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IMS Bulletin

December 2022

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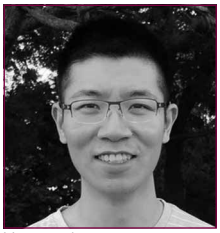
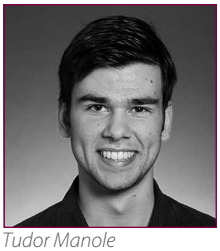
Lawrence Brown PhD Student Awards

We are pleased to announce the following members have been selected to receive the 2022 IMS Lawrence D. Brown PhD Student Award: **Yaqi Duan**, **Yuetian Luo**, and **Tudor Manole**. The award will fund their travel to next year's IMS Annual Meeting, which takes place at JSM Toronto (August 5–10, 2023). They will each present a paper in the IMS Lawrence D. Brown PhD Student Award invited session.

Yaqi Duan



Yuetian Luo



Tudor Manole

Yaqi Duan is a postdoctoral researcher at the Laboratory for Information & Decision Systems at MIT, working with Martin Wainwright. Her research interests lie in machine learning, particularly statistical aspects of reinforcement learning. She graduated with a PhD degree from the Department of Operations Research and Financial Engineering at Princeton University; she received a BS in Mathematics from Peking University. In fall 2023, Yaqi will join the Department of Technology, Operations, and Statistics in the Stern School of Business at New York University as an Assistant Professor. The title of her talk is: *"Optimal policy evaluation using kernel-based temporal difference methods."*

Yuetian Luo is a postdoctoral scholar in the Data Science Institute at the University of Chicago. He received his PhD in Statistics from the University of Wisconsin–Madison in 2022, advised by Anru Zhang. He is broadly interested in methodology, computation, and theory in complex and large-scale statistical inference problems. In the past, he has worked on developing efficient algorithms for high-dimensional matrix/tensor learning problems. Many of these problems are nonconvex and one of his focuses is to understand the statistical guarantees for these algorithms. Recently, he has been interested in distribution-free inference. The title of his talk is: *"Tensor-on-tensor Regression: Riemannian Optimization, Over-parameterization, Computational Barriers, and their interplay"*.

Tudor Manole is a fifth-year PhD candidate in the Department of Statistics and Data Science at Carnegie Mellon University (CMU), jointly advised by Sivaraman Balakrishnan and Larry Wasserman. Before moving to CMU, he completed a BSc in Mathematics at McGill University. He is broadly interested in nonparametric statistics and statistical machine learning. Most of his recent research is focused on developing inferential methods for the optimal transport problem. He is also interested in theoretical aspects of latent variable models, and has worked on applications of statistical optimal transport to data-driven modeling in high energy physics. His talk is titled: *"Plugin Estimation of Smooth Optimal Transport Maps"*.

You can catch their talks at JSM Toronto: https://ww2.amstat.org/meetings/jsm/2023/. Registration opens May 1, 2023.

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Executive Committee

IMS Members' News

Claudia Klüppelberg honored by University of Waterloo

The University of Waterloo has conferred an honorary doctorate—Doctor of Mathematics, *honoris causa*—on Dr. **Claudia Klüppelberg**, professor emerita of mathematical statistics at the Technical University of Munich.

IMS Fellow Claudia Klüppelberg received her doctorate from the University of Mannheim in 1987. She is known for her fundamental contributions to extreme value theory and its applications to real-life problems. Her research interests combine various disciplines of applied probability theory and statistics with applications in biological, economic and technical risks. She gave an IMS Medallion Lecturer in 2009. In addition to more than 150 publications in scientific journals, Klüppelberg coauthored the book *Modeling Extremal Events for Insurance and Finance*, currently in its 10th edition. She is a member of the editorial board of the Springer Finance book series.

"Dr. Claudia Klüppelberg is a prominent scholar in mathematical statistics and applied probability," says Dr. Changbao Wu, professor and chair of the Department of Statistics and Actuarial Science. "She is known for her fundamental contributions to risk analysis in finance and actuarial science. Her book is highly impactful in the field."

The degree was conferred on Klüppelberg at the Faculty of Mathematics ceremony on October 21.

IMS Special Invited Lecturers in 2023

Next year there will be an impressive list of invited speakers at a range of IMS sponsored and co-sponsored meetings.

Jian Ding will give a Medallion Lecture at the **Seminar on Stochastic Processes** (University of Arizona, March 8–11).

Hongyu Zhao's Medallion Lecture will be at the **ENAR/IMS Spring Meeting** (Nashville, March 22–25).

The **INFORMS/Applied Probability Society meeting** in Nancy, France (June 28–30) will feature a Medallion Lecture by **Sylvie Méléard**.

The meeting on **Stochastic Processes and their Applications**, SPA2023 (Lisbon, July 24–28) will feature three Medallions (**Richard Kenyon**, rearranged from 2022; **Massimiliano Gubinelli**; and **Sylvia Serfaty**, rearranged from 2021), as well as the IMS/Bernoulli Society Schramm Lecture, by **Louigi Addario-Berry** (rearranged from 2022).

Finally for 2023, at the **Joint Statistical Meetings** in Toronto (August 5–10) there will be a range of named and special lectures: **Bin Yu** will give the Wald Lectures; **Ya'acov Ritov** will deliver the Blackwell Lecture; and **Wing-Hung Wong** the Wahba Lecture. There will be four Medallion Lectures, by **Aurore Delaigle**, **Yingying Fan**, **Runze Li**, and **Ingrid Van Keilegom**. The Lawrence Brown PhD Student award winners, **Yaqi Duan**, **Yuetian Luo**, and **Tudor Manole** [*see cover article*] will give their talks at the special session, as will those chosen by the New Researchers Group (names to be confirmed). The IMS Presidential Address will be given by the current President, **Peter Bühlmann**.

Look out for previews from these special invited lecturers in the next few issues of the IMS Bulletin.

Trevor Hastie delivers Myles Hollander Distinguished Lecture

Trevor Hastie, John A. Overdeck Professor of Mathematical Sciences, professor of statistics, and professor of biomedical data science in the school of humanities and sciences at Stanford University, was recently named the 2022 Myles Hollander Distinguished Lecturer. He presented his lecture on "Cross-Validation in Model Selection and Assessment," on November 9 at Florida State University. The recording is at https://stat.fsu.edu/HollanderLecture.

Trevor Hastie earned his bachelor's degree from Rhodes University in South Africa in 1976, his master's degree from the University of Cape Town in 1979, and his PhD from Stanford University in 1984. His research focuses on applied statistics, specifically in the fields of statistical modeling, bioinformatics, and machine learning.

Before becoming a Stanford professor in 1994, Hastie worked at AT&T Bell Laboratories for almost a decade, where he contributed to the development of the statistical modeling environment popular in the R computing system.

Hastie has published six books and more than 200 articles and co-edited a large software library on modeling tools for statistical computing. Recent awards include the Breiman Award from the American Statistical Association in 2020 and the University of Bologna Sigillum Magnum in 2019. Hastie is an elected member of the Royal Netherlands Academy of Arts and Science and the US National Academy of Sciences. He is a fellow of the American Statistical Association, Institute of Mathematical Statistics, and Royal Statistical Society.

The Myles Hollander Distinguished Lectureship was established by Robert O. Lawton, distinguished professor and statistics professor emeritus at Florida State University. The annual lectureship recognizes an internationally renowned leader and pioneering researcher in statistics who has made a sustained impact on the field. The lectures feature topics spanning the breadth of statistics.

Professor Emeritus Myles Hollander, for whom the lecture series is named, joined the FSU Department of Statistics in 1965 upon completion of his M.S. and PhD in Statistics at Stanford University after earning his B.S. in Mathematics from Carnegie Institute of Technology. He made substantial and enduring research contributions to nonparametric statistics, reliability theory, survival analysis, biostatistics and probability theory, among other areas. Hollander co-authored textbooks on nonparametric statistics, biostatistics, and introductory statistics. Hollander is an IMS and ASA Fellow, and an Elected Member of the ISI. He served as editor of the *Journal of the American Statistical Association, Theory and Methods* (1994–96) after being editor-elect in 1993–94. In 2003, the ASA recognized him with the Gottfried E. Noether Senior Scholar Award for his excellence in theory, methodology, and applications in nonparametric statistics.

At FSU, Hollander served as statistics chair for nine years (1978–81, 1999–2005). He received the Professorial Excellence Award in 1977, was named Distinguished Research Professor in 1996, and in 1998 was named Robert O. Lawton Distinguished Professor, the highest honor Florida State faculty bestow upon one of their own. He retired in 2007 after 42 years of service.

Rousseeuw Prize awarded

The laureates of the first Rousseeuw Prize for Statistics received their awards in a ceremony at the University of Leuven, Belgium, on October 12th: you can see the photos, videos and slides at **https://rousseeuwprize.org/ceremony**. Our columnist **David J. Hand**, Imperial College London, chaired the international selection committee, and gave the following speech at the ceremony, before the prizes were presented by His Majesty King Philippe of Belgium. He writes:

The biennial Rousseeuw Prize for Statistics, first awarded in 2022, is aimed at recognising pioneering work in statistical methodology, focusing on the innovation rather than the individual and taking note of its impact on statistical research and practice, and on society. Hopefully this award, worth 1 million Euros, will achieve the same status as has the Nobel Prize in other disciplines. Our heartfelt thanks is due to Peter Rousseeuw for sponsoring the prize. Peter put in a huge amount of work to establish it and, as a major innovator in the development of the modern discipline of statistics, it is entirely appropriate that it should be named after him.

I had the honour of chairing the International Selection Committee, and I described the prize-winning work and introduced the winners at the award ceremony on 12 October, where King Philippe of Belgium awarded the prize. The following is a reduced version of my presentation (which can be viewed at https://rousseeuwprize.org/static/video/20221012_RPrize_Hand.mp4)

To introduce the award-winning work, it is necessary for me to describe some background and context.

We begin with the observation that causes produce effects. But working out just *what causes what* is often far from straightforward, and often the superficially obvious is misleading. The proportion of people with lung cancer is higher amongst smokers than non-smokers, so it looks as if smoking causes cancer. But could it be that those people who are likely to get cancer are also those who are more likely to smoke? This was a key question in the mid-twentieth century when smoking was widespread. Just because two things are correlated does not mean that one causes the other. As we statisticians say: correlation does not imply causation.

And what about the factory workers who died young. Was it smoking that killed them, or the toxic chemicals they were using? How can we attribute cause correctly? The factory owners need to know.

If people who were made ill by a medicine stopped taking it and did not bother to return for follow-up, then only those who improved would be recorded in the data. A simple analysis would then show that apparently most people benefitted. This could be the opposite of the truth. If a vaccine is effective, there will be little of the disease in the community, so people will not appreciate how important it is to get vaccinated, and the vaccination rate will fall, leading to an increase in illness. Regrettably, we see this feedback mechanism in real life.

How can we disentangle such causal networks? How can we decide how we should intervene to produce a desired effect? Clearly this is not simply a medical question. Industrialists want to know how to increase their company's profits; athletes need to know what will lead to improved performance, and so on.

Answering such questions involves exploring what would happen *if* we did something, or *if* the circumstances were such-and-such. The result of "What happens *if*" is a *potential outcome*. So explicating causal models involves estimating and comparing potential outcomes: what would happen if we did A versus what would happen if we did B. Or, if we actually had done A, we'd like to know what would have happened had we done B. The outcome under B is then called a *counterfactual*. Since we did A, it's *contrary* to the fact.

To begin to tease out causal paths, we start with a comparative trial: we give treatment A to one group of patients and treatment B to another group and we see which group does better. But there's a problem. Perhaps the group receiving A are sicker or younger than the group receiving B. Perhaps the difference in outcome we observe between the two groups is not due to the treatment, but to how ill they were to start with or how old they were. Degree of illness and age here are called *confounding* variables. They induce a correlation between the treatment and outcome which is not due to the first causing the second.

To overcome that, the *randomised* controlled trial [RCT] is used. In these, the patients are *randomly* allocated to the two treatments. The randomness means that, on average, any differences between the outcomes of the two groups must be due to the treatment difference and nothing else.

The *randomised* controlled trial is a key tool in exploring causal relationships. It's been described as the gold standard, and as one of the greatest advances in medical research.

Unfortunately, however, too often it's not possible to make random assignments. Ethical considerations often intrude. We can hardly randomly allocate people to smoking and non-smoking groups to see if smoking causes cancer.

And things are yet further complicated

by the fact that in clinical practice people are often given several treatments. You start with a small dose of a drug. It works for some patients, but not for others. So some are given an increased dose. Some of those drop out because of side effects. Some others are cured. For those who are not, you try switching to a different drug. And so on. And perhaps the effectiveness of the drug depends on other factors which themselves are influenced by earlier treatments. And, to cap it all, different clinicians make different decisions. Data arising informally like this, and not from some carefully controlled experimental manipulation like a randomised controlled trial are called *observational* data.

It's clear that, if different treatments are offered at different times, and if the choice of treatment is influenced by how well patients responded to previous treatments, and if different clinicians might take different patient characteristics into account, things rapidly get quite complicated, and simple analyses can be very misleading.

Fortunately for all of us, the Rousseeuw Prize winners have developed statistical theory and methods for disentangling cause-and-effect from observational data.

In particular, in 1986 **James (Jamie) Robins** wrote a 121-page paper describing an approach to estimating the causal effects of treatments with time-varying regimes, direct and indirect effects, and feedback of one cause on another, from observational data.

All five laureates with their medals. From left to right: Thomas Richardson (U of Washington, Seattle), Eric Tchetgen Tchetgen (U of Pennsylvania), James Robins (Harvard), Peter Rousseeuw (the prize's sponsor), Andrea Rotnitzky (Torcuato di Tella U), and Miguel Hernan (Harvard)

This work was seminal, and Robins's so-called "g-formula" turned out to be a key for tackling such tangled causal webs. The "g" refers to *generalised* treatment regimes—including dynamic regimes, in which a later treatment depends on the response to an earlier treatment.

King Philippe of Belgium [left] hands the medal to Prof. James Robins of Harvard University, the founder of the awarded team

But that was just the beginning. It prompted several decades of intensive and focused research. Later papers by Robins and the other laureates honoured today built on the ideas described in the 1986 paper and developed methods for more general situations, methods to reduce or eliminate bias, as well as methods for devising optimal treatment regimes, and other cases.

Since Jamie Robins played the key role in initiating these advances, 50% of the prize is awarded to him, with the other 50% divided equally between the other laureates.

Professor James Robins is Mitchell L. and Robin LaFoley Dong Professor of Epidemiology at the Harvard T.H. Chan School of Public Health. He is an ISI Highly Cited researcher, his work having been cited over 80,000 times. He attended Harvard College, focusing on studies in mathematics and philosophy, and moved to Washington University in St Louis to study medicine, graduating in 1976. He practiced occupational medicine at Yale for some years, where he co-founded an occupational health clinic. There he found himself regularly being asked whether it was "more probable than not that a worker's death or illness was *caused* by exposure to chemicals in the workplace." To find a way to answer this question, he began to study biostatistics and epidemiology. But he found that the only tool they described for answering

Continues on **page 6**

such questions was an RCT. Since, as we have seen, one can hardly randomly assign people to a toxic chemical, the statistical tools of the time were unable to provide an answer.

So Robins turned his attention to finding ways to tackle this fundamental question. He observed that epidemiologists had informal rules for handling such things as confounding and bias. And he translated them into formal statistical structures. "Mathematicising" ideas means they can be clearly manipulated and any assumptions laid bare. And in 1986 he published the paper I have already mentioned, a paper that has been described as "revolutionary".

Of course, that initial 1986 paper did not contain all the answers. Robins continued his work, sometimes having to battle to get it published. Deeper investigation led to more sophisticated variants of the ideas, each designed to answer questions that earlier methods could not resolve. These deeper studies have been carried out in collaboration with co-investigators, central amongst whom are the other four laureates who are being honoured. These are Miguel Hernán, Thomas Richardson, Andrea Rotnitzky, and Eric Tchetgen Tchetgen. I'm going introduce them and say a little about their work to give the flavour of it. However, as will be obvious, I cannot really do justice to the extent of their contribution in a few words.

King Philippe in conversation about statistics and probability with the laureates, after the formal ceremony. He was quite interested.

Miguel Hernán is Kolokotrones Professor of Biostatistics and Epidemiology at the Harvard T.H. Chan School of Public Health. He graduated in medicine from the Autonomous University of Madrid, and received Masters degrees in quantitative methods and in biostatistics and his PhD from Harvard University.

Hernán has developed a perspective which sees observational studies of a time-varying treatment as a nested sequence of individual RCTs run by nature. His work with James Robins has been applied in deciding when to initiate combined antiretroviral therapy to reduce mortality and AIDS-defining illness in HIV-positive people; it's been applied to explore the effectiveness of Covid-19 vaccines over time, and in subpopulations; and it's been applied in many other areas. But I hope those examples will drive home the truth that the work is not simply of theoretical academic interest: it has major practical consequences in terms of improving people's lives, and even saving lives. Hernán co-authored, with James Robins, the book "*Causal Inference: What if*", which I thoroughly recommend.

Thomas Richardson is Professor in the Department of Statistics at the University of Washington in Seattle. He received his BA in Mathematics and Philosophy from Oxford University and his MS and PhD in Logic, Computation, and Methodology from Carnegie Mellon.

Given the fundamental importance of causal modelling, of determining what causes what, and what you have to change to produce a desired effect, it is perhaps not altogether surprising that there is more than one way of looking at things. The ideas developed by James Robins and his collaborators are widely used in statistics, biostatistics, epidemiology, and economics. But in computer science, sociology, and philosophy a different conceptual perspective has been adopted. This is based on causal graphs—so-called "directed acyclic graphs" or DAGs. Since these two perspectives describe the same world, it ought to be possible to map one to the other. And there are potentially great advantages in doing so. In general in science, if you can look at things in different ways it can lead to greater insights, greater understanding, and, as in the present case, greater potential for intervening for good. And Thomas Richardson and James Robins solved this translation problem through the development of their "single world intervention graphs" or SWIGs. Incidentally, DAGs and SWIGs are just the start—there are a lot of acronyms in this world, describing highly sophisticated statistical ideas.

Andrea Rotnitzky is Professor of Statistics at the Universidad di Tella in

Buenos Aires. She obtained her Licentiate in Mathematics from the University of Buenos Aires, and her PhD in Statistics from the University of California at Berkeley.

With James Robins, she developed so-called "doubly-protected" or "doubly-robust estimators", which are widely used by epidemiologists, economists, and computer scientists, as well as by data-driven companies such as Google, Amazon, and Facebook. Other problems she has studied illustrate the complexity and sophistication of work in this area. They include exploring verification bias, tackling intermittent non-response, coping with responses exhibiting non-compliance, and with missing data. In fact, one way of looking at causal modelling is that it is the flip side of missing data models: we would like to compare the effect of the treatment we gave with what would have been the effect of the treatment we didn't give—but by definition, the effect of the treatment we didn't give is unobserved: it's missing data.

Eric Tchetgen Tchetgen is the Luddy Family President's Distinguished Professor and Professor of Statistics and Data Science at the Wharton School of the University of Pennsylvania. He received his BS from Yale University and his PhD from Harvard.

Unfortunately, under some circumstances, even doubly-protected estimators may have a relatively large bias—meaning that, on average, they might yield estimates which depart from the truth. Eric Tchetgen Tchetgen and James Robins extended things yet further, developing theory based on so-called "U-statistics". Furthermore, most work on causal modelling assumes that the outcome for one person depends only on the treatment that person received, and not also on the treatments others received. This is called "non-interference". Sometimes, however, that assumption is unrealistic and cannot be made. For example, if a vaccinated person cannot infect others, then that person's treatment influences the outcome for others. In such situations, causal inference is particularly complicated. Tchetgen Tchetgen has explored this complication and developed methods for coping with it.

I'd like to conclude with the observation that James Robins and his co-workers have elevated our understanding of causal modelling to new levels. By providing us with tools to understand causal relationships they have materially enhanced the human condition: in medicine, in science, in economics, in business and industry, in government—in fact, in all domains in which causal questions arise. Which is just about everywhere.

Details of the Rousseeuw Prize, with videos of the award ceremony on October 12, can be seen at https://www.rousseeuwprize.org/.

Obituary: Donald Morrison

1931–2022

Donald (Don) F. Morrison passed away peacefully on July 11, 2022 at the age of 91. He was a professor in the Department of Statistics in the Wharton School at the University of Pennsylvania from 1963 until his retirement in 1999. Prior to Penn, Don worked in research positions at MIT Lincoln Laboratory, the National Institutes of Health, and Bell Labs.

Don was born in Stoneham, Massachusetts, on February 10, 1931. He received an M.S. in statistics from the University of North Carolina, Chapel Hill in 1957, and a PhD in Statistics from Virginia Tech in 1960, where his dissertation adviser was Herbert A. David. Don became a Fellow of the American Statistical Association in 1968, and an IMS Fellow in 1975.

Don wrote two widely used texts. *Multivariate Statistical Methods* was originally published in 1967, and a fourth edition appeared in 2005. *Applied Linear Statistical Methods* was published in 1983. Many graduate students were trained in multivariate analysis by virtue of using his book. In a lucid fashion, he was able to allow the reader to focus foremost on ideas, and less so on detailed computations. Don most loved his time with students in the classroom, and this inspired him to write the two texts.

Don wrote seminal papers that developed new methodologies in multivariate analysis, motivated by data structures that arise in practical settings. He developed tests for the equality of the elements of the multivariate normal distribution under certain relevant covariance structures. In studying optimal spacing of repeated measurement designs, he determined optimal times to take measurements so that the resulting test of equality of treatment effects has maximum power. In other work, he proved that simple, partial, and multiple correlations follow the Wishart distribution with non-centrality parameters affected by intra-class correlations.

Don chaired the Wharton Department of Statistics from 1978 to 1985. During his tenure there were important hires that began the process of transforming the department into research prominence. He was instrumental in convincing the Wharton School administration to reduce faculty teaching loads so that the department could be competitive with top tier departments in hiring faculty. In addition to his service to the department, he was editor of *The American Statistician* from 1972 to 1975, and an associate editor of *Biometrics.* After retirement, Don served as secretary to the Wharton School faculty for 15 years.

Don was beloved by his PhD students, and several of them endowed the Don Morrison PhD Research Fund in his honor. The fund has provided resources for doctoral students to attend conferences.

Don was an amateur railroad historian his entire life, with a special interest in signaling systems. He collected historic books, documents, and signal equipment, and he created model railroads with his family. He contributed actively to the Boston & Maine Railroad Historical Society and the Norfolk & Western Historical Society. After retiring, he volunteered from 2001 to 2011 as a trainman at the Wilmington and Western Railroad. While an undergraduate, Don worked manual labor installing railroad underground cable. It was a gritty, dirty job that helped shape his views on how he treated others, and, as his son Norman remarked, it contributed to his tenacity. Norman also commented, "Growing up, it was all about the trains. We never flew on a plane. We took trains across the country. We took trains to Canada. Everything was a train or a car."

Students and colleagues remember Don as very kind and patient. He could be quiet, but he loved a good joke and often broke into loud laughter while relating a funny story or anecdote. He was highly respected across the Wharton School faculty for his intellectual capabilities and his integrity.

Don is survived by his wife of 54 years, Phyllis, sons Norman and Stephen and their wives, three grandchildren, and a sister.

Written by Abba Krieger and Paul Shaman, both at the University of Pennsylvania. Some of the details are taken from a remembrance posted on the Wharton School's website, and from an obituary written by the family.

Obituaries in the *IMS Bulletin*

We publish obituaries in the *IMS Bulletin* of any IMS member or IMS Fellow — and, on occasion, of other prominent members of our communities. Sometimes, the news of someone's passing may take some time to reach us, so please, if you hear that a colleague or collaborator has died, do let us know so that we can arrange for an obituary to be written. If you would like to submit an obituary, please email us: bulletin@imstat.org. Thank you.

IDWSDS celebrated around the world

Jessica Kohlschmidt reports: The inaugural **International Day of Women in Statistics and Data Science** was celebrated online on October the 11th with support from Caucus for Women in Statistics (CWS), Portuguese Statistical Society (SPE), and the American Statistical Association (ASA) and 35 other statistical and data science organizations around the world. The event was truly a global celebration gathering 205 statisticians and data scientists online from 36 countries (most from USA, Portugal and UK), of whom 55% were academics, 17% students, 10% worked in non-profit organizations or other, 9% were business or industry workers, and another 9% worked in government. The event lasted 24 hours, with participation around the globe!

The scope of the sessions was fascinating and diverse, and included presentations on work-life balance, gender issues in statistics, and Covid-19 studies. The discussions were lively and provided an opportunity to share common worries and challenges faced by women in the field.

Our welcome session featured ASA President Katherine Ensor, SPE President Miguel de Carvalho, CWS President Nairanjana Dasgupta, CWS Executive Director Jessica Kohlschmidt, organizer Vanda Lourenço, and CWS Past President Tomi Mori.

The University of Otago and the New Zealand Statistical Association sponsored a session on Women in Statistics and Data Science: Career Journey, Perspectives and Opportunities in New Zealand. The speakers were Claire Cameron, Jill Haszard, Gabrielle Davie, Ella Iosua, Alice Kim and Nokuthaba Sibanda. Women in Statistics in Korea presented Gender, Statistics and COVID-19 in Korea, featuring Man-Suk Oh, Sohee Park, Tarim Lee and Eun-Kyung Lee. The International Indian Statistical Association shared Young Female Statisticians from India featuring Shuvashree Mondal, Ritika Jain, Upasana Roychowdhury and Sayantee Jana.

CWS, SPE and ASA sponsored a speed networking session to let participants get to know each other in a small group setting.

The Pak Institute of Statistical Training and Research (PISTAR) hosted an interview with Rashida Bukhari by Saleha Habibullah.

The Royal Statistical Society Young Statisticians Section organized a joint session with the Career-young Statisticians Section of the Irish Statistical Association, with speaker Professor Norma Bargary from the University of Limerick, also one of the Society's statistical ambassadors. She gave an overview of functional data analysis and its applications to sports analytics.

Rosa M. Crujeiras presented Turning Around: On Some Statistical Methods for Circular Data, sponsored by the Spanish Statistical Society. Biomathematics & Statistics Scotland featured a talk by Paula Moraga on Geospatial Data Science for Public Health Surveillance.

CWS sponsored Shili Lin, Jessica Kohlschmidt, and Deedra Nicolet to share ideas and thoughts on how to plan a Florence Nightingale Day – a Celebration of Women in Statistics and Data Science, for middle and high school students.

CWS and SPE hosted Alexandra Schmidt, Ivette Gomes and Gerda Claeskens presenting about Diverse Statistical Approaches: Origins and Fundamentals.

The Society of Clinical Trials sponsored a session on Biostatistics Leadership in Oncology Clinical Trials, highlighting leadership and contributions made by three women biostatisticians in cancer clinical trials, representing three major cooperative groups funded by the National Cancer Institute in the US: Alliance, SWOG and the Pediatric Brain Tumor Consortium. Sumithra Mandrekar, Megan Othus, and Arzu Onar-Thomas were the presenters.

Methods for Cluster-correlated Data Analysis were discussed by Kendra Plourde, Aya Mitani and Kerrie Nelson, sponsored by CWS and the Statistical Society of Canada (SSC). CWS and SSC also co-sponsored a session on Work-life Balance throughout the Academic Research Center with speakers Maya Mathur, Bei Jiang and Josee Dupuis and discussant, Sarah Lotspeich.

Nairanjana Dasgupta and her graduate student presented on The Power of r-power in a session sponsored by CWS. ISBA presented a session on this topic with Federica Zoe Ricci, Isabella Deutsch and Katie Buchhorn.

Micaela Parker, Executive Director of The Academic Data Science Alliance presented about the community and their vision for a just, equitable future.

The concluding session featured Tomi Mori, Jessica Kohlschmidt, Cynthia Bland, Dong-Yun Kim and Miguel de Carvalho with great appreciation to the sponsors, organizers, speakers and attendees.

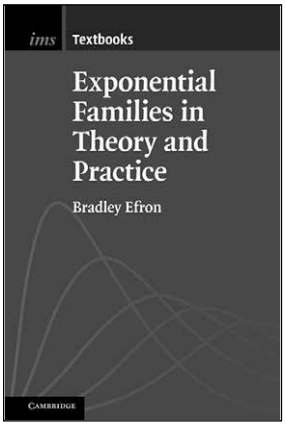
The recordings from the talks will be made available on the event's website idwsds.org and the CWS YouTube Channel (https://www.youtube.com/channel/UCXmdPkUqLt0tjoHJBoMH7eA). There are also greetings from people around the world as well as videos with information about various societies that were involved in IDWSDS.

The organizing committee and main sponsors, the Caucus for Women in Statistics, the Portuguese Statistical Society, and the ASA thank all contributors and supporting organizations and would like to **invite future volunteers to join the 2023 organizing committee** by emailing idwsds1@gmail.com.

NEW BOOK

The Institute of Mathematical Statistics presents

IMS TEXTBOOKS



Exponential Families in Theory and Practice

Bradley Efron, Professor Emeritus of Statistics and Biomedical Data Science at Stanford University

During the past half-century, exponential families have attained a position at the center of parametric statistical inference. Theoretical advances have been matched, and more than matched, in the world of applications, where logistic regression by itself has become the go-to methodology in medical statistics, computer-based prediction algorithms, and the social sciences.

This book is based on a one-semester graduate course for first year PhD and advanced master's students. After presenting the basic structure of univariate and multivariate exponential families, their application to generalized linear models including logistic and Poisson regression is described in detail, emphasizing geometrical ideas, computational practice, and the analogy with ordinary linear regression. Connections are made with a variety of current statistical methodologies: missing data, survival analysis and proportional hazards, false discovery rates, bootstrapping, and empirical Bayes analysis. The book connects exponential family theory with its applications in a way that doesn't require advanced mathematical preparation.

Due to publish in the UK in November and the US in February, you can order your discounted copy now as an IMS member.

Hardback $105.00
Paperback $39.99

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

www.imstat.org/cup

Cambridge University Press, with the Institute of Mathematical Statistics, established the *IMS Monographs* and *IMS Textbooks* series of high-quality books. The series editors are Nancy Reid (Coordinating Editor), Ramon van Handel (Probability), Arnaud Doucet (Algorithms) and John Aston (Statistics).

Treasurer's & Auditor's Reports 2021

The IMS Treasurer's annual report is published online on the Council Reports page at https://imstat.org/council-reports-and-minutes/.

The report details membership and subscription data for 2021. The total number of IMS members increased, but the total number of paying members decreased. Subscriptions by institutions increased very slightly.

The financial status of the Institute continues to be stable and strong, and actions are in place to ensure its long-term stability.

The 2021 fiscal year-end auditor's report is also completed, and it is posted online at the same link.

On the right is a page of the auditor's report, which gives an overview of the IMS's financial position. The rest of the report can be downloaded from ***https://imstat.org/council-reports-and-minutes/***

Institute of Mathematical Statistics

Statement of Financial Position

December 31, 2021 (with comparative totals for 2020)

Assets

	2021	2020
Cash and cash equivalents	$ 79,847	$ 163,074
Cash held for others	10,384	14,298
Accounts receivable, net	184,893	197,323
Interest receivable	1,634	4,868
Investments	11,710,960	9,615,022
Investments held for others	321,491	282,247
Prepaid expenses	56,317	60,678
Certificates of deposit	1,699,338	1,807,924
Investments restricted for endowment	597,271	437,100
Total assets	$ 14,662,135	$ 12,582,534

Liabilities and Net Assets

Liabilities:		
Accounts payable and accrued expenses	$ 36,242	$ 60,523
Fiscal agent liability	331,875	296,545
Unearned memberships, subscriptions, and meeting revenues	1,355,546	1,150,589
Total liabilities	1,723,663	1,507,657
Net assets:		
Without donor restrictions:		
Undesignated	10,176,210	8,475,244
Council-designated	2,118,505	2,116,937
Total net assets without donor restrictions	12,294,715	10,592,181
With donor restrictions	643,757	482,696
Total net assets	12,938,472	11,074,877
Total liabilities and net assets	$ 14,662,135	$ 12,582,534

Send us your Invitation to Research

In the September issue, we introduced a new "Invitation to Research" section, kicked off by **Alexander Y. Mitrophanov**, Senior Statistician at the Frederick National Laboratory for Cancer Research, National Institutes of Health, USA. Alex invited members to collaborate on Quantitative Perturbation Theory for Stochastic Processes at **https://imstat.org/2022/08/31/an-invitation-to-research/**. Alex says he's had some "very meaningful" follow-up, which has triggered some further interactions.

We are now inviting *your* invitation! IMS members are encouraged to write in to propose new research ideas or directions. These do not need to be formally/provably absolutely new; it's an opportunity to emphasize the benefit of an idea for the research community. The purpose is twofold: to **gauge the research community's interest** before investing more time and effort into these ideas; and to **find collaborators** to tackle these new ideas, if other people become interested and come up with related ideas.

We encourage interested readers to respond to these ideas with critical comments and/or suggestions, and to write in and share your own ideas: bulletin@imstat.org.

Written by Witten: Impostors Anonymous


Jenny Jiminez

Contributing Editor Daniela Witten writes:

I was in my second year of grad school when I first heard of "impostor syndrome", the well-studied psychological phenomenon by which highly talented and accomplished people doubt their talent and accomplishments, and live in constant fear that the outside world will discover them as frauds. I remember marveling at the possibility that some of the breathtakingly brilliant statisticians in my department might question their own abilities—had they no self-awareness?!? The absurdity of their impostor syndrome stood in stark contrast to what I knew to be true: that the people around me had their figurative ducks all in a row, whereas *I was the real fraud*.

Friends, it did not occur to me that I might, in fact, suffer from impostor syndrome, until several years into my junior faculty position. The mental gymnastics required to sustain almost 30 years of relentless impostor syndrome in the face of overwhelming evidence that I'm a smart and capable person are actually quite impressive, since they required simultaneously believing that (i) literally everyone else was much smarter than me, and (ii) I was able to pull the wool over their eyes about my own abilities (a pretty astounding feat, considering how smart they all were). As a statistician who seeks parsimonious explanations for complex phenomena, I can acknowledge the irony of inventing elaborate back stories to account for my success (I was the only person nominated for the prestigious award! The top-ranked journal needed one more paper to complete the issue! The department literally couldn't find anyone else willing to work there!) rather than accepting a simpler explanation (I'm good at what I do, and am recognized for it).

My "aha" moment came one day while giving a grad student a pep talk, during which I told them that they were extremely talented but, alas, suffered from impostor syndrome. Yes, I discovered that I suffered from impostor syndrome while in the process of explaining to someone else that they suffered from impostor syndrome. You can't make this stuff up!

My impostor syndrome motivated me to work extremely hard. If all of my accomplishments to date were due to luck and/or trickery, then I had better hurry to accomplish as much as possible before my luck changed and/or my trickery was discovered! I am certain that I would not have achieved the same level of success as early in my career without my impostor syndrome. But, I might have been a lot happier and 90% as successful, and I firmly believe that this would have been enough, for any reasonable definition of "enough".

(I also acknowledge that impostor syndrome can manifest in different ways. For instance, some people might find themselves unable to complete a research paper due to a fear that others will discover them to be a fraud.)

Over the years, I've learned that my impostor syndrome places a burden on those around me. If I believe that everyone else is smarter than me, then I will have unrealistically high expectations for others. This manifests not only in thinking that all of my grad students are brilliant (and in fact, they are!) but also in expecting them to constantly have brilliant ideas, which is clearly a bizarre and unrealistic expectation for someone just beginning their academic career. In fact, my exceedingly high expectations for those around me probably contributed to other people having impostor syndrome (*so sorry!!*), and so the cycle continues for the next generation. I believe that impostor syndrome explains why junior researchers tend to be the harshest journal reviewers: if you feel that everyone around you is much smarter than you, then you'll hold everyone around you — and their research — to an unrealistically high bar. (More of those mental gymnastics…)

I am fortunate to have been treated very well throughout my career (likely in large part to my immense privilege[1]). However, I have on occasion been mistreated in ways that are, in retrospect and from the comfort of my current position, a bit comical. When I recount these instances, people often ask: *why didn't you stand up for yourself, and let the other person know that their behavior was wildly inappropriate?* The answer again boils down to impostor syndrome: if someone believes that they are undeserving, then when they are treated poorly, they may think that this behavior is warranted.

I believe that the academic system *perpetuates* impostor syndrome. When I write a paper, I am handing three reviewers, an associate editor, an Editor-in-Chief, and anyone else with an internet connection a *carte blanche*

to criticize my ideas, and by extension, me. Each paper represents yet another opportunity for those around me to discover that I'm not who they thought I was.

Moreover, the academic system *thrives* on impostor syndrome: it drives many researchers to work relentlessly throughout their careers (even post-tenure, and sometimes at the expense of their personal lives!). Unfortunately, while anxiety-fueled effort can certainly lead to a local optimum, it rarely leads to a global optimum, either for an individual or for the field.

While anyone can experience impostor syndrome, it is thought to be particularly common among women, younger people, and members of historically excluded groups. However, estimates of its prevalence vary widely. I sometimes imagine that I'm a member of a community of apparent high-achievers who are all, in reality, flying by the seat of our pants. We can call it Impostors Anonymous. I would love to meet the other members!

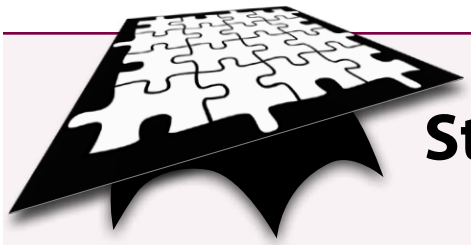
Though I've known for a long time now that I suffer from impostor syndrome, I am still learning to live with it. I recently won the 2022 Presidents' Award from the Committee of Presidents of Statistical Societies, the top award for a statistician below age 41, and certainly my greatest academic honor. When I heard the news, I thought — *gosh! Won't it be terrible when they discover that my research isn't actually that great?* I have had to silence those thoughts, and instead make room for gratitude towards the people who have paved the way for *my very real accomplishments, which I deserve*, no matter what the little voice inside my head tells me.

To love others, we must start by loving ourselves. *I am a talented statistician*. This knowledge enables me to be a better (and happier!) researcher, advisor, friend, and human. And if I say it enough, then maybe one day I'll believe it's true.

Daniela Witten lives in Seattle with her husband, three children, and a persistent but possibly overblown fear of failure. She shares many of her insights on Twitter @daniela_witten.

The Pigeon Gazette

1 Lest there be any confusion about the intent of this column: I have benefited from immense privilege throughout my career, and I plan to discuss this in a future column. Acknowledging my privilege is not a sign of impostor syndrome, and my privilege does not erase my accomplishments or negate my talent. Two things can be true at once: that I have had a leg up in my career due to my privilege, *and* that I'm good at what I do.



Student Puzzle Corner 42

Student Puzzle Editor Anirban DasGupta says, "Again, we pose *two* problems, one in statistics and one in (quite basic) probability. Send your answer to one or both."

Puzzle 42.1:
You have all seen a standard normal CDF table in a text. Typically, the table gives approximate CDF values from 0 to 5 at increments of 0.01 in the argument x. Suppose now you want the grid to be finer, with an increment of some suitable ϵ. You want to choose ϵ in a way that the largest jump in the CDF value between two successive values of x is at most 0.001. One page using standard font in a text can give 400 CDF values. How many pages will your standard normal table take? Remember, you want to cover x in the interval 0 to 5.

Puzzle 42.2:

Suppose S is a Wishart distributed $p \times p$ matrix with k degrees of freedom and parameter matrix Σ, assumed to be positive definite. Find in closed form the UMVUE of the determinant of Σ for general p, and the variance of the UMVUE for $p = 2$.

Deadline: January 25, 2023

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 to either or both of these puzzles, and the answer, will be published in the issue following the deadline.

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

Solution to Puzzle 41.1 & 41.2

A reminder of the two puzzles from the last issue:

Puzzle 41.1
Suppose $X \sim U[0, f(\theta)]$ for some suitable function f, and θ is a real parameter taking values in the entire real line. Discover a prior distribution on θ and a function f such that the posterior mean of θ given $X = x$ is identically equal to zero for all x.

Puzzle 41.2
N balls are distributed, one by one, completely at random, independently into one of 300 urns, where N has a Poisson distribution with mean 1000. Find explicitly the most likely number of urns that will remain empty.

Problem Corner Editor Anirban DasGupta says:
Particular congratulations to **Seunghyun Lee** (Columbia) and **Abhinandan Dalal** (Wharton), whose answers to both puzzles were completely correct and succinct. Thanks, too, to the following students, whose solutions to one or both were at or near the mark: **Wribhu Banik** (Columbia), **Christina Chen** (Penn), **Wei Fan** (Wharton), **Junu Lee** (Wharton), **Zifu Wei** (Purdue), and **Qishuo Yin** (Penn).

Puzzle 41.1: At first sight, it seems perplexing that the posterior mean of a parameter can be identically equal to a constant, say zero, independent of the observed data value. What it means is that the data carries no information about θ, although it carries information about some other functions of θ. Indeed, if $X \sim \text{Unif}(0, |\theta|)$ and θ has a standard normal prior, then $\int_{\mathcal{R}} \theta e^{-\theta^2/2} I_{|\theta| \geq x}\, d\theta = 0 \forall x$, and this results in $E(\theta | X = x) = 0 \forall x$. From the frequentist point of view, the offender is the lack of identifiability of the family when parametrized by θ. The function $f(\theta)$ and the prior can be generalized in an obvious way to even functions, subject to all the integrals making sense.

Puzzle 41.2: Consider a multinomial experiment with m cells and cell probabilities $p_1, \ldots, p_m$. If we randomize the number of balls N to be dropped and give it a Poisson distribution with mean λ, then (marginally) the cell counts, $f_1, \ldots, f_m$ are independent Poissons, and the mean of f_i is λp_i. In our problem, $m = 300$, $\lambda = 1000$, and each $p_i = 1/300$. Thus, the number of cells that remain empty is a Binomial random variable with parameters 300 and $Exp[-1000/300]$. It is well known (e.g., Feller, Volume 1), that the most likely value in a Binomial distribution is the integer part of $(m+1) \times$ p, which is the integer part of $301 \times Exp[-1000/300] = 10$.

Recent papers

Statistical Science

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. The Editor is Sonia Petrone (until end of 2022; the incoming Editor is Moulinath Banerjee).
Access papers at **https://projecteuclid.org/journals/statistical-science**

Volume 37, No. 4, November 2022

Supplemental Discussion

Bernoulli

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. The Editor-in-Chief is Davy Paindaveine.
Access papers at **https://projecteuclid.org/journals/bernoulli**

Volume 29, No. 1, February 2023

Continues on **page 16**

***Bernoulli,* Volume 29, No. 1, February 2023** continued

Journal of Computational and Graphical Statistics

The *Journal of Computational and Graphical Statistics* (*JCGS*) presents the very latest techniques for improving and extending the use of computational and graphical methods in statistics and data analysis. Established in 1992, this journal contains cutting-edge research, data, surveys, and more on numerical graphical displays and methods, and perception. Articles are written for readers who have a strong background in statistics but are not necessarily experts in computing. Published in March, June, September, and December. The Co-Editors are Galin Jones, University of Minnesota, and Faming Liang, Purdue University. *Journal of Computational and Graphical Statistics* is an official publication of the American Statistical Association (ASA). Members of the Institute of Mathematical Statistics receive complementary online access to *JCGS*. Access papers at **https://www.tandfonline.com/loi/ucgs20**

Volume 31, Issue 3 (2022)

Bayesian Computation

Continues on **page 17**

***Journal of Computational and Graphical Statistics*, Volume 31, Issue 3 (2022)** continued

IMS Awards: nominate or apply now

Nominate a member for **IMS Fellowship** whose research in statistics or probability, or leadership in our communities, is of exceptionally high quality. Deadline January 31, 2023: https://imstat.org/honored-ims-fellows/nominations-for-ims-fellow/

Nominations are also invited for the **Carver Medal**, created by the IMS in honor of Harry C. Carver, for exceptional service specifically to the IMS. Deadline February 1, 2023: https://www.imstat.org/ims-awards/harry-c-carver-medal/.

Travel Awards for Grad Students and New Researchers

Applications are open for our two 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 award is for graduate students (Masters or PhD) in statistics or probability. See https://www.imstat.org/ims-awards/ims-hannan-graduate-student-travel-award/ for more information. If you are a New Researcher (awarded your PhD in 2017–22), you should apply for the **IMS New Researcher Travel Award** to fund your travel, and possibly other expenses, to present a paper or a poster at an IMS sponsored or co-sponsored meeting. See https://www.imstat.org/ims-awards/ims-new-researcher-travel-award/ for more on this award.

Applicants for either of these travel awards must be members of IMS, though joining as you apply is allowed (remember that **student membership is free and new graduate membership is discounted!**). The deadline for both is February 1, 2023.

The deadline to nominate an early-career researcher for the **Peter Gavin Hall Early Career Prize** (https://www.imstat.org/ims-awards/peter-gavin-hall-ims-early-career-prize/) or the **Tweedie New Researcher Award** (https://imstat.org/ims-awards/tweedie-new-researcher-award/) is December 1, 2022. The **IMS Lawrence D. Brown PhD Student Award** [*see cover article*] is also open: the application deadline is May 1, 2023. Eligible applicants compete to be one of three speakers at an invited session as part of the IMS Annual Meeting (which will be the **Bernoulli–IMS 11th World Congress in Probability and Statistics**, in Germany, August 12–16, 2024).

IMS meetings around the world

Joint Statistical Meetings

2023 Joint Statistical Meetings
August 5–10, 2023 in Toronto
w https://ww2.amstat.org/meetings/jsm/2023/
The IMS Program Chair is Huixia Judy Wang, George Washington University.

JSM dates for 2024–2026

JSM 2024	IMS Annual Meeting @ JSM 2025	JSM 2026
August 3–8, 2024	August 2–7, 2025	August 1–6, 2026
Portland, Oregon, USA	Nashville, TN, USA	Boston, MA, USA

Seminar on Stochastic Processes (SSP2023)
March 8–11, 2023
University of Arizona, Tucson
w https://ssp2023.math.arizona.edu/home
SSP is a series of annual conferences devoted to stochastic analysis, Markov processes, and other topics of current interest in probability theory. Tutorial lectures by Gérard Ben Arous on March 8. Invited speakers: Patricia Alonso Ruiz, François Delarue (Kai Lai Chung Lecture), Jian Ding (Medallion), Patrícia Gonçalves, Philippe Sosoe. Registration open now. **Graduate students and postdoctoral fellows are especially encouraged to register and apply for financial support.**

43rd Conference on Stochastic Processes and their Applications
July 24–28, 2023 in Lisbon, Portugal
w https://www.spa2023.org/
Featuring talks by Louigi Addario-Berry (Schramm lecture), Riddhipratim Basu, René Carmona (Doob lecture), Jean-Dominique Deuschel, Massimiliano Gubinelli (Medallion lecture), Martina Hofmanova, Richard Kenyon (Medallion lecture), Gesine Reinert, Makiko Sasada, Sylvia Serfaty (Medallion lecture), and Horng-Tzer Yau (Lévy lecture). Doeblin & Itô prize lecturers to be announced.

21st INFORMS/Applied Probability Society meeting NEW
June 28–30, 2023 in Nancy, France
w https://informs-aps2023.event.univ-lorraine.fr/
Originally scheduled for July 2021. Featuring an **IMS Medallion Lecture by Sylvie Méléard** (Ecole Polytechnique) and the Marcel Neuts Lecture by Beatrice Meini (Università di Pisa); other Plenary Lectures by Frédéric Chazal (INRIA), Sean Meyn (University of Florida) and Amy R. Ward (University of Chicago). Tutorial speakers: Paul Embrechts (ETH Zürich) and Sarah Penington (University of Bath). Registration opens soon.

Statistical Foundations of Data Science and their Applications: A conference in celebration of Jianqing Fan's 60th birthday
May 8–10, 2023 at Princeton University, New Jersey, USA
w http://fan60.princeton.edu/
The conference will bring together collaborators and leading researchers in statistics and data science. The conference will provide an excellent forum for scientific communications and promote collaborations among researchers in statistics and data science. The program covers a wide range of topics presenting recent developments and the state of the art in a variety of modern research topics on statistics and data science as well as their applications.

Southeastern Probability Conference (two in 2023)
May 15–16, 2023 at Duke University, USA, and
August 14–15, 2023 at University of Virginia in Charlottesville, USA
w https://services.math.duke.edu/~rtd/
The organizers are Juraj Foldes, Christian Gromoll, and Tai Melcher. **Graduate students and postdocs will have a chance to apply for $500 grants to partially support the cost of their attendance.** Details forthcoming.

At a glance:

forthcoming IMS Annual Meeting and JSM dates

2023

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

2024

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

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

2025

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

2026

IMS Annual Meeting: TBD

JSM: Boston, MA, **August 1–6, 2026**

UPDATED

2023 ENAR/IMS Spring Meeting
March 19–22, 2023. Nashville, TN, USA
w https://enar.org/meetings/spring2023/

The ENAR 2023 Spring Meeting will be held at the JW Marriott in Nashville, Tennessee. The four-day meeting, March 19–22, 2023, will have something to offer for students, researchers, and practitioners, from across all sectors. Attendees can learn about the latest developments in statistical methods, software, and applications through the scientific and educational programs. The ENAR Spring Meeting is also a great time to build your professional network and meet new collaborators, to catch up with old friends and to make new ones. The meeting offers numerous opportunities for professional development and networking, such as tutorials and roundtables, contributed and invited sessions, the meeting's career placement services, and breaks and mixers.

Scientific Program
The diverse invited program covers a wide range of topics in biostatistics, including causal inference, clinical trial design, Bayesian analysis and inference, precision medicine, medical imaging, diagnostics and wearable device studies, microbiome and omics studies, and machine learning. Other sessions will cover career development, collaborative research, and a look back at the history of our field as IBS celebrates its 75th anniversary. The **IMS Program** Chair, Xuan Bi (University of Minnesota), has put together complementary sessions on statistical genetics and genomics, machine learning methods in biomedical data science, causal inference, brain connectivity and brain imaging genomics, clinical trial design, as well as emerging topics such as distributed health data analysis, data privacy, individualization, and mobilization. After a brief hiatus, the IMS Medallion Lecture has returned! Professor **Hongyu Zhao** from Yale School of Public Health will speak about statistical issues in genome wide association studies. The **ENAR 2023 Presidential Invited Address** will be delivered by **Sally Morton**. Dr. Morton is Executive Vice President of Knowledge Enterprise at Arizona State University, where she is also a Professor in the College of Health Solutions and the School of Mathematical and Statistical Sciences.

On March 20, there is a **Fostering Diversity in Biostatistics Workshop**, organized by Miguel Marino and Danisha Baker, with panel discussions for graduate students and professionals in academia, government, and industry to share experiences and discuss mentoring, recruiting, and retaining students. Register early: https://www.enar.org/meetings/FosteringDiversity/

Students, recent graduates, and other young professionals should plan to attend Monday's **networking mixer** and Tuesday's **networking lunch** events, both organized by the Council for Emerging and New Statisticians (CENS). This is a great opportunity to meet new people, learn about CENS and become more engaged with ENAR.

NEW

WNAR 2023
June 18–21, 2023
Anchorage, Alaska, USA
w https://wnar.org/wnar2023

Scientific program chair: Audrey Hendricks, University of Colorado Denver. IMS program chair: Hua Zhou, UCLA. Local organizer: Jiaqi Huang, Alaska Department of Fish and Game. Chair of Student Award Committee: Charlotte Gard, New Mexico State University.

The 2022 WNAR/IMS meeting will be held in Anchorage, Alaska from Sunday, June 18 through Wednesday, June 21, 2023. The conference will be held at Hilton Anchorage in downtown Anchorage.

Call for Invited Session Proposals for WNAR 2023
Submit your invited session proposals for the 2023 WNAR Annual Meeting! Please complete the proposal form at https://forms.gle/mj5BmN1Qs8fow6716 (linked from https://wnar.org/wnar2023) to submit your ideas for invited session topics and organizers. Each invited session can include either four speakers, or three speakers plus one discussant. Initial submissions require a title, description/motivation of the session, the session chair and speakers' names, affiliations, and emails.

Submissions are due December 10th, 2022 and consist of a short proposal. Accepted invited sessions will be notified by January 15, 2023 after which abstracts and registration will be due.

Please contact local organizer Jiaqi Huang (jiaqi.huang@alaska.gov), WNAR program chairs Audrey Hendricks and Wen (Rick) Zhou (wnarprogramchair@gmail.com), or IMS program chair Hua Zhou (huazhou@ucla.edu) for more information.

UPDATED

YoungStatS Webinar: Recent challenges in model specification testing based on different data structures
Recorded November 9, 2022. Video available.
w https://youngstats.github.io/post/2022/09/29/recent-challenges-in-model-specification-testing-based-on-different-data-structures/

Model specification testing is one of the essential methodological tasks in statistics. Recently, with the development of different data structures, envisioning concepts from classical data setups to other environments becomes very important.

A recording of this webinar is now on the YoungStatS YouTube channel: https://youtu.be/eupFoZs_5sk

More IMS meetings

2022 IMS International Conference on Statistics and Data Science (ICSDS)
December 13–16, 2022 in Florence, Italy
w https://sites.google.com/view/icsds2022
Registration is open now for the inaugural 2022 lMS International Conference on Statistics and Data Science (ICSDS). Discounted rates for IMS members: regular registration $630, or for student/retired/developing country IMS members $350. Late registration from November 1.
https://sites.google.com/view/icsds2022/registration
Due to the unexpected large number of responses and space constraints of the conference venue, ***all speakers (invited or contributed) and poster presenters are required to register by November 15, 2022 in order to be on the program***.
The objective of ICSDS is to bring together researchers in statistics and data science from academia, industry and government in a stimulating setting to exchange ideas on the developments in modern statistics, machine learning, and broadly defined theory, methods and applications in data science. The conference will consist of plenary sessions, and about 50 invited, contributed and poster sessions. **Young researchers are particularly encouraged to participate**, with a portion of the invited sessions designated for them. Plenary speakers: **Emmanuel Candès, Guido Imbens, Susan Murphy, Sylvia Richardson**.

Asia-Pacific Seminar in Probability and Statistics
Ongoing and online
w https://sites.google.com/view/apsps/home
The Asia-Pacific Seminar in Probability and Statistics (APSPS) is a monthly online seminar, broadcast on a mid-month Wednesday via Zoom. The seminar series was created as a permanent forum for good research in the field. Topics include: probabilistic models for natural phenomena, stochastic processes and statistical inference, statistical problems in high-dimensional spaces, asymptotic methods, statistical theory of diversity. The organizers—Sanjay Chaudhuri, Mark Holmes, Estate Khmaladze (chair), Krishanu Maulik, Spiro Penev, Masanobu Taniguchi, Lijiang Yang, and Nakahiro Yoshida—seek an emphasis on novelty, beauty, and clarity. Presentations are intended to be accessible to good postgraduate students in probability and mathematical statistics. If you are interested in receiving email announcements about the next speakers, send an email to any of the Board members listed above.

2023 ENAR/IMS Spring Meeting
March 19–22, 2023
Nashville, TN, USA
w https://enar.org/meetings/future.cfm
Featuring an IMS Medallion Lecture by **Hongyu Zhao**, Yale School of Public Health.

2024 ENAR/IMS Spring Meeting
March 10–13, 2024
Baltimore, MD, USA
w https://enar.org/meetings/future.cfm

WNAR2024 NEW
held in conjunction with the 2024 Graybill Conference
June 9–12, 2024
Fort Collins, Colorado, USA
https://wnar.org/Meetings
The 2024 meeting of the Western North American Region of The International Biometric Society will be joint with the Graybill Conference. Local organizer: Rick Zhou, Colorado State University.

IMS annual meeting
Bernoulli–IMS 11th World Congress in Probability and Statistics
August 12–16, 2024
Ruhr-University Bochum, Germany
w TBC
The Institute of Mathematical Statistics Annual Meeting will be held at the 11th World Congress.

IMS–APRM in Melbourne, Australia
POSTPONED TO JANUARY 2024
The sixth Institute of Mathematical Statistics Asia Pacific Rim Meeting (IMS-APRM) was scheduled to take place in Melbourne, Australia in January 2021. Due to COVID-19 and travel restrictions, the conference has been **postponed until January 2024**. Exact dates to be confirmed.

One World ABC Seminar: Ongoing and online
w https://warwick.ac.uk/fac/sci/statistics/news/upcoming-seminars/abcworldseminar
The One World Approximate Bayesian Computation (ABC) Seminars are **monthly** seminars that take place via Zoom on Thursdays, typically 9.30am or 1.30pm [UK time]. Register to receive the webinar link via email. The organizers welcome proposals for future talks. This webinar is part of the larger One World seminar initiative [*see below*].

One World Probability Seminar (OWPS): Ongoing and online
w https://www.owprobability.org/one-world-probability-seminar/
Thursdays, 14:00 UTC/GMT [resuming in September]. Please subscribe to the mailing list for updates about the upcoming seminars and other events: https://www.owprobability.org/mailing-list

Other meetings and events around the world

USCOTS 2023: US Conference on Teaching Statistics
May 30–June 3, 2023
State College, PA, USA

w https://www.causeweb.org/cause/uscots/uscots23

CAUSE, the Consortium for the Advancement of Undergraduate Statistics Education. has held the United States Conference on Teaching Statistics (USCOTS) every other year since 2005. The 2023 USCOTS will be held on Thursday, June 1st - Saturday, June 3rd at the Penn Stater Conference Center in State College, Pennsylvania, with pre-conference workshops on Tuesday, May 30th – Thursday, June 1st. The conference theme is *Communicating with/about Data*.

USCOTS enables teachers of statistics to exchange ideas and discover how to improve their teaching. The conference features thought-provoking plenary sessions, interactive breakout sessions, informative posters-and-beyond sessions, and exhibitor technology demonstrations. Other highlights of the conference include opening and closing sessions comprised of inspiring five-minute presentations, a banquet with an after-dinner speaker and awards presentations, and birds-of-a-feather lunch discussions.

The organizers trust that you will find USCOTS to provide a very welcoming, active, and fun environment. They say, "We hope that you will meet new colleagues and renew friendships with peers who are united by a common desire to teach statistics and data science effectively to the next generation of citizens and scholars."

XVI CLAPEM 2023:
Latin American Congress of Probability and Mathematical Statistics
July 10–14, 2023
São Paulo, Brazil

w https://www.ime.usp.br/~16clapem/index.html

Photo by Wilfredor

Ibirapuera Park in São Paulo, Brazil

The Latin American Congress of Probability and Mathematical Statistics (CLAPEM), promoted by the Latin American Society of Probability and Mathematical Statistics (SLAPEM) and the Latin American Regional Committee of the Bernoulli Society is the main event in these fields in the region. It takes place every two/three years and attracts researchers and students from the most important Latin American centers. It has already been organized in Venezuela, Uruguay, Mexico, Brazil, Chile, Argentina, Cuba, Peru, Colombia, and Costa Rica.

Registration is open now: https://www.ime.usp.br/~16clapem/registration.html

The program in a CLAPEM includes a series of short courses, aimed to introduce graduate students and young colleagues to major areas of current research and a series of invited plenary talks, invited sessions as well as general poster and oral communication sessions.

There will be two short courses: *The cutoff phenomenon for Markov chains* by Justin Salez, Université Paris-Dauphine & PSL; and *Spatial modeling and visualization using R and INLA* by Paula Moraga, King Abdullah University of Science and Technology (KAUST).

The CLAPEM2023 plenary speakers are: Daniel Remenik, Hubert Lacoin, Lihua Lei, Louigi Addario-Berry, Malwina Luczak, Maria Eulália Vares, Morgane Austern, Rosangela Loschi, Soledad Villar, and Victor Panaretos.

Call for contributed sessions, talks, and posters

The deadline is January 31, 2023.

See https://www.ime.usp.br/~16clapem/abstract.html

Employment Opportunities

Australia: Camperdown, NSW

University of Sydney

Associate Professor or Professor in Statistical Data Science

https://jobs.imstat.org/job//66214205

Canada: Vancouver, BC

University of British Columbia

Assistant Professor (AIM-SI) Tenure Track Position in Statistics

https://jobs.imstat.org/job//66023455

Canada: Vancouver, BC

University of British Columbia

Faculty position in Education Leadership in the Department of Statistics

https://jobs.imstat.org/job//66526343

China: Guangzhou

Hong Kong University of Science and Technology (Guangzhou)

Open-rank faculty positions in Fintech/Probability/Statistics/Machine Learning/Data Science/Applied Math/Financial Math

https://jobs.imstat.org/job//65875765

China: Shenzhen

The Chinese University of Hong Kong, Shenzhen, School of Data Science

Tenured or tenure-track positions (all ranks)

https://jobs.imstat.org/job//65816486

France: Paris

ESSEC Business School, IDS Department

Open-rank faculty position in Econometrics/Statistics

https://jobs.imstat.org/job//66348680

Hong Kong

The University of Hong Kong

Tenure-Track Associate Professor/Assistant Professor in Statistics (3 posts)

https://jobs.imstat.org/job//66124273

Hong Kong

The Chinese University of Hong Kong

Assistant Professor(s)

https://jobs.imstat.org/job//66146426

Hong Kong

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

Substantiation-track Assistant Professor

https://jobs.imstat.org/job//66197852

India: Kanpur

Indian Institute of Technology Kanpur, India

Assistant Professor/Associate Professor/Professor in Statistics and Data Science

https://jobs.imstat.org/job//66131796

Italy: Milan

Bocconi University

Assistant Professor in Statistics at Bocconi University

https://jobs.imstat.org/job//66124685

Spain: Barcelona

Universitat Pompeu Fabra

Tenure-track Assistant Professor in the area of Statistics

https://jobs.imstat.org/job//66012281

Taiwan: Taipei

National Taiwan University,Institute of Statistics and Data Science

Faculty Positions at National Taiwan University--Institute of Statistics and Data Science

https://jobs.imstat.org/job//64514112

Taiwan: Taipei

Institute of Statistical Science, Academia Sinica, Taiwan

Tenure-Track Faculty Positions

https://jobs.imstat.org/job//54387703

United Kingdom: London

London School of Economics

Assistant Professor in Data Science

https://jobs.imstat.org/job//65795906

United States: Auburn, AL

Auburn University

Assistant Professor in Statistics/Data Science

https://jobs.imstat.org/job//66333155

Employment Opportunities continued

United States: Phoenix, AZ

Arizona State University

Associate/Full Professor - Biostatistics

https://jobs.imstat.org/job//66333909

United States: Tempe, AZ

Arizona State University, School of Maths & Stats

Assistant/Associate Professor in Theoretical Mathematics (Job #17593)

https://jobs.imstat.org/job//66084953

United States: Tempe, AZ

Arizona State University, School of Maths & Stats

Assistant/Associate Professor in Applied and Computational Mathematics (Job #17596)

https://jobs.imstat.org/job//66084935

United States: Tempe, AZ

Arizona State University, School of Maths & Stats

Postdoctoral Research Scholar

https://jobs.imstat.org/job//66240712

United States: Tempe, AZ

Arizona State University, School of Maths & Stats

Teaching Assistant Professor Positions in Mathematical Sciences

https://jobs.imstat.org/job//66466194

United States: Berkeley, CA

University of California Berkeley

Assistant/Associate/Full Professor - Computational Health Science - UC Berkeley Division of Computing, Data Science, and Society; UCSF Bakar Computational Health Sciences Institute

https://jobs.imstat.org/job//65915652

United States: Berkeley, CA

University of California, Berkeley Department of Statistics

Assistant/Associate/Full Teaching Professor

Data Science and Statistics

Department of Statistics

https://jobs.imstat.org/job//66508168

United States: Davis, CA

University of California, Davis

Assistant Professor of Statistics

https://jobs.imstat.org/job//65898232

Institute of Statistical Science, Academia Sinica, Taiwan

Tenure-Track Faculty Positions

The Institute of Statistical Science of 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) at the Institute of Statistical Science to commence on August 1, 2023 or as soon as possible thereafter. Applicants should possess a Ph.D. 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 Ph.D. degree recipients may also be included. Electronic submissions are encouraged. Applications should be submitted to

Dr. Hsin-Chou Yang, 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
E-mail: recruit@stat.sinica.edu.tw

Application materials should be received by **December 16, 2022** for consideration, but early submissions are encouraged.

Employment Opportunities continued

United States: La Jolla, CA
University of California San Diego
Assistant, Associate or Full Professor of Mathematics
https://jobs.imstat.org/job//65934127

United States: La Jolla, CA
University of California San Diego
Assistant Professor in Mathematical Physics
https://jobs.imstat.org/job//65943444

United States: La Jolla, CA
University of California San Diego
Assistant Professor - Data Science and Public Policy (HDSI/GPS)
https://jobs.imstat.org/job//66388080

United States: La Jolla, CA
University of California San Diego
SEW Visiting Assistant Professor
https://jobs.imstat.org/job//66503144

United States: Long Beach, CA
California State University
Tenure Track Assistant Professors of Mathematics/Applied Mathematics/Statistics
https://jobs.imstat.org/job//66630813

United States: Los Angeles, CA
Windward School
Maternity Leave Substitute
https://jobs.imstat.org/job//66213588

United States: Los Angeles, CA
USC Marshall School of Business- Data Sciences and Operations
Tenure-Track Faculty Position in Statistics
https://jobs.imstat.org/job//65266722

United States: Los Angeles, CA
UCLA Statistics
Statistics Assistant Professor
https://jobs.imstat.org/job//66012669

United States: Los Angeles, CA
University of California Los Angeles
Temporary Faculty Positions - Department of Mathematics
https://jobs.imstat.org/job//66124989

United States: Los Angeles, CA
University of California Los Angeles
Tenure-Track Assistant Professor - Applied / Pure Mathematics
https://jobs.imstat.org/job//66124980

United States: Los Angeles, CA
UCLA Statistics
CSRC/Statistics Assistant Professor
https://jobs.imstat.org/job//66177295

United States: Riverside, CA
University of California Riverside
Assistant Professor in Statistics
https://jobs.imstat.org/job//65795208

United States: San Francisco, CA
San Francisco State University
Assistant Professor, Statistics, Mathematics
https://jobs.imstat.org/job//65750209

United States: Stanford, CA
Stanford University
Faculty Position, Joint Search, Stanford Data Science and Wu Tsai Neurosciences Institute Stanford University
https://jobs.imstat.org/job//65836327

United States: Stanford, CA
Stanford University, Data Science and Department of Statistics
Assistant Professor of Statistics, Data Science
https://jobs.imstat.org/job//65423668

United States: Fort Collins, CO
Colorado State University
Assistant Professor
https://jobs.imstat.org/job//65875882

United States: Fort Collins, CO
Colorado State University
Associate Professor
https://jobs.imstat.org/job//65933687

United States: New Haven, CT
Yale University Department of Statistics and Data Science
Assistant, Associate, and Full Professor Positions
https://jobs.imstat.org/job//65773914

United States: New Haven, CT
Yale University
Assistant/Associate/Full Professor in Interdisciplinary Neuroscience, Cognitive Science, or Computational Neuroscience. Focus on computationalists.
https://jobs.imstat.org/job//66023503

United States: Storrs, CT
University of Connecticut
Assistant Professor
https://jobs.imstat.org/job//65942526

United States: Washington, DC
CIA
Science, Technology & Weapons Analyst
https://jobs.imstat.org/job//65521691

United States: Washington, DC
CIA
DA Fellowship Program
https://jobs.imstat.org/job//65521688

United States: Winter Park, FL
Rollins College
Assistant Professor, Mathematical Sciences
https://jobs.imstat.org/job//65876370

United States: Ames, IA
Iowa State University
Tenure Track Assistant Professor in Statistics
https://jobs.imstat.org/job//66326072

United States: Boise, ID
Boise State University - Math
Assistant Professor in Data Science
https://jobs.imstat.org/job//66388593

United States: Moscow, ID
University of Idaho
Regular Faculty
https://jobs.imstat.org/job//66040842

United States: Moscow, ID
University of Idaho
Regular Faculty
https://jobs.imstat.org/job//66530556

United States: Champaign, IL
Department of Statistics, University of Illinois Urbana-Champaign
Teaching/Clinical/Visiting Assistant Professors, Lecturers, Instructors
https://jobs.imstat.org/job//65916415

United States: Chicago, IL
University of Chicago Booth School of Business
Assistant/Associate Professor of Econometrics and Statistics
https://jobs.imstat.org/job//65898280

United States: Chicago, IL
The University of Chicago
Assistant Professor/Associate Professor, Statistics
https://jobs.imstat.org/job//66012626

United States: Chicago, IL
University of Chicago
Senior Instructional Professor rank position
https://jobs.imstat.org/job//66040787

United States: Chicago, IL
University of Chicago
Assistant Professor/Associate Professor/Professor, Data Science
https://jobs.imstat.org/job//66277104

United States: Chicago, IL
University of Chicago
Assistant Professor
https://jobs.imstat.org/job//66630893

United States: Chicago, IL
The University of Chicago
Senior Instructional Professor (open rank), CAM
https://jobs.imstat.org/job//66177201

Employment Opportunities continued

United States: Chicago, IL
University of Chicago
Data Science Preceptorship.
https://jobs.imstat.org/job//66370185

United States: Normal, IL
Illinois State University
Assistant Professor of Statistics
https://jobs.imstat.org/job//65795665

United States: Notre Dame, IN
University of Notre Dame
Assistant Professor in Statistics/Data Science
https://jobs.imstat.org/job//65795905

United States: Lexington, KY
Department of Statistics
Assistant Professor
https://jobs.imstat.org/job//66124335

United States: Lexington, KY
Department of Statistics
Visiting Assistant Professor
https://jobs.imstat.org/job//66171603

United States: Boston, MA
Brigham and Women's Hospital, Division of Pharmacoepidemiology and Pharmacoeconomics
Junior Faculty Position in Biostatistics
https://jobs.imstat.org/job//66518739

United States: Boston, MA
Boston University, Mathematics & Statistics
Tenure-track Assistant Professor - Statistics
https://jobs.imstat.org/job//65197254

United States: Baltimore, MD
University of Maryland Baltimore County
Assistant Professor of Applied Mathematics
https://jobs.imstat.org/job//66124465

United States: College Park, MD
University of Maryland College Park, department of Mathematics
Tenure/Tenure-track
https://jobs.imstat.org/job//66124875

United States: College Park, MD
University of Maryland - College Park, MD
Assistant Professor in Biostatistics
https://jobs.imstat.org/job//66117771

United States: Ann Arbor, MI
University of Michigan, School of Public Health, Biostatistics
Clinical Assistant Professor/Lecturer II
https://jobs.imstat.org/job//66013292

United States: Ann Arbor, MI
University of Michigan, School of Public Health, Biostatistics
Clinical Assistant Professor/Lecturer Position
https://jobs.imstat.org/job//66517753

United States: Minneapolis, MN
University of Minnesota, School of Statistics
Tenure Track Assistant Professor
https://jobs.imstat.org/job//65032097

United States: Minneapolis, MN
University of Minnesota, School of Statistics
Tenure Track Assistant Professor
https://jobs.imstat.org/job//65032058

United States: Minneapolis, MN
University of Minnesota, School of Statistics
IRSA Faragher Distinguished Postdoctoral Fellowship
https://jobs.imstat.org/job//65815943

United States: Chapel Hill, NC
University of North Carolina at Chapel Hill
Faculty Position in Statistics and Operations Research at UNC Chapel Hill
https://jobs.imstat.org/job//66325723

United States: Raleigh, NC
North Carolina State University
Department Head, Statistics
https://jobs.imstat.org/job//66517818

United States: Piscataway, NJ
Dept of Statistics Rutgers University-New Brunswick, School of Arts & Sciences: Tenure or Tenure-Track Open Rank Faculty Positions
https://jobs.imstat.org/job//66213072

United States: Albuquerque, NM

The University of New Mexico, Department of Mathematics and Statistics

Assistant Professor of Statistics

https://jobs.imstat.org/job//66117983

United States: New York, NY

Columbia Graduate School of Business

Assistant/Associate Professor

https://jobs.imstat.org/job//66013361

United States: New York, NY

Columbia University

Assistant Professor

https://jobs.imstat.org/job//66516868

United States: New York, NY

NYU Stern School of Business

2023–2024 Assistant Professor of Technology, Operations, and Statistics — Statistics Group (full-time, tenure-track)

https://jobs.imstat.org/job//65774052

United States: New York, NY

Columbia - Irving institute for Cancer Dynamics

Associate Research Scientist

https://jobs.imstat.org/job//66124491

United States: Cleveland, OH

Cleveland State University

Assistant Professor in Applied Statistics, Biostatistics, or Data Analysis

https://jobs.imstat.org/job//66387765

United States: Corvallis, OR

Oregon State University Department of Statistics

Tenure-track Assistant Professor of Statistics

https://jobs.imstat.org/job//60968275

United States: Oregon / hybrid

Oregon Tech

Adjunct Faculty - Mathematics

https://jobs.imstat.org/job//66349963

United States: Philadelphia, PA

Employment Opportunities continued

United States: Bethlehem, PA
Lehigh University, College of Health
Health Data Scientist - mHealth or Telehealth
https://jobs.imstat.org/job//65749947

United States: Bethlehem, PA
Community and Population Health
Health Data Scientist - Artificial Intelligence
https://jobs.imstat.org/job//65749937

United States: Philadelphia, PA
University of Pennsylvania, Wharton School
Assistant, Associate, or Full Professor (tenure-track or tenured)
https://jobs.imstat.org/job//65943714

United States: Philadelphia, PA
University of Pennsylvania, Wharton School
Departmental Postdoctoral Researcher
https://jobs.imstat.org/job//45122063

United States: Pittsburgh, PA
Carnegie Mellon University: Heinz College
Assistant Teaching Professor of Database and Data Science
https://jobs.imstat.org/job//65816230

United States: Pittsburgh, PA
Carnegie Mellon University Information Systems
Teaching Track Faculty in Information Systems (Open Rank)
https://jobs.imstat.org/job//66125240

United States: University Park, PA
Pennsylvania State University
Tenure Track Faculty
https://jobs.imstat.org/job//65933394

United States: Columbia, SC
University of South Carolina
Assistant/Associate/Full Professor
https://jobs.imstat.org/job//65750154

United States: Houston, TX
Rice University
Assistant Professor of Statistics
https://jobs.imstat.org/job//66117948

United States: Houston, TX
Rice University
Lecturer Faculty Position
https://jobs.imstat.org/job//66137287

United States: Waco, TX
Baylor University
Clinical Assistant Professor
https://jobs.imstat.org/job//66117562

United States: Fairfax, VA
George Mason University
Multiple open-rank, term faculty positions (Asst/Assoc/Full Prof)
https://jobs.imstat.org/job//65837145

United States: Fairfax, VA
George Mason University
Multiple, Open Rank Tenure-Track Faculty Positions
https://jobs.imstat.org/job//66524004

United States: Seattle, WA
University of Washington
Assistant Professor (tenure-track)
https://jobs.imstat.org/job//66125636

United States: Madison, WI
University of Wisconsin-Madison Department of Statistics
Assistant Professor, Associate Professor, or Professor in Statistics
Https://jobs.imstat.org/job//65898371

United States: Madison, WI
UW–Madison, Department of Biostatistics & Medical Informatics
Assistant or Associate Professor of Social Genomics - Cluster Hire (Job #268582)
https://jobs.imstat.org/job//66516590

United States: Madison, WI
University of Wisconsin-Madison Department of Statistics
Assistant Professor of Statistics - Cluster Hire
Https://jobs.imstat.org/job//66536516

International Calendar of Statistical Events

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

At the time of writing, some meetings are known to be POSTPONED or canceled. Where new dates are known, they are included here. Some meetings, marked ONLINE, are offering a virtual format. Please check meeting websites for updates.

Online and Ongoing

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

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

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

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

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

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

December 2022

ims December 13–16: Florence, Italy. **IMS International Conference on Statistics and Data Science (ICSDS)** w https://sites.google.com/view/icsds2022

December 18–20: Hong Kong. **ICSA International Conference** w https://www.icsa.org/12th-icsa-international-conference-december-18-20-2022/

January 2023

January 9–11: Scottsdale, USA. **ICHPS 2023 International Conference on Health Policy Statistics** w https://ww2.amstat.org/meetings/ichps/2023/

February 2023

February 2–4: San Francisco, USA. **CSP2023: Conference on Statistical Practice** w https://ww2.amstat.org/meetings/csp/2023/index.cfm

March 2023

ims March 8–11: Tucson, USA. **2023 Seminar on Stochastic Processes** w https://ssp2023.math.arizona.edu/home

UPDATED ims March 22–25: Nashville, USA. **2023 ENAR/IMS Spring Meeting** w http://www.enar.org/meetings/spring2023/ [*Note new URL*]

April 2023

April 4–6: Livingstone, Zambia. **2023 Zambia Conference: Better Lives for 2030** w www.zamstats.gov.zm/2023-iaos-isi-about-conference/

May 2023

ims May 8–10: Princeton University, NJ, USA. **Statistical Foundations of Data Science and their Applications: Conference in celebration of Jianqing Fan's 60th birthday** w http://fan60.princeton.edu/

ims May 15–16: Duke University, NC, USA. **Southeastern Probability Conference I** w https://services.math.duke.edu/~rtd

May 23–26: St. Louis, Missouri, USA. **Symposium on Data Science and Statistics** w https://ww2.amstat.org/meetings/sdss/2023/index.cfm

NEW May 30–June 3: State College, PA, USA. **USCOTS2023: United States Conference on Teaching Statistics** w https://www.causeweb.org/cause/uscots/uscots23

June 2023

NEW ims June 18–21: Anchorage, Alaska, USA. **WNAR2023** w https://wnar.org/wnar2023

Continues on **page 30**

International Calendar *continued*

June 2023 continued

NEW ims June 28–30: Nancy, France. **21st INFORMS/APS Meeting** w https://informs-aps2023.event.univ-lorraine.fr/

July 2023

NEW July 10–14: São Paolo, Brazil. **16th CLAPEM: Latin American Congress of Probability & Mathematical Statistics** w https://www.ime.usp.br/~16clapem/index.html

July 15–20: Ottawa, Canada. **ISI World Statistics Congress** w https://www.isi2023.org/

ims July 24–28: Lisbon, Portugal. **43rd Conference on Stochastic Processes and their Applications (SPA)** w https://www.spa2023.org/

August 2023

ims August 5–10: Toronto, Canada. **IMS Annual Meeting at JSM 2023** w https://ww2.amstat.org/meetings/jsm/2023/

ims August 14–15: University of Virginia, USA. **Southeastern Probability Conference II** w https://services.math.duke.edu/~rtd

August 20–25: Tokyo, Japan. **ICIAM2023: 10th International Congress on Industrial and Applied Mathematics** w https://iciam2023.org/

January 2024

POSTPONED ims January dates TBC (postponed from January 2021): Melbourne, Australia. **IMS Asia Pacific Rim Meeting (IMS-APRM2021)** w http://ims-aprm2021.com/

March 2024

ims March 10–13: Baltimore, USA. **2024 ENAR/IMS Spring Meeting** w http://www.enar.org/meetings/future.cfm

June 2024

NEW ims June 9–12: Fort Collins, Colorado, USA. **WNAR2024, joint with Graybill Conference** w https://wnar.org/meetings

July 2024

Dates TBC: Venice, Italy. **ISBA World Meeting 2024** w https://bayesian.org/2024-world-meeting/

July 7–14: Sydney, Australia. **15th International Congress on Mathematics Education** w https://icme15.com/home

August 2024

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

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

August 2025

ims 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

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

Membership and Subscription Information: 2022

Journals

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

Individual Memberships

Each individual member receives the *IMS Bulletin* (print and/or electronic) and may elect to receive one or more of the five scientific journals. Members pay annual dues of $105. An additional $120 is added to the dues of members for each scientific journal selected ($77 for *Stat Sci*). **Reduced membership dues** are available to full-time students, new graduates, permanent residents of countries designated by the IMS Council, and retired members.

Individual and General Subscriptions

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IMS Bulletin

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6: September	**August 15**	September 1	September 15
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