



June/July 2018

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Join us in Vilnius!

The Organizing Committee Co-chairs, Erwin Bolthausen and Remigijus Leipus, for the 2018 IMS Annual Meeting on Probability and Statistics and 12th International Vilnius Conference on Probability Theory and Mathematical Statistics, write:

We are pleased to announce that 2018 IMS Annual Meeting will be held in conjunction with the 12th Vilnius Conference on Probability Theory and Mathematical Statistics in Vilnius, one of the most beautiful cities in the Old Continent, capital of Lithuania, on July 2–6, 2018.

The Vilnius Conferences on Probability and Mathematical Statistics have a long and successful history. The first Vilnius Conference on Probability Theory and Mathematical Statistics was organized in June 1973, becoming the first big international meeting on probability theory and mathematical statistics in the former Soviet Union. Today, the conference is established as a must-attend international quadrennial event for many researchers in the field.

Many prominent probabilists and statisticians will attend the conference. There will be more than 180 invited talks. The Wald Lectures will be delivered by **Luc Devroye**; the 2018 Le Cam Lecturer is **Ruth Williams***; the Neyman Lecturer is **Peter Bühlmann***; and the Schramm Lecturer is **Yuval Peres**. Six Medallion lectures will be given at this meeting by **Jean Bertoin**, **Svante Janson***, **Thomas Mikosch**, **Sonia Petrone***, **Richard Samworth** and **Allan Sly**. The Vilnius Lecture will be delivered by Lithuanian probabilist **Liudas Giraitis**.

The conference coincides with an important anniversary in Lithuania's history. On the 16th of February, 1918, an Act of Independence declared an independent State of Lithuania. Vilnius, where the heritage of the past and the achievements of the present in science and culture co-exist in harmony, will be full of the Lithuanian centennial events during the whole year as well. Vilnius has unique baroque buildings and the largest Old Town in central and eastern Europe, which has managed to preserve the medieval network of streets and typical spaces, reminding us of the beautiful ancient Italian towns where Baroque was born. The Old Town of Vilnius, located in an amphitheatre of breathtaking nature, has been on the UNESCO World Heritage List since 1994.

Conference delegates will have an opportunity to explore Vilnius during special tours organized on the 4th of July, and to taste delicious Lithuanian food during a Conference dinner on the same day.

The organizers of the Conference are the Lithuanian Mathematical Society, Vilnius University and IMS. The Program Co-chairs are Peter Bühlmann (IMS) and Vygantas Paulauskas (Vilnius). The Organizing Committee Co-chairs are Erwin Bolthausen (IMS) and Remigijus Leipus (Vilnius).

You can read more on the conference website: <http://ims-vilnius2018.com>.

*** See some more Special Invited Lecture previews on pages 8–13.**

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IMS Members' News

2018 Carver Award winner announced

The 2018 Carver Medal is awarded to **Byeong Uk Park**, for his efforts and dedication in heading the local organizing committee of the inaugural Asian Pacific Rim Meeting (IMS-APRM) in Seoul in 2009, and in chairing the scientific program committee of the two next meetings in 2012 and 2014, thereby establishing this meeting as a regular part of IMS conference series that has increased the presence of IMS in this region. Byeong Uk Park is a Professor of Statistics at Seoul National University in South Korea.

Park earned his BSc in 1982 and MSc in 1984, both from Seoul National University (SNU), and his PhD in 1987 at the University of California at Berkeley, under the supervision of Peter Bickel. He was a Visiting Assistant Professor at University of North Carolina at Chapel Hill in 1987–88, since when he has been faculty at SNU's Department of Statistics, including serving as its Chair from 1999–2002.

Among his honors and awards, he is an invited lecturer this year at the International Congress of Mathematicians; he gave the Laplace Lecture at the 9th World Congress in Probability and Statistics in Toronto in 2016; he has received SNU's Scholarly Research Award (2017), the National Academy of Science Award (2014), the Korean Order of Service Merit (2014), SNU's College of Natural Science Research Grand Prize (2013), the First Korean Statistical Society Gallup–Korea Award (2006), and the First Junior Statistician Award of the Korean Statistical Society (1992). He is a Fellow of IMS, ASA and the Korean Academy of Science and Technology, and an Elected member of the International Statistical Institute.

On hearing about the award, Professor Park said, "I am honored to receive the Carver Medal. At the same time I feel indebted to all Korean colleagues who helped me in organizing the inaugural IMS-APRM, and also to the IMS leadership at that time for making this conference series possible and letting me actualize it."

Byeong Uk Park will receive the Carver Medal at the Presidential Address and Awards session at the IMS Vilnius meeting on July 2: <http://ims-vilnius2018.com/program/>



Byeong Uk Park

COPSS Awards for Bin Yu and Susan Murphy

The Committee of Presidents of Statistical Societies (COPSS) has selected **Bin Yu** as the 2018 recipient for the **Elizabeth L. Scott Award**, which is presented to someone who has helped foster opportunities in statistics for women. COPSS also selected **Susan A. Murphy** as the 2018 **R.A. Fisher Lecturer**, an award which recognizes a leading statistician who has contributed significantly to scientific investigations through the development and promotion of statistical methods. These COPSS awards, and the Presidents' Award, will be conferred at JSM2018 in Vancouver. More details on page 6.

IMS Members' News

US National Academy of Sciences Members and Foreign Associates Elected

The National Academy of Sciences has announced the election of 84 new members and 21 foreign associates in recognition of their distinguished and continuing achievements in original research. Among them are two IMS Fellows, **Trevor Hastie** (who was elected a Member) and **Simon Tavaré** (who, being Australian, was elected a Foreign Associate).

Those elected this year bring the total number of active members to 2,382 and the total number of foreign associates to 484. Foreign associates are nonvoting members of the Academy, with citizenship outside the United States.

Trevor Hastie is professor of statistics and John A. Overdeck Professor of Mathematical Sciences and Biomedical Sciences at Stanford University.

Simon Tavaré is director of the Cancer Research UK Cambridge Institute, at the University of Cambridge, UK.



Trevor Hastie

The National Academy of Sciences recognizes achievement in science by election to membership, and, with the National Academies of Engineering and Medicine, provides science, engineering, and health policy advice to the US government and other organizations.



Simon Tavaré

Nancy Reid and Philip Dawid elected Fellows of the Royal Society

Fifty eminent scientists have been elected as Fellows of the Royal Society, the independent scientific academy of the UK and the Commonwealth, dedicated to promoting excellence in science. Fellows are elected for their exceptional contributions to science. Among them are two IMS Fellows, **Philip Dawid** and **Nancy Reid**.

Philip Dawid, Emeritus Professor of Statistics of the University of Cambridge, has made fundamental contributions to both the philosophical underpinnings and the practical applications of statistics. His theory of conditional independence is a keystone of modern statistical theory and methods, and he has demonstrated its usefulness in a host of applications, including computation in probabilistic expert systems, causal inference, and forensic identification. His co-authored book *Probabilistic Networks and Expert Systems* won the first DeGroot Prize, and he was awarded the Royal Statistical Society's Guy Medal in Silver in 2001. For many years Philip Dawid was Professor of Probability and Statistics at University College London. He has served as Editor of *Biometrika* and of the *Journal of the Royal Statistical Society (Series B)*, and as President of ISBA.

Nancy Reid is University Professor and Canada Research Chair in Statistical Theory and Applications at the University of Toronto. Her research interests include statistical theory, likelihood inference, design of studies, and statistical science in public policy. Nancy is a Fellow of IMS, RSS, the Royal Society of Canada, and the American Association for the Advancement of Science, and a Foreign Associate of the National Academy of Sciences. In 2015 she was appointed Officer of the Order of Canada.



Philip Dawid



Nancy Reid

= access published papers online

IMS Journals and Publications

Annals of Statistics: Ed George and Tailen Hsing

<http://imstat.org/aos>

<http://projecteuclid.org/aos>

Annals of Applied Statistics: Tilmann Gneiting

<http://imstat.org/aoas>

<http://projecteuclid.org/aoas>

Annals of Probability: Maria Eulalia Vares

<http://imstat.org/aop>

<http://projecteuclid.org/aop>

Annals of Applied Probability: Bálint Tóth

<http://imstat.org/aap>

<http://projecteuclid.org/aop>

Statistical Science: Cun-Hui Zhang

<http://imstat.org/sts>

<http://projecteuclid.org/ss>

IMS Collections

<http://imstat.org/publications/imscollections.htm>

<http://projecteuclid.org/imsc>

IMS Monographs and IMS Textbooks: David Cox

<http://imstat.org/cup/>

IMS Co-sponsored Journals and Publications

Electronic Journal of Statistics: Domenico Marinucci

<http://imstat.org/ejs>

<http://projecteuclid.org/ejs>

Electronic Journal of Probability: Andreas Kyprianou

<http://ejp.ejpecp.org>

Electronic Communications in Probability:

Giambattista Giacomini

<http://ecp.ejpecp.org>

Current Index to Statistics: George Styan

<http://www.statindex.org>

log into members' area at imstat.org

Journal of Computational and Graphical Statistics:

Diane Cook

<http://www.amstat.org/publications/jcgs>

log into members' area at imstat.org

Statistics Surveys: David Banks

<http://imstat.org/ss>

<http://projecteuclid.org/ssu>

Probability Surveys: Ben Hambly

<http://imstat.org/ps>

<http://www.i-journals.org/ps/>

IMS-Supported Journals

ALEA: Latin American Journal of Probability and Statistics: Victor Perez Abreu

<http://alea.impa.br/english>

Annales de l'Institut Henri Poincaré (B): Gregory

Miermont, Christophe Sabot <http://imstat.org/aihp>

<http://projecteuclid.org/aihp>

Bayesian Analysis: Bruno Sansó

<http://ba.stat.cmu.edu>

Bernoulli: Holger Dette

<http://www.bernoulli-society.org/>

<http://projecteuclid.org/bj>

Brazilian Journal of Probability and Statistics:

Francisco Louzada Neto <http://imstat.org/bjps>

<http://projecteuclid.org/bjps>

IMS-Affiliated Journals

Observational Studies: Dylan Small

<http://www.obsstudies.org>

Probability and Mathematical Statistics: K. Bogdan,

M. Musiel, J. Rosiński, W. Szczotka, & W.A. Woyczyński

<http://www.math.uni.wroc.pl/~pms>

Stochastic Systems: Shane Henderson

<http://www.i-journals.org/ssy/>

Introducing the 2018 Class of IMS Fellows



Alexander Aue

Professor, University of California, Davis

For significant contributions to time series, and structural break analysis; for dedicated professional service and mentoring.

Sourav Chatterjee

Professor of Mathematics and Statistics, Stanford University

For ground-breaking work on large deviations for random graphs, super-concentration and random matrices.



Ivan Corwin

Professor of Mathematics, Columbia University

For groundbreaking contributions in integrable probability, especially the theory of Macdonald processes, stochastic quantum integrable systems, and their connections with stochastic partial differential equations, random growth models, interacting particle systems, and the Kardar–Parisi–Zhang universality.

Christopher Field

Professor Emeritus of Statistics, Dalhousie University

For fundamental contributions to robust statistical methodology, saddlepoint approximation and bootstrap methods; for extensive and important efforts to bring robust statistical methods to scientific work in the life sciences, and for leadership in the field.



Peter Hoff

Professor of Statistical Science, Duke University

For sustained and important contributions to sparse, interval and spectral estimation, for applied work in the area of networks and for service to the IMS through editorial responsibilities.

Bing-Yi Jing

Professor, Hong Kong University of Science and Technology

For fundamental contributions to asymptotic theory, empirical likelihood, resampling, and financial econometrics; for outstanding professional service.



Geurt Jongbloed

Professor of Statistics, Delft University of Technology

For seminal contributions to shape-constrained statistical inference, as well as statistical inverse problems driven by applications.

Piotr Kokoszka

Professor, Colorado State University

For fundamental research in applied probability and mathematical statistics, especially on long range dependence and functional data analysis.



Steven Kou

Director of Risk Management Institute and Class '62

Professor of Mathematics, National University of Singapore

For significant contributions to financial statistics and financial mathematics, including jump diffusion models, statistics with privacy preservation, first passage times, spatial statistics for asset pricing, non-additive probabilities for risk measures; and for conscientious editorial and service to the profession.

Antonio Lijoi

Professor of Statistics, Bocconi University, Italy

For deep and groundbreaking research in Bayesian Nonparametrics, dedicated students' mentoring and service to profession.





Sayan Mukherjee

Professor, Duke University

For significant contributions to mathematical statistics, including kernel methodology, distributions on manifolds, and inference for dynamical systems, and for extensive work in computational biology and genomics.

Sofia Charlotta Olhede

Professor of Statistics, Honorary Professor of Computer Science, Director of UCL's Centre for Data Science, UK

For seminal contributions to the theory and application of large and heterogeneous networks, random fields and point process, for advancing research in data science, and for service to the profession through editorial and committee work



Davy Paindaveine

Professor of Statistics, Université libre de Bruxelles

For outstanding contributions in non- and semiparametric inference, and extensive editorial activity.

Giovanni Peccati

Professor in Stochastic Analysis and Financial Mathematics, Luxembourg University

For influential and seminal contributions to the Malliavin calculus, especially to normal approximations and Stein's method, and to stochastic analysis on Wiener and Poisson spaces.



Elvezio Ronchetti

Professor of Statistics, University of Geneva

For fundamental contributions to the development of robust statistical methods and saddlepoint approximations, and to their applications in fields of finance and econometrics; for exemplary leadership in the field.

David A. Schoenfeld

Professor of Medicine, Harvard Medical School; Professor of Biostatistics, Harvard T. H. Chan School of Public Health

For the development of widely used statistical methods and software for the design and analysis of clinical trials, particularly with survival outcomes and biomarkers; and for statistical leadership in clinical research in cancer, HIV, amyotrophic lateral sclerosis, and critical care.



Sunder Sethuraman

Professor of Mathematics, University of Arizona

For fundamental contributions to various aspects of interacting particle systems, martingale problems, and the theory of random graphs, especially to scaling limits and related topics.

Huixia Judy Wang

Professor of Statistics, The George Washington University

For fundamental and influential contributions to the theory and methodology of quantile regression, high dimensional inference and extreme value theory; for outstanding services to the community.



Aihua Xia

Professor, the University of Melbourne

For innovative and impactful contributions to stochastic approximations via new probabilistic arguments to obtain bounds required by Stein's method.

Jianfeng Yao

Professor, The University of Hong Kong

For influential contribution to the inferential aspects of random matrix theory in the analysis of high-dimensional data



COPSS Awards for Bin Yu and Susan Murphy

The Committee of Presidents of Statistical Societies (COPSS) presents awards annually to honor statisticians who have made outstanding contributions to the profession of statistics. **Bin Yu** has been selected as the 2018 recipient for the **Elizabeth L. Scott Award**, which is presented biennially (even-numbered years) to an individual, male or female, who has helped foster opportunities in statistics for women. **Susan A. Murphy** has been named as the 2018 **R.A. Fisher Lecturer**, an award with lectureship presented yearly to recognize a leading statistician who has contributed significantly to scientific investigations through the development and promotion of statistical methods. The award ceremony will take place on August 1, 2018, during the Joint Statistical Meetings (JSM2018) in Vancouver, Canada. More details, including Susan's lecture abstract, can be found at ww2.amstat.org/meetings/jsm/2018/program.cfm.

Bin Yu: 2018 Elizabeth L Scott Award

Bin Yu is Chancellor's Professor, Departments of Statistics and Electrical Engineering and Computer Sciences at the University of California at Berkeley. Growing up in China, Yu received her Bachelor's degree in Mathematics from Peking University in 1984, and completed her Master's (1987) and PhD (1990) in Statistics at UC Berkeley. Prior to becoming a faculty member at Berkeley in 1992, she was an assistant professor at the University of Wisconsin–Madison. She has held visiting professorships at several universities/institutes (incl. Yale, ETH, Bell Labs, Poincaré Institute, INRIA), and since 2005 has been a founding co-director of the Microsoft Joint Lab on Statistics and Information Technology at Peking University in China.

Yu's research interests include statistical inference, machine learning, and information theory; currently she focuses on statistical machine learning methodologies and on theory and algorithms for solving high-dimensional data problems. Her collaborations are highly interdisciplinary and include scientists from genomics, neuroscience, precision medicine, and political science.

Yu has received numerous awards and honors. She is a member of the US National Academy of Sciences, became a Guggenheim Fellow in 2006, and is a Fellow of the ASA, IMS, AAAS, and IEEE; she was the IMS President in 2013–2014, and the IMS Rietz Lecturer in 2016. Her impressive list of professional activities includes serving on many editorial boards, such as *PNAS*, *Journal of Machine Learning Research*, *Technometrics*, *Annals of Statistics*, and *JASA*.

The award to Bin Yu will be presented by Shirley Mills, Chair of the COPSS Elizabeth L. Scott Award Committee.



Bin Yu

Susan Murphy: 2018 R A Fisher Lecturer



Susan Murphy

Susan A. Murphy is Professor of Statistics and Computer Science at the Harvard John A. Paulson School of Engineering and Applied Sciences, and Radcliffe Alumnae Professor at the Radcliffe Institute, Harvard University. Prior to joining Harvard in 2017, she was the H.E. Robbins Distinguished University Professor of Statistics, Professor of Psychiatry,

and Research Professor at the Institute for Social Research at the University of Michigan. Growing up in southern Louisiana, Murphy received her BSc in Mathematics from the Louisiana State University in 1980, and her PhD in Statistics from UNC–Chapel Hill in 1989. She was a faculty member at Penn State (1989–97) before joining the University of Michigan.

Murphy's research interests include experimental design and causal inference to inform sequential decision making. She developed the sequential, multiple assignment, randomized trial (SMART) design, which is used by scientists and clinical researchers to build better treatments for a broad range of health problems including ADHD, autism and depression. Her research lab focuses on methods for improving real-time sequential decision-making in mobile health, e.g. methods and algorithms that can be deployed on wearable devices, to deliver individually tailored treatments.

Among many honors, Murphy was inducted into the US National Academy of Sciences in 2016 and the National Academy of Medicine in 2014. She was awarded a MacArthur Fellowship in 2013, and is a Fellow of ASA, IMS and the College on Problems in Drug Dependence. She served as a co-editor of the *Annals of Statistics* (2007–09), was the 2015 IMS Wald Lecturer, and is the current President of the Bernoulli Society.

Susan A. Murphy will deliver the 2018 Fisher Lecture [*abstract on next page*] entitled “*The Future: Stratified Micro-randomized Trials with Applications in Mobile Health*” at 4pm on Wednesday, August 1, following the presentation of the Fisher award by Alicia Carriquiry, Chair of the COPSS Fisher Lecture Committee.

COPSS also announces new lectureships

COPSS establishes Elizabeth L. Scott and F.N. David Lectureships

The Committee of Presidents of Statistical Sciences (COPSS) has announced the establishment of two lectureships named after women: The Elizabeth L. Scott Lecture, and the F.N. David Lecture. The lectures, with their associated awards, will be given in alternate years at the annual Joint Statistical Meetings (JSM) beginning in 2019.

This will be the first time the JSM will have lectures named after women. The JSM has been held annually since 1840. It is the largest gathering of statisticians in North America, and one of the largest in the world. Each year there are over 6,000 participants from over 50 countries.

The Elizabeth L. Scott Lecture and the F.N. David Lecture will be included in the COPSS portfolio, which already includes the prestigious Fisher Lecture [*given this year by Susan Murphy, see previous page*]. According to Nick Horton, Chair of COPSS, “One of the main tasks for COPSS involves granting awards that highlight the work of notable statisticians. I’m proud that starting in 2019, at least one of the lectures at the JSM will be named after a woman. This is long overdue.”

The Caucus for Women in Statistics (CWS) spearheaded the effort to establish



F.N. David

the lectureships, along with the ASA LGBT Concerns Committee, ASA Committee on Women, SSC Committee on Women, ISI Committee on Women, and IBS/ENAR/WNAR.. The COPSS Executive Committee voted unanimously to approve it.

The idea that too few women receive national recognitions for their research and scholarship is not new. The National Science Foundation in 2010 established an AWARDS project “to investigate and improve the process of granting awards and prizes for scholarly achievement” in disciplines like statistics. This project led to many association reforms.

Establishing a new named lecture slot at the JSM for the Scott Lecture and David Lecture is another significant step forward in advancing the statistics profession. It

adds a face to the profession’s ongoing and growing commitment to diversity and inclusion. 2018 CWS President Shili Lin remarked: “I’m so excited and grateful that the long overdue recognitions for women in statistics in the form of two named lectures are finally here, and here to stay!”

The new lectures will be given by the winners of the COPSS awards named after outstanding women statisticians: Elizabeth L. Scott (1917–1988) and F. N. David (1909–1993). The two awards are given in alternate years. Both awards have high profiles and are highly sought within the statistics profession.

The first lecture will be the F.N. David Lecture at the 2019 JSM in Denver, Colorado, July 27–August 1.

ASA Committee on Women Chairperson Kimberly Sellers remarked: “Already looking forward to JSM 2019!”



Elizabeth L. Scott

Susan Murphy, 2018 R.A. Fisher Lecture

The Future: Stratified Micro-randomized Trials with Applications in Mobile Health

Technological advancements in the field of mobile devices and wearable sensors make it possible to deliver treatments anytime and anywhere to users like you and me. Increasingly the delivery of these treatments is triggered by detections/predictions of vulnerability and receptivity. These observations are likely to have been impacted by prior treatments. Furthermore the treatments are often designed to have an impact on users over a span of time during which subsequent treatments may be provided. Here we discuss our work on the design of a mobile health smoking cessation study in which the above two challenges arose. This work involves the use of multiple online data analysis algorithms. Online algorithms are used in the detection, for example, of physiological stress. Other algorithms are used to forecast at each vulnerable time, the remaining number of vulnerable times in the day. These algorithms are then inputs into a randomization algorithm that ensures that each user is randomized to each treatment an appropriate number of times per day. We develop the stratified micro-randomized trial which involves not only the randomization algorithm but a precise statement of the meaning of the treatment effects and the primary scientific hypotheses along with primary analyses and sample size calculations. Considerations of causal inference and potential causal bias incurred by inappropriate data analyses play a large role throughout.

We introduce the Le Cam lecturer, Ruth Williams, and the Neyman lecturer, Peter Bühlmann, along with the rest of this year's Medallion Lecturers: Anthony Davison, Anna De Masi, Svante Janson and Sonia Petrone. Anthony's lecture will be at JSM in Vancouver (July 28–August 2), Anna's at the Stochastic Processes and their Applications meeting in Gothenburg (June 11–15). The others will all be at the IMS Annual Meeting in Vilnius (July 2–6).



Le Cam Lecture preview: Ruth Williams



Ruth J. Williams studied mathematics, at the University of Melbourne where she earned BSc (Hons) and MSc degrees, and then at Stanford University where she earned her PhD. Following a postdoc at Courant Institute in New York, she took up a position as an Assistant Professor at the University of California, San Diego (UCSD). She is currently a Distinguished Professor of Mathematics and holds the Charles Lee Powell Chair in Mathematics I at UCSD.

Ruth Williams' research in probability theory and its applications includes work on reflecting diffusion processes in non-smooth domains, heavy traffic limit theorems for multiclass queueing networks, and fluid and diffusion approximations for the analysis and control of more general stochastic networks, including those described by measure-valued processes. Her current research includes the study of stochastic models of complex networks, for example, those arising in Internet congestion control and systems biology.

Among her honors, she is an elected member of the National Academy of Sciences, an elected fellow of the American Academy of Arts and Sciences, a fellow of AAAS, AMS, IMS and INFORMS. In 2012, she served as President of the IMS and in 2016, joint with Martin Reiman, she was awarded the John von Neumann Theory prize by INFORMS. She delivered an IMS Special Invited paper (now called Medallion lecture) in 1994.

Ruth Williams will give this Le Cam Lecture at the IMS Annual Meeting in Vilnius, Lithuania, on Monday July 2, 2018.

Stochastic Networks: Bottlenecks, Entrainment and Reflection

Stochastic models of complex networks with limited resources arise in a wide variety of applications in science and engineering, e.g., in manufacturing, transportation, telecommunications, computer systems, customer service facilities, and systems biology. Bottlenecks in such networks cause congestion, leading to queueing and delay. Sharing of resources can lead to entrainment effects. Understanding the dynamic behavior of such modern stochastic networks presents challenging mathematical problems.

While there are exact steady-state analyses for certain network models under restrictive distributional assumptions, most networks cannot be analyzed exactly. Accordingly, it is natural to seek more tractable approximate models. Two types of approximations which have been used to study the stability and performance of some stochastic networks are fluid and diffusion models. At this point in time, there is a substantial theory of such approximate models for queueing networks in which service to a queue is given to the job

at the head-of-the-line (HL networks). However, for queueing networks with non-HL service, such as processor sharing or random order of service, and for more general stochastic networks that do not have a conventional queueing network structure, the development of approximate models (and rigorous scaling limit theorems to justify them) is in its early stages of development.

This talk will describe some recent developments and open problems in this area. A key feature will be dimension reduction, resulting from entrainment due to resource sharing. Examples will be drawn from bandwidth sharing and enzymatic processing.

For background reading, see the survey article: R. J. Williams, Stochastic Processing Networks, *Annu. Rev. Stat. Appl.* 2016. 3: 323–45.

Neyman Lecture preview: Peter Bühlmann



Peter Bühlmann is Professor of Statistics and Mathematics at ETH Zürich. Previously (1995–97), he was a Neyman Visiting Assistant Professor at the University of California at Berkeley. His current main research interests are in causal and high-dimensional inference, computational statistics, machine learning, and applications in bioinformatics and computational biology. He is a Fellow of IMS and ASA, and he has served as Co-Editor of the *Annals of Statistics* from 2010–12. He received an honorary doctorate from the Université Catholique de Louvain in 2017, and is the recipient of the 2018 Royal Statistical Society's Guy Medal in Silver.

Peter will give this Neyman Lecture at the IMS Annual Meeting in Vilnius, Lithuania, on Tuesday July 3, 2018.

Invariance, causality and novel robustness

Jerzy Neyman: my starting point. Jerzy Neyman (1923) considered agricultural field experiments where unobserved “potential yields” from a plant variety are modeled with a fully randomized assignment mechanism [5]. Historically, it appears that Neyman was the first to formalize causal inference using potential outcomes. It turned out to be an important milestone on which many developments, methods and algorithms are building, cf. [4].

Causality: it's about predicting an answer to a “What if I do question”. Loosely speaking, the main task in causality is to predict a potential outcome under a certain treatment or in a certain environment based on data where this treatment has not been observed. In many modern applications, we are faced with such prediction tasks. For example: in genomics, what would be the effect of knocking down (the activity of) a gene on the growth rate of a plant? We want to make a prediction without having data on such a gene knock-out (e.g. no data for this particular perturbation). Similar questions arise in economics, e-commerce and many other areas.

Invariance in heterogeneous data. Structural equation models are another framework for the same causal inference task as in the potential outcome setting. There is a key invariance assumption in this framework which has been formalized first by Trygve Haavelmo (the Norwegian economist and 1989 Nobel Laureate) in 1943 [1]. “Invariance” is the first word appearing in the lecture's title as it is a crucial center point: we will focus on an invariance principle in the context of heterogeneous and potentially “large-scale” data. In a nutshell, Haavelmo [1] had recognized that:

causal model structures \Rightarrow invariance of a certain type.

One new line of thinking is the reverse relation, namely:

invariance of a certain type \Rightarrow causal model structures.

With access to large-scale heterogeneous data, we can simply estimate invariance from the data which then leads to estimated causal structures; or in other words, we infer causality from a special well-defined notion of “stability” or invariance [2]. Here, heterogeneity is not a nuisance but a “real friend” since it enables the search for invariance (a.k.a. stationary structures) within

heterogeneous (a.k.a. non-stationary) data.

From invariance to novel robustness: anchor regression. Strict invariance and causality may be too ambitious in the context of “large-scale” and poorly collected data. But when relaxing to soft invariance, we still obtain interesting robustness results for prediction. The “What if I do question” from causality is related to robustness with respect to a class of new scenarios or perturbations which are not observed in the data. A novel methodology relying on causal regularization, called anchor regression, provides new answers [3].

The lecture will highlight some fundamental connections between invariance, robustness and causality. We will illustrate that the novel insights and methods are useful in a variety of applications involving “large-scale” data.

Acknowledgment. Many of the ideas presented in the lecture come from my collaborators Nicolai Meinshausen, Jonas Peters and Dominik Rothenhäusler.

References

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Medallion Lecture preview: Anthony Davison



Anthony Davison is Professor of Statistics at the Ecole Polytechnique Fédérale de Lausanne (EPFL). Between obtaining his PhD from Imperial College London in 1984 and moving to EPFL in 1996, he worked at the University of Texas at Austin, at Imperial College London and at the University of Oxford. He has published on a variety of topics in statistical theory and methods, including small-sample likelihood inference, bootstrap methods and the statistics of extremes. He is author or co-author of several books.

He has served the statistical profession as Editor of *Biometrika*, as Joint Editor of *Journal of the Royal Statistical Society, series B*, and in various other roles. In 2009 he was made *laurea honoris causa* in statistical science by the University of Padova. He is a Fellow of IMS and the ASA, and in 2015 received the Royal Statistical Society's Guy Medal in Silver.

Anthony will give this Medallion Lecture at the JSM in Vancouver.

Statistical Inference for Complex Extreme Events

Statistics of extremes deals with the estimation of the risk of events that have low probabilities but potentially very damaging consequences, such as stock market gyrations, windstorms, flooding and heatwaves. Typically, few events relevant to the phenomenon of interest have ever been observed, and their probabilities must be estimated by extrapolation well outside any existing data, using appropriate probability models and statistical methods. Two broad approaches to the analysis of extremes are the use of block maxima, for example, annual maximum rainfall series; and the use of threshold exceedances, whereby only those observations that exceed some high threshold contribute to tail estimation. Key difficulties are that relevant events are typically scarce, so as much information as possible must be squeezed from those data that are available, and that any models based on limiting arguments are likely to be mis-specified for finite samples. There is an extensive literature on all aspects of this problem, from a wide range of perspectives.

In the scalar case, classical arguments suggest that inference for block maxima and exceedances over high thresholds should be based respectively on the generalised extreme-value and generalized Pareto distributions, and these are widely used in applications. Extensions of these arguments to more complex settings suggest that max-stable processes should provide suitable models for maxima of spatial and spatio-temporal data, and that Pareto processes are appropriate for modelling multivariate exceedances, appropriately defined. Although max-stable processes were introduced around 1980, there had been few attempts to fit them to data until recently, due both to a dearth of suitable models and to computational considerations. Such processes are generally specified through their joint distribution functions, leading to a combinatorial explosion when attempting to construct a full likelihood function, so workarounds, such as use of composite likelihoods or other low-dimensional summaries, have been proposed for both parametric and nonparametric inference. These approaches are increasingly being deployed in applications, but they are statistically inefficient,

and the resulting loss of precision matters in settings where the final uncertainty is invariably too large for comfort.

A further difficulty is that basing inference on maxima, which typically stem from merging several unrelated occurrences, obscures the detailed structure of individual events. Since these may show typical patterns that are important in risk assessment, attention has recently turned to inference based on multivariate exceedances, which in principle allow more informative modelling to be undertaken. Functionals that determine risks of particular interest are used to select the events most relevant to the estimation of these risks, and the tail probabilities corresponding to such risks are then estimated.

This lecture will survey recent work in the area and then show how detailed modelling for high-dimensional settings can be undertaken using Pareto processes, generalized versions of threshold exceedances, suitably-defined likelihoods and gradient scoring rules.

The work is joint with numerous others, and in particular with Raphaël de Fondeville.

Vancouver Convention Centre, location of the 2018 Joint Statistical Meetings:
<https://www2.amstat.org/meetings/jsm/2018/index.cfm>



Medallion Lecture preview: Anna De Masi

Anna De Masi is Anna De Masi is Professor in Probability and Statistics at the University of L'Aquila in Italy, where she has been coordinator of the PhD program, "Mathematics and Models" since 2013. Her research interests cover issues such as macroscopic behavior of interacting particle systems, phase transition phenomena in equilibrium and non-equilibrium statistical mechanics. She is among the founders of the mathematical analysis of hydrodynamic limits involving stochastic evolutions of particle systems and kinetic limits [see the surveys in collaboration: "A survey of the hydrodynamical behaviour of many-particle systems," *Studies in Statistical Mechanics*, Vol.11, North Holland (1984); and "Mathematical methods for hydrodynamical limits," *Lecture Notes in Mathematics 1501*, Springer-Verlag (1991)]. With various collaborators, she has analyzed, using probabilistic techniques, phenomena like separation of phases, spinodal decomposition, and development and motion of interfaces. Her recent interests focus on boundary-driven systems in the presence of phase transition and their relation with free boundary problems.



Anna's Medallion Lecture will be at the Stochastic Processes and their Applications meeting in Gothenburg in June.

Backwards diffusion: how much does it cost, could it be for free?

To explain the title, consider a thought experiment where there is a gas in a container with a wall in the middle that keeps the density on the left smaller than that on the right. If we take out the wall, the gas diffuses and at the end the density becomes uniform. However with "astronomically" small probability or after "astronomically" long times we may see again regions with different densities.

A system exhibiting such a behaviour is the Ising model with nearest neighbour ferromagnetic interaction and Kawasaki dynamics. At large temperatures initial inhomogeneities disappear due to the diffusive behaviour of the system, [1], and the appearance of inhomogeneities is only due to a large deviation. However if we lower the temperature we see the opposite, i.e. spacial homogeneous initial states evolve into states with regions having different magnetization.

This is not only a mathematical abstraction, consider in fact a binary alloy mixture consisting of atoms of Fe and Cr combined in a face centered cubic lattice. At $T=1200$ K the system performs normal diffusion but at $T=800$ K the mixture separates into regions one predominantly Fe and the other Cr. This is largely used in chemical engineering to purify metal: loosely speaking in the above example we slice the crystal into parts made predominantly of Fe and others predominantly of Cr. Such phenomena go under the name "uphill diffusion", see for instance [2], they occur in more general alloy mixtures and are widely used in industrial applications.

The purpose of my talk is to address these questions in the framework of a rigorous analysis. Something can be done but many intriguing questions remain open and I will try to focus on them, hoping that the audience will get interested and maybe involved. I will restrict to the Ising model with Kawasaki dynamics, which is a Markov process with nearest neighbour spin exchanges, so that the

canonical Gibbs measure (with n.n. ferromagnetic interaction) is invariant. The evolution is in a finite region $[0, N]^d \cap \mathbb{Z}^d$, $d = 1, 2$. We add a spin flip process on the right and left boundaries which forces the average spin to have values $m_- < 0$ (on the left) and $m_+ > 0$ (on the right).

This is the usual set up for the Fick law. The question is the sign of the current in the stationary state. In $d = 1$ at infinite temperature the current satisfies the Fick law (going opposite to the magnetization gradient) and it is therefore negative. In this case we prove a large deviation estimate on the probability that it is instead positive (also when m_{\pm} are slowly varying on time), see [3]. In the case $d = 2$ when the temperature is subcritical (and there is a phase transition) we have observed via computer simulations, [4], that the stationary current may become positive flowing from the reservoir with smaller to the one with larger magnetization. We have some theory to explain the phenomenon but few mathematical proofs.

Several other questions will be addressed in my talk.

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Medallion Lecture preview: Svante Janson



Svante Janson is Professor of Mathematics at Uppsala University. He obtained his PhD in Mathematics from Uppsala University 1977, and has remained there ever since, except for short stays at other places. His thesis and early research was in harmonic analysis and functional analysis, but for a long time, his main interest has been in probability theory. In particular, he is interested in the study of random combinatorial structures such as random graphs, trees, permutations, and so on, where he generally tries to find interesting limit theorems or limit objects. He also works on Pólya urns and branching processes. He has written three books, and over three hundred mathematical papers. Svante is a member of the Royal Swedish Academy of Sciences, the Royal Society of Sciences at Uppsala, the Swedish Mathematical Society, and the Swedish Statistical Association. He has been awarded the Rudbeck medal by Uppsala University and the Celsius medal by the Royal Society of Sciences at Uppsala.

This Medallion Lecture will be at the IMS Annual Meeting in Vilnius, Lithuania, on Thursday July 5, 2018.

Random trees and branching processes

Branching processes generate random trees in a natural way, which can be varied by, e.g., conditioning or stopping the branching process. Moreover, many families of random trees that are defined in other ways turn out to be equivalent to random trees defined by branching processes in some way or another. This has thus become one of the main probabilistic tools to study random trees.

One central family of random trees are the conditioned Galton–Watson trees, coming from a Galton–Watson process conditioned to have a given total size. We study the asymptotic behaviour of these random trees, both locally close to the root, locally close to a random node, and globally after suitable rescaling.

Other, quite different, families of random trees can be constructed by stopping a (supercritical) Crump–Mode–Jagers (CMJ)

process when it reaches the desired size. We study the local and global behaviour of such trees too.

There are also open problems in this field, and these lead to open problems and conjectures about fluctuations for functionals of CMJ branching processes.

See further, e.g., [1, 2] and the references therein.

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Vilnius, Lithuania's capital, is known for its baroque architecture, seen especially in its medieval Old Town. The buildings lining this district's cobblestoned streets actually reflect diverse styles and eras, from the neoclassical Vilnius Cathedral to Gothic St. Anne's Church. Vilnius is the location of the 2018 IMS Annual Meeting. **Join us in Vilnius!**

Medallion Lecture preview: Sonia Petrone

Sonia Petrone is a Professor of Statistics at Bocconi University, Milan, Italy. Her research is in Bayesian statistics, covering foundational aspects as well as methods and applications. Foundational themes in her work include exchangeability and decisions under risk. Her main methodological interests are in the area of Bayesian nonparametrics, including mixtures and latent variable models, density estimation, nonparametric regression and predictive methods. She has been President of the International Society for Bayesian Analysis (ISBA) and is an elected member of the IMS Council. She has been a co-editor of *Bayesian Analysis* and is currently an associate editor of *Statistical Science*. She is a Fellow of ISBA. Sonia will be giving her Medallion Lecture at the IMS Annual Meeting in Vilnius, on Monday July 2.



Photo: Paolo Tonato

Bayesian predictive learning beyond exchangeability

Bayesian Statistics has its foundations in the concept of probability as the rule for quantifying uncertainty, and in the consequent solution of the learning process through conditional probabilities. People usually distinguish two main learning goals: in the inferential approach, the focus of learning is on the model's parameters; in the predictive approach, the focus of learning is on future events, given the past. Predictive learning is central in many applications, and has a foundational appeal: one should express probabilities on observable facts, (non-observable) parameters being just a link of the probabilistic chain that leads from past to future events. Beyond foundations, the focus on prediction is important for fully understanding the implications of modeling assumptions.

Bayesian predictive learning is solved through the conditional distribution P_n of X_{n+1} given (X_1, \dots, X_n) . This implies that some form of probabilistic dependence is always expressed, in order to learn from experience. Random sampling is reflected in an assumption of invariance of the joint distribution of the observable sequence (X_n) under permutations of the labels, that is, exchangeability. The basic role of exchangeability in Bayesian statistics is enhanced by the representation theorem: For an infinite exchangeable sequence (X_n) , the predictive (and the empirical) distributions converge to a random distribution F , and, conditionally on F , the X_i are a random sample from F : the inferential model F arises as the limit of the predictive distributions. A long-studied problem is to characterize the model through the sequence (P_n) . For example, and informally, if P_n only depends on a 'predictive sufficient' statistic $T_n(X_1, \dots, X_n)$, one obtains a parametric model F_θ where $\theta = \lim T_n$. In Bayesian nonparametric inference, predictive characterizations are an attractive alternative to directly assigning a prior distribution on an infinite-dimensional F . Most popular priors for Bayesian nonparametrics have a predictive characterization as stochastic processes with reinforcement, such as Pólya-like urn schemes.

In more complex problems, stochastic dependence structures beyond exchangeability are needed. Still, forms of symmetry, or

partial exchangeability, may hold. Powerful predictive constructions have been proposed for partially and Markov-exchangeable data, and successfully applied in a wide range of fields. A challenge, nowadays, is having partially exchangeable predictive rules that remain computationally tractable for the increasingly complex applications. In the information-versus-computations trade-off, possibly sub-optimal but computationally more tractable approximations of exchangeable predictive rules receive renewed interest.

In my lecture, I will present predictive constructions, beyond exchangeability, based on (interacting) stochastic processes with time-dependent or random reinforcement. These processes are not, in general, (partially) exchangeable, but may still have convergent predictive distributions and be so asymptotically. They may model evolutionary phenomena that deviate from exchangeability but reach an exchangeable steady state. Interestingly, they may also offer a 'quasi-Bayes' recursive predictive learning rule, that approximates an exchangeable rule and is computationally simpler. I will illustrate this potential in the basic case of nonparametric mixture models.



2018 Hannan Graduate Student Travel Awards

We are pleased to announce the eleven winners of the new **IMS Hannan Graduate Student Travel Awards**, who will be using their awards to travel to present a paper or a poster at five different IMS sponsored or co-sponsored meetings over the next 12 months.

Prakash Chakraborty, Purdue University, USA will be attending **SPA 2018**, the 40th Conference on Stochastic Processes and Their Applications, in Gothenburg, Sweden, from June 11–15.

Also June 11–15 this year is the **4th Conference of the International Society for NonParametric Statistics** in Salerno, Italy. Attending this meeting will be **Kellie Ottoboni**, University of California, Berkeley, USA.

Ewain Gwynne (Massachusetts Institute of Technology, USA) and **Ronan Herry** (LAMA in Paris-Est and MRU in Luxembourg) will both travel to the **IMS annual meeting in Vilnius, Lithuania** (July 2–6). All the travel award winners will be mentioned in the Presidential Address and Awards Ceremony at this meeting, on the Monday evening, along with the winners of the IMS Travel Awards that were announced in the previous issue.

A further six travel awardees will be



Prakash Chakraborty



Yifan Cui



Xiaowu Dai



Luella Fu



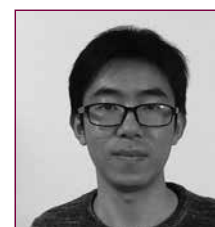
Ewain Gwynne



Ronan Herry



Kellie Ottoboni



Chengchun Shi



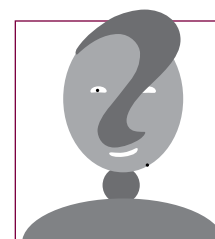
Jingshen Wang



Kashif Yousuf



Yuanyuan Zhang



You? Next year?

using their funds to travel to **JSM in Vancouver**, July 28–August 2. They are: **Xiaowu Dai**, University of Wisconsin–Madison, USA; **Luella Fu**, University of Southern California, USA; **Chengchun Shi**, North Carolina State University, USA;

Jingshen Wang, University of Michigan–Ann Arbor, USA; **Kashif Yousuf**, Columbia University, USA; and **Yuanyuan Zhang**, University of Manchester, UK.

Finally, a Hannan award will enable **Yifan Cui**, University of North Carolina at Chapel Hill, USA, to travel to next year's ENAR meeting, which takes place March 24–27, 2019, in Philadelphia, USA.

If you will be attending any of these meetings, please go and introduce yourself to the winners!

Consider contributing to the award funds

If you'd like to support the funds for the Hannan Graduate Student Travel Awards or the IMS New Researcher Travel Awards, or any other IMS funds, please take a moment to review the information at <http://www.imstat.org/contribute-to-the-ims/>

Thank you!

2018 NISS Writing Workshop for Junior Researchers at JSM (deadline June 1)

The National Institute of Statistical Science (NISS) will hold a writing workshop (two sessions) for junior researchers in statistics and data science at JSM Vancouver. The goal of the workshop is to provide instruction for writing journal articles and grant proposals. Participants will be required to provide a recent sample of their writing, which will be reviewed by a senior mentor. Deadline for the Writing Workshop application submissions is **June 1**, with notification of acceptances on a rolling basis no later than June 20. The workshop is designed for researchers with a PhD awarded or anticipated during 2012–2018 in statistics, biostatistics or related field. Attendance at the Writing Workshop will be limited and applicants who are 0–3 years post-PhD and members of the participating societies will receive preference. Details and registration at: <https://www.niss.org/events/2018-niss-writing-workshop-junior-researchers-jsm>

OBITUARY: Lawrence Brown

1940–2018

LAWRENCE DAVID BROWN, one of the leading statisticians of our time, passed away peacefully on February 21, 2018, at the age of 77, after a long battle with cancer. We are all deeply saddened by the loss of Larry, a teacher, a mentor, a colleague, and a friend. Larry preserved his unfailing fortitude and good humor to his last day.

Larry was the Miers Busch Professor of Statistics at the Wharton School at the University of Pennsylvania. He published five books and over 170 papers in leading statistics and probability journals. Larry was known for his extensive work in decision theory, especially on the admissibility of estimators of one or more parameters, and its connection to recurrence and partial differential equations. Larry also made fundamental contributions to the theory of nonparametric function estimation, including asymptotic equivalence theory, and minimax and adaptation theory. He also worked on a broad range of other topics including sequential analysis, properties of exponential families, foundations of statistical inference, conditional confidence, interval estimation and Edgeworth expansions, bioequivalence, and analysis of census data and call-center data.

Larry was the recipient of many honors for his profound contributions to the field of statistics. He was the President of the Institute of Mathematical Statistics in 1992–1993, co-editor of *The Annals of Statistics* for 1995–1997 and gave the prestigious Wald Memorial Lectures in 1985. In 1993, Purdue University awarded him an honorary D.Sc. degree in recognition of his distinguished achievements. He was named winner of the Wilks Memorial Award of the American Statistical Association in 2002 and the winner of the C.R. and B. Rao Prize in 2007. He was a member of

the US National Academy of Sciences and American Academy of Arts and Sciences. Larry provided exemplary public service for a number of organizations. He served on several panels and committees of the National Research Council (NRC) and the National Academy of Sciences, in particular over many years for the 2000 and 2010 censuses, and then as Chair of the NRC Committee on National Statistics from 2010 to 2018. He gave testimony concerning the 2000 US Census to the US Senate Governmental Affairs Committee in 1997, and to the US House of Representatives Committee in 1998.

Larry was much loved by his colleagues and his students, many of whom benefited tremendously from his wisdom and kindness. Larry highly valued teaching and mentoring students and new researchers—for whom he always found time and great energy despite his many obligations. He supervised 37 PhD students, many of whom hold leading positions in the United States and abroad. In addition to his own students, Larry also mentored many post-docs and junior faculty. He was the winner of the Provost's Award for Distinguished Ph.D. Teaching and Mentoring at the University of Pennsylvania in 2011.

Larry was born on December 16, 1940, in Los Angeles, California. His parents moved to Alexandria, VA, during World War II, then returned to California. His father, Louis Brown, was a successful tax lawyer and later a professor of law at the University of Southern California, where he worked tirelessly on behalf of client services and conflict prevention, for which he coined the phrase 'preventive law.' His mother, Hermione Kopp Brown, studied law in Virginia and then in Los Angeles and became one of the leading women lawyers



Larry Brown

in Los Angeles in the field of entertainment law, with emphasis on estate planning. Larry inherited their dedication for service, their mental acuity and resourcefulness, and their selfless good spirits. Larry graduated from Beverly Hills High School in 1957 and from the California Institute of Technology in 1961 and earned his PhD in mathematics from Cornell University three years later. Initially hired at the University of California, Berkeley, he then taught in the mathematics department at Cornell University from 1966–72 and 1978–94 and in the statistics department at Rutgers University from 1972–78. In 1994, he moved to the Wharton School at the University of Pennsylvania, serving as the Miers Busch Professor of Statistics, and taught his last course there in the fall of 2017.

His passion for his work was matched by his devotion to his family. His wife Linda Zhao survives him, as do their sons Frank and Louie, their daughter Yiwen Zhao, his daughters from his first marriage, Yona Alper and Sarah Ackman, his brothers Marshall and Harold and their wives Jane and Eileen, and 19 grandchildren.

Larry is deeply missed by all of us.

*Written by James Berger, Tony Cai,
and Iain Johnstone*

OBITUARY: Herman Rubin

1926–2018

HERMAN RUBIN, Professor of Statistics and Mathematics at Purdue University, passed away in West Lafayette, IN, on April 23, 2018; he was 91. Herman Rubin was among the last remaining great polymaths of the twentieth century. To all who knew him, or had heard about him, Herman was an inexplicable outlier in numerous ways. His unique ability to understand a new problem and arrive at the answer almost instantly baffled even the smartest mathematician. He never forgot a fact, theorem or proof that he had seen. He would solve a complete stranger's problem without expecting co-authorship or anything else in return. He would fight for someone who opposed him at every step. He would always stand by his principles. Herman Rubin's death marks the nearness of the end of a unique era following the second world war that saw the simultaneous emergence of a distinctive group of supremely talented statisticians who would shape the foundations of the subject for decades to come.

Herman Rubin was born October 27, 1926 in Chicago, Illinois. He obtained his PhD in Mathematics from the University of Chicago in 1948, at the age of 21; he was a student of Paul Halmos. He would serve the faculties of Stanford University, the University of Oregon, Michigan State University and Purdue University. After a stint at the Cowles Commission, he formed a productive intellectual affinity with Ted Anderson, Charles Stein and Ingram Olkin; at this time, he also became professionally close to David Blackwell and Meyer Girshick. With Ted Anderson, he wrote two phenomenal papers on fundamental multivariate analysis that worked out the fixed sample as well as asymptotic distribution theory of MLEs in factor analysis models and structural equation models.

These results have entered into all standard multivariate analysis and econometrics texts, and have remained there for more than half a century. Herman's most famous and classic contribution to inference is the widely used and fundamental idea of monotone likelihood ratio families. Anyone who has taken a course on testing hypotheses knows the absolute fundamentality of the idea and the results in the 1956 paper with Samuel Karlin. It was this work that led to Sam Karlin's hugely influential TP2 and variation diminishing families, with shadows of Isaac Schoenberg and Bill Studden lurking in the background.

Following this period of a series of fundamental papers in statistics, we see a shift. He makes novel entries into various aspects of probability and asymptotics. With J. Sethuraman, he does theory of moderate deviations. With Herman Chernoff, he attacks the (then completely novel) problem of estimating locations of singularities, and how, precisely, the asymptotics are completely new. With Prakasa Rao as his student, he gets into the problem of cube root asymptotics for monotone densities. With C.R. Rao, he gives the classic Rao–Rubin characterization theorem. And, to many, the jewel in the crown is the invention of the idea of a Stratonovich integral.

Herman really did enjoy particular problems, as long as they were not mundane. Classic examples are his papers with Rick Vitale, quite shocking, that sets of independent events characterize an underlying probability measure, degeneracies aside; the pretty work with Jeesen Chen and Burgess Davis on how non-uniform can a uniform sample look to the eye; with Tom Sellke on roots of smooth characteristic functions; the Bayesian formulation of quality control with Meyer Girshick; the



Herman Rubin in 2002

Purdue University Department of Statistics

hilariously bizarre, but hard, problem of estimating a rational mean; his papers with Andrew Rukhin on the positive normal mean; the work on the notorious Binomial N problem; and Bayesian robustness of frequentist non-parametric tests... among others. Herman never considered who would cite or read a result; if he wanted to solve a problem, he did.

Herman was probably one of the lifelong Bayesians, but axiomatically so. He really did take most of the Savagean theory and axioms literally; he expanded on them, though later. An expansion was published in *Statistics and Decisions* (I believe, with extremely active help from Jim Berger). He would not budge an inch from his conviction that the loss and the prior are inseparable. He would refuse to discuss what is an appropriate loss function; he would insist you ask the client. He would nevertheless want to see the full risk function of a procedure and would study Bayes through the lens of Bayes risk—and even exclusively Bayes risk, namely the double integral. On asymptotic behaviors of procedures, he did not appear to care for second-order terms. He showed his concern time and again for only calculating a limit. A glorious example of this is his work with J. Sethuraman on efficiency defined through Bayes risks; this was so novel that it entered into the classic asymptotic text of Robert Serfling. He came back to it many years later in joint work with Kai-Sheng Song in an *Annals of Statistics* article.

Continues on page 17

Herman Rubin, 1926–2018

Continued from previous page

In some ways, Herman was a paradox. He would publicly say only Bayes procedures should be used—but oppose the use of a single prior with all his teeth. He would be technically interested in the robustness of traditional frequentist procedures, although he would portray them as coming out of wrong formulations. (Well known examples are his oft-cited papers with Joe Gastwirth on the performance of the t -test under dependence.) He did not have a personal desire to burn the midnight oil writing a comprehensive review of some area; but he would be an invaluable asset to the one who was. An example is his review of infinitely divisible distributions with Arup Bose (and this writer). An all-time classic is his text on *Equivalents of the Axiom of Choice*, jointly written with his wife Jean E. Rubin, Professor of Mathematics at Purdue. Jim Berger thanks Herman profusely in the preface of his classic Springer book on decision theory and Bayesian analysis; Charles Stein acknowledges Herman (and Herbert Robbins) in his first shrinkage paper.

There was a fairly long period in the history of statistics, when nearly every paper written in his home department had Herman's contributions to it. He never asked for, or received, credit for them. He epitomized the term scholar in its literal sense. With the passing of Herman Rubin, a shining beacon of knowledge and wisdom just moved. Herman was a consummate master of simulation, characteristic functions, and infinitely divisible distributions. He kept to himself a mountain of facts and results on these and other topics that never saw the light of the day. There was never a person who did not respect Herman Rubin's brain; even Paul Erdős did. Herman never stopped thinking of good problems, and loved discussing them. He personified Albert Einstein's quote, "Intellectual growth should commence at birth and cease only at death".

The IMS *Lecture Notes—Monograph Series* published a collection of research articles in Herman Rubin's honor in 2004; numerous leaders of the profession wrote an original article for this collection. As well as being IMS and AMS Fellow, he was also a Fellow of the American Association for the Advancement of Science, and a member of Sigma Xi.

Herman had sophisticated taste in music and literature. He was often seen in classical concerts and operas. He helped mathematical causes financially. Herman was probably one of the very few people anywhere who could work out the NY Times crossword puzzle on any day in about an hour.

Herman is survived by his son Arthur, and daughter Leonore. His wife Jean died in 2002.

Written by Anirban DasGupta

Raising Funds for an IMS Peter Hall Early Career Award

Professor Peter Hall passed away on January 9, 2016. In his passing, the statistical community lost one of its most prolific and creative researchers. We also lost a friend, colleague, and mentor. Peter inspired and mentored many young researchers. His early work in probability profoundly affected his many contributions to theoretical statistics and beyond. It set the course of a research career which saw him tackle problems across a broad frontier with far-reaching impact on much of modern mathematical statistics.

For the past 24 months, we have been working towards the establishment of a Peter Hall Prize within the IMS. Our proposal for such a prize has recently been approved by the IMS Council, with the following council resolution: "IMS Council approves the permanent institution of a Peter Hall Prize to be awarded annually in recognition of early career research accomplishments and the promise in statistics, broadly construed."

It is now time to raise money for the endowment. We hope you will consider making a generous donation to help set up a permanent IMS Prize in Peter Hall's name. These donations not only memorialize Peter's research achievements and outstanding service to the profession, but go to help recognize early career researchers.

There are three different ways you can send your donation:

- 1 By credit card via the IMS website:
<https://secure.imstat.org/secure/orders/donations.asp>
- 2 By US dollar check, made payable to "IMS – Peter Hall Endowment Fund." Mail to: *IMS – Peter Hall Endowment Fund, 3163 Somerset Drive, Shaker Heights, OH 44122.*
- 3 By electronic transfer or wire: please email Elyse Gustafson erg@imstat.org for bank transfer details.

For US residents, the donations will be tax-deductible. Per Internal Revenue Code Section 170, a contribution to an IMS Fund is considered a charitable contribution and is tax deductible under US tax laws. We confirm that this donation does not benefit you in any monetary or material fashion.

IMS will invest the fund as they do all of their long-term accounts. It would be helpful if you could let us know the amount of your donation by emailing Jon Wellner, jaw@stat.washington.edu. While this information would assist us in keeping track of progress toward the initial \$40,000 goal, offering it is of course completely optional. We look forward to receiving donations from you and thank you very much for your support in advance!

Sincerely yours,

IMS Ad-Hoc Committee for a Peter Hall Award or Prize:

Jon Wellner, Richard Davis, Alison Etheridge, Iain Johnstone, and Xiao-Li Meng, with Honorary Member Jeannie Hall

Recent papers: supported and affiliated journals

Annales de l'Institut Henri Poincaré (B), Probabilités et Statistiques

The Probability and Statistics section of the *Annales de l'Institut Henri Poincaré* is an international journal that publishes high quality research papers. The journal, supported by the IMS, deals with all aspects of modern probability theory and mathematical statistics, and their applications. The editors are Gregory Miermont and Christophe Sabot. Access papers at <https://projecteuclid.org/aihps>

Volume 54, Number 2, May 2018

| | |
|--|---|
| Speed of convergence in first passage percolation and geodesicity of the average distance | ROMAIN TESSERA; 569 – 586 |
| Estimating the extremal index through local dependence | HELENA FERREIRA AND MARTA FERREIRA; 587 – 605 |
| Perturbation by non-local operators | ZHEN-QING CHEN AND JIE-MING WANG; 606 – 639 |
| KPZ and Airy limits of Hall–Littlewood random plane partitions | EVGENI DIMITROV; 640 – 693 |
| Davie's type uniqueness for a class of SDEs with jumps | ENRICO PRIOLA; 694 – 725 |
| Stochastic integral equations for Walsh semimartingales | TOMOYUKI ICHIBA, IOANNIS KARATZAS, VILMOS PROKAJ, AND MINGHAN YAN; 726 – 756 |
| Stochastic Ising model with flipping sets of spins and fast decreasing temperature | ROY CERQUETI AND EMILIO DE SANTIS; 757 – 789 |
| Monotonicity and condensation in homogeneous stochastic particle systems | THOMAS RAFFERTY, PAUL CHLEBOUN, AND STEFAN GROSSKINSKY; 790 – 818 |
| Degrees of freedom for piecewise Lipschitz estimators | FREDERIK RIIS MIKKELSEN AND NIELS RICHARD HANSEN; 819 – 841 |
| Multidimensional two-component Gaussian mixtures detection | BÉATRICE LAURENT, CLÉMENT MARTEAU, AND CATHY MAUGIS-RABUSSEAU; 842 – 865 |
| Sharpness of the phase transition and lower bounds for the critical intensity in continuum percolation on \mathbb{R}^d | SEBASTIAN ZIESCHE; 866 – 878 |
| Distributional limits of positive, ergodic stationary processes and infinite ergodic transformations | JON AARONSON AND BENJAMIN WEISS; 879 – 906 |
| Eta-diagonal distributions and infinite divisibility for R-diagonals | HARI BERCOVICI, ALEXANDRU NICA, MICHAEL NOYES, AND KAMIL SZPOJANKOWSKI; 907 – 937 |
| Non-fixation for biased Activated Random Walks | L. T. ROLLA AND L. TOURNIER; 938 – 951 |
| Rigidity of 3-colorings of the discrete torus | OHAD NOY FELDHEIM AND RON PELED; 952 – 994 |
| ASEP(q, j) converges to the KPZ equation | IVAN CORWIN, HAO SHEN, AND LI-CHENG TSAI; 995 – 1012 |
| Stochastic orders and the frog model | TOBIAS JOHNSON AND MATTHEW JUNG; 1013 – 1030 |
| Height fluctuations of stationary TASEP on a ring in relaxation time scale | ZHIPENG LIU; 1031 – 1057 |
| Variational multiscale nonparametric regression: Smooth functions | MARKUS GRASMAIR, HOUSEN LI, AND AXEL MUNK; 1058 – 1097 |
| From optimal stopping boundaries to Rost's reversed barriers and the Skorokhod embedding | TIZIANO DE ANGELIS; 1098 – 1133 |
| Universality in a class of fragmentation-coalescence processes | A. E. KYPRIANOU, S. W. PAGETT, AND T. ROGERS; 1134 – 1151 |
| Intertwinings of beta-Dyson Brownian motions of different dimensions | KAVITA RAMANAN AND MYKHAYLO SHKOLNIKOV; 1152 – 1163 |

Observational Studies

Observational Studies, an IMS affiliated journal, is an open-access, peer-reviewed journal that publishes manuscripts on all aspects of observational studies, including study protocols for observational studies, methodologies for observational studies, descriptions of data sets for observational studies, software for observational studies and analyses of observational studies. The editor is Dylan Small.

Read it at <http://obsstudies.org/index.php>

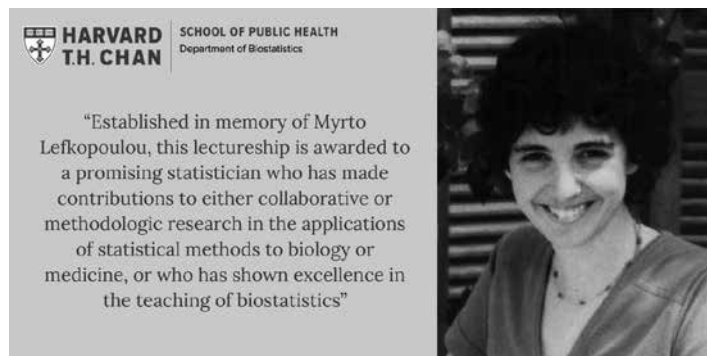
2018 papers to date

| | |
|--|---|
| Paper 1: Reprint of "Statistical Criticism" (1960) | IRWIN BROSS |
| Comments by | WILLIAM FAIRLEY AND WILLIAM HUBER; JOSEPH GASTWIRTH; ANDREW GELMAN; JENNIFER HILL AND KATHERINE HOGGATT; DANIEL HO; CHARLES REICHARDT; DAVID RINDSKOPF; AND PAUL ROSENBAUM AND DYLAN SMALL |
| Paper 2: Estimating the Variance of a Propensity Score Matching Estimator for the Average Treatment Effect | RONNIE PINGEL |
| Paper 3: Pre-analysis Plan for a Comparison of Matching and Black Box-based Covariate Adjustment | LUKE KEELE AND DYLAN SMALL |
| Paper 4: Potential for Bias Inflation with Grouped Data: A Comparison of Estimators and a Sensitivity Analysis Strategy | MARC SCOTT, RONLI DIAKOW, JENNIFER HILL AND JOEL MIDDLETON |
| Paper 5: Visual Pruner: Visually Guided Cohort Selection for Observational Studies | LAUREN SAMUELS AND ROBERT GREEVY JR. |
| Paper 6: A Contemporary Conceptual Framework for Initial Data Analysis | MARIANNE HUEBNER, SASKIA LE CESSIE, CARSTEN SCHMIDT AND WERNER VACH |

Nominations for Awards

Myrto Lefkopoulou Distinguished Lectureship

The lectureship was established in perpetuity in memory of Dr. Myrto Lefkopoulou, a faculty member and graduate of Harvard School of Public Health. Dr. Lefkopoulou died of cancer in 1992 at the age of 34 after a courageous two-year battle. She was deeply beloved by friends, students, and faculty.



Each year the Myrto Lefkopoulou Lectureship is awarded to a promising statistician who has made contributions to either collaborative or methodologic research in the applications of statistical methods to biology or medicine, and/or who has shown excellence in the teaching of biostatistics. Ordinarily, the lectureship is given to a statistician who has earned a doctorate in the last fifteen years. The lecture is presented to a general scientific audience as the first Department colloquium of each academic year. The lectureship includes travel to Boston, a reception following the lecture, and an honorarium of \$1000.

Past recipients are listed at <https://www.hsph.harvard.edu/biostatistics/myrto-award/>

Nominations

Please send nominations (which should include a letter of nomination and a CV) via email to sandelma@hsph.harvard.edu or by mail to:

*Myrto Lefkopoulou Committee
Harvard T. H. Chan School of Public Health
Department of Biostatistics
Building 2, 4th Floor
655 Huntington Avenue
Boston, MA 02115*

All nominations must be received by **June 1, 2018**.

Seventeenth Annual Janet L. Norwood Award for outstanding achievement by a woman in the statistical sciences

The Department of Biostatistics and the School of Public Health, University of Alabama at Birmingham (UAB) is pleased to request nominations for the Seventeenth Annual Janet L. Norwood Award for Outstanding Achievement by a Woman in the Statistical Sciences. The award will be conferred on Wednesday, September 19, 2018. The award recipient will be invited to deliver a lecture at the UAB award ceremony, and will receive all expenses, the award, and a \$5,000 prize.

Eligible individuals are women who have completed their terminal degree, have made extraordinary contributions and have an outstanding record of service to the statistical sciences, with an emphasis on both their own scholarship and on teaching and leadership of the field in general and of women in particular and who, if selected, are willing to deliver a lecture at the award ceremony. For additional details about the award, please visit our website at <http://www.soph.uab.edu/awards/norwoodaward>.

How to nominate: Please send a full curriculum vitae accompanied by a letter of not more than two pages in length describing the nature of the candidate's contributions. Contributions may be in the area of development and evaluation of statistical methods, teaching of statistics, application of statistics, or any other activity that can arguably be said to have advanced the field of statistical science. Self-nominations are acceptable.

Please send nominations to: norwoodawd@uab.edu

Deadline for receipt of nominations is Friday, June 29, 2018. Electronic submissions of nominations are encouraged. The winner will be announced by July 25.

Previous recipients, from 2002 onwards, are: Jane F. Gentleman, Nan M. Laird, Alice S. Whittemore, Clarice R. Weinberg, Janet Turk Wittes, Marie Davidian, Xihong Lin, Nancy Geller, Adrienne Cupples, Lynne Billard, Nancy Flournoy, Kathryn Roeder, Judith D. Singer, Judith D. Goldberg, Francesca Dominici, and last year, Sally C. Morton.

12th International Vilnius Conference on Probability Theory and Mathematical Statistics

2018 IMS Annual Meeting on Probability and Statistics

Venue | Vilnius University Life Sciences Center
July 2 – 6, 2018 | Vilnius, Lithuania



- **Wald Lectures – Luc Devroye**
(McGill University Montreal)
- **Le Cam Lecture – Ruth Williams**
(UC San Diego)
- **Neyman Lecture – Peter Bühlmann**
(ETH Zurich)
- **Schramm Lecture – Yuval Peres**
(Microsoft Research Redmond)
- **Vilnius Lecture – Liudas Giraitis**
(Queen Mary University of London)

- **Medallion Lecture – Jean Bertoin**
(University of Zurich)
- **Medallion Lecture – Svante Janson**
(Uppsala University)
- **Medallion Lecture – Thomas Mikosch**
(University of Copenhagen)
- **Medallion Lecture – Sonia Petrone**
(Bocconi University Milan)
- **Medallion Lecture – Richard Samworth**
(University of Cambridge)

www.ims-vilnius2018.com

IMS meetings around the world

Joint Statistical Meetings: 2018–2023

IMS sponsored meeting

JSM 2018

July 28–August 2, 2018. Vancouver, Canada

<http://ww2.amstat.org/meetings/jsm/2018/>

Have you been to JSM before? If it's your first time, it can be a bit overwhelming because of its size. Read the First Time Attendees guide at <https://ww2.amstat.org/meetings/jsm/2018/firsttimeattendees.cfm> to help you find your feet. We hope you'll join us in Vancouver: with more than 6,000 attendees (including over 1,000 students) from 52 countries, and over 600 sessions, it's a busy few days! The theme this year is "Lead with Statistics."



IMS sponsored meetings: JSM dates for 2019–2023

| IMS Annual Meeting @ JSM 2019 | JSM 2020 August 1–6, 2020 Philadelphia, PA | IMS Annual Meeting @ JSM 2021 August 7–12, 2021, Seattle, WA | 2022 Joint Statistical Meetings August 6–11, 2022 Washington, D.C. | IMS Annual Meeting @ JSM 2023 August 5–10, 2023 Toronto, ON, Canada |
|---------------------------------------|--|---|---|--|
| July 27–August 1, 2019, Denver, CO | | | | |

IMS sponsored mtg

2018 IMS Annual Meeting & 12th Vilnius Conference on Probability Theory & Mathematical Statistics

July 2–6, 2018. Vilnius, Lithuania

<http://ims-vilnius2018.com/>

Program Co-chairs Peter Bühlmann (IMS) and Vygantas Paulauskas (Vilnius). Local Chair is Remigijus Leipus. See cover article.

IMS-sponsored meeting

20th Meeting of New Researchers in Statistics and Probability

July 26–28, 2018. Simon Fraser University, Burnaby, Canada

<http://groups.imstat.org/newresearchers/conferences/nrc.html>

The 20th Meeting of New Researchers in Statistics and Probability will be in Burnaby, British Columbia, right before (and close to) JSM in Vancouver. The organizers are Liangliang Wang and Yunlong Nie, of Simon Fraser University. **Applications now closed.**

IMS co-sponsored meeting

The 7th International Workshop in Sequential Methodologies

June 18–21, 2019. Binghamton, United States

<http://sites.google.com/view/iwsm2019>

IWSM is a biannual conference dating back to 2007 in theoretical and applied sequential statistical methods, from optimal stopping, sequential estimation and hypothesis testing, and quickest change-point detection, to applications in information theory, quality control, clinical trials, finance, and cybersecurity.



IMS co-sponsored meeting

2018 IMS Asia Pacific Rim Meeting

June 26–29, 2018

Singapore

<https://ims-aprm2018.stat.nus.edu.sg/>

The fifth IMS Asia Pacific Rim meeting (IMS-APRM) will be held in Singapore from June 26–29, 2018. It will provide an excellent forum for researchers in Asia and the Pacific Rim, and promote communications and collaborations between researchers in this area and those from other parts of the world.

The program, covering a wide range of topics in statistics and probability, includes Plenary Lectures from Rick Durrett and Bin Yu, and many Distinguished Speakers.

IMS co-sponsored meeting

Elastic Functional and Shape Data Analysis

July 16–20, 2018

Ohio State University, Columbus, OH, USA

<https://stat.osu.edu/cbms-efsd>

NSF is funding one CBMS Regional Conference in statistics in 2018. The lecturer is Anuj Srivastava, Florida State.

At a glance:

*forthcoming
IMS Annual
Meeting and
JSM dates*

2018

IMS Annual Meeting:

Vilnius, Lithuania,
July 2–6, 2018

JSM: Vancouver,
Canada, July 28–
August 2, 2018

2019

IMS Annual Meeting @

JSM: Denver, CO,
July 27–August 1,
2019

2020

IMS Annual Meeting/

10th World Congress:

Seoul, South
Korea, August
17–21, 2020

JSM: Philadelphia,
August 1–6, 2020

2021

IMS Annual Meeting @

JSM: Seattle, August
7–12, 2021

2022

IMS Annual Meeting:

TBC

JSM: Washington,
August 6–11,
2022

More IMS meetings around the world

IMS sponsored meeting

UPDATED

WNAR/IMS Meeting

June 24–27, 2018

Edmonton, Canada

NEW [w](http://wnar.org/WNAR-2018-Meeting) <http://wnar.org/WNAR-2018-Meeting>

This summer's WNAR/IMS meeting will be held June 24–27, 2018, at the University of Alberta, Edmonton, Canada. The local organizers are Bei Jiang and Linglong Kong. Please join us for the WNAR/IMS 2018 Meeting in beautiful Edmonton, AB Canada. The conference, hosted by the University of Alberta, will be held at the Lister Hall Conference Centre, Sunday, June 24 through Wednesday, June 27, 2018. Program highlights include:

- Two Half-Day Short Courses: “*Statistical challenges for Neuroimaging Data Analysis*,” presented by Dr. Linglong Kong, University of Alberta, and; “*Individual-level transmission process modelling: epidemics, invasive species and beyond*,” presented by Dr. Rob Deardon, University of Calgary
- Presidential Invited Address by Dr. Ross Prentice, Fred Hutchinson Cancer Research Center and the University of Washington

The program also includes a student paper competition, poster session, invited and contributed sessions and new investigators lunch. There will be the Invited Presidential Address and Reception, annual banquet and a social mixer.

Registration, conference details and updates are available at wnar.org/WNAR-2018-Meeting.

IMS co-sponsored meeting

ISNPS2018: The 4th Conference of the International Society for Non-Parametric Statistics

June 11–15, 2018. Salerno, Italy

[w](http://www.isnps2018.it/) <http://www.isnps2018.it/>

The ISNPS (International Society of Non-Parametric Statistics) conferences take place biennially. The Fourth Conference of ISNPS is scheduled to take place in Salerno, southern Italy. The conference will bring forth recent advances and trends in several areas of nonparametric statistics, in order to facilitate the exchange of research ideas, promote collaboration among researchers from all over the world, and contribute to the further development of the field. The program will include plenary talks, special invited talks, invited talks, contributed talks and posters on all areas of nonparametric statistics. A roundtable discussion on the constitution of ISNPS and future conferences will also take place.

IMS co-sponsored meeting

NEW

Michigan State Symposium on Mathematical Statistics and Applications: *From time series and stochastics, to semi-and non-parametrics, and to high-dimensional models*

September 14–16, 2018

Henry Center for Executive Development, Michigan State University

[w](https://stt.msu.edu/MSUStatSymposium2018/) <https://stt.msu.edu/MSUStatSymposium2018/>

[e MSUStatSymposium2018@stt.msu.edu](mailto:MSUStatSymposium2018@stt.msu.edu)

The 2018 Michigan State Symposium is a conference designed around the scientific legacy of Prof. Hira L. Koul, who was a member of MSU's department of statistics and probability for decades. The scientific areas which will be represented at the conference are all connected, often quite directly, to the work which Prof. Koul has produced. Topics covered will include: Semi- and non-parametric foundations of data science; Asymptotic theory of efficient and adaptive estimation; Inference for high-dimensional data; Inference for long-memory and other stochastic processes; Nonlinear Time Series analysis with applications to econometrics and finance; Robust multivariate methods; Survival analysis and its applications; and Sequential estimation and design. With ample time built into the schedule for discussions, the conference will give participants opportunities to engage in emerging and fruitful cross-group collaborations. It will bring together established and aspiring researchers from around the country and abroad, to explore frontiers of mathematical statistics.

Plenary invited speakers who have confirmed participation include: Richard Davis (Columbia University), Philip Ernst (Rice University), Jianqing Fan (Princeton University), Joseph Gardiner (Michigan State University), Tailen Hsing (University of Michigan), Richard Johnson (University of Wisconsin, Madison), S.N. Lahiri (North Carolina State University), Regina Liu (Rutgers University), Ursula Mueller (Texas A&M University), Lianfen Qian (Florida Atlantic University), Annie Qu (University of Illinois at Urbana-Champaign), Anton Schick (SUNY Binghamton), Donatas Surgailis (Vilnius University, Lithuania).

The conference will also cover a host of emerging applications of statistics, by colleagues at MSU, including in biomedical engineering, biostatistics, data science, finance and insurance, hospital management, neuroscience, nuclear physics, and others.

The conference website is: <https://stt.msu.edu/MSUStatSymposium2018/>. All inquiries can be directed to: MSUStatSymposium2018@stt.msu.edu.

IMS co-sponsored meeting

40th Conference on Stochastic Processes and their Applications (SPA)**June 11–15, 2018. Gothenburg, Sweden****w** <http://spa2018.org/>

The 40th Conference on Stochastic Processes and their Applications (SPA 2018) will be held June 11–15, 2018, at the Chalmers University of Technology in Gothenburg, Sweden.

Plenary speakers: Robert Adler, Francois Baccelli, Mia Deijfen, Alison Etheridge (Lévy lecture), Patricia Gonçalves, Kurt Johansson, Olav Kallenberg, Davar Khoshnevisan (IMS Medallion lecture), Anna De Masi (IMS Medallion lecture), Mikhail Menshikov, Annie Millet, Elchanan Mossel, Asaf Nachmias, Jeffrey Steif (Doob lecture), and Nike Sun.

IMS co-sponsored meeting

41st Conference on Stochastic Processes and their Applications (SPA) July 8–12, 2019.**Evanston, IL, USA****w** TBC

Details to follow.

IMS co-sponsored meeting

International Workshop in Applied Probability 2018 (IWAP 2018)**June 18–21, 2018. Eötvös Loránd University, Budapest, Hungary****w** www.iwap2018.com

IWAP is a biennial series of conferences launched in 2002 with the aim of fostering exchange and cross-fertilization of ideas on applied probability. The numerous scientific and social events—including the gala dinner served on a cruise ship on the Danube—will present ample networking opportunities throughout the conference. Research presenters will be invited to submit for journal publication in a special issue of *Methodology and Computing in Applied Probability*. László Márkus and Joseph Glaz, Co-Chairs of IWAP2018, look forward to meeting you in Budapest.

IMS co-sponsored meeting

2018 ICSA China Conference on Data Science**July 2–5, 2018****Qingdao, China****w** <http://www.icsa.org/china/symposium/registration.html>

Registration is open for the 2018 ICSA China Conference with the Focus on Data Science. The conference will take place in Shangri-La Hotel, Qingdao, Shandong, China. It is organized jointly by the International Chinese Statistical Association (ICSA) and Ocean University of China.

The program covers a wide range of topics in data science, presenting recent developments and the state of the art in a variety of modern research topics and applications. The program will include keynote speeches from John (Jack) Kalbfleisch and Kuang-Kuo Gordon Lan.

IMS co-sponsored meeting

ICIAM 2019: the 9th International Congress on Industrial and Applied Mathematics**July 15–19, 2019****Valencia, Spain****w** <https://iciam2019.org/index.php>

The 9th International Congress on Industrial and Applied Mathematics (ICIAM 2019) will be held in Valencia, Spain, from July 15–19, 2019. IMS is a member of ICIAM

The call for **organizing mini-symposia** at the ICIAM 2019 congress is now open. Please visit the webpage <https://iciam2019.org/index.php/information-for-delegates/submissions-calls/2-uncategorised/130-minisymposia> for details and online submissions.

IMS co-sponsored meeting

SAE2018: Small Area Estimation and Other Topics of Current Interest in Surveys, Official Statistics, and General Statistics**June 16–18, 2018****East China Normal University, Shanghai, China****w** www.sae2018.com

This conference includes a celebration of Professor Danny Pfeffermann's 75th Birthday.



IMS sponsored meetings

ENAR dates, 2019–2020**March 24–27, 2019: in Philadelphia, PA****March 22–25, 2020: in Nashville, TN****w** <http://www.enar.org/meetings/future.cfm>

The 2019 ENAR/IMS meeting will be in Philadelphia, and the following year in Nashville.

IMS Sponsored meeting

Bernoulli/IMS 10th World Congress in Probability and Statistics**August 17–21, 2020. Seoul, South Korea****w** TBC

The next World Congress in Probability and Statistics will be in Seoul, South Korea.

The Program chair is Siva Athreya and the Local chair is Hee-Seok Oh.

Details to follow.

Other meetings and events around the world

11th Chaotic Modeling and Simulation International Conference (CHAOS2018) June 5–8, 2018 Rome, Italy

[w http://www.cmsim.org/](http://www.cmsim.org/)

The principal aim of Chaos2018 International Conference is to expand the development of the theories of the applied nonlinear field, the methods, empirical data and computer techniques as well as the best theoretical achievements of chaotic theory. Chaos2018 Conference provides a forum for bringing together the various groups working in the area of Nonlinear and Dynamical Systems, Chaotic theory and Application to exchange views and report research findings.

STATFEST 2018 September 22, 2018 Amherst, USA

[w https://nhorton.people.amherst.edu/statfest/](https://nhorton.people.amherst.edu/statfest/)

A one day conference aimed at encouraging undergraduate students from historically underrepresented groups (African American, Hispanic, Native Americans) to consider careers and graduate studies in the statistical and data sciences. It includes presentations from established professionals, academic leaders, and current graduate students that will help attendees understand the opportunities and routes for success in the field. Many opportunities for networking will be created. Attendees are also encouraged to submit poster presentations. Panel forums provide information and tips for a rewarding graduate student experience, achieving success as an academic statistician or data scientist, and opportunities in the private and government arenas, among other topics.

Registration is free (but preregistration is required). See website for details.

RESIM 2018 August 29–31, 2018 Stockholm, Sweden

[w https://people.kth.se/~pierren/resim2018/resim2018.html](https://people.kth.se/~pierren/resim2018/resim2018.html)

RESIM 2018 will be the 12th workshop in a series of successful events held on the topic of **rare-event simulation** since 1997. The topics of the workshop covers all aspects of rare-event simulation, from purely theoretical developments to practical applications. The objective is to bring together researchers, not only from the mathematical sciences, and practitioners to discuss recent results and how methods and open problems from different areas can lead to new directions that drive the field forward. Because of the interdisciplinary nature of the topic, a goal of the workshop is to enhance the interaction between experts in theoretical developments on the one hand, and experts from different application areas on the other. This will be reflected in the plenary talks as well as the invited and contributed sessions, where the aim is to have as diverse a program as possible.

18th Winter School on Mathematical Finance January 21–23, 2019 Lunteren, The Netherlands

[w https://staff.fnwi.uva.nl/p.j.c.spreij/winterschool/winterschool.html](https://staff.fnwi.uva.nl/p.j.c.spreij/winterschool/winterschool.html)

Minicourses by Paolo Guasoni (Dublin City University) and Jim Gatheral (The City University of New York). Special invited lectures by Kostas Kardaras (London School of Economics), Alexander Novikov (University of Technology Sydney) and Jean Philippe Bouchaud (Ecole Polytechnique, Paris, and Imperial College London).

The First Iranian Actuarial Conference August 18–19, 2018 Tehran, Iran

[w http://iacl.ir/cnf/about?note&lang=en](http://iacl.ir/cnf/about?note&lang=en)

The First Iranian Actuarial Conference aims to bring experts and researchers together to discuss and share ideas in all aspects of the actuarial science and in particular the three areas: life insurance and pension funds, health insurance, and financial and actuarial models.

Joint Conference for Experimental Design and Production Engineering 2018 December 13–15, 2018 Hsinchu, Taiwan

[w http://www3.stat.sinica.edu.tw/jcedpe2018/](http://www3.stat.sinica.edu.tw/jcedpe2018/)

The Joint Conference for Experimental Design and Production Engineering 2018 is a joint meeting of the 3rd Conference on Experimental Design and Analysis (CEDA) and the 3rd Pacific Rim Statistical Conference for Production Engineering (SCPE). This joint conference features two keynote speeches by William Q. Meeker (Iowa State University) and Dr. Ching-Shui Cheng (University of California-Berkeley & Academia Sinica).

Conference on Statistical Practice February 14–16, 2019 New Orleans, Louisiana

[w https://www2.amstat.org/meetings/csp/2019/](https://www2.amstat.org/meetings/csp/2019/)

The ASA Conference on Statistical Practice offers applied statisticians and data scientists unique opportunities to learn new statistical methodologies and best practices in statistical analysis, design, consulting, and programming. CSP 2018 brought together hundreds of statistical practitioners like you, and we hope you'll stay tuned for updates on next year's conference!

Applied Statistics 2018 (AS2018) NEW**September 23–26, 2018****Ribno (Bled), Slovenia****w** <http://conferences.nib.si/AS2018/>

The main goal of Applied Statistics 2018 conference, the 15th in the series, is to provide an opportunity for statistics researchers, data analysts and other professionals from various statistical and related fields to come together, present their research, and learn from each other. A four-day program consists of invited paper presentations, contributed paper sections from diverse topics, and starts with a workshop. Cross-discipline and applied paper submissions are especially welcome (deadline June 1).

Tenth International Triennial Calcutta Symposium on Probability and Statistics NEW**December 27–30, 2018****Kolkata, India****w** <http://www.calcuttastatisticalassociation.org/sympBrochure.php>

The Department of Statistics, University of Calcutta and Calcutta Statistical Association will jointly organize the Tenth International Triennial Calcutta Symposium on Probability and Statistics. The symposium will offer a common platform to researchers in theoretical and applied aspects of Statistics and Probability, to interact and exchange ideas. Eminent scholars from all over the world are expected to attend. The Tenth Symposium will be dedicated to the memory of Prof H. K. Nandi on his birth centenary year. Special features include R.C. Bose Memorial Session on Design of Experiments and Related Combinatorics; S. N. Roy Memorial Lecture; S. K. Chakravarti Memorial Lecture; Special session in celebration of the birth centenary of Prof. Prasad K. Banerjee; Special session in memory of Prof. Jayanta K. Ghosh; Special session in memory of Prof. Samindranath Sengupta; and a Poster session for students and young researchers.

Biobanks: Study Design and Data Analysis NEW**November 1–2, 2018****Boston, MA, USA****w** <https://www.hsph.harvard.edu/2018-pqg-conference/>

The Program in Quantitative Genomics will host its 12th annual conference, “Biobanks: Study Design and Data Analysis” at Harvard Medical School in Boston, MA.

The conference schedule includes time for scientific presentations, as well as a poster session for submitted abstracts. Three abstracts will be selected for **Stellar Abstract Awards** and will be presented as 10-minute platform talks. Each of these speakers will receive an award of up to \$500 for travel assistance or other conference expenses. Students and post-docs are especially encouraged to submit an abstract: deadline September 30, 2018.

**3rd IMA Conference: Mathematical Challenges of Big Data** NEW**December 10–11, 2018****London, UK****w** <https://ima.org.uk/9104/3rd-ima-conference-on-the-mathematical-challenges-of-big-data/>

Data-driven analysis is increasingly on the critical path for performance advantage in many organisations, both public and commercial. This raises continuous challenges for rigorous analysis to derive reliable insights from data at very large scale, often with potential artifacts and sampling bias, adding to change variation. This conference brings together researchers and practitioners to signpost developments in the state-of-the-art and find common ground where theory and practice meet to maximize impact in the digital economy.

4th International Conference on Big Data and Information Analytics NEW**December 17–19, 2018****Houston, TX, USA****w** <https://sph.uth.edu/divisions/biostatistics/bigdia/>

The primary goal of BigDIA2018 is to promote interactions and collaborations among all scientists, researchers and practitioners who develop data science theories, algorithms and methods to deal with and analyze Big Data from different perspectives such as computer science, statistics, engineering, informatics, mathematics and other quantitative/computational sciences as well as domain-specific disciplines.

THEMES AND TOPICS include but are not limited to:

- Fundamental theories for Big Data analytics
- Big Data computing: Architecture, database, algorithm, platform, visualization
- Artificial Intelligence (AI) for Big Data
- Application areas: EHR and health care Big Data; Bioinformatics; Imaging data; Precision medicine; Big Data prediction and decision-support systems; Finance and economics; Wearable or mobile device data; and Internet business

ABSTRACT AND PAPER SUBMISSION

Abstract submission deadline: August 31, 2018. Authors are kindly requested to submit an abstract of approximately 300 words in English via the website. Authors of abstracts will be scheduled to present your paper in the invited, contributed or poster sessions at the conference. Trainees are encouraged to present at the poster session and participate in the poster award competition. Limited **travel support** is available.

Authors are also encouraged to submit a short paper of original research for peer review: accepted papers will be published in the IEEE proceedings. High-quality papers will be also invited to submit a full-length version for publication in special issues (after further peer review) of IEEE journals.

Employment Opportunities around the world

Austria: Vienna

WU Vienna University of Economics and Business

Assistant Professor, tenure-track, in the field of Applied Probability and Statistics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40684268

Switzerland: Geneva

World Health Organization

Coordinator, Mortality and Health Analysis

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40176579

United Kingdom: Cambridge

University of Cambridge, Department of Pure Mathematics and Mathematical Statistics

Unestablished Lecturer (Fixed Term)

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40400229

United Kingdom: Coventry

University of Warwick, Department of Statistics

Assistant or Associate Professor and Harrison Assistant Professor

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40010180

United Kingdom: Glasgow

University of Glasgow

Lecturer / Senior Lecturer / Reader

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40162459

United Kingdom: Glasgow

University of Glasgow, School of Mathematics & Statistics

Professor of Statistical Science

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40942349

United States: Fort Collins, CO

Colorado State University, Department of Statistics

Non-Tenure Track Faculty Positions at the Assistant or Associate Level

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40384950

United States: New Haven, CT

Yale School of Public Health

Investigator Track Position in Biostatistics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40061240

United States: New Haven, CT

Yale University, Department of Statistics and Data Science

Lecturer

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40080222

United States: New Haven, CT

Yale School of Public Health

Tenure-track Faculty Positions in Biostatistics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40257517

United States: Storrs, CT

University of Connecticut

Assistant Professor in Residence

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40805440

United States: Minneapolis, MN

University of Minnesota

Teaching Specialist or Lecturer

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40080323

United States: Las Vegas, NV

University of Nevada, Las Vegas

Mathematical Sciences, Assistant Professor in Residence

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40922635

United States: Philadelphia, PA

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Full or Part-time Lecturer in Statistics

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Assistant Professor, Statistics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40197002<http://jobs.imstat.org/>

International Calendar of Statistical Events


IMS meetings are highlighted in maroon with the  logo, and new or updated entries have the  or  symbol. Please submit your meeting details and any corrections to Elyse Gustafson: erg@imstat.org

June 2018

June 3–6: McGill University, Montreal, Québec, Canada. **Statistical Society of Canada 2018 Annual Meeting**

w <https://ssc.ca/en/meetings/2018-annual-meeting>

June 4–6: Durham, NC, USA. **International Total Survey Error Workshop (ITSEW)** **w** <https://dism.ssri.duke.edu/itsew-2018>

 **June 5–8:** Rome, Italy. **11th Chaotic Modeling and Simulation International Conference (CHAOS2018)** **w** <http://www.cmsim.org/>

June 5–8: West Lafayette, IN, USA. **9th International Purdue Symposium on Statistics** **w** <http://www.stat.purdue.edu/symp2018>

June 5–8: Rome, Italy. **CHAOS2018: International Conference on Non-Linear Analysis and Modeling, Theory and Applications** **w** <http://www.cmsim.org/>

June 6–7: Chicago, IL, USA. **Midwest Machine Learning Symposium** **w** <http://midwest-ml.org/>

June 11–13: Maastricht, The Netherlands. **The 7th Symposium on Conformal and Probabilistic Prediction with Applications (COPA 2018)** **w** <http://clrc.rhul.ac.uk/copa2018/index.html>


 **June 11–15:** Salerno, Italy. **ISNPS2018: 4th Conference of the International Society for Non-Parametric Statistics** **w** <http://www.isnps2018.it/>

 **June 11–15:** Gothenburg, Sweden. **40th Conference on Stochastic Processes and their Applications (SPA 2018)** **w** <http://spa2018.org/>

 **June 16–18:** Shanghai, China. **SAE2018: Small Area Estimation and Other Topics of Current Interest in Surveys, Official Statistics, and General Statistics** **w** www.sae2018.com

June 17–20: Boulder, CO, USA. **International Symposium on Forecasting** **w** <https://isf.forecasters.org>

June 18–19: Barcelona, Spain. **Workshop on High-dimensional statistics and random structures** **w** <https://www.barcelonagse.eu/summer-forum/workshop-high-dimensional-statistics>

 **June 18–21:** Eötvös Loránd University, Budapest, Hungary. **International Workshop in Applied Probability 2018 (IWAP 2018)** **w** www.iwap2018.com

June 18–21: Atlanta, GA, USA. **Recent Trends in Continuous and Discrete Probability** **w** <https://pwp.gatech.edu/rtip/>

June 18–22: NIMBioS, Knoxville, TN, USA. **NIMBioS Tutorial: The Search for Selection** **w** <http://www.nimbios.org/tutorials/selection>

 **June 24–27:** Edmonton, Canada. **WNAR/IMS Meeting** **NEW WEBSITE** **w** <http://wnar.org/WNAR-2018-Meeting>

June 24–29: Edinburgh, UK. **ISBA 2018 World Meeting** **NEW WEBSITE** **w** <https://bayesian.org/isba2018/>

June 25–29: Houston, Texas, USA. **Symposium on Optimal Stopping** **w** www.optimalstopping.com

Continues on **page 28**

International Calendar *continued*

June 25–29: Bend, Oregon, USA. 2018 Data Science Innovation Lab: Mathematical Challenges of Single Cell Dynamics
w <https://bigdatau.ini.usc.edu/innovationlab2018>


 **June 26–29:** Singapore. 2018 IMS Asia Pacific Rim Meeting (IMS-APRM) **w** <https://ims-aprm2018.stat.nus.edu.sg/>

June 27–29: Edgbaston, UK. Sixth IMA Conference on Numerical Linear Algebra and Optimization
w <https://ima.org.uk/7149/6thIMANLAO/>

July 2018

July 2–3: Coventry, UK. Fourth Bayesian Young Statisticians Meeting (BAYSM2018) **w** <https://warwick.ac.uk/baysm>

 **July 2–5:** Qingdao, China. 2018 ICSA China Conference on Data Science **w** <http://www.icsa.org/china/symposium/registration.html>

 **July 2–6:** Vilnius, Lithuania. Joint 2018 IMS Annual Meeting and 12th International Vilnius Conference on Probability Theory and Mathematical Statistics **w** <http://ims-vilnius2018.com/>

July 2–6: Leuven, Belgium. International Conference on Robust Statistics 2018 **w** <https://wis.kuleuven.be/events/icors18/>

July 2–6: St Andrews, UK. Sixth International Statistical Ecology Conference **w** <http://www.isec2018.org>

July 8–13: Kyoto, Japan. ICOTS10: Tenth International Conference on Teaching Statistics **w** <http://icots.info/icots/10/>


July 8–13: Barcelona, Spain. 29th International Biometrics Conference **w** <http://2018.biometricconference.org/>

July 8–20: Saint-Flour, France. 48th Probability Summer School **w** <http://recherche.math.univ-bpclermont.fr/stflour/stflour-en.php>

July 9–20: Lake Como, Italy. Bocconi Summer School in Advanced Statistics and Probability **w** <http://asps.lakecomoschool.org>

July 10–13: Delft, The Netherlands. Harmonic Analysis for Stochastic PDEs **w** <http://fa.its.tudelft.nl/spde/>

July 12–14: University of Vienna, Austria. Model Selection, Regularization and Inference **w** <http://www.univie.ac.at/seam/inference2018/>

 **July 16–20:** Columbus, OH, USA. CBMS Regional Conference: Elastic Functional and Shape Data Analysis **w** <https://stat.osu.edu/cbms-efsd>

July 16–20: Bristol, UK. 33rd International Workshop on Statistical Modelling **w** <http://www.statmod.org/workshops.htm>

July 16–21: Guanajuato, Mexico. 28th Conference of the International Environmetrics Society (TIES 2018)
w <http://ties2018.eventos.cimat.mx/>


 **July 26–28:** Simon Fraser University, Burnaby, Canada. 20th Meeting of New Researchers in Statistics and Probability
w <http://groups.imstat.org/newresearchers/conferences/nrc.html>

 **July 28–August 2:** Vancouver, Canada. JSM 2018
w <http://www2.amstat.org/meetings/jsm/2018/>

August 2018

August 1–9: Rio de Janeiro, Brazil. International Congress of Mathematicians 2018 (ICM 2018) **w** <http://www.icm2018.org/>

August 2–9: Aarhus, Denmark. Third Conference on Ambit Fields and Related Topics **w** <http://math.au.dk/ambit3>


 **August 18–19:** Tehran, Iran. The First Iranian Actuarial Conference **w** <http://iac1.ir/cnf/about?note&lang=en>

August 22–24: Leuven, Belgium. ATMS workshop on Multi- and high-dimensional statistics, Copulas, Survival analysis and Model selection **w** <http://feb.kuleuven.be/workshopATMS>

August 25–27: Shahrood, Iran. ISC14: Fourteenth Iranian Statistics Conference **w** <http://isc14.shahroodut.ac.ir>

August 26–30: Melbourne, Australia. Joint International Society for Clinical Biostatistics and Australian Statistical Conference 2018 **w** <http://iscbasc2018.com/>

August 27–31: Marseille, France. Advances in Statistical Mechanics **w** <https://conferences.cirm-math.fr/1855.html>

 **August 29–31:** Stockholm, Sweden. RESIM 2018 **w** <https://people.kth.se/~pierren/resim2018/resim2018.html>

September 2018

September 3–6: Cardiff, UK. Royal Statistical Society International Conference **w** www.rss.org.uk/conference2018



September 8–10: St Louis, Missouri, USA. Third Workshop on Higher-Order Asymptotics and Post-Selection Inference (WHOA-PSI) **w** <http://www.math.wustl.edu/~kuffner/WHOA-PSI-3.html>

September 9–11: Oslo, Norway. **ADVICE2018: First International Conference on Statistical Advice**


w <http://www.advice2018.bio/>

September 10–13: Leiden, The Netherlands. **Workshop on Statistical Inference for Stochastic Process Models in Weather and Climate Science** **w** <http://www.lorentzcenter.nl/lc/web/2018/1012/info.php3?wsid=1012&venue=Snellius>

September 14–15: Derby, UK. **2nd IMA Conference on Theoretical and Computational Discrete Mathematics** **w** <https://ima.org.uk/7775/2nd-ima-conference-theoretical-computational-discrete-mathematics/>

  **September 14–16:** Michigan State University, USA. **Michigan State Symposium on Mathematical Statistics and Applications: From time series and stochastics, to semi-and non-parametrics, and to high-dimensional models** **w** <https://stt.msu.edu/MSUStatSymposium2018/>

 **September 22:** Amherst, USA. **STATFEST 2018** **w** <https://nhorton.people.amherst.edu/statfest/>

 **September 23–26:** Ribno (Bled), Slovenia. **Applied Statistics 2018 (AS2018)** **w** <http://conferences.nib.si/AS2018/>

September 24–28: São Pedro, Brazil. **Brazilian Symposium on Probability and Statistics** **w** <http://www.sinape2018.com.br/>


October 2018

October 3–7: Bodrum, Turkey. **11th International Statistics Days Conference** **w** <http://igs2018.mu.edu.tr/>


October 18–20: Cincinnati, OH, USA. **2018 Women in Statistics and Data Science Conference** **w** <https://ww2.amstat.org/meetings/wds/2018/>


October 25–27: Barcelona, Spain. **Big Data Meets Survey Science** **w** <https://www.bigsurv18.org/>


November 2018

 **November 1–2:** Boston, MA, USA. **Biobanks: Study Design and Data Analysis** **w** <https://www.hsph.harvard.edu/2018-pqg-conference/>


December 2018

 **December 10–11:** London, UK. **3rd IMA Conference: Mathematical Challenges of Big Data** **w** <https://ima.org.uk/9104/3rd-ima-conference-on-the-mathematical-challenges-of-big-data/>


 **December 13–15:** Hsinchu, Taiwan. **Joint Conference for Experimental Design and Production Engineering 2018** **w** <http://www3.stat.sinica.edu.tw/jcedpe2018/>

 **December 17–19:** Houston, TX, USA. **4th International Conference on Big Data and Information Analytics** **w** <https://sph.uth.edu/divisions/biostatistics/bigdia/>

December 17–20: Jerusalem, Israel. **Jerusalem Joint Statistical Event 2018** **w** <https://www.emr2018.com/>

 **December 27–30:** Kolkata, India. **Tenth International Triennial Calcutta Symposium on Probability and Statistics** **w** <http://www.calcuttastatisticalassociation.org/sympBrochure.php>

January 2019

 **January 21–23:** Lunteren, The Netherlands. **18th Winter School on Mathematical Finance** **w** <https://staff.fnwi.uva.nl/p.j.c.spreij/winterschool/winterschool.html>

February 2019

February 13–15: Hobart, Tasmania, Australia. **Matrix-Analytic Methods for Stochastic Models (MAM10)** **w** <http://www.maths.utas.edu.au/People/oreilly/mam/mam10.html>

 **February 14–16:** New Orleans, USA. **Conference on Statistical Practice** **w** <https://ww2.amstat.org/meetings/csp/2019/>

March 2019

 **March 24–27:** Philadelphia, PA, USA. **ENAR Spring Meeting** **w** <http://www.enar.org/meetings/future.cfm>

June 2019

  **June 18–21:** Binghamton, USA. **7th International Workshop on Sequential Methodologies (IWSM)** **w** <http://sites.google.com/view/iwsm2019>

International Calendar *continued*

June 2019 *continued*

June 24–28: Oxford, UK. 12th International Conference on Bayesian Nonparametrics **w** <http://www.stats.ox.ac.uk/bnp12/>

July 2019

July 1–9: Zagreb, Croatia. 11th International Conference on Extreme Value Analysis **w** <http://web.math.hr/eva2019>

 July 8–12: Evanston, IL, USA. 41st Conference on Stochastic Processes and their Applications (SPA 2019) **w** TBC

July 14–18: Leuven, Belgium. 40th Conference of the International Society for Clinical Biostatistics **w** <http://www.icsb.info>

 July 15–19: Valencia, Spain. ICIAM 2019 **w** <https://iciam2019.org/index.php>

July 22–26: Palermo, Italy. European Meeting of Statisticians 2019 **w** <http://www.ems2019.palermo.it>

 July 27–August 1: Denver, CO, USA. IMS Annual Meeting at JSM 2019 **w** <http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx>

August 2019

August 18–23: Kuala Lumpur, Malaysia. ISI2019: 62nd International Statistical Institute World Statistics Congress 2019 **w** <http://www.isi2019.org/>


March 2020


 March 22–25: Nashville, TN, USA. ENAR Spring Meeting **w** <http://www.enar.org/meetings/future.cfm>

July 2020

July 5–11: Portoroz, Slovenia. 8th European Congress of Mathematics. **w** <http://www.8ecm.si/>

August 2020

 August 1–6: Philadelphia, PA, USA. JSM 2020 **w** <http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx>

 August 17–21: Seoul, Korea. Bernoulli/IMS World Congress on Probability and Statistics **w** TBC

August 2021

 August 7–12: Seattle, WA, USA. IMS Annual Meeting at JSM 2021 **w** <http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx>

August 2022

 July/August: Location TBC. IMS Annual Meeting **w** TBC

 August 6–11: Washington DC, USA. JSM 2022 **w** <http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx>

August 2023

 August 5–10: Toronto, ON, Canada. IMS Annual Meeting at JSM 2023 **w** <http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx>

August 2024

  August 3–8: Portland, OR, USA. JSM 2024 **w** <http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx>

Are we missing something? If you know of any statistics or probability meetings which aren't listed here, please let us know.

You can email the details to Elyse Gustafson at erg@imstat.org, or you can submit the details yourself at <http://www.imstat.org/submit-meeting.html>

We'll list them here in the Bulletin, and on the IMS website too, at www.imstat.org/meetings/

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| 3: April/May | March 15 | April 1 | April 15 |
| 4: June/July | May 1 | May 15 | June 1 |
| 5: August | June 15 | July 1 | July 15 |
| 6: September | August 15 | September 1 | September 15 |
| 7: Oct/Nov | September 15 | October 1 | October 15 |
| 8: December | November 1 | November 15 | December 1 |

* Note that the August 2018 issue has an early deadline of June 15

the
next
issue is
August
2018

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for
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August 15

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