IMS Bulletin



April/May 2018

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Philip Ernst: Tweedie Award

The Institute of Mathematical Statistics has selected Philip A. Ernst as the winner of this year's Tweedie New Researcher Award. Dr. Ernst received his PhD in 2014 from the Wharton School of the University of Pennsylvania and is now an Assistant Professor of Statistics at Rice University: http://www.stat.rice. edu/~pe6/. Philip's research interests include exact distribution theory, stochastic control, optimal stopping, mathematical finance and statistical inference for stochastic processes.

The IMS Travel Awards Committee selected Philip "for his fundamental contributions to exact distribution theory,



Philip Ernst

in particular for his elegant resolution of the Yule's nonsense correlation problem, and for his development of novel stochastic control techniques for computing the value of insider information in mathematical finance problems."

Philip Ernst will present the Tweedie New Researcher Invited Lecture at the IMS New Researchers Conference, held this year at Simon Fraser University from July 26–28 (immediately before JSM). Visit http://groups.imstat.org/newresearchers/ conferences/nrc.html for more information about the New Researchers Conference.

The other invited speakers at the New Researchers Conference are: IMS President Alison Etheridge, Oxford University; IMS President-Elect Xiao-Li Meng, Harvard University; Marc Suchard, University of California, Los Angeles; Hongyu Zhao, Yale University; and Jennifer Hill, New York University.

The Tweedie award is named for Richard L. Tweedie (1947–2001), the Australianborn professor of biostatistics and head of the Division of Biostatistics at the University of Minnesota, who mentored many young colleagues at work and through professional society activities.

IMS Elections close May 20, 2018

The annual elections are taking place for the next IMS President and five places in the IMS Council. We introduced the candidates in the last issue: **Susan Murphy** is the candidate for President-Elect, and the ten Council candidates are **Vivek S. Borkar, Vanja Dukic, Christina Goldschmidt, Ruth Heller, Susan Holmes, Xihong Lin, Richard Lockhart, Gabor Lugosi, Nicolai Meinshausen and Kerrie Mengersen**. Voting is open now—https://secure.imstat.org/secure/vote2018/vote2018.asp—and you have until May 20 to decide.

IMS Bulletin

Volume 47 • Issue 3 April/May 2018 ISSN 1544-1881

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IMS Members' News

Royal Statistical Society awards for 2018

The UK Royal Statistical Society has announced its 2018 awards recipients. Among them are three IMS members: Peter Bühlmann (Guy Medal in Silver), Peng Ding (Guy Medal in Bronze), and Peter Diggle (Barnett Award). The other RSS awards went to: Nicky Best (Bradford Hill Medal), Idris Eckley (Greenfield Industrial Medal), Jill Leyland (West Medal), Emanuele Giorgi (Research Prize), and Colin Aitken (Howard Medal).

The Guy Medal in Silver was awarded to IMS Fellow Peter Bühlmann for his highly-cited paper entitled "Stability Selection," joint with Nicolai Meinshausen, which was read to the Royal Statistical Society and published in 2010, and proposes a very general method for improving the performance of an arbitrary variable selection algorithm. His citation also noted his 2016 discussion paper, "Causal inference using invariant prediction: identification



Peter Rühlmann

and confidence intervals," joint with Jonas Peters and Nicolai Meinshausen, which introduced a new notion of invariance into the causal inference liter-



ature and showed how this can be exploited, for instance to obtain confidence intervals for causal effects.

The Guy Medal in Bronze was awarded to Peng Ding for his methodological and theoretical contributions to casual inference, specifically for his three papers in *JRSS B:* Ding and Lu (2017), Jiang, Ding and Geng (2016) and Ding, Feller and Miratrix (2016). Despite having only been awarded his PhD in 2015, his work in these three papers provides a ground-breaking theoretical founda-

tion for conducting objective causal inference.

Peter Diggle receives the Barnett Award for his outstanding and sustained contribution within the field of environmental statistics, particularly in relation to the area of environmental health sciences. He is one of the most distinguished and influential statisticians working in the area of developing and fitting statistical models to spatial and spatio-temporal data applied to the environmental sciences. He has published extensively in both the statistical and environmental sciences literatures and written several substantial



Peter Diaale

books establishing the statistical methods as core tools within the environmental sciences. More about the RSS Honours can be found at www.rss.org.uk/honours.

NISS 2017 Jerome Sacks Award for Jun Liu

The National Institute of Statistical Sciences Jerome Sacks Award recognizes sustained, high-quality, cross-disciplinary research involving the statistical and data sciences. Last year's award recipient, Jun S. Liu, Harvard University, was recognized for his groundbreaking research contributions at the interface of statistics and biology. He will speak at an invited session at JSM2018.



Jun S. Liu (center), winner of the 201 Award, with NISS Board Chair Mary Batcher (left) and NISS Director (DC office) Nell Sedránsk

IMS Members' News

Lawrence David Brown: 1940–2018

Former IMS President Lawrence D. Brown died peacefully on February 21, 2018, at the age of 77. Larry preserved his unfailing fortitude and good humor to his last day.

Larry was born on Dec. 16, 1940, in Los Angeles, CA. He earned his PhD in mathematics from Cornell in 1964, then taught at UC

Berkeley, Cornell and Rutgers, until in 1994 he moved to the Wharton School at the University of Pennsylvania; he taught his last course there as the Miers Busch Professor of Statistics last fall.

One of the leading statisticians of his generation, he was the recipient of many honors, including devoted service as a member of the National Academy of Sciences, election to the American Academy of Arts and Sciences, the presidency of the IMS, and an honorary doctorate from Purdue University. He was much loved by his colleagues and his students.

Larry's passion for his work was matched by his devotion to his family. His wife Linda Zhao [*pictured with him, above right*] survives him, as do five children and 19 grandchildren, and his two brothers. A full obituary will follow.

Judea Pearl receives inaugural UIF Grenander Prize in Stochastic Theory and Modeling

Judea Pearl has been awarded the 2018 Ulf Grenander Prize in Stochastic Theory and

Modeling, for the invention of a model-based approach to probabilistic and causal reasoning, the discovery of innovative tools for inferring these models from observations, and the development of novel computational methods for the practical applications of these models. The 2018 prize was awarded in January during the Joint Mathematics Meetings in San Diego.

Ulf Grenander (1923–2016), an IMS Fellow, sought to develop general tools for constructing realistic models of patterns in natural and man-made systems. He believed in the power of rigorous math-

ematics and abstraction for the analysis of complex models, statistical theory for efficient model inference, and the importance of computation for bridging theory and practice. Judea Pearl has relied on these very same principles, bringing to it an energy and creativity that is remarkably reminiscent of the scientific life of Ulf Grenander.

Judea is professor of computer science and statistics at UCLA, where he directs the Cognitive Systems Laboratory and conducts research in AI, human cognition, and philosophy of science. He has authored numerous scientific papers and three books. A recent book, *Causal Inference in Statistics* (2016, with M. Glymour and N. Jewell) introduces modern causal analysis to undergraduate statistics education. His forthcoming *The Book of Why* (2018, with Dana Mackenzie) explains for a general audience how cause and effect, the grand taboo in science, can be placed on a firm mathematical foundation.

Judea is a member of the US National Academy of Sciences and National Academy of Engineering, a fellow of the Cognitive Science Society, and a founding fellow of the Association for the Advancement of Artificial Intelligence. He is a recipient of the Technion's Harvey Prize (2011) and the ACM A.M. Turing Award (2012) for the development of calculus for probabilistic and causal reasoning.

Visit the American Mathematical Association to read more about Judea Pearl and the Ulf Grenander Prize: http://www.ams.org/news?news_id=3856

Dil http://ejp.ejpecp.org

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Current Index to Statistics: George Styan http://www.statindex.org Ølog into members' area at imstat.org

Journal of Computational and Graphical Statistics: Diane Cook http://www.amstat.org/publications/jcgs

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Statistics Surveys: David Banks http://imstat.org/ss ¤http://projecteuclid.org/ssu

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

IMS-Supported Journals

ALEA: Latin American Journal of Probability and Statistics: Victor Perez Abreu @http://alea.impa.br/english

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

Bayesian Analysis: Bruno Sansó @http://ba.stat.cmu.edu

Bernoulli: Holger Dette http://www.bernoulli-society.org/ ¤http://projecteuclid.org/bj

Brazilian Journal of Probability and Statistics: Francisco Louzada Neto http://imstat.org/bjps @http://projecteuclid.org/bjps

IMS-Affiliated Journals

Observational Studies: Dylan Small Mhttp://www.obsstudies.org

Probability and Mathematical Statistics: K. Bogdan, M. Musiela, J. Rosiński, W. Szczotka, & W.A. Woyczyński @http://www.math.uni.wroc.pl/~pms

Stochastic Systems: Shane Henderson Mhttp://www.i-journals.org/ssy/

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http://imstat.org/aoas ¤http://projecteuclid.org/aoas Annals of Probability: Maria Eulalia Vares

http://imstat.org/aop

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http://imstat.org/ejs

IMS Collections

Mhttp://projecteuclid.org/aop Annals of Applied Probability: Bálint Tóth

Mhttp://projecteuclid.org/aoap

Statistical Science: Cun-Hui Zhang http://imstat.org/sts

Mhttp://projecteuclid.org/ss

Mhttp://projecteuclid.org/imsc

http://imstat.org/publications/imscollections.htm

IMS Monographs and IMS Textbooks: David Cox

Electronic Journal of Statistics: Domenico Marinucci

Electronic Journal of Probability: Andreas Kyprianou

We introduce another three of this year's Medallion Lecturers: Jean Bertoin, Davar Khoshnevisan and Ming Yuan. Jean will be giving his Medallion Lecture at the IMS Annual Meeting in Vilnius, Lithuania, July 2–6, 2018; Davar will be speaking at the Stochastic Processes and Their Applications (SPA 2018) meeting in Gothenburg, Sweden (June 11–15); Ming's lecture will be at JSM in Vancouver, July 28–August 2, 2018. More special lecture previews in the next issue...



Medallion preview: Jean Bertoin



Jean Bertoin studied at the Ecole Normale Supérieure de Saint Cloud, France, and received his PhD from University Pierre-et-Marie Curie (Paris VI) in 1987 under the supervision of Marc Yor. He is currently a Professor at the University of Zürich, having held positions at the University Pierre-et-Marie Curie, at the CNRS, and at Ecole Normale Supérieure (ENS) in Paris. His research interests include notably Lévy processes, random trees, branching processes, fragmentation and coalescence dynamics. He was awarded the CNRS bronze medal (1993), the Rollo Davidson prize (1996) and the Thérèse Gautier

prize (2015); he is also a corresponding member of the Academia Mexicana de Ciencias. Jean will be giving his Medallion Lecture at the IMS Annual Meeting in Vilnius, Lithuania, July 2–6, 2018

Growth-fragmentation processes

Pure fragmentation processes were introduced by A.N. Kolmogorov in 1941, as models for an inert mass which undergoes repeatedly random dislocations. To deal with dynamics which are mathematically tractable, one assumes the branching property, that is, that different fragments evolve independently. Further, one often focuses on a self-similar setting, in the sense that the statistics of the process starting at time 0 from a single mass m>0 can be reduced up to a simple scaling transformation to that for a unit mass m=1. The distribution of a pure fragmentation process is then determined by the index of self-similarity, a so-called dislocation measure that encodes the statistics of the sudden dislocations, and an erosion coefficient that accounts for the possible continuous decay of the masses of the fragments.

Growth-fragmentation processes can be thought of as fragmentation processes to which a growth phenomenon has been incorporated. They have been introduced in Life Science as models of populations of cells or bacteria, which evolve by growth and division. They have also appeared more recently in the framework of random planar geometry.

The incorporation of growth changes fundamentally the

dynamics of fragmentation processes. For instance, growth may "compensate" dislocations and avoid instantaneous shattering despite of an extremely high intensity of dislocations. On the other hand, growth may also induce "local" explosions, in the sense that an infinity of macroscopic particles may be present at the same time. Typically, this may occur when intense and repeated dislocations produce a huge number of extremely small particles, and still the growth rate for small particles is sufficiently strong to enable some of them to reach a macroscopic size in a finite time.

In this lecture, I will describe the general construction of (self-similar) growth-fragmentation processes in terms of a cell system, whose evolution is related to that of a Lévy process without positive jumps. In particular, negative jumps of the latter are interpreted as birth events for the cell system, in the sense that at each time a cell makes a negative jump with size -y, a new particle with size y is created and starts evolving independently of her mother. I will also discuss the connection with branching random walks, and some remarkable Malthusian martingales that arise in this framework. In particular, this leads to an important area measure, which plays a central role in a variety of limit theorems.

Medallion preview: Davar Khoshnevisan



Davar Khoshnevisan received his PhD in 1989 from the Department of Statistics at the University of California at Berkeley under the supervision of Professor P.W. Millar. Davar was a postdoc at MIT and the University of Washington before he joined the faculty of Mathematics at the University of Utah in 1993, where he is now Professor and Chair of the Department of Mathematics. Davar works in stochastic analysis, especially on qualitative and quantitative analysis of stochastic partial differential equations. He is a Fellow of the IMS, an Oberwolfach–Simons Visiting Professor (2014), principal lecturer at the CBMS Conference on Stochastic Partial Differential Equations in Lansing, MI (2013), plenary speaker at the 34th Conference on Stochastic Processes and

Their Applications (SPA) in Osaka (2010), and an awardee of the Rollo Davidson Prize (1998). Davar Khoshnevisan's Medallion Lecture will be given at SPA 2018 in Gothenburg, Sweden, in June 2018.

Analysis of a Stratied Kraichnan Model

We study quantitative, as well as qualitative, aspects of the problem of turbulent transport of a passive scalar quantity (such as the temperature, or concentration, of an injected dye) in a naturally arising, random, stratied, 2-dimensional, incompressible velocity field.

Among other things, we introduce a rigorous framework for describing the multifractal structure of the dissipation times of the

passive quantity of interest. Some of these multi-fractal properties have been predicted earlier in the physics and engineering literatures. All of the unexplained terms of the abstract will be described more precisely in the talk.

This is based on joint work with Jingyu Huang.

Medallion preview: Ming Yuan

Ming Yuan is Professor of Statistics at Columbia University. He was previously Senior Investigator at Morgridge Institute for Research and Professor at University of Wisconsin at Madison, and prior to that, Coca-Cola Junior Professor at Georgia Institute of Technology. His research interests lie broadly in statistics and its interface with other quantitative and computational fields such as optimization, machine learning and computational biology. In particular, his recent research focuses on algorithmic and theoretical aspects of high dimensional data analysis and its applications. He serves or has served on the editorial boards of The Annals of Statistics, Bernoulli, Electronic Journal of Statistics, Journal of the American Statistical Association, Journal of the Royal Statistical



Society Series B, and Statistical Science. He is a recipient of the John van Ryzin Award (2004; ENAR), a CAREER Award (2009; NSF), the Guy Medal in Bronze (RSS; 2014), and a Leo Breiman Junior Researcher Award (ASA Section on SLDM; 2017).

Ming's Medallion Lecture will be given at the Joint Statistical Meetings (JSM) in Vancouver, July 28-August 2, 2018.

Statistical Analysis of Large Tensors

Large amount of multidimensional data in the form of multilinear arrays, or tensors, arise routinely in modern applications from such diverse fields as chemometrics, genomics, physics, psychology, and signal processing among many others. At the present time, our ability to generate and acquire them has far outpaced our ability to effectively extract useful information from them. There is a clear demand to develop novel statistical methods, efficient computational algorithms, and fundamental mathematical theory to analyze and exploit information in these types of data. Such an endeavor, however, faces unique challenges from both conceptual and computational points of view.

In spite of the challenges, we are at a vantage point to address some of the most pressing and core issues in the statistical analysis of these types of data thanks to recent advances in high dimensional statistics, high dimensional probability, and large scale nonlinear optimization. In this lecture, I will illustrate how we can build upon these advances and develop statistical methods, algorithms and theory to efficiently, both statistically and computationally, analyze large scale data in the form of tensors.

Recent papers: two co-sponsored journals *Stochastic Systems*

Focusing on the interface of applied probability and operations research, *Stochastic Systems* is the flagship journal of the INFORMS Applied Probability Society and is published through a cooperative agreement between INFORMS/APS and IMS. This open-access journal seeks to publish high-quality papers that substantively contribute to the modeling, analysis, and control of stochastic systems. The contribution may lie in the formulation of new mathematical models, in the development of new mathematical methods, or in the innovative application of existing methods. A partial list of applications domains that are germane to this journal include: service operations; logistics, transportation and communications networks (including the Internet); computer systems; finance and risk management; manufacturing operations and supply chains; and revenue management. Read it at https://projecteuclid.org/euclid.ssy

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Scaling limits for infinite-server systems in a random environment	. MARISKA HEEMSKERK, JOHAN VAN LEEUWAARDEN, AND MICHEL MANDJES; 1 - 31
Asymptotic expansion of stationary distribution for reflected Brownian motion in the quarter plane via analy	rtic approachSANDRO FRANCESCHI AND IRINA KOURKOVA; 32 - 94
Heavy-traffic limit for the initial content process	A. KORHAN ARAS, YUNAN LIU, AND WARD WHITT; 95 - 142
Heavy traffic approximation for the stationary distribution of a generalized Jackson network: The BAR approx	ach ANTON BRAVERMAN, J. G. DAI, AND MASAKIYO MIYAZAWA; 143 - 196
Waves in a spatial queue.	DAVID ALDOUS; 197 - 236

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A Blood Bank Model with Perishable Blood and Demand Impatience	SHAUL K. BAR-LEV, ONNO BOXMA, BRITT MATHIJSEN, AND DAVID PERRY; 237 - 262
An Ergodic Control Problem for Many-Server Multiclass Queueing Systems with Cross-Trained Servers	
Detecting Markov Chain Instability: A Monte Carlo Approach	
Optimal Admission Control for Many-Server Systems with QED-Driven RevenuesJARON SA	NDERS, S. C. BORST, A. J. E. M. JANSSEN, AND J. S. H. VAN LEEUWAARDEN; 315 - 341
Scaling Limit of a Limit Order Book Model via the Regenerative Characterization of Lévy Trees	PETER LAKNER, JOSH REED, AND FLORIAN SIMATOS; 342 - 373

Probability Surveys

Probability Surveys is a peer-reviewed electronic journal which publishes survey articles in theoretical and applied probability. The style of articles may range from reviews of recent research to graduate textbook exposition. Articles may be broad or narrow in scope. The essential requirements are a well specified topic and target audience, together with clear exposition. The journal is sponsored by the Institute of Mathematical Statistics and by the Bernoulli Society. *Probability Surveys* is an Open Access journal. The full text of each article published is freely available to all readers.

Read it at https://projecteuclid.org/euclid.ps

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TASEP hydrodynamics using microscopic characteristics	
Topics in loop measures and the loop-erased walk	
The Bethe ansatz for the six-vertex and XXZ models: An exposition	HUGO DUMINIL-COPIN, MAXIME GAGNEBIN, MATAN HAREL, IOAN MANOLESCU, AND VINCENT TASSION; 102 - 130

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Stein's method for comparison of univariate distributions	CHRISTOPHE LEY, GESINE REINERT, AND YVIK SWAN; 1–52 $$
Fringe trees, Crump–Mode–Jagers branching processes and <i>m</i> -ary search trees.	CECILIA HOLMGREN AND SVANTE JANSON; 53-154
Opinion exchange dynamics	ELCHANAN MOSSEL AND OMER TAMUZ; 155 - 204
Coagulation and diffusion: A probabilistic perspective on the Smoluchowski PDE.	
Copulas and long memory.	RUSTAM IBRAGIMOV AND GEORGE LENTZAS; 289 - 327

Statistics Surveys: a message from the Editors

You've probably heard of the IMS co-sponsored journal *Statistics Surveys*. It publishes survey articles in theoretical, computational, and applied statistics. The Editors would like to tell you a little more about the journal, and how you can help. They write:

Statistics Surveys is not about survey statistics. It is a journal dedicated to publishing high-quality review papers on emerging topics in the statistical universe.

Statistics Surveys is a child with four parents: the American Statistical Association (ASA), the Bernoulli Society (BS), the Institute of Mathematical Statistics (IMS), and the Statistical Society of Canada (SSC). In nearly one-to-one correspondence, there are five editors: **Ranjan Maitra**, representing the ASA; **Sara van de Geer**, representing the BS; **David Banks**, representing the IMS; and **Richard Lockhart**, representing the SSC. Additionally, the Coordinating Editor is **Wendy Martinez**—one of the co-founders of this electronic journal collecting review papers—and she makes the review trains run on time.

The journal's website can be found at

http://imstat.org/ss/; it contains instructions on how to access papers, how to submit papers, how to submit supplementary material, and how to referee papers.

Invited session at JSM

As a result of what may be complex, backroom, and even sinister negotiations, the management committee for the Joint Statistical Meetings (JSM) has agreed upon a rotation schedule that permits each of the member societies' journals to be showcased in an invited session every few years. We are pleased to report that in 2018, the deterministic roulette wheel has landed upon *Statistics Surveys*, and we are primed to please. Our session will include survey talks on "Visualizing Data Using t-SNE" (Laurens van der Maaten, Facebook AI Research), "Topological Data Analysis" (Adam Jaeger, Indiana University, Bloomington), and "Tensor Methods in Multivariate Statistics" (Maryclare Griffin, University of Washington, Seattle). All of these topics are prominent in contemporary statistical research.

Your paper (especially if you're a new PhD!)

Finally, the call. *Statistics Surveys* is always eager to get new papers, and quite frankly, we do not receive enough good submissions. Our standards for publication will always be high, but as a matter of practicality, our editors want to work with authors to find a way to get to an acceptance. **We particularly hope to get submissions from new PhDs**: the first chapter of most dissertations is a nearly useless literature review—*Statistics Surveys* is a way to make that work pay off.

Should IMS create a new Data Science journal?

Liza Levina is chairing an ad hoc IMS committee to consider whether we should create an IMS journal in Data Science. She, and the committee members, would like your input:

The IMS is considering the possibility of creating a new journal with a focus on data science. The journal is intended to fill a gap in the current IMS journal offerings as well as expand the audience of the IMS journals, both readers and authors. The IMS values the input of its members, and others in the field,

and is seeking to collect relevant information from everyone in the

data science community, broadly defined. Please answer a few brief survey questions at the link below. We very much appreciate your time and your input.

The survey, which should take you five minutes or less to complete, is at: https://www.surveymonkey.com/r/ imsdatascience

This Piled Higher and Deeper comic strip by Jorge Cham was originally published in 2004 yet still seems strangely apposite!



We'll announce the winners of the IMS

Hannan Graduate Student Travel Awards

in the next issue. (Hannan Award winners

also use their funds to travel to-and possi-

bly present a paper or a poster at-an IMS

sponsored or co-sponsored meeting. They

are eligible for this newly created award if

they are graduate students studying some

have not yet received a PhD degree.

area of statistical science or probability, who

2018 IMS New Researcher Travel Awards

We are pleased to announce the eight winners of the 2018 IMS New Researcher Travel Awards, who will be using their awards to travel to present a paper or a poster at four different IMS sponsored or co-sponsored meetings.

Abhik Ghosh from the Indian Statistical Institute, Kolkata, India will be attending SPA 2018, the 40th Conference on Stochastic Processes and Their Applications, in Gothenburg, Sweden, from June 11–15.

Also June 11–15 this year is the 4th Conference of the International Society for NonParametric Statistics in Salerno, Italy. Attending this meeting will be William Weimin Yoo from Leiden University in The Netherlands.

Edward Kennedy, Department of Statistics & Data Science at Carnegie Mellon University, USA, will travel to the IMS annual meeting in Vilnius, Lithuania (July 2–6). All the travel award winners will be mentioned in the Presidential Address and Awards Ceremony at this meeting, on the Monday evening.

The other five travel awardees will be using their funds to travel to JSM in Vancouver, July 28-August 2. They are: Emmanuel Afuecheta, Department of Statistics, Nnamdi Azikiwe University, Awka, Nigeria; Merle Behr, Institute for Mathematical Stochastics, University of Göttingen, Germany; Frank Werner, Max Planck Institute for Biophysical Chemistry, Göttingen, Germany; Himel Mallick, Department of Biostatistics, Harvard University, USA; and Samuel D. Pimentel, University of California, Berkeley, USA.



Emmanuel Afuecheta





Abhik Ghosh



Edward Kennedy



-limel Mallick



Samuel D. Pimentei



Frank Werner



William Weimin Yoc

Student Puzzle Corner 20

Here's a quick reminder of Anirban DasGupta's latest puzzle:

Based on iid picks X_1, \ldots, X_n from an absolutely continuous distribution F and an independent iid pick Y_1, \ldots, Y_n from a possibly different absolutely continuous distribution G, we propose a test statistic for testing $H_0: F = G$; as stated above, F, G are distributions on the real line. Arrange the combined sample in an ascending order and suppose the overall sample maximum is a sample from F, and the overall sample minimum is a sample from G. Count the number of X-values larger than the largest Y-value and also count the number of Y-values smaller than the smallest X-value. The test statistic T_n is the sum of these two extreme runs counts. If the overall sample maximum and the overall sample minimum are both samples from the same distribution, define T_n to be zero.

- a) Give theoretical values or theoretical approximate values for the mean and the variance of T_n under the null.
- b) Give theoretical approximations to cut-off values for rejecting the null based on the test statistic T_n . This is close to asking what are theoretically justified approximations to the null distribution of T_n .
- c) Is this test *distribution-free* in the usual sense?
- d) What would be the approximate power of this test at level .05 if F = N(1, 1), G = N(0, 1), n = 100? Be careful about the rejection region.

Student IMS members are invited to submit solutions (to **bulletin@ imstat.org** with subject *Student Puzzle Corner*). The deadline is **April 23, 2018**.

The names of student members who submit correct solutions, and the answer, will be published in the following issue. The Puzzle Editor's decision is final.

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OBITUARY: Walter A. Rosenkrantz

1938-2017

WALTER A. ROSENKRANTZ, one of the foremost experts on Markov processes and martingale theory, passed away on September 19, 2017. He was an Emeritus Professor at the Department of Mathematics and Statistics of the University of Massachusetts, Amherst.

Walter Abraham Rosenkrantz was born on March 24, 1938, in New York City. In 1951, Walter moved to Chicago, Illinois, where he attended Hyde Park High School until 1953. He began his studies at the University of Chicago in 1953, receiving a B.A. degree in June 1957 and a B.S. degree in Mathematics in December 1957—both awarded with general honors. In 1958, he entered the Graduate College of the University of Illinois as a student in the mathematics department and he completed an MS degree in Mathematics in 1959.

From 1958 to 1960, he worked as a research assistant in the Digital Computer Laboratory of the University of Illinois, and from 1960 to 1962, he was a National Science Foundation Cooperative graduate fellow in Mathematics. From 1962 to 1964, Walter was a John Wesley Young Research Instructor of Mathematics at Dartmouth College in Hanover, New Hampshire and he received his PhD in Mathematics from the University of Illinois in 1963. His thesis, Probability and Fourier Series, was advised by Professor Joseph Doob. From 1964 to 1965, he completed his postdoc at the Courant Institute. Next, Walter went on to work as an Associate Professor of Mathematics at the New York University from 1965 to 1971, before joining the University of Massachusetts Amherst in 1971, where he remained as a Professor until his retirement in 2004.

During his tenure at UMass, he worked primarily in the area of Markov processes and their associated semi groups. He also became a Visiting Associate Professor in the Division of Mathematical Sciences at Purdue University, where he worked from 1976 to 1977. During a sabbatical leave from UMass from 1985 to 1986, he served as a Directeur Scientifique at Inria in Rocquencourt, France.

Soon after his retirement at UMass (where he served as a Professor Emeritus from 2005 until 2017), Walter and his wife Linda moved to Washington, DC. To quote Walter, he "unretired" and accepted an appointment as a Professorial Lecturer at the George Washington University from 2005 to 2012. During this time, he wrote a textbook, Introduction to Probability and Statistics for Science, Engineering, and Finance, which was published by CRC Press in 2009. According to Walter, he "retired (again) in 2012." Describing his decision to retire after 50 years of teaching, Walter claimed he "suddenly realized that it was time to 'pack it in'."

Walter continued to produce articles, and was a prolific researcher. His broad area of expertise was on stochastic processes and probability theory. He specialized

Herbert Heyer: 1936–2018

Herbert Heyer, Emeritus Professor at the University of Tübingen, Germany, known for his research in stochastics and analysis has died. His close work with Japanese colleagues led the German–Japanese symposia on infinite-dimensional harmonic analysis; he also organized the Oberwolfach meeting series, Probability Measures on Groups. In the December 2016 issue of *Communications on Stochastic Analysis*, dedicated to Herbert on his 80th birthday, the editors note that he made "deep contributions to probability on locally compact groups, Polish groups and Gelfand pairs, with particular emphasis on Lévy–Khintchine/Hunt representations for infinitely divisible measures and associated convolution semigroups (and hemigroups), the central limit theorem, and the problem of embedding an infinitely divisible measure into a convolution semigroup. [...] Herbert became a pioneer in developing harmonic analysis and probability theory on hypergroups."



Walter Rosenkrantz

in and championed the construction of martingales associated with a Markov chain using the infinitesimal generator. Later, Walter investigated problems in applied probability, mathematical statistics, and in statistics education. In applied probability, he investigated problems dealing with the mathematical and statistical analysis of traffic on modern communication networks. His focus in mathematical statistics was primarily on confidence bands for empirical distribution functions when parameters are estimated from the data.

Beyond mathematics, he was an excellent storyteller, known for his insight and great sense of humor. People who knew Walter remember his enthusiasm and wit. He was a loving husband, father, and grandfather. Walter is survived by his wife Linda, his son Mark, and his daughter Elizabeth.

Ravi Kalpathy, Department of Mathematics, The Catholic University of America

OBITUARY: Jørgen Hoffmann-Jørgensen

1942-2017



Jørgen Hoffmann-Jørgensen

Note: a survey article on Jørgen's research, written by Michael Marcus, is due to appear in the next volume in the Springer *High Dimensional Probability* series. JØRGEN HOFFMANN-JØRGENSEN was born on 3 February 1942 in Aarhus, Denmark. He completed his studies at Aarhus University in 1966, and was subsequently employed in the Department of Mathematics there, until his retirement in 2012. During his career he was a visiting researcher at several universities, including Cornell, Texas A&M, and Scuola Normal Superiore di Pisa.

Jørgen's scientific work was characterized by profound insight and great originality, and he made several significant contributions, including an important result now known as the Hoffmann-Jørgensen inequality. He is one of the pioneers in high-dimensional probability theory and was very active in this field throughout his career. This theory has been fundamental to the development of modern statistical methods for high-dimensional data—big data. Jørgen wrote the two-volume work *Probability with a View Towards Statistics*, which provides a solid, mathematically based insight into some of the most important probability theory topics, and he also authored a wide range of scientific articles. From 1988 until his death, Jørgen was co-editor of the *Journal of Theoretical Probability*.

Jørgen was an excellent and committed communicator of probability theory and its applications, which students and public lecture audiences experienced. Even in retirement, he was frequently present at the Department of Mathematics.

Jørgen Hoffmann-Jørgensen was a highly appreciated colleague and employee. He will be missed by family, friends and colleagues.

Lars Madsen, Department of Mathematics, Aarhus University

OBITUARY: James R. Thompson

1938-2017

JAMES ROBERT THOMPSON, Noah Harding Emeritus Professor of Statistics at Rice University, died in December at age 79. When Jim Thompson joined the Rice faculty in 1970, after three years teaching statistics at Indiana University and three at Vanderbilt, it was as a member of the Mathematical Sciences Department in the School of Natural Sciences. When Statistics became a separate department in 1987, Jim was its founding chair.

Jim earned a B.S. in chemical engineering from Vanderbilt University in 1960, and his MA (1963) and PhD (1965) in mathematics from Princeton University. At Rice, his research focused on statistical model building, biomathematics, quality control and computational finance. He did pioneering work in HIV/AIDS and cancer modeling, and served as an adjunct professor at M.D. Anderson Cancer Center and the University of Texas School of Public Health. He worked with NASA to improve its program for using satellite data to predict Soviet agricultural production. Working with M.D. Anderson researchers, Thompson developed a protocol for using external-beam radiotherapy to emulate the effects of implant-radium therapy.

Thompson developed the SIMEST algorithm for creating multiple replicates of computer-generated pseudo-realities, used



James Thompson (photo courtesy of Rice University)

to estimate the parameters of the underlying model. He developed, with Marc Elliot, the MaxMean algorithm that permits the finding of the underlying structures of highdimensional data sets. In 2012, Thompson obtained a patent on a computationally intensive algorithm for portfolio optimization called the Simugram. In collaboration with Scott Baggett and John Dobelman, he developed the Max-Median Rule for Portfolio Selection, and continued to work on portfolio strategies with Philip Ernst

Continues on page 11

OBITUARY: David L. Wallace 1928–2017

EVEN THOUGH DAVID WALLACE was not well known across the broad landscape of statistics, among academic statisticians he was widely considered to be one of the most insightful statisticians of his generation. David was not a prolific publisher, but he was a penetrating thinker, and a fierce and inspirational oral commentator; when he did write up his work, his publications were gems.

Best known was his landmark study, with Frederick Mosteller, of disputed authorship among the Federalist Papers, the series of political tracts that laid the foundation for the U.S. Constitution. When Mosteller and Wallace published their work, in a 1963 JASA paper and a 1964 book, they provided a compelling solution to a 175-year-old problem: Which of these famous Federalist Papers had been written by each of the potential authors? It had been generally agreed that, of the

James (Jim) Thompson, 1938–2017 Continued from page 10

[this year's Tweedie Award winner]. "Dr. Thompson was an outstanding coauthor," Ernst said, "an excellent mentor, and a very dear friend. I will cherish the time we spent together. He will be sorely missed."

Jim was a Fellow of IMS, ASA and the International Statistical Institute. He was the recipient of the Army's Wilks Medal and the ASA's Don Owen Award for his work in quality control. He directed 17 doctoral students, and authored or co-authored 14 books.

Jim is survived by his wife, Ewa M. Thompson, professor emeritus of Slavic studies at Rice.

Condensed from an obituary by Patrick Kurp, Engineering Communications, Rice University 77 Federalist papers, John Jay had written five (and no others), Alexander Hamilton had written 43, and James Madison had written 14. That left 12 where there was a dispute (Hamilton vs. Madison) and three joint papers where the relative contributions of the two were in doubt. To solve the problem, Mosteller and Wallace provided the first large-scale computer-based analysis of text, using Bayes classifiers built on data-driven priors in hierarchical models. Their work required important technical innovations (including the application of Laplace's method to Bayesian computation), as well as labor-intensive coding procedures, and it was a model of painstaking, thorough analysis in reaching definitive conclusions. When the book was published it garnered headlines in the national press: "Computer Scans Federalist Papers," NY Times (Front Page); "IBM Machine Picks Federalist Papers' Author," NY Herald Tribune; and "A Computer Makes History, Spots Federalist Papers' Author," Chicago Sun Times.

In the 1960s David also helped develop modern methods for real-time forecasting of elections. John Tukey and political scientist Richard Scammon assembled a team for NBC, on which David played a key role, in a public competition to be the first network to announce results during the evening of election day, and to do so accurately. The methods developed were regarded as proprietary, and were not published, but from later descriptions we know the team used Bayesian hierarchical models based on early, incomplete counts to make projections across precincts, and to evaluate uncertainty. Both this and the authorship work anticipated methods that would much later become standard in statistics and machine learning.

David's reputation was also based, in



David Wallace in 1978

part, on a 1958 foundational paper on asymptotic expansions. To students, and others around him, David provided a strong voice supporting the importance of statistical theory when tied to problems arising in data analysis, and he imparted a sense that data analysis was a deep subject worthy of serious intellectual pursuit.

David was born in Homestead, PA, and went to Carnegie Tech (now Carnegie Mellon) for Bachelor's and Master's degrees (1948 and 1949), then to Princeton for a PhD, where his thesis supervisor was John Tukey. He received his PhD in 1953 and then held a post-doctoral position at MIT (where he shared an office with John Nash, whom he had known as a student at Princeton). In 1954 he accepted appointment as an Assistant Professor of Statistics at the University of Chicago, and remained there until he retired in 1995. There, David played a vital role in developing the curriculum and setting the intellectual and collegial tone of the Department of Statistics, and served as its chair from 1977–1980. Lacking a feasible set of statistical programs for instruction, in the 1970s he wrote the statistical package SNAP, which was used with success until it was superseded by larger and broader-based packages.

He was an inspiring teacher, and his image remains vivid, with the white lab coat he wore to protect his suit from the clouds of chalk stirred up by his sometimes-impassioned lectures. The Department offers an annual David Wallace Prize in his honor to the best statistical application by a graduate student.

Robert E. Kass, Carnegie Mellon University and Stephen M. Stigler, University of Chicago 12th International Vilnius Conference on Probability Theory and Mathematical Statistics

> 2018 IMS Annual Meeting on Probability and Statistics

Venue | Vilnius University Life Sciences Center July 2 – 6, 2018 | Vilnius, Lithuania



- Wald Lectures Luc Devroye (McGill University Montreal)
- Le Cam Lecture Ruth Williams (UC San Diego)
- Neyman Lecture Peter Bühlmann (ETH Zurich)
- Schramm Lecture Yuval Peres (Microsoft Research Redmond)
- Vilnius Lecture Liudas Giraitis (Queen Mary University of London)





- Medallion Lecture Jean Bertoin (University of Zurich)
- Medallion Lecture Svante Janson (Uppsala University)
- Medallion Lecture Thomas Mikosch (University of Copenhagen)
- Medallion Lecture Sonia Petrone (Bocconi University Milan)
- Medallion Lecture Richard Samworth (University of Cambridge)

www.ims-vilnius2018.com

IMS meetings around the world

Joint Statistical Meetings: 2018–2023

IMS sponsored meeting

JSM 2018 July 28–August 2, 2018. Vancouver, Canada

w http://ww2.amstat.org/meetings/jsm/2018/

Have you been to JSM before? If it's your first time, it can be a bit overwhelming because of its size. Read the First Time Attendees guide

at https://ww2.amstat.org/meetings/jsm/2018/firsttimeattendees.cfm to help you find your feet. We hope you'll join us in Vancouver: with more than 6,000 attendees (including over 1,000 students) from 52 countries, and over 600 sessions, it's a busy few days! The theme this year is "Lead with Statistics."

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IMS sponsored meetings: JSM dates for 2019-2023

IMS Annual Meeting	JSM 2020	IMS Annual Meeting
@ JSM 2019	August 1–6, 2020	@ JSM 2021
July 27–August 1,	Philadelphia, PA	August 7–12, 2021,
2019, Denver, CO		Seattle, WA

IMS-sponsored meeting

20th Meeting of New Researchers in Statistics and Probability July 26-28, 2018

Simon Fraser University, Burnaby, Canada

w http://groups.imstat.org/newresearchers/conferences/nrc.html The 20th Meeting of New Researchers in Statistics and Probability will be happening in Burnaby, British Columbia, right before (and close to) JSM in Vancouver. The purpose of the IMS New Researchers Meeting is to promote interaction and networking among new researchers in statistics and probability, and to provide them with valuable insights from leaders in the field.

The organizers are Liangliang Wang and Yunlong Nie, of Simon Fraser University. The meeting is graciously supported by the NSF, PIMS (Pacific Institute for the Mathematical Sciences) and CANSSI (the Canadian Statistical Sciences Institute).

Invited Speakers: IMS President Alison Etheridge, Oxford University; IMS President-Elect Xiao-Li Meng, Harvard University; Marc Suchard, University of California, Los Angeles; Hongyu Zhao, Yale University; Jennifer Hill, New York University.

Applications now closed. (Notification of successful application by March 31.)



2022 Joint Statistical Meetings August 6-11, 2022 Washington, D.C.

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

IMS co-sponsored meeting

2018 IMS Asia Pacific Rim Meeting June 26-29, 2018

Singapore

w https://ims-aprm2018.stat.nus.edu.sg/ The fifth IMS Asia Pacific Rim meeting (IMS-APRM) will be held in Singapore from June 26–29, 2018. It will provide an excellent forum for researchers in Asia and the Pacific Rim, and promote communications and collaborations between researchers in this area and those from other parts of the world.

The program, covering a wide range of topics in statistics and probability, includes Plenary Lectures from Rick Durrett and Bin Yu, and many Distinguished Speakers.

IMS co-sponsored meeting

Elastic Functional and Shape Data Analysis July 16-20, 2018

Ohio State University, Columbus, OH, USA w https://stat.osu.edu/cbms-efsda NSF is funding one CBMS Regional Conference in statistics in 2018. The lecturer is Anuj Srivastava, Florida State.

At a glance:

forthcoming IMS Annual Meeting and ISM dates

2018

IMS Annual Meeting:

Vilnius, Lithuania, July 2-6, 2018

JSM: Vancouver, Canada, July 28-August 2, 2018

2019

IMS Annual Meeting @

JSM: Denver, CO, July 27-August 1, 2019

2020

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

JSM: Philadelphia, August 1-6, 2020

2021

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

2022

IMS Annual Meeting: TBC

JSM: Washington, August 6-11, 2022

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Vancouver, British Columbia

More IMS meetings around the world

IMS co-sponsored meeting

2018 Seminar on Stochastic Processes May 9–12, 2018

Brown University, Providence, RI, USA

w https://www.brown.edu/conference/stochastic-processes/home The Seminar on Stochastic Processes 2018 (SSP2018), will be held from May 9 through May 12, 2018 at Brown University, Providence, Rhode Island. From May 9 - 11 the meeting will take place at the Institute for Computational and Experimental Research in Mathematics (ICERM), and on May 12, the talks will take place at the main campus of Brown University.

Featuring the Kai-Lai Chung Lecture from Alison Etheridge, and further plenary speakers: Rami Atar, Antonio Auffinger, Fabrice Baudoin and Mykhaylo Shkolnikov. Gregory Miermont's tutorial lectures will be held on May 9.

IMS co-sponsored meeting

International Workshop in Applied Probability 2018 (IWAP 2018) June 18–21, 2018. Eötvös Loránd University, Budapest, Hungary

w www.iwap2018.com

IWAP is a biennial series of conferences launched in 2002 with the aim of fostering exchange and cross-fertilization of ideas on applied probability. The numerous scientific and social events—including the gala dinner served on a cruise ship on the Danube—will present ample networking opportunities throughout the conference. Research presenters will be invited to submit for journal publication in a special issue of *Methodology and Computing in Applied Probability*. László Márkus and Joseph Glaz, Co-Chairs of IWAP2018, look forward to meeting you in Budapest.

IMS co-sponsored meeting

2018 ICSA China Conference on Data Science July 2–5, 2018 Qingdao, China

w http://www.icsa.org/china/symposium/registration.html Registration is open for the 2018 ICSA China Conference with the Focus on Data Science. The conference will take place in Shangri-La Hotel, Qingdao, Shandong, China. It is organized jointly by the International Chinese Statistical Association (ICSA) and Ocean University of China.

The program covers a wide range of topics in data science, presenting recent developments and the state of the art in a variety of modern research topics and applications. The program will include keynote speeches from John (Jack) Kalbfleisch and Kuang-Kuo Gordon Lan.

UPDATED

IMS co-sponsored meeting

NEW

ICIAM 2019: the 9th International Congress on Industrial and Applied Mathematics July 15–19, 2019 Valencia, Spain

w https://iciam2019.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

The call for organizing mini-symposia at the ICIAM 2019 congress is now open. Please visit the webpage https://iciam2019. org/index.php/infomation-for-delegates/submissions-calls/2uncategorised/130-minisymposia for details and online submissions.

IMS co-sponsored meeting

Southeastern Probability Conference May 14–15, 2018 Durham, North Carolina, USA

w https://services.math.duke.edu/~rtd/SEPC2018/SEPC2018.html The speakers are: Megan Bernstein (Georgia Tech); Wei-Kuo Chen (Minnesota); Laura Eslava (Georgia Tech); Hanbaek Lyu (Ohio State); Sumit Mukherjee (Columbia); Elliot Paquette (Ohio State); Leo Petrov (Virginia).

IMS co-sponsored meeting

ISNPS2018: The 4th Conference of the International Society for Non-Parametric Statistics

June 11–15, 2018. Salerno, Italy

w http://www.isnps2018.it/

The ISNPS (International Society of Non-Parametric Statistics) conferences take place biennially. The Fourth Conference of ISNPS is scheduled to take place in Salerno, southern Italy. The conference will bring forth recent advances and trends in several areas of nonparametric statistics, in order to facilitate the exchange of research ideas, promote collaboration among researchers from all over the world, and contribute to the further development of the field. The program will include plenary talks, special invited talks, invited talks, contributed talks and posters on all areas of nonparametric statistics. A roundtable discussion on the constitution of ISNPS and future conferences will also take place.

IMS co-sponsored meeting

40th Conference on Stochastic Processes and their Applications (SPA) June 11–15, 2018. Gothenburg, Sweden

NEW w http://spa2018.org/

The 40th Conference on Stochastic Processes and their Applications (SPA 2018) will be held June 11–15, 2018, at the Chalmers University of Technology in Gothenburg, Sweden.

Submission of proposals for contributed sessions, contributed talks and posters are welcomed! The organizers encourage early submissions to leave the accepted speakers plenty of time to make travel and funding arrangements. The submissions will be assessed and good proposals are accepted on a regular basis. Accepted contributed talks will be grouped into additional contributed sessions after the submission deadline, March 2, 2018.

Plenary speakers: Robert Adler, Francois Baccelli, Mia Deijfen, Alison Etheridge (Lévy lecture), Patricia Gonçalves, Kurt Johansson, Olav Kallenberg, Davar Khoshnevisan (IMS Medallion lecture), Anna De Masi (IMS Medallion lecture), Mikhail Menshikov, Annie Millet, Elchanan Mossel, Asaf Nachmias, Jeffrey Steif (Doob lecture), and Nike Sun.

IMS co-sponsored meeting

The 6th Workshop on Biostatistics and Bioinformatics May 4–6, 2018. Atlanta, GA

w https://math.gsu.edu/yichuan/2018Workshop/

The 6th Workshop on Biostatistics and Bioinformatics will take place May 4–6, 2018, in Atlanta. The goal of the workshop is to stimulate research and to foster the interaction of researchers in Biostatistics and Bioinformatics. It will provide the opportunity for faculty and graduate students to meet with top researchers in small groups, identify important



directions for future research, and facilitate research collaboration. The keynote speaker is Hongyu Zhao, the Ira V. Hiscock Professor of Biostatistics and Professor of Statistics and Genetics at Yale University, and recipient of the Mortimer Spiegelman Award. Invited sessions and a poster session are also part of the workshop. Partial travel awards will be awarded to select conference

participants as priority will be given to senior graduate students, post-graduate, recent PhDs, junior faculty, and under-represented groups.

IMS co-sponsored meeting

41st Conference on Stochastic Processes and their Applications (SPA) July 8–12, 2019 Evanston, IL, USA w TBC The 2019 Conference on Stochastic Processes and their Applications will be held in Evanston, Illinois. Details to follow.

IMS sponsored meeting

WNAR/IMS Meeting June 24–27, 2018 Edmonton, Canada

w http://www.wnar.org/Meetings

Next summer's WNAR/IMS meeting will be held June 24–27, 2018, at the University of Alberta, Edmonton, Canada. The local organizers are Bei Jiang and Linglong Kong. Details coming soon.

IMS sponsored mtg 2018 IMS Annual Meeting & 12th **Vilnius Conference** on Prob. Theory & Math. Statistics July 2-6, 2018 Vilnius, Lithuania NEW w http://imsvilnius2018.com/ Program Co-chairs Peter Bühlmann (IMS) and Vygantas Paulauskas (Vilnius). Local Chair is Remigijus Leipus.

IMS co-sponsored meeting

SAE2018: Small Area Estimation and Other Topics of Current Interest in Surveys, Official Statistics, and General Statistics June 16–18, 2018 East China Normal University, Shanghai, China

w www.sae2018.com This conference includes a celebration of Professor Danny Pfeffermann's 75th Birthday.





ENAR dates, 2019–2020 March 24–27, 2019: in Philadelphia, PA March 22–25, 2020: in Nashville, TN

w http://www.enar.org/meetings/future.cfm The 2019 ENAR/IMS meeting will be in Philadelphia, and the following year in Nashville.

IMS co-sponsored meeting

Bernoulli/IMS 10th World Congress in Probability and Statistics August 17–21, 2020. Seoul, South Korea w TBC

The next World Congress in Probability and Statistics will be in Seoul, South Korea.

Other meetings and events around the world

32nd New England Statistics Symposium April 13–14, 2018. Amherst, MA, USA

w https://symposium.nestat.org/ e nestat2018@gmail.com The theme of NESS 2018 is "Data– Science–Society", reflecting the growing role that data and statistical sciences are playing in shaping and improving society.

NEW

ADVICE2018: First International Conference on Statistical Advice September 9–11, 2018. Oslo, Norway

w http://www.advice2018.bio/

ADVICE2018 will be a meeting to promote and develop principles and strategies for biostatistical advising in academic biomedical research. It will also be a meeting place for researchers interested in sharing insights and discussing practical, ethical, and scientific aspects of biostatistical advising/ consulting.

Workshop on High-dimensional statistics and random structures June 18–19, 2018 Barcelona, Spain

w https://www.barcelonagse.eu/summer-

forum/workshop-high-dimensionalstatistics

This is a two-day meeting whose main theme will be centered around covariance matrix estimation, networks and graphical models. The aim of the workshop is to provide an overview of the recent theoretical advances in this topic. There is no fee for attending the meeting.

11th International Statistics Days Conference October 3–7, 2018. Bodrum, Turkey

w http://igs2018.mu.edu.tr/ The ISDC is a biannual conference; the 11th ISDC2018 is organized by the Department of Statistics of Muğla Sıtkı Koçman University in Bodrum, Turkey.

29th International Biometrics Conference July 8–13, 2018 Barcelona, Spain

w http://2018.biometricconference.org/ This XXIX International Biometric Conference (IBC), at the Barcelona International Convention Centre, is dedicated to recent developments and application of quantitative methods in many different fields of the life and environmental sciences. The program includes oral and poster presentations of methodological advances, applications to specific subject-matter challenges, and educational offerings.

Fifth Bayesian, Fiducial, and Frequentist (BFF5) Conference: Foundations of Data Science May 6–9, 2018 Ann Arbor, Michigan, USA

w https://sph.umich.edu/biostat/events/ bff-conference.html

BFF5 will focus on the theme, *Foundations* of *Data Science*. Invited talks will re-examine the role and report new advances on the foundations of statistical inference in this new era of data science. Short courses on Fiducial Statistics & Confidence Distributions [Ed: *Did you read Xiao-Li Meng's column on the BFF conferences?* http://bulletin.imstat.org/2017/05/xl-filesbayesian-fiducial-and-frequentist-bff4ever/]

6th International Statistical Ecology Conference (ISEC 2018) July 2–6, 2018. St Andrews, UK

w http://www.isec2018.org/

Registration for our pre-conference workshops is proceeding rapidly and some are nearly full. We are sad to report that one of our plenary speakers, Dr Tara Martin, is unable to attend. We are searching for another plenary speaker.

48th Probability Summer School July 8–20, 2018 Saint-Flour, France

w http://recherche.math.univ-bpclermont. fr/stflour/stflour-en.php Founded in 1971, this school is organised every year by the Laboratoire de Mathématiques (UMR 6620). It is supported by Clermont Auvergne University and the CNRS. It is intended for PhD students, teachers and researchers who are interested in probability theory, statistics, and in applications of these techniques. The 2018 lecturers are:

Hugo Duminil-Copin: Graphical representations of the Ising model.

Asaf Nachmias: *Planar maps, random walks* and the circle packing theorem.

Balint Toth: Scaling limits for random walks and diffusion with long memory.

Modern Math Workshop (MMW2018) October 10–11, 2018. San Antonio, TX, USA

w http://www.samsi.info/mmw-2018 The Mathematical Sciences Diversity Initiative holds a Modern Math Workshop prior to the SACNAS National Conference each year. The 2018 MMW will be hosted by SAMSI at the Henry B. Gonzalez Convention Center in San Antonio, Texas. This workshop is intended to encourage undergraduates, graduate students and recent PhDs from underrepresented minority groups to pursue careers in the mathematical sciences and build research and mentoring networks.

The Modern Math Workshop is a preconference event at the SACNAS National Conference. All MMW participants are invited to attend the keynote lecture, minicourses, research talks, question and answer session, and reception. The NSF MSIDI networking reception will take place on the evening of Wednesday, October 10th.

Tenth International Conference on Matrix-Analytic Methods for Stochastic Models (MAM10) February 13–15, 2019 Hobart, Tasmania, Australia

w http://www.maths.utas.edu.au/People/ oreilly/mam/mam10.html

Matrix-Analytic Methods in Stochastic Models (MAM) conferences aim to bring together researchers working on the theoretical, algorithmic and methodological aspects of matrix-analytic methods in stochastic models and the applications of such mathematical research across a broad spectrum of fields, which includes computer science and engineering, telephony and communication networks, electrical and industrial engineering, operations research, management science, financial and risk analysis, bio-statistics, and evolution.

4th Bayesian Young Statisticians Meeting (BAYSM2018) July 2–3, 2018. Coventry, UK

w https://warwick.ac.uk/baysm BAYSM2018 is the 4th Bayesian Young Statisticians Meeting, and will take place at University of Warwick, Coventry, UK, as a satellite to the ISBA 2018 world meeting (in Edinburgh, June 24–29, 2018). BAYSM is dedicated to PhD and Master's students, postdocs, young and junior researchers working in the field of Bayesian statistics, providing an opportunity to connect with the Bayesian community at large. Senior discussants will be present at each session, providing participants with advice.

Registration is now open: early bird discount until 7 May. The event will include social events, providing the opportunity to get to know other junior Bayesians.

Keynote speakers: Kerrie Mengersen, Igor Prünster, Judith Rousseau, Stephen Senn, Yee Whye The. While the meeting is organized for and by junior Bayesians, attendance is open to anyone who may be interested.

ATMS workshop on Multi- and highdimensional statistics, Copulas, Survival analysis and Model selection August 22–24, 2018 Leuven, Belgium

w http://feb.kuleuven.be/workshopATMS This three-day workshop features presentations by J. Bradic (UC San Diego), R. Cao (la Coruna), C. Czado (TU Munich), V. Patilea (ENSAI Rennes), U. Schneider (TU Vienna) and A. Verhasselt (UHasselt). **Contributed talks are welcome (deadline 20 May)**. Registration until July 8. This workshop is organized by the international Scientific research community ATMS (Flemish Science Foundation) to stimulate research on the mentioned themes. The workshop's venue is in the historical Grand Beguinage of Leuven.

European Meeting of Statisticians 2019 July 22–26, 2019 Palermo, Italy

w http://www.ems2019.palermo.it The European Meeting of Statisticians (EMS), sponsored by the European Regional Committee of the Bernoulli Society, is the main conference in statistics and probability in Europe. EMS is a conference where statisticians of all ages and from all regions meet to exchange ideas and talk about the newest developments on the broad field of statistics and probability theory. The conference is organized every other year. The very first EMS meeting was held in Dublin in 1962, and the 32nd EMS (EMS 2019) will take place in Palermo, the capital of Sicily, in Italy.

European Mathematical Society & Bernoulli Lecture: Aad Van Der Vaart

Opening Lecture: Judith Rousseau Special Invited Lectures: Genevera

Allen, Gilles Blanchard Forum Lecture: Victor Panaretos Closing Lecture: John Lafferty

Third Conference on Ambit Fields and Related Topics

August 2–9, 2018. Aarhus, Denmark w http://math.au.dk/ambit3

This four-day conference focuses on new ideas and directions for stochastic analysis, limit theorems, statistical inference and random matrices. It includes 28 invited speakers and is preceded by a three-day summer school lectured by Zakhar Kabluchko, Ashkan Nikeghbali and Sandrine Péché.

There is a limited budget to cover the accommodation costs for young participants. The deadline for registration will be June 15, 2018.

9th International Purdue Symposium on Statistics June 5–8, 2018 West Lafayette, IN, USA

w http://www.stat.purdue.edu/symp2018 The International Purdue Symposium on Statistics is a venerable tradition held in an effort to further the development of the field of Statistics. The theme of the 9th Purdue Symposium on Statistics is "Data Revolution: Opportunities and Challenges for Statistics." Additional details including invited speakers, workshops, and session topics are available on the website. Early registration through May 1, 2018.

12th International Conference on Bayesian Nonparametrics June 24–28, 2019. Oxford, UK



w 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. It is an official section meeting of the Bayesian nonparametrics section of the International Society for Bayesian Analysis.

NEW

Employment Opportunities around the world

Australia: Crawley, WA

The University of Western Australia Professor of Statistics and Data Science http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=39580201

Canada: St. Catharines, ON

Brock University, The Department of Mathematics and Statistics Tenure-track Assistant Professor in Statistics http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=39906757

Canada: Montreal, PQ

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United Kingdom: Coventry

University of Warwick, Department of Statistics

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UCLA, Department of Statistics UCLA Statistics Faculty Search http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=39656263

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Yale School of Public Health Investigator-track Position in Biostatistics http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40061240

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Take University, Department of Statistics and Data Science Lecturer http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=40080222

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Assistant/Associate Professor of Statistics/Actuarial Science http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=39431267

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International Calendar of Statistical Events

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

April 2018

NEW DATES April 3–5: Giza, Egypt. 30th Annual Conference on Statistics and Modeling in Human and Social Sciences w http:// www.feps.edu.eg/en/departments/statistics/conference/index. html

April 13–14: Amherst, MA, USA. 32nd New England Statistics Symposium w https://symposium.nestat.org/

April 24–26: Leiden, The Netherlands. Survival Analysis for Junior Researchers 2018 (SAfJR2018) w http://safjr2018.com

April 28–30, 2018: Cesme, Izmir, Turkey. 4th International Researchers, Statisticians and Young Statisticians Congress w http://www.irsysc2018.com

May 2018

May 1–3: New York, NY, USA. Transport and localization in random media: theory and applications **w** http://www.ki-net.umd. edu/content/conf?event_id=843

Gims May 4–6: Atlanta, GA, USA. 6th Workshop on Biostatistics and Bioinformatics w https://math.gsu.edu/ yichuan/2018Workshop/

May 6–9: Ann Arbor, Michigan, USA. Fifth Bayesian, Fiducial, and Frequentist Conference (BFF5) w https://sph.umich. edu/biostat/events/bff-conference.html

May 7-8: Ames, Iowa, USA. Conference on Predictive Inference and Its Applications w https://predictiveinference.github.io/ May 9: Ames, Iowa, USA. First Midwest Statistical Machine Learning Colloquium w https://register.extension.iastate.edu/ msmlc/about

Seminar on Stochastic Processes w https://www.brown.edu/ conference/stochastic-processes/home

May 10–11: Raleigh, NC, USA. Bernard Harris Memorial Symposium: Risk in the 21st Century. w http://www.harrissymposium.org/

ims May 14–15: Durham, North Carolina, USA. **Southeastern Probability Conference w** https://services.math.duke.edu/~rtd/ SEPC2018/SEPC2018.html

May 16–18: NIMBioS, Knoxville, TN, USA. Applications of Spatial Data: Ecological Niche Modeling w http://www.nimbios.org/tutorials/SpatialDataENM

May 16–19: Reston, VA, USA. Symposium on Data Science and Statistics w https://ww2.amstat.org/meetings/sdss/2018/

May 17–20: Gainesville, Florida, USA. IISA-2018: From Data to Knowledge, Working for a Better World w http://iisa2018.biostat. ufl.edu/

May 29–30: Munich, Germany. Econometrics in the Castle: Machine Learning in Economics and Econometrics w http://tiny.cc/econ-in-the-castle

Continues on page 20

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International Calendar continued

June 2018

June 3–6: McGill University, Montreal, Québec, Canada. Statistical Society of Canada 2018 Annual Meeting w https://ssc.ca/en/meetings/2018-annual-meeting

June 4–6: Durham, NC, USA. International Total Survey Error Workshop (ITSEW) w https://dism.ssri.duke.edu/itsew-2018

June 5–8: West Lafayette, IN, USA. 9th International Purdue Symposium on Statistics w http://www.stat.purdue.edu/ symp2018

June 5–8: Rome, Italy. CHAOS2018: International Conference on Non-Linear Analysis and Modeling, Theory and Applications w http://www.cmsim.org/

June 6–7: Chicago, IL, USA. Midwest Machine Learning Symposium w http://midwest-ml.org/

June 11–13: Maastricht, The Netherlands. The 7th Symposium on Conformal and Probabilistic Prediction with Applications (COPA 2018) w http://clrc.rhul.ac.uk/copa2018/index.html

June 11–15: Salerno, Italy. ISNPS2018: 4th Conference of the International Society for Non-Parametric Statistics w http://www.isnps2018.it/

June 11–15: Gothenburg, Sweden. 40th Conference on Stochastic Processes and their Applications (SPA 2018) w http://spa2018.org/

Lims June 16–18: Shanghai, China. SAE2018: Small Area Estimation and Other Topics of Current Interest in Surveys, Official Statistics, and General Statistics w www.sae2018.com

June 17–20: Boulder, CO, USA. International Symposium on Forecasting w https://isf.forecasters.org

June 18–19: Barcelona, Spain. Workshop on Highdimensional statistics and random structures w https://www. barcelonagse.eu/summer-forum/workshop-high-dimensionalstatistics

June 18–21: Eötvös Loránd University, Budapest, Hungary. **International Workshop in Applied Probability 2018 (IWAP** 2018) **w** www.iwap2018.com

June 18–21: Atlanta, GA, USA. Recent Trends in Continuous and Discrete Probability w https://pwp.gatech.edu/rtip/

June 18–22: NIMBioS, Knoxville, TN, USA. **NIMBioS Tutorial:** The Search for Selection **w** http://www.nimbios.org/tutorials/ selection

June 24–27: Edmonton, Canada. WNAR/IMS Meeting **w** http://www.wnar.org/Meetings

June 24–29: Edinburgh, UK. ISBA 2018 World Meeting NEW WEBSITE w https://bayesian.org/isba2018/

June 25–29: Houston, Texas, USA. Symposium on Optimal Stopping w www.optimalstopping.com

June 25–29: Bend, Oregon, USA. 2018 Data Science Innovation Lab: Mathematical Challenges of Single Cell Dynamics w https://bigdatau.ini.usc.edu/innovationlab2018

Ims June 26–29: Singapore. 2018 IMS Asia Pacific Rim Meeting (IMS-APRM) w https://ims-aprm2018.stat.nus.edu.sg/

June 27–29: Edgbaston, UK. Sixth IMA Conference on Numerical Linear Algebra and Optimization w https://ima.org.uk/7149/6thIMANLAO/

July 2018

July 2–3: Coventry, UK. Fourth Bayesian Young Statisticians Meeting (BAYSM2018) w https://warwick.ac.uk/baysm

July 2–5: Qingdao, China. 2018 ICSA China Conference on Data Science w http://www.icsa.org/china/symposium/ registration.html

ims July 2–6: Vilnius, Lithuania. Joint 2018 IMS Annual Meeting and 12th International Vilnius Conference on Probability Theory and Mathematical Statistics w http://ims-vilnius2018.com/

July 2–6: Leuven, Belgium. International Conference on Robust Statistics 2018 w https://wis.kuleuven.be/events/icors18/

July 2–6: St Andrews, UK. Sixth International Statistical Ecology Conference w http://www.isec2018.org

July 8–13: Kyoto, Japan. ICOTS10: Tenth International Conference on Teaching Statistics w http://icots.info/icots/10/

July 8–13: Barcelona, Spain. 29th International Biometrics Conference w http://2018.biometricconference.org/

July 8–20: Saint-Flour, France. **48th Probability Summer School w** http://recherche.math.univ-bpclermont.fr/stflour/stflour-en.php

July 9–20: Lake Como, Italy. Bocconi Summer School in Advanced Statistics and Probability w http://asps.lakecomoschool.org

July 10–13: Delft, The Netherlands. Harmonic Analysis for Stochastic PDEs w http://fa.its.tudelft.nl/spde/

July 12-14: University of Vienna, Austria. Model Selection, Regularization and Inference w http://www.univie.ac.at/seam/ inference2018/

Conference: Elastic Functional and Shape Data Analysis w https://stat.osu.edu/cbms-efsda

July 16–20: Bristol, UK. 33rd International Workshop on Statistical Modelling **w** http://www.statmod.org/workshops.htm

July 16–21: Guanajuato, Mexico. 28th Conference of the International Environmetrics Society (TIES 2018) w http://ties2018.eventos.cimat.mx/

July 26–28: Simon Fraser University, Burnaby, Canada. 20th Meeting of New Researchers in Statistics and Probability w http://groups.imstat.org/newresearchers/conferences/nrc.html

w http://ww2.amstat.org/meetings/jsm/2018/

August 2018

August 1–9: Rio de Janeiro, Brazil. International Congress of Mathematicians 2018 (ICM 2018) w http://www.icm2018.org/

August 2–9: Aarhus, Denmark. Third Conference on Ambit Fields and Related Topics w http://math.au.dk/ambit3

August 22–24: Leuven, Belgium. ATMS workshop on Multi- and high-dimensional statistics, Copulas, Survival analysis and Model selection w http://feb.kuleuven.be/workshopATMS

August 25–27: Shahrood, Iran. ISC14: Fourteenth Iranian Statistics Conference w http://isc14.shahroodut.ac.ir

August 26–30: Melbourne, Australia. Joint International Society for Clinical Biostatistics and Australian Statistical Conference 2018 w http://iscbasc2018.com/

August 27–31: Marseille, France. Advances in Statistical Mechanics w https://conferences.cirm-math.fr/1855.html

September 2018

September 3–6: Cardiff, UK. Royal Statistical Society International Conference w www.rss.org.uk/conference2018

September 8–10: St Louis, Missouri, USA. Third Workshop on Higher-Order Asymptotics and Post-Selection Inference (WHOA-PSI) w http://www.math.wustl.edu/~kuffner/WHOA-PSI-3.html

September 9–11: Oslo, Norway. ADVICE2018: First International Conference on Statistical Advice w http://www.advice2018.bio/

September 10–13: Leiden, The Netherlands. Workshop on Statistical Inference for Stochastic Process Models in Weather and Climate Science w http://www.lorentzcenter.nl/lc/web/2018/1012/ info.php3?wsid=1012&venue=Snellius

September 14–15: Derby, UK. 2nd IMA Conference on Theoretical and Computational Discrete Mathematics w https://ima.org. uk/7775/2nd-ima-conference-theoretical-computational-discretemathematics/

September 24–28: São Pedro, Brazil. Brazilian Symposium on Probability and Statistics w http://www.sinape2018.com.br/

October 2018

October 3–7: Bodrum, Turkey. 11th International Statistics Days Conference w http://igs2018.mu.edu.tr/

October 18–20: Cincinnati, OH, USA. 2018 Women in Statistics and Data Science Conference w https://ww2.amstat.org/meetings/wsds/2018/

October 25–27: Barcelona, Spain. Big Data Meets Survey Science w https://www.bigsurv18.org/

December 2018

December 17–20: Jerusalem, Israel. Jerusalem Joint Statistical Event 2018 w https://www.emr2018.com/

February 2019

February 13–15: Hobart, Tasmania, Australia. Matrix-Analytic Methods for Stochastic Models (MAM10) w http://www. maths.utas.edu.au/People/oreilly/mam/mam10.html

International Calendar continued

March 2019

March 24–27: Philadelphia, PA, USA. ENAR Spring Meeting w http://www.enar.org/meetings/future.cfm

June 2019

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

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 2019) w TBC

July 14–18: Leuven, Belgium. 40th Conference of the International Society for Clinical Biostatistics w http://www.icsb.info

iciam2019.org/index.php

July 22–26: Palermo, Italy. European Meeting of Statisticians 2019 w http://www.ems2019.palermo.it

at JSM 2019 w http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx

August 2019

August 18–23: Kuala Lumpur, Malaysia. ISI2019: 62nd International Statistical Institute World Statistics Congress 2019 w http://www.isi2019.org/

March 2020

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

July 2020

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

August 2020

w http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx

Gims August 17–21: Seoul, Korea. Bernoulli/IMS World Congress on Probability and Statistics w TBC

August 2021

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

August 2022

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

w http://www.amstat.org/ASA/Meetings/Joint-Statistical-Meetings.aspx

August 2023

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

Are we missing something? If you know of any statistics or probability meetings which aren't listed here, please let us know. You can email the details to Elyse Gustafson at erg@imstat.org, or you can submit the details yourself at http://www.imstat.org/ submit-meeting.html We'll list them here in the Bulletin, and on the IMS website too, at www.imstat.org/meetings/

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The *IMS Bulletin* (ISSN 1544-1881) is published eight times per year in January/February, March, April/May, June/ July, August, September, October/November and December, by the Institute of Mathematical Statistics, 3163 Somerset Dr, Cleveland, Ohio 44122, USA. Periodicals postage paid at Cleveland, Ohio, and at additional mailing offices. Postmaster: Send address changes to Institute of Mathematical Statistics, 9650 Rockville Pike, Suite L3503A, Bethesda, MD 20814-3998.

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1:	January/February	December 1	December 15	January 1
2:	March	February 1	February 15	March 1
3:	April/May	March 15	April 1	April 15
4:	June/July	May 1	May 15	June 1
5:	August 🤇	June 15	July 1	July 15
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

* Note that the August 2018 issue has an early deadline of June 15

the **ext** issue is June/July 2018

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DEADLINES submissions May 1, then June 15

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