Volume 48 • Issue 8

IMS Bulletin

December 2019

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Brown PhD Student Awards

Inaugural IMS Lawrence D. Brown PhD Student Award recipients announced

We are pleased to announce the following members have been selected to receive the 2019 IMS Lawrence D. Brown PhD Student Award:

- Yuqi Gu, Department of Statistics, University of Michigan
- Didong Li, Department of Mathematics, Duke University
- Ashwin Pananjady, Department of Electrical Engineering and Computer Science, University of California, Berkeley

Yuqi Gu

Didong Li

Ashwin Pananjady

The three PhD students will present at an invited session as part of the World Congress/IMS Annual Meeting in Seoul, South Korea, August 17–21, 2020. More information about the congress can be found at http://www.wc2020.org/. If you want to join them on the program at the World Congress, abstract submission will be opening soon, with a deadline of March 31, 2020.

Lawrence D. "Larry" Brown

Lawrence D. Brown (1940–2018), Miers Busch Professor and Professor of Statistics at The Wharton School, University of Pennsylvania, had a distinguished academic career. He was known for his groundbreaking work in a broad range of fields including decision theory, recurrence and partial differential equations, nonparametric function estimation, minimax and adaptation theory, and the analysis of call-center data. Professor Brown's firm dedication to all three pillars of academia—research, teaching, and service—sets an exemplary model for generations of new statisticians. The IMS Lawrence D. Brown PhD Student Award advocates for the values by which he lived.

To donate to the IMS Lawrence D. Brown PhD Student Award Fund (or another fund), please visit https://www.imstat.org/shop/donation/.

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Executive Committee

IMS Members' News

South Korean Inchon Award for Byeong Park

Byeong Uk Park, Professor of Statistics at Seoul National University in South Korea, has received the 33rd Inchon Award. The prestigious Inchon Awards honor the memory of Kim Sung-soo (whose pen-name was Inchon), former vice-president of the Republic of Korea, founder of Korea University, and founder of the *Dong-A Ilbo* (the *East Asia Daily*), a major newspaper in South Korea. The Inchon Foundation, which makes the awards, annually honors individuals for outstanding contributions to the advancement of journalism, science, public service, and entrepreneurship. Professor Park won the award in the field of Science and Technology, for the first time in statistical science. Each recipient of the award is presented with the Letter of Citation, a medal, and a cash prize of 100M Korean Won (about US$86,000).

Byeong U. Park is a Vice President of the ISI, and an IMS Council member. He served as the Scientific Secretary of the Bernoulli Society and is elected to Fellowship of the IMS and of the ASA.

Hal Stern appointed UCI Vice Provost for Academic Planning

IMS Fellow Hal S. Stern has been appointed vice provost for academic planning at the University of California, Irvine (UCI). Since joining UCI as founding chair of the statistics department in 2002, Stern has held a range of academic and administrative leadership roles. He served for eight years as chair of statistics, and then more than six years as the Ted and Janice Smith Family Foundation Dean of the Donald Bren School of Information and Computer Sciences. He is currently a chancellor's professor of statistics. Formerly at Iowa State University and Harvard University, Stern's research interests include Bayesian methods, model assessment techniques, causal inference, and collaborative projects in the life sciences and social sciences. He is co-director of the Center for Statistics and Applications in Forensic Evidence, funded by the National Institute of Standards and Technology, and part of the leadership team for the Conte Center at UCI, funded by the National Institutes of Health. Stern is a fellow of IMS, the ASA and the American Association for the Advancement of Science. He has also served on several expert committees for the National Academies of Sciences, Engineering, and Medicine.

IMS Members' News

Per Mykland receives 2019 Guggenheim Fellowship

IMS Fellow Per Mykland was among only three people awarded a Guggenheim Fellowship this year in Mathematics or Statistics. These Fellowships are intended for individuals who have demonstrated exceptional capacity for productive scholarship. The Guggenheim Foundation receives approximately 3,000 applications, and makes around 175 awards, each year.

Per Mykland is Robert M. Hutchins Distinguished Professor of Statistics and Finance at the University of Chicago, where he is also Director of the Stevanovich Center for Financial Mathematics. He has held appointments at Oxford and Princeton. Mykland grew up in Norway, where he obtained a BS in Mathematics and Computer Science, and an MS in Statistics, from the University of Bergen. He received his PhD from the University of California at Berkeley. His main research interests are the statistics and econometrics of time dependent processes, including time series and continuous processes. These can occur in survival analysis, econometrics, and web data. Highlights include the development of likelihood and expansion methods for martingales (fair games), especially in the context of estimating equations. The results have wide application, including the construction of new nonparametric likelihoods in time series and survival analysis.

His recent focus is high-frequency data, mainly in economics and finance. In one breakthrough, he has shown how to connect the analysis of such data with classical statistical techniques, using contiguity. He has contributed to the theory of estimation in the presence of noise, including the development of the two-scales and pre-averaging estimators of volatility, and other intra-day quantities. He has also developed an approach for integrating statistical and market information in the pricing and hedging of options, with a particular view to hedging against statistical uncertainty. Most recently, he has developed the "observed asymptotic variance", which sets nonparametric standard errors for estimators based on high frequency data. Apart from their intrinsic academic value, these results are of practical interest to investors, regulators and policymakers.

Mykland's current project seeks to understand the fundamentals of the data architecture, and how to turn the data into knowledge. A main ingredient is to create a unified framework for inference in high frequency data, based on dividing the observations, as well as the parameter processes, into blocks. He pursues two paths. A "within-block" approach uses contiguity to make the structure of the observations more accessible in local neighborhoods. The "between-block" approach sets up a tool for using stochastic analysis to study the relationship between parameters in blocks that are adjacent, in time and space. A longer-run research goal is to develop an integrated theory of continuous-time economics and finance, and high-frequency data. The former reasons through hypothetical high-frequency data, but now these data are no longer hypothetical but very real.

While his recent interest has been in economic data, the mathematical theory connects intimately with medical survival analysis. There is connection to neural science and turbulence, and other areas where streaming data are available. Environmental science and monitoring can also present forms of high frequency data.

Per Mykland is Associate Editor of *JASA* and the *Journal of Financial Econometrics*. He is a fellow of IMS, ASA and the Society for Financial Econometrics (SoFiE). He is currently President of SoFiE and has previously served on the IMS Council.

IMS Members' News

Distinguished Lectureship Award for James Robins

James Robins, Mitchell L. and Robin LaFoley Dong Professor of Epidemiology at Harvard, has received the inaugural Distinguished Lectureship Award from the Center for Causal Inference. Robins accepted the award at the center's annual Causal Inference Summer Institute, which was hosted by the Rutgers School of Public Health in New Brunswick, New Jersey.

James Robins' research has focused on the development of analytic methods appropriate for drawing causal inferences from complex observational and randomized studies with time-varying exposures or treatments. The new methods are to a large extent based on the estimation of the parameters of a new class of causal models—the structural nested models—using a new class of estimators—the G estimators. The usual approach to the estimation of the effect of a time-varying treatment or exposure on time to disease is to model the hazard incidence of failure at time t as a function of past treatment history using a time-dependent Cox proportional hazards model.

Philip Stark appointed to advise on US election processes

US House Minority Leader Nancy Pelosi appointed Philip Stark, University of California at Berkeley, to serve on the United States Election Assistance Commission (EAC) Board of Advisors.

Established by the Help America Vote Act of 2002 (HAVA), the EAC Board of Advisors is comprised of 37 individuals who assist the EAC in carrying out its federally mandated duties, which includes developing guidance to meet HAVA requirements, adopting voluntary voting system guidelines, serving as a national clearinghouse of information about election administration, accrediting testing laboratories and certifying voting systems, and auditing the use of HAVA funds.

Under HAVA, the house minority leader can select one professional from the field of science and technology to serve on the EAC Board of Advisors.

A professor of statistics and associate dean of mathematical and physical sciences at UC Berkeley, Philip Stark is considered the originator of "risk-limiting" audits and has worked with California and Colorado secretaries of state, helping to conduct risk-limiting audits in nearly 20 counties. He has testified about election integrity before the California legislature and at trial in a contested election. He also sits on the development team for the Travis County, Texas, STAR-Vote system, which combines auditability with end-to-end cryptographic verifiability.

Mark Girolami to lead Cambridge's Centre for Digital Built Britain

Professor Mark Girolami has been elected to the Sir Kirby Laing Professorship of Civil Engineering within the Department of Engineering at the University of Cambridge. In this role he will provide academic leadership for the Centre for Digital Built Britain (https://www.cdbb.cam.ac.uk/) across the University and more broadly throughout the national and international research communities.

Mark Girolami moved to the Centre for Digital Built Britain from the Department of Mathematics at Imperial College London, where he held both the Chair of Statistics and the Lloyds Register Foundation–Royal Academy of Engineering Research Chair in Data Centric Engineering. He was one of the original founding Executive Directors of The Alan Turing Institute, the UK's national institute for Data Science and Artificial Intelligence, after which he was appointed as Strategic Director at Turing, where he established and continues to lead the Programme on Data Centric Engineering.

Mark is an elected fellow of the Royal Society of Edinburgh, he was an EPSRC Advanced Research Fellow (2007–12), an EPSRC Established Career Research Fellow (2012–18), and a recipient of a Royal Society Wolfson Research Merit Award. He gave an IMS Medallion Lecture in 2017. Prior to embarking on an academic career, he spent a decade with IBM as a Chartered Mechanical Engineer working in diverse areas such as high volume manufacturing automation and the exploitation of computational fluid dynamics in electronic systems design.

Mark is recognised for his research contributions that sit at the interface of the statistical, mathematical, physical, life, and engineering sciences. The impact of his research includes successful translation to new products and services for companies and organisations, such as National Cash Registers and Amazon, as well as providing essential data modelling and analysis tools employed the world over by neuroscientists and cellular biologists.

His work introducing Riemann manifold Langevin and Hamiltonian Monte Carlo methods was read before the Royal Statistical Society in 2010, receiving the largest number of contributed discussions of a paper in its 183-year history. These Monte Carlo methods are now enabling the quantification of uncertainty in systems and phenomena as diverse as, for example, whole heart models, turbulent combustion, deep learning for artificial intelligence, virus transmission, new material characterization, and structural health monitoring.

Sharon-Lise Normand: *ENAR Presidential Invited Speaker*

ENAR (the Eastern North American Region of the International Biometrics Society), together with IMS and Sections of ASA, holds a meeting each spring. The **ENAR 2020 Spring Meeting** will be held at the JW Marriott Nashville from March 22–25, 2020. The meeting brings together researchers and practitioners from academia, industry and government, connected through a common interest in Biometry.

Registration is open now, via the meeting website: https://enar.org/meetings/spring2020/. Early bird meeting registration fees are available through January 15, 2020.

The meeting includes a "**Fostering Diversity in Biostatistics**" workshop on Sunday, March 22. The workshop, which marks its 20th anniversary this year, will provide a forum for discussion of important issues related to diversity. Themes of the workshop will include career and training opportunities within biostatistics. The workshop will focus on connecting underrepresented minority students interested in biostatistics with professional biostatisticians in academia, government and industry. Registration is required and lunch will be provided: https://enar.org/meetings/FosteringDiversity/

ENAR Presidential Invited Speaker is Sharon-Lise Normand, the S. James Adelstein Professor of Health Care Policy (biostatistics) in the Department of Health Care Policy at Harvard Medical School and in the Department of Biostatistics at the Harvard Chan School of Public Health. Read about her talk, and her life, below.

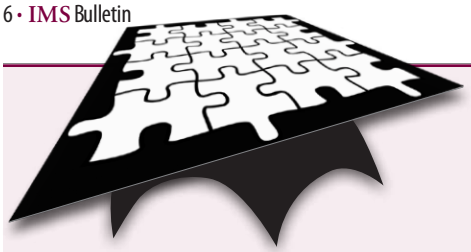
The preliminary program is online now: download your copy, which includes the IMS Invited Program, from the ENAR meeting website, at https://enar.org/meetings/spring2020/program/Preliminary_Program.pdf

Medical Product, Healthcare Delivery, and Road Safety Policies: Seemingly Unrelated Regulatory Questions

The evaluations of medical product effectiveness and safety, the quality of hospital care, and the safety of U.S. roadways involve the use of large, complex observational data to make policy decisions. Careful design and analysis of such data are critical given the large populations impacted. While increasing access to data of increased size and type permit, in theory, richer evaluations, study design should assume a more prominent role. This talk will describe three different policy problems: the impact of the hospital readmission reduction program, the effectiveness of seemingly similar drug eluting coronary stents, and the safety of U.S. motor carriers. Statistical issues common across these problems, including clustered data, multiple treatments, multiple outcomes, high-dimensional data, and lack of randomization, are highlighted and solutions discussed.

Sharon-Lise Normand is the S. James Adelstein Professor of Health Care Policy (biostatistics) in the Department of Health Care Policy at Harvard Medical School, and in the Department of Biostatistics at the Harvard Chan School of Public Health. Dr. Normand earned her BSc (1984) and MSc (1985) degrees in statistics from the University of Western Ontario and her PhD (1990) in biostatistics from the University of Toronto. Her research focuses on the development of statistical methods for health services and regulatory policy research, primarily using Bayesian and causal inference approaches. She has developed a long line of research on methods for the analysis of patterns of treatment and quality of care for patients with cardiovascular disease and with mental disorders in particular. Dr. Normand has developed analytical approaches for comparing hospitals and physicians using outcomes and process-based measures. Since 2002, she has served as director of Mass-DAC, the data-coordinating center responsible for collecting, analyzing, and reporting on the quality of care for adults discharged following a cardiac procedure from all non-federal hospitals in Massachusetts. She serves as the director of the Medical Device Epidemiology Network (MDEpiNet) Methodology Center. Her focus is on the development of statistical approaches to active medical device surveillance, valid inferences from distributed networks, and the improvement of causal inference in the presence of high dimensional data. On the mental health side, Dr. Normand is leading an NIMH-funded study to estimate the value of publicly funded mental health care for patients with serious mental illness.

Dr. Normand is an elected fellow of the ASA, the American Association for the Advancement of Science, and the American College of Cardiology, and Associate Member of the Society of Thoracic Surgeons. She served as the 2010 ENAR President; was inaugural co-chair of the PCORI Methodology Committee; co-chairs a Committee on National Statistics/National Academy of Sciences panel reviewing the Safety Measurement System of the Compliance, Safety, Accountability program run by the Federal Motor Carrier Safety Administration; and served on several NAS Committees, including the Committee of Applied and Theoretical Statistics (CATS). Dr. Normand received ASA's Health Policy Statistics Section Long-Term Excellence Award, the Outstanding Lifetime Achievement Award from the American Heart Association, the L. Adrienne Cupples Award for Excellence in Teaching, Research, and Service in Biostatistics from Boston University, and the Mosteller Statistician of the Year from ASA's Boston Chapter.



Student Puzzle Corner 26

We've extended the deadline to Anirban DasGupta's latest puzzle, about phase transitions. He says: *This problem can be rhetorically framed as whether we should put any trust in a unanimous assertion made independently by a large number of pathological liars. On the one hand, you may argue that if just one of them is telling the truth, then the assertion must be true. But you may also argue that chronic liars should never be trusted. It will turn out that in an appropriate mathematical formulation, there is a phase transition in the problem, and we will ask you to discover that phase transition.*

A club consists of m members, and on any given instance, each member tells the truth with probability p and lies with probability $1-p$; we will take p to be very small, but not zero. The club members are assumed to act independently. Suppose that these m members are taken to planet X, and on arrival, each member is given a choice of n distinct color names, such as red, blue, green, etc. Each member looks at Earth from planet X, and one by one each of them announces that Earth looks purple, one of the colors on their color list.

a) Suppose $m = n = 20$. Calculate the probability that indeed Earth looks purple from planet X if each club member said so, for $p = .05$ and for $p = .04$; assume that the true color is one of the n on the list with equal probability.

b) Suppose $1/p = n - \alpha \log n, m = \gamma n$, where $\alpha \geq 0$, $\gamma > 0$. Denote the probability that from planet X, Earth really does look purple if each of the m members says so by $u(\alpha, \gamma, n)$. Find the limit of $u(\alpha, \gamma, n)$ as $n \to \infty$ for given α and given γ.

Remember to look for a phase transition.

NEW deadline: December 1, 2019

Student members of IMS are invited to submit solutions (to bulletin@imstat.org with subject "Student Puzzle Corner").

The names of student members who submit correct solutions, and the answer, will be published in the issue following the deadline.

The Puzzle Editor's decision is final.

The Curious Incident of the Car in the Night-time

Yuval Peres recalls hearing the following story from Shizuo Kakutani in 1991, when he was a postdoc at Yale. He relates:

Konrad Jacobs

Dvoretzky & Erdős in 1962

"Once, during 1960, Paul Erdős was visiting the US, and he stayed at Aryeh Dvoretzky's NYC apartment. One day, Shizuo Kakutani drove from Yale to see them. After a long discussion, the three of them thought they had proved that one dimensional Brownian motion has points of increase almost surely. [*Yuval notes that such points are local maxima to their left, and local minima to their right.*] Then they had dinner at the apartment, and Kakutani left to drive back to Yale. But no matter how many times he tried, his car would not start. So he came back. The three started looking at the problem again. They now realized that the proof had a flaw. After a few more hours they proved the opposite result (almost surely there are no points of increase—see [1] below) and went to sleep. In the morning, Kakutani went to his car and decided to put the key in the ignition one more time. The car started at the first attempt."

Yuval remarks: "One can see some traces of the late hour in the published paper. On the third page of [1], right above (3.1), the authors wrote: *'Indeed, it can be shown with very little effort that the set of points of maximum is, almost surely, of the power of the continuum in every nonempty open interval.'* As they make clear a few lines earlier, they are referring to local maxima here, but this statement is false: Since local maxima of Brownian motion are all strict almost surely, each of them is a unique global maximum in some rational interval, hence there are only countably many local maxima. Fortunately, the false statement is part of the informal discussion and not part of the proof in [1]. Simpler proofs of the nonexistence of points of increase were published later, see, e.g., [2] and [3]."

References

[1] Dvoretzky, Aryeh, Paul Erdős, and Shizuo Kakutani. (1961) "Nonincrease everywhere of the Brownian motion process." *Proc. 4th Berkeley Sympos. Math. Statist. and Prob.* Vol. 2. http://digitalassets.lib.berkeley.edu/math/ucb/text/math_s4_v2_article-08.pdf

[2] Burdzy, Krzysztof. "On Nonincrease of Brownian Motion." *Ann. Probab.* (1990) **18**(3), 978–980. doi:10.1214/aop/1176990732.

[3] Peres, Yuval. "Points of increase for random walks." *Israel J. Math.* (1996) **95**(1): 341–347. https://doi.org/10.1007/BF02761045

Nominations open for these awards

Please consider nominating your outstanding colleagues and collaborators for these IMS awards. A candidate for **IMS Fellowship** shall have demonstrated distinction in research in statistics or probability, by publication of independent work of merit. Candidates for fellowship should be members of IMS when nominated. You may like to read the advice of Philip Protter, a past Chair of the Committee on Fellows, on how to choose and nominate a Fellow: https://www.imstat.org/2018/10/01/nominating-a-fellow-heres-how-to-choose/. The Fellowship nomination deadline is January 31, 2020. For requirements, see https://www.imstat.org/honored-ims-fellows/nominations-for-ims-fellow/.

Nominations are invited for the **Carver Medal**, created by the IMS in honor of Harry C. Carver, for exceptional service specifically to the IMS. All nominations must be received by February 1, 2020. Please visit https://www.imstat.org/ims-awards/harry-c-carver-medal/.

IMS Awards for early-career researchers

The **IMS Peter Gavin Hall Early-Career Prize** recognizes early-career research accomplishments and research promise in statistics, broadly construed. Nominees for the inaugural 2020 prize should have received their doctoral degrees in 2012–2019. The IMS gives the award committee latitude to consider nominees with extenuating circumstances that may have delayed professional achievements. Nominations may be made by any member of the IMS, and nominees do not need to be IMS members. The nomination deadline is December 1, 2019. The inaugural award will be presented at the IMS Presidential Awards ceremony held at the IMS annual meeting, part of the **10th World Congress in Probability and Statistics** (**WC2020**), jointly organized by the Bernoulli Society and IMS, hosted by Seoul National University from August 17–21, 2020. Electronic submission is required: https://www.imstat.org/ims-awards/peter-gavin-hall-ims-early-career-prize/

Richard Tweedie (1947–2001) played a significant role throughout his career as a mentor. The **Tweedie New Researcher Award**, created in his memory, provides funds for travel to present the Tweedie New Researcher Invited Lecture at the IMS New Researchers Conference. Nominate by December 1, 2019: https://www.imstat.org/ims-awards/

IMS Travel Awards: apply now for next year

Applications are open for two types of travel awards. The **IMS Hannan Graduate Student Travel Award** funds travel and registration to attend (and possibly present a paper/poster at) an IMS sponsored or co-sponsored meeting. This travel award is available to IMS members who are graduate students (seeking a Masters or PhD degree) studying some area of statistical science or probability. If you are a New Researcher (awarded your PhD in 2014–19) looking for travel funds, you should apply for the **IMS New Researcher Travel Award** to fund travel, and possibly other expenses, to present a paper or a poster at an IMS sponsored or co-sponsored meeting (not the IMS New Researcher's Conference, that's funded separately). Applicants for both these travel awards must be members of IMS, though joining at the time of application is allowed *(student membership is free, and new graduate membership discounted!)*. The application deadline for both is February 1, 2020. See https://www.imstat.org/ims-awards/ims-hannan-graduate-student-travel-award/ and https://www.imstat.org/ims-awards/ims-new-researcher-travel-award/.

BERNOULLI SOCIETY'S 2020 WOLFGANG DOEBLIN PRIZE

The Bernoulli Society for Mathematical Statistics and Probability welcomes nominations for the **2020 Wolfgang Doeblin Prize**.

The prize, which was founded in 2011 and is generously sponsored by Springer, is awarded every two years to an individual at the beginning of his or her mathematical career, for outstanding research in the field of probability theory. The awardee will be invited to submit to the journal *Probability Theory and Related Fields* a paper for publication as the Wolfgang Doeblin Prize Article, and will also be invited to present the Doeblin Prize Lecture at the 10th IMS–BS World Congress in Probability and Statistics (in Seoul, South Korea, on August 17-21, 2020), or at a later Conference on Stochastic Processes and their Applications.

See http://www.bernoulli-society.org/index.php/prizes/

Each nomination should offer a brief but adequate case of support and should be sent by December 30, 2019, to the chair of the prize committee, Zhen-Qing Chen, at the e-mail address: zqchen@uw.edu with subject heading: **Doeblin Prize 2020**.

MARVIN ZELEN LEADERSHIP AWARD IN STATISTICAL SCIENCE

This annual award was established to honor Dr. Marvin Zelen's long and distinguished career as a statistician and his major role in shaping the field of biostatistics. It recognizes an individual in government, industry, or academia, who by virtue of his/her outstanding leadership, has greatly impacted the theory and practice of statistical science.

Nominations are welcome for next year's award, to be given in Spring 2020. The deadline is Monday, December 2, 2019.

Please see the instructions at https://www.hsph.harvard.edu/biostatistics/zelenaward/

Obituary: Murray Rosenblatt

1926–2019

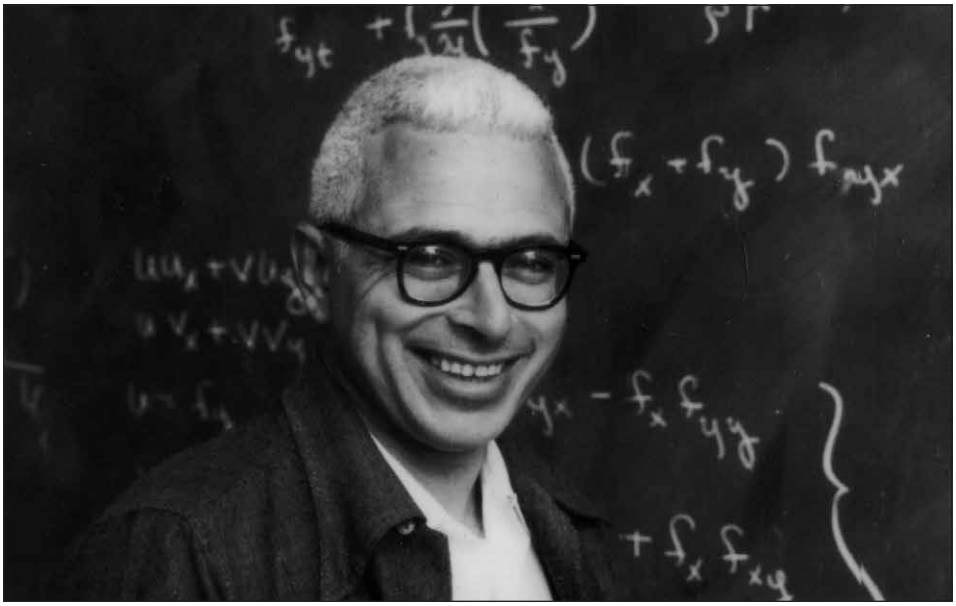
Murray Rosenblatt

Last month, the probability and statistics communities lost one of their legendary figures. Murray Rosenblatt passed away on October 9, 2019 in San Diego at the age of 93.

Murray was born September 7, 1926, and raised in New York City. After graduating from the City College of New York, he pursued a PhD degree in mathematics at Cornell (1946–49), where he learned from and interacted with an array of outstanding scientists and mathematicians, including Richard Feynman, Philip Morrison, William Feller, and Marc Kac. Although Murray took a number of courses from Feller, he ultimately chose to write his dissertation under the direction of Marc Kac since he would allow Murray "to work on the problems he wanted to solve." His dissertation, *On distributions of certain Wiener functions*, considered problems related to the Feynman–Kac formula.

After spending one more productive year at Cornell—not the least which included marriage to Adylin Lipson—the couple moved to Chicago, where Murray began his first academic position in the Committee on Statistics at the University of Chicago. At Chicago he would interact with a large stable of budding statisticians, including Raj Bahadur, William Kruskal, Charles Stein and Leo Goodman, all of whom who would go on to illustrious careers. While at Chicago, Murray began a short but highly productive collaboration on time series with Ulf Grenander, culminating in one of the leading books on the subject, *Statistical Analysis of Stationary Time Series* (Wiley, 1957), which remains a classic today.

Murray held appointments at University of Stockholm, Columbia University, Indiana University, and Brown University before moving to the Mathematics Department at the University of California at San Diego (UCSD) in 1964, where he would spend the rest of his academic career, retiring in 1994. He was one of the first hires in the mathematics department at the newly created university. These were exciting and heady times to be at a freshly minted university that in a very short time would evolve into a world-class research university. Murray viewed himself as an applied mathematician and enjoyed being a long-time member of the mathematics department at UCSD. On the occasion of his 90th birthday, The Murray and Adylin Rosenblatt Endowed Lectures Series in Applied Mathematics was initiated.



Murray wrote seminal papers on density estimation, central limit theorems under strong mixing, spectral domain methods and long memory processes. In 1956, two of his most cited and celebrated papers, "Remarks on some nonparametric estimates of a density function" (*Ann. Statist.)* and "A central limit theorem and a strong mixing condition" *(Proc. Natl. Acad. Sci. USA),* appeared in print. These papers were the starting points for two lines of active research themes, density estimation and central limit theory for mixing sequences, that would continue to this day. The *Ann. Statist.* paper introduced kernel density estimates and the ideas behind optimal bandwidth selection relative to minimizing mean squared error. In a more probabilistic vein, the *PNAS* paper introduced the notion of strong mixing, which contains perhaps the most understated sentence in all of Murray's papers: "The strong mixing condition used in this paper seems to be a more intuitively appealing formalization of this notion than most others." Even though the *PNAS* paper has spurred an entire

Continues on **page 8**

Murray Rosenblatt: 1926–2019

Continued from **page 8**

cottage industry related to various mixing conditions and their associated central limit theorems, the basic ideas behind Murray's original strong mixing remain intact. Perhaps more rewarding, though, is that the concept of strong mixing has become an invaluable tool in methodology. Many of the commonly used time series models satisfy the strong mixing property and hence the central limit applies for a variety of functions of the data including sample means, sample covariances and correlations, and score functions for likelihoods. The latter provides the machinery to establish normality and other optimality conditions for maximum likelihood estimators. The innocuous-looking paper, "Remarks on a multivariate transformation" (*Ann. Statist.*, 1952), now commonly referred to as the *Rosenblatt Transformation*, has recently become a highly cited and used procedure for testing the goodness-of-fit of multivariate distributions. In a slightly more recent paper, "Independence and Dependence" (*Berkeley Symposium*, 1961), Murray produces a simple long memory time series for which the sample mean is not normal in the limit. This paper inspired a number of scholars to study limit processes that are associated with long memory. Such limit processes became known as *Rosenblatt Processes.*

Murray received many accolades and awards for his path-breaking research. He was Fellow of the Institute of Mathematical Statistics, the Society for Industrial and Applied Mathematics, the American Mathematical Society and the American Association for the Advancement of Science; he was a Guggenheim Fellow (1965–1966, 1971–1972) and was elected to the National Academy of Sciences in 1984. He delivered the IMS Wald Lectures in 1970. He has an impressive record of mentoring and advising PhD students (22 dissertations). He was there for his students with great encouragement and support. Together, Murray and Ady served as surrogate parents to many of Murray's students.

After a courageous fight with cancer, Ady passed away in 2009. Their daughter Karin (of Champaign, IL) and son Daniel (of Live Oak, TX) survive them.

Contributions in memory of Murray Rosenblatt can be made to the **Murray and Adylin Rosenblatt Endowed Lecture Series in Applied Mathematics** (info can be found at https://giveto.ucsd.edu/giving/home/gift-referral/4810f5ce-6b34-498b-9477-9de96de2b82c).

Richard Bradley, Indiana University, and Richard Davis, Columbia University

Pro Bono Statistics
Statisticians for Democracy: A call to action

Contributing Editor Yoram Gat writes:

The practice of sortition—appointing decision-making bodies via statistical sampling—has been gaining ground in recent years. Very recently, an allotted body has been convened by the French government to propose ways to deal with climate change. In Belgium, a permanent advisory body appointed by sortition has been constituted. In 2016, allotted bodies wrote propositions for constitutional amendments that were then put up for popular referenda.

As allotted bodies come to wield significant political power, the issues associated with the way they are constituted gain importance and deserve critical scrutiny. Many of those issues are the same ones that affect the constitution of any decision-making body: determining the size of the body, the length of its term of service, its purview, its procedures, its budget, its professional staff, etc. Setting those constitutive parameters correctly would make the difference between having a body that is able to make policy based on the informed and considered ideas of its members, and one which is in fact merely a façade for established powers that use it to legitimate their own decisions.

However, allotted bodies do present a set of issues that are unique to their constitution: issues associated with the sampling procedure. Use of sortition is justified by the fact that it constitutes a body whose makeup reflects the makeup of the population affected by its decisions. It is therefore crucial that the sampling procedure is constructed in a way that enables a convincing argument to be made that the resulting sample is, for all practical purposes, an equal-probability sample from the entire affected population.

In recent applications of sortition, these issues have been dealt with in very problematic ways. The entire sampling procedure was usually undertaken out of sight of the public, sometimes handed off to a private contractor, with the public being expected to trust the outcome blindly. In addition, some of the details of the sampling procedure that were published clearly contradicted the requirement for equi-probability sampling.

In view of the deficiency of the *de facto* standards that are being established, I think that clear, science-based guidelines for the acceptability of a sortition procedure should be established. It seems that the expertise of statisticians in sampling procedures makes them (us) qualified for writing such guidelines.

Therefore, I would like to call upon the community of statisticians to **produce, publish and promote a protocol, or a set of criteria, for properly designed sortition procedures**. The protocol should allow the evaluation of the quality of proposed applications of sortition. The existence of such a protocol, if it is perceived as having been carefully and professionally done, can serve as a useful guide to those who are designing sortition procedure. It may be an important contribution to the democratization of the way decisions are made in modern society.

Here are some of the issues that a useful protocol for sortition would need to address:

1. *Verifying that a reliable registry of the eligible allotment pool has been created*

What makes a such registry reliable? When allotting a national body, can the electoral rolls be used? In some countries (such as the U.S.) electoral rolls, or poll books, are an area for active political manipulation. If additional eligibility criteria need to be employed (e.g., being a resident of a particular area), this would require a

Continued from **page 10**

manipulation-resistant procedure to establish eligibility according to those criteria.

2. *Verifying that sampling from the registry is for all practical purposes equi-probable*

This may be far more difficult than it seems. Naturally, the randomization process should be public. However, randomization devices—mechanical or electronic—can be rigged by powerful adversaries (with the prize potentially being much more valuable than the prize in any money-prize lottery: control of the resources of a whole nation).

3. *Achieving low rejection rate*

Unless proper incentives are established, asking citizens to spend some significant time and effort in order to reach a decision or a set of decisions may yield few takers. In fact, in applications of sortition in recent years the rate of acceptance has usually been under 10 per cent. Of course, convening a body made of the minority of invitees who accept will result in a biased sample—yet this is essentially the standard practice. (This has usually been combined with a quota system which allocates representation to some pre-selected groups in the population, e.g. gender groups and age groups, according to their proportion in the population.) It has been suggested that the way to handle low acceptance rates is by making service mandatory, as is the custom for jury duty. However, this may not always be an option and, in any case, having a decision-making body where most members have been pressed into service seems like a recipe for disaster.

Get involved

If these issues, and other relevant issues, seem interesting and important to you, and you'd like to take part in writing guidelines for how they should be properly addressed, please contact me at yoram_gat@yahoo.com and become part of a working group on this topic. Please also forward this invitation to any statistician who may be interested.

Auditor's Report 2018

The IMS Treasurer's Report was published in the September 2019 issue of the *IMS Bulletin*, which you can download from the website at https://imstat.org/wp-content/uploads/Bulletin48_6.pdf. The report details membership and subscription data for the calendar year end 2018.

The 2018 fiscal year-end audit report has now also been completed, and it is posted online on the Council Reports page: https://www.imstat.org/wp-content/uploads/2019/10/2018AuditedFinancialStatements.pdf.

Institute of Mathematical Statistics

Statement of Financial Position

December 31, 2018 (with comparative totals for 2017)

Assets

	2018	2017
Cash and cash equivalents	$ 453,820	$ 442,447
Cash held for others	19,371	18,567
Accounts receivable, net	200,844	207,033
Interest receivable	5,144	3,724
Investments	6,644,726	6,937,737
Investments held for others	218,023	231,100
Prepaid expenses	65,313	93,974
Certificates of deposit	1,447,186	1,343,496
Investments restricted for endowment	218,803	78,300
Total assets	$ 9,273,230	$ 9,356,378

Liabilities and Net Assets

Liabilities:		
Accounts payable and accrued expenses	$ 54,378	$ 118,127
Fiscal agent liability	237,394	249,667
Unearned memberships, subscriptions, and meeting revenues	1,417,273	1,461,438
Total liabilities	1,709,045	1,829,232
Net assets:		
Without donor restrictions:		
Undesignated	5,162,007	5,265,822
Council-designated	2,120,436	2,121,211
Total net assets without donor restrictions	7,282,443	7,380,974
With donor restrictions	281,742	146,172
Total net assets	7,564,185	7,527,146
Total liabilities and net assets	$ 9,273,230	$ 9,356,378

Recent papers

Statistical Science: Volume 34, No. 3, August 2019

The central purpose of *Statistical Science* is to convey the richness, breadth and unity of the field by presenting the full range of contemporary statistical thought at a moderate technical level, accessible to the wide community of practitioners, researchers and students of statistics and probability. Access papers at **https://projecteuclid.org/info/euclid.ss**

Bernoulli: Volume 25, No. 4B, November 2019

Bernoulli is the journal of the Bernoulli Society for Mathematical Statistics and Probability. It is an IMS-supported journal, providing a comprehensive account of important developments in the fields of statistics and probability: **http://projecteuclid.org/euclid.bj**

Preview of invited sessions at World Congress

The 10th World Congress in Probability and Statistics (WC2020), jointly organized by the Bernoulli Society and IMS, will be hosted by Seoul National University. The meeting organizers, led by program chair Siva Athreya and local chair Hee-Seok Oh, are expecting to attract more than 900 experts from over 40 countries. The Congress will take a comprehensive look at the latest developments in statistics and probability, as well as the current trends emerging from all associated fields. Here is a preview of the Invited Sessions (with each session's organizer in brackets).

1. Conformal Invariance and Related Topics (Hao Wu): Konstantin Izyurov; Eveliina Peltola; Titus Lupu

2. Scaling Limits of Disordered Systems and Disorder Relevance (Rongfeng Sun): Erik Bates; Adam Bowditch; Yu Gu

3. Potential Theory for Non-local Operators and Jump Processes (Panki Kim): Zhen-Qing Chen; Takashi Kumagai; Krzysztof Bogdan

4. Mathematical Population Genetics and Computational Statistics (Paul Jenkins): Yun Song; Barbara Engelhardt; Vladimir Minin

5. Recent Advances in Shape Constrained Inference (Bodhisattva Sen): Fadoua Balabdaoui; Adityanand Guntuboyina; Roy Qiyang Han

6. Optimization in Statistical Learning (Garvesh Raskutti): Rebecca Willett; Min Xu; Nicolas Garcia Trillos

7. High-dimensional Robustness (Stas Minsker): Arnak Dalalyan; Chao Gao; Guillaume Lecue

8. Functional Data Analysis (Aurore Delaigle): Frederic Ferraty; Jane-Ling Wang; Alois Kneip

9. Quantum Statistics (Cristina Butucea): Masahito Hayashi; Andreas Winter; Marco Tomamichel

10. Change-point Problems for Complex Data (Claudia Kirch): Alexander Aue; Haeran Cho; Herold Dehling

11. Analysis of Dependent Data (Chae Young Lim): Tapabrata Maiti; Marc Genton; Mikyoung Jun

12. Statistics for Data with Geometric Structure (Sungkyu Jung): Hans Muller; Stephan Huckemann; Janice Scealy

13. Critical Phenomena in Statistical Mechanics Models (Akira Sakai): Mark Holmes; Pierre Nolin; Cristian Giardina

14. Optimal Transport (Philippe Rigollet): Youssef Marzouk; Jonathan Niles-Weed; Quentin Paris

15. Privacy (Angelika Rohde): John Duchi; Lukas Steinberger; Weijie Sud

16. Bootstrap for High-dimensional Data (Kengo Kato): Vladimir Spokoiny; Xiaohui Chen; Yuta Koike

17. Approximate Bayesian computation (Yanan Fan): Marina Vannucci; Jean-Luc Dortet-Bernadet; Ritabrata Dutta

18. Deep Learning (Johannes Schmidt-Hieber): Yasaman Bahri; Yongdai Kim; Peter Bartlett

19. Randomized Algorithms (Devdatt Dubhashi): Ronitt Rubinfeld; Shyan Oweis Gharan ; Aravind Srinivasan

20. Heavy-Tailed Phenomena (Stilian A. Stoev): Bikramjit Das; Henrik Hult; Takashi Owada

21. Probabilistic Theory of Mean Field Games (Xin Guo): Ulrich Horst; Sebastian Jaimungal; Marcel Nutz

22. Random Trees (Anita Winter): Elie Aidekon; Wolfgang Löhr; Minmin Wang

23. Stochastic Partial Differential Equations (Leonid Mytnik): TBA

24. Random Planar Geometries (Nina Holden): Thomas Budzinski; Ewain Gwynne; Ellen Powell

25. Random Graphs (Christina Goldschmidt): Souvik Dhara; Jonathan Hermon; Marc Lelarge

26. Pathwise Stochastic Analysis (Hendrik Weber): Ni Hao; Ilya Chevyrev; Ajay Chandra

27. Random Matrices and Related Fields (Manjunath Krishnapur): TBA

28. Statistical Inference for Graphs and Networks (Betsy Ogburn): Gesine Reinert; Alexander Volfovsky; Bhaswar Bhattacharya

29. High Dimensional Data Inference (Florentina Bunea): Alexandre Tsybakov; Richard Samworth; Andrew Nobel

30. Functional Estimation, Testing and Clustering under Sparsity (Jiashun Jin): Tracy Ke; Runze Li; Ming Yuan

31. Information Theory and Concentration Inequalities (Chandra Nair): Salman Beigi; Sergey Bobkov; Tomasz Tkocz

32. Statistical Learning (Yichao Wu): Jelena Bradic; Seung Jun Shin; Zhou Yu

33. Integrable Probability (Tomohiro Sasamoto): Leonid Petrov; Takashi Imamura; Jinho

34. Random Walks on Random media (Alex Drewitz): Jan Nagel; Perla Sousi; Rongfeng Sun

35. Stochastic Analysis in Mathematical Finance and Insurance (Marie Kratz): Christa Cuchiero; Ronnie Loeffen; Lioudmila Vostrikova

36. Problems and Approaches in Multi-Armed Bandits (Vianney Perchet): Shipra Agrawal; Csaba Szepesvári; Alessandro Lazaric

We hope you will join us in Seoul!

Seoul at night: Seongsan Bridge and the Han River

www.flickr.com/travelorienteed

IMS meetings around the world

Joint Statistical Meetings: 2019–2023

IMS sponsored meeting

JSM 2020

August 1–6, 2020. Philadelphia, PA, USA.

w http://ww2.amstat.org/meetings/jsm/2020/

JSM (the Joint Statistical Meetings) is the largest gathering of statisticians and data scientists held in North America. It is also one of the broadest, with topics ranging from statistical applications to methodology and theory to the expanding boundaries of statistics, such as analytics and data science. JSM also offers a unique opportunity for statisticians in academia, industry, and government to exchange ideas and explore opportunities for collaboration.

IMS sponsored meetings: JSM dates for 2020–2024

IMS Annual Meeting @ JSM 2021	2022 Joint Statistical Meetings	IMS Annual Meeting @ JSM 2023	JSM 2024	NEW IMS Annual Meeting @ JSM 2025
August 7–12, 2021, Seattle, WA	August 6–11, 2022 Washington DC	August 5–10, 2023 Toronto, ON, Canada	August 3–8, 2024 Portland, Oregon	August 2–7, 2025 Nashville, TN, USA

IMS sponsored meeting

Bernoulli/IMS 10th World Congress in Probability and Statistics [*see poster on following pages*]

August 17–21, 2020. Seoul, South Korea

w http://www.wc2020.org

Program chair: Siva Athreya; Local chair: Hee-Seok Oh. The 10th World Congress in Probability and Statistics (WC2020), jointly organized by the Bernoulli Society and IMS, will be hosted by Seoul National University. We are expecting to attract more than 900 experts from over 40 countries.

This upcoming World Congress will take a comprehensive look at the latest developments in statistics and probability as well as the current trends emerging from all associated fields. A special lecture series will document a variety of modern research topics with in-depth uses and applications of these disciplines as they relate to science, industrial innovation, and society as a whole.

As the largest city in South Korea, dynamic Seoul is a bewitching mix of ancient and modern structures, packaged in a surprisingly compact metropolis that has earned it the designation of a UNESCO City of Design. The nation's capital has a cutting-edge cityscape of glass, steel and futuristic skyscrapers, which tower over traditional wooden houses with tiled roofs and mazes of cobbled alleys in village-like districts. See poster on next pages.

IMS sponsored meeting NEW

Bernoulli–IMS 11th World Congress in Probability and Statistics

(including the 2024 IMS Annual Meeting)

August 12–16, 2024

Ruhr-University Bochum, Germany

w TBC

The Bernoulli–IMS World Congress in Probability and Statistics is held every four years. Details to follow, but for now, please save the date!

IMS co-sponsored meeting

INDSTATS2019: "Innovations iN Data and Statistical Sciences"

December 26–30, 2019. Mumbai, India

w http://www.intindstat.org/IISA2019

The aim of INDSTATS2019 is to engage leading experts and junior members in all topics related to statistics and data sciences. Conference activities will consist of pre-conference short courses, plenary talks, invited sessions, contributed sessions, panel discussions and student paper competitions. Past IISA annual conferences have attracted over 300 participants, across academia, industry, government, regulatory agencies and non-profit organizations.

At a glance: forthcoming IMS Annual Meeting and JSM dates

2020

JSM: Philadelphia, **August 1–6, 2020**

IMS Annual Meeting/ 10th World Congress: Seoul, South Korea, **August 17–21, 2020**

2021

IMS Annual Meeting @ JSM: Seattle, **August 7–12, 2021**

2022

IMS Annual Meeting: TBC

JSM: Washington DC, **August 6–11, 2022**

2023

IMS Annual Meeting @ JSM: Toronto, **August 5–10, 2023**

2024

NEW

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

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

IMS sponsored meeting

ENAR dates, 2020–2022
March 22–25, 2020: in Nashville, TN
w www.enar.org/meetings/future.cfm

The 2020 ENAR/IMS meeting will be in Nashville (and the following year in Baltimore, and then Houston in 2022). Featuring a *Fostering Diversity in Biostatistics* workshop, connecting underrepresented minority students interested in biostatistics with professional biostatisticians in academia, government and industry.

IMS sponsored meetings

ENAR/IMS 2021
March 14–17, 2021
Baltimore, MD

ENAR/IMS 2022
March 27–30, 2022
Houston, TX

IMS co-sponsored meeting

Third International Conference on Mathematics and Statistics
February 6–9, 2020
American University of Sharjah, UAE
w https://www.aus.edu/conferences/the-third-international-conference-on-mathematics-and-statistics

The conference offers a forum for researchers and scientists working in pure mathematics, applied mathematics, mathematical education and statistics to come together, discuss new research developments and network with one another. AUS-ICMS was initiated by the Department of Mathematics and Statistics at the American University of Sharjah (AUS), a high caliber young university in the Arabian Gulf region. AUS-ICMS incarnates the spirit of research fostered by AUS. Previously held in 2010 and 2015, over 250 researchers from many different countries participated in the conferences. High quality theoretical and applied work was presented at the conference through keynote lectures, special and contributed sessions.

IMS co-sponsored meeting NEW

Frontier Probability Days
May 8–10, 2020. Las Vegas, Nevada, USA
w http://lechen.faculty.unlv.edu/FPD20/

Frontier Probability Days 2020 (FPD'20) is a regional workshop, taking place at the University of Nevada, Las Vegas. Its purpose is to bring together mathematicians, both regionally and globally, who have an interest in probability and its applications. FPD aims to complement other regional conferences in Probability that are held annually elsewhere in the US.

If you would like to participate and/or speak at the conference, please fill out a registration form on or before **April 19, 2020**. Registration is required but is free. To be considered for **financial support**, fill out a registration form by March 22: see the website for information.

IMS co-sponsored meeting

Bayes Comp 2020
January 7–11, 2020
University of Florida, Gainesville, FL
w http://users.stat.ufl.edu/~jhobert/BayesComp2020/Conf_Website/

Bayes Comp is a biennial conference sponsored by the ISBA section of the same name. The conference and the section both aim to promote original research into computational methods for inference and decision making and to encourage the use of frontier computational tools among practitioners, the development of adapted software, languages, platforms, and dedicated machines, and to translate and disseminate methods developed in other disciplines among statisticians.

Bayes Comp is the current incarnation of the popular MCMSki series of conferences, and Bayes Comp 2020 is the second edition of this new conference series. The first edition was Bayes Comp 2018, which was held in Barcelona in March of 2018.

The 8th Workshop on Biostatistics and Bioinformatics NEW
May 8–10, 2020. Atlanta, GA, USA
w math.gsu.edu/yichuan/2020Workshop/

Biostatistics and Bioinformatics have been playing very important roles in scientific research fields in recent years. The workshop will provide the opportunity for faculty and graduate students to meet the top researchers, identify important directions for future research, facilitate research collaborations. The keynote speaker is **Nilanjan Chatterjee**, Bloomberg Distinguished Professor of Biostatistics and Medicine at the Johns Hopkins University Bloomberg School of Public Health and Johns Hopkins School of Medicine. There will be invited talks by distinguished researchers, and a poster session by young researchers and graduate students. Partial travel awards available.

IMS sponsored meeting

IMS Asia Pacific Rim Meeting (IMS-APRM2021)
January 5–8, 2021
University of Melbourne, Australia
w http://ims-aprm2021.com/

The sixth meeting of the Institute of Mathematical Statistics Asia Pacific Rim Meeting (IMS-APRM) will take place in Melbourne, Australia. It will provide an excellent worldwide forum for scientific communications and collaborations for researchers in Asia and the Pacific Rim, and promote communications and collaborations between the researchers in this area and those from other parts of the world. The sixth meeting will continue and extend the accomplishments of the previous meetings, and will add a significant value to our continuous efforts to carry out our common mission in the statistical profession.

BERNOULLI - IMS

10th WORLD CONGRESS in PROBABILITY and STATISTICS

www.wc2020.org

HOSTED BY Seoul National University

ORGANIZED BY Bernoulli Society
Institute of Mathematical Statistics

SUPPORTED BY KOREA TOURISM ORGANIZATION | SEOUL METROPOLITAN GOVERNMENT

AUGUST
17-21, 2020
Seoul National University
Seoul, Korea

MARCH 31, 2020
Abstract Submission Deadline

APRIL 15, 2020
Abstract Acceptance Notifications

MAY 31, 2020
Early-bird Registration Deadline

WELCOME MESSAGE

Dear Colleagues and Friends,

On behalf of the local organizing committee, it is with great delight that we welcome you to Seoul National University in Seoul, South Korea for the 10th World Congress in Probability and Statistics (WC2020), jointly organized by the Bernoulli Society and IMS, from August 17 to 21, 2020. We are expecting to attract more than 900 experts from over 40 countries.

Held every four years, the congress is a worldwide event covering all branches of statistics and probability. This includes the latest scientific breakthroughs in theoretical, methodological, applied and computational statistics and probability, as well as stochastic processes.

We believe WC2020 will bring transformation and further advancement to the scientific level and quality of the study of statistics and probability.

As the largest city in South Korea, dynamic Seoul is a bewitching mix of ancient and modern structures, packaged in a surprisingly compact metropolis that has earned it the designation of a UNESCO City of Design.

We look forward to seeing you in Seoul, Korea.

Sincerely,

Hee-Seok Oh
Chair of the Local Organizing Committee
Department of Statistics, Seoul National University

SEOUL, KOREA

The Korean Peninsula extends about 1,000 km from the Asian continent into the Pacific Ocean with more than 3,000 islands dotting the coastline. Mountains cover almost 70 percent of the land mass, making the country one of the most mountainous regions in the world and offering abundant forest resources. Administratively, Korea consists of nine provinces with 77 small cities and 88 counties.

With a history stretching back more than two thousand years, Seoul is also a rising global star as one of the world's most wired cities, ranked first in technology readiness. In Seoul you will experience millennia of royal palaces and historic sites among a futuristic backdrop of some of the world's most innovative and daring architecture, such as the chicly designed Dior building or recently inaugurated Seoullo 7017.

WC2020 Secretariat [People-X, Inc.]
1F, Haeoreum Bldg., 16, Yeoksam-ro 17 gil, Gangnam-gu, Seoul, 06246, Korea
Tel. +82 2 566 5950, 6031 Fax. +82 2 566 6087 E-mail. info@wc2020.org

BERNOULLI - IMS 10th WORLD CONGRESS IN PROBABILITY & STATISTICS

MAIN SPEAKERS

Named Lectures

Kolmogorov Lecture
Persi Diaconis (Stanford University)

Bernoulli Lecture
Alison Etheridge (University of Oxford)

Levy Lecture
Massimiliano Gubinelli (University of Bonn)

Laplace Lecture
Tony Cai (University of Pennsylvania)

Tukey Lecture
Sara van de Geer (ETH Zurich)

Wald Lecture
Martin Barlow (University of British Columbia)

Blackwell Lecture
Gabor Lugosi (Pompeu Fabra University)

Doob Lecture
Nicolas Curien (Université Paris-Sud Orsay)

Schramm Lecture
Omer Angel (University of British Columbia)

IMS Medallion Lectures
Gerard Ben Arous (New York University)
Andrea Montanari (Stanford University)
Elchanan Mossel (MIT)
Laurent Saloff-Coste (Cornell University)
Daniela Witten (University of Washington)

Public Lecture
To be named

IMS Presidential Address
Susan Murphy (Harvard University)

Other meetings and events around the world

75th Annual Deming Conference on Applied Statistics NEW
December 2–6, 2019. Atlantic City, NJ, USA

www.demingconference.org

The 75th Annual Deming Conference on Applied Statistics will be held from December 2–4, 2019, followed by three parallel two-day short courses on December 5–6, at the state-of-the-art Tropicana Casino and Resort, Havana Tower, Atlantic City, NJ.

The purpose of the three-day Deming Conference on Applied Statistics is to provide a learning experience on recent developments in statistical methodologies in biopharmaceutical applications. The conference is composed of 12 three-hour tutorials on current topics in applied biopharmaceutical statistic and FDA regulations, as well as two one-hour distinguished keynotes on Monday and Tuesday. There will also be poster sessions. Online registration is open.

2020 Conference on Statistical Practice
February 20–22, 2020. Sacramento, CA, USA

https://ww2.amstat.org/meetings/csp/2020/index.cfm

Registration is open for the 2020 Conference on Statistical Practice, which aims to bring together hundreds of statistical practitioners—including data analysts, researchers, and scientists—who engage in the application of statistics to solve real-world problems on a daily basis. The goal of the conference is to provide participants with opportunities to learn new statistical methodologies and best practices in statistical analysis, design, consulting, and statistical programming. The conference also provides opportunities for attendees to further their career development and strengthen relationships in the statistics community.

Statistical Methods and Artificial Intelligence NEW
April 6–9, 2020. Warsaw, Poland

https://sites.google.com/view/iwsmai

Artificial intelligence (AI) is mainly data-driven. It uses statistical methods through human-machine relationships during generation of data, production of algorithm, and prediction of results. The International Workshop on Statistical Methods and Artificial Intelligence will be an annual meeting of researchers in artificial intelligence, statistical methods, machine learning, and related areas. Topics include: artificial intelligence; statistical methods; data analysis and data mining; computational statistics; supervised and unsupervised learning; statistical methodology; bioinformatics; medical statistics; deep learning; data collection and applications; data science and blockchain technology; data science and artificial intelligence; mathematical statistics; sampling techniques and applications; statistical software (R, SAS, Python)

International Conference on Robotics and Artificial Intelligence NEW
February 17–18, 2020

Paris, France

https://robotics.pulsusconference.com/

The International Conference on Robotics and Artificial Intelligence, the world's premier international educational event on Robotics and Artificial Intelligence will be organized in Paris, France. We invite you to Robotics & AI 2020 to actively participate in our International Conference, to meet and interact with friends and colleagues from all over the world, to discuss science, to learn about the exciting developments in Robotics and Artificial Intelligence field, to break away from the daily routine and to enjoy everything that the city of Paris has to offer. Take part in our provocative and engaging exchanges with leading experts & expand professional networks with colleagues from around the world. Internationally leading scientists in Robotics and Artificial intelligence research are joining us here in to present and discuss their most recent research and achievements during this event.

6th IMA Conference on Mathematics in Defence and Security NEW
March 26, 2020

London, UK

https://ima.org.uk/12970/6th-ima-conference-on-mathematics-in-defence-and-security/

Science and technology play an increasingly important role in supporting the defence and security industries. Mathematics is fundamental to these two disciplines, providing a framework for understanding and solving the varied and complex problems faced, and to model systems and scenarios. These models are then used to estimate system performance, find weaknesses in real systems, and suggest improvements. This year we are delighted that keynote presentations will be given by UK MOD Chief Scientific Advisor Professor Dame Angela McLean and Dr Ned Allen, Lockheed Martin's Chief Scientist and Corporate Senior Fellow.

Conference on Applied Statistics in Agriculture and Natural Resources NEW
April 26–28, 2020

Gainesville, FL, USA

conference.ifas.ufl.edu/applied-stats

The Conference on Applied Statistics in Agriculture and Natural Resources brings together statisticians from academia, industry and government to discuss ideas and advancements in the application of statistics to solving agricultural research problems. This is a three-day conference consisting of a workshop, keynote speaker and a series of contributed papers and poster presentations.

Statistics in the Big Data Era

NEW

May 27–29, 2020
Berkeley, CA, USA
https://simons.berkeley.edu/workshops/statistics-big-data-era

This conference is focused on the changing role and nature of the discipline of statistics in the time of a data deluge in many applications, and increasing success of artificial intelligence at performing many data analysis tasks. The conference aims to bring together experts in statistical methodology and theory for complex and big data with researchers focused on a range of applications, from genomics to social networks, and to provide opportunities for new researchers to learn about both emerging methods and applications.

Peter Bickel (left) with Peter Bühlmann in 2014, when Peter Bickel received a Doctor honoris causa from ETH Zurich. Photo courtesy of ETH Zürich / Giulia Marthaler

The conference will also be an occasion to celebrate Professor **Peter Bickel's 80th birthday**. Peter has spent his long and distinguished career at the Department of Statistics at UC Berkeley, throughout which he remained committed to developing theory and methods that shed light on relevant applications, a goal more relevant than ever in the age of big data. He is an IMS fellow and has also served the IMS in a number of capacities, including as President.

Workshop on Statistical Data Editing

NEW

April 15–17, 2020
Geneva, Switzerland
https://reg.unog.ch/event/31130/

The workshop is a Conference of European Statisticians, organized by the UN Economic Commission for Europe. It will take place at the Palais des Nations, Geneva, Switzerland. The workshop aims to progress work on statistical editing in the wider context of the High-Level Group on Modernisation of Official Statistics (HLG-MOS) work programme.

The target audience of the workshop includes methodologists, statisticians and researchers in official statistics working on editing and imputation of statistical data derived from surveys, censuses, administrative and external sources in various subject-matter areas.

IWAP 2020 (10th International Workshop on Applied Probability)

NEW

June 15–18, 2020
Thessaloniki, Greece
http://iwap2020.web.auth.gr

IWAP, the International Workshop on Applied Probability, is a biennial series of conferences with the aim of fostering exchange and cross-fertilization of ideas on applied probability. It has been held in four continents and attracted a good number of participants (over 300) and distinct plenary speakers on the field of applied probability and applications. The supervision of the conferences has the IWAP International Board chaired by Prof. Joseph Glaz at the University of Connecticut, USA.

In June 2020, the IWAP conference will be hosted in Thessaloniki, Greece, and organized by the Aristotle University of Thessaloniki and chaired by Prof. George Tsaklidis. For further information please visit the conference homepage.

Joint Southern Statistical Meetings 2022 (JSSM2022)

NEW

June 27–July 1, 2022
Darwin, Australia
https://statsoc.org.au/event-3529236

The inaugural Joint Southern Statistical Meetings 2022 will be held in Darwin from 27 June to 1 July 2022. This conference will bring together the leading statistical communities in the region to provide a forum for researchers and practitioners across a variety of statistical disciplines to facilitate the exchange of theory, methods and applications.

To be kept up to date with our conference planning, please email your details to JSSM2022@gmail.com.

We invite regional associations to contact us with expressions of interest to be part of this event. If you would like to sponsor JSSM2022 please get in touch as well.

See you in Darwin in 2022!

More meetings and events

Symposium on Data Science and Statistics NEW
Beyond Big Data: Collaboration in Science, Industry, and Society
June 3–6, 2020. Pittsburgh, PA, USA
https://ww2.amstat.org/meetings/sdss/2020/
The American Statistical Association invites you to join them at the third annual Symposium on Data Science and Statistics in Pittsburgh, Pennsylvania, June 3–6, 2020. SDSS 2020 will offer many occasions to learn about new data tools and methodologies, see data science in action, and network with experts. Sessions will center on the following six topic areas: Computational Statistics; Machine Learning; Data Visualization; Practice and Applications; Education; Software & Data Science Technologies.

41st Annual Conference of the ISCB NEW
August 23–27, 2020
Krakow, Poland
www.iscb2020.info
The International Society for Clinical Biostatistics (ISCB) was founded in 1978 to stimulate research into the principles and methodology used in the design and analysis of clinical research and to increase the relevance of statistical theory to the real world of clinical medicine.

This 41st Annual Conference of ISCB will be organized in the historic city of Poland, Krakow. The conference will provide the scientific forum for international exchange of recent advances and trends in theory, methods and applications of biostatistics. In line with previous conferences, courses and social events will be organized.

Women in Statistics and Data Science Conference NEW
October 1–3, 2020
Pittsburgh, PA, USA
https://ww2.amstat.org/meetings/wsds/2020/
The annual Women in Statistics and Data Science Conference is heading to Pittsburgh next October!
Plan to join us next year in Pittsburgh, PA, October 1-3 for this special conference. Better yet, participate by submitting a concurrent, panel, or poster session abstract when the time comes. Submissions will be open February 13–April 2.
Bookmark our page or join the mailing list (you can sign up on the meeting link above) so you can be kept up to date on submission opportunities and registration.

28th International Workshop on Matrices and Statistics (IWMS 2020) NEW
December 15–17, 2020
Manipal, Karnataka, India.
https://carams.in/events/international-workshop-on-matrices-and-statistics/
The 28th International Workshop on Matrices and Statistics, IWMS 2020, will be held at the Center for Advanced Research for Applied Mathematics and Statistics, Manipal Academy of Higher Education (MAHE), in Manipal, Karnataka, India. The themes of workshop will focus on Matrix Analysis, Projectors in Linear Models & Multivariate Analysis, Growth Curve Models, Linear Regression Models, Linear Statistical Inference, Modelling Covariance Structures, Multivariate and Mixed Linear Models, and Statistics in Big Data Analysis.

This series of Workshops has a long history, and we welcome the opportunity to hold the workshop once again in India.

CRR Day on 17th December 2020: The present 28th IWMS will be held beside ICLAA 2020 (December 17-19, 2020) and CRR Day will be on 17th December 2017, the common day of events, to celebrate 100 years of C.R. Rao, who is among the greatest statisticians and matrix theorists India ever produced.

We are sure that 28th IWMS will be a great success with the participation of prominent researchers from across the globe working in Statistics, Matrix Theory and allied subjects. The purpose of the Workshop is to stimulate research and, in an informal setting, to foster the interaction of researchers in the interface between statistics and matrix theory. The Workshop will provide a forum through which statisticians may be better informed of the latest developments and newest techniques in linear algebra and matrix theory and may exchange ideas with researchers from a wide variety of countries. As well as range of plenary speakers we are to strengthening the interactions between participants by organizing a range of minisymposia in various specialist areas.

Employment Opportunities around the world

Austria: Vienna

University of Vienna, Department of Statistics and Operations Research

Post-Doctoral Fellowship

https://jobs.imstat.org/job//50839623

Canada: Vancouver, BC

University of British Columbia

Instructor (Tenure-Track)

https://jobs.imstat.org/job//51664936

Canada: Toronto, ON

University of Toronto, Department of Statistical Sciences

Assistant Professor, Data Science

https://jobs.imstat.org/job//50990513

Canada: Toronto, ON

University of Toronto, Department of Statistical Sciences

Associate Professor, Statistical Information

https://jobs.imstat.org/job//50990509

Canada: Toronto, ON

University of Toronto, Department of Statistical Sciences

Assistant Professor, Statistical Information

https://jobs.imstat.org/job//50990506

Canada: Toronto, ON

University of Toronto, Department of Statistical Sciences

Assistant Professor, Psychology and Statistical Sciences

https://jobs.imstat.org/job//50990504

Canada: Toronto, ON

University of Toronto, Department of Statistical Sciences

Assistant Professor, Teaching Stream, Statistical Sciences

https://jobs.imstat.org/job//51094012

Canada: Toronto, ON

University of Toronto, Department of Statistical Sciences

Assistant Professor, Statistical Methods for Environmental Sciences

https://jobs.imstat.org/job//51093945

Canada: Toronto, ON

University of Toronto, Department of Statistical Sciences

Assistant Professor, Statistics with Applications in Biosciences

https://jobs.imstat.org/job//51093893

Canada: Toronto, ON

University of Toronto, Department of Statistical Sciences

Associate Professor or Professor - Regional Director of the Canadian Statistical Sciences Institute

https://jobs.imstat.org/job//51642289

Canada: Toronto, ON

University of Toronto Scarborough, Department of Computer & Mathematical Sciences

Assistant Professor, Teaching Stream, Statistics

https://jobs.imstat.org/job//51110207

Hong Kong: Kowloon

The Hong Kong University of Science and Technology, Department of Information Systems, Business Statistics and Operations Management

Non-tenure track teaching position in Statistics

https://jobs.imstat.org/job//51357143

Hong Kong: Shatin

The Chinese University of Hong Kong

Professor / Associate Professor / Assistant Professor [*see display ad, below*]

https://jobs.imstat.org/job//51506898

Hong Kong: Shatin

香港中文大學
The Chinese University of Hong Kong

Applications are invited for:-

Department of Statistics
Professor / Associate Professor / Assistant Professor
(Ref. 190002AA)

The Department of Statistics is now inviting applications for a professoriate position. The appointment rank will be determined by the qualifications and experience of the successful candidate.

Applicants should have (i) a PhD degree in statistics or a related field; and (ii) high-quality research output and a strong teaching track record in all areas of statistics and Risk Management Science.

Appointment will normally be made on contract basis for up to three years initially commencing August 2020, which, subject to mutual agreement, may lead to longer-term appointment or substantiation later. Outstanding candidates with substantial experience for Professor rank may be considered for substantive appointment forthwith.

Review of applications will commence from January 16, 2020, and will continue until the post is filled.

Further information about the Department is available at http://www.sta.cuhk.edu.hk .

Application Procedure

Applicants please complete the online application form and upload a cover letter, a full curriculum vitae, a statement of research and teaching interests, and copies of up to five recent publications preferably by January 15, 2020. Applicants should also provide names, addresses and e-mail addresses of three referees to whom the applicants' consent has been given for their providing references.

The University only accepts and considers applications submitted online for the post above. For more information and to apply online, please visit http://career.cuhk.edu.hk.

Employment Opportunities around the world

Netherlands: Amsterdam

Vrije Universiteit Amsterdam, Department of Mathematics
Assistant Professor(s) in Statistics
https://jobs.imstat.org/job//51087863

Netherlands: Amsterdam

University of Amsterdam, Faculty of Science, Korteweg-de Vries Institute for Mathematics
Two Tenure track positions in Mathematical Statistics as Assistant/Associate professor
https://jobs.imstat.org/job//51632984

Netherlands: Tilburg

Tilburg University
Assistant or Associate Professor
https://jobs.imstat.org/job//51596815

New Zealand: Wellington

Victoria University of Wellington
Lecturer in Computational Mathematics and Statistics
https://jobs.imstat.org/job//50901629

Singapore: NUS

Department of Statistics and Applied Probability, National University of Singapore
Faculty
https://jobs.imstat.org/job//51462934

South Korea: Incheon

University of Utah Asia Campus
Non-tenure-track 12-month position
https://jobs.imstat.org/job//51220335

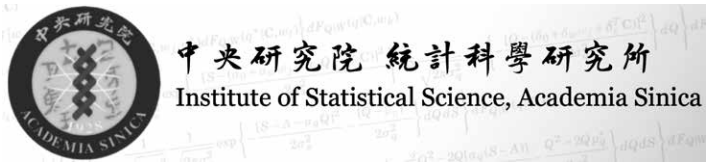
Taiwan: Taipei City

Institute of Statistical Science, Academia Sinica
Tenure-Track Faculty Positions
[*See ad details, right*]
https://jobs.imstat.org/job//49747539

United Kingdom: Coventry

University of Warwick
Professor
https://jobs.imstat.org/job//51674265

Taiwan: Taipei



Institute of Statistical Science, Academia Sinica
Tenure-Track Faculty Positions

The Institute of Statistical Science, Academia Sinica, is pleased to invite applications for our tenure-track faculty positions. Academia Sinica, the most preeminent academic research institution in Taiwan, offers a secured research environment facilitated with rich collaboration opportunities as well as the freedom of conducting independent research. With a strong tradition of theoretical and interdisciplinary research, the Institute of Statistical Science is aiming for global excellence in mathematical statistics and various statistical applications.

Applications are invited for tenure-track appointments as Full/Associate/Assistant Research Fellows (equivalent to Full/Associate/Assistant Professors in Universities) in the Institute of Statistical Science, Academia Sinica, to commence on August 1, 2020 or as soon as possible thereafter. Applicants should possess a PhD degree in Statistics, Biostatistics, Computer Science, Data Science or related areas, and should submit: (1) a cover letter, (2) an up-to-date curriculum vita, (3) a detailed publication list, (4) a research proposal, (5) three letters of recommendation, (6) representative publications and/or technical reports and (7) advisers' names of master and PhD degrees. Additional supporting materials such as transcripts for new PhD degree recipients may also be included. Electronic submissions are encouraged. Applications should be submitted to

Dr. Yen-Tsung Huang, Chair of the Search Committee
Institute of Statistical Science, Academia Sinica
128 Sec. 2 Academia Road, Taipei 11529,
Taiwan, R.O.C.
Fax: +886-2-27886833
Email: recruit@stat.sinica.edu.tw

Application materials should be received by **December 27, 2019** for consideration, but early submissions are encouraged.

United Kingdom: London
London School of Economics and Political Science (LSE)
Assistant Professor in Data Science
https://jobs.imstat.org/job//50877946

United States: Berkeley, CA
University of California, Berkeley
Assistant Teaching Professor
https://jobs.imstat.org/job//50921303

United States: Hayward, CA
California State University, East Bay
Assistant Professor
https://jobs.imstat.org/job//51026733

United States: Los Angeles, CA
University of California, Los Angeles
Tenure-Track/Tenured Position in Financial/Actuarial Mathematics
https://jobs.imstat.org/job//51026262

United States: Los Angeles, CA
USC Marshall School of Business
Professor of Data Sciences and Operations - Statistics (Open Rank, Tenure-Track)
https://jobs.imstat.org/job//51220104

United States: Los Angeles, CA
UCLA, Department of Statistics
UCLA Statistics Open-Ranked Faculty Search
https://jobs.imstat.org/job//51476614

United States: Northridge, CA
California State University, Northridge
Assistant Professor
https://jobs.imstat.org/job//51285934

United States: Riverside, CA
Department of Statistics, University of California, Riverside, USA
A Tenure-Track Assistant Teaching Professor
[*See ad details, above right*]
https://jobs.imstat.org/job//51125221

United States: Riverside, CA
Department of Statistics, University of California, Riverside, USA
A Tenure-Track Assistant Teaching Professor
The Department of Statistics at the University of California, Riverside invites applications for a tenure-track Assistant Teaching Professor position (also termed Lecturer with Potential Security of Employment, LPSOE), beginning July 1, 2020 or even earlier. The details are available at the website:
https://aprecruit.ucr.edu/apply/JPF01175
Evaluation of applications will begin on November 29, 2019 and will continue until the position is filled.

United States: Santa Barbara, CA
University of California, Santa Barbara
The Janet and Ian Duncan Chair in Actuarial Science Department of Statistics and Applied Probability
https://jobs.imstat.org/job//51094783

United States: Santa Barbara, CA
University of California, Santa Barbara
Two Faculty Positions - Statistics, Applied Probability, Data Science
https://jobs.imstat.org/job//51219467

United States: Santa Barbara, CA
Santa Barbara Cottage Hospital
Research Statistician
https://jobs.imstat.org/job//51450707

United States: Santa Cruz, CA
University of California, Santa Cruz
Statistics: Assistant Professor - Statistical Science for Big Data (open until filled, initial review 12/09/19)
https://jobs.imstat.org/job//51220322

United States: Stanford, CA
Stanford University, Department of Statistics
Stein Fellow in Statistics or Probability
https://jobs.imstat.org/job//51005468

Employment Opportunities around the world

United States: Fort Collins, CO

Colorado State University, Department of Statistics

Assistant/Associate Professor

https://jobs.imstat.org/job//51338015

United States: Storrs, CT

University of Connecticut

Assistant/Associate/Full Professor of Operations and Information Management

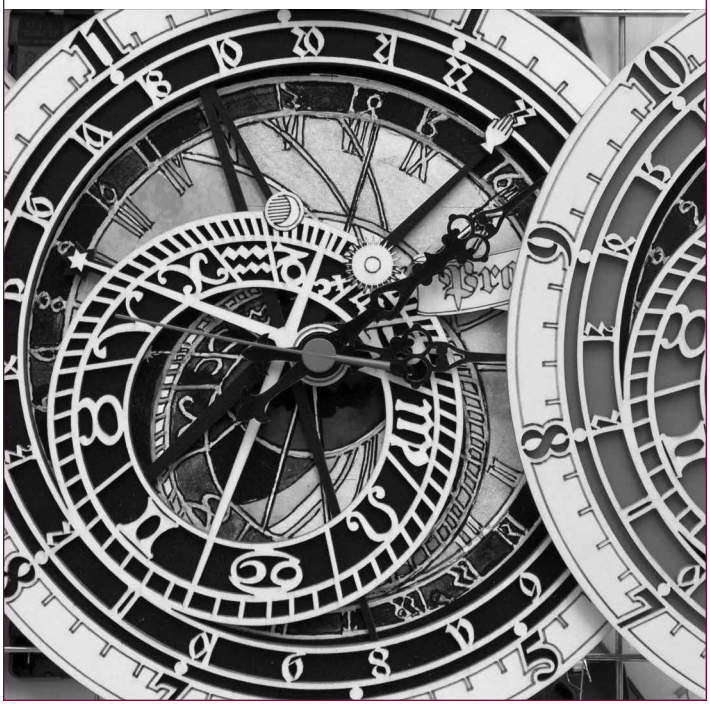
https://jobs.imstat.org/job//51110660

United States: Storrs, CT

University of Connecticut

Full Professor and Cizik Chair in Manufacturing and Technology Management

https://jobs.imstat.org/job//51124882



United States: Newark, DE

The University of Delaware

Tenure Track Faculty Positions in Data Science, Assistant/Associate Professor

https://jobs.imstat.org/job//51562874

United States: Gainesville, FL

University of Florida, Department of Statistics

Tenure Track Assistant Professor in Statistics

https://jobs.imstat.org/job//51220070

United States: Athens, GA

University of Georgia,Department of Statistics

Assistant Professor

https://jobs.imstat.org/job//51043379

United States: Ames, IA

Iowa State University, Department of Statistics

Assistant Professor

https://jobs.imstat.org/job//50898039

United States: Ames, IA

Iowa State University

Assistant or Associate Professor in Forensic Statistics

https://jobs.imstat.org/job//51005357

United States: Boise, ID

Boise State University, Department of Mathematics

Assistant Professor Computational Applied Statistics or Mathematics

https://jobs.imstat.org/job//51004650

United States: Chicago, IL

The University of Chicago

Assistant Professor / Associate Professor / Professor, Data Science

https://jobs.imstat.org/job//51124469

United States: Chicago, IL

The University of Chicago

Assistant Professor, Department of Statistics

https://jobs.imstat.org/job//51124418

United States: Chicago, IL

University of Illinois at Chicago

Assistant Professor/Associate Professor/Full Professor in Statistics - Tenure-Track/Tenured

https://jobs.imstat.org/job//51348789

United States: Chicago, IL

The University of Chicago

Kruskal Instructor

https://jobs.imstat.org/job//51560701

United States: Urbana, IL

University of Illinois at Urbana-Champaign

Assistant Professor, Actuarial Science

https://jobs.imstat.org/job//51268698

United States: Urbana,Champaign, IL

University of Illinois at Urbana-Champaign, Department of Statistics

Assistant Professor in Microbial Data Science

https://jobs.imstat.org/job//51025619

United States: Bloomington, IN

IUB School of Public Health

Multiple Tenure/Tenure-Track Positions Fall 2020

https://jobs.imstat.org/job//50839788

United States: Lawrence, KS

Department of Mathematics, University of Kansas

Assistant Professor

https://jobs.imstat.org/job//51005480

United States: Boston, MA

Boston University Questrom School of Business

Assistant Professor of Finance (FinTech)

https://jobs.imstat.org/job//51043550

United States: Boston, MA

Boston University, Questrom School of Business

Assistant Professor

https://jobs.imstat.org/job//51147423

United States: Boston, MA

Boston University, Questrom School of Business, Information Systems Department

Assistant Professor Position in FinTech

https://jobs.imstat.org/job//51144908

United States: Bridgewater, MA

Bridgewater State University

Assistant Professor- Statistics, Department of Mathematics

https://jobs.imstat.org/job//51005476

United States: Cambridge, MA

Massachusetts Institute of Technology (MIT)

Dual Appointment Faculty Positions

https://jobs.imstat.org/job//51493611

United States: Lowell, MA

University of Massachusetts Lowell

Assistant Professor of Mathematics - Mathematical Sciences (multiple positions)

https://jobs.imstat.org/job//50920297

United States: Ann Arbor, MI

University of Michigan Statistics

RTG Postdoctoral associate

https://jobs.imstat.org/job//37685748

United States: Minneapolis, MN

University of Minnesota, School of Statistics and Department of Psychology

Tenure Track Assistant Professor

https://jobs.imstat.org/job//50075025

United States: Minneapolis, MN

University of Minnesota, School of Statistics

Tenure Track Assistant Professor

https://jobs.imstat.org/job//50499570

United States: Springfield, MO

Missouri State University, Department of Mathematics

Tenure Track Assistant Professor of Statistics

https://jobs.imstat.org/job//50239456

Employment Opportunities around the world

USA: New York, NY

Tenured/Tenure-Track Faculty Position(s) Cornell University

Cornell University's School of Operations Research and Information Engineering (ORIE) seeks to fill multiple tenured/tenure-track faculty positions for its Ithaca campus. We welcome strong applicants in all areas of operations research and its interface with data science, in particular those in resonance with the Cornell College of Engineering Strategic Areas. A separate search in related areas is being conducted for our NYC campus within the Jacobs Technion-Cornell Institute. For the NYC position(s), we welcome strong applicants whose research aligns with one of the Jacobs Institute's three research hubs (connective media, health technology, and urban technology).

Requisite is a strong interest in the broad mission of the School, exceptional potential for leadership in research and education, an ability and willingness to teach at all levels of the program, and a Ph.D. in operations research, mathematics, statistics, or a related field by the start of the appointment. Salary will be appropriate to qualifications and engineering school norms.

Cornell ORIE is a diverse group of high-quality researchers and educators interested in probability, optimization, statistics, machine learning, simulation, game theory, and a wide array of applications such as health care, e-commerce, supply chains, scheduling, manufacturing, transportation systems, financial engineering, service systems and network science. We value mathematical and technical depth and innovation, and experience with applications and practice. Ideal candidates will have correspondingly broad training and interests.

A complete application should include a cover letter, CV, statements of teaching and research interests, statement of diversity, equity, and inclusion, sample publications, at least three reference letters, and, for junior applicants, a doctoral transcript. Applications for the Ithaca position should be submitted on AJO at **https://academicjobsonline.org/ajo/jobs/14872**. For the NYC-based position, applications should be submitted on AJO at **https://academicjobsonline.org/ajo/jobs/14861**.

We urge candidates to submit the required material as soon as possible. Applications will be accepted until the positions are filled.

ORIE and the College of Engineering at Cornell embrace diversity and seek candidates who can contribute to a welcoming climate for students of all races and genders. Cornell University seeks to meet the needs of dual career couples, has a Dual Career program, and is a member of the Upstate New York Higher Education Recruitment Consortium to assist with dual career searches. Visit **www.unyherc.org/home** to see positions available in higher education in the upstate New York area.

Cornell University is an innovative Ivy League university and a great place to work. Our inclusive community of scholars, students and staff impart an uncommon sense of larger purpose and contribute creative ideas to further the university's mission of teaching, discovery and engagement. With our main campus located in Ithaca, NY Cornell's far-flung global presence includes the medical college's campuses in Manhattan and Doha, Qatar, as well as the new Cornell Tech campus located on Roosevelt Island in the heart of New York City.

Diversity and Inclusion are a part of Cornell's heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities. We strongly encourage qualified women and minority candidates to apply.

United States: Chapel Hill, NC

University of North Carolina at Chapel Hill

Assistant Professorship in Statistics

https://jobs.imstat.org/job//50979268

United States: Durham, NC

The Fuqua School of Business, Duke University

Decision Sciences Tenure Track Faculty

https://jobs.imstat.org/job//50588894

United States: Durham, NC

Duke Statistical Science

Open Rank Search in Statistical Optimization

https://jobs.imstat.org/job//51167810

United States: , NJ

Rutgers University

Assistant/Associate Professor

https://jobs.imstat.org/job//51267754

United States: Ithaca, NY

Cornell University

Tenured/Tenure-Track Faculty Position(s)

https://jobs.imstat.org/job//51348721

United States: Ithaca, NY

Cornell University, Statistics and Data Science

Faculty Position - Assistant/Associate/ Visiting Professor

https://jobs.imstat.org/job//51449566

United States: New York, NY

Columbia University, Department of Statistics

Lecturer in Discipline

https://jobs.imstat.org/job//50854943

United States: New York, NY
Columbia University, Department of Statistics
Assistant Professor (Limited-term)
https://jobs.imstat.org/job//50841528

United States: New York, NY
Columbia University, Department of Statistics
Assistant Professor (Tenure-Track)
https://jobs.imstat.org/job//50841506

United States: New York, NY
Columbia University, Department of Statistics
Distinguished Postdoctoral Fellow in Statistics
https://jobs.imstat.org/job//50854953

United States: Cleveland, OH
Case Western Reserve University
Assistant Professor
https://jobs.imstat.org/job//51452182

United States: Philadelphia, PA
University of Pennsylvania, Wharton Department of Statistics
Assistant Professor of Statistics (Tenure-track)
https://jobs.imstat.org/job//51004675

United States: Pittsburgh, PA
Carnegie Mellon University
Teaching Track Faculty Position, Heinz College
https://jobs.imstat.org/job//50919613

United States: Providence, RI
Brown University Data Science Initiative
Assistant Professor
https://jobs.imstat.org/job//51384691

United States: Columbia, SC
University of South Carolina, Department of Statistics
Assistant Professor
https://jobs.imstat.org/job//50840923

United States: Columbia, SC
University of South Carolina, Department of Epidemiology and Biostatistics
Associate Professor of Biostatistics
https://jobs.imstat.org/job//51347907

United States: Richardson, TX
University of Texas at Dallas
Assistant Professor Positions Mathematical Sciences
https://jobs.imstat.org/job//51493573

United States: Salt Lake City, UT
University of Utah, Mathematics Department
Tenure-Track/Career-Line/Postdoctoral
https://jobs.imstat.org/job//51220335

United States: Charlottesville, VA
University of Virginia, Department of Statistics
Associate/Full Professor and Associate Professor
https://jobs.imstat.org/job//51268126

United States: Fairfax, VA
George Mason University
Faculty
https://jobs.imstat.org/job//51452325

United States: Seattle, WA
Fred Hutch
Assistant/Associate Faculty Position - Biostatistics
https://jobs.imstat.org/job//51665083

United States: Madison, WI
University of Wisconsin, Madison, Department of Statistics
Assistant Professor of Statistics
https://jobs.imstat.org/job//50901640

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: erg@imstat.org

December 2019

ims December 2–6: Mérida, México. **XV CLAPEM: Latin American Congress of Probability and Mathematical Statistics** **w** http://clapem2019.eventos.cimat.mx/

NEW December 2–6: Atlantic City, NJ, USA. **75th Annual Deming Conference on Applied Statistics** **w** www.demingconference.org

December 12–15, 2019: Taipei, Taiwan. **11th International Conference on Multiple Comparison Procedures (MCP)** **w** https://2019mcp.smartevent.com.tw/

December 16–21: Chennai, India. **Statistical Methods in Finance** **w** http://statfin.cmi.ac.in/2019/

ims December 26–30: Mumbai, India. **IISA conference, INDSTATS2019: "Innovations in Data and Statistical Sciences"** **w** http://www.intindstat.org/IISA2019

December 27–29: Dhaka, Bangladesh. **2nd International Conference on Applied Statistics (ICAS) 2019** **w** https://www.isrt.ac.bd/icas2019

January 2020

January 2–11: Washington DC, USA. **Institute for Data Science and Big Data** **w** https://www.american.edu/spa/data-science/data-science-institute.cfm

January 6–8: San Diego, CA, USA. **International Conference on Health Policy Statistics (ICHPS)** **w** http://ww2.amstat.org/meetings/ices/2020/index.cfm

January 6–10: Bangkok, Thailand. **4th Bangkok Workshop on Discrete Geometry, Dynamics and Statistics** **w** http://thaihep.phys.sc.chula.ac.th/BKK2020DSCR/

ims January 7–11: University of Florida, Gainesville, USA. **Bayes Comp 2020** **w** http://users.stat.ufl.edu/~jhobert/BayesComp2020/Conf_Website/

February 2020

ims February 6–9: American University of Sharjah, UAE. **Third International Conference on Mathematics and Statistics** **w** https://www.aus.edu/conferences/the-third-international-conference-on-mathematics-and-statistics

NEW February 17–18: Paris, France. **Robotics and Artificial Intelligence** **w** https://robotics.pulsusconference.com/

February 20–22: Sacramento, CA, USA. **Conference on Statistical Practice 2020** **w** https://ww2.amstat.org/meetings/csp/2020/

March 2020

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

NEW March 26: London, UK. **6th IMA Conference on Mathematics in Defence and Security** **w** https://ima.org.uk/12970/6th-ima-conference-on-mathematics-in-defence-and-security/

April 2020

NEW April 6–9: Warsaw, Poland. **Statistical Methods and Artificial Intelligence** **w** https://sites.google.com/view/iwsmai

NEW April 15–17: Geneva, Switzerland. **Workshop on Statistical Data Editing** **w** https://reg.unog.ch/event/31130/

NEW April 26–28: Gainesville, FL, USA. **Conference on Applied Statistics in Agriculture and Natural Resources** **w** https://conference.ifas.ufl.edu/applied-stats/

May 2020

NEW ims May 8–10: Las Vegas, NV, USA. Frontier Probability Days **w** http://lechen.faculty.unlv.edu/FPD20/

NEW ims May 8–10: Atlanta, GA, USA. 8th Workshop on Biostatistics and Bioinformatics **w** https://math.gsu.edu/yichuan/2020Workshop/

NEW May 27–29: Berkeley, CA, USA. **Statistics in the Big Data Era w** https://simons.berkeley.edu/workshops/statistics-big-data-era

May 31–June 3: Carleton University, Ottawa, ON, Canada. **2020 SSC Annual Meeting w** https://ssc.ca/en/meetings/2020-annual-meeting-ottawa

June 2020

June 1–26: Vancouver, BC, Canada. **2020 PIMS-CRM Probability Summer School w** http://www.math.ubc.ca/Links/ssprob20/

June 2–5: Barcelona, Spain. **6th Stochastic Modeling Techniques and Data Analysis International Conference (SMTDA2020). Also featuring Demographics 2020 Workshop w** www.smtda.net

NEW June 3–6: Pittsburgh, PA, USA. **Symposium on Data Science and Statistics w** https://ww2.amstat.org/meetings/sdss/2020/

June 15–18: New Orleans, LA, USA. **Sixth International Conference on Establishment Statistics (ICES-VI) w** http://ww2.amstat.org/meetings/ices/2020/

NEW June 15–18: Thessaloniki, Greece. **IWAP 2020 (10th International Workshop on Applied Probability) w** http://iwap2020.web.auth.gr

June 15–19: Paphos, Cyprus. **International Symposium on Nonparametric Statistics 2020 w** http://cyprusconferences.org/isnps2020/

June 17–19: Paris Orsay, France. **Mixtures, Hidden Markov Models and Clustering w** https://www.math.u-psud.fr/~mhc2020/

ims June 21–24 [tentative]: Anchorage, Alaska, USA. **2020 WNAR/IMS/JR (Japanese Region) meeting w** http://wnar.org/page-18098

June 22–26: Sydney, Australia. **International Statistical Ecology Conference (ISEC2020) w** http://www.isec2020.org/

June 24–27: Brno, Czech Republic. **Fifth International Workshop on Functional and Operatorial Statistics (IWFOS 2020) w** https://iwfos2020.sci.muni.cz/

June 29–July 3: Nový Smokovec, Slovakia. **LinStat 2020 w** https://linstat2020.science.upjs.sk/

July 2020

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

July 6–10: Gold Coast, QLD, Australia. **2020 Australian and New Zealand Statistical Conference w** https://anzsc2020.com.au

July 6–10: Seoul, South Korea. **30th International Biometric Conference (IBC2020) w** https://www.biometricsociety.org/2018/07/ibc-2020-seoul-preview/

August 2020

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

ims August 17–21: Seoul, Korea. **Bernoulli/IMS World Congress in Probability and Statistics w [NEW]** http://www.wc2020.org

NEW August 23–27: Krakow, Poland. **41st Annual Conference of the ISCB w** www.iscb2020.info

October 2020

NEW October 1–3: Pittsburgh, PA, USA. **Women in Statistics and Data Science Conference w** https://ww2.amstat.org/meetings/wsds/2020/

December 2020

NEW December 15–17: Manipal, Karnataka, India. **28th International Workshop on Matrices and Statistics (IWMS 2020) w** https://carams.in/events/international-workshop-on-matrices-and-statistics/

January 2021

ims January 5–8: Melbourne, Australia. **IMS Asia Pacific Rim Meeting (IMS-APRM2021) w** http://ims-aprm2021.com/

March 2021

ims March 14–17: Baltimore, MD, USA. **ENAR Spring Meeting w** http://www.enar.org/meetings/future.cfm

Continues on **page 30**

International Calendar *continued*

July 2021

July 11–15: The Hague, The Netherlands. **63rd ISI World Statistics Congress 2021** **w** http://www.isi2021.org/

July 15–18: Montreal, Canada. **Statistics 2021 Canada** **w** https://www.concordia.ca/artsci/events/statistics-2021.html

August 2021

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

March 2022

March 27–30: Houston, TX, USA. **ENAR Spring Meeting** **w** http://www.enar.org/meetings/future.cfm

June 2022

NEW June 27–July 1: Darwin, Australia. **Joint Southern Statistical Meetings 2022 (JSSM2022)** **w** https://statsoc.org.au/event-3529236

July 2022

July/August [exact dates TBC]: London, UK. **IMS Annual Meeting** **w** TBC

July 10–15: Riga, Latvia. **XXXI International Biometric Conference (IBC 2022)** **w** https://www.biometricsociety.org/meetings-events/ibcs/

August 2022

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

August 2023

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

August 2024

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

NEW August 12–16: Bochum, Germany. **Bernoulli/IMS World Congress in Probability and Statistics** **w** TBC

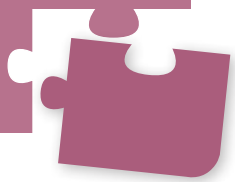
August 2025

August 2–7: Nashville, TN, USA. **IMS Annual Meeting at JSM 2025** **w** http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx

August 2026

NEW August 1–6: Boston, MA, USA. **JSM 2026** **w** http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx

Are we missing something? If you know of any statistics or probability meetings which aren't listed here, please let us know. You can email the details to Elyse Gustafson at erg@imstat.org, or you can submit the details yourself at 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/



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4: June/July	**May 1**	May 15	June 1
5: August	**July 1**	July 15	August 1
6: September	**August 1**	August 15	September 1
7: Oct/Nov	**September 15**	October 1	October 15
8: December	**November 1**	November 15	December 1

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December 1, then **February 1**

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