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IMS Bulletin

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CONTENTS

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IMS Lecturers in 2022

These are the special invited IMS lectures that are due to take place in the coming year.

Seminar on Stochastic Processes (SSP2022)

Firstly, at the **Seminar on Stochastic Processes** (**SSP**), held at Lehigh University in Bethlehem, PA, USA, from March 17–19, 2022, there will be a Medallion lecture from Alexei Borodin, Massachusetts Institute of Technology. (This is the SSP rescheduled from 2021). See https://wordpress.lehigh.edu/ssp2022/.

IMS Annual Meeting

The **IMS Annual Meeting in London**, June 27–30, 2022, provides a platform for several named lectures. The Wald Lectures will be given by Martin Hairer, Imperial College London; the Neyman lecture by Heping Zhang, Yale School of Public Health; the Rietz Lecture by Hans-Georg Müller, UC Davis, and the inaugural Wahba Lecture by Michael Jordan, UC Berkeley. There will be five Medallion Lectures, from Sylvia Serfaty, New York University (carried over from 2021), Rodrigo Bañuelos, Purdue University, Rina Foygel Barber, University of Chicago, Vlada Limic, University of Strasbourg, and Roman Vershynin, UC Irvine. The Lawrence Brown PhD Student Award session speakers are Rungang Han, Duke University, Rong Ma, Stanford University, and Chan Park, University of Wisconsin–Madison. The IMS/Bernoulli Schramm Lecturer is Russell Lyons, Indiana University (moved from SPA2021). Details: https://www.imsannualmeeting-london2022.com/keynote-speakers.

Stochastic Processes and their Applications (SPA2022)

Then, at the **Stochastic Processes and their Applications** conference (rescheduled from 2021), June 27–July 1, 2022, in Wuhan, China, there will be two IMS Medallion Lectures, from Bálint Tóth, University of Bristol & Alfréd Rényi Institute, Budapest, and Hugo Duminil-Copin, UNIGE, Geneva & IHES, Paris (the latter lecture was moved from SPA2021). There will also be the IMS/Bernoulli Schramm Lecture by Louigi Addario-Berry, McGill. See http://spa2022.whu.edu.cn/Programme/Plenary_talks.htm

Joint Statistical Meetings (JSM)

Finally, the **Joint Statistical Meetings** (**JSM**), held August 6–11 in Washington DC (https://ww2.amstat.org/meetings/jsm/2022/index.cfm), will be the venue for the other two special IMS lectures to be delivered in 2022. These Medallion lectures will be given by Dylan Small, The Wharton School, University of Pennsylvania, and Huixia Judy Wang, George Washington University.

At the time of writing, these meetings are in-person events, or with hybrid options. We'll bring you previews of these special lectures over the coming months.

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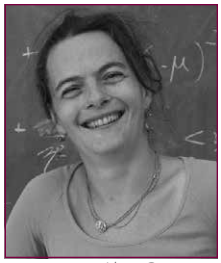
Executive Committee

IMS Members' News

Plenary and Invited speakers at International Congress of Mathematicians 2022

The International Congress of Mathematicians (ICM) is the largest conference on pure and applied mathematics as well as one of the oldest scientific congresses. ICMs are run every four years by the International Mathematical Union in partnership with host country organizers. ICM 2022 will meet July 6–14 in St. Petersburg, Russia: https://icm2022.org.

An invitation to give a plenary lecture to the thousands of ICM participants is considered a special distinction in the mathematics profession. Among the selected plenary lecturers are IMS Fellow Alice Guionnet, and Scott Sheffield, who gave the 2016 IMS/Bernoulli Doob Lecture and a 2015 IMS Medallion Lecture.


Alice Guionnet

Alice Guionnet works in the field of probability theory, especially statistical mechanics, random matrix theory and free probability. She has held a position at The French National Centre for Scientific Research since 1993, was a Miller fellow in Berkeley in 2005, and professor at Massachusetts Institute of Technology in 2012–2015. She is currently Research Director at CNRS, at the École normale supérieure de Lyon. She is a member of the French Academy of Sciences, Academia Europeae, and the European Academy of Sciences and a winner of the Oberwolfach Prize in mathematics, the Rollo Davidson prize, the Loève prize, and the Blaise Pascal Medal in Mathematics of the European Academy of Sciences.

Scott Sheffield, pictured in 2016 with Martin Hairer

Scott Sheffield is a professor in the Department of Mathematics at the Massachusetts Institute of Technology. His interests include probability, game theory and mathematical physics, with a particular focus on random objects with fractal properties, including curves, surfaces, growth processes, and trees. He is especially known for his work on models with conformal symmetries, including Schramm–Loewner evolutions, Gaussian free fields and Liouville quantum gravity. Sheffield is a winner of the Clay Research Award, the Loève Prize, and the Rollo Davidson Prize, the Sloan Research Fellowship and the Presidential Early Career Award for Scientists and Engineers.

Among the invited lecturers, which are organized into sections, are the following. In **Probability (Section 12)**: Jinho Baik, Keith Ball, Pierre Cardaliaguet, Benoît Collins, François Delarue, Jian Ding, Julien Dubédat, Ronen Eldan, Tadahisa Funaki, Patricia Gonçalves, Ewain Gwynne, Hubert Lacoin, Elchanan Mossel, Alexander I. Nazarov, Dmitry Panchenko, Kavita Ramanan, Daniel Remenik, Laurent Saloff-Coste, Eric Vanden-Eijnden, Peter Varju and Melanie Matchett Wood.

In **Statistics And Data Analysis (Section 17)**: Francis Bach, Bin Dong, Stefanie Jegelka, Yann Lecun, Oleg V. Lepski, Gabor Lugosi, Richard Nickl, Bernhard Schölkopf, David Silver and Cun-Hui Zhang.

You can read profiles of the speakers at https://icm2022.org/sections/section-12-probability and https://icm2022.org/sections/section-17-statistics-and-data-analysis.

IASS Small Area Estimation Award to Partha Lahiri and Wayne A. Fuller

The International Association of Survey Statisticians has congratulated Professor Partha Lahiri on his 2020 Award for Outstanding Contribution to Small Area Estimation and Professor Wayne A. Fuller on his 2021 Award for Outstanding Contribution to Small Area Estimation. Lahiri and Fuller were awarded their prizes at the ISI satellite conference "BIG4small: SAE 2021 Conference on big data and small area estimation," which was held September 20–24, 2021.

The International Association of Survey Statisticians (IASS) aims to promote the study and development of the theory and practice of sample surveys and censuses. It also aims to increase the interest in surveys and censuses among statisticians, governments and the public in the different countries of the world.

IASS is an association of the International Statistical Institute (ISI), a non-profit, non-governmental organisation established in 1885.

New Co-Editors for *Electronic Journal of Statistics*

IMS Council has approved the appointment of Grace Yi and Gang Li as co-editors of the *Electronic Journal of Statistics,* as recommended by the joint IMS/Bernoulli Society Committee to Select Editors. Their terms will be January 1, 2022–December 31, 2024. They take over from Domenico Marinucci, who has served as Editor since 2016.

Grace Yi is a professor in the Department of Statistical and Actuarial Sciences at Western University in London, Ontario, Canada. Her homepage is https://www.uwo.ca/stats/people/bios/Yi,%20Grace.html.

Gang Li is a Professor of Biostatistics at UCLA School of Public Health, Los Angeles. His homepage is https://ph.ucla.edu/faculty/li.

The *Electronic Journal of Statistics* (*EJS*) publishes research articles and short notes on theoretical, computational and applied statistics. Articles are refereed and are held to the same standard as articles in other IMS journals. Articles become publicly available shortly after they are accepted. *EJS* is co-sponsored by IMS and the Bernoulli Society. *EJS* is an open access journal. Voluntary fees or donations to the Open Access Fund are welcome: https://www.imstat.org/shop/donation/.

Read the latest issue of *EJS* at https://projecteuclid.org/journals/electronic-journal-of-statistics.

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

Electronic Journal of Probability: Andreas Kyprianou
https://projecteuclid.org/euclid.ejp

Electronic Communications in Probability: Giambattista Giacomin
https://projecteuclid.org/euclid.ecp

Journal of Computational and Graphical Statistics: Tyler McCormick https://www.amstat.org/ASA/Publications/Journals.aspx
log into members' area at imstat.org

Statistics Surveys: David Banks
https://imstat.org/ss
https://projecteuclid.org/euclid.ssu

Probability Surveys: Ben Hambly
https://imstat.org/ps
https://www.i-journals.org/ps/

IMS-Supported Journals

ALEA: Latin American Journal of Probability and Statistics: Roberto Imbuzeiro Oliveira
http://alea.impa.br/english

Annales de l'Institut Henri Poincaré (B): Grégory Miermont, Christophe Sabot
https://imstat.org/aihp
https://projecteuclid.org/aihp

Bayesian Analysis: Michele Guindani
https://projecteuclid.org/euclid.ba

Bernoulli: Mark Podolskij, Markus Reiß
https://www.bernoulli-society.org/
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Brazilian Journal of Probability and Statistics: Enrico Colosimo
https://imstat.org/bjps
https://projecteuclid.org/bjps

IMS-Affiliated Journals

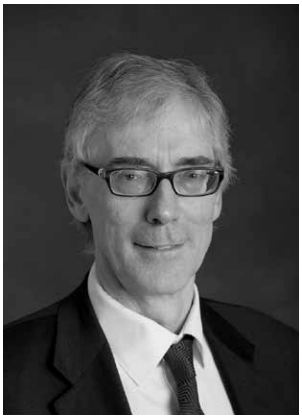
Observational Studies: Dylan Small
https://obsstudies.org/

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

Stochastic Systems: Shane Henderson
https://pubsonline.informs.org/journal/stsy

Hand Writing

Challenges of AI systems: A new kind of principal–agent problem



Contributing Editor David J. Hand, Imperial College, London, continues his Hand Writing column:

The phrase Artificial Intelligence, AI for short, is becoming ubiquitous. AI is said to hold the promise of revolutionising the human condition in innumerable ways, from taking over boring and dangerous tasks, through improving medical treatments and cures, to leading to scientific breakthroughs. Indeed, AI is expected to change the world for our benefit in ways we might not even be able to imagine—look at science fiction writing. While driverless cars, medical scanners, and speech recognition were predicted, the internet, world wide web, and social media were generally not.

However, this potential will be realised only if people trust the AI systems to perform as intended. That raises the question of how we can be confident that a system will perform as desired—how can we validate and verify a system's performance?

This high-level question has several aspects.

The starting point might be phrased as, "Do you know what you are doing?" More formally, have you formulated clearly enough what you are trying to find out or what you are trying to do? Questions with ambiguity are asking for trouble. Unfortunately, adequate question formulation is not always straightforward. A mapping from the booming, buzzing confusion of the real world to a nicely defined description in terms of mathematics or a programming language can lead to simplifications which misrepresent the real objective. Recall the game-playing system which, when given the main objective that it should avoid losing, killed itself at level 1 since it learned that by doing this it could never lose in level 2.

This need to specify the objective function so that it matches sufficiently what you really want can be non-trivial. It is something I have explored in depth in the context of supervised classification systems, where one might try to optimise error rate, area under the ROC curve, the F-measure, the KS statistic, the H-measure, or a host of other criteria—all of which may have different optimal solutions. Indeed, I have examples where different choices can lead to orthogonal decision surfaces. Choose the wrong criterion and you will be about as wrong as it's possible to be.

Once you are confident that you know what question you really want to answer, or what operation you want the system to carry out, you then need to ask what information or data the system will have in order to answer the question or carry out the operation. This raises all sorts of question about data adequacy and data quality—questions about timeliness, accuracy, relevance, coherence, completeness, and so on.

For dynamic real-time systems one has to ask how they will respond to changing and unexpected circumstances. The Y2K concern was an illustration of this, but at least we knew Y2K was coming. People did not foresee the 2008 financial crisis or the 2020 pandemic. (Okay, some people did foresee these and try to warn governments, but you know how much notice was taken of those people.) So, what is going to be the next big crisis? How well will a system—perhaps constructed in relatively benign economic conditions, or using relatively homogeneous data—behave when the world changes? Obviously, flexibility needs to be built in—but not *too much* flexibility or the system will flip-flop all over the place.

Changing circumstances mean that systems will need to be updated. In the past that has meant humans rewriting code. But it's again almost part of the definition of an AI system that it is adaptable; it can change the way it behaves in response to a changing environment and new challenges. But another way of putting that is that it departs from its initial specs. That can be good, but it carries obvious risks.

AI systems will work in the context of a human environment. Indeed, in a large part that might be taken as a basic property of such systems—I started by noting the promise for improving the human condition. So one has to ask how well the systems and humans will work together. We have plenty of examples of cases where the collaboration has not been smooth—think of the autopilot and the human pilot wrestling for control of the Boeing 737 Max, and the two crashes that resulted. Human ignorance of the limitations of AI systems plays a big role here: the readers of this article may have the technical expertise to appreciate these limitations, but most people will not.

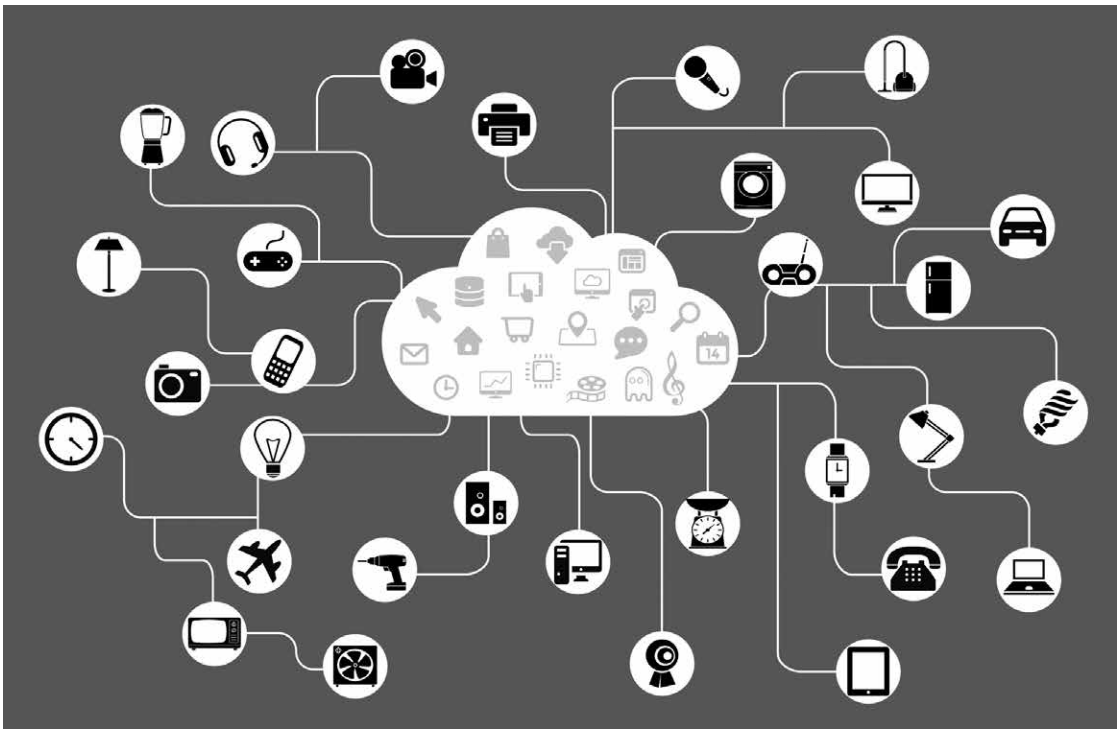
Continues on **page 4**

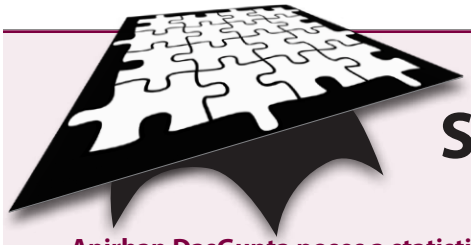
The human context is one thing, but increasingly AI systems will also work in an AI environment. Think of the imminent Internet-of-Things, where AI communicates with AI—looking at the food in your fridge, ordering replacements from a supplier, paying from your bank account, with delivery by autonomous vehicle. Concern about correlated financial trading systems, all working within an environment of other systems like themselves, has led to worry about a runaway financial crash.

We also need to exercise caution about using off-the-shelf algorithms. The point is that you cannot see inside them, so you have to ask whether they have mistakes, or simply choices you would not have made, built into them. Are their default choices what you really want? Think of the supervised classification performance criteria, for example, or the recent failure to download records of 16,000 confirmed cases of COVID-19 because of lack of awareness of file size limitations in early versions of Excel.

And, after all those higher-level questions, to have confidence in our AI systems, we have to ask: is the code correct? Formal methods of demonstrating correctness may be applied in some areas, but whether this is possible in all areas when interactions with humans are concerned is something else.

I've described some of the challenges of validating AI systems, some of the issues that need to be considered when building them and using them in real applications. My description might have reminded you of something similar, from long before the computer came on the scene. Pre-computer, indeed pre-science, the way to do amazing things was by magic (recall Arthur C. Clarke: "Any sufficiently advanced technology is indistinguishable from magic"). Clearly, the issues I have described resemble the risks of the Sorcerer's Apprentice. But I prefer to think of it another way. Economists have a concept called the Principal–Agent Problem. This is where you (the principal) employ someone (the agent) to perform certain tasks for you, but where their aims might not be precisely aligned with yours. In that case there is a risk that they might optimise for their objectives rather than yours, and that could damage you. I think, in AI systems, we are facing a new kind of principal–agent problem.





Student Puzzle Corner 36

Anirban DasGupta poses a statistical puzzle, looking at an easily understood Bayes problem that appears paradoxical at first glance, and it is hard to find a non-mathematical purely intuitive explanation for it. All PhD students in statistics most likely have seen parts of this specific problem in a standard course.

(a) Suppose $X \sim \text{Bin}(n, p)$, $0 < p < 1$. Show that the estimator $\frac{X+1}{n+2}$ is the posterior mean of p with respect to a unique Beta prior on p.

(b) Show that $\frac{X+1}{n+2}$ is the posterior mean of p with respect to a class of infinitely many different prior distributions on p. For the special case $n = 2$, exhibit two such priors different from a Beta prior.

(c) Let $X_1, \cdots, X_n$ be i.i.d. $N(\mu, 1)$, $-\infty < \mu < 1$. Suppose $\delta(X_1, \cdots, X_n)$ is a statistic. Prove that $\delta(X_1, \cdots, X_n)$ is either not a posterior mean of μ with respect to any prior distribution on μ, or it is so with respect to one, and only one, prior distribution on μ.

Deadline: March 15, 2022

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

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

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

Solution to Puzzle 35

A reminder of the puzzle:

All of you know that for any given positive number a, $a^{1/n} \to 1$ as n $\to \infty$. How large an n does it take to get very close to 1 if we choose a randomly?

Here is the exact problem.

(a) Let X have a standard normal distribution. What is the expected value of the number of times we have to extract a square root of $|X|$ for the answer to be less than 1.0001? [Be careful! Depending on the value of X, we may not have to extract a square root even once.]

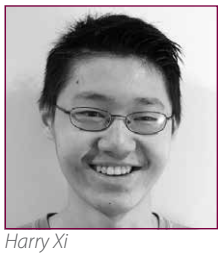
(b) Now suppose X has a standard Cauchy distribution. Calculate the same expected value as in part (a) for this case.

(c) Is this expected value always finite, whatever the distribution of X?

Anirban DasGupta explains:

Ye Tian and Harry Xi (both of whom are PhD students in statistics at Columbia University) have provided good solutions to the previous puzzle. Congratulations to both of them. They prove that they both have power!

Ye Tian



Harry Xi

Take the case of $X \sim N(0, 1)$ and denote the number of calculator hits required by N. We get $P(N > n) = P(|X| > (1.0001)^{2n})$. We then have

$$E(N) = P(N > 0) + \sum_{n=1}^{\infty} [P(|X| > (1.0001)^{2n})]$$

$$= 0.317262 + 3.44934 = 3.7666.$$

Similarly, for the standard Cauchy case, $E(N) = 6.6548$. $E(N)$ need not exist. Indeed, $E(N)$ does not exist if the tail of the distribution of X is so heavy that $E[\log \log |X|]$ does not exist.

This problem could have been asked in a more general manner. There is nothing special about taking repeated square roots; we can ask the same question about taking, say, repeated cube roots. Have you ever played with pressing the cosine key repeatedly on your pocket calculator? Regardless of what number you start with, you always end up with the same number eventually. Why? You can formulate and solve a problem similar to the previous puzzle's square root problem in this case too. And, there is nothing special about the cosine key; you can generalize that too. Every door in the palace of mathematics has treasures behind it. Just open the door…

New Researchers Group news

Alexander Volfovsky

Alexander Volfovsky is Assistant Professor of Statistical Science, and Co-Director of The Polarization Lab, at Duke University. He is currently the President of the IMS New Researchers Group. He writes:

The last two years have been long for everyone, and one of the things missing from the annual IMS calendar has been the New Researchers Conference (more formally known as the Meeting of New Researchers in Statistics and Probability). This event, held almost annually for over 20 years has served as a launching pad for many new researchers in statistics and probability. Although there was no conference in 2020 or 2021, the recently formed New Researchers Group has not been idling: over the past two years we organized sessions showcasing the work of new researchers at virtual conferences, and we have co-organized interdisciplinary online workshops and information sessions. Most importantly, we have been working to build a better, stronger and more inclusive New Researchers Group.

The first thing we are very happy to announce is the (currently) in-person return of the New Researchers Conference! The conference will be hosted at George Mason University before JSM 2022 and is being organized by **Pramita Bagchi** and **Scott Bruce**.

Look for us online and in the next issue of the *Bulletin,* for details about the conference as well as additional events, initiatives and ways to get involved!

https://imstat.org/ims-groups/ims-new-researchers-group/

The New Researchers Group was founded following the 2014 New Researchers Conference, hosted by Harvard University. Many of the attendees at the conference were eager to continue the exciting conversations they had there and to foster collaborations and career development for young statisticians and probabilists. It focuses on ensuring the continuance of the New Researchers Conference, and fostering new ways for young researchers to meet, collaborate, and share their experience.

If you're a New Researcher… get involved! Stay tuned for updates.

Nominate for IMS Awards

Carver Award

Nominations are 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, 2022: https://www.imstat.org/ims-awards/harry-c-carver-medal/

IMS Fellows

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, 2022: https://imstat.org/honored-ims-fellows/nominations-for-ims-fellow/

…or apply for a Travel Award

Awards for Grad Students, New Researchers

Applications are still 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 Masters or PhD students in statistics or probability. If you are a New Researcher (awarded your PhD in 2016–21), you should apply for the **IMS New Researcher Travel Award** to fund travel, and possibly other expenses, to present a paper or a poster at an IMS sponsored or co-sponsored meeting. Applicants must be members of IMS, though joining as you apply is allowed (student membership is free and new graduate membership discounted!). The deadline for both is February 1, 2022. See https://www.imstat.org/ims-awards/.

Nominate for these awards

Mortimer Spiegelman Award

The Applied Public Health Statistics Section of the American Public Health Association (APHA) presents the Mortimer Spiegelman Award annually to honor a statistician below the age of 40 in the calendar year of the award who has made outstanding contributions to health statistics, especially public health statistics.

The award was established in 1970 and is presented annually at the APHA meeting. The award serves the following three purposes:

- To honor the outstanding achievements of both the recipient and Spiegelman
- To encourage further involvement in public health by the finest young statisticians
- To increase awareness of APHA and the Applied Public Health Statistics Section in the academic statistical community

The Spiegelman Award recipient must be a health statistician who has made outstanding contributions to statistical methodology and its applications in public health (broadly defined).

The award is open to early career investigators regardless of race, gender, sexual orientation, nationality or citizenship. Specifically, candidates must meet at least one of the following criteria:

- The candidate must be under age 40 throughout the award calendar year; or
- The candidate must have obtained a terminal degree in statistics or a statistics-related field in the last 10 years.

For those receiving a terminal degree after considerable professional experience, or with extenuating life circumstances such as the birth of a child, the committee will make exceptions to the eligibility requirements. If extenuating circumstances impact the eligibility of your nominee, please include a description in your nominating letter.

Nominations are due by May 1st of the award calendar year. A nomination should include the following items:

- A nominating letter that states the candidate's date of birth, and that describes contributions to statistics for public health
- Up to three letters of support
- The candidate's detailed CV

Submit your nomination and read more about Mortimer Spiegelman, at https://spiegelmanaward.github.io/

2022 Wolfgang Doeblin Prize

This Bernoulli Society Prize is awarded for outstanding research in the field of probability theory. Nominations for the 2022 edition of the award can be submitted by 30 December 2021.

The Bernoulli Society for Mathematical Statistics and Probability welcomes nominations for the 2022 Wolfgang Doeblin Prize.

Wolfgang Doeblin, pictured just before the Second World War

The Wolfgang Doeblin Prize, which was founded in 2011 and is generously sponsored by Springer, is awarded biannually to a single individual who is in the beginning of his or her mathematical career, for outstanding research in the field of probability theory. The awardee will be invited to submit to the journal *Probability Theory and Related Fields* a paper for publication as the Wolfgang Doeblin Prize Article, and will also be invited to present the Doeblin Prize Lecture at a Conference on Stochastic Processes and their Applications.

More information about the Wolfgang Doeblin prize and past awardees can be found at http://www.bernoulli-society.org/prizes?id=169.

Each nomination should offer a brief but adequate case of support and should be sent by **30 December 2021**, to the chair of the prize committee, Christina Goldschmidt, at the following e-mail address: goldschm@stats.ox.ac.uk with subject heading: Doeblin Prize 2022.

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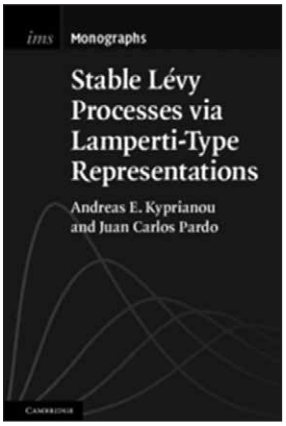

Stable Lévy Processes via Lamperti-Type Representations

Andreas E. Kyprianou and Juan Carlos Pardo

Stable Lévy processes lie at the intersection of Lévy processes and self-similar Markov processes. Processes in the latter class enjoy a Lamperti-type representation as the space-time path transformation of so-called Markov additive processes (MAPs). This completely new mathematical treatment takes advantage of the fact that the underlying MAP for stable processes can be explicitly described in one dimension and semi-explicitly described in higher dimensions, and uses this approach to catalogue a large number of explicit results describing the path fluctuations of stable Lévy processes in one and higher dimensions. Written for graduate students and researchers in the field, this book systemically establishes many classical results as well as presenting many recent results appearing in the last decade, including previously unpublished material. Topics explored include first hitting laws for a variety of sets, path conditionings, law-preserving path transformations, the distribution of extremal points, growth envelopes and winding behaviour.

"This treatise takes readers on a superb journey through the fascinating worlds of stable Lévy processes and of a rich variety of further naturally related random processes. Andreas Kyprianou and Juan Carlos Pardo masterfully deploy an arsenal of techniques, which are already interesting on their own right, to reveal many classical or more recent high-level results on the distributions of functionals and on the path behaviours stable processes. It is indeed remarkable that their methods lead to so many explicit formulas, some amazingly simple, some more complex. The authors should be praised for making accessible as a coherent whole a vast literature that has been developed over several decades, including the latest developments."
Jean Bertoin, University of Zurich

Pre-order in hardback: $69.99

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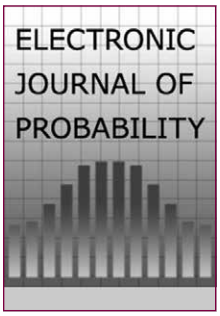
www.imstat.org/cup

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).

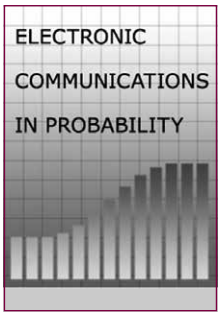
Recent papers: two open-access IMS/BS journals



Electronic Journal of Probability

The *Electronic Journal of Probability* (*EJP*) publishes full-length research articles in probability theory. Short papers should be submitted first to its sister journal, *Electronic Communications in Probability* (*ECP*) (see below). *EJP* and *ECP* share the same editorial board, but with different Editors in Chief. The Editor of *EJP* is Bénédicte Haas. *EJP* and *ECP* are open access official journals of IMS and the Bernoulli Society. **Donations to the IMS Open Access Fund help to keep the journal free:** https://www.imstat.org/shop/donation/. You can read the latest papers in Volume 26 (2021) at **https://projecteuclid.org/journals/electronic-journal-of-probability/current**

Electronic Communications in Probability



Electronic Communications in Probability (*ECP*) publishes short, peer-reviewed research articles in probability theory (typically less than 12 pages). *ECP* shares an editorial board with the *Electronic Journal of Probability*; the Editor of *ECP* is Siva Athreya. *EJP* and *ECP* are open-access official journals of IMS and the Bernoulli Society. **Donations to the IMS Open Access Fund help to keep the journal free:** https://www.imstat.org/shop/donation/. Read Volume 26 (2021) at **https://projecteuclid.org/journals/electronic-communications-in-probability/current**

IMS London Meeting 2022

Call for Topic Contributed Sessions and Contributed Talks for the 2022 IMS Annual Meeting: closes 15 February, 2022

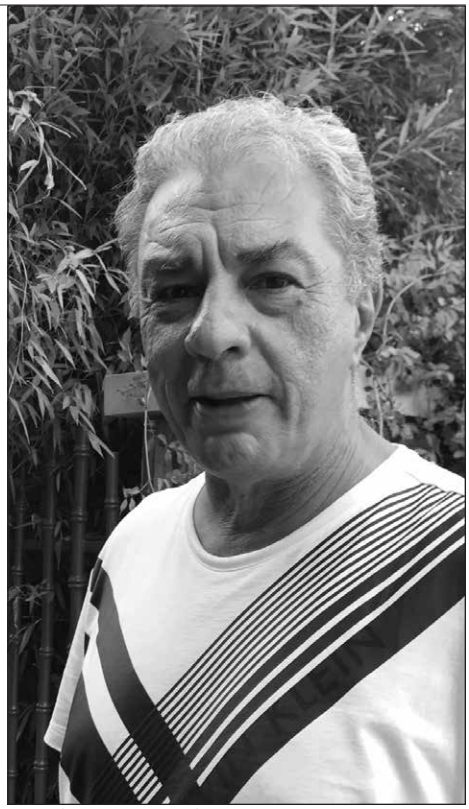
The 2022 IMS Annual Meeting will be held in London, UK, June 27-30. We plan to hold a normal in-person conference, but with an online format as a fall-back option. Following requests from members of our community, the conference is accepting proposals for **Topic Contributed Sessions**. Each 90-minute session consists of four talks. A successful proposal should contain the session title, the name, affiliation and email address of the organizer or chair, and, for each of the four speakers, their name, affiliation, email address, title and abstract (no more than 300 characters each). The deadline for submissions is 15 February, 2022. Decisions for acceptance will be made by 15 March 2022. Submit your proposal at https://www.imsannualmeeting-london2022.com/call-for-topic-contributed-session

Submissions for **contributed talks in probability and statistics** are also open. Each submission should contain an indication of whether the talk is in Probability or Statistics; the name, affiliation and email address of the speaker; and the title and abstract (no more than 300 characters). Submissions will be judged on importance, novelty, impact and timeliness. Submit your contributed talk at https://www.imsannualmeeting-london2022.com/call-for-contribution-talks

Travel awards are available for Graduate Students and New Researchers (apply by February 1): see page 7.

Obituary: Aristotle Arapostathis

1954–2021



Aristotle "Ari" Arapostathis.
Photo courtesy of Guodong Pang

Aristotle Arapostathis, 'Ari' to his friends, lost his battle with cancer of the liver on May 19th, 2021, not too long after he was diagnosed with it. Born in 1954 in Athens, Greece, he was the only son of Theodoros and Eleni Arapostathis. After his schooling in Athens College, he obtained his BS from MIT in 1976, and MS and PhD from University of California, Berkeley, in 1978 and 1982 respectively, all in Electrical Engineering and Computer Science. He joined the Electrical and Computer Engineering department of the University of Texas at Austin, and remained there till his untimely death.

During his long and productive career, he worked on diverse problems, one common characteristic of which was the elegant mathematical underpinnings, both in their formulations and in the methodology. The strong mathematical training he had picked up in Berkeley stayed with him and he augmented it significantly so that he could hold his own with domain experts in a variety of mathematical themes. Many don't know that his doctoral thesis was in power systems, where he is known for his contribution to the characterization of the stability region of synchronous power systems. In particular, he and his co-authors expanded the ambit of the energy function method by including terms corresponding to the generator field and loads in a structure-preserving framework. This spurred many papers in the 80s on the fundamental theory and application of energy-based methods to the power system stability problem. He also worked on other problems, such as the proliferation of harmonics in distribution systems due to electrical vehicles. The papers co-authored by him in this domain in the late 90s were quite ahead of their times. Subsequently, he worked on a variety of control problems ranging across systems with delays, sliding mode control, impulsive control, and, on the applied side, spacecraft control, robotics, sensor placement, resource allocation, communication networks, etc.

But what eventually became his main passion was stochastic control, which he started on through his association with his long time friend and colleague Steven Marcus, Marcus's student Emmanuel Fernández-Gaucherand, and his postdoc and my former student Mrinal Ghosh. Eventually that circle extended to include me, my PhD students and Mrinal's PhD students, and many others, such as his close friend Guodong Pang, who was by his side in his last days.

Beginning with Markov decision processes, his activity in the stochastic domain soon came to be dominated by controlled diffusions. Some dominant themes in this were his work on control of switching diffusions with Mrinal Ghosh (which had as a spin-off an interesting generalization of the Harnack inequality), his work on ergodic control with me, and most recently, his work on risk-sensitive control mostly with me and Anup Biswas, and his work on queuing processes mostly with Guodong Pang. The first few of these themes form the core of the monograph he wrote with me and Mrinal Ghosh. I want to highlight the fact that some of the more recent work on risk-sensitive control of diffusions calls upon some exceptionally high level of facility with nonlinear partial differential equations, which he supplied. The most impressive aspect of this is that this was not a part of his prior training, but he picked it up late in his career to a level that may put to shame many a career mathematician in this area. He had also started a promising collaboration with Serdar Yuksel on controlled Markov processes in general state spaces a few years before he died, with already some promising results.

As a long term collaborator and personal friend, I got to know him very well. We visited each other often. He was an extremely warm-hearted person, a go-to man for his friends not only for mathematics, but also for all kinds of personal advice and help. His 'after you' attitude went well beyond holding doors open for his companion. He always kept a low profile and, in my opinion, was grossly under-appreciated by his professional community because of that. He was very trusting, perhaps excessively so, and believed the other person to be good until proven otherwise. Even in the latter situation, he would downplay the fact. Outside his work, he had a few well-defined

Continues on **page 12**

Ari Arapostathis, 1954–2021

Continued from previous page

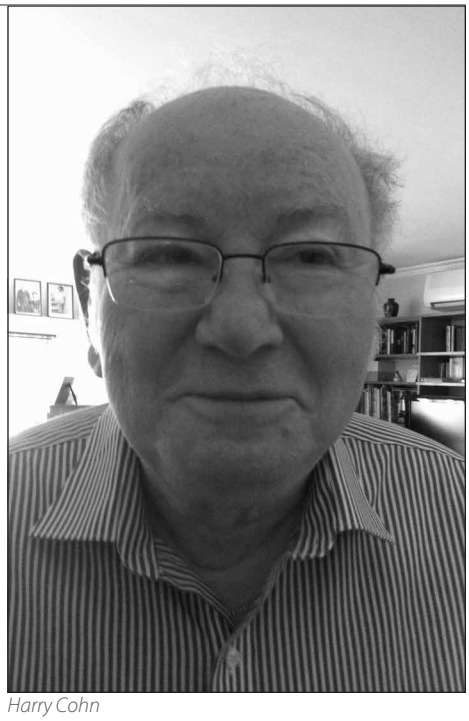
interests, but they were intense. The top is perhaps swimming. He always fondly reminisced about swimming in the sea at Kalamata, which he always did whenever he was back in Greece. He made up for this loss at the natural swimming facility at Barton Springs in Austin. In fact, he stayed in a small apartment as long as he could simply because it was a short walk away from Barton Springs. He loved western classical music which was perpetually playing on his car radio. I recall our visits during the bygone era of music CDs, to the iconic Rhythm House music store in south Mumbai known for its eclectic collection. He would walk out with a pile of hard-to-find classical CDs, much to the delight of the sales staff there. We shared a love of seafood, which we enjoyed both in Austin and Mumbai. Of course, he was steeped in the cafe culture of Berkeley, which for him might have dated back to his youth in Greece. He had his favorite venues for everything—cafes, restaurants, shops—in many of which, the staff knew him personally and would chat with him whenever he stopped by. I came to know many of these places, including Flipnotics cafe (sadly no longer around) and the quaint Oat Willie's where he bought his special brand of cigarettes, both with a touch of the sixties. His knowledge of world affairs and history, particularly of Europe, made one wonder how he managed to keep on top of so many facts and factoids.

I consider myself lucky to have been his friend and collaborator. He touched the lives of everyone close to him and made them richer. It goes beyond cliché to say that he will always be there in our minds. May his soul rest in peace.

Written by Vivek S. Borkar
Indian Institute of Technology Bombay
Mumbai, India

Obituary: Harry Cohn

1940–2021



Harry Cohn

Harry Cohn was born on 27 July, 1940, in Bucharest, Romania, to Ionel and Perla Cohn (née Lachman). He died on 7 May, 2021, in Melbourne, Australia. Harry's father Ionel was a mathematician, and also a music lover: Harry inherited from him his love for mathematics and music. His mother Perla was a home-maker.

Harry graduated with a PhD in mathematics from the University of Bucharest, in 1966, specialising in Probability Theory, under the supervision of Gheorghe Mihoc.

Harry worked at the Institute of Mathematics of the Romanian Academy of Sciences from 1963 to 1970; at the Technion – Israel Institute of Technology in Haifa, Israel, from 1970 to 1974; at Haifa University during 1974–1975; and at the Australian National University in Canberra from 1975 to 1978. Harry joined the Statistics Department at the University of Melbourne, Australia, as a Reader in 1978, and worked there until his retirement in 2003. He was the Head of the Department from 1989 to 1992.

Harry was elected a Fellow of the Institute of Mathematical Statistics and was a Member of the American Mathematical Society.

Harry was a true mathematician—inspired and inspiring—who lived and breathed mathematics. He would engage with a problem constantly until he managed to solve it, usually in a new and innovative way. Mariana, his wife, tells that once he came home and told her, "We are going out to celebrate." At the restaurant, Mariana asked, "What is it that we are celebrating?" Harry said that he had solved an important problem, proceeding to give her the mathematical details. Not mathematically trained, Mariana had no idea what he was talking about, yet she and their daughters—as well as people around them—could easily pick up his excitement about the maths. Harry was a very passionate man: he was passionate about maths, about current affairs, about politics, about his colleagues and friends, and about his family. He was also a champion table-tennis player, and won many medals in Israel representing his university in competitions.

Harry introduced and taught modern probability to many students at the University of Melbourne. Many of those went on to themselves become academics and professors in mathematics, statistics and even philosophy. I was Harry's student from 1979 to 1983 for both MSc and PhD, and later, his colleague.

Harry was very knowledgeable in probability and random processes, including such fields as branching processes, simulated annealing, Markov chains, Markov processes, products of random matrices with connections to ergodic properties, and so on. Some of Harry's important contributions lie in the theory of Markov chains, where he obtained deep results by bringing in the tools of modern probability.

His influential work on non-homogeneous Markov chains and Simulated Annealing, amongst others, were praised by Sir John Kingman in a letter he wrote to Harry in 1998.

Harry was the initiator and organiser of the commemorative conference for Wolfgang Doeblin, who died at the age of 25 in World War 2, and he edited a published collection of papers, *Doeblin and Modern Probability*, Providence, RI, 1993.

Harry stood tall amongst the best, attracting many leading researchers in Probability from overseas to visit what was then the Statistics Department at the University of Melbourne, give lectures and collaborate in research. This created a buzz of creativity and excitement. Notable visitors included Søren Asmussen, Kai Lai Chung, Peter Jagers, Marius Iosifescu, Harry Kesten, and Olle Nerman.

Australian statistician Terry Speed wrote to me: "Although I have had no contact with Harry for a very long time, nevertheless, I feel this as a great loss. He was a brilliant man." Many of those who knew Harry share exactly the same sentiment; he was a brilliant mathematician and a good man, indeed. He will be missed by all of us who knew him, learnt from him, were inspired by him, worked with him and befriended him.

Harry is survived by his wife Mariana, two daughters and four grandchildren.

Mariana Cohn, Yael Cohn, Viviana Cohn, and Bill Lloyd-Smith helped with information about Harry.

Written by Fima Klebaner
Monash University, Melbourne, Australia.
This obituary first appeared in the November 2021 issue of the Australian Mathematical Society's Gazette.

IMS meetings around the world

Joint Statistical Meetings: 2021–2026

2022 Joint Statistical Meetings
August 6–11, 2022. Washington DC
w https://ww2.amstat.org/meetings/jsm/2022/
Topic-Contributed Proposal Submission: November 11 – December 9, 2021.
Contributed Abstract Submission: December 1, 2021 – February 1, 2022

JSM dates for 2023–2026

IMS Annual Meeting @ JSM 2023	JSM 2024	IMS Annual Meeting @ JSM 2025	JSM 2026
August 5–10, 2023	August 3–8, 2024	August 2–7, 2025	August 1–6, 2026
Toronto, Canada	Portland, Oregon, USA	Nashville, TN, USA	Boston, MA, USA

2022 IMS International Conference on Statistics and Data Science (ICSDS)
December 13–16, 2022, Florence, Italy
w https://sites.google.com/view/icsds2022
The first IMS International Conference on Statistics and Data Science (ICSDS) is to be held in Florence, Italy, from December 13–16, 2022. 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.

BNP13: the 13th Conference on Bayesian Nonparametrics
October 24–28, 2022 in Puerto Varas, Chile
w https://midas.mat.uc.cl/bnp13/
This meeting aims to gather in Chile leading experts in this already consolidated and rapidly expanding field for a full week of plenary, invited, contributed and poster talks, reflecting the many and varied aspects of the theoretical, methodological, and applied work in the discipline. We also expect to attract many young researchers to the event, especially those residing in South America and in Chile. The event features three keynote lectures (free topic), invited and contributed sessions, spanning all the wide spectrum of theory, methodology and applications of Bayesian methods from the nonparametric viewpoint: asymptotics, advanced computation, robustness, inference in high-dimensional settings, deep learning, machine learning, uncertainty quantification, clustering and applications.

2022 IMS Annual Meeting
June 27–30, 2022. London, UK
w www.imsannualmeeting-london2022.com
CALL FOR CONTRIBUTED TALKS: see website for details.
The 2022 IMS Annual Meeting will be held in London immediately before COLT, with extra one-day workshop planned [*see announcement, right*] between the two meetings. Program and Local Chair: Qiwei Yao.

2022 IMS–COLT Joint Workshop
July 1, 2022. London, UK
w https://bguedj.github.io/colt-ims-2022.github.io/
The 2022 IMS Annual Meeting [*see left*] will be immediately followed by the first IMS–COLT joint workshop, a one-day meeting in a hybrid format (on-site in central London, and online), linking the IMS and COLT communities of researchers. (COLT is the annual Conference on Learning Theory, and will take place in 2022 immediately after this IMS–COLT workshop day.) Committee: Benjamin Guedj (chair), Peter Grünwald, Susan Murphy.

At a glance: forthcoming IMS Annual Meeting and JSM dates

2022

IMS Annual Meeting: London, UK, **June 27–30, 2022**

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

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**

More IMS meetings around the world

Stochastic Networks
June 20–24, 2022. Cornell Univ., Ithaca, NY
w https://sites.northwestern.edu/snc2022/
Stochastic networks is a multifaceted area of research concerned with the modeling, stability, control, performance, approximation, and design of stochastic networks. It gives rise to challenging and subtle mathematical problems, whose solution often requires a combination of ideas and techniques from several branches of mathematics, including probability theory, stochastic processes, analysis, optimization, algorithms, combinatorics, and graph theory. Research in this area is strongly motivated by applications in diverse domains, ranging from telecommunications and manufacturing to service operations, biological and social networks, revenue management, and health care. The conference series, initiated in 1987 and held biennially, is a major forum for researchers to learn of the latest developments and new research directions in stochastic networks.

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 fortnightly seminars that take place via Zoom on Thursdays at 11:30am, UK time. The idea is to gather members and disseminate results and innovation during these weeks and months under lockdown. 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/future-seminars
Thursdays, 14:00 UTC/GMT. Please subscribe to the mailing list for updates about the upcoming seminars and other events: https://www.owprobability.org/mailing-list

Frontier Probability Days
December 3–5, 2021, Las Vegas, Nevada
w http://lechen.faculty.unlv.edu/FPD20/

2024 IMS annual meeting
Bernoulli–IMS 11th World Congress in Probability and Statistics
August 12–16, 2024
Ruhr-University Bochum, Germany
w TBC

Seminar on Stochastic Processes (SSP) 2022
March 17–19, 2022
Lehigh University, Bethlehem, PA, USA
w https://wordpress.lehigh.edu/ssp2022/
The SSP at Lehigh University is postponed to 2022. Speakers are: Alexei Borodin, Jennifer Chayes, Tadahisa Funaki, Sarah Penington, Makiko Sasada, with the SSP Tutorial Lecture by Greg Lawler planned for March 18, 2022.

2022 ENAR/IMS Spring Meeting
March 27–30, 2022. Houston, TX, USA
w https://enar.org/meetings/spring2022/
The ENAR 2022 Spring Meeting will be held at the Marriott Marquis Houston from March 27–30. The ENAR Spring Meeting offers a superb program of short courses, tutorials, and roundtables. Presented by well-known experts from academia, government, and industry, the short courses and tutorials will cover a variety of topics including: Bayesian methods in drug development, personalized medicine trial designs, analysis of brain imaging data, data sciences and high-performance statistical computing, early phase clinical trials, statistical leadership and influence, graphics for clinical trial data, and software applications for group sequential and adaptive designs, Bayesian modeling and analysis, and multiplicity problems.

2023 ENAR/IMS Spring Meeting
March 22–25, 2023. Nashville, TN, USA
w https://enar.org/meetings/future.cfm

Statistics in the Big Data Era
June 1–3, 2022, UC Berkeley, CA, USA
w https://simons.berkeley.edu/workshops/statistics-big-data-era
This conference is focused on the changing role and nature of the discipline of statistics in the time of a data deluge in many applications, and increasing success of artificial intelligence at performing many data analysis tasks. The conference aims to bring together experts in statistical methodology and theory for complex and big data with researchers focused on a range of applications, from genomics to social networks, and to provide opportunities for new researchers to learn about both emerging methods and applications. The conference will also be an occasion to celebrate Professor Peter Bickel's 80th birthday.

IMS Asia Pacific Rim Meeting 2022
~~January 4–7, 2022~~, Melbourne, Australia
w http://ims-aprm2021.com/
POSTPONED
The sixth IMS-APRM was scheduled to take place in Melbourne in January 2021, then January 2022; it is now postponed until January 2023. Invited Session Proposals submitted in 2020 are being kept on file.

Other meetings around the world

Conference on Statistical Practice (CSP)
February 1–3, 2022
New Orleans, USA
https://ww2.amstat.org/meetings/csp/2022/
Focusing on the application of statistics to solve real-world problems, the ASA's Conference on Statistical Practice draws hundreds of statisticians, data analysts, researchers, and scientists each year. CSP 2022 will be held at the Ritz-Carlton New Orleans, on the edge of the French Quarter.

Royal Statistical Society International Conference 2022
September 12–15, 2022, Aberdeen, UK
https://rss.org.uk/training-events/conference2022/
The RSS International Conference regularly attracts more than 600 attendees from over 40 countries, providing a great opportunity for anyone interested in statistics and data science to come together to share knowledge and network.

We are delighted to be moving to Aberdeen for the first time in 2022, in a state-of-the-art venue, P&J Live.

As usual, the conference programme will feature top keynote speakers, invited topic sessions, professional development workshops, contributed and rapid-fire talks, and poster presentations, as well as many opportunities for networking.

The full programme will be announced soon.

CODIT 2022
May 17–20, 2022, Istanbul, Turkey
https://codit2022.com/
The CoDIT'22 conference is the eighth in the series of the International Conference on Control, Decision and Information Technologies.

The 12th ICSA International Conference
December 18–20, 2022, Hong Kong
www.icsa.org/12th-icsa-international-conference-december-18-20-2022/
The conference will be held at the Chinese University of Hong Kong. For information, please contact Scientific Program Committee Chair (Tony) Jianguo Sun sunj@missouri.edu or Co-Chair Xingqiu Zhao Xingqiu.Zhao@polyu.edu.hk.

Institute for Mathematical and Statistical Innovation news

IMSI Seeks Proposals by March 15, 2022
https://www.imsi.institute/proposals/
IMSI is currently seeking proposals for workshops and other scientific activity with a deadline of March 15, 2022. Workshops are intended to be interdisciplinary and focused on a societally-relevant topic for which mathematicians and statisticians can partner with other sciences to make important contributions. IMSI currently has openings for workshops in the winter of 2023 and beyond. Other forms of scientific activity at IMSI include long programs, interdisciplinary research clusters, and research collaboration workshops. Information about how to submit proposals for any of these forms of activity can be found on the proposal overview page (https://www.imsi.institute/proposals/) and the resources linked there.

IMSI 2022 Summer Internship Program: deadline January 7
https://www.imsi.institute/internships/
Applications are now being accepted for the 2022 IMSI Summer Internship Program. This program is open to Ph.D. students in mathematics or statistics programs in the United States. Women and students from historically underrepresented US minority groups are strongly encouraged to apply. Participants must be eligible to work in the United States. The program is open to both US and international students based in the US. International students will be responsible for arranging work authorization (e.g. CPT) before starting the program.

The IMSI Summer Internship Program is hosted by the University of Illinois Urbana-Champaign. It builds on the prior success of the NSF funded PI4 Summer Internship Program, launched in 2014. The program includes an intensive pre-internship training workshop and an interdisciplinary internship placement. Internship hosts will be primarily companies and scientific labs in Champaign-Urbana, Chicago, and the surrounding region.

Internship hosts for the IMSI and PI4 programs in previous years included AbbVie, Ameren, Bud Analytics Lab, Wolfram Research, Caterpillar Data Innovation Lab, among others. Scientific internship hosts included University of Illinois Urbana-Champaign departments of Entomology, Industrial Engineering, and Plant Biology, the University of Illinois College of Medicine at Chicago, the USDA Agricultural Research Service, and more. The deadline to apply is January 7, 2022.

Employment Opportunities

Australia: Sydney

The University of Sydney

Research Fellow in Mathematics and Statistics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59846226

Canada: Vancouver, BC

University of British Columbia

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

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59462863

Canada: Waterloo, ON

University of Waterloo

Assistant Professors

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59479463

Canada: Waterloo, ON

University of Waterloo

Assistant Professors

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59479364

Canada: Windsor, ON

University of Windsor, Department of Mathematics and Statistics

Tenure-Track Position in Probability and Stochastic Processes

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=60064557

China: Nanjing

Nanjing University of Information Science and Technology

Full Professor/Associate Professor/Lecturer/Post-doc in Mathematics and Statistics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59688401

France: Paris, and Singapore

ESSEC Business School

Department of Information Systems, Decision Sciences & Statistics

Located in Paris and Singapore

Associate/Full Professor of Statistics or Econometrics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=60133287

Hong Kong

The University of Hong Kong

Tenure-Track Professor/Associate Professor/Assistant Professor in Business Analytics (several posts)

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59508402

Hong Kong

The University of Hong Kong

Tenure-Track Associate Professor/Assistant Professor

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59524549

Italy: Rome

Luiss Guido Carli

Assistant Professorship of Big/Smart Data Analysis

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=60131455

Singapore

Yale-NUS College

Lecturer in Mathematics, Computer Science, and Data Science

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59452184

Taiwan: Taipei

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

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

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=58875216

Taiwan: Taipei City

Institute of Statistical Science, Academia Sinica, Taiwan

Tenure-Track Faculty Positions

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=54397703

United Kingdom: Cambridge

University of Cambridge, Department of Pure Mathematics and Mathematical Statistics

Assistant Professor in Statistics / Professor in Statistics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=60222650

United Kingdom: Coventry

University of Warwick

Harrison Early Career Assistant Professor

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59844558

United Kingdom: Coventry

University of Warwick

Assistant Professor x 4

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59844494

Employment Opportunities continued

United Kingdom: Glasgow

University of Glasgow

Multiple Senior Lecturer/Reader Positions in Statistics & Data Analytics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=60022865

United Kingdom: Glasgow

University of Glasgow

Multiple Lecturer Positions in Statistics & Data Analytics

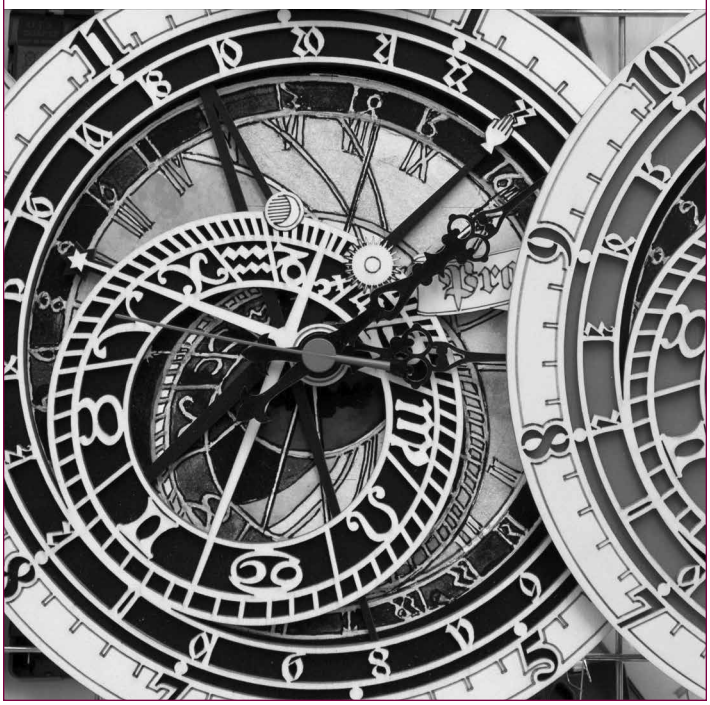
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=60020831

United States: Tempe, AZ

Arizona State University - School of Mathematical & Statistical Sciences

Postdoctoral Research Scholar

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59418710



United States: Berkeley, CA

University of California Berkeley

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

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59427149

United States: Berkeley, CA

of California, Berkeley Department of Statistics

Neyman Visiting Assistant Professor

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59442696

United States: Berkeley, CA

of California, Berkeley Department of Statistics

Assistant Teaching Professor - Probability, Statistics, and Data Science

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59865527

United States: Berkeley, CA

University of California, Berkeley Department of Statistics

Assistant Professor - Statistics, Data Science

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United States: Costa Mesa, CA

Susan Samueli Integrative Health Institute

Assistant/ Associate/ Full Professor In-Residence

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59842468

United States: La Jolla, CA

University of California San Diego

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http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59537028

United States: La Jolla, CA

University of California San Diego

Excellence Assistant Professor in Mathematics (EXC)

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University of California San Diego

Assistant, Associate or Full Professor - Department of Mathematics

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United States: Santa Cruz, CA
University of California Santa Cruz
Assistant Professor of Statistical Data Science
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United States: Stanford, CA
Stanford University, Department of Statistics
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United States: Stanford, CA
Stanford University, Department of Statistics
Stein Fellow in Statistics or Probability
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United States: New Haven, CT
Yale School of Public Health
Investigator Track Position in Biostatistics
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59843942

United States: Athens, GA
Department of Statistics
Tenure-Track Assistant Professor Position in Statistical Data Science
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=60062370

United States: Atlanta, GA
Georgia Institute of Technology
Tenure-Track Faculty 2021-2022
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59061108

United States: Iowa City, IA
Department o Biostatistics University of Iowa College of Public Health
Assistant Professor
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59372009

United States: Moscow, ID
University of Idaho
Regular Faculty
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59843317

United States: Chicago, IL
University of Illinois at Chicago
Assistant Professor in Statistics - Tenure Track
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59419871

United States: Urbana-Champaign, IL
University of Illinois at Urbana-Champaign
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United States: Notre Dame, IN
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Applied Math and Statistics
Faculty Position in Data Science
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United States: Cleveland, OH
Cleveland State University
Assistant Professor in Applied Statistics, Data Analytics, or Biostatistics
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59479727

Employment Opportunities continued

United States: Charlottesville, VA

University of Virginia, Charlottesville
Postdoctoral positions

The Department of Mathematics at the University of Virginia, Charlottesville, VA, invites applications for postdoctoral positions. The appointment begins in Fall 2022.

Priority will be given to applicants in **Probability Theory** and **Representation Theory**. We anticipate hiring one person in each area.

Review of applications will begin November 15, 2021; however, the position will remain open until filled.

Mathjobs link with details: https://www.mathjobs.org/jobs/list/18370

We actively encourage applications of racial and ethnic minorities, women, individuals with disabilities, individuals who identify with LGBTQ+ communities, individuals from lower-income backgrounds, and/or first-generation college graduates.

United States: Philadelphia, PA

University of Pennsylvania, Wharton Department of Statistics and Data Science
Departmental Postdoctoral Researcher
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=45122063

United States: Pittsburgh, PA

Department of Statistics & Data Science, Carnegie Mellon University
Open Rank Tenure Track Professor of Statistics & Data Science (Assistant, Associate, Full) and Assistant Teaching Professor of Statistics & Data Science
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=60218849

United States: Houston, TX

Rice University
Open Rank Faculty Position
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=60115278

United States: Charlottesville, VA

University of Virginia
Elcan Jefferson Scholars Foundation Distinguished Professorship
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59476817

United States: Charlottesville, VA

University of Virginia
Assistant Professor
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59476474

United States: Fairfax, VA

George Mason University, Department of Statistics
Multiple Open Rank Tenure-Track, Tenured, and Term Faculty Positions in Statistics
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59537068

United States: Seattle, WA

University of Washington
Open Rank Faculty
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59416507

United States: Madison, WI

University of Wisconsin–Madison, Department of Statistics
Assistant Professor, Associate Professor, Professor in Statistics
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=59427536

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 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 YoungStatS Webinar series **w** https://youngstats.github.io/categories/webinars/

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

January 2022

POSTPONED ims January 4–7 (postponed to January 2023): Melbourne, Australia. **IMS Asia Pacific Rim Meeting (IMS-APRM2021) w** http://ims-aprm2021.com/

February 2022

NEW February 1–3: New Orleans, USA. **Conference on Statistical Practice 2022 w** https://ww2.amstat.org/meetings/csp/2022/

March 2022

ims March 17–19 (postponed from March 2021): Bethlehem, PA, USA. **Seminar on Stochastic Processes (SSP) w** https://wordpress.lehigh.edu/ssp2022/

March 21–May 27: Chicago, IL, USA. **Decision Making and Uncertainty w** https://www.imsi.institute/activities/decision-making-and-uncertainty/

ims March 27–30: Houston, TX, USA. **ENAR Spring Meeting w** https://enar.org/meetings/spring2022/

April 2022

April 25–29: Nicosia, Cyprus. **BNP Networking Event w** TBC

May 2022

May 12–18: Erice, Italy. **Stochastic Methods in Game Theory w** https://sites.google.com/view/erice-smgt2020/the-workshop

NEW May 17–29: Istanbul. CODIT 2022 **w** https://codit2022.com/

June 2022

ims June 1–3: Berkeley, USA. **Statistics in the Big Data Era w** https://simons.berkeley.edu/workshops/statistics-big-data-era

June 13–17: Charlottesville, VA, USA. **Ethical Challenges of AI in Biomedicine w** http://innovation.lab.virginia.edu/

June 14–18: Paphos, Cyprus. **International Symposium on Nonparametric Statistics, ISNPS w** http://cyprusconferences.org/isnps2022/

June 20–23: Timisoara, Romania. **23rd Conference of the Romanian Society of Probability and Statistics w** https://spsr.ase.ro/conferinta-nationala-spsr/

June 25–July 1: Montreal, Canada. **ISBA World Meeting 2022 w** https://isbawebmaster.github.io/ISBA2022

ims June 27–30: London, UK. **IMS Annual Meeting w** www.imsannualmeeting-london2022.com

ims June 27–July 1: Wuhan, China. **Stochastic Processes and their Applications w** http://spa2022.whu.edu.cn

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

July 2022

ims July 1: London, UK. **IMS–COLT one-day workshop** (between IMS meeting and COLT meeting) **w** https://bguedj.github.io/colt-ims-2022.github.io/

Continues on **page 21**

International Calendar *continued*

July 10–15: Riga, Latvia. **XXXI International Biometric Conference (IBC2022)** w www.biometricsociety.org/meetings/conferences

July 18–22: Moscow, Russia. **33rd European Meeting of Statisticians** w https://ems2022.org/

August 2022

August 2–13: Campinas, Brazil. **São Paulo School of advanced science on singular stochastic partial differential equations and their applications** w https://www.ime.unicamp.br/spas2022//

ims August 6–11: Washington DC, USA. **JSM 2022** w https://ww2.amstat.org/meetings/jsm/2022/

August 21–25: Newcastle, UK. **International Conference for Clinical Biostatistics** w http://www.iscb.info/

September 2022

September 7–10: UC Santa Cruz, CA, USA. **O'Bayes 2022** w https://obayes.soe.ucsc.edu/

NEW September 12–15: Aberdeen, UK. **RSS International Conference** w https://rss.org.uk/training-events/conference2022/

October 2022

ims October 24–28: Puerto Varas, Chile. **BNP13: Bayesian Nonparametrics** w https://midas.mat.uc.cl/bnp13/

December 2022

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

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

January 2023

ims January dates TBC (postponed from January 2022): Melbourne, Australia. **IMS Asia Pacific Rim Meeting (IMS-APRM2021)** w http://ims-aprm2021.com/

Image: freepik.com/ywalakte

July 2023

July 15–20: Ottawa, Canada. **ISI World Statistics Congress** w TBC

August 2023

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

July 2024

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

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

Membership and Subscription Information: 2022

Journals

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

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

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the next issue is **March 2022**

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February 1, then **March 15**

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