in an Information- and Data-Rich Era**—✦Ying MacNab, University of British Columbia

390 CC-517d
## Social Statistics Section P.M. Roundtable Discussion (Fee Event)
Social Statistics Section
Organizer(s): Michael Sinclair, NORC

TL24 **Blending Probability and Non-Probability Samples Using Calibration Techniques**—✦Charles DiSogra, Abt SRBI; Curtiss L. Cobb, GfK

TL25 **Extracting Social Science Insights from Social Media**—✦Martin Barron, NORC At the University of Chicago

391 CC-517d
## Survey Research Methods Section P.M. Roundtable Discussion (Fee Event)
Survey Research Methods Section
Organizer(s): Karol Krotki, RTI International

TL26 **Practical Guidelines for Dual-Frame RDD Survey Methodology**—✦Mansour Fahimi, Marketing Systems Group

# Special Presentation
# 2:00 p.m.–3:50 p.m.

## 392 CC-710a
## Introductory Overview Lecture: Big Data—Other

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

Organizer(s): Ping Ma, University of Illinois at Urbana-Champaign
Chair(s): Ping Ma, University of Illinois at Urbana-Champaign

2:05 p.m. **The Relative Size of Big Data**—✦Bin Yu, University of California at Berkeley

2:55 p.m. **Divide and Recombine (D&R) with RHIPE for Large Complex Data**—✦William S. Cleveland, Purdue University

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

# Invited Sessions
# 2:00 p.m.–3:50 p.m.

## 393 CC-512ab
## Recent Developments for Disease Diagnosis, Risk Prediction, and Treatment Selection Using Biomarkers—Invited

ENAR, Statistical Learning and Data Mining Section, Biometrics Section, Section on Statistics in Epidemiology, Scientific and Public Affairs Advisory Committee

Organizer(s): Huaihou Chen, New York University
Chair(s): Douglas Gunzler, Case Western Reserve University

2:05 p.m. **Predictive Accuracy of Covariates for Event Times**—✦Donglin Zeng, The University of North Carolina; Li Chen, University of Kentucky; Danyu Lin, University of North Carolina

2:30 p.m. **Locally Smoothed Statistical Learning for Age-Dependent Classification and Disease Risk Prediction**—Huaihou Chen, New York University; Tianle Chen, Columbia University; Donglin Zeng, The University of North Carolina; ✦Yuanjia Wang, Columbia University

2:55 p.m. **Latent Class Regression Model for Assessment of Diagnostic Tests in the Absence of a Gold Standard, with Accommodation for Covariate Information**—✦Zheyu Wang, University of Washington; Xiao-Hua Andrew Zhou, University of Washington

3:20 p.m. **Identifying Subpopulations with Differential Risk Benefit Profiles**—✦Tianxi Cai, Harvard University

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

## 394 CC-511c
## ■ Biased Epidemiological Study Designs: Opportunities and Challenges—Invited

Section on Statistics in Epidemiology, Scientific and Public Affairs Advisory Committee

Organizer(s): Jonathan S. Schildcrout, Vanderbilt University
Chair(s): Jonathan S. Schildcrout, Vanderbilt University

2:05 p.m. **Likelihood-Based Analysis of Longitudinal Data from Outcome-Dependent Sampling Designs**—✦John Neuhaus, University of California at San Francisco; Alastair Scott, University of Auckland; Chris J. Wild, University of Auckland; Yannan Jiang, University of Auckland; Charles McCulloch, University of California at San Francisco

2:30 p.m. **Robust Outcome-Dependent Sampling for Continuous- and Counted-Response Longitudinal Data**—✦Paul J. Rathouz, University of Wisconsin School of Medicine and Public Health; Lee McDaniel, University of Wisconsin-Madison; Jonathan S. Schildcrout, Vanderbilt University

2:55 p.m. **The Impact of Exposure Misclassification and Exposure-Biased Sampling on Power for Detecting Gene-by-Environment Interactions in Case-Control Studies**—✦Bhramar Mukherjee, University of Michigan

3:20 p.m. **Analysis of Covariate Subsampling Designs Based on Continuous Longitudinal Data**—✦Patrick Heagerty, University of Washington; Jonathan S. Schildcrout, Vanderbilt University; Paul J. Rathouz, University of Wisconsin School of Medicine and Public Health

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

*The Statistical Society of Canada: Long-standing participant in the JSM*

*La Société statistique du Canada : Fidèle partenaire du congrès de statistique conjoint*

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# The SSC invites you all to a

# RECEPTION

## Tuesday, August 6, 5:30-7:30 pm

## Mardi 6 août, 17h30 à 19h30

## La SSC vous y convie tous !

LOCATION/ LIEU:

Intercontinental Hotel I-Chez Plume

## 395 CC-510c

### ● Sampling and Resampling Methods for Random Network Inference and Estimation—Invited

SSC, Statistical Learning and Data Mining Section, Section on Statistics in Epidemiology

Organizer(s): Yulia R. Gel, University of Waterloo

Chair(s): Yulia R. Gel, University of Waterloo

2:05 p.m. **Topics in Nonparametric Inference for Network Models**—✦Peter Bickel, University of California at Berkeley

2:30 p.m. **Perturbed Random Graphs in the Human Microbiome**—✦Susan Holmes, Stanford University

2:55 p.m. **Patchwork Sampling and Resampling on Random Networks**—✦Mary E. Thompson, University of Waterloo, Canada; Yulia R. Gel, University of Waterloo; L. Leticia Ramirez Ramirez, Instituto Tecnologico Autonomo de Mexico; Vyacheslav Lyubchich, University of Waterloo, Canada

3:20 p.m. **Estimating Network Statistics Through Nonparametric Denoising**—✦Prakash Balachandran, Boston University; Eric Kolaczyk, Boston University; Edo Airoldi, Harvard University

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

## 396 CC-520d

### ■ New Directions in Spatial Statistics and Computation in the 21st Century—Invited

Section on Statistics and the Environment, Statistical Learning and Data Mining Section, Section on Statistical Computing

Organizer(s): Debashis Mondal, The University of Chicago

Chair(s): Veronica Berrocal, School of Public Health, University of Michigan

2:05 p.m. **Spline Models for the Analysis of Spatio-Temporal Count Data**—✦Jon Wakefield, University of Washington; Cici Bauer, Brown University

2:35 p.m. **Bayesian Computing with R-INLA: Some Recent Developments**—✦Håvard Rue, NTNU

3:05 p.m. **Matrix-Free Computations for Gaussian Markov Random Fields and Related Spatial Processes on Regular Lattice**—✦Debashis Mondal, The University of Chicago

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

## 397 CC-516c

### ■ ● Causal Inference and Data Analysis from a Missing Data Perspective: Honoring Donald B. Rubin's Contributions to Statistics on His 70th Birthday—Invited

Survey Research Methods Section, Mental Health Statistics Section, SSC, Section on Statistics in Epidemiology

Organizer(s): Fabrizia Mealli, University of Florence

Chair(s): Nathaniel Schenker, National Center for Health Statistics

2:05 p.m. **What Statistical Problems Are Not Missing-Data Problems?**—✦Xiao-Li Meng, Harvard University

2:25 p.m. **Joint Modeling of Incomplete Data with Mixed Variable Types Using Latent-Variable Models**—✦Thomas R. Belin, University of California at Los Angeles

2:45 p.m. **Regression Discontinuity Designs and Potential Outcomes**—✦Guido Imbens, Stanford University

3:05 p.m. **The Role of Covariates and Secondary Outcomes in Causal Studies with Intermediate Variables**—✦Fabrizia Mealli, University of Florence

3:25 p.m. Disc: Roderick J. Little, University of Michigan

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

## 398 CC-520b

### Taming Big Data with Matrix and Tensor Decomposition Methods—Invited

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

Organizer(s): George Luta, Georgetown University

Chair(s): Genevera Allen, Rice University

2:05 p.m. **Sparse Low-Rank Models for the Integration of Multiple Data Types**—✦Eric Frazer Lock, Duke University

2:25 p.m. **Regularized Matrix Decomposition and Its Applications**—✦Jianhua Z. Huang, Texas A&M University

2:45 p.m. **Exploring Brain Activation Networks with Matrix Volume**—✦Vadim Zipunnikov, Johns Hopkins Bloomberg School of Public Health; Ani Eloyan, Johns Hopkins Bloomberg School of Public Health; Brian Caffo, The Johns Hopkins University

3:05 p.m. **Multi-Block Tensor Decompositions: From Canonical Correlation Analysis to Linked Multiway Component Analysis**—✦Andrzej Cichocki, Brain Science Institute RIKEN; Guoxu Zhou; Qibin Zhao; George Luta, Georgetown University

3:25 p.m. Disc: Peter David Hoff, University of Washington

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

399 CC-519b

## Recent Developments in High-Dimensional Statistical Learning—Invited

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

Organizer(s): Yichao Wu, North Carolina State University

Chair(s): J. S. Marron, The University of North Carolina

2:05 p.m. **Data Enrichment for Linear Regression Models**—Aiyou Chen, Google; ✦Art B. Owen, Stanford University; Minghui Shi, Google

2:30 p.m. **Maximum Likelihood Estimation of a Directed Acyclic Gaussian Graph**—Yiping Yuan, University of Minnesota; ✦Xiaotong Shen, University of Minnesota; Wei Pan, University of Minnesota

2:55 p.m. **Variable Selection in Kernel-Based Nonparametric Regression**—✦Len Stefanski, North Carolina State University; Kyle White, North Carolina State University; Yichao Wu, North Carolina State University

3:20 p.m. **Sufficient Dimension Reduction in Binary Classification**—Seung Jun Shin, North Carolina State University; ✦Yichao Wu, North Carolina State University; Hao Helen Zhang, University of Arizona; Yufeng Liu, The University of North Carolina

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

400 CC-520c

## ■ Spatial Extremes, Max-Stable Processes, and Beyond—Invited

IMS

Organizer(s): Stilian A. Stoev, University of Michigan

Chair(s): Stilian A. Stoev, University of Michigan

2:05 p.m. **A Model for Extremes on a Regular Spatial Lattice**—✦Dan Cooley, Colorado State University; Grant B Weller, Colorado State University

2:30 p.m. **Fully Bayesian Inference for Spatial Extremes Using Hierarchical Extreme Value Processes**—Brian J. Reich, North Carolina State University; ✦Ben Shaby, University of California at Berkeley

2:55 p.m. **Spatial Extremes: Inference and Some Thoughts Beyond Max-Stability**—✦Jenny Wadsworth, Ecole Polytechnique Federale de Lausanne; Jonathan Tawn, Lancaster University

3:20 p.m. Disc: Montserrat Fuentes, North Carolina State University

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

401 CC-510a

## ■ Painting a Picture of Life in the United States—Invited

Section on Statistical Graphics, Section on Statistical Education, Section on Statistical Computing, Scientific and Public Affairs Advisory Committee

Organizer(s): Heike Hofmann, Iowa State University

Chair(s): Dianne H. Cook, Iowa State University

2:05 p.m. **The Statistical Atlas of the 1870 Census and Other Early Census Visualization**—✦Howard R. Hogan, U.S. Census Bureau

2:25 p.m. **Visualizing Census Tables**—✦Richard M. Heiberger, Temple University; Naomi B. Robbins, NBR; Edward J. Mulrow, NORC at the University of Chicago

2:45 p.m. **Picturing Life in the U.S.**—✦Heike Hofmann, Iowa State University; Jay Emerson, Yale University

3:05 p.m. **From Tables to Tableaus: Changing the Analytical Culture of a Large Organization**—✦Eric C. Newburger, U.S. Census Bureau

3:25 p.m. **Mapping the United States**—✦Michael R. Ratcliffe, U.S. Census Bureau

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

402 CC-510d

## ■ Quantile Linear Modeling: An Introduction for the Working Statistician—Invited

Section on Statistical Consulting, International Chinese Statistical Association

Organizer(s): Ralph G. O'Brien, Case Western Reserve University

Chair(s): Jonathan Mahnken, The University of Kansas Medical Center

2:05 p.m. **Quantile Linear Modeling: A Primer for the Working Statistician**—✦Jarrod Dalton, Cleveland Clinic Foundation

2:45 p.m. **Quantile Linear Modeling: A Primer for the Working Statistician (Part 2)**—✦Ralph G. O'Brien, Case Western Reserve University

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

403 CC-710b

### Medallion Lecture VI—Invited

IMS

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

Chair(s): David Madigan, Columbia University

2:05 p.m. **The Mathematics of Causal Inference**—✦Judea Pearl, University of California at Los Angeles

3:30 p.m. Disc: Thomas S. Richardson, University of Washington

3:40 p.m. Disc: Eric Tchetgen Tchetgen, Harvard University

3:50 p.m. **Floor Discussion**

## Invited Panels 2:00 p.m.–3:50 p.m.

404 CC-524a

### ■ A Celebration of J. Stuart Hunter's Contributions to Technometrics and Statistics—Invited

Technometrics, Section on Physical and Engineering Sciences

Organizer(s): Hugh A. Chipman, Acadia University

Chair(s): Hugh A. Chipman, Acadia University

**Panelists:** ✦David Steinberg, Tel Aviv University

✦Richard D. De Veaux, Williams College

✦Roger W. Hoerl, GE Global Research

✦Douglas Montgomery, Arizona State University

✦Bradley A. Jones, SAS Institute, JMP Division

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

405 CC-516b

### ■ Questions in Cancer Research: What Are the Most Pressing Statistical Problems?—Invited

Biometrics Section, WNAR, Scientific and Public Affairs Advisory Committee

Organizer(s): Michelle Christine Dunn, National Cancer Institute

Chair(s): Stephanie Land, National Cancer Institute

**Panelists:** ✦Gary L. Rosner, The Johns Hopkins University

✦Ross Prentice, Fred Hutchinson Cancer Research Center

✦Kim-Ahn Do, The University of Texas MD Anderson Cancer Center

✦Bradley McIntosh Broom, The University of Texas MD Anderson

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

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

406 CC-515a

### Advances in Functional Mixed Models—Topic-Contributed

Biometrics Section, International Indian Statistical Association

Organizer(s): Jingang Miao, Texas A&M University; Samiran Sinha, Texas A&M University

Chair(s): Jingang Miao, Texas A&M University

2:05 p.m. **Nonparametric Estimation for Genetic Mixture Models with Random Effects**—✦Tanya Garcia, Texas A&M University; Yuanjia Wang, Columbia University; Yanyuan Ma, Texas A&M University

2:25 p.m. **Robust Adaptive Functional Mixed Models for Correlated Functional Data**—✦Hongxiao Zhu, Virginia Tech; Jeffrey S. Morris, The University of Texas MD Anderson Cancer Center

2:45 p.m. **Classical and Bayesian Methods of Smooth Global Testing for Functional Linear Models**—✦Dan Spitzner, University of Virginia

3:05 p.m. **Advances in Functional Mixed Models**—✦Tapabrata Maiti, Michigan State University; Samiran Sinha, Texas A&M University; Ping-Shou Zhong, Michigan State University

3:25 p.m. **Functional Spectral Analysis**—✦Robert Krafty, University of Pittsburgh; Wensheng Guo, University of Pennsylvania; Martica Hall, University of Pittsburgh

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

407 CC-516a

### ■ Recent Advances in Design and Analysis of Cancer Clinical Trials—Topic-Contributed

Biopharmaceutical Section, Mental Health Statistics Section, Biometrics Section

Organizer(s): Jianchang Lin, Millennium: The Takeda Oncology Company

Chair(s): Guohui Liu, Millennium: The Takeda Oncology Company

2:05 p.m. **Clinical Trial Designs for Biomarker Research in Oncology**—✦Sumithra Mandrekar, Mayo Clinic

2:25 p.m. **Finding the Biologically Optimal Dose with Early Efficacy Biomarkers in Phase I Cancer Clinical Trials**—✦Rui Qin, Mayo Clinic

2:45 p.m. **A Dose-Escalation Design for Combination Cancer Therapies**—✦Jenny Zhang, Gilead Sciences

3:05 p.m. **Improving Median Progression-Free Survival Methods Through Design or Analysis**—✦Keaven Anderson, Merck Research Laboratories; Honghong Zhou, Merck Research Laboratories

3:25 p.m. Disc: William Rosenberger, George Mason University

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

## 408 CC-520e

## ■ Recent Developments in Bayesian Health Policy Statistics—Topic-Contributed

Section on Bayesian Statistical Science, Health Policy Statistics Section, International Society for Bayesian Analysis (ISBA), Scientific and Public Affairs Advisory Committee

Organizer(s): Bradley P. Carlin, University of Minnesota
Chair(s): Joseph S. Koopmeiners, University of Minnesota

2:05 p.m. **Bayesian Methods Developments in Microsimulation—**✦Laura Hatfield, Harvard Medical School

2:25 p.m. **Random Effects Old and New: It Affects Your Simulation Design—**✦James Hodges, University of Minnesota

2:45 p.m. **Adaptive Adjustment of the Randomization Ratio Using Historical Control Data—**✦Brian Hobbs, The University of Texas MD Anderson Cancer Center; Bradley P. Carlin, University of Minnesota; Daniel J. Sargent, Mayo Clinic

3:05 p.m. **A Bayesian Hierarchical Model for Network Meta-Analysis with Selection Bias—**✦Jing Zhang, University of Minnesota School of Public Health; Bradley P. Carlin, University of Minnesota; Hwanhee Hong, University of Minnesota; James Neaton, University of Minnesota; Guoxing (Greg) Soon, FDA; Beth A. Virnig, University of Minnesota School of Public Health; Haitao Chu, University of Minnesota School of Public Health

3:25 p.m. **Composite Kaplan-Meier and Commensurate Bayesian Models for Combining Historical and Progressively Accruing Survival Information—**✦Ted Lystig, Medtronic, Inc.; Thomas Murray, University of Minnesota; Brian Hobbs, The University of Texas MD Anderson Cancer Center; Bradley P. Carlin, University of Minnesota

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

## 409 CC-510b

## Statistical Methods with Applications in Biological and Epidemiological Research—Topic-Contributed

International Indian Statistical Association, WNAR, Section on Statistics in Epidemiology

Organizer(s): Anindya Bhadra, Purdue University
Chair(s): Rubin Wei, Texas A&M University

2:05 p.m. **Bayesian Joint Modeling of Zero-Inflated Panel Count and Severity Outcomes—**✦Elizabeth Juarez-Colunga, University of Colorado Denver; Giovani Silva, Technical University of Lisbon; Charmaine Dean, University of Western Ontario

2:25 p.m. **Statistical Methods for Noninferiority Trials—**✦Saman Muthukumarana, University of Manitoba

2:45 p.m. **Survival Trees and Forest for Thyroid Cancer Prognostication—**✦Mousumi Banerjee, University of Michigan; Daniel Muenz, University of Michigan; Megan Haymart, University of Michigan

3:05 p.m. **Joint Estimation of Multiple Bivariate Densities of Protein Backbone Angles Using an Adaptive Exponential Spline Family—**✦Mehdi Maadooliat, Marquette University; Lan Zhou, Texas A&M University; Jianhua Z. Huang, Texas A&M University; Xin Gao, King Abdullah University of Science and Technology

3:25 p.m. **Screening Strategies for High-Dimensional Multiple Predictor, Multiple Response Data with an Application in Genomics—**✦Anindya Bhadra, Purdue University; Mehdi Maadooliat, Marquette University; Mohsen Pourahmadi, Texas A&M University; Veera Baladandayuthapani, The University of Texas MD Anderson Cancer Center

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

## 410 CC-516d

## ■ ● Analysis of Mixed Type of Data and Multiple Traits—Topic-Contributed

Biometrics Section, SSC, WNAR

Organizer(s): Gang Zheng, National Heart, Lung and Blood Institute
Chair(s): Zhaohai Li, George Washington University

2:05 p.m. **Gaussian Copula Mixed Models for Non-Gaussian Correlated Data—**✦Alex de Leon, University of Calgary; Beilei Wu, University of Calgary; Niroshan Withanage, University of Calgary

2:25 p.m. **Assessment of Biomarker Prediction Accuracy Under Marker-Dependent Sampling—**Xiaofei Wang, Duke University Medical Center; ✦Junling Ma, Shanghai University of Finance and Economics; Stephen George, Duke University Medical Center

2:45 p.m. **Genetic Association with Multiple Traits in the Presence of Population Stratification—**✦Qizhai Li, Academy of Mathematics and Systems Science, CAS; Ting Yan, George Washington University; Yuanzhang Li, Walter Reed Army Institute of Research; Zhaohai Li, George Washington University; Gang Zheng, National Heart, Lung and Blood Institute

3:05 p.m. **Combining Dependent P-Values Using Generalizations of Gamma Distribution with Applications to Multi-Trait Association—**✦Gang Zheng, National Heart, Lung and Blood Institute; Qizhai Li, Academy of Mathematics and Systems Science, CAS

3:25 p.m. **Secondary Analysis of Longitudinal Trait in Genetic Association Studies—**✦Huilin Li, New York University

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

## 411 CC-513b

### ■ Regulatory Challenges in Nonclinical Biostatistics—Topic-Contributed

Biopharmaceutical Section, Biometrics Section, Scientific and Public Affairs Advisory Committee

Organizer(s): Priya Kulkarni, Genentech Inc

Chair(s): Priya Kulkarni, Genentech Inc

2:05 p.m. **A Predictive Distribution Approach to QbD: Going Beyond the Flaw of Averages to Assess Risk—** ✦John Peterson, GlaxoSmithKline

2:25 p.m. **Perspectives on Pooling as Described in the ICH Q1E Guidance—**✦Stan Altan; Jyh-Ming Shoung, Janssen Research & Development; Yan Shen, Janssen Research & Development; Areti Manola, Janssen Research & Development

2:45 p.m. **The Posterior Probability of Passing a Compendial Standard—**✦David LeBlond, CMCStats; Linas Mockus, Purdue University

3:05 p.m. **Statistical Challenges Arising in Tech Transfers of Lyophilized Biologics and Improvements Made Using a Finite-Sample Chebyshev Inequality and a Lognormal Sum Approximation—** ✦Lisa Bernstein, Genentech

3:25 p.m. Disc: Bert Gunter, Genentech Inc.

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

## 412 CC-511b

### ■ Forecasting Macroeconomic Trends—Topic-Contributed

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

Organizer(s): Gian Luigi Mazzi, Eurostat - European Commission

Chair(s): Riccardo Gatto, Eurostat - European Commission

2:05 p.m. **U.S. Fiscal Policy: Ex Ante and Ex Post—** ✦Simon van Norden, HEC Montréal; Dean Croushore, University of Richmond

2:25 p.m. **Modeling Trends, Cyclical Movements, and Turning Points of the Chinese Economy—**✦Ataman Ozyildirim, The Conference Board; Harry X. Wu, Institute of Economic Research, Hitotsubashi University

2:45 p.m. **Probability Forecasting for Inflation Warnings from the Federal Reserve—**✦Shaun Vahey, ANU; Anthony Garratt, Birkbeck, University of Lodon; James Mitchell, Warwick University

3:05 p.m. **Forecastting Macroeconomic Trends—**✦Gabriel Perez Quiros, Bank of Spain; Javier Perez Garcia, Bank of Spain; Joan Paredes, European Central Bank

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

## 413 CC-519a

### Selections from Statistical Inference from SAMSI Massive Data Program—Topic-Contributed

Section on Statistical Learning and Data Mining, SSC, Biometrics Section, Section on Statistical Computing, Scientific and Public Affairs Advisory Committee Organizer(s): Naomi S. Altman, Penn State University; Yufeng Liu, The University of North Carolina

Chair(s): Naomi S. Altman, Penn State University

2:05 p.m. **Bayesian Large-Scale Multiple Testing for Time Series Data—**Xia Wang, University of Cincinnati; ✦Ali Shojaie, University of Washington; Jian Zou, Indiana University-Purdue University Indianapolis

2:25 p.m. **Adaptively Weighted Large Margin Classifiers for Sufficient Dimension Reduction—**✦Andreas Artemiou, Michigan Technological University; Yufeng Liu, The University of North Carolina

2:45 p.m. **Large-Margin Classifier Selection via Decision Boundary Stability—**✦Wei Sun, Purdue University; Guang Cheng, Purdue University; Yufeng Liu, The University of North Carolina

3:05 p.m. **Variable Selection for Support Vector Machine on High Dimensions—**✦Xiang Zhang, North Carolina State University; Lan Wang, University of Minnesota; Runze Li, Penn State University; Yichao Wu, North Carolina State University

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

## 414 CC-524b

### ■ The 'Third' Course in Applied Statistics for Undergraduates—Topic-Contributed

Section on Statistical Education

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

Chair(s): Amy Wagaman, Amherst College

2:05 p.m. **Statistics Without the Normal Distribution—** ✦Monnie McGee, Southern Methodist University

2:25 p.m. **Nonlinear, Non-Normal, Non-Independent? A Course About Models for Situations When Classical Regression Assumptions Don't Apply—** ✦Alison Gibbs, Universtiy of Toronto

2:45 p.m. **Are Undergraduates Ready for Generalized Linear Models and Correlated Data Methods?—** ✦Paul Roback, St. Olaf College

3:05 p.m. **Teaching Data Mining and Predictive Analytics to Undergraduates—**✦Brant Deppa, Winona State University

3:25 p.m. Disc: Julie Legler, St. Olaf College

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

## 415 CC-513a

### ■ ● Challenges and New Developments in Imaging with Large Data Sets—Topic-Contributed

Section on Statistics in Imaging, Mental Health Statistics Section, Section on Statistical Computing

Organizer(s): Garvesh Raskutti, SAMSI

Chair(s): Timothy Johnson, University of Michigan

2:05 p.m. **Compressive Inference**—✦Weihong Guo, CWRU; Garvesh Raskutti, SAMSI; Jiayang Sun, Case Western Reserve University; Grace Yi Wang, SAMSI; Dan Yang, SAMSI

2:25 p.m. **Light Curve Analysis for Classification with Astronomical Data**—✦Ashish Mahabal, Caltech; Julian Faraway, University of Bath; Jiayang Sun, Case Western Reserve University; Xiaofeng Wang, Cleveland Clinic Lerner Research Institute; Yi Wang, SAMSI/ Duke University; Lingsong Zhang, Purdue University

2:45 p.m. **Forgery Detection in Paintings**—✦Yi Wang, SAMSI/ Duke University; Ingrid Daubechies, Duke University; Gungor Polatkan, Princeton University; Sina Jafarpour, Yahoo! Research

3:05 p.m. **Image Analysis of High-Resolution and High-Throughput Experiments**—✦Daniela Ushizima, LBNL; Andrea Bianchi, Universidade Federal de Ouro Preto; Hari Krishnan, LBNL

3:25 p.m. **Predictive Modeling with High-Dimensional Colorimetric Image Data for Lung Cancer Detection**—✦Xiaofeng Wang, Cleveland Clinic Lerner Research Institute; Peter J. Mazzone, Cleveland Clinic Foundation

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

## 416 CC-512c

### Advances in G-Estimation of Structural Nested Models and Structural Equation Models—Topic-Contributed

Section on Statistics in Epidemiology, SSC, Biometrics Section

Organizer(s): Alisa J. Stephens, University of Pennsylvania

Chair(s): Alisa J. Stephens, University of Pennsylvania

2:05 p.m. **Estimating Cumulative Failure Risk Under Hypothetical Interventions on Time-Varying Treatments in Complex Observational Studies**—✦Jessica G. Young, Harvard School of Public Health

2:25 p.m. **Exploring the Finite-Sample Properties of Inverse Probability Weighted and G Estimation of a Structural Nested Failure Time Model Under Positivity Violations**—✦Ashley Isaac Naimi, McGill University; Stephen R. Cole, The University of North Carolina at Chapel Hill; Erica E. M. Moodie, McGill University; Jay Kaufman, McGill University

2:45 p.m. **Structural Nested Mean Model for Clustered Outcomes**—✦Jiwei He, University of Pennsylvania; Marshall M. Joffe, University of Pennsylvania

3:05 p.m. **Restricted Estimation for More Efficient Causal Inference in Longitudinal Studies**—✦Edward H. Kennedy, University of Pennsylvania; Marshall M. Joffe, University of Pennsylvania

3:25 p.m. **Sequential G-Estimation and SEM: Viable Alternatives to Inverse Probability Weighting in Structural Nested Direct Effect Models**—✦Tom Loeys, Ghent University (Belgium); Stijn Vansteelandt, Ghent University; Beatrijs Moerkerke, Ghent University

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

## 417 CC-518

### Adaptive Monte Carlo Methods for Bayesian Computation—Topic-Contributed

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

Organizer(s): Scott C. Schmidler, Duke University

Chair(s): Le-Minh Ho, Yale University

2:05 p.m. **Adaptive Energy Partitioning for Generalized Wang-Landau Sampling**—✦Jianyu Wang, Duke University; Scott C. Schmidler, Duke University

2:25 p.m. **Monte Carlo Confidence Intervals**—✦Yves Atchade, Statistics Department, University of Michigan

2:45 p.m. **Locally Adaptive Markov Chain Monte Carlo**—✦Anthony Lee, University of Warwick; Christophe Andrieu, University of Bristol; Arnaud Doucet, University of Oxford

3:05 p.m. **Score and Observed Information Matrix Estimation in State-Space Models Using Sequential Monte Carlo**—✦Pierre Etienne Jacob, National University of Singapore; Arnaud Doucet, University of Oxford; Sylvain Rubenthaler, CNRS Nice

3:25 p.m. **Comparing the Efficiency of Adaptive MCMC Algorithms**—✦Scott C. Schmidler, Duke University

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

418 CC-512e

### Current Research and Evaluation Topics in the American Community Survey—Topic-Contributed

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

Organizer(s): Frauke Kreuter, University of Maryland

Chair(s): Alfred Navarro, U.S. Census Bureau

2:05 p.m. **Using Publically Available Administrative Data to Improve Direct Estimates of Income and Poverty from the American Community Survey—** ✦Richard Griffin, U.S. Census Bureau

2:25 p.m. **Coverage of American Indian and Alaska Native Persons and of the Population in American Indian and Alaska Native Areas in the American Community Survey—**✦Michael Beaghen, U.S.Census Bureau; John Matthew Jordan, U.S. Census Bureau

2:45 p.m. **Investigation of Anomalies in Derived Standard Errors for Estimates from the American Community Survey Public Use Microdata File—**✦Sirius Fuller, U.S. Census Bureau; Karen E. King, U.S. Census Bureau

3:05 p.m. **Several Approaches to Modeling the Characteristics of Undeliverable-as-Addressed Addresses in the American Community Survey—**✦Kristen Cyffka, U.S. Census Bureau; Steven P. Hefter, U.S. Census Bureau

3:25 p.m. **Sample Representivity in the American Community Survey—**✦Don Keathley, U.S. Census Bureau; Steven P. Hefter, U.S. Census Bureau

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

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

419 CC-515b

### ■ ● 2013 International Year of Statistics: The Time Is Now to Become an ASA Accredited Professional Statistician—Topic-Contributed

Accreditation Committee, International Indian Statistical Association, Statistics Without Borders

Organizer(s): Judy-Anne W. Chapman, NCIC Clinical Trials Group

Chair(s): Theresa Utlaut, Intel Corporation

**Panelists:** ✦Judy-Anne W. Chapman, NCIC Clinical Trials Group

✦Mary Batcher, Ernst and Young

✦Janet McDougall, McDougall Scientific

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

420 CC-516e

### Teaching Online in the Health Sciences—Topic-Contributed

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

Organizer(s): Jeff M. Szychowski, The University of Alabama at Birmingham

Chair(s): T. Mark Beasley, The University of Alabama of Birmingham

**Panelists:** ✦Jeff M. Szychowski, The University of Alabama at Birmingham

✦Andres Azuero, The University of Alabama at Birmingham

✦Kendra K. Schmid, University of Nebraska Medical Center

✦Bonnie Dumas, Medical University of South Carolina

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

## Topic-Contributed Poster Presentations 2:00 p.m.–3:50 p.m.

421 CC-220bc

### Topic-Contributed Poster Presentations: SPA Competition—Topic-Contributed

Scientific and Public Affairs Advisory Committee

Organizer(s): Susmita Datta, University of Louisville; Daniel F. McCaffrey, ETS

Chair(s): Susmita Datta, University of Louisville; Daniel F. McCaffrey, ETS

Biometrics Section

1 **Blood Pressure and Cholesterol Control in Hypertensive Hypercholesterolemic Patients—**✦Jiexiang Li, College of Charleston; Brent Egan, MUSC

Section on Statistical Computing

2 **Skewness of Maximum Likelihood Estimators in Beta Regression Model—**✦Tiago Magalhaes, University of Sao Paulo; Denise Botter, University of Sao Paulo; Monica Sandoval, University of Sao Paulo

3 **Promotion Time Cure Rate Model with Bivariate Random Effects—**✦Diego Gallardo, University of Sao Paulo; Heleno Bolfarine, University of Sao Paulo; Antonio Carlos Pedroso-de-Lima, University of Sao Paulo

Biopharmaceutical Section

4 **Comparative Effectiveness Research Using Meta-Analysis to Evaluate and Summarize Diagnostic Accuracy**—✦Kelly Zou, Pfizer Inc.; Ching-Ray Yu, Pfizer Inc.; Ye Tan, Pfizer Inc; Martin O. Carlsson, Pfizer Inc.

Section on Nonparametric Statistics

5 **Statistics Aids in Development of Personalized Modules to Improve Medication Adherence**—✦Yan Wang, Fielding School of Public Health, University of California at Los Angeles; Asya Spears, Fielding School of Public Health, University of California at Los Angeles; Honghu Liu, School of Dentistry, University of California at Los Angeles

Biometrics Section

6 **Evaluation of Approaches to Analyzing Clustered Data When the Number of Clusters and Cluster Size Are Small: A Simulation Study**—✦Jiayan Huang, University of Pennsylvania; Gui-shuang Ying, University of Pennsylvania

SSC

7 **Estimating Nonhomogeneous Intensity Matrices in Continuous Time Multi-State Markov Models**—✦Gerald Lebovic, St. Michael's Hospital; George Tomlinson, University Health Network; Patrick Brown, University of Toronto; James Stafford, University of Toronto

8 **MCMC Clustering and Its Convergence Issues**—✦Namdar Homayounfar; Masoud Asgharian, McGill University; Vahid Partovi Nia, École Polytechnique Montréal

Section on Bayesian Statistical Science

9 **Meta-Analysis Data Extraction**—✦Shemra Rizzo, University of California at Los Angeles; Robert E Weiss, University of California at Los Angeles; Raj R. Makkar, Cedars-Sinai Heart Institute

Government Statistics Section

10 **Implications of Coarse Data Allocation Methods for Flood Mitigation Analysis**—✦James Howard, UMBC/Kore Federal

Biometrics Section

11 **Inference of Bioequivalence for Log-Normal Distributed Data with Unspecified Variances**—✦Siyan Xu, Boston University; Steven Hua, Pfizer Research; Ronald Menton, Pfizer Inc.; Kerry Barker, Pfizer Inc.; Sandeep Menon, Pfizer Inc.; Ralph D'Agostino, Sr., Boston University; Mo Pei, Boston University

Survey Research Methods Section

12 **Approximate Test for Comparing Parameters of Several Inverse Hypergeometric Distributions**—✦Lei Zhang, Mississippi State Department of Health; Hongmei Han, Pennington Biomedical Research Center; William Johnson, Pennington Biomedical Research Center

Section on Statistics in Epidemiology

13 **Identifying and Estimating a Non-Constant Hazard Ratio with Time-Varying Covariates Using Cox Regression Models**—✦Miranda Kroehl, Colorado School of Public Health; Brittni Frederiksen, Colorado School of Public Health; Jill Norris, Colorado School of Public Health; Anna Baron, University of Colorado Denver

Biopharmaceutical Section

14 **Quality-Adjusted Survival Analysis Under Therapeutic Setting**—✦Suddhasatta Acharyya, Novartis Pharmaceuticals Corporation; Ren He, University of California at Los Angeles

Health Policy Statistics Section

15 **Implications of Diabetes on Dental Costs in an Insured Population**—✦Monica Chaudhari, Axio Research; William E. Barlow, Cancer Research and Biostatistics; Robert J. Reid, Group Health Research Institute; Ronald Inge, Washington Dental Service

Section on Statistics in Epidemiology

16 **How Biomarker Collection Date Influence Death Rates**—✦Ngoc Ho

# Contributed Sessions 2:00 p.m.–3:50 p.m.

422 CC-514c

## Functional Analysis and Mixed Models—Contributed

Biometrics Section

Chair(s): David Ikle, Rho Federal Systems Division

2:05 p.m. **Penalized Function-on-Function Regression**—✦Andrada Ivanescu, East Carolina University; Ana-Maria Staicu, North Carolina State University; Fabian Scheipl, Ludwig-Maximilians-Universität München; Sonja Greven, Ludwig-Maximilians-Universitä München

2:20 p.m. **Functional Principal Components Mixture Regression with Application to CT Image Data**—✦Lucy Robinson, Drexel University; Sriram Balasubramanian, Drexel University; Silpa Reddy, Drexel University

2:35 p.m. **Small Sample Behavior of Generalized Linear Mixed Models with Complex Experiments**—✦Julie Couton, University of Nebraska; Walt W. Stroup, University of Nebraska-Lincoln

2:50 p.m. **Hypothesis Testing Using Small Samples of Repeated Measures Data**—✦Xueliang Pan; Xiaobai Li, The Ohio State University; David Jarjoura, The Ohio State University

3:05 p.m. **Optimal Predictions in Mixed-Effects Hurdle Models**—✦Eva Cantoni, University of Geneva; Joanna Mills Flemming, Dalhousie University; Alan Welsh, Centre for Mathematics and its Applications, Australian National University

3:20 p.m. **Effects and Detection of Random-Intercept Misspecification in Generalized Linear Mixed Models**—✦Shun Yu, University of South Carolina-Columbia; Xianzheng (Shan) Huang, University of South Carolina-Columbia

3:35 p.m. **Optimal Estimation for the Functional Cox Model**—✦Simeng Qu, Purdue University; Xiao Wang, Purdue University

## 423 CC-515c

## Measurement Error and Missing Data—Contributed

Biometrics Section, Korean International Statistical Society

Chair(s): Ji-Hyun Lee, Moffitt Cancer Center

2:05 p.m. **Non-Gaussian Berkson Errors in Bioassay**—✦Alaa Althubaiti, King Saud University for Health Sciences; Alexander Donev, University of Manchester

2:20 p.m. **Association Between Intake of Added Sugars and Discretionary Fats with Nutrient Intakes for Children and Adolescents Ages 4--18 Years Old**—✦Brenna Curley, Iowa State University; Alicia Carriquiry, Iowa State University

2:35 p.m. **Semiparametric Partial Area Under the ROC Curve Estimation Using Test-Dependent Sampling**—✦Bethany Horton, The University of North Carolina at Chapel Hill; Haibo Zhou, The University of North Carolina at Chapel Hill

2:50 p.m. **Analysis Strategies for Planned Missing Data in an Oral Health Study**—✦Lauren Harrell, University of California at Los Angeles

3:05 p.m. **A Penalized Likelihood Approach for Selection Model with Nonignorable Missing Data**—✦Chi-hong Tseng, University of California at Los Angeles; Robert Elashoff, University of California at Los Angeles; Gang Li, University of California at Los Angeles

3:20 p.m. **Estimating a Three-Level Contextual Effects Model Given Error-Prone Measures of Contextual Variables and Missing Data**—✦Yongyun Shin, Virginia Commonwealth University

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

## 424 CC-520a

## Nonparametric Distribution Estimation—Contributed

Section on Nonparametric Statistics

Chair(s): Luo Xiao, The Johns Hopkins University

2:05 p.m. **Computing Confidence Intervals for Log-Concave Densities**—✦Mahdis Azadbakhsh, York University; Hanna Jankowski, York University; Xin Gao, York University

2:20 p.m. **Asymptotics for Lr-Norm of ARCH(p) Innovation Density Estimators**—✦Fuxia Cheng, Illinois State University

2:35 p.m. **A Stochastic Representation for the Lp-Norm Symmetric Distribution and Its Applications**—✦Jiajuan Liang, University of New Haven

2:50 p.m. **Estimation of Distributions with the New Better Than Used in Expectation Property**—✦Ganesh Malla, Xavier University; Hari Mukerjee, Wichita State University; Edgardo Lorenzo, University of Puerto Rico at Mayagüez

3:05 p.m. **Nonparametric Inference About a Density's Mode via the Log-Concave Shape Constraint**—✦Charles Doss, University of Washington; Jon Wellner, University of Washington

3:20 p.m. **Nonparametric Estimation of Phylogenetic Tree Distributions**—✦Grady Weyenberg, University of Kentucky

3:35 p.m. **Doubly Robust Estimators of Treatment-Specific Survival Distributions in Observational Studies with Stratified Sampling**—✦Xiaofei Bai, North Carolina State University; Anastasios (Butch) Tsiatis, North Carolina State University; Sean M. O'Brien, Duke University Medical Center

## 425 CC-512d

## ■ Reliability Modeling—Contributed

Section on Physical and Engineering Sciences, Quality and Productivity Section

Chair(s): Michael Crotty, SAS Institute

2:05 p.m. **Optimal Classification Policy for Highly Reliable Products**—✦Chien-Yu Peng, Institute of Statistical Science, Academia Sinica

2:20 p.m. **Some Aspects of Series System Reliability Estimation**—✦Emmanuel Yashchin, IBM Corporation

2:35 p.m. **Carryover Effects in Repairable Systems**—✦Candemir Cigsar

2:50 p.m. **Hazard Rate and Mean Residual Life Functions of Discrete Distributions**—✦Pushpa Gupta, University of Maine

3:05 p.m. **Discrete Frailty Models in Survival Analysis—** ✦Ramesh Gupta, Universtiy of Maine

3:20 p.m. **Likelihood Ratio Tests in Two Gamma Populations for Equality of Shape Parameters—**✦Ram Tripathi, Universtiy of Texas at San Antonio; Jerome P. Keating, The University of Texas at San Antonio

## 426 CC-512h

## ■ Statistical Process Control (SPC)—Contributed

Quality and Productivity Section, Section on Statistical Graphics, Korean International Statistical Society

Chair(s): Sarah Kalicin, Intel Corporation

2:05 p.m. **Monitoring Change Point for Diffusion Parameter Based on Discretely Observed Sample from SDE Models—**✦Meihui Guo, National Sun Yat-Sen University; Sangyeol Lee, Seoul National University

2:20 p.m. **SPC Charts for Monitoring Process Variability for Stationary Process Data—**✦Nien-Fan Zhang, NIST; Adam L. Pintar, NIST

2:35 p.m. **A Generalized Statistical Control Chart for Over- or Under-Dispersed Data—**✦Kimberly Sellers, Georgetown University

2:50 p.m. **A GLR Control Chart for Monitoring the Process Mean with Sequential Sampling—**✦Yiming Peng, Virginia Tech; Marion Reynolds, Virginia Tech

3:05 p.m. **A GLR Chart for Monitoring a Proportion with Autocorrelation—**✦Ning Wang, Virginia Tech; Marion Reynolds, Virginia Tech

3:20 p.m. **Another Look at Run-Length Distributions—** ✦Wei Wang, Penn State University; Dennis Kon-Jin Lin, Penn State University

3:35 p.m. **SPC Data Visualization of Seasonal Data—** ✦Annie Dudley Zangi, SAS Institute; Diane K. Michelson, SAS Institute

## 427 CC-514a

## ■ ● Statistical Considerations in Multi-Regional Trials—Contributed

Biopharmaceutical Section, Biometrics Section

Chair(s): Bruce Binkowitz, Merck

2:05 p.m. **Random Effects Design for Multiregional Trials—** ✦Fei Chen, Janssen Research & Development; Gordon Lan, Janssen Pharmaceutical Companies of Johnson & Johnson; Jose Carlos Pinheiro, Janssen Research & Development

2:20 p.m. **Bayesian Hierarchical Modeling for Cost Effectiveness in Multinational Clinical Trials—** ✦Ruifeng Xu, Merck; John R. Cook, Merck

2:35 p.m. **Assessing the Consistency of the Treatment Effects in Noninferiority Multi-Region Global Trials—** ✦Kathy Zhang, Amgen, Inc.

2:50 p.m. **Biased Interim Results Due to Regional Difference—**✦Jun Zhao, Merck; Gang Li, Johnson & Johnson

3:05 p.m. **Assessing Consistent Treatment Effect Under a Discrete Random Effect Model in a Multiregional Clinical Trial—**✦Hsiao-Hui Tsou, National Health Research Institutes; Jung-Tzu Liu, National Health Research Institutes; Chi-Tian Chen, National Health Research Institutes; Yi-Hsuan Lai, National Health Research Institutes; Wan-Jung Chang, National Health Research Institutes; Chinfu Hsiao, National Health Research Institutes; Gordon Lan, Janssen Pharmaceutical Companies of Johnson & Johnson

3:20 p.m. **Statistical Issues in Multiregional Clinical Trials—** ✦Suvajit Samanta, Merck Research Laboratory

## 428 CC-514b

## Statistical Methods for Longitudinal Studies—Contributed

Biopharmaceutical Section, Biometrics Section

Chair(s): Joseph C. Cappelleri, Pfizer Inc.

2:05 p.m. **Phase II/III Seamless Adaptive Dose-Selection Design for Longitudinal Patient Data—**✦Caitlyn Ellerbe, Medical University of South Carolina; Jordan Elm, Medical University of South Carolina; Viswanathan Ramakrishnan, Medical University of South Carolina; Bruce Turnbull, Cornell University; Stacia DeSantis, The University of Texas Health Sciences; Edward Jauch, Medical University of South Carolina; Valerie Durkalski, Medical University of South Carolina

2:20 p.m. **Quasi-Likelihood-Based Focused Information Criterion and Frequentist Model Averaging for Longitudinal Data—**✦Hui Yang; Guohua Zou, Chinese Academy of Sciences; Hua Liang, University of Rochester

2:35 p.m. **Mixed Effects Historical Varying Coefficient Model for Evaluating Dose Response in Flexible Dose Trials—**✦Toshihiro Misumi, Astellas Pharma Inc.; Sadanori Konishi, Chuo University

2:50 p.m. **Recurrent Event Analysis Considering Events Duration—**✦Kuolung Hu, Amgen, Inc.

3:05 p.m. **Logistic Regression Classifiers with Longitudinal Data—**✦Daniel Jeske, University of California; Jun Li, Unviversity of California; Xin Zhang, University of California; Vance Wong, Alere Corporation; Brian Noland, Alere Corporation

3:20 p.m. **Longitudinal Analysis of Left-Censored Serum C-Terminal Telopeptide (sCTX) Levels in Treated Women with Postmenopausal Osteoporosis—** ✦Matthew Austin, Amgen, Inc.; Angela Tang, Amgen, Inc; Nadia Daizadeh, Amgen, Inc

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

## 429 CC-511a

## ■ Data Challenges in Business and Economics—Contributed

Business and Economic Statistics Section, Scientific and Public Affairs Advisory Committee, Korean International Statistical Society

Chair(s): Mark Little, SAS Institute

2:05 p.m. **The Challenges and Opportunities for Statisticians in RFID-Sensed Big Data**—✦Heungsun Park, Hankuk University of Foreign Studies; Hyunsoo Kim, Kyonggi University

2:20 p.m. **Failures and Solutions in Organizing Business Analytics Resources**—✦Randy Bartlett, Blue Sigma Analytics

2:35 p.m. **Parsimonious Representation of Random Variables in Data Cubes**—✦Phillip Yelland, Google

2:50 p.m. **Fusion and Causal Analysis in the Big Marketing Data Sets**—✦Igor Mandel, Telmar, Inc.

3:05 p.m. **Several Numerical Techniques of Data Fusion**—✦Stan Lipovetsky, GfK Custom Research North America

3:20 p.m. **Using BLS Establishment Survey Data to Calculate Alternative Industry Employment Diffusion Indexes**—✦Edmond Cheng, Bureau of Labor Statistics; Racine Bell, Bureau of Labor Statistics

3:35 p.m. **Establishing Remote Access to Confidential German Micro Labor Market Data**—✦Joerg Heining, Institute for Employment Research (IAB); Stefan Bender, IAB (Institute for Employment Research)

## 430 CC-521ab

## Statistical Computing: Software and Graphics—Contributed

Section on Statistical Computing, Section on Statistical Graphics, Section for Statistical Programmers and Analysts

Chair(s): Samuel Ventura, Carnegie Mellon University

2:05 p.m. **Muste: Extending R with a Whole Statistical Software Environment**—✦Reijo Sund, National Institute for Health and Welfare (THL)

2:20 p.m. **Relaxnet and Widenet: Extending the Glmnet R Package with Relaxation, Basis Expansions, and Aggressive Cross-Validation**—✦Stephan Ritter, University of California at Berkeley; Alan Hubbard, University of California at Berkeley

2:35 p.m. **Jvmr: Integration of R with Scala and Java**—✦David Dahl, Brigham Young University; Richard D. Payne, Brigham Young University; Deepthi Uppalapati,

2:50 p.m. **TIBCO Enterprise Runtime for R: The Challenges of Making the R Language Enterprise-Ready**—✦Stephen Kaluzny, TIBCO Software Inc.; Lou Bajuk, TIBCO Software Inc.

3:05 p.m. **GPUs, Linear Algebra, and Efficient Computing for Gaussian Process Models**—✦Colin Rundel, Duke University

3:20 p.m. **Bayesian Statistical Modeling in Python Using PyMC**—✦Christopher Fonnesbeck, Vanderbilt University; John Salvatier, University of Washington

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

## 431 CC-525a

## Extensions and Generalizations of Linear Models—Contributed

IMS

Chair(s): Martina Pavlicova, Columbia University

2:05 p.m. **On Estimation for Partial Linear Models**—✦Sucharita Ghosh, Swiss Federal Research Institute WSL

2:20 p.m. **Extensions of Saddlepoint-Based Bootstrap Inference with Application to the First-Order Moving Average Model**—✦Alexandre Trindade, Texas Tech University; Robert Paige, Missouri University of Science and Technology; R. Indika Wickramasinghe, Eastern New Mexico University

2:35 p.m. **A New Measure of Coefficient of Determination for Regression Models**—✦Chun Li, Vanderbilt University

2:50 p.m. **Shape-Restricted Inference for Dependent Data**—✦Pramita Bagchi, University of Michigan; Stilian A Stoev, University of Michigan; Moulinath Banerjee, University of Michigan

3:05 p.m. **Multivariate Linear Models with Kronecker Product and Linear Structures on the Covariance Matrices**—✦Joseph Nzabanita, Linkoping University

3:20 p.m. **Regularized Empirical Bayes Estimation of Normal Means**—✦Xiaoya Pang, Soochow University; Wenhua Jiang, Soochow University

3:35 p.m. **Testing for Nodal Correlation in Relational Data**—✦Alexander Volfovsky, University of Washington; Peter David Hoff, University of Washington

## 432 CC-511d
## Statistical Inference and Prediction on Complex Data—Contributed

International Chinese Statistical Association

Chair(s): Wendy Lou, University of Toronto

2:05 p.m. **On Multilinear Principal Component Analysis of Order-Two Tensors**—✦I-Ping Tu, Academia Sinica; Hung Hung, Institute of Epidemiology and Preventive Medicine, National Taiwan University; Su-Yun Huang, Institute of Statistical Science, Academia Sinica; Peishien Wu, Institute of Statistical Science, Academia Sinica

2:20 p.m. **Shannon Entropy Over Approximate Entropy: An Adaptive Regularity Measure**—✦Wei Han, University of Pennsylvania; Abraham J. Wyner, The Wharton School

2:35 p.m. **Extrapolation of Cell Line Chemosensitivity Data for Clinical Prediction**—✦Ker-Chau Li, Institute of Statistical Science, Academia Sinica; Yi-Chiung Hsu, Institute of Statistical Science, Academia Sinica

2:50 p.m. **Information Identity in Categorical Data Analysis**—✦Philip Cheng, Institute of Statistical Science; Michelle Liou, Academia Sinica

3:05 p.m. **Correspondence Between Spectral Matting and Network Modularity**—✦Henry Horng-Shing Lu, National Chiao Tung University; Hung-Hui Juan, National Chiao-Tung University; Tung-Yu Wu, National Chiao-Tung University

3:20 p.m. **C-Optimal Designs of Experiments for Estimation in Simplex Dispersion Model**—✦Mong-Na Lo Huang, National Sun Yat-Sen University; Hsiang-Ling Hsu, Academia Sinica

3:35 p.m. **A Bootstrap Approach for Pharmaceutical Accelerated Stability Prediction**—✦Zhewen Fan, AbbVie

## 433 CC-520f
## Bayesian Computation and Algorithms II—Contributed

Section on Bayesian Statistical Science, Section on Statistical Computing, Korean International Statistical Society

Chair(s): Taiyeong Lee, SAS Institute

2:05 p.m. **Bayesian Nonparametric Spectral Density Estimation**—✦Ori Rosen, University of Texas at El Paso; Sally Wood, Melbourne Business School; Robert Kohn, University of New South Wales

2:20 p.m. **Approximate Bayesian Computation for a Flexible Class of Bivariate Beta Distributions**—✦Roberto Crackel, University of California at Riverside; James M. Flegal, University of California at Riverside

2:35 p.m. **Bayesian Inference for Complex Survey Designs**—✦Lane Burgette, RAND Corporation; Terrance Savitsky, RAND Corporation

2:50 p.m. **Monitoring Joint Convergence of MCMC Samplers Using Cluster-Based Partitions**—✦Douglas VanDerwerken, Duke University; Scott C. Schmidler, Duke University

3:05 p.m. **On MCMC Procedure for Bayesian Empirical Likelihood**—✦Sanjay Chaudhuri, National University of Singapore; Teng Yin

3:20 p.m. **Bayesian Model Assessment in Factor Analysis with Incomplete Data**—✦Ren He, University of California at Los Angeles; Juwon Song, Korea University; Thomas R. Belin, University of California at Los Angeles

3:35 p.m. **Modeling Non-Gaussian Stochastic Process with Bayesian Copula Method**—✦Zhiguang Xu, The Ohio State University; Steven MacEachern, The Ohio State University; Xinyi Xu, The Ohio State University

## 434 CC-511f
## Response Process and Non-Response Adjustments—Contributed

Survey Research Methods Section

Chair(s): Zeynep Tuba Suzer-Gurtekin, ISR - University of Michigan

2:05 p.m. **Methods for Producing Consistent Control Totals for Benchmarking in Survey Sampling**—✦Ismael Flores Cervantes, Westat

2:20 p.m. **Two-Step Calibration of Design Weights in Survey Sampling**—✦Sarjinder Singh, Texas A&M University at Kingsville; Stephen Andrew Sedory, Texas A&M University at Kingsville

2:35 p.m. **Improved Sampling Weight Calibration by Generalized Raking with Optimal Unbiased Modification**—Avi Singh, NORC at the University of Chicago; Nadarajasundaram Ganesh, NORC at the University of Chicago; ✦Yongheng Lin, NORC at the University of Chicago

2:50 p.m. **Dealing with Nonresponse Using Follow-Up**—✦Michael Hidiroglou, Statistics Canada; Victor Estevao, Statistics Canada

3:05 p.m. **Pseudo-Population Bootstrap Methods for Imputed Survey Data**—✦Zeinab Mashreghi, Université de Montréal; Christian Léger, Université de Montréal; David Haziza, Université de Montréal

3:20 p.m. **Preserving Relationships Between Variables with MIVQUE-Based Imputation for Item Nonresponse in Surveys**—✦Brigitte Gelein, ENSAI; David Causeur, Agrocampus Ouest; David Haziza, Université de Montréal

3:35 p.m. **Standardizing Imputation Methods for the Dairy Products Program**—✦Darcy Miller, National Agrigultural Statistics Service; Donnie Fike, National Agricultural Statistics Service

## 435 CC-525b

## Teaching Statistics in the Health Sciences: Strategies and Successes—Contributed

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

Chair(s): Felicity Enders, Mayo Clinic

2:05 p.m. **Lost in Translation: Effective Statistical Communication in Translational Science**—✦Catherine Starnes, University of Kentucky; Daniel L. Starnes, University of Kentucky; Heather M. Bush, University of Kentucky

2:20 p.m. **Teaching Medical Students to Communicate Uncertainty**—✦Philip Sedgwick, St. George's, University of London; Katherine Joekes, St. George's, University of London; Angela Hall, St. George's, University of London

2:35 p.m. **Can You Teach Numerical Common Sense?**—✦Heather M. Bush, University of Kentucky; Candace Brancato, University of Kentucky; David Fardo, University of Kentucky; Catherine Starnes, University of Kentucky; Arnold Stromberg, University of Kentucky

2:50 p.m. **We Need to Teach Our Health Science Students How to Handle Missing Data**—✦Charles Goldsmith, Simon Fraser University

3:05 p.m. **Development of a Course on Microsimulation of Health**—✦Philippe Fines, Statistics Canada; Brendan T Smith, Institute for Work and Health/University of Toronto

3:20 p.m. **Data Sharing and the Development of the Cleveland Clinic Statistical Education Data Set Repository**—✦Amy Nowacki, Cleveland Clinic

## 436 CC-511e

## Measuring Poverty: Challenges and New Solutions—Contributed

Social Statistics Section, Health Policy Statistics Section, Scientific and Public Affairs Advisory Committee

Chair(s): Joseph Salvo, New York City Department of City Planning

2:05 p.m. **Calculating Standard Error Estimates on American Community Survey Data with Variables Imputed from Outside Sources**—✦Daniel Scheer, NYC Center for Economic Opportunity; Mark Levitan, NYC Center for Economic Opportunity

2:20 p.m. **Critique of a Modification to the Census-Recommended American Community Survey Variance Estimator**—✦Eric Grau, Mathematica Policy Research

2:35 p.m. **Variance Estimation of NY City Poverty Measurement: Review of a Proposed Methodology**—✦Michael Cohen, Committee on National Statistics

2:50 p.m. **Discussion of Small-Area Estimation for the Alternative Poverty Measure**—✦Alan Zaslavsky, Harvard University

3:05 p.m. **The Supplemental Poverty Measure in the Survey of Income and Program Participation**—✦Kathleen Short, U.S. Census Bureau; Katherine G. Giefer, U.S. Census Bureau

3:20 p.m. **Small-Domain Estimation with Limitations on the Direct Estimate**—✦Wesley Basel, U.S. Census Bureau; Jasen A Taciak, U.S. Census Bureau

3:35 p.m. **Spatial Modeling for Small-Area Poverty Analysis**—✦Jasen A Taciak, U.S. Census Bureau; Lauren Bowers, U.S. Census Bureau; Amanda Bell Beal, U.S. Census Bureau; Dimitris Polis, U.S. Census Bureau

## 437 CC-512f

## Modeling and Applications to Transportation Surveys—Contributed

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

Chair(s): Promod Chandhok, Bureau of Transportation Statistics

2:05 p.m. **Bayesian Hierarchical Model in Driving Risk Analysis Using Naturalistic Driving Study Data**—✦Youjia Fang, Virginia Tech; Feng Guo, Virginia Tech Transportation Institute

2:20 p.m. **Evaluate Crash and Near-Crash Risk for Naturalistic Driving Data Using Recurrent Event Models**—✦Chen Chen; Feng Guo, Virginia Tech Transportation Institute

2:35 p.m. **Using Structural Equation Modeling to Measure Single-Vehicle Crash Severity**—✦Xiao Qin

2:50 p.m. **Examining the Effects of Driver Behavior Using Random Coefficients Modeling**—✦Linda Boyle, University of Washington-Industrial & Systems Engineering; Yiyun Peng, University of Washington

3:05 p.m. **SHRP 2's Naturalistic Driving Study: A Database of Unlimited Challenges**—✦Karin Bauer, MRIGlobal

3:20 p.m. **Using School Lotteries to Evaluate the Value-Added Model**—✦Jonah Deutsch, The University of Chicago

3:35 p.m. **A Comparison of Statistical Methods for Standardized Estimates and Confidence Intervals with Survey Data**—✦Yi Mu, Centers for Disease Control and Prevention

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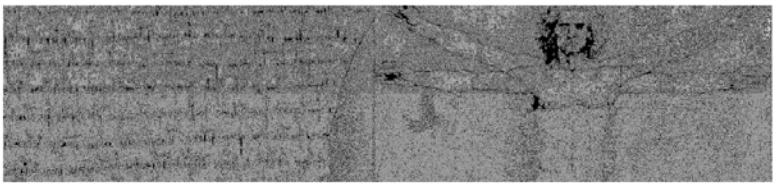

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438 CC-512g

## ■ Incomplete Data, Truncation, and Censoring—Contributed

Health Policy Statistics Section

Chair(s): Gregory Matthews, University of Massachusetts

2:05 p.m. **Unbiased Estimation in the Presence of Left-Truncation and Time-Dependent Exposures—**✦Alex Bliu, McGill University; Erica E. M. Moodie, McGill University

2:20 p.m. **Analysis of Onset of Dementia Data with Interval Censoring—**✦Linbo Wang, University of Washington; Xiao-Hua Andrew Zhou, University of Washington

2:35 p.m. **Incorporating External Information to Assess Robustness of Comparative Effectiveness Estimates to Unobserved Confounding—**✦Alfa Yansane, Health Policy Statisitcs Section; Mary Beth Landrum, Harvard Medical School

2:50 p.m. **Comparing Nested Regression Coefficients in Incomplete Data—**✦Chantal Larose, University of Connecticut; Ofer Harel, University of Connecticut; Jun Yan, University of Connecticut

3:05 p.m. **F-Tests in Incomplete Data for Multiple Regression Set-Up—**✦Ashok Chaurasia, Univeristy of Connecticut; Ofer Harel, University of Connecticut

3:20 p.m. **Analysis of Transplant Urgency and Benefit via Multiple Imputations—**✦Fang Xiang, Novartis; Susan Murray, University of Michigan

3:35 p.m. **Mixed Effect Model for Missing Not at Random in Xenograft Tumor Growth Assays—**✦Xiaoli Shirley Glasgow, Merck; George Naumov, Merck; Kuenhi Tsai, Merck

439 CC-522bc

## Recent Advance on Network Analysis—Contributed

Section on Statistical Learning and Data Mining, Korean International Statistical Society

Chair(s): Susan Wang, Boehringer Ingelheim Pharmaceutical Inc.

2:05 p.m. **Online Ratings: Convergence Toward a Positive Perspective?—**✦Yaonan Zhang, Boston University; Theodoros Lappas, Boston University; Evimaria Terzi, Boston University; Eric Kolaczyk, Boston University; Mark E. Crovella, Boston University

2:20 p.m. **Joint Modeling of Communities and Node Features in Networks—**✦Yuan Zhang, University of Michigan; Liza Levina, University of Michigan; Ji Zhu, University of Michigan

2:35 p.m. **Scalable Spectral Algorithms for Community Detection in Directed Networks—**✦Sungmin Kim, The Ohio State University; Tao Shi, The Ohio State University

2:50 p.m. **Selecting the Number of Communities in Stochastic Blockmodels—**✦Diego Franco Saldana, Columbia University; Yi Yu, University of Cambridge; Yang Feng, Columbia University

3:05 p.m. **The Impact of Partial Markov Bases on the Goodness-of-Fit of Network Models—**✦Xiaolin Yang, Carnegie Mellon University; Stephen E. Fienberg, Carnegie Mellon University; Alessandro Rinaldo, Carnegie Mellon University

3:20 p.m. **Joint Modeling of Multiple Social Networks to Elucidate Primate Social Dynamics: Maximum Entropy Principle and Network-Based Interactions—**✦Stephanie Chan, University of California at Davis

3:35 p.m. **Method of and System for Mapping SONET Performance Parameters to MPLS Quality of Service Parameters—**✦Cheng Chen, Texas A&M University at Kingsville

# SPEED Contributed Poster Presentations 2:00 p.m.–3:50 p.m.

440 CC-220bc

## Methods and Applications in High-Dimensional Data, Part 2—Contributed Poster Presentations

Section on Statistical Learning and Data Mining, Biometrics Section

Chair(s): Guang Cheng, Purdue University

1 **Delving into Megadata: Evolving Challenges—**✦Turkan Gardenier, Pragmatica Corp.; John Stark Gardenier, Independent

2 **Composite Large-Margin Classifiers with Latent Subclasses—**✦Guanhua Chen, The University of North Carolina at Chapel Hill; Yufeng Liu, The University of North Carolina; Michael R. Kosorok, The University of North Carolina at Chapel Hill

3 **A Robust Likelihood Ratio Test for Testing Equal Means in the Presence of Unequal Variance—**✦Achut Adhikari, University of Northern Colorado

4 **Simultaneous Sparse Estimation of Canonical Vectors in the P>>N Setting—**✦Irina Gaynanova, Cornell University; James Booth, Cornell University; Martin T. Wells, Cornell University

5 **Statistical Modeling of Genomic Words and Motifs—**✦Guozhu Zhang, Bioinformatics Research Center, North Carolina State University; Stephen Sauchi Lee, University of Idaho

6 **Creating Gains Tables and Lift Charts Using R—** ✦Craig Rolling, University of Minnesota

7 **Using Thresholding Difference-Based Estimators for Variable Selection in Partial Linear—** ✦June Luo, Clemson University

8 **SPReM: Sparse Projection Regression Model for High-Dimensional Linear Regression—**✦Qiang Sun, The University of North Carolina at Chapel Hill; Hongtu Zhu, The University of North Carolina at Chapel Hill; Yufeng Liu, The University of North Carolina; Joseph G. Ibrahim, The University of North Carolina at Chapel Hill

9 **Locally Epistatic Relationship Matrices for Genome-Wide Association and Prediction—**✦Deniz Akdemir, Cornell University

10 **Variable Selection for Big Data via Bagging Adaptive Lasso and Precision Shrinking—**✦Cory Lanker, Iowa State University of Science and Technology; Wen Zhou, Iowa State University; Max Morris, Iowa State University; Stephen Bruce Vardeman, Iowa State University; Huaiqing Wu, Iowa State University

11 **A Multivariate Single Index Model for Longitudinal Data with Application in Clinical Investigation—** ✦Jingwei Wu, Indiana University, School of Medicine; Wanzhu Tu, Indiana University School of Medicine

12 **Overall Power Calculation for High-Dimensional Design—**✦Yueh-Yun Chi, University of Florida; Matthew J. Gribbin, MedImmune; Jacqueline J. Johnson, The University of North Carolina; Keith E. Muller, University of Florida

13 **Clustering to Strengthen a Categorical Instrument—** ✦Douglas Lehmann, University of Michigan; Yun Li, University of Michigan; Yi Li, University of Michigan

14 **Variable Selection for High-Dimensional Multivariate Outcomes—**✦Tamar Sofer, Harvard School of Public Health; Lee Dicker, Rutgers University; Tamar Sofer, Harvard School of Public Health

15 **Empirical Bayesian Incorporation of Method Selection Into Massive Multiple Testing Analyses—** ✦Stanley Pounds, St. Jude Children's Research Hospital; Cuilan L. Gao, University of Tennessee-Chattanooga; Shesh Nath Rai, University of Louisville; Demba Fofana, University of Memphis

16 **Manifold Regression for Functional Data—**✦Andrew Farris, University of California at Davis; Hans-Georg G. Müller, University of California at Davis

17 **Domain-Interaction Functional Regression Models for Functions with Varying Domains—**✦Jonathan Gellar, Johns Hopkins Bloomberg School of Public Health; Elizabeth Colantuoni, Johns Hopkins Bloomberg School of Public Health; Dale Needham, Johns Hopkins School of Medicine; Ciprian M. Crainiceanu, The Johns Hopkins University

18 **Risk Prediction from Electronic Health Record Data: A Naïve Bayes Approach—**✦Julian Wolfson, University of Minnesota

19 **A Flexible Correlation Structure for Joint Modeling of Multivariate Ordinal Medication Adherence Data—** ✦Abdus Wahed, University of Pittsburgh; Zhen Jiang, FDA

20 **Identifying Epigenomic Biomarkers for Anticancer Drug Responses by Integrating Gene Expression and DNA Methylation Profiles—**✦Zhibao Mi, VA; Kui Shen, University of Pittsburgh; Nan Song, the NSABP Foundation, Inc.

## Contributed Poster Presentations 2:00 p.m.–3:50 p.m.

441 CC-220bc

### Contributed Oral Poster Presentations: Business and Economic Statistics Section—Contributed Poster Presentations

Business and Economic Statistics Section

Chair(s): Joyee Ghosh, University of Iowa

17 **Empirical Studies on Market Microstructure Models—** ✦Feng Liu, The University of North Carolina at Chapel Hill

18 **Estimating the Implied Default Probability and Recovery Rate in the Investment Corporation Bond Pricing Model—**✦Masakazu Ando, Chiba Institute of Technology; Hiroshi Tsuda, Doshisha University

19 **Rank-Based Estimation for Infinite Variance Autoregressive Processes with Regularly Varying Tail Probabilities—**✦Jiening Chen, Northwestern University; Beth Andrews, Northwestern University

20 **An Example Using Excel Stepwise Regression to Forecast High-Risk Automobile Losses—**Kris Moore, Baylor University; ✦Jonathan Trower, Baylor University

21 **Fourier-Type Estimation of the Power GARCH Model with Stable-Paretian Innovations—**✦Simos Meintanis, National and Kapodistrian University of Athens

22 **Prediction Intervals for Non-Negative Series—** ✦Keith Ord, Georgetown University

23 **Marked Point Process on Stock Trade Flow—** ✦Mingyu Tang

24 **Hypothesis-Testing in Semiparametric Discrete Choice Model—**✦Yifan Yang, University of Kentucky

25 **Modeling the Information Contained in the Limit Order Book—**✦Julieta Frank, University of Manitoba; Luis Frank, University of Buenos Aires

26 **Quantile Regression with Heteroskedasticity and Asymmetry—**✦David J. Mauler, Brigham Young University; James B. McDonald, Brigham Young University

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## Contributed Oral Poster Presentations: Government Statistics Section—Contributed Poster Presentations

Government Statistics Section

Chair(s): Joyee Ghosh, University of Iowa

27 **Improving the Race Edit in the Consumer Expenditure Survey—**✦Barry P. Steinberg, Bureau of Labor Statistics; Sharon Krieger, Bureau of Labor Statistics

28 **Reinventing and Evaluating a Redesigned Occupational Outlook Handbook—**✦William Mockovak, Bureau of Labor Statistics; Kristina Bartsch, Bureau of Labor Statistics

29 **Review of Household Demand Elasticities in Argentina—**✦Luis Frank, University of Buenos Aires; Sebastian Maggio, University of Buenos Aires

30 **Testing the 'Free and Fair' Hypothesis—**✦Ole Forsberg, Oklahoma State University

31 **Wage Estimation Using Data from the National Compensation Survey and the Occupational Employment Statistics Program—**✦Michael Lettau, Bureau of Labor Statistics; Dee Zamora, Bureau of Labor Statistics

32 **Workflows for Reproducible Reporting for Business and Statistical Audiences: A Case Study at USDA APHIS—**✦Marie Vendettuoli, Iowa State University; David Siev, USDA APHIS, Center for Veterinary Biologics; Heike Hofmann, Iowa State University

33 **Untangling the Finance Company Web: Challenges, Experiences, and Lessons Learned—**✦Lisa Chen

34 **Back to the Future: Using Current Regression Variables to Forecast Forward from Historical Net Birth/Death Employment—**✦Victoria Battista, Bureau of Labor Statistics; Nathan Clausen, Bureau of Labor Statistics

35 **Modeling Monthly Birth/Death by Using Sample Paradata from the Current Employment Statistics Survey—**✦Jeremy Oreper, Bureau of Labor Statistics

36 **Revised National Sampling Plan for Obtaining Food Products for Nutrient Analysis—**✦Charles Perry, NDL\BRAC\ARS; Pamela Pehrsson, NDL\BRAC\ARS; Marlon Daniel, NDL\BRAC\ARS

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## Contributed Oral Poster Presentations: Health Policy Statistics Section—Contributed Poster Presentations

Health Policy Statistics Section

Chair(s): Joyee Ghosh, University of Iowa

37 **Aggregated Versus Individual Participant Meta-Analysis to Identify Potential Moderator Factors for a Continuous Outcome—**✦Tania B. Huedo-Medina, University of Connecticut

38 **Survival Analysis for the Racial Disparities in Children Asthma Patients on Emergency Room Visit—**✦Shun Zhang, National Center for Primary Care; George Rust, National Center for Primary Care

39 **Effects of Offered Hospital Language Services on Health Disparities: Opportunities for New Data Collection and Analysis—**✦Mauricio Gavilanes, AES World Languages & Cultures Institute; Mary McGraw Gross, Statistics Without Borders; Anthony Wilcox, Statistics Without Borders

40 **Comparison of ICD Classification Schemes in a Home Health Care Setting—**✦Carlin Brickner, Visiting Nurse Service of New York; Timothy Peng, The Visiting Nurse Service of New York

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## Contributed Oral Poster Presentations: Survey Research Methods Section—Contributed

Survey Research Methods Section, Korean International Statistical Society

Chair(s): Joyee Ghosh, University of Iowa

41 **Validation of Prediction Models in the Presence of Missing Data—**✦Yuanyuan Guo, Baylor University; Dean M. Young, Baylor University

42 **Explore Possible Alternative AK Composite Estimators in the Current Population Survey—**✦Khandaker Mansur, U.S. Census Bureau; Yang Cheng, U.S. Census Bureau

43 **How Does Online Survey Mode Affect Answers to Customer Feedback Loyalty Surveys?—**✦Aarti Gupta, Bain & Company; Jason Lee, Bain & Company

44 **Imputation Methods for Surveys: A Demonstration of the Impute Procedure in Sudaan—**✦Kimberly Ault, RTI International

45 **Creating Intuitive Editing Interfaces for the Survey of Consumer Finances (SCF)—**✦Richard Windle, Federal Reserve Board

46 **Creating an Automated Edit and Imputation System for the Survey on Quebec Accommodation Establishment Occupancy—**✦Catherine Fontaine, Institut De La Statistique Du Quebec/Statistics Quebec; Luc Côté, Institut De La Statistique Du Quebec/Statistics Quebec

47 **Estimation of Glomerular Filtration Rate in South Asians: A Study from the General Population in Pakistan**—✦Muhammad Islam, Aga Khan University; Saleem Jesani, Aga Khan University; Andrew S. Levey, Tufts Medical Center; Rasool Bux, Aga Khan University; Lesley A. Inker, Tufts Medical Center; Nish Chaturvedi, Imperial College London; Christophe Mariat, University de Saint-Etienne; Christopher Schmid, Brown University; Tazeen H. Jafar, Aga Khan University

48 **Should the Proxy-Respondents Be Surveyed When Assessing the Regular Smoking Initiation Age?**—✦Peng Zhao, University of Nebraska-Lincoln; Julia Soulakova, University of Nebraska-Lincoln; Lisa Crockett, University of Nebraska-Lincoln

49 **Weighting Strategy in the Social Services and Health Care Experience Project Survey**—✦Marie-Eve Tremblay, Institut de la statistique du Quebec; Robert Courtemanche, Institut de la Statistique du Quebec

50 **Variance Estimation of the Design Effect**—✦Alberto Padilla

51 **ARIMA and General Regression Neural Network for Forecasting Rice Production in Sri Lanka**—✦Manjari Dissanayake; Ferry Butar Butar, Sam Houston State University

52 **Comparisons of K-Mean and K-Medoid General Regression Neural Network for Handling Missing Data**—✦Janaka Suranga Peragaswaththe Liyanage, Sam Houston State University; Ferry Butar Butar, Sam Houston State University

53 **Comparability of Self-Rated Health Measurement Between English and Asian Languages**—✦Matt Jans, University of California at Los Angeles Center for Health Policy Research; Sunghee Lee, University of Michigan; Mingnan Liu, University of Michigan

54 **Methodological Experiences from a Register-Based Census**—✦Ingegerd Jansson, Statistics Sweden; Claes Andersson, Statistics Sweden; Peter Werner, Statistics Sweden; Anders Holmberg, Statistics Sweden; Karin Lindgren, Statistics Sweden

55 **On Simultaneous Interval Estimating the Relative Prevalence of Forward Shifting in Reported Regular Smoking Initiation Age**—✦Brianna Bright, University of Nebraska-Lincoln; Julia Soulakova, University of Nebraska-Lincoln

56 **Imputing Ordinal Data with One Predominate Category**—✦Darryl Creel

57 **Web Collection in the Quarterly Census of Employment and Wages Program**—✦John Peters, Bureau of Labor Statistics

58 **Use of R-Indicators to Assess Survey Response Representativeness**—✦Jared Coopersmith, Mathematica Policy Research; Amy Beyler, Mathematica Policy Research

59 **The Impact on Response Rates of Adding a Survey Supplement**—✦Holly Shulman, Centers for Disease Control and Prevention

60 **Model-Based Methods for Missing Data in Surveys with Post-Stratification Information**—✦Sahar Zangeneh, Fred Hutchinson Cancer Research Center; Roderick J. Little, University of Michigan

61 **Bootstrap Estimation of Variance from ROC Curve Analysis of Complex NHANES Survey Data**—✦Rey DeCastro, CDC/National Center for Environmental Health; Yang Xia, CDC NCEH; Connie Sosnoff, CDC NCEH; Lee-Yang Wong, CDC NCEH

62 **2012 NHANES National Youth Fitness Survey**—✦Vicki Burt, NCHS

63 **Analyzing Student Perceptions of Teaching with Quantile Regression**—✦Kellie Keeling, University of Denver; Robert Pavur, University of North Texas

64 **Effects of Response Format on Race and Ethnicity Measurement in the U.S.**—✦Randall Thomas, GfK Custom Research; Frances Barlas, ICF International; Bill Cook, Advertising Research Foundation; Wendy Gross, GfK Custom Research

65 **What Makes Us Exploit the Community? The Influence of Individual Characteristics on Committing Tax Evasion and Insurance Fraud**—✦Ivar Krumpal, University of Leipzig

66 **Restricted Latent Class Multiple Imputation Method of Categorical Missing Data**—✦Qiao Ma, University of Nebraska-Lincoln

# Invited Sessions 4:00 p.m.–5:50 p.m.

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## ASA Deming Lecture—Invited

Deming Lectureship Committee, International Chinese Statistical Association, International Indian Statistical Association, ASA, ENAR, WNAR, IMS, SSC, Korean International Statistical Society, International Society for Bayesian Analysis (ISBA), Statistics Surveys Online Journal

Chair(s): Marilyn Seastrom, National Center for Education Statistics

4:05 p.m. **Industrial Statistics: Research vs. Practice—** ✦Vijay Nair, University of Michigan

5:35 p.m. **Floor Discussion**

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## Wald Lecture I—Invited

IMS

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

Chair(s): David Siegmund, Stanford University

4:05 p.m. **Nonparametric Estimation Under Shape Constraints—**✦Piet Groeneboom, Delft University

5:35 p.m. **Floor Discussion**

# Invited Sessions 8:00 p.m.–9:30 p.m.

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## ASA President's Address and Founders and Fellows Recognition—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

Organizer(s): Marie Davidian, North Carolina State University

Chair(s): Robert Rodriguez, SAS Institute

8:00 p.m. **The International Year of Statistics: A Celebration and a Call to Action—**✦Marie Davidian, North Carolina State University