Volume 53 • Issue 5

The members' magazine of the Institute of Mathematical Statistics

IMS Bulletin

August 2024

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David Cox Medal for Statistics

Nominations for the inaugural presentation of the 2025 David Cox Medal for Statistics, honoring a mid-career statistician, are now open and will be closing on 31 October 2024.

The David Cox Medal is a new international statistical award, commemorating the life and work of Sir David Cox (1924–2022). The medal is jointly awarded by the American Statistical Association (ASA), the Bernoulli Society (BS), the International Biometrics Society (IBS), the Institute of Mathematical Statistics (IMS), the International Statistical Institute (ISI) and the Royal Statistical Society (RSS).

The award will be given every three years starting in 2025, with three medals given each time. Highlighting that David was 48 when he published his 1972 *JRSSB* article on regression models and recognising his support of young researchers, the medals will be awarded to **individuals in mid-career**, with an age limit of 50 (exceptions will be made for mitigating circumstances such as career breaks).

Sir David Cox in 2014 at his 90th Birthday Symposium. Photo courtesy of Nuffield College Oxford.

The awards will recognize research that is original, with conceptual insight and novelty, and which moves statistical theory, methodology or applications substantially forward. Candidates for the award will be assessed based on a specified body of work documented by no more than five published articles.

Nominations are open until October 31, 2024. The award announcement will be in February 2025. It is not necessary for a medal recipient to be a member of any of the partner societies for nomination.

Download the nomination form from https://rss.org.uk/training-events/events/honours/david-cox-medal/

Nominations are also open for the International Prize in Statistics

Nominations are open through **October 1** for the 2025 International Prize in Statistics, awarded for a major achievement developed over time. The prize—which can be awarded to individuals, teams, or organizations—is meant to recognize powerful ideas that have led to breakthroughs in statistics and data science and demonstrated impact on applications, methodology, theory, or practice. Previous winners are David Cox, Bradley Efron, Nan Laird and C.R. Rao. Visit www.statprize.org/nominations.cfm for details and the nomination form. Questions to nominations@statprize.org.

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IMS Members' News

IMS Council 2024 election results

The 2024 election results are in. The President-elect is **Kavita Ramanan**. The new members of IMS Council, for a three-year term, are **Philip Ernst**, **Martin Hairer**, **Igor Prünster**, **Jane Ling Wang**, and **Ji Zhu**. Thanks to the outgoing members of Council, to all the candidates, and to everyone who voted.

Noether Distinguished Scholar and Early Career Awards


Peter Rousseeuw

IMS Fellow **Peter Rousseeuw** has been named the recipient of the **2024 Gottfried E. Distinguished Scholar Award** of the ASA. The citation reads: "Dr. Peter Rousseeuw has made significant contributions to robust estimation, innovative model-free cluster analysis, and the development of statistical depth functions. His work, renowned for advancing methodology, creating algorithms, and its broad application, has significantly shaped the landscape of statistical analysis, demonstrating the profound impact of his research on both theoretical and practical aspects of nonparametric statistics." Peter Rousseeuw is Emeritus Professor of the University of Leuven, Belgium. He will present a talk on "Robustness and Distance Correlation" in the Gottfried E. Noether Lectures session at the 2024 JSM in Portland, which takes place on Wednesday, August 7, 10:30–12:20.


Edgar Dobriban


Emily Palmer

Lucas Janson

The **2024 Gottfried E. Noether Early Career Scholar Award** presentations, in the same session as the Distinguished Scholar award lecture, will be by **Edgar Dobriban** (Wharton School, University of Pennsylvania) and **Lucas Janson** (Harvard University). Dobriban's talk will be "On the role of nonparametric statistics in the age of AI" and Janson's talk title is "Conditional Independence Testing and Conformal Inference with Adaptively Collected Data." The session program is at https://ww3.aievolution.com/JSMAnnual2024/index.cfm?do=ev.viewEv&ev=1545.

Abraham Wald Prize in Sequential Analysis


Jay Bartroff


Jinlin Song

IMS members **Jay Bartroff**, Professor and Associate Chair of the Statistics and Data Sciences Department at the University of Texas at Austin, and his former PhD advisee, Dr. **Jinlin Song**, Analysis Group, Inc., have received the **17th Abraham Wald Prize in Sequential Analysis** for their 2020 paper, "Sequential Tests of Multiple Hypotheses Controlling False Discovery and Non-discovery Rates" (https://doi.org/10.1080/07474946.2020.1726686).

The award was delayed due to the pandemic, but their achievements were celebrated at the International Workshop in Sequential Methodologies in Orem, Utah, in May 2024.

The Abraham Wald Prize in Sequential Analysis, established in 2004, honors the best publication in *Sequential Analysis* journal each year.

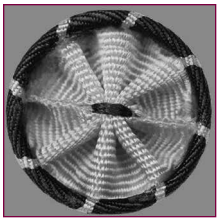
AAAS welcomes 502 new Fellows

The American Association for the Advancement of Science (AAAS), one of the world's largest general scientific societies and publisher of the *Science* family of journals, has announced the 2023 class of AAAS Fellows, a distinguished lifetime honor within the scientific community. This acknowledges their contributions to advancing science and its applications in service to society.

Since 1874, AAAS has annually recognized scientists and others across various disciplines for their accomplishments, including pioneering research, leadership within their field, teaching and mentoring, fostering collaborations, and advancing public understanding of science. The 2023 class, announced as the Fellows program celebrates its 150th anniversary, is comprised of 502 scientists, engineers and innovators across 24 AAAS disciplinary Sections.

Among the new AAAS Fellows are several IMS members and/or IMS Fellows. **Thomas Kailath**, Stanford University, was elected in the Section on Engineering. In the Section on Statistics, the IMS members elected were **T. Tony Cai**, University of Pennsylvania; **Ming-Hui Chen**, University of Connecticut; **Len Stefanski**, North Carolina State University; **Christopher Wikle**, University of Missouri–Columbia; and **Tian Zheng**, Columbia University in the City of New York. The others elected in the Section on Statistics were **Rebecca A. Betensky**, New York University School of Global Public Health, **Daniel Gillen**, University of California, Irvine, and **Amita Manatunga**, Emory University.

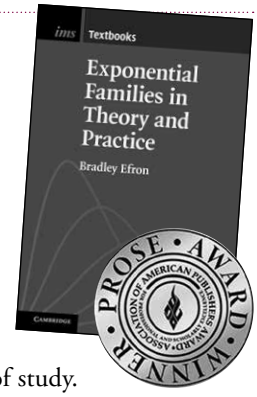
The new Fellows will receive a certificate and a gold and blue rosette pin (representing



science and engineering, respectively) to commemorate their election and will be celebrated at a forum on September 21, 2024. That evening, AAAS will also celebrate the program's 150th anniversary at the National Building Museum in Washington, D.C. The 2023 Fellows class is also featured in the "AAAS News & Notes" section of the journal *Science* in April 2024.

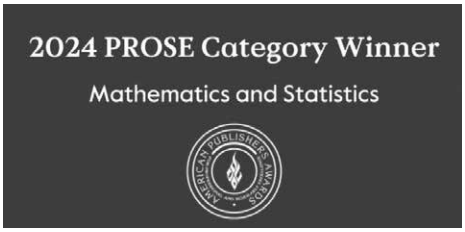
The complete class list is at https://www.aaas.org/fellows/2023-fellows

Bradley Efron's IMS Textbook wins PROSE Award



Bradley Efron, Professor Emeritus of Statistics and Biomedical Data Science at Stanford University, is the author of the Cambridge University Press–IMS Textbook, *Exponential Families in Theory and Practice.* The book was honored as a 2024 PROSE Award winner in the Mathematics and Statistics category at the American Publishers Awards. Since 1976, the annual Professional and Scholarly Excellence (PROSE) awards have recognised publishers who produce books, journals, and digital products of extraordinary merit that make a significant contribution to a field of study.

Exponential Families in Theory and Practice is available from Cambridge University Press (CUP). IMS members receive a **40% discount** on any title in the series. CUP, together with the Institute of Mathematical Statistics, established the *IMS Monographs* and *IMS Textbooks* series of high-quality books. Read more about the series at www.imstat.org/cup/



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IMS Journals and Publications

Annals of Statistics: Enno Mammen, Lan Wang
https://imstat.org/aos
https://projecteuclid.org/aos

Annals of Applied Statistics: Ji Zhu
https://imstat.org/aoas
https://projecteuclid.org/aoas

Annals of Probability: Paul Bourgade & Julien Dubedat
https://imstat.org/aop
https://projecteuclid.org/aop

Annals of Applied Probability: Kavita Ramanan, Qiman Shao: https://imstat.org/aap
https://projecteuclid.org/aoap

Statistical Science: Moulinath Bannerjee
https://imstat.org/sts
https://projecteuclid.org/ss

IMS Collections
https://projecteuclid.org/imsc

IMS Monographs and *IMS Textbooks:* Yingying Fan
https://www.imstat.org/journals-and-publications/ims-monographs/

IMS Co-sponsored Journals and Publications

Electronic Journal of Statistics: Grace Yi & Gang Li
https://imstat.org/ejs
https://projecteuclid.org/ejs

Electronic Journal of Probability: Cristina Toninelli
https://projecteuclid.org/euclid.ejp

Electronic Communications in Probability: Patrícia Gonçalves
https://projecteuclid.org/euclid.ecp

Journal of Computational and Graphical Statistics: Galin Jones, Faming Liang https://www.amstat.org/ASA/Publications/Journals.aspx
log into members' area at imstat.org

Probability Surveys: Adam Jakubowski
https://imstat.org/ps
https://projecteuclid.org/ps

Statistics Surveys: Yingying Fan
https://imstat.org/ss
https://projecteuclid.org/euclid.ssu

IMS-Supported Journals

ALEA: Latin American Journal of Probability and Statistics: Daniel Remenik
http://alea.impa.br/english

Annales de l'Institut Henri Poincaré (B): Giambattista Giacomin, Yueyun Hu
https://imstat.org/aihp
https://projecteuclid.org/aihp

Bayesian Analysis: Mark Steel
https://projecteuclid.org/euclid.ba

Bernoulli: Davy Paindaveine
https://www.bernoullisociety.org/
https://projecteuclid.org/bj

Brazilian Journal of Probability and Statistics: Francisco José A. Cysneiros
https://imstat.org/bjps
https://projecteuclid.org/bjps

IMS-Affiliated Journals

Observational Studies: Nandita Mitra
https://obs.pennpress.org/

Probability and Mathematical Statistics: Krzysztof Bogdan, Krzysztof Dębicki
http://www.math.uni.wroc.pl/~pms/

Stochastic Systems: Devavrat Shah
https://pubsonline.informs.org/journal/stsy

IMS Fellows: Class of 2024

The designation of IMS Fellow has been a significant honor for almost 90 years. Each of these Fellows has demonstrated distinction in research in statistics or probability or has demonstrated leadership that has profoundly influenced the field. Congratulations to all of you!

Genevera I. Allen

Columbia University

For groundbreaking research in graphical models, feature selection, unsupervised learning, and data integration; leadership in data science education; and elevating the role of statisticians in data science.

Chris Flynn

Jacob Bien

University of Southern California

For methodological contributions to the field of statistics that emphasize interpretability, computational efficiency, and relevance to scientific disciplines.

Malgorzata Bogdan

Lund University and University of Wrocław

For innovative contributions to high-dimensional statistics, particularly in multiple testing and variable selection, for insightful connections between Bayesian and frequentist approaches, for successfully integrating methodological work with applications in genetics, and for leadership in fostering scientific collaborations.

Tamara Broderick

Massachusetts Institute of Technology

For theoretical leadership in Bayesian statistics and probability theory, especially in the context of scalability, robustness, and nonparametrics.

Brian Birzer

Catherine A. Calder

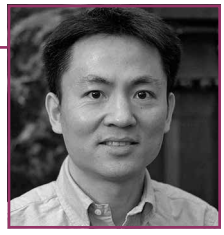
University of Texas at Austin

For original research contributions in statistical methods for the analysis of spatial-temporal data, Bayesian hierarchical models, and data-driven substantive research in geophysics, environmental and natural sciences.

Xi Chen

New York University

For notable contributions to statistical inference for online, distributed, and high-dimensional data, and to statistical applications in operations and business domains.



Yuguo Chen

University of Illinois Urbana-Champaign

For substantive and sustained contributions to Monte Carlo methods, network data analysis and statistical computing, and for exceptional and extensive editorial work.

Juan A. Cuesta-Albertos

Universidad de Cantabria

For outstanding contributions to statistics and probability, including the areas of optimal transport, robust statistics, data depth, classification, and their applications.

Josée Dupuis

McGill University

For fundamental contributions to the field of statistical genetics, in detecting complex traits and interactions, for mentoring, and for leadership in the statistics and genetics communities.

Emily B. Fox

Stanford University

For broad-ranging and highly impactful work developing innovative new probabilistic modeling frameworks, with a particular emphasis on stochastic processes, time series, and network data modeling, and efficient new computational algorithms for Bayesian inference.

Debashis Ghosh

University of Colorado Anschutz Medical Campus

For recognition of methodological advances in survival analysis and longitudinal data, statistical bioinformatics and attendant methodologies in multiple comparisons and data integration, mentoring junior researchers and editorial service to the profession.

Maria Gordina

University of Connecticut

For significant contributions to stochastic analysis and stochastic differential geometry, and for service to the IMS.

Kengo Kato

Cornell University

For fundamental contributions to high-dimensional central limit theorems and bootstrapping, including those for U-statistics and data with complex dependence structures, their applications to nonparametric statistical models, quantile regression, and statistical optimal transport.

Christina Kendziorski

University of Wisconsin – Madison

For the sustained, impactful contributions to statistics in genomics for more than 20 years, the outstanding record of mentoring women statisticians, and service to the profession.

Terrence Jones

Fan Li

Duke University

For significant and extensive contributions to the theory and applications of causal inference, and for sustained editorial service.

Shili Lin

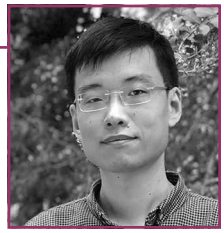
Ohio State University

For excellent research in methodological and computational statistical genetics and genomics and applications to human diseases; for leadership in mentoring students and junior researchers; and for outstanding service to the profession.

Zongming Ma

Yale University

For groundbreaking contributions to modern statistical theory with theory-informed applications in single-cell biology.



David S. Matteson

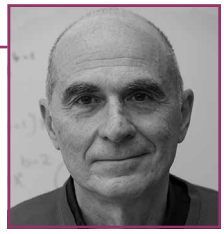
Cornell University and the National Institute of Statistical Sciences

For significant contributions in many scientific areas and for fundamental contributions to statistical theory and applications, including multiple R packages and machine learning, and for important contributions to data science and excellent services to the statistical profession.

Ilya Molchanov

University of Bern

For developing and applying methods for the analysis of random sets, contributing to many parts of probability theory and statistics, from multivariate distributions, stochastic processes to estimation of level sets, curves and applications to image analysis, and econometrics and finance, and the monograph "Random Sets".



Hernando Ombao

King Abdullah University of Science and Technology

For contributions to time series modeling and spectral analysis of biological data, novel dependence measures for understanding brain connectivity, and training graduate students and post-doctoral scholars.

Edsel Aldea Pena

University of South Carolina

For important and significant theoretical and methodological contributions in modeling and analysis of event time data, multiple decision-making, reliability theory and methods, goodness-of-fit and model validation, effective teaching and mentoring of graduate students, and for dedicated service to the profession.

J. Sunil Rao

University of Minnesota, Twin Cities

For novel contributions to high-dimensional model selection and mixed model selection, developing new paradigms to modernize mixed model prediction, developing innovative statistical and machine learning methods for analyzing cancer genomic data, and demonstrating significant leadership in the profession.

Johannes Schmidt-Hieber

University of Twente

For pioneering work on the statistical foundations of deep learning and fundamental contributions to spot volatility estimation, nonparametric inference under shape constraints, high-dimensional Bayesian inference, Le Cam theory, and inverse problems.

Haipeng Shen

HKU Business School

For exceptional contributions to theoretical advancements and influential applied research, particularly in the realms of data-driven decision-making amidst uncertainty, and for unwavering commitment to educational innovation and long-standing dedication to advancing the field of data science.

Yu Shen

UT MD Anderson Cancer Center

For novel contributions to the methodology of complex survival data analysis, adaptive clinical trial designs, and cancer screening data modeling; for substantial collaboration impacting on the practice of medicine and public health recommendations.

Xinyuan Song

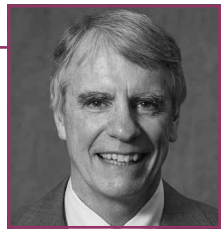
The Chinese University of Hong Kong

For outstanding contributions in statistical methodology, notably in structural equation and latent variable models, and their applications in psychometrics and for providing remarkable service and educational leadership within the statistical community.

Leonard A. Stefanski

North Carolina State University

For seminal contributions to measurement error models, deconvolution, variable selection, and extensive editorial work and service to the profession.



Stilian Atanasov Stoev

University of Michigan, Ann Arbor

For influential contributions in the modeling and analysis of stochastic processes with long-range dependence and heavy tails and for important contributions to extreme value theory, max-stable processes, and statistics of extremes.

Lei Sun

University of Toronto

For important contributions to statistical genetics, including developing new theories and methods that have enabled scientific breakthroughs in understanding the genetic basis of disease, and for exceptional contributions to leadership and training in collaborative research.

Joel A. Tropp

Caltech

For contributions to the fusion of advanced mathematics and data science, bringing forth groundbreaking algorithms and theoretical insights that have profoundly influenced computational statistics and signal processing.


Lara Kimmerer

Caroline Uhler

Massachusetts Institute of Technology; Broad Institute of MIT and Harvard

For interdisciplinary excellence, merging mathematical statistics and computational biology in innovative and impactful ways.

Venugopal Veeravalli

University of Illinois at Urbana-Champaign

For outstanding contributions to sequential hypothesis testing and quickest change detection.

Lingzhou Xue

The Pennsylvania State University

For influential research contributions to the methodology, theory, and application of high-dimensional statistics, statistical machine learning, and nonparametric statistics; for outstanding contributions and leadership in cross-disciplinary research involving the statistical sciences; and for dedicated service to the profession.

Piotr Zwiernik

University of Toronto

For outstanding contributions to the theory of graphical models, exponential families, multivariate positive dependence, and dedicated editorial and organizational service to the profession.

The 2024 IMS Fellows will be presented in the Presidential Address and Awards ceremony at the World Congress in Bochum in August.

IMS Special Lecture Previews

Nina Holden: Bernoulli–IMS Schramm Lecture

Nina Holden is an Associate Professor at the Courant Institute of Mathematical Sciences at New York University. She completed her PhD in 2018 at MIT under the supervision of Scott Sheffield and was then a postdoc at ETH Zurich. Her research is in probability theory and mathematical physics and she is particularly interested in two-dimensional random geometry and conformally invariant random objects. She is associate editor of the *Annals of Probability* and *Annales de l'Institut Henri Poincare* and has received recognitions such as the Maryam Mirzakhani New Frontiers Prize and the Rollo Davidson prize.

This 2024 Schramm lecture will be delivered at the 11th World Congress in Probability and Statistics in Bochum, Germany, August 12–16, 2024: https://www.bernoulli-ims-worldcongress2024.org

Scaling limits of random planar maps

Planar maps are graphs embedded in the sphere such that no two edges cross, where we view two planar maps as equivalent if we can get one from the other via a continuous deformation of the sphere. Planar maps are studied in many different branches of mathematics and physics. In particular, in probability theory and theoretical physics random planar maps are used as natural models for discrete random surfaces.

An active research direction within probability theory in the past two decades has been to establish scaling limit results for planar maps. It has been proven that random planar maps converge in various senses or topologies to continuum random surfaces called Liouville quantum gravity (LQG) surfaces. The latter surfaces are highly fractal and have their origin in string theory and conformal field theory. In this talk we will present convergence results for planar maps and we will focus in particular on a notion of convergence known as convergence under conformal embedding.

Moulinath Banerjee: Medallion Lecture

Moulinath Banerjee completed his Bachelor's and Master's in statistics at the Indian Statistical Institute in 1995 and 1997, respectively, then authored a doctoral dissertation, *Likelihood Ratio Inference in Regular and Nonregular Problems* in 2000, advised by Jon A. Wellner of the University of Washington. He remained in Washington as a lecturer until joining the University of Michigan faculty in 2001. His research interests comprise non-standard statistical models, shape-constrained methods, empirical process theory, distributed computing, learning across environments, and more recently, applications of OT at the statistics and machine learning interface. Apart from his statistical pursuits, he takes an avid interest in classical music, fine dining, literature, and philosophy, and together with a co-author has published a new translation of the *Rubaiyat of Omar Khayyam* from the original Persian. He is an elected fellow of both the ASA and the IMS, and the current editor of IMS's review journal, *Statistical Science*.

This Medallion lecture will be delivered at the World Congress in Probability and Statistics in Bochum, Germany, in August: www.bernoulli-ims-worldcongress2024.org.

Estimation and inference for the average treatment effect in a score-explained heterogeneous treatment effect model

Non-randomized treatment effect models, in which the treatment assignment depends on (functions of) certain covariates being above or below some threshold, are widely used in fields like econometrics, political science, and epidemiology. Treatment effect estimation in such models is generally done using a local approach (e.g., RDD), which only considers observations from a small neighborhood of the threshold. In numerous situations, however, researchers are equally (or more) interested in individuals farther away from the threshold and the effect of treatment on such individuals.

In this talk, we present a new method for estimating non-randomized heterogeneous treatment effects that consider all observations regardless of their distance from the threshold. The key idea is to model the "score" of an individual based on which treatment is assigned as a function of measured covariates. We observe (X, Y, Q) for each individual, where X is the background covariates, Y is the response variable, and Q is the score.

To be more concrete, consider the example of estimating the effect of a scholarship on a student's future performance. Here, Y represents some measure of future performance, such as grades in college or university, future income, etc. The variable X consists of some background information on the student (e.g., race, socio-economic status, etc.), and Q denotes the score of the student on the scholarship test. We model the observations as follows:

$$Y_i = \alpha_0(X_i, \eta_i)\mathbb{1}_{Q_i \geq \tau_0} + X_i^\top \beta_0 + \nu_i$$
$$Q_i = X_i^\top \gamma_0 + \eta_i$$

where τ_0 is the cutoff in the scholarship examination. Our parameter of interest is the average treatment effect on treated (ATT), which is defined as:

$$\theta_0 = \mathbb{E}[\alpha_0(X, \eta) \mid Q \geq \tau_0].$$

However, since both the response variable Y and performance in the scholarship examination Q depend on an unobserved confounder (e.g., a student's innate ability), we do not assume (η, ν) to be independent. Instead, they can be generated from any bivariate distribution.

We show that our method is capable of estimating ATT at a parametric rate irrespective of the correlation among the errors. We apply our method to simulated and real data sets, compare our results with those from existing approaches, and conclude with possible extensions of our method.

Alicia Carriquiry: Medallion Lecture

Alicia Carriquiry joined the faculty in Statistics at Iowa State in 1990. She is currently Distinguished Professor of Liberal Arts and Sciences and President's Chair in Statistics, and is Director of the Center for Statistics and Applications in Forensic Evidence (CSAFE), a NIST Center of Excellence. She is an elected member of the National Academy of Medicine and of the American Academy of Forensic Science, and is also a Fellow of the American Association for the Advancement of Science, the American Statistical Association, the Institute of Mathematical Statistics, the International Society for Bayesian Analysis and the International Statistical Institute.

Carriquiry's research interests include Bayesian methods, sampling, study design, and application of machine learning approaches in biological and forensic problems. She has worked extensively on problems in human nutrition and in the last several years has established an active research program in forensic statistics. She has published about 160 peer-reviewed articles and has mentored 22 doctoral students, about 40 MS students, five post-doctoral researchers, and several brilliant undergraduates.

This Medallion lecture will be delivered at JSM in Portland, USA, August 3–8, 2024.

Statistics and its Application in Forensic Science and the Criminal Justice System

The United States has the dubious honor of leading the Western world in terms of the proportion of its citizens it incarcerates. The number of persons in jail in the US has been on the decline for the last decade; however, even today there are more prisoners in the US than in all of the European countries combined.

Mass incarceration has impacted Black and Brown communities disproportionately. For many reasons, including the fact that those communities are policed more intensely, minorities of color are significantly over-represented in the prison system. Perhaps not surprisingly, mass incarceration has led to a large number of individuals who were wrongly convicted and spent years, even decades, in jail for crimes they did not commit. Since the development of forensic DNA analysis, in the 1990s, over 3,400 wrongfully convicted persons have been exonerated (https://newkirkcenter.uci.edu/national-registry-of-exonerations/). While not the main cause, faulty or ad-hoc forensic methods account for about 35% of all wrongful convictions.

A National Research Council report entitled *Strengthening Forensic Science in the United States* (NAP 2009) was sharply critical of the practice of forensic science in the US criminal justice system, and called for research to develop the statistical framework of all forensic disciplines except for DNA. The recommendations in the report motivated a small number of statisticians to focus on forensic problems.

Forensic applications present unique challenges for statisticians. Until recently, it was difficult to find any relevant data that were non-proprietary and that were useful for research. Further, much of the data that arise in forensic problems are non-standard, and include low quality images, voice recordings, and stain patterns, to name a few. In those cases, even defining analytical variables may require out-of-the-box thinking. In criminal cases, the question of interest is often one of *source.* Some evidence is recovered from a crime scene; was the defendant the source of that evidence? For example, did the defendant's gun fire the bullets embedded in a wall? Other forensic questions refer to the *cause* of an effect. Here, the difficulty arises because the standard causal framework is not appropriate to answer *individual causation* questions: we know that smoking causes cancer, but did it cause the cancer of the specific person who is suing a tobacco company? In consequence, it is often the case that traditional statistical approaches are not well suited to address the questions of interest to jurors, legal professionals and forensic practitioners.

The presentation introduces some of the statistical and algorithmic methods proposed recently that have the potential to impact forensic practice in the US. Some of this research is mature enough to be already undergoing pilot testing at actual crime labs, although no new technology has yet been implemented in real case work. Two examples are used for illustration: the analysis of questioned handwritten documents and of marks imparted by firearms on bullets or cartridge cases. In both examples, the question we address is the question of source: do two or more items have the same source? In the first case, we apply "traditional" statistical modeling methods, while in the second case, we resort to algorithmic approaches to quantify similarity between two items, followed by a statistical test for the hypothesis of same source.

Deadline: September 15, 2024

Student Puzzle Corner 52

Anirban DasGupta says, "We are continuing with our contest model as in the previous puzzles. Each correct answer receives 3 points, each incorrect answer receives -2 points, and each item left unanswered receives -1 point. The top three scorers will be recognized. You can answer just one of the two problems, 52.1 and 52.2, although it will be a pleasure if you attempt both components. The non-contest problem (52.1) is really simple this time, so send your answer to at least that one!"

Student members of IMS are invited to submit solutions to bulletin@imstat.org (subject "Student Puzzle Corner"). If correct, we'll publish your name (and photo, if there's space), and the answer, in the next issue.

The Puzzle Editor is Anirban DasGupta. His decision is final.

Puzzle 52.1 For $n \geq 2$, let σ denote a permutation of $\{1, 2, \ldots, n\}$. Call a pair (i, j) a reversal pair of σ if $i < j$, $\sigma(i) > \sigma(j)$. Denote by $I(\sigma)$ the set of all reversal pairs of σ, and by $T(\sigma)$ the cardinality of $I(\sigma)$. Find the expected value of $T(\sigma)$ if σ is chosen uniformly at random from the set of $n!$ permutations of $\{1, 2, \ldots, n\}$.

Puzzle 52.2 For our contest problem, answer True or False, without the need to provide a proof. But reasoned answers are especially welcome. Here are the items.

(a) If $X \sim N_d(\mu, \mathbf{I})$, then the only function $h(X)$ such that $E_\mu(h(X)) = h(\mu)$ for all μ is $h(X) = X$.

(b) There exist real, valued, nonconstant random variables X, Y such that X, Y are independent, and $\frac{X}{Y}$ and XY have the same distribution.

(c) Suppose G is a graph on n vertices and m edges. A coloring of G is an assignment of colors to the vertices of G in such a way that no two vertices that share an edge receive the same color. Fix an integer x and denote by $P_G(x)$ the number of ways to color G by using exactly x colors. View $P_G(x)$ as a polynomial in a real variable x (you can). Then the sum of all the roots of $P_G(x)$, counting possible complex roots, does not depend on n.

(d) If X is a real valued random variable with (finite) variance σ^2 and a median ξ (any median), then $|E(X) - \xi| \leq \sigma$.

(e) Suppose $(X_1, X_2, \ldots, X_{100})$ is distributed uniformly on the boundary of the unit ball in 100 dimensions. Then the joint distribution of the first 10 coordinates, $(X_1, X_2, \ldots, X_{10})$ can be approximated by a suitable 10-dimensional normal distribution with a diagonal covariance matrix.

Solution to Puzzle 51

Well done *(again!)* to **Deborshi Das**, ISI Delhi (pictured here), for his correct solution to the first puzzle. You'll find a reminder of Puzzles 51.1 and 51.2 (plus the bonus puzzle, which was for independent exploration) at https://imstat.org/2024/05/15/student-puzzle-corner-51/.

Deborshi Das sent another correct solution.

Puzzle editor Anirban DasGupta explains:

Puzzle 51.1

The diameter of the inscribed ball is $|r|$, and so the volume is $E[(|r|/2)^d]v_d$, where $v_d = \frac{\pi^{d/2}}{\Gamma(\frac{d}{2}+1)}$ is the volume of the unit ball in d dimensions. This reduces the problem to the simple calculation of $E(|r|^d)$.

Puzzle 51.2

(a) The total variation distance between a binomial distribution with parameters $n = 50$ and $p = 0.01$ and the Poisson distribution with mean 0.5 is no more than 0.01.

True. This can be checked numerically. It is about 0.0046. You can also show analytically that it is less than 0.005 by using Le Cam's lemma, that the variation distance is less than $n\,p^2$.

(b) If X is a Cauchy distributed variable with a location parameter μ, then there is no unbiased estimator $\delta(X)$ of μ.

This is **true**. It is a known result in inference. Erich Lehmann's estimation text is a good reference. If the sample size $n > 2$, then unbiased estimators do exist.

(c) If T_m denotes a symmetric t-distributed variable on m degrees of freedom, then one can write T_1 as $T_2 + W$ where W is independent of T_2.

False. Consider the characteristic functions $u(t)$, $v(t)$ of T_1, T_2. They are, respectively, $e^{-|t|}$ and $\sqrt{2}\,|t|K_1(\sqrt{2}|t|)$, where K_1 is the usual

Continues on **page 11**

notation for a Bessel K-function. Then you can exhibit t such that $\frac{u(t)}{v(t)} > 1$. So $\frac{u(t)}{v(t)}$ cannot be a characteristic function, which answers the question in the negative.

(d) If $\{S_n\}_0^\infty$ with $S_0 = 0$ stands for the simple symmetric random walk on the line, then there exist functions $f(S_n)$ such that f is not one-one, but $\{f(S_n)\}_0^\infty$ is a Markov chain.

True. As a standard example, you can use $f(x) = |x|$. This answers the question in the affirmative.

(e) For n i.i.d. observations from a univariate normal distribution with an unknown mean and a known variance of 1, the $N(\overline{X}, 1)$ density is a minimax estimator of the true density among all normal density estimators under an ℓ_2 loss.

False. An exact formula for the square of the L_2 risk of a general normal density estimator can be found on calculation. This can be maximized easily over the unknown mean. The maximum will not be attained; be careful. You can now see that the maximum risk is not minimized when the density estimator has variance 1. These are of paradoxical nature, to some extent. Should you estimate a known parameter? Is the answer "yes, sometimes," or is there something wrong with our formulation of the problem as a decision theory problem? Think about it; talk to others around you.

(f) Given i.i.d. samples $X_1, \ldots, X_n$ from a d-dimensional normal distribution for general $n \geq 2$, $d \geq 2$, with a general mean vector and a general covariance matrix, the sample variance-covariance matrix can be written as A_1+A_2 where A_1, A_2 are nonsingular matrices.

True. Actually, you can assert something much more general. Take a real matrix A and consider its eigenvalues, including any complex eigenvalues. Then the moduli of the eigenvalues are bounded by some finite real c. Now consider a decomposition of the form $\frac{1}{2}(A+aI) + \frac{1}{2}(A-aI)$ where the real number a is chosen to be sufficiently large.

51.3: Bonus Problem for Independent Exploration

A point in the plane is called a Gaussian position if its Cartesian coordinates (X, Y) are i.i.d. standard normals. Consider a triangle T with vertices chosen as independent Gaussian positions. Argue for or against the motion that we should predict that the slope of the Euler line of T is zero.

The slope of the Euler line is going to have a density when (X, Y) are i.i.d. standard normal. No formula for the density function of this slope is known, and it does not seem possible. Computing seems to show that the density of the slope has a unique global maximum at zero. So one could take the view that if we have to give a point predictor of the slope, we should say zero.

Prime funding opening

NSF Partnerships for Research Innovation in the Mathematical Sciences (PRIMES) funding available

IMSI, the Institute for Mathematical and Statistical Innovation, located in Chicago, encourages qualified researchers in the mathematical sciences to submit a proposal to the NSF PRIMES program: https://new.nsf.gov/funding/opportunities/partnerships-research-innovation-mathematical. The NSF Division of Mathematical Sciences' Partnerships for Research Innovation in the Mathematical Sciences (PRIMES) program aims to enhance partnerships between minority-serving institutions and DMS-supported Mathematical Sciences Research Institutes, including IMSI. The activity seeks to **boost the participation of members of groups underrepresented in the mathematical sciences** by enabling their increased involvement in research programs at the institutes. IMSI encourages those interested to apply for a PRIMES grant for participation in the **Uncertainty Quantification and AI for Complex Systems** long program (https://www.imsi.institute/activities/uncertainty-quantification-and-ai-for-complex-systems/) or in a proposed **Interdisciplinary Research Cluster** (https://www.imsi.institute/proposals/irc/) scheduled for January–June 2025. The next deadline for PRIMES proposals is **August 21, 2024**.

IMSI seeks proposals for scientific activity

IMSI, the Institute for Mathematical and Statistical Innovation, located in Chicago, is currently seeking proposals for **long programs, workshops, interdisciplinary research clusters, and other scientific activity**, with a deadline of September 15, 2024.

Information about how to submit proposals can be found at https://www.imsi.institute/proposals/ and the resources linked therein. There are currently openings for long programs in 2026–27, and openings for workshops in the fall of 2025 and beyond.

IMSI holds two proposal cycles per year, with deadlines of March 15 and September 15.

Lines from Layla: **Fulfillment and Focus**

Layla Parast, Associate Professor in the Department of Statistics and Data Sciences at the University of Texas at Austin, has come up with a new way of working (or deep-working) with her PhD students. She writes:

Have you ever had one of those days where you've worked all day, responding to emails, sending emails, attending meetings, leading meetings, reviewing documents—you've crossed off an incredible number of tasks from your to-do list, whittled down your email inbox, but yet you look back on your day and think, did I really DO anything? Of course you did. You did a lot. But sometimes it's hard to shake the feeling that you didn't really do anything truly meaningful. I have found that if I allow it, every day will end up like this for me. Certainly progress is made on various tasks and projects, but I feel incredibly unfulfilled. Is this how I want to spend my days?

I have discovered that I must aggressively protect my time to give myself space for deep work. It is within this protected time that I find time for work that fills my soul. This is where I have the space to focus and be curious. This is not a new realization, I have been doing this for years, including in graduate school. This concept was perfectly captured in Cal Newport's 2016 book *Deep Work: Rules for Focused Success in a Distracted World*, which I highly recommend. Paraphrasing from his book, human beings are at their best when immersed deeply in something challenging. He defines deep work as the "ability to focus without distraction on a cognitively demanding task" and argues that it provides a sense of true fulfillment that comes from mastery. The ability to actually *do* deep work is becoming increasingly valuable in today's economy, in this world where everything is vying for your attention. This ability is also becoming increasingly rare: he argues that those who cultivate this skill and make it the core of their working life will thrive.

Newport describes the phenomenon I described above as "busyness as a proxy for productivity." That is, when we don't have clear indicators of what it means to do valuable work in our jobs, many of us revert to a more industrial indicator of productivity i.e., doing lots of stuff in a visible manner. Newport offers concrete suggestions to overcome this busyness trap. For example, as a result of this book, I track my deep work hours. I don't mean this in a hand-wavy way: I mean that I literally write down the minute I start and the minute I end, and I have a spreadsheet where I collect it all. I only "count" time that I spend giving my full concentration on a single task (almost always related to a statistical methods paper or idea or learning something new) free from distraction. Emailing, "check-in" meetings, scheduling: none of that counts in this time.

Continues on **page 13**

Because of this I can tell you that in 2023, I spent 356 hours on deep work, while in 2022 I spent 203 hours on deep work (and in 2020, it was only 86 hours, for obvious reasons). Is that a lot, or a little? I have no idea. But it is about all my brain and calendar can handle.

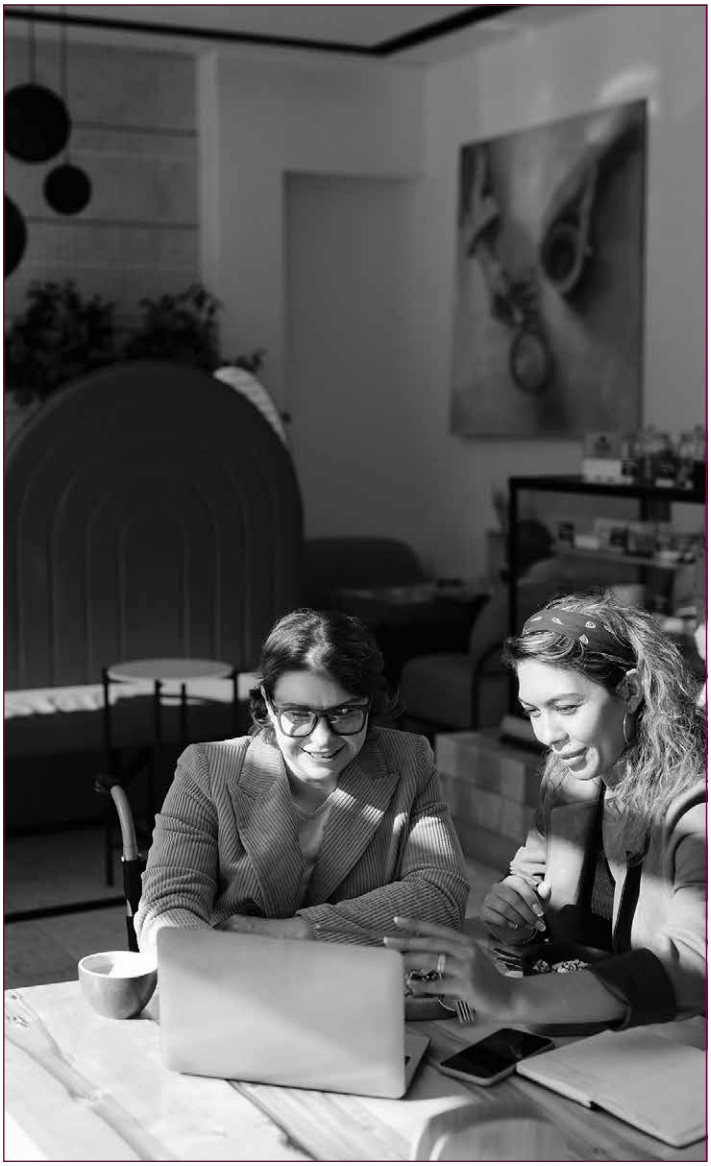
As I said, this is not new to me. What has been new for me recently is my struggle figuring out how to "teach" this to students. I worked outside of academia for a decade and now, in academia, have my first two PhD students. Mentoring PhD students is my favorite part of my job so far. That being said, it's hard! I understand how to teach, hone, and develop technical skills: theory, methods, coding, data applications, writing, presenting, etc. But "teaching" someone how to both make space for focus, and *actually* focus, is harder. Focus is a skill that we can improve with effort. By practicing intense purposeful focus, we make room for meaningful work and curiosity.

A year ago, I decided that I would just try showing my students by example. Instead of weekly meetings in my office, we switched to a weekly four-hour deep work session at a coffee shop: one session for each of my two students per week. Yes, this was an incredible commitment. My colleagues and friends gasped at the idea. Don't you have other things to do? Yes, I did. But I thought it was worth a try for a temporary period of time. And of course, this strategy will not scale as I mentor an increasing number of students. Nonetheless, it has truly been a rewarding decision. Both of my students decided to attend both of the weekly deep work sessions, rather than just "their" session. They get more done in one day than they might have accomplished in a few weeks. (As an added bonus, we've had a fun time discovering new coffee shops all over Austin, and have learned to avoid ones that are popular for daytime first dates because it's impossible to avoid eavesdropping on those conversations.) I model focus for them: I close my email, put away my phone, read relevant papers, take notes, stare off into space while thinking, and write in my notebook. I work only on one particular task/idea related to their thesis work for the entire four-hour period, and we discuss as needed throughout the session.

> *"By practicing intense, purposeful focus, we make room for meaningful work and curiosity."*

Let me tell you, it's hard. My brain hurts. Sometimes I just don't feel like doing it. But it has led to improvement in my own ability to focus, and has certainly improved my students' as well (and it also motivated me to purchase high quality noise-canceling headphones).

As we gear up for a new academic year, I can truly say that I look forward to continuing these sessions. Every once in a while, I offer my PhD students the opportunity to go back to the previous model of weekly one-hour meetings rather than four-hour work sessions. But they always turn me down. In fact, it seems that many (maybe not all) PhD students would love to have their advisor's focused attention for four hours a week. Come to think of it, when was the last time you had *anyone's* focused attention for four hours?



New Statistics and Data Science Department

News on the New Department of Statistics and Data Science at Washington University in St. Louis (WashU)

Less than a year after its inception, WashU's Department of Statistics and Data Science (https://sds.wustl.edu/) is already assembling the talent and expertise needed to make it a national leader in statistical research with real-world impact, said department chair **Xuming He**, the Kotzubei-Beckmann Distinguished Professor [*and former* IMS Bulletin *editor!*].

"The department will continue to develop foundational research in statistics," He said. "At the same time, we're going to take an interdisciplinary approach to explore emerging areas of data science."

A nationwide search for faculty last year yielded a flood of applications and the department recently hired five talented scholars whose skills will further the department's mission. The new faculty includes the following people.

Bo Li, previously the chair of statistics at the University of Illinois, is a leading statistician specializing in the complex data underlying environmental science and public health issues.

Joe Guinness, previously an associate professor of statistics and data science at Cornell University, studies large data sets in Earth science.

Ran Chen, previously a postdoctoral researcher at the Massachusetts Institute of Technology, works on a wide range of statistical issues, including machine learning and data-driven decision-making with implications for business and health care.

Hong Hu, previously a postdoctoral researcher at the University of Pennsylvania, studies high-dimensional statistics with applications for signal processing and machine learning. He will join the university holding a joint appointment between Department of Electrical & Systems Engineering and Department of Statistics and Data Science.

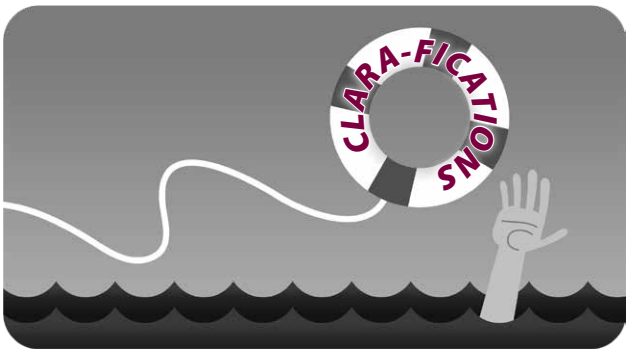
Carlos Misael Madrid Padilla, recently earned his PhD from the University of Notre Dame, with the 2024 Eli J. and Helen Shaheen Graduate School Award, studies high-dimensional statistics, change-point detection and scalable Bayesian computation.

The department plans to hire more faculty to further the department's reach into emerging fields such as AI and public health. The department is also committed to expanding its educational reach, with the goal of more doubling the number of students in its graduate program this year.

Xuming He chairs the new Department of Statistics and Data Science at Washington University in St. Louis

For more information, please see the online article https://artsci.wustl.edu/ampersand/department-statistics-and-data-science-gains-momentum-new-hires which was written by Chris Woolston.

Any call for ***Clara-fication?***



Do you need some friendly advice? Are you unsure how to go about something? Does everyone around you look like they know exactly what they're doing? (*They really don't!*). We're inviting early-career researchers to send their **questions about the life of a researcher or ask for career advice**, and *Clara-fications* columnist Clara Grazian will try to find an answer. We'll publish the question and answer in the next available issue. **Don't worry, we won't publish your name.** Your question might even be what someone else has been secretly wondering… Send your questions for Clara to **bulletin@imstat.org**.

Recent papers: two IMS-supported journals

Bayesian Analysis

Bayesian Analysis is an electronic journal of the International Society for Bayesian Analysis. It seeks to publish a wide range of articles that demonstrate or discuss Bayesian methods in some theoretical or applied context. The journal welcomes submissions involving presentation of new computational and statistical methods; critical reviews and discussions of existing approaches; historical perspectives; description of important scientific or policy application areas; case studies; and methods for experimental design, data collection, data sharing, or data mining. The Editor-in-Chief is Mark Steel (University of Warwick, UK).
Access papers at **https://projecteuclid.org/journals/bayesian-analysis**

Volume 19, No 3, September 2024

Brazilian Journal of Probability and Statistics

The *Brazilian Journal of Probability and Statistics* is an official publication of the Brazilian Statistical Association and is supported by the IMS. The Journal publishes papers in applied probability, applied statistics, computational statistics, mathematical statistics, probability theory and stochastic processes. The Editor is Francisco José A. Cysneiros.
Access papers at **https://projecteuclid.org/journals/brazilian-journal-of-probability-and-statistics**

Volume 38, No 2, June 2024

Obituary: Richard Olshen

1942–2023

Richard Olshen

Professor Richard Allen Olshen passed away on November 8, 2023.

Professor Olshen will be forever remembered for his pioneering research in the field of statistics and his unyielding passion for academia, especially to Stanford University. He played a significant role in advancing statistical learning, notably through his influential work on regression and classification trees. His well-known book *Classification and Regression Trees* described the motivation, algorithms and mathematical theory of CART. His internationally acclaimed and pioneering work spanned various domains, including gait analysis, digital radiography, and, in more recent years, molecular genetics.

As the division chief of Biostatistics in the Department of Health Research and Policy, his leadership, especially in the shaping of biostatistics at Stanford, will be fondly remembered. Professor Olshen was a key figure in the development of the Biostatistics Workshop (predecessor to the weekly department seminar series in DBDS) and Data Studio. His many contributions will leave a lasting imprint on Stanford's School of Medicine and Stanford University.

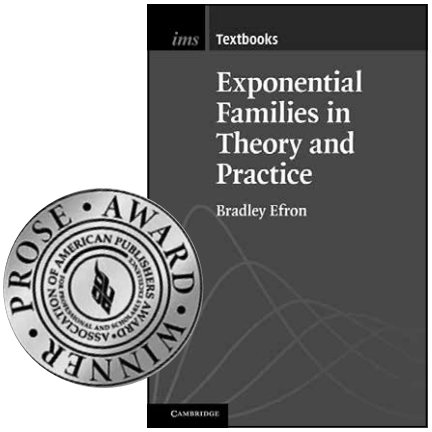
Richard Olshen was born in Portland, Oregon, on May 17, 1942. After completing his undergraduate training at UC Berkeley, he attended Yale University, where he earned his PhD in Statistics in 1966 under the guidance of L.J. Savage. In 1967, he moved to Stanford University, beginning a long connection with the institution. In 1975 he joined the faculty of the Mathematics Department at UC San Diego, returning to Stanford in 1989. Richard Olshen was a passionate mentor to many. In addition to his academic accomplishments, Richard was also a dedicated husband, nurturing father, and doting grandfather. Although we deeply mourn his loss, his influence on our field and the memories of his wisdom and candor will remain as an everlasting tribute. We will provide further information on how to honor his memory with his family once it becomes available. In lieu of flowers, the family prefers donations in honor of his memory to the charity of your choice.

Written by Sylvia K. Plevritis, Professor and Chair, Department of Biomedical Data Science, Stanford University; and Adam Olshen, Department of Epidemiology and Biostatistics, University of California, San Francisco.

This obituary is based on the text at https://dbds.stanford.edu/2023/dr-richard-olshen-pioneer-in-field-of-statistics-1942-2023/ *and is reproduced by permission of Adam Olshen. A longer obituary by Jennifer Welsh appears at* https://med.stanford.edu/news/all-news/2023/12/richard-olshen-obituary.html

The Institute of Mathematical Statistics presents

IMS TEXTBOOKS



Exponential Families in Theory and Practice

Bradley Efron, Stanford University

During the past half-century, exponential families have attained a position at the center of parametric statistical inference. Theoretical advances have been matched, and more than matched, in the world of applications, where logistic regression by itself has become the go-to methodology in medical statistics, computer-based prediction algorithms, and the social sciences. This book is based on a one-semester graduate course for first year Ph.D. and advanced master's students. After presenting the basic structure of univariate and multivariate exponential families, their application to generalized linear models including logistic and Poisson regression is described in detail, emphasizing geometrical ideas, computational practice, and the analogy with ordinary linear regression. Connections are made with a variety of current statistical methodologies: missing data, survival analysis and proportional hazards, false discovery rates, bootstrapping, and empirical Bayes analysis. The book connects exponential family theory with its applications in a way that doesn't require advanced mathematical preparation.

Hardback $105.00

Paperback $39.99

IMS members are entitled to a 40% discount: email ims@imstat.org to request your code

www.imstat.org/cup/

Cambridge University Press, with the Institute of Mathematical Statistics, established the *IMS Monographs* and *IMS Textbooks* series of high-quality books. The series editors are Mark Handcock, Ramon van Handel, Arnaud Doucet, and John Aston.

IMS meetings around the world

Joint Statistical Meetings

2024 Joint Statistical Meetings
August 3–8, 2024, Portland, Oregon, USA
w https://ww2.amstat.org/meetings/jsm/2024/
Registration and housing reservations are open. Featured speakers include: Annie Qu, Medallion Lecture; Jason Matheny, ASA President's Invited Address; Nancy Reid, IMS Grace Wahba Lecture; Jing Lei, Medallion Lecture; Regina Liu, COPSS Elizabeth L. Scott Lecture; William H. Woodall, Deming Lecture; Madhumita Ghosh-Dastidar, ASA President's Address; Alicia Carriquiry, Medallion Lecture; Robert Tibshirani, COPSS Distinguished Achievement Award and Lectureship

Writing Workshop for Junior Researchers 2024: July 19 & July 26 *online* & August 4, 2024 *in-person* at JSM Portland
This popular short course is hosted by NISS.

JSM dates for 2025–2029

IMS Annual Meeting @ JSM 2025	**JSM 2026**	**IMS Annual Meeting @ JSM 2027** UPDATED	**JSM 2028**	**IMS Annual Meeting @ JSM 2029**
August 2–7, 2025	**August 1–6, 2026**	**August 7–12, 2027**	**August 5–10, 2028**	**August 4–9, 2029**
Nashville, TN, USA	**Boston, MA, USA**	**Chicago, IL, USA**	**Philadelphia, PA, USA**	**Seattle, WA, USA**

ICMS25: the 4th International Conference on Mathematics and Statistics NEW
February 20–22, 2025
Sharjah, United Arab Emirates
w https://www.aus.edu/conferences/the-fourth-international-conference-on-mathematics-and-statistics
The fourth International Conference on Mathematics and Statistics (ICMS25) at American University of Sharjah aims to provide a platform for those engaged in the realm of pure and applied mathematics, mathematical education and statistics. This conference serves as a venue for the exchange of the latest research insights and for networking among scholars and practitioners.

ICMS25 will include keynote addresses from distinguished mathematicians, specialized sessions and contributions of papers, with selected publications in internationally refereed journals.

The technical program will feature three keynote lectures delivered by esteemed scholars and special sessions focusing on areas such as algebra, coding theory, data mining, machine learning, differential equations, mathematical biology and topology. Additionally, there will be contributed paper sessions with oral and poster presentations.

Abstract submission is open: deadline October 31, 2024. See website for abstract template.

2026 IMS Asia Pacific Rim Meeting (IMS–APRM) NEW
June 13–16, 2026
Hong Kong, ROC
w TBC
The IMS Asia Pacific Rim (IMS-APRM) conferences provide an excellent forum for scientific communications and collaborations 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 2026 Local Organizers are Xinyuan Song and Junhui Wang.

More details coming; please mark your calendars.

At a glance:

forthcoming IMS Annual Meeting and JSM dates

2024

IMS Annual Meeting/ 11th World Congress: Bochum, Germany, **August 12–16, 2024**

JSM: Portland, OR, **August 3–8, 2024**

2025

IMS Annual Meeting @ JSM: Nashville, TN, USA, **August 2–7, 2025**

2026

IMS Annual Meeting: Salzburg, Austria, **July 6–9**

JSM: Boston, MA, **August 1–6, 2026**

2027

IMS Annual Meeting @ JSM: UPDATED Chicago, USA **August 7–12, 2027**

More IMS meetings

24th IMS Meeting of New Researchers in Statistics and Probability
August 1–3, 2024
Oregon State University, Corvallis, Oregon USA
w https://nrc2024.github.io/index
The Institute of Mathematical Statistics (IMS) sponsors the New Researchers Conference (NRC; more formally the Meeting of New Researchers in Statistics and Probability) every year. It is organized by the IMS New Researchers Group (NRG). The application deadline for this year's meeting has passed.

***IMS–CANSSI joint event:* Navigating different stages of a successful career in academia, industry, and beyond**
August 2024, at JSM Portland, USA
w https://www.eventbrite.ca/e/navigating-different-stages-of-a-successful-career-tickets-861667800587
The IMS and the Canadian Statistical Sciences Institute (CANSSI) are pleased to announce their first joint event, *"Navigating different stages of a successful career in academia, industry, and beyond,"* at JSM 2024 in Portland, Oregon. A panel of statisticians from different areas and stages, ranging from junior to senior, will discuss their career path, offer advice, and answer Q&A. The event is now fully booked.

Thirty Years of Women in Probability
August 5–6, 2024. UNC Chapel Hill, USA
https://services.math.duke.edu/~rtd/wwp30yr/wwp30y.html
Marking 30 years since the Ithaca Workshop for Women in Probability, this meeting will be hosted by the probability group in the department of Statistics and Operations Research at UNC–Chapel Hill.
Speakers include Jasmine Foo (Minnesota), Tai Melcher (U. of Virginia), Tamara Broderick (MIT), Ivana Bozic (Washington), Dana Randall (Georgia Tech), Samantha Petti (Tufts), and Lea Popovic (Concordia).

ENAR 2025 Spring Meeting NEW
March 23-26, 2025
New Orleans, LA, USA
w https://www.enar.org/meetings/spring2025/
The ENAR 2025 Spring Meeting will be held March 23-26, 2025 at the Sheraton New Orleans Hotel in New Orleans, Louisiana. The 2025 meeting theme is "ENAR is Interdisciplinary."

IMS annual meeting 2024:
Bernoulli–IMS 11th World Congress in Probability & Statistics
August 12–16, 2024, at Ruhr-University Bochum, Germany
w https://www.bernoulli-ims-worldcongress2024.org/
The Institute of Mathematical Statistics Annual Meeting will be held at the 11th World Congress. The plenary speakers have been announced: see https://www.bernoulli-ims-worldcongress2024.org/plenary-lectures. With 51 invited paper sessions, 55 contributed sessions, and poster sessions, there's something for everyone.

Submissions and registration are now open. Registration of speakers/presenters of contributed talks/posters by April 30, 2024. Early registration deadline is May 31, 2024. Note that the registration fee includes a local public transportation pass (the *VRR Preisstufe D*, valid from August 11–17), and which includes trains from Düsseldorf airport. A list of hotels is now available on the congress website, including several that are close to Bochum central station (*Bochum Hbf*).

More IMS meetings

13th Cornell Probability Summer School

UPDATED

July 22–August 2, 2024
Ithaca, NY, USA
w https://math.cornell.edu/13th-cornell-probability-summer-school

CPSS 2024 is organized by the Dynamics, Probability and PDE's in Pure and Applied Research Training Group.

The main lecturers will be **Antonio Auffinger**, Northwestern University: "Mathematical Spin Glass Theory"; **Hao Shen**, University of Wisconsin, Madison: "Stochastic PDEs from Quantum Field Theory"; and **Tianyi Zheng**, University of California, San Diego: "Random Walks on Random Coset Spaces."

The Junior Speakers (problem sessions) will be **Curtis Grant**, collaborating with Antonio Auffinger; **Wenhao Zhao**, collaborating with Hao Shen; and **Laszlo Marton Toth**, collaborating with Tianyi Zheng.

The scientific organizers are Laurent Saloff-Coste, Phil Sosoe, and Lionel Levine.

The schedule is available on the event website. There will be a reception on July 23, and an event barbecue on July 26.

Asia-Pacific Seminar in Probability and Statistics

Ongoing and online
w https://sites.google.com/view/apsps/home

The Asia-Pacific Seminar in Probability and Statistics (APSPS) is a monthly online seminar, broadcast on a mid-month Wednesday via Zoom. The seminar series was created as a permanent forum for good research in the field. Topics include: probabilistic models for natural phenomena, stochastic processes and statistical inference, statistical problems in high-dimensional spaces, asymptotic methods, statistical theory of diversity. The organizers—Sanjay Chaudhuri, Mark Holmes, Estate Khmaladze (chair), Krishanu Maulik, Spiro Penev, Masanobu Taniguchi, Lijiang Yang, and Nakahiro Yoshida—seek an emphasis on novelty, beauty, and clarity. Presentations are intended to be accessible to good postgraduate students in probability and mathematical statistics.

If you are interested in receiving email announcements about the next speakers, send an email to any of the Board members listed above.

IMS International Conference on Statistics and Data Science (ICSDS2024)

UPDATED

December 16–21, 2024
Nice, France
w https://sites.google.com/view/ims-icsds2024/

The third IMS International Conference on Statistics and Data Science will take place in beautiful Nice, on the south coast of France, December 16–21, 2024. **Registration is open**, and the **conference hotel** is now available for booking at a special rate: see the website for link.

The plenary speakers are Rina Foygel Barber, University of Chicago; Peter Bühlmann, ETH Zürich; Cynthia Dwork, Harvard University; and Martin Wainwright, Massachusetts Institute of Technology.

Young researchers are particularly encouraged to participate, with a portion of the invited sessions designated for them.

There will be **14 student travel awards available**, 800 USD each, to PhD students who participate in the invited or contributed program: **apply by September 1, 2024.**

Stochastic Processes and their Applications 2025

July 14–18, 2025
Wrocław, Poland
w https://spa.pwr.edu.pl/

The 44th Conference on Stochastic Processes and their Applications (SPA 2025) will be held in Wrocław, Poland, from 14 to 18 July, 2025.

SPA Conferences, organised by the Bernoulli Society and co-sponsored by IMS, are the most important series of international meetings on the theory and applications of stochastic processes.

Organizing committee members are Krzysztof Bogdan (Wrocław University of Science and Technology) and Krzysztof Dębicki (University of Wrocław).

You can pre-register at https://spa.pwr.edu.pl/preregistration.

One World ABC Seminar: Ongoing and online

w https://warwick.ac.uk/fac/sci/statistics/news/upcoming-seminars/abcworldseminar

The One World Approximate Bayesian Computation (ABC) Seminars are **monthly** seminars that take place via Zoom on Thursdays, typically 9.30am or 1.30pm [UK time]. Register to receive the webinar link via email. The organizers welcome proposals for future talks. This webinar is part of the larger One World seminar initiative [*see below*].

One World Probability Seminar (OWPS): Ongoing and online

w https://www.owprobability.org/one-world-probability-seminar/

Thursdays, 14:00 UTC/GMT [resuming in September]. Please subscribe to the mailing list for updates about the upcoming seminars and other events: https://www.owprobability.org/mailing-list

Other meetings and events around the world

Fall School: Time Series, Random Fields and Beyond
September 23–27, 2024
Ulm, Germany
w https://www.uni-ulm.de/mawi/mawi-stochastik/allgemeines/aktuelles/fall-school-time-series-random-fields-and-beyond-2024/
The German-Japanese Fall School on Time Series, Random Fields and Beyond will take place at Ulm University, September 23–27, 2024. It is organized jointly by the Institute of Statistical Mathematics (Tokyo), University of Tokyo, Tohoku University (Sendai) and Ulm University. It targets graduate and PhD students as well as PostDocs who would like to learn more about the state-of-the-art in random processes in space and time as well as related topics. The focus of the school includes the geometry of random fields and their excursions, multivariate extreme value theory, Markov Chain Monte Carlo, hyper-uniformity in random geometric systems as well as spectral methods for space-time series.

The following international experts will give lectures in their fields: Hermine Bierme (University of Tours, France) Zakhar Kabluchko (University of Münster, Germany) Kengo Katamani (Institute of Statistical Mathematics, Tokyo, Japan) Michael Klatt (German Aerospace Center, Ulm, Germany) Yasumasa Matsuda (Tohoku University, Sendai, Japan) Gennady Samorodnitsky (Cornell University, Ithaca, USA)

Registration and poster submission is now open. See the website for details.

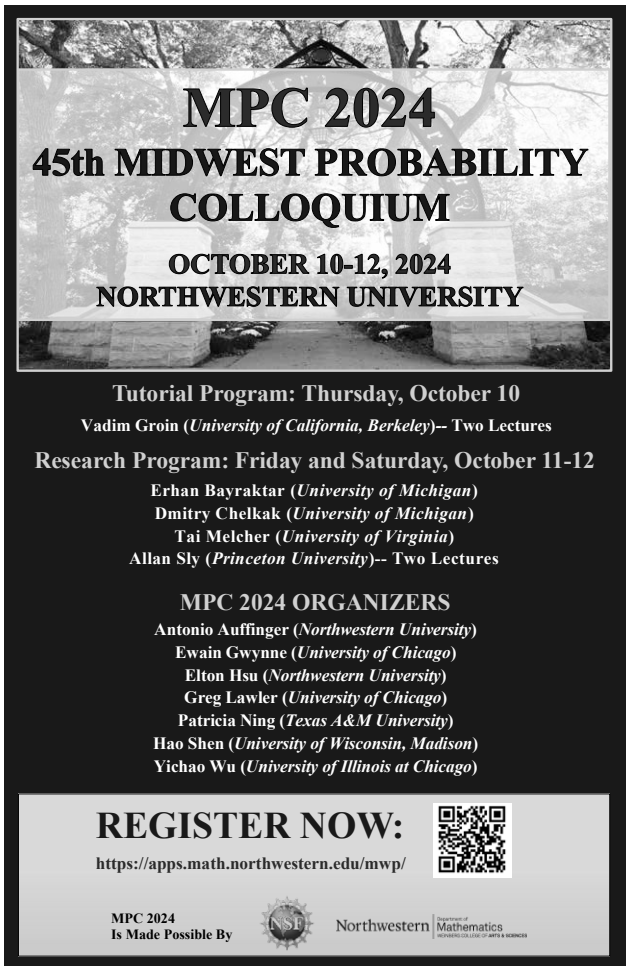
Women in Probability @ Midwest Probability Colloquium (MPC)
October 11, 2024. Evanston, IL, USA
w http://womeninprobability.org/Calendar.html
Women in Probability will be hosting a lunch at the Midwest Probability Colloquium at Northwestern University. (See poster, right.)

Conference on New Developments in Probability
September 26–28, 2024
Montréal, Canada
w http://womeninprobability.org/CNDP.html
The Conference on New Developments in Probability is a series hosted by Women in Probability. The third CNDP will be held September 26–28, 2024 at the Centre de Recherches Mathématiques (CRM) at Université de Montréal, organized by Louigi Addario-Berry (McGill), Raluca Balan (Ottawa), Héléne Guérin (UQAM), Jessica Lin (McGill), Tai Melcher (U Virginia), Lea Popovic (Concordia), and Jing Wang (Purdue). The conference will feature talks by David Herzog (University of Iowa); Rohini Kumar (Wayne State University); Benjamin Landon (University of Toronto); Natasha Morrison (University of Victoria); Kavita Ramanan (Brown University); Firas Rassoul-Agha (University of Utah); Si Tang (Lehigh University); and Samy Tindel (Purdue University)

Applied Statistics 2024
September 23–25, 2024
Koper (Capodistria), Slovenia
w https://as.mf.uni-lj.si/
The Applied Statistics International Conference brings together researchers and practitioners from around the world working on various aspects of data analysis, data science, and statistics to present their latest research and learn from each other. The scientific program at Applied Statistics includes invited talks, as well as oral and poster presentations of accepted abstracts. Two keynotes: Tom Snijders (*Hierarchical multilevel analysis of network dynamics*) and Hein Putter (*Fine-Gray subdistribution hazard models to simultaneously estimate the absolute risk of different event types: Cumulative total failure probability may exceed 1*).

The registration deadline is September 10.

The two-day main conference will be preceded by a workshop day.



More meetings and events around the world

The 9th International Workshop in Sequential Methodologies (IWSM)
June 1–4, 2026, Washington DC, USA
w https://www.american.edu/cas/iwsm2026/

The IWSM meets every two years to provide a platform for presenting theoretical results, exploring practical applications, and addressing challenges in areas such as sequential testing, change-point detection, sequential estimation, selection and ranking, machine learning, artificial intelligence, clinical trials, adaptive design, stochastic quality and process control, optimal stopping, stochastic approximation, applied probability, mathematical finance, and related fields of probability, statistics, and applications. Covering a broad range of methodological and applied areas, IWSM aims to advance the field.

Computational Methods in Bayesian Statistics
January 17–18, 2025
Gainesville FL, USA
w https://stat.ufl.edu/winter-workshop/2025-computational-methods-in-bayesian-statistics/

Bayesian computation faces challenges due to the increasing complexity of the models and problems that need to be addressed and the size of the data sets that are being collected. Sub-themes of the workshop are MCMC methods, for which theoretical underpinnings are strong but which can struggle with massive data sets; and variational Bayes methods, which can handle many kinds of massive problems, but are not guaranteed to converge to correct values. The workshop will include a contributed poster session. **Funding is expected** to support young researchers to attend the workshop and present their work at the poster session. See website for details; application deadline November 12.

IMSI Upcoming Workshops
August 5–9, 2024, IMSI, Chicago, USA
Computational Imaging
w https://www.imsi.institute/activities/computational-imaging/

This workshop will serve as a venue for presenting and discussing recent advances and trends in the growing field of computational imaging, which involves imaging systems within which computation is a major component. Research on all aspects of the computational imaging pipeline from data acquisition (including non-traditional sensing methods) to system modeling and optimization to image reconstruction, processing, and analytics will be within scope, with talks addressing theory, algorithms and mathematical techniques, and computational hardware approaches. The range of applications is broad. Given the rapidly growing interest in data-driven, machine learning, and large-scale learning and optimization based methods in computational imaging, the workshop will focus on some of the key recent and new theoretical, algorithmic, and hardware (for efficient/optimized computation) developments and challenges in these areas. We hope for close interactions between mathematical and applied computational imaging researchers and practitioners.

August 19–21, 2024, IMSI, Chicago, USA
The Architecture of Green Energy Systems: Next Steps
w https://www.imsi.institute/activities/the-architecture-of-green-energy/the-architecture-of-green-energy-systems-next-steps/

This workshop aims to bring together all the ideas from the Architecture of Green Energy program, allow participants to summarize results so far, prepare a summary document of progress, and build a blueprint for future collaborations and follow up mechanisms.

August 26–30, 2024, IMSI, Chicago, USA
Challenges in Neuroimaging Data Analysis
w https://www.imsi.institute/activities/challenges-in-neuroimaging-data-analysis/

Neuroimaging involves generating images of the central nervous system to understand its structure, function, or pharmacology. The field is rapidly evolving, with new techniques emerging for data acquisition and advanced statistical learning methods being developed for data analysis. Recently, there's been a surge in collecting neuroimaging data across healthcare, research, and clinical trials.

Large biomedical studies gather extensive neuroimaging data, including sMRI, DWI, and fMRI. The influx of data can significantly enhance our comprehension of the brain and help in creating effective treatments for neurological and psychiatric conditions. However, analyzing this data necessitates the progression of statistical learning techniques, encompassing image processing and population-based statistical evaluations. While topics like image enhancement and predictive models are of interest, the growth in statistical analysis lags behind neuroimaging advancements.

This workshop aims is to provide a comprehensive discussion of mathematical and statistical challenges in neuroimaging data analysis from neuroimaging techniques to large-scale neuroimaging studies to statistical learning methods. It is important that researchers are equipped with the tools and methods needed to handle the large and complex datasets and to produce reliable and reproducible research findings.

Employment Opportunities

ROC: Hong Kong

The University of Hong Kong

Tenure-Track Associate Professor/Assistant Professor in Statistics
https://jobs.imstat.org/job//73697574

Taiwan: Taipei

National Taiwan University, Institute of Statistics and Data Science

Faculty Positions at National Taiwan University--Institute of Statistics and Data Science
https://jobs.imstat.org/job//73682876

United States: San Francisco, CA (Remote working)

Scale

Remote Online Math Tutor, AI Training
https://jobs.imstat.org/job//73731392

Singapore

National University of Singapore
Assistant, Associate and Full Professor Positions in the Department of Statistics and Data Science

The Department of Statistics and Data Science at the National University of Singapore invites applications for full-time open-rank positions in statistics, data science and related areas at tenure-track and tenured levels.

The National University of Singapore offers internationally competitive salaries, generous research funding, travel support, relocation assistance and other benefits. The Department of Statistics and Data Science has nearly 40 faculty members and provides a stimulating research environment.

Applicants must have demonstrated exceptional research potential. For the Associate and Full Professor positions, they must also have a track record of excellence in teaching and leadership. Please submit a cover letter, curriculum vitae, research and teaching statements, and at least three letters of recommendation to mathjobs.org: https://www.mathjobs.org/jobs/list/24646

We have an ongoing recruitment process and will review applications as they are received.

More information about the university and the department can be found at https://www.nus.edu.sg and https://www.stat.nus.edu.sg.

Singapore

National University of Singapore
Department Postdoctoral Positions

The Department of Statistics and Data Science at the National University of Singapore is one of the leading departments of its kind in Asia and globally. Comprising close to 40 full-time faculty members and around 70 research staff and PhD students, along with a strong network of industry affiliates, the department fosters a comprehensive and engaging research and educational environment in the areas of statistics and data science.

We invite applications for Departmental Postdoctoral Positions. These non-tenure track positions are aimed at early-career researchers, particularly recent or soon-to-be Ph.D. graduates, with research interests that overlap or complement those of our faculty members.

The positions offer an initial two-year appointment with the potential for a one-year extension. Successful candidates will receive a competitive annual salary of up to SGD90,000, along with generous travel support. Additionally, candidates will be provided with relocation and housing allowance. Teaching responsibilities involve two courses per year.

In order to apply, please submit a cover letter, curriculum vitae, research and teaching statements, and at least three letters of recommendation through mathjobs.org (https://www.mathjobs.org/jobs/list/24647).

More information about the university and the department can be found at https://www.nus.edu.sg and https://www.stat.nus.edu.sg.

United States: San Francisco, CA (Remote working)

Scale

AI Training for Mathematics
https://jobs.imstat.org/job//73731381

United States: Cambridge, MA

Harvard University, Department of Statistics

Tenure-Track Faculty in Statistics
https://jobs.imstat.org/job//74083274

International Calendar of Statistical Events

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

Online and Ongoing series

ONLINE ims **Asia-Pacific Seminar in Probability and Statistics** w https://sites.google.com/view/apsps/home

ONLINE ims **COPSS–NISS COVID-19 Data Science Webinar series** w https://www.niss.org/COPSS–NISS-covid-19-data-science-webinar-series

ONLINE ims **One World ABC Seminar** w https://warwick.ac.uk/fac/sci/statistics/news/upcoming-seminars/abcworldseminar

ONLINE ims **One World Probability Seminar** w https://www.owprobability.org/one-world-probability-seminar

ONLINE ims **One World YoungStatS Webinar series** w https://youngstats.github.io/categories/webinars/

ONLINE **Video series:** *The Philosophy of Data Science* w https://www.podofasclepius.com/philosophy-of-data-science

August 2024

ims August 1–3: Oregon State University, Corvallis, USA. **24th IMS Meeting of New Researchers in Statistics and Probability** w https://nrc2024.github.io/index

ims August: at JSM Portland, USA. *IMS–CANSSI joint event:* **Navigating different stages of a successful career in academia, industry, and beyond** w https://www.eventbrite.ca/e/navigating-different-stages-of-a-successful-career-tickets-861667800587 (fully booked, with a waitlist)

ims August 3–8: Portland, OR, USA. **JSM 2024** w https://ww2.amstat.org/meetings/jsm/2024/

ims August 5–6: UNC Chapel Hill, USA. **Thirty Years of Women in Probability** w https://services.math.duke.edu/~rtd/wwp30yr/wwp30y.html

NEW August 5–9: IMSI, Chicago, USA. **Computational Imaging** w https://www.imsi.institute/activities/computational-imaging/

ims August 12–16: Bochum, Germany. **Bernoulli/IMS World Congress in Probability and Statistics** w https://www.bernoulli-ims-worldcongress2024.org/

August 12–17: Toronto, Canada. **Forward From The Fields Medal 2024 (FFFM2024)** w http://www.fields.utoronto.ca/activities/24-25/FFFM-2024

August 18–23: Waterloo, Canada. **MCQMC 2024** w https://uwaterloo.ca/monte-carlo-methods-scientific-computing-conference/

August 18–23: Banff, Canada. **BIRS Workshop on Causal Inference and Prediction for Network Data** w https://www.birs.ca/events/2024/5-day-workshops/24w5244

NEW August 19–21: IMSI, Chicago, USA. **The Architecture of Green Energy: Next Steps** w https://www.imsi.institute/activities/the-architecture-of-green-energy/the-architecture-of-green-energy-systems-next-steps/

NEW August 26–30: IMSI, Chicago, USA. **Challenges in Neuroimaging Data Analysis** w https://www.imsi.institute/activities/challenges-in-neuroimaging-data-analysis/

August 27–30: Singapore. **13th Workshop on High Dimensional Data Analysis (HDDA-XIII)** w https://sites.google.com/essec.edu/hdda-xiii/

September 2024

September 2–5: Brighton, UK. **Royal Statistical Society 2024 International Conference** w https://rss.org.uk/training-events/conference-2024/

September 2–6: Poprad, Slovakia. **LinStat 2024** w https://linstat2024.science.upjs.sk/

Continues on **page 25**

September 4–5: Birmingham, UK. **Unlocking the potential: The IMA AI/ML Congress 2024** w https://ima.org.uk/23193/unlocking-the-potential-the-ima-ai-ml-congress-2024/

September 8–13: Ascona, Switzerland. **Spatial and Temporal Statistical Modeling in Molecular Biology** w https://spatialbio.net

September 11–13: Bath, UK. **4th IMA Conference on Inverse Problems from Theory to Application** w https://ima.org.uk/23503/4th-ima-conference-on-inverse-problems-from-theory-to-application/

September 12–13: Washington DC, USA. **Information, Value, Modeling and Inference** w https://www.american.edu/cas/economics/info-metrics/workshop/information-value-modeling-inference.cfm

September 16–17: Cambridge, UK. **Induction Course for New Lecturers in the Mathematical Sciences 2024** w https://ima.org.uk/24056/induction-course-for-new-lecturers-in-the-mathematical-sciences-2024/

September 16–December 13: IMSI, Chicago, USA. Long Program: **Statistical Methods and Mathematical Analysis for Quantum Information Science** w https://www.imsi.institute/activities/statistical-methods-and-mathematical-analysis-for-quantum-information-science/

September 18–20: Washington DC, USA. **International Total Survey Error Workshop (ITSEW)** w https://www.niss.org/events/international-total-survey-error-workshop-itsew

NEW September 23–25: Koper (Capodistria), Slovenia. **Applied Statistics 2024** w https://as.mf.uni-lj.si/

NEW September 23–27: Ulm, Germany. **Fall School on Time Series, Random Fields and Beyond** w https://www.uni-ulm.de/mawi/mawi-stochastik/allgemeines/aktuelles/fall-school-time-series-random-fields-and-beyond-2024/

September 26–28: Montréal, Canada. **Conference on New Developments in Probability (CNDP)** w http://womeninprobability.org/CNDP.html

October 2024

NEW ONLINE October 8 (24-hour program): **International Day of Women in Statistics and Data Science:** *"Empowering the Next Generation of Women Statisticians and Data Scientists"* w https://www.idwsds.org/

NEW October 10–12: Evanston, USA. **Midwest Probability Colloquium** *(including Women in Probability lunch on Oct. 11)* w https://apps.math.northwestern.edu/mwp/

November 2024

November 4–6: Savannah, GA, USA. **31st Biopharmaceutical Applied Statistics Symposium (BASS XXXI)** w www.bassconference.org

November 11–13: Eindhoven, The Netherlands. **DDQCIII: Data-driven techniques in Operations Research** w https://www.ddqc.io

December 2024

ims December 16–21: Nice, France. **IMS International Conference on Statistics and Data Science (ICSDS)** w https://sites.google.com/view/ims-icsds2024/

January 2025

NEW January 17–18: Gainesville, USA. **Winter Workshop: Computational Methods in Bayesian Statistics** w https://stat.ufl.edu/winter-workshop/2025-computational-methods-in-bayesian-statistics/

Continues on **page 26**

International Calendar *continued*

February 2025

NEW ims February 20–22: Sharjah, United Arab Emirates. **ICMS25: the 4th International Conference on Mathematics and Statistics w** https://www.aus.edu/conferences/the-fourth-international-conference-on-mathematics-and-statistics

March 2025

March 3–May 23: IMSI, Chicago, USA. Long Program: **Uncertainty Quantification and AI for Complex Systems w** https://www.imsi.institute/activities/uncertainty-quantification-and-ai-for-complex-systems/

NEW March 23–26: New Orleans, USA. **ENAR 2025 Spring Meeting w** https://www.enar.org/meetings/spring2025/

June 2025

June 23–27: Verona, Italy. **12th General AMaMeF conference w** https://sites.google.com/view/amamef2025/

July 2025

July 13–17: The Hague, The Netherlands. **65th ISI World Statistics Congress w** https://www.isi-wsc.org/

ims July 14–18: Wrocław, Poland. **Stochastic Processes and their Applications 2025 w** https://spa.pwr.edu.pl/

August 2025

ims August 2–7: Nashville, TN, USA. **IMS Annual Meeting at JSM 2025 w** www.amstat.org/meetings/joint-statistical-meetings

June 2026

NEW June 1–4: Washington DC, USA. **9th International Workshop in Sequential Methodologies (IWSM) w** https://www.american.edu/cas/iwsm2026/

NEW ims June 13–16: Hong Kong, ROC. **IMS–APRM2026: IMS Asia Pacific Rim Meeting w** TBC

July 2026

ims July 6–9: Salzburg, Austria. **IMS Annual Meeting. w** TBD

August 2026

ims August 1–6: Boston, MA, USA. **JSM 2026 w** www.amstat.org/meetings/joint-statistical-meetings

August 2027

NEW ims August 7–12: Chicago, USA. **IMS Annual Meeting at JSM 2027 w** www.amstat.org/meetings/joint-statistical-meetings

August 2028

ims August 5–10: Philadelphia, PA, USA. **JSM 2028 w** www.amstat.org/meetings/joint-statistical-meetings

August 2029

ims August 4–9: Seattle, WA, USA. **IMS Annual Meeting at JSM 2029 w** www.amstat.org/meetings/joint-statistical-meetings

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 ims@imstat.org, or you can submit the details yourself at https://www.imstat.org/ims-meeting-form/
We'll list them here in the Bulletin, and on the IMS website too, at imstat.org/meetings-calendar/

Membership and Subscription Information: 2024

Journals

The scientific journals of the Institute of Mathematical Statistics are *The Annals of Statistics*, *The Annals of Probability*, *The Annals of Applied Statistics*, *The Annals of Applied Probability*, and *Statistical Science*. The *IMS Bulletin* is the news organ of the Institute.

Individual Memberships

Each individual member receives the *IMS Bulletin* (print and/or electronic) and may elect to receive one or more of the five scientific journals. Members pay annual dues of $105. An additional $142 is added to the dues of members for each scientific printed journal selected ($95 for *Stat Sci*). **Reduced membership dues** are available to full-time students, new graduates, permanent residents of countries designated by the IMS Council, and retired members.

Individual and General Subscriptions

Subscriptions are available on a calendar-year basis. **Individual subscriptions** are for the personal use of the subscriber and must be in the name of, paid directly by, and mailed to an individual. Individual subscriptions for 2024 are available to the *Annals of Applied Probability*, *Annals of Applied Statistics*, *Annals of Probability*, *Annals of Statistics* ($257 for each title), *Statistical Science* ($210), and *IMS Bulletin* ($115). **General subscriptions** are for libraries, institutions, and any multiple-readership use. Institutional subscriptions for 2024 are available to *The Annals of Applied Probability, The Annals of Applied Statistics, The Annals of Probability,* and *The Annals of Statistics* (each title $590 online only / $770 print+online), *Statistical Science* ($340/$425), and *IMS Bulletin* ($185 print). Airmail delivery is no longer offered.

IMS Bulletin

The *IMS Bulletin* publishes articles and news of interest to IMS members and to statisticians and probabilists in general, as well as details of IMS meetings and an international calendar of statistical events. Views and opinions in editorials and articles are not to be understood as official expressions of the Institute's policy unless so stated; publication does not necessarily imply endorsement in any way of the opinions expressed therein, and the *IMS Bulletin* and its publisher do not accept any responsibility for them. The *IMS Bulletin* is copyrighted and authors of individual articles may be asked to sign a copyright transfer to the IMS before publication.

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Advertising job vacancies: A single 60-day online job posting costs just $370.00. We will also include the basic information about your job ad (position title, location, company name, job function and a link to the full ad) in the *IMS Bulletin* at no extra charge. See https://jobs.imstat.org

Advertising meetings, workshops and conferences: Meeting announcements here and on the IMS website at https://imstat.org/meetings-calendar/ are free. Submit your meeting details at https://www.imstat.org/ims-meeting-form/

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Issue	Deadline	Online by	Mailed
1: January/February	**December 1**	December 15	January 1
2: March	**February 1**	February 15	March 1
3: April/May	**March 15**	April 1	April 15
4: June/July	**May 1**	May 15	June 1
5: August	**July 1**	July 15	August 1
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

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the next issue is September 2024

The purpose of the Institute is to foster the development and dissemination of the theory and applications of statistics and probability

IMS: Organized September 12, 1935

Read IMS Bulletin articles online at https://imstat.org/news

DEADLINES for submissions

August 15, then **September 15**

Please see inside the back cover for subscription details and information for advertisers, including all our deadlines and requirements

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For email alerts when new IMS journal issues are released, sign up at **https://imstat.org/portal/login**