Wolf Prize for Le Gall, Lawler

The Wolf Prize for Mathematics is awarded to Gregory Lawler from Chicago University, for his comprehensive and pioneering research on erased loops and random walks and to Jean-François Le Gall from Paris Sud Orsay University, for his profound and elegant works on stochastic processes. The work undertaken by these two mathematicians on loops and probability, which have been recognized by multiple prizes, became the stepping stone for many consequent breakthroughs.

Jean-François Le Gall has made several deep and elegant contributions to the theory of stochastic processes. His work on the fine properties of Brownian motions solved many difficult problems, such as the characterization of sets visited multiple times and the behavior of the volume of its neighborhood—the Brownian sausage. Le Gall made groundbreaking advances in the theory of branching processes, which arise in many applications. In particular, his introduction of the Brownian snake and his studies of its properties revolutionized the theory of super-processes—generalizations of Markov processes to an evolving cloud of dying and splitting particles. He then used some of these tools for achieving a spectacular breakthrough in the mathematical understanding of 2D quantum gravity. Le Gall established the convergence of uniform planar maps to a canonical random metric object, the Brownian map, and showed that it almost surely has Hausdorff dimension 4 and is homeomorphic to the 2-sphere.

Gregory Lawler has made trailblazing contributions to the development of probability theory. He obtained outstanding results regarding a number of properties of Brownian motion, such as cover times, intersection exponents and dimensions of various subsets. Studying random curves, Lawler introduced a now classical model, the Loop-Erased Random Walk (LERW), and established many of its properties. While simple to define, it turned out to be of a fundamental nature, and was shown to be related to uniform spanning trees and dimer tilings. This work formed much of the foundation for a great number of spectacular breakthroughs, which followed Oded Schramm's introduction of the SLE curves. Lawler, Schramm and Werner calculated Brownian intersection exponents, proved Mandelbrot's conjecture that the Brownian frontier has Hausdorff dimension 4/3 and established that the LERW has a conformally invariant scaling limit. These results, in turn, paved the way for further exciting progress by Lawler and others.

The awarding ceremony will be in May 2019 in Israel. Since 1978, five or six Wolf Prizes have been awarded annually in the Sciences; prize fields comprise agriculture, chemistry, mathematics, medicine and physics. The prize in each field consists of a certificate and a monetary award of $100,000, shared between recipients.
IMS Members’ News

Royal Statistical Society presents 2019 awards

The UK Royal Statistical Society has announced the recipients of its 2019 honours, who will be presented with their awards at a ceremony during their annual conference in Belfast this September. Notable among these are the Guy Medals in Silver and Bronze, which will be presented to Susan Murphy and Jonas Peters, respectively, and the RSS Research Prize, to Tengyao Wang. In addition, the Guy Medal in Gold will be presented to Stephen Buckland, and the Barnett Award to Marian Scott.

The Guy Medal in Silver is awarded to Susan Murphy, IMS Fellow and President-Elect, for her methodological, computational and applied work on dynamic treatment regimens. Susan’s influential JRSSB paper in 2003 on Optimal Dynamic Treatment Regimens proposed a methodology for estimating decision regimes that result in a maximal mean response, consistent with an elegantly-defined regret function and for use with experimental or observational data. Substantial follow-up work on multi-stage decision making has built on this paper, including Susan’s own work ranging from sample size determination to performance guarantees for individualized treatment rules and applications ranging from addictions to micro-randomized optimization of mobile health interventions for the Fitbit generation.

The Guy Medal in Bronze is awarded to IMS member Jonas Peters (University of Copenhagen) for important and innovative contributions to causal inference and related statistical methodology and theory. Of particular note are his two papers in JRSSB, namely ‘Kernel-based tests for joint independence’ (with N. Pfister, P. Bühlmann and B. Schölkopf), published in 2017, and ‘Causal inference using invariant prediction: identification and confidence intervals’ (with P. Bühlmann and N. Meinshausen), which was read to the Society in 2016.

The Research Prize is awarded to IMS member Tengyao Wang for his outstanding and diverse contributions to statistical methodology and theory. Amongst other research, he has given new understanding about computational and statistical trade-offs; developed theory for multi-dimensional shape constrained estimators; and introduced a new paradigm and method for detecting changes in high-dimensional data streams.

More IMS Members’ News

Emery N. Brown Wins 2018 Dickson Prize in Science

Emery N. Brown, the Warren M. Zapal Professor of Anesthesia at Harvard Medical School and anesthesiologist at Massachusetts General Hospital, the Associate Director of the Institute for Medical Engineering and Science, the Edward Hood Taplin Professor of Medical Engineering and Computational Neuroscience at MIT, has won Carnegie Mellon University’s 2018 Dickson Prize in Science.

“He is among just 21 people elected to all three branches of the National Academies of Science. He is considered the world’s expert on statistical analysis of neuronal data, according to CMU faculty member Robert E. Kass, and his research on anesthesia has been “truly transformative” to that field.

In accepting the award, Brown credited the many people he has worked with at MGH, MIT, BU, and Harvard. “I am extremely honored to receive the 2018 Dickson Prize in Science and to join the esteemed ranks of its past recipients,” he said. “I am especially grateful to all of the many students, post-docs and colleagues whose successful collaborations have led to this recognition.” See https://www.cm.edu/dickson-prize/current/

Grégory Miermont awarded 2018 CNRS Silver Medal

The French National Center for Scientific Research (CNRS) has awarded one of its 2018 Silver Medals to Grégory Miermont, professor at the École Normale Supérieure de Lyon. CNRS awards Silver Medals to early-career researchers distinguished by the originality, quality and importance of their work, who are recognized nationally and internationally.

Grégory Miermont has been a professor at ENS Lyon since 2012 and is a junior member of the Institut Universitaire de France. He defended his thesis at the University of Pierre and Marie Curie in 2003 under Jean Bertoin. His first steps as a researcher were the opportunity to solve and clarify many natural issues related to branching random structures (trees, fragmentation-coagulation processes). In recent years, his research has focused on the study of planar maps, a field in full development at the interface between combinatorics, theoretical physics and probabilities. It consists in understanding the large-scale properties of plane graphs. In 2011, Grégory solved the main open problem in the subject, namely the convergence of random quadrangulations towards a “continuous” random metric space (called the Brownian map), which was obtained independently by different methods by Jean-François Le Gall. In recent years, Grégory Miermont has achieved other important results in the field of random geometry. His work with Bettinelli on Brownian discs, his long article with Baur and Ray classifying all possible boundaries of quadrangulations with a boundary, or his fine work with Addario-Berry, Broutin and Goldschmidt on the scale limit of the minimal spanning tree on the complete graph can be cited in particular.

For more information on Grégory’s work and main publications, see the article at http://www.cnrs.fr/insmi/spip.php?article2865.
Preview: Special IMS Lectures in 2019

Over the coming months we will be featuring previews of the 2019 special invited speakers who will be giving their lectures at three IMS meetings this year: the INFORMS/APS meeting in Brisbane, Australia, July 2–4; the 41st Conference on Stochastic Processes and their Applications 2019 (SPA 2019), July 8–12 in Evanston, Illinois, USA; and the 2019 Joint Statistical Meetings, JSM, July 27–August 1, in Denver, Colorado, USA.

Charles Bordenave will be giving a Medallion Lecture at the INFORMS/APS meeting. The SPA meeting will feature two Medallion lectures, from Krzysztof Burdzy [see below] and Etienne Pardoux, as well as the Schramm Lecture from Stanislav Smirnov. At the JSM, the Wald lecturer will be Trevor Hastie; the Rietz lecture will be Yoav Benjamini, and the remaining four Medallion lectures will be given by David Dunson [see next page], Elizaveta (Liza) Levina, Hao Helen Zhang and Yee Whye Teh.

So, to give you a taste of their lectures, two of the 2019 special invited speakers outline their subjects below. We’ll bring you more preview articles in the next few issues.

Medallion lecturer: Krzysztof Burdzy

Krzysztof Burdzy received his PhD in 1984 from the Department of Statistics at the University of California at Berkeley, under the supervision of Professor Jim Pitman. He was a postdoc at the University of California at San Diego and held positions at the Polish Academy of Sciences and Purdue University before joining the Department of Mathematics at the University of Washington in 1988. His research interests include Brownian motion and its applications to analysis and, more recently, processes with ballistic paths. He is a Fellow of the IMS and the AMS, a member of the Washington State Academy of Sciences, and received the 1992 Rollo Davidson Prize and the IMS Carver Medal in 2016.


On Archimedes’ principle and Fermi acceleration

Archimedes’ principle is over 2,000 years old but there is no mathematical literature on this law of physics. The most likely reason is that Archimedes’ principle follows easily from the formulas for pressure. This approach leads to some subtle questions. I will describe an approach to Archimedes’ principle using classical mechanics, mixed with some stochastic ideas.

“Fermi acceleration” refers to the unlimited growth of energy in models for particles reflecting from moving walls. I will discuss the question of the emergence of Fermi acceleration in rotating drums with hard balls under gravitation. Without gravitation, no Fermi acceleration arises in a rotating drum because the system is integrable.

Both topics are related to Lambertian reflections, also known as Knudsen law, modeling random reflections of light or gas particles from rough surfaces.

This is joint work with M. Duarte, C.E. Gauthier, R. Graham, J. Malecki and J. San Martin.
Medallion lecturer: David Dunson

David Dunson is Arts and Sciences Distinguished Professor of Statistical Science and Mathematics at Duke University. He is known for his broad spanning contributions to statistical methodology, with a particular focus on novel modeling frameworks and Bayesian approaches that are motivated by complex and high-dimensional data collected in the sciences. This includes latent factor, dimensionality reduction, nonparametric and machine learning methodology. Primary areas of application include neurosciences and brain network modeling, environmental health, ecology, and human fertility, among others. David is a fellow of the ASA, IMS and ISBA and has won numerous awards, including most notably the 2010 COPSS President’s Award. His work is very widely cited and he has an h-index of 70 on Google Scholar.

David Dunson’s Medallion Lecture will be given at JSM 2019 in Denver, USA (provisionally on Monday July 29, but check the program at http://ww2.amstat.org/meetings/jsm/2019/onlineprogram/index.cfm when it is finalized in late March).

Learning & exploiting low-dimensional structure in high-dimensional data

Characterizing low-dimensional structure in complex and high-dimensional data is one of the canonical problems in statistics and machine learning. There is a very rich associated literature spanning from classical methods, such as principal components analysis (PCA), to recent popular non-linear approaches, such as various manifold learning algorithms and variational auto-encoders (VAEs). The majority of this literature is focused on algorithmic approaches that lack uncertainty quantification, and (in particular) the ability to propagate uncertainty across different components in inference and prediction tasks. Most commonly, one applies a two-stage approach in which the original high-dimensional data are replaced with lower-dimensional scores, and these scores are then used as the basis of data visualization and subsequent statistical analyses.

A particular focus of this talk is on fully model-based frameworks for flexible non-linear dimensionality reduction, in which one has a hierarchical likelihood specification of the data generating process. The associated literature is surprisingly limited, with most of the focus being on some variation of locally linear models. For example, one could approximate a non-linear subspace or manifold using a collection of hyperplanes with the density of the data having elliptical contours around these planes. This leads naturally to mixture of Gaussian models, potentially with a factor analytic structure on the covariance to reduce dimension. However, a critical disadvantage of locally linear models, including mixtures of Gaussians, is the inability to parsimoniously represent data lying close to non-linear subspaces having high curvature.

Motivated by this problem, we propose a useful new class of spherelet dictionaries and kernels for concisely representing nonlinear low dimensional structure in complex data. We start by proposing a simple generalization of PCA to allow curvature; we refer to this approach as spherical PCA (SPCA) and show that SPCA has substantial theoretical and practical advantages in many settings – using manifold learning as a motivating example. SPCA has a simple analytic form, making it easy to use as an alternative to PCA in broad cases. We show improvements over competitors in a variety of applications including manifold estimation, image denoising, geodesic distance estimation and classification. A simple nearest-neighbor spherelets classifier can be defined that has improved performance over a wide range of competitors, including convolutional neural networks, in canonical image classification problems, such as for digits data. Relative to neural networks, dramatically fewer training examples are needed.

Spherelets can also be used to create new kernels for multivariate density estimation and associated problems. In particular, spherelet kernels are obtain by generating from a Fisher von Mises density on a sphere and then adding Gaussian noise. The resulting kernels can be curved to an extent controlled by the radius of the sphere, generalize the Gaussian, and have an analytic expression. We define spherelet kernel mixture models and developing supporting MCMC algorithms and theory, showing dramatically better performance compared with mixtures of Gaussians in a variety of examples.
Recent papers: two co-sponsored journals

Electronic Journal of Statistics

The Electronic Journal of Statistics (EJS) publishes research articles and short notes in theoretical, computational and applied statistics. The journal is open access. 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 sponsored by IMS and the Bernoulli Society. The Editor is Domenico Marinucci. Read it at https://projecteuclid.org/euclid.ejs

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Convergence rates of latent topic models under relaxed identifiability conditions .................. YINING WANG; 37–66
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Trace class Markov chains for the Normal-Gamma Bayesian shrinkage model ......................... LIYUAN ZHANG, KSHITIJ KHARE, AND ZEREN XING; 166–207
Detection of sparse mixtures: higher criticism and scan statistic ........................................... ERY ARIAS-CASTRO AND ANDREW YING; 208–230
Importance sampling the union of rare events with an application to power systems analysis .......... ART B. OWEN, YURY MAXIMOV, AND MICHAEL CHERTKOV; 231–254
Estimation of spectral functionals for Levy-driven continuous-time linear models with tapered data ................................................................. MAMIKON S. GINOVYAN AND ARTUR A. SAHAKYAN; 255–283
Fast Bayesian variable selection for high dimensional linear models: Marginal solo spike and slab priors ................................................................. SU CHEN AND STEPHEN G. WALKER; 284–309
Weak dependence and GMM estimation of supOU and mixed moving average processes ................ IMMA VALENTINA CURATO AND ROBERT STELZER; 310–360
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Monte Carlo modified profile likelihood in models for clustered data ...................................... CLAUDIA DI CATERINA, GIULIANA CORTESE, AND NICOLA SARTORI; 432–464
Query-dependent ranking and its asymptotic properties ....................................................... BEN DAI AND JUNHUI WANG; 465–488

Statistics Surveys

Statistics Surveys publishes survey articles in theoretical, computational, and applied statistics. The style of articles may range from reviews of recent research to graduate textbook exposition. The essential requirements are a well specified topic and target audience, together with clear exposition. Statistics Surveys is co-sponsored by IMS, the American Statistical Association, the Bernoulli Society, and the Statistical Society of Canada. The IMS Editor is David Banks. Read it at https://projecteuclid.org/euclid.ssu

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A review of dynamic network models with latent variables .................................................. BOMIN KIM, KEVIN H. LEE, LINGZHOU XUE, AND XIAOYUE NIU; 105–135
Pitfalls of significance testing and p-value variability: An econometrics perspective .................. NORBERT HIRSCHAUER, SVEN GRÜNER, OLIVER MUSSHOFF, AND CLAUDIA BECKER; 136–172

These two journals are among the range of Open Access journals that IMS offers (the others are Electronic Communications in Probability, Electronic Journal of Probability and Probability Surveys. Donations are welcome to the IMS Open Access Fund: https://www.imstat.org/shop/donation/
Project Euclid by the numbers

- 105 publications
- 41 publishers
- 17 countries
- 6 continents
- 32 titles in Euclid Prime in 2019

An alternative to corporate publishing since its founding in 1999

6 of Project Euclid content is open access

2,513,902 Pages on Project Euclid as of 1/2019

Project Euclid hosts three top-20 mathematics journals and three top-20 statistics journals, ranked by impact factor

Project Euclid hosts articles from

- 15 Abel Prize winners
- 44 Fields Medalists
- 45 Wolf Prize winners

60 journals have their full archive on Project Euclid
Xiao-Li Meng writes, in his third President’s Column: “Where should I put my name in the author list when I write a paper with my students?” is one recurring question I have been asked by junior colleagues since I earned the privilege to enjoy my senior moments. To people outside of the publication world, this question may sound purely academic, puzzling, or even silly. With zillions of publications available, shouldn’t there already be a well-established rule for such a simple matter? Besides, how many readers actually pay attention to the authorship order?

In the IMS community, however, we all understand that the matter is far from simple, and indeed it is a main source of frustration, even unhappiness, in the academic world. Many of us also have encountered situations where we have tried to infer the contribution made by a particular author from the authorship order, such as when we serve as a reference letter writer for someone we don’t know, as a member of a promotion or appointment committee, or on a funding or award panel. We understand that, whether in perception or in reality, being a lead author or mid author could mean the difference between having a leading professional life or a mediocre one.

At the societal and professional level, properly documenting, measuring, and conveying the contributions made by those who work with large collaborative teams is a critical step “to equalize our value systems for influential scholarly pursuits and for impactful collaborative effort” (http://bulletin.imstat.org/2018/11/the-world-is-loving-us-almost-surely-can-we-love-back-passionately/). The current authorship metric adopted by all of our journals is structurally deficient for this task.

As we all know, our current authorship convention relies on a one-dimensional ordering. We use the ordering to index the degrees of contributions, usually with the leading author going first. Or we invoke a non-informative alphabetical ordering to signal equal contributions or, more likely, an agreement among the authors that there is no better way to make everyone happier. Consequently, the information conveyed by the current authorship data is insufficient, ambiguous, and even deceiving, the worst kind of data design and collection that we tell our students to avoid like fast food.

Successful collaborative projects are, by default, multi-dimensional, as the resulting impact of the project relies on different expertise and skills. Any univariate index is mathematically inadequate to represent multi-dimensional information, no matter how cleverly it is constructed (e.g., the $b$-index). Worse, inadequate representations tend to induce bad behaviors. Once, I had a potential collaborator who announced on day one that his position on our authorship list must be invariant to his actual contributions, that is, always the first. I appreciated his candidness, as it helped me establish my own invariance principle: I won’t co-author papers with any such invariant authors.

The scientific community is fueled by innovations and creativities, which have greatly advanced human societies and civilizations. Most ironically, the same community has been embarrassingly slow to come up with a creative solution to address this long-standing issue of its own: properly documenting authors’ contributions in research publications. And the statistical community has not helped much either, despite the problem being about data (accurately documenting each author’s roles) and inference (about the authors’ contributions to the overall project).

The movie industry solved this problem more than half a century ago, when films started to have both opening and closing credits (granted, few viewers care to stay until the very last, unless there are out-takes or alternative endings). Years ago, I joked with some colleagues that someday we would learn from Hollywood about crediting contributions. I am therefore particularly pleased to learn that the scientific publication world is indeed moving from authorship into contributorship by explicitly acknowledging the specific roles of each author, just as in movie credits.

The article “Credit where credit is due” in Nature (April 2014, pp. 312-313; https://www.nature.com/news/publishing-credit-where-credit-is-due-1.15033) proposed the Contributor Roles Taxonomy (CRediT) methodological framework for documenting authors’ contributions. The method has been endorsed by leaders of major scientific organizations and publications, such as the US National Academy of Sciences (NAS), Science, New England Journal of Medicine, PLOS, Cell Press, and SAGA Publishing, see “Transparency in authors’ contributions and responsibilities to promote integrity in scientific publication” in PNAS (March 2018, pp 2557-2560; https://www.pnas.org/content/115/11/2557). So far, CRediT has been adopted in various forms by Nature, PLOS, Cell, and in about 120 journals, as most recently reported in https://onlinelibrary.wiley.com/doi/full/10.1002/leap.1210.

At the heart of CRediT is a taxonomy of research contributions to list individual authors’ specific roles for articles. The table on the next page, which lists 14 roles, is reproduced from the 2014 Nature article. I am sure not everyone would agree on the specific descriptions of each role, or even the list of roles. Indeed, the authors of CRediT recognized that some roles, such as “Project administration” or “Funding acquisition,” might not even belong to the list (e.g., it is debatable if a lab director is automatically entitled to put her/his name on every paper from the lab because...
it is supported by funds s/he raised). Nevertheless, CRediT is a much-needed step in the right direction, providing richer data for inferring each author’s contributions. Therefore, I would strongly encourage our journals, especially those that publish more collaborative work (e.g., *Annals of Applied Statistics*) to consider adopting a form of CRediT. In doing so, I also hope we will be mindful about balancing appropriateness for our fields and adherence to a common standard across fields, especially considering the interdisciplinary nature of the collaborative work that we want to be appropriately credited for performing.

Of course, no metric or system is perfect, and each of them can (and will) be abused. If all authors put down their names for all the roles, then the CRediT system achieves little as a data collection process. There will be times when such “all-for-all” is appropriate, especially for some theoretical papers, which tend to have smaller number of authors who engage in all aspects of the project. But for large collaborative projects, where CRediT is needed most, it is typically not difficult to delineate the roles. I have been involved in multiple large scientific projects (e.g., in astrophysics, environmental sciences, health disparities) where I had zero roles in data collection, data curation, or data visualization. Not claiming credit for any process to which I made no contribution is obviously the right thing to do, but it also relieves me from the accountability for oversights, mistakes, or (God forbid!) even plagiarism in these processes.

Spider-Man said, “With great power comes great responsibility,” and the aforementioned PNAS article followed suit by stating that authorship implies both credit and accountability. Without proper attribution, all authors would be held accountable for any error or flaw in the paper; as NAS specifies, “an author who is willing to take credit for a paper must also bear responsibility for its contents. Thus, unless a footnote or the text of the paper explicitly assigns responsibility for different parts of the paper to different authors, the authors whose names appear on a paper must share responsibility for all of it” (https://www.nap.edu/catalog/12192/on-being-a-scientist-a-guide-to-responsible-conduct-in). For large collaborative projects, it is typically impossible for any author to know much about what every co-author did, let alone to watch for errors and flaws in every process. (As a matter of fact, among about 150 co-authors of mine, there are more than 10% of them that I never had any correspondence with, and all of those were from these large collaborative projects.)

Of course, there will be a few people who would hate anything like CRediT. A digital scholar told me recently, “Someone got really mad at me after I talked about the CRediT system in a presentation.” Others who knew the person explained that this someone is known to fight for credits that he does not deserve, including insisting on being the leading author, but without leading the project. I took it as a good sign that CRediT has frustrated such people, because its very purpose is to follow Samuel Adam’s advice and give credit only to whom credit is due. If you find yourself frustrated by CRediT or other similar authorship contribution taxonomies, I’d suggest you first get a case of Samuel Adams and then apply to become a dean or president, where you will be credited or blamed for things of which you are completely unaware.

<table>
<thead>
<tr>
<th>Taxonomy category</th>
<th>Description of role</th>
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<tbody>
<tr>
<td>Study conception</td>
<td>Ideas; formulation of research question; statement of hypothesis</td>
</tr>
<tr>
<td>Methodology</td>
<td>Development or design of methodology; creation of models</td>
</tr>
<tr>
<td>Computation</td>
<td>Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms</td>
</tr>
<tr>
<td>Formal analysis</td>
<td>Application of statistical, mathematical or other formal techniques to analyse study data</td>
</tr>
<tr>
<td>Investigation: perform the experiments</td>
<td>Conducting the research and investigation process, specifically performing the experiments</td>
</tr>
<tr>
<td>Investigation: data/evidence collection</td>
<td>Conducting the research and investigation process, specifically data/evidence collection</td>
</tr>
<tr>
<td>Resources</td>
<td>Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation or other analysis tools</td>
</tr>
<tr>
<td>Data curation</td>
<td>Management activities to annotate (produce metadata) and maintain research data for initial use and later re-use</td>
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<tr>
<td>Writing/manuscript preparation: writing the initial draft</td>
<td>Preparation, creation and/or presentation of the published work, specifically writing the initial draft</td>
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<tr>
<td>Writing/manuscript preparation: critical review, commentary or revision</td>
<td>Preparation, creation and/or presentation of the published work, specifically critical review, commentary or revision</td>
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<tr>
<td>Writing/manuscript preparation: visualization/data presentation</td>
<td>Preparation, creation and/or presentation of the published work, specifically visualization/data presentation</td>
</tr>
<tr>
<td>Supervision</td>
<td>Responsibility for supervising research; project orchestration; principal investigator or other lead stakeholder</td>
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<tr>
<td>Project administration</td>
<td>Coordination or management of research activities leading to this publication</td>
</tr>
<tr>
<td>Funding acquisition</td>
<td>Acquisition of the financial support for the project leading to this publication</td>
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</table>
A NEW RELATIONSHIP

We are pleased to announce that IMS will be engaging in joint activities with the Association of Computing Machinery (ACM), addressing the dynamic field of Data Science.

As an initial event, the ACM–IMS Interdisciplinary Summit on the Foundations of Data Science will be held June 15, 2019, in San Francisco. The event will bring together luminaries from Computing and Statistics for keynotes and panels on important topics in Data Science, such as fairness, privacy, ethics, causal inference, deep learning, and reinforcement learning, in addition to discussions about the future of Data Science and the role of ACM and IMS. Information about the program and registration will be available shortly at http://acct-www.acm.org/data-science-summit

We are also pleased to announce a joint membership agreement for the two societies. IMS members will receive a 25% discount on ACM membership. Student IMS members will receive free ACM membership. Information about this joint membership is available at https://www.acm.org/membership/joint-member-rates-for-ims

Statistical Science ‘Conversations’ online

Reminder that Stat Sci ‘Conversations’ are available on website

If you’re reading this, you’re probably already an IMS member, and as such, have set up your free access to all IMS journals, past and present. But did you know that all Statistical Science ‘Conversations’ are now open to the public as well? These interviews with some of the distinguished leaders in statistics and probability are one of the most popular features of Statistical Science. The personal opinions and experiences given in these interviews add a human touch, while also giving insights into the intellectual history of our field. By making them openly available, IMS hopes to add to a broader understanding of the important roles that statistics and probability play in science and in society more generally. So tell your interested friends!

Added in the past year are conversations with S.R.S. (Raghu) Varadhan, Tom Louis, Jim Pitman and Jon Wellner. You can find a full list of the articles here: https://www.imstat.org/journals-and-publications/statistical-science/conversations/
Teaching Statistics... at a Food Coop

Jonathan Skinner has taught a free statistics class ("without math") as part of the offerings at his local food coop, in order to spread the good word, for the past several years. He writes: I am a retired statistician with a PhD in mathematics (1970). It struck my fancy to offer statistics in the classes at our local Honest Weight Food Coop, as a change from those on meditation and cooking. My monthly sessions aim to provide a chance to talk about statistical issues—and science in general—and to generate a spark of thoughtfulness for people outside academic circles. I advertise: “No math needed for or used in this stand-alone session.” This is not strictly accurate, since what I omit is algebraic notation, and when possible I describe the computations in words. I think, if Euclid can describe, with proof, the generation of perfect numbers from powers of two before the invention of algebra, I can define variance without using a frightening capital sigma, with indices, indicating summation. The expected attendees are people interested in general—and to learn something about statistics, who don't have a bit of intellectual zing, who would like to provide a chance to extract meaning from data and of handling uncertainty.

My outlook is based on Fisher's definition of statistics on page 1 of his *Statistical Methods for Research Workers* (now almost 100 years old and still in print): “Statistics may be regarded as (i) the study of populations, (ii) as the study of variation, (iii) the study of methods of the reduction of data.” [Emphasis in the original.] The second and third items differ little in substance from the definition of D.J. Hand in his recent article on administrative data in the *JRSS* (Series A, February 2018): “statistics is the technology of extracting meaning from data and of handling uncertainty.”

So I always include Fisher's definition with explanation, since I think everyone needs to recognize Fisher's contribution to our subject. I also try to distinguish statistics from mathematics, saying that in math a number is just a number, while in statistics, a number is always a number of something and has a story behind it. If you don't know the story of the data and its treatment, how the study of the population was carried out, then you don't understand the statistic. But it's a mistake to remember the story and forget the magnitude—you can't have one without the other—even though popular mentions of a statistic rarely give its story.

I work in a bit of the history of statistics, to the effect that statistics dates back 5,000 years, when it was a matter of counting and tabulation. Probability is equally old, with dice-like bones found in archaeological digs. The two subjects joined about 200 years ago, although our modern subject, unlike the Average Man who was born from Quetelet's work in 1831, lacks a birth announcement. Now, models are all-important, so they, as well as variability—Fisher's item (ii)—are mentioned in every session.

Other than this, the content of the class changes every month, with minimal repetition. I draw statistical stories and topics from wherever I can. In addition to the work of Fisher and Professor Hand mentioned above, I am especially indebted to history books such as those by Stephen Stigler (Seven Pillars of Statistical Wisdom) and Theodore Porter (Trust in Numbers: The Pursuit of Objectivity in Science and Public Life) and to books on models such as those by Paul N. Edwards (A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming, with its motto, “without models, there are no data”) and by Virginia Eubanks (Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor, with details of the misery arising from mis-analyzed administrative data). The recent book by Bradley Efron & Trevor Hastie ([Computer Age Statistical Inference: Algorithms, Evidence, and Data Science](https://books.google.co.uk/books?id=mO8uAfj_m3oC — Ed.)) and the older book by C.R. Rao (Statistics and Truth: Putting Chance to Work) have provided examples. Margo Anderson’s *The American Census*, Michael Lewis's *The Fifth Risk*, Emmanuel Todd's *Who Is Charlie?, etc.—too many books related to or using statistics to mention. I also include classical references and often end with a poem. My favorite poem is “The Three Goals” by David Budbill, about the difficulty of relating individuals to populations. [*You can read this poem in https://books.google.co.uk/books?id=mO8uAfj_m3oC — Ed.*]

Do you put your statistical expertise to good use, outside your work? Tell us about it!

Email bulletin@imstat.org
Hand writing: On Talking Data

Contributing Editor
David J. Hand
(Imperial College London) counters the argument that the numbers speak for themselves: indeed they can, but they can also lie...

In 2008, in an article in *Wired* magazine, Chris Anderson famously wrote that “with enough data, the numbers speak for themselves.” This was in the context of arguing that “more is different” as far as data are concerned. He was claiming that the vast masses of data now being created, collected automatically as people go about their everyday lives, mean we can actually see what people do without having to construct theoretical models of behaviour. And there is certainly an element of truth in the claim – if the aim is simply prediction or decision-making, then understanding what is going on is unnecessary. All that it is needed is to know how things are related and what will happen when interventions are made. That information can be gained from past data and, along with an assumption of stationarity in supposing that the future will be like the past, it allows prediction of what will happen. However, if the aim is deeper, if the aim is actually to understand underlying mechanisms and processes, then models are necessary. Indeed, in one sense “models” are what understanding means.

Although big data has driven the modern notion that numbers can speak for themselves, Anderson’s statement was not the first time the idea had arisen. For example, in their 1988 book *The Likelihood Principle*, James Berger and Robert Wolpert wrote (Berger and Wolpert, 1988, p78): “[i]t was apparently this feeling, that data should be able to speak for itself, that led Barnard to first support the Stopping Rule Principle”. The argument there was that the data were adequate for inference, and how they were collected was irrelevant. This position has received diminishing support over time, as is demonstrated by the furore following John Ioannidis’s 2005 article “Why Most Published Research Findings are False.”

Various people have pushed back against Anderson’s assertion. Nate Silver, author of *The Signal and the Noise*, said (Silver, 2012, p9) “The numbers have no way of speaking for themselves. We speak for them. We imbue them with meaning.” And Deborah Mayo on p79 of in her recent book *Statistical Inference as Severe Testing*, said (Mayo, 2019) “In this day of fascination with Big Data’s ability to predict what book I’ll buy next, a healthy Popperian reminder is due: humans also want to understand and explain.”

But the fact is that the mistaken notion that numbers require no interpretation had been addressed long ago. Alfred Marshall, in his inaugural lecture for his Chair in Political Economy at Cambridge in 1885, wrote (Hodgson, 2005): “Experience in controversies such as these brings out the impossibility of learning anything from facts till they are examined and interpreted by reason; and teaches that the most reckless and treacherous of all theorists is he who professes to let facts and figures speak for themselves”. Although mainly concerned with the difficulty of deducing causal relationships from the “facts and figures” alone, Marshall was also very aware of the dangers of taking numbers out of context, of failing to allow for data quality, of perversions in how the data were collected, and the host of other risks associated with the blind use of data as descriptions of the phenomenon they purport to represent.

The phrase “the numbers speak for themselves” is taken to mean that what they say is obvious, requiring no interpretation and brooking no disagreement. But data alone are not sufficient to understand phenomena. Understanding requires more than simple description of observed structures in data sets – not least because, as I sometimes put it, if data can speak for themselves, they can also lie for themselves.

Further reading

Meeting report: SPA-2018

The 40th Stochastic Processes and their Applications Conference, SPA-2018, took place June 11–15, 2018, in Gothenburg, Sweden. Sergei Zuyev, the Chair of the Local Organizing Committee of SPA-2018, reports:

Conferences on stochastic processes and their applications are organised under patronage of the Bernoulli Society and IMS; they can justifiably be regarded as the most important international meetings on stochastic processes and their applications in various fields, from physics and biology to economics and technology. With the exception of the years when the Bernoulli World Congress is held (last in 2016 in Toronto), they are organised every year. The first SPA conference was held in Rochester in 1971. In 2015 the SPA conference was held in Oxford and in 2017 it was organised in Moscow. Notably, the 14th SPA Conference was held in Gothenburg back in 1984, featuring talks of such famous scientists as Harald Cramér, Joseph Doob and Kiyosi Itô. So, in 2018, the SPA conference returned to Gothenburg to celebrate its 40th anniversary.

The summer of 2018 on the west coast of Sweden was the hottest in over 100 years, and the participants were greeted by warm Scandinavian sun with the daytime temperatures of around 25°C/77°F (with some shots of summer rains at times). Gothenburg’s well-deserved status of a Friendly City contributed to the overall pleasant atmosphere of the conference. A half-day of excursions organised around the city and, especially, a dining cruise along the picturesque Västra Götaland coast with thousands of islands was a memorable experience. The conference dinner guests were entertained by Swedish traditional songs presented by an ensemble of local young singers.

SPA-2018 was organised by Chalmers University of Technology and it was one of the largest SPA conferences, with 478 registered participants from 43 countries. The most represented were Sweden, Germany, France, UK and USA. The conference program consisted of 13 plenary talks, 137 invited talks, 213 contributed talks: 363 talks in total. The first half of each day was given to plenary talks, followed after lunch by invited sessions, organised contributed sessions and sessions with contributed talks—up to 13 sessions in parallel, giving participants plenty of choice of topics to follow. Finding one’s own way through the sessions and places was facilitated by a user-friendly online programme with extensive selection capabilities. Two poster sessions were organised in the form of a mingle lunch served with delicious Scandinavian food. A few participants with small children benefited from a professional childcare service provided on site by Chalmers, free of charge.

SPA-2018 opened on Monday with a plenary talk by Olav Kallenberg, and closed on Friday with the Doob lecture delivered by Jeffrey Steif. The Lévy lecture was given by Alison Etheridge. Two IMS medallion lectures were given, by Davar Khoshnevisan and Anna De Masi, and a new named Entropy lecture, sponsored by Entropy journal, was given by François Baccelli. Other plenary talks were given by Mia Deijfen, Patricia Goncalves, Kurt Johansson, Mikhail Menshikov, Annie Millet, Asaf Nachmias and Nike Sun. The slides of the plenary talks, as well as the book of abstracts, can be downloaded from the conference website: spa2018.org. Feel the atmosphere of the conference by browsing the photos taken by the author and watch a short video from SPA-1984 at spa2018.org/conference-images.

As an experiment, two talks were given remotely via a web-conferencing system. While connection dropouts experienced in one of the talks made it, at times, difficult to understand, the other talk went very smoothly. We envisage that web-conferencing will soon become an integral part of the meetings, but we hope that face-to-face discussions will still remain the main attraction and benefit of attending conferences.

The organizing committee is happy to have received so much very positive feedback from the participants and thank all the speakers, the Programme Committee, its Head Timo Seppäläinen and the technical organisation company MeetX, who made SPA-2018 so successful and memorable.
IMS meetings around the world

Joint Statistical Meetings: 2019–2023

IMS sponsored meeting
IMS Annual Meeting @ JSM 2019
July 27–August 1, 2019. Denver, CO, USA.
http://ww2.amstat.org/meetings/jsm/2019/

We hope you’ll join us in Denver for the 2019 IMS Annual Meeting, in conjunction with JSM. With more than 6,500 attendees (including over 1,000 students) from 52 countries, and over 600 sessions, it’s a busy few days! The theme this year is “Statistics: Making an Impact.”

Late-Breaking Sessions cover one or more technical, scientific, or policy-related topics that have arisen in past year. Proposals are accepted by Richard Levine, JSM 2019 program chair, via email from mid-February to mid-April 2019: for full details of what is required, please see http://ww2.amstat.org/meetings/jsm/2019/ioslatebreaking.cfm

IMS co-sponsored meeting
2019 Seminar on Stochastic Processes
March 13–16, 2019. University of Utah, Salt Lake City, USA
http://www.math.utah.edu/SSP-2019/
The Seminar on Stochastic Processes 2019 (SSP2019) will feature the Kai-Lai Chung lecture from Jean Bertoin (Universität Zürich), and invited speakers: Dan Crisan (Imperial College London); Kay Kirkpatrick (University of Illinois at Urbana-Champaign); Sunder Sethuraman (University of Arizona); and Amandine Véber (École Polytechnique).

On March 13th, there will be two 90-minute tutorials by Marek Biskup (University of California, Los Angeles). More information on the content of the tutorials will be posted in early 2019.

There are no registration fees, but all participants, including invited speakers, are asked to register (the registration form is on the meeting website now).

IMS sponsored meeting
Bernoulli/IMS 10th World Congress in Probability and Statistics
August 17–21, 2020. Seoul, South Korea
http://www.wc2020.org
Program chair is Siva Athreya and the Local chair is Hee-Seok Oh.

IMS co-sponsored meeting
20th INFORMS Applied Probability Society Conference
July 3–5, 2019. Brisbane, Australia
The plenary speakers for the conference are: Charles Bordenave, Université de Toulouse, France (IMS Medallion Lecturer); Ton Dieker, Columbia University; Nelly Litvak, University of Twente and Eindhoven University of Technology, Netherlands; and Sidney Resnick, Cornell University (Marcel Neuts Lecturer).

A number of related events are being held before and after this conference: Queues, Modelling, and Markov Chains: A Workshop Honouring Prof. Peter Taylor, June 28–30 at Mount Tamborine, Queensland. Applied Probability, July 2 at The University of Queensland, Brisbane 12th International Conference on Monte Carlo Methods and Applications (MCM2019), July 8–13 in Sydney, Australia.

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

IMS Annual Meeting @ JSM 2022
August 5–10, 2022, Washington DC

IMS Annual Meeting @ JSM 2023
August 5–10, 2023, Toronto, ON, Canada

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More IMS meetings around the world

**IMS co-sponsored meeting**

**Symposium on Data Science and Statistics (SDSS) 2019**

**May 29–June 1, 2019**

**Bellevue, Washington, USA**

[www2.amstat.org/meetings/sdss/2018/](http://www2.amstat.org/meetings/sdss/2018/)

IMS Rep on Program Committees: Thomas C. M. Lee

Now an IMS co-sponsored meeting, this is the second annual Symposium on Data Science and Statistics. SDSS provides a unique opportunity for data scientists, computer scientists, and statisticians to come together and exchange ideas.

**IMS co-sponsored meeting**

**Workshop: Emerging Data Science Methods for Complex Biomedical and Cyber Data**

**March 29–30, 2019**

**Augusta, GA, USA**

[https://www.augusta.edu/mcg/dphs/workshop](https://www.augusta.edu/mcg/dphs/workshop)

The Division of Biostatistics and Data Science in the Department of Population Health Sciences in the Medical College of Georgia (MCG) at Augusta University (AU) is organizing this workshop focusing on elucidating emerging data science methods for modeling complex biomedical and cyber data. The goal of the proposed two-day workshop is to educate and empower graduate students, postdoctoral fellows, and early career researchers and faculty members with emerging statistical methods to address the complex data arising from various fields, in particular, from biosciences and cyber science.

**IMS co-sponsored meeting**

**The 7th Workshop on Biostatistics and Bioinformatics**

**May 10–12, 2019. Atlanta, GA, USA**

[https://math.gsu.edu/yichuan/2019Workshop/](https://math.gsu.edu/yichuan/2019Workshop/)

The keynote speaker is Dr. Samuel Kou, Professor of both Statistics and Biostatistics, the chair of Statistics Department at Harvard, and the recipient of the COPSS President’s Award in 2012. There will be invited talks by distinguished researchers, and a poster session by young researchers and graduate students.

In order to encourage graduate students and young researchers to conduct a cutting-edge research, we will organize a poster session. The workshop will be providing **partial travel awards** to selected conference participants. Priority will be given to senior graduate students, post-graduate, recent PhD’s, junior faculty, and under-represented groups. Check the website for application details of travel awards for young and minority researchers.

**IMS co-sponsored meeting**

**ACM–IMS Interdisciplinary Summit on the Foundations of Data Science**

**June 15, 2019. San Francisco, CA, USA**


An interdisciplinary event bringing together researchers and practitioners to address fairness, privacy, ethics, causal inference, deep learning, reinforcement learning, and the future of data science. ACM (the Association for Computing Machinery) and IMS are the two key academic organizations in these areas. This new joint venture [see announcement on page 10](#) aims to propel data science and to engage and energize our communities to work together.

**IMS co-sponsored meeting**

**12th International Conference on Bayesian Nonparametrics (BNP12)**

**June 24–28, 2019**

**Oxford, UK**

[http://www.stats.ox.ac.uk/bnp12/](http://www.stats.ox.ac.uk/bnp12/)

The Bayesian nonparametrics (BNP) conference is a bi-annual international meeting bringing together leading experts and talented young researchers working on applications and theory of nonparametric Bayesian statistics. Keynote speakers are Tamara Broderick (MIT), Long Nguyen (Michigan) and Aad van der Vaart (Leiden). Applications for travel support: deadline December 15.

Note that O’Bayes 2019 follows this meeting in Warwick, 70 miles away [see the announcement below](#).

**IMS co-sponsored meeting**

**O’Bayes 2019: Objective Bayes Methodology Conference**

**June 29–July 2, 2019**

**University of Warwick, UK**

[https://warwick.ac.uk/fac/sci/statistics/staff/academic-research/robert/0bayesconference/](https://warwick.ac.uk/fac/sci/statistics/staff/academic-research/robert/0bayesconference/)

O’Bayes 2019 is dedicated to facilitate the exchange of recent research developments in objective Bayes theory, methodology and applications, and related topics, to provide opportunities for new researchers, and to establish new collaborations and partnerships. The meeting is the biennial meeting of the Objective Bayes section of the International Society for Bayesian Analysis (ISBA).

Note that O’Bayes 2019 is immediately after the BNP 2019 conference in Oxford [see announcement above](#), which takes place 24–28 June 2019, close enough in both travel time (45 minutes by direct train) and distance (70 miles) to benefit members of both the Objective Bayes and Bayesian non-parametric communities, who should consider joint attendance. Registration is open now.
IMS co-sponsored meeting
Statistics Conference in Honor of Aad van der Vaart’s 60th Birthday
June 17–21, 2019. Leiden, The Netherlands
http://pub.math.leidenuniv.nl/~schmidthieberaj/aadbirthday/index.html
The conference, honoring Aad van der Vaart’s 60th birthday and many professional achievements, will bring together collaborators and leading researchers in theoretical and applied statistics. Topics include nonparametric Bayes, high-dimensional/nonparametric statistics and applications of statistics in the life sciences.
See the website for a tentative list of speakers and registration instructions.

IMS co-sponsored meeting
2019 WNAR/IMS meeting
June 23–26, 2019. Portland, OR, USA
http://www.wnar.org/event-3013994
The 2019 WNAR/IMS meeting will be in Portland, Oregon from June 23-26 hosted by Oregon Health & Science University (OHSU). Portland, Oregon’s largest city, is known for eco-friendliness with high walkability, parks, bridges and bicycle paths. The scientific program features short courses, invited and contributed oral sessions, and student paper sessions. The local organizer is Byung Park (parkb@ohsu.edu), and the program chair is Meike Niederhausen (niederha@ohsu.edu).

IMS co-sponsored meeting
ICIAM 2019: the 9th International Congress on Industrial and Applied Mathematics
July 15–19, 2019. Valencia, Spain
http://www.iciam.org/index.php
The 9th International Congress on Industrial and Applied Mathematics (ICIAM 2019) will be held in Valencia, Spain, from July 15–19, 2019. IMS is a member of ICIAM.
SPECIAL OFFER: Discounted travel with Lufthansa Group Partner Airlines & Iberia Airlines: see website for details.

IMS co-sponsored meeting
Statistics and the Life Sciences: Creating a Healthier World
November 15, 2019
Boston University School of Public Health
http://www.bu.edu/sph/news-events/signature-programs/deans-symposia/
IMS Representative(s) on Program Committees: Josee Dupuis, Eric Kolaczyk
A new website is under construction for this one-day meeting, but this URL gives details of the Dean’s Symposia, of which this is one.
For now, please note the date.
Other meetings and events around the world

**Statistical Analysis of Neural Data (SAND9)**
**May 21–23, 2019**
**Pittsburgh, PA, USA**

w [http://sand.stat.cmu.edu](http://sand.stat.cmu.edu)

The ninth international workshop on Statistical Analysis of Neural Data (SAND9) will take place on May 21-23, 2019, in Pittsburgh, PA. Please mark your calendar.

More details can be found at the SAND9 website.

Registration will open soon.

**Bocconi Summer School in Advanced Statistics and Probability**
**July 8–19, 2019**
**Lake Como, Italy**


The 2019 edition of the Bocconi Summer School in Advanced Statistics and Probability, on “Random Graphs and Complex Networks: Structure and Function”, will take place on July 8–19, 2019, at Villa del Grumello, on the shores of the Lake Como, Italy.

The Instructors will be Remco van der Hofstad (Eindhoven University of Technology, The Netherlands) and Shankar Bhamidi (University of North Carolina, USA). Tutorials will be given by Souvik Dhara (New England Lab, Microsoft Research and MIT, USA) and Clara Stegehuis (Eindhoven University of Technology, The Netherlands).

The two-week summer school is open to all interested researchers, but is especially designed for PhD students. The deadline for applications is March 27, 2019.

For more information see the website or contact BBS.statistics@unibocconi.it, or sonia.petrone@unibocconi.it

**31st Annual Conference on Statistics and Modeling in Human and Social Sciences**
**March 26–28, 2019**
**Faculty of Economics and Political Science, Cairo University, Egypt**


See poster:
More meetings around the world

30th International Biometric Conference (IBC2020)
July 6–10, 2020
Seoul, Korea


On behalf of the 30th International Biometric Conference (2020IBC) Local Organizing Committee and International Biometric Society Korean Region (IBS Korean Region), it is our greatest honor and pleasure to host the 2020 IBC in Seoul, Korea. International Biometric Conferences have been the most effective and prominent gathering of biometric professionals and having the Conference convened in Seoul would be particularly meaningful, to the extent that this highly acclaimed conference would change the face of bioscience in Korea and beyond in every way. Biosciences in Korea and Asia have been recognized as one of the most promising industries for growth (research field for better health and environment), yet there still is a lot of room for improvement.

The 2020 IBC Local Organizing Committee and IBS Korean Region will exert all efforts to design comprehensive and rewarding scientific programs and all participants will have various opportunities to strengthen professional networks and friendship with one another in and around the conference.

Seoul, the heart of the nation and the venue for 2020 IBC, is a popular destination for international travelers, one where tradition meets modernity in perfect harmony. Seoul has been home to many exciting and outstanding international conferences and events in the past few decades. The city is safe and tourist-friendly and offers the warmest hospitality, state-of-the-art conference and comfortable accommodation facilities, breathtaking scenery, and appealing cuisines.

2020 IBC’s cultural and social programs will be organized for memories to cherish for life and there will also be many other opportunities to explore Seoul and Korea. The 202 IBC Local Organizing Committee and IBS Korean Region, in close association with central and local governments, industries, academic societies and institutions in Korea, assure the success of the 2020 IBC. We, therefore, would like to express my sincere enthusiasm to host the 2020 IBC in Seoul and gratitude for your kind consideration and support in advance.

International Conference on Health Policy Statistics (ICHPS)
January 6–8, 2020. San Diego, CA, USA

w http://www2.amstat.org/meetings/ices/2020/index.cfm

The 13th International Conference on Health Policy Statistics is going to vibrant and beautiful San Diego, California, January 6–8, 2020, and we hope to see you there!

International Conference on Establishment Statistics (ICES VI)
June 15–18, 2020. New Orleans, Louisiana, USA

w http://www2.amstat.org/meetings/ices/2020/index.cfm

Continuing in the traditions of ICES-I to ICES-V, ICES-VI will explore new areas of establishment statistics, as well as reflect state-of-the-art methodology at the time of the conference.
### Employment Opportunities around the world

<table>
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<th>Location</th>
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<th>Country</th>
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::: Search our online database of the latest jobs around the world for free at [http://jobs.imstat.org](http://jobs.imstat.org) :::
International Calendar of Statistical Events

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

March 2019

March 6–8: Zanjan, Iran. 5th Conference on Contemporary Issues in Data Science (GDaS) w https://cidas.iasbs.ac.ir/


March 29–30: Augusta, GA, USA. Emerging Data Science Methods for Complex Biomedical and Cyber Data w https://www.augusta.edu/mcg/dphs/workshop

April 2019

April 23–26: Paris, France. International Conference on Control, Decision and Information Technologies (CoDiT’19) w https://codit19.com

April 23–26: Vienna, Austria. 8th International Conference on Risk Analysis and Design of Experiments w https://icra8.boku.ac.at/


May 2019


May 10–12: Atlanta, GA, USA. 7th Workshop on Biostatistics and Bioinformatics w https://math.gsu.edu/yichuan/2019Workshop/


May 13–15: Pittsburgh, PA, USA. Statistical Analysis of Neural Data (SAND9) w http://sand.stat.cmu.edu


May 27–June 8: Charlottesville, VA, USA. Integrable Probability Summer school w http://vipss.int-prob.org/


June 2019


June 16–19: Thessaloniki, Greece. 39th International Symposium on Forecasting w https://isf.forecasters.org/


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


June 19–21: Lima, Peru. VI Congreso bayesiano de América Latina / Bayesian Congress of Latin America (VI COBAL) w https://sites.google.com/site/cobal2019/

June 19–22: Manizales, Colombia. 3rd International Congress on Actuarial Science and Quantitative Finance w http://icasqf.org/

June 24–27: Uppsala, Sweden. Perspectives on high-dimensional data analysis (HDDA-IX) w https://indico.uu.se/event/526/overview

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

June 23–26: Portland, OR, USA. 2019 WNAR/IMS meeting w http://www.wnar.org/event-3013994

June 29–July 2: Warwick, UK. O’Bayes 2019: Objective Bayes Methodology Conference w https://warwick.ac.uk/fac/sci/statistics/staff/academic-research/robert/0bayesconference/

July 2019

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


July 8–12: Evanston, IL, USA. 41st Conference on Stochastic Processes and their Applications (SPA) w http://sites.math.northwestern.edu/SPA2019/


July 8–19: Lake Como, Italy. Bocconi Summer School in Advanced Statistics and Probability w http://bocconi2019.lakecomoschool.org


August 2019


September 2019

September 22–26: Hannover, Germany. 29th European Safety and Reliability Conference (ESREL 2019) w https://esrel2019.org/


October 2019


November 2019

November 15: Boston, MA, USA. Statistics and the Life Sciences: Creating a Healthier World w TBD

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December 2019
- December 2–6: Mérida, México. XV CLAPEM: Latin American Congress of Probability and Mathematical Statistics
  w http://clapem2019.eventos.cimat.mx/

January 2020

March 2020
- March 22–25: Nashville, TN, USA. ENAR Spring Meeting
  w http://www.enar.org/meetings/future.cfm

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

July 2020
- July 5–11: Portoroz, Slovenia. 8th European Congress of Mathematics w http://www.8ecm.si/

August 2020

March 2021
- March 14–17: Baltimore, MD, USA. ENAR Spring Meeting
  w http://www.enar.org/meetings/future.cfm

August 2021

March 2022
- March 27–30: Houston, TX, USA. ENAR Spring Meeting
  w http://www.enar.org/meetings/future.cfm

July 2022
- July/August: Location TBC. IMS Annual Meeting w TBC

August 2022

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

August 2024

August 2025
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