

Bernoulli News

Newsletter of the Bernoulli Society for Mathematical Statistics and Probability

Vol. 31 (1), May 2024

Published twice per year by the Bernoulli Society

ISSN 1360-6727

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† Bernoulli News is the official newsletter of the Bernoulli Society, publishing news, calendars of events, and opinion pieces of interest to Bernoulli Society members, as well as to the Mathematical Statistics and Probability community at large. The views and opinions expressed in editorials and opinion pieces do not necessarily reflect the official views of the Bernoulli Society, unless explicitly stated, and their publication in Bernoulli News in no way implies their endorsement by the Bernoulli Society. Consequently, the Bernoulli Society does not bear any responsibility for the views expressed in such pieces.

A VIEW FROM THE PRESIDENT



Dear Members of the Bernoulli Society,

The Bernoulli Society was created through a gradual process between the years 1973-75, becoming a member of the International Statistical Institute in 1975. Thus, it is statistically very fitting to celebrate its 50 years in 2024, taking the "average" of 1974 as origin. Our Society was founded through the inspiration and dedicated efforts of a group of luminaries in our field, to address a confluence of challenges, both scientific and geopolitical in nature. Some of these have seemed distant at times, but occasionally they re-emerge as timely.

Please join us in marking this historical occasion at a special session in conjunction with our General Assembly this August, at the World Congress in Bochum. You can already mark your calendars: Tuesday evening, August 13th, 18:00-19:30.

Conscious of the importance of history, we are also in the process of analysing and digitising the Bernoulli archives, as well as of recording some more recent historical events. More on this in August, and in forthcoming issues of Bernoulli News!

Finally, we have also introduced a "50 year banner", which you can see displayed at the centre of this page. Our members and friends should feel free to use it in any fitting context to celebrate our Society. Please contact Ms Kamila Siuda (secretariat@bernoullisociety.org) if you wish to have an electronic version.

... Continued on p. 1

Deadline for the next issue: 30 **September, 2024** Send contributions to: bojana.milosevic@matf.bg.ac.rs

A View from the President (continued from front cover)

It very fitting that, during this golden jubilee, there are some exciting news to announce. In equal partnership, six major statistical societies (Bernoulli Society, ASA, IBS, IMS, ISI, RSS) are introducing a new statistical research award: The David Cox Medal. Three Medals will be awarded every three years, to recognise outstanding research in statistical theory, and/or methodology, and/or applications, that moves the field or a substantive application area forward by way of its originality and depth. The Cox Medal will be a midcareer award, with an age limit of 50 - alluding to the fact that David Cox was 48 years old when he authored his landmark paper on proportional hazards regression. As one might notice, the Cox Medal draws inspiration from the Fields Medal, but more adapted to the specificities of our own discipline. The six partner societies will have an equal number of representatives in the Selection Committee, and will take turns in naming its chair, with the Bernoulli Society having the honour of starting first: I'm pleased to report that Peter McCullagh (Chicago) has accepted to chair the first selection committee on behalf of our Society. Further to the Selection Committee, there will be a separate Search Committee, to ensure that a systematic and broad search is conducted.

That this Medal is becoming a reality is particularly rewarding for me, as I invested major personal effort in this project, spanning over 2.5 years. Indeed, I'm proud to highlight that it was the Bernoulli Society that initiated this effort, whose parameters were subsequently shaped in brainstorming discussions between Sylvia Richardson (representing the RSS), Peter Bühlmann (representing the IMS), and me (representing the BS). The initiative drew strong support, and the fact that the group of participating Societies enlarged to six suggests that this new award has the potential to become one of the most prestigious honours in our discipline. Coordination of this award is, of course, a major effort, and my gratitude goes to the RSS who agreed to take on the important role of administering and coordinating the process.

Please read the press release (included in this Bernoulli News issue) for more information, and please nominate a deserving colleague: the first three Medals are to be awarded in 2025!

Still on the topic of awards, I would like to highlight what I hope will be an improvement related to

the Bernoulli Society New Researcher Award (NRA). In an effort to broaden and deepen the pool of applicants for the award, the Bernoulli Society has now changed the application process. The new application process asks applicants to articulate up to three achievements, supported by a maximum of five references total. My thanks go to our membership Secretary, Sebastian Engelke, for initiating and implementing this change.

I would also like to take this opportunity to warmly congratulate our recent award winners: Qiyang Han (David G. Kendall Young Investigator Award, joint with the RSS) and Christophe Ley, Gesine Reinert & Yvik Swan (Bernoulli Prize for Outstanding Research Paper on Probability, for their paper "Stein's Method for Comparing Univariate Distributions").

As I wrote in our previous issue, we cannot take for granted that "things just work": our Society -and our discipline more broadly- rely on the engagement and service of its dedicated members. In this vein, I wish to thank Sebastian Engelke for his dedicated work as membership Secretary, and for accepting to extend his term, and Matthias Loewe for his service editor-in-chief of "Stochastic Processes and their Applications". I'm very pleased that as Eva Loecherbach has accepted to take over as chief editor, and thank her for taking on this important role.

In addition, I wish to welcome three new Standing Committee chairs, and extend my gratitude to three outgoing chairs: Inés Armendáriz as the new chair of the Latin America Regional Committee (LARC), succeeding Juan Carlos Pardo Millán; Panki Kim as the new chair of the Committee for Conferences on Stochastic Processes (CCSP), taking over from Claudio Landim; and, Ajay Jasra as the new chair of the East Asia and Pacific Regional Committee, taking over from Zengjing Chen.

Finally, further to the World Congress in Bochum let me also highlight some of the forthcoming events sponsored/co-sponsored by the Bernoulli Society: the Ole E. Barndorff-Nielsen Memorial Conference in Aarhus, the pre-meeting of young researchers at the BS-IMS World Congress in Essen, Germany, and the Statistics and Data Science Conference in Kunming, China.

Victor M. Panaretos President of the Bernoulli Society Lausanne. Switzerland

News from the Bernoulli Society

The European Meeting of Statisticians – Call for proposals

Bernoulli announces a call for proposals for the European Meeting of Statisticians (EMS) 2026, 2027 and 2029. The European Meetings of Statisticians are central events for statistics and probability in Europe and worldwide. The meetings should be the natural forum where all European statisticians and probabilists meet to exchange ideas and learn about the latest scientific developments. The EMS is typically held in June or July at a time of year that helps maximize attendance, although timing may vary depending on the local circum-

stances of the chosen venue. The venue should be a location accessible to a large proportion of Bernoulli membership and European researchers.

Anyone interested in hosting either EMS 2026, EMS 2027 or EMS 2029 should contact secretariat@bernoullisociety.org who can provide detailed information for guidance on what is required. Preproposals to host EMS 2026 are encouraged to be sent by June 15, 2024 and will receive prompt feedback. Proposals are expected to be finalized by July 31, 2024.

Call for Photographs and Video Footage

As the Bernoulli Society approaches its 50th year of existence, we are launching an effort to collect and archive photographs and video footage related to the society — whether from the distant or more recent past. If you have material you would like

to share, please contact Ms Kamila Siuda at secretariat@bernoullisociety.org by July 1st, 2024.

Allesia Caponera e-Briefs Rome

Awards and Prizes

David Cox Medal for Statistics – Call for Nominations

Along with the American Statistical Society (ASA), the International Biometric Society (IBS), the Institute of Mathematical Statistics (IMS), the International Statistical Institute (ISI) and the Royal Statistical Society (RSS), the Bernoulli Society has set up a new international statistics medal, commemorating the life and work of Sir David Cox.

The award, called the David Cox Medal for Statistics, will recognise researchers in the fields of statistical theory, methodology and applications whose work is original, with conceptual depth and novelty, and which moves the field or a substantive application area forward.

Sir David Cox, a pioneering statistical researcher who introduced numerous innovations, published his seminal paper on regression models at the age of 48. In memory of this, medals are to be given to mid-career researchers, with an age limit of 50 (with exceptions to be made for extenuating circumstances). Nomina-

tions will not be restricted to members of the awarding societies. Bernoulli Society President Victor Panaretos remarked, "David Cox left his mark on our discipline, by way of his transformative research, his mentoring of young statisticians, and his committed service from numerous important posts—including as Bernoulli Society President. It is only fitting to celebrate his legacy with this new award, indeed an award that I believe has the potential to bring additional visibility to our field. I'm especially proud that this project was first conceived and initiated by the Bernoulli Society, and very pleased that it has garnered support from so many partner Societies."

Awarded to three statisticians every three years, the prize will be decided by a selection committee representing all the involved societies, with a rotating chair. Nominations are now open and will be closing on 31 October 2024. More information and the nomination form can be found on our website: www.bernoullisociety.org/news.

The Willem van Zwet Medal - Call for Nominations

Nominations are now open for the third award of the Bernoulli Society's Willem van Zwet medal. This medal is awarded for special service to the Bernoulli Society. The first and second awards were made in 2021 to Maria Eulalia Vares and in 2023 to Tomas Mikosch. Please take some thought as to whom you might wish to nominate for the third award of this distinguished medal! Nominations for the 2025 Willem van Zwet Medal should be communicated by email to the Willem van Zwet Medal committee care of

pabreuv@gmail.com.

The deadline for nominations is noon UTC, Monday 22 July 2024. For more details, both of eligibility for the award and of what is needed for the nomination, please visit the webpage https://bernoullisociety.org/prizes/53-general/323-willem-van-zwet-medal.

The Alessia Caponera e-Briefs Rome

New Researcher Award – Call for Applications

The Bernoulli Society welcomes applications to the 2025 New Researcher Award. Each awardee shall deliver a talk at a special invited session during the 65th ISI World Statistics Congress to be held in The Hague from October 5-10, 2025, and will receive a funding up to 1000 EUR to offset travel and other expenses. Bernoulli News will publish their pictures and a paragraph about their work. Eligible candidates are active researchers in Mathematical Statistics who obtained the PhD degree on or after June 15th, 2019, and who are regular members of the Bernoulli Society. An extension

may be given to those having had disruptions after receiving the PhD, such as parenthood. Diversity among the awardees is one of the Society's goals, and therefore women and members of under-represented groups are particularly encouraged to apply. Candidates should apply through the web form here and send the required documents to the e-mail address indicated in the form, by June 15th, 2024.

The Alessia Caponera e-Briefs Rome

New Executive Members in the Bernoulli Society

The new Publicity Secretary



Short bio: Corina Constantinescu is a Professor of Mathematics and Director of the Institute for Financial and Actuarial Mathematics, in the Department of Mathematical Sciences, at the University of Liverpool. Prior to being an academic, Corina worked as an actuary and led the life insurance department of one of the first private Romanian insurance companies. Given her practical perspective, many of her papers are published in actuarial journals, however she also publishes in applied probability journals. Her expertise is in analytical methods for deriving exact or asymptotic results for ruin probabilities, with light or heavy-tailed assumptions in complex insurance risk models. A more recent research interest of hers is financial inclusion, namely correctly pricing and regulating microfinance and microinsurance practices.

Vision of the Job: The publicity team's mandate is to chronicle the achievements accomplished over the years by the Bernoulli Society and to highlight the continuous contributions made by its members.

The new Editor-in-Chief for Stochastic Processes and their Applications

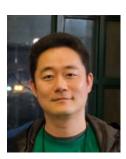


Short bio: Eva Löcherbach is Professor of Mathematics at the University Paris 1 Panthéon Sorbonne, affiliated to the SAMM Department. Previously she was a professor at CY Cergy Paris Université. Her research focuses on the stochastic modeling of neurons, going from models for single neurons to systems of interacting and spiking neurons described by point processes, their mean field limits, questions related to perfect simulation and the emergence of collective behavior. She has also been interested the longtime behavior of stochastic processes and limit theorems, and her PhD and postdoctoral work was on statistical inference for systems of interacting and branching diffusions.

She is an associate Editor of MNA (Mathematical Neuroscience and Applications) and had been associate Editor of SPA since 2018.

Vision of the Job: During her job as EIC of SPA she wants to emphasize the « application » aspect of the journal, focusing on new important application areas coming from mathematical biology, neuroscience, but also social science, and the use of stochastic methods in artificial intelligence.

The new Chair of the Committee for Conferences on Stochastic Processes



Short bio: Panki Kim is a professor in the Department of Mathematical Sciences at Seoul National University. He graduated with a bachelor's degree in mathematics in 1996 and obtained a master's degree in 1998, both from Korea University. He earned his doctorate in mathematics from the University of Washington in 2004 and served as a J. L. Doob Research Assistant Professor at the University of Illinois at Urbana-Champaign until 2006. His research focuses on probability and potential theory, including the regularity and estimates of transition densities of Markov processes, Green and Martin kernels, analysis on non-local operators, the Harnack and boundary Harnack principles, and functional inequalities and their applications. He received the Best Paper Award from the Korean Mathematical Society in 2015. Professor Kim served as the Associate Dean of the College of Natural Sciences at Seoul National University from 2018 to 2020. He has been an editor for the Journal of the Korean Mathematical Society since 2013. Since 2016, he has been the spokesperson for the International Research Training Group 2235, a joint research program between the Faculty of Mathematics at Bielefeld University in Germany and the Department of Mathematical Sciences at Seoul National University in South Korea.

The new chair of the East-Asian and Pacific Regional Committee



Short bio: Ajay Jasra was born in Bristol, United Kingdom. He received his BSc (Hons, 1st Class) in Mathematics & Statistics from the University of Exeter 2001 and his MSc in Applied Statistics from the University of Oxford in 2002. He completed his PhD in statistics from Imperial College London in 2005. Prof Jasra held several postdoctoral appointments: University of Oxford (2005), University of Cambridge (2006), Chapman Fellow of Mathematics, Imperial College London (2006-2008) and the Institute of Statistical Mathematics, Japan (2008). Prof Jasra held his first faulty position at Imperial College London (2008-2011) as assistant professor (lecturer) in the statistics section of the Department of Mathematics. He then moved as Associate Professor (with tenure) at the National University of Singapore (NUS) (2011-2019), in what was then Department of Statistics and Applied Probability (*). At NUS, he held a Deans' chair associate professor position and was also deputy head of department. From 2019-2024 he was at King Abdullah University of Science and Technology (KAUST) as Professor of Applied Mathematics and Computational Science and Statistics. 2021-2024 Prof Jasra was the Associate Dean for Faculty at the CEMSE division, KAUST. Since January 2024 Prof Jasra is Professor of Data Science (with tenure) at The Chinese University of Hong Kong, Shenzhen. His research interest lies on the interface of modern applied mathematics and statistics, including Monte Carlo, Markov chains and applications in biology and finance. Prof Jasra has over 100 publications in peer-reviewed journals and conferences. He has over 7000 citations and an H-Index of 33. He has graduated over 15 PhD students and has advised more than 10 postdocs, several of which hold/held faculty positions at: Harvard, Edinburgh, and Warwick. Prof Jasra is the editor in chief of Statistics and Computing. Prof Jasra was the co-editor in chief at the AIMS journal: Foundations of Data Science. He is also associate editor at several journals including Annals of Applied Probability and SIAM/ASA Journal of Uncertainty Quantification. Prof Jasra is currently the chair of the Bernoulli East Asia Pacific Regional Committee and member of the Bernoulli Council.

(*) it is now the Department of Statistics and Data Science.

Vision of the Job: It is a great honor to undertake this position and thanks to those that preceded me. The vision that I have for this position is to enhance collaboration in East Asia under the umbrella of the Bernoulli society. In particular, to proliferate and promote the presence of the society in the region. I hope, with the assistance of the president, council and the committee to achieve these lofty goals.





A Conversation with Lester Mackey

Moderated by Editor

Lester Mackey is a Principal Researcher at Microsoft Research, where he develops machine learning methods, models, and theory for large-scale learning tasks driven by applications from climate forecasting, healthcare, and the social good. Lester moved to Microsoft from Stanford University, where he was an assistant professor of Statistics and, by courtesy, of Computer Science. He earned his PhD in Computer Science (2012) and MA in Statistics (2011) from UC Berkeley and his BSE in Computer Science (2007) from Princeton University. He co-organized the second place team in the Netflix Prize competition for collaborative filtering; won the Prize4Life ALS disease progression prediction challenge; won prizes for temperature and precipitation forecasting in the yearlong real-time Subseasonal Climate Forecast Rodeo; and received best paper, outstanding paper, and best student paper awards from the ACM Conference on Programming Language Design and Implementation, the Conference on Neural Information Processing Systems, and the International Conference on Machine Learning. He is a 2023 MacArthur Fellow, a Fellow of the Institute of Mathematical Statistics, a Fellow of the American Statistical Association, an elected member of the COPSS Leadership Academy, and the recipient of the 2023 Ethel Newbold Prize.



B.M. The Newbold Prize is one of the most prestigious awards given by the BN Society. How did you feel when you received the letter informing you that you are this year's winner?

L.M. I was elated and honored!

B.M. The Prize committee noted that you are an outstanding mid-career scientist with a remarkable breadth and depth of achievements, with publications spanning probability, applied probability, theoretical

statistics, applied statistics, and machine learning. Personally, I believe that connecting different areas and addressing both practical and theoretical aspects is a crucial and necessary approach in science. What are your thoughts on this?

L.M. It's hard for me to say what is necessary, but I especially enjoy research that ties together an important application, pertinent theory (e.g., to direct methodological development), and new methodology. The first keeps me grounded, the second keeps me focused, and the third keeps me up all night tinkering.

B.M. AI is now a buzzword. What do you think about the current and future roles of probability and statistics in the development of AI?

L.M. Probability and statistics are thoroughly enmeshed in the development of AI: under the hood, modern chatbots like ChatGPT are probabilistic models trained using maximum likelihood, and modern image generators like DALL-E are based on diffusion processes. Probability and statistics are indispensable to modern AI, and I don't see that changing any time soon.

B.M.Finally, what advice would you give to young researchers entering the field today?

L.M. Find something that you love to do and do it for good.

Let us use distinct and well-recognizable notations and abbreviations for writings in probability and statistics

Jordan M. Stoyanov Bulgarian Academy of Sciences and Shandong University stoyanovj@gmail.com

Communicated by the Editor

Jordan M. Stoyanov, a distinguished professor in Probability, serves as an Honorary Professor at the Bulgarian Academy of Sciences and a Visiting Professor at Shandong University in China. He earned his PhD from Moscow State University/Steklov Institute under Academician Albert Shiryaev. Formerly with Newcastle University's School of Mathematics & Statistics (1998–2015), he is an elected Fellow of the Institute of Mathematical Statistics (2022) and an elected member of the International Statistical Institute (2020), the Bernoulli Society, and the London Mathematical Society. Stoyanov has published 5 books and 80 papers in his field.

Among the main activities in our profession is to read, be familiar with the current state of art in our area, work on new problems, write, publish and share knowledge and experience with others. In order to keep good level of mutual understanding, we need to follow more or less the same basic requirements for the way we write and speak.

In the literature, most of the used notations and abbreviations are appropriate. However, not all. There are some, which are distracting and/or misleading, or are just tasteless. Occasionally, there are exotic 'inventions', too far from any common sense.

Based on my more than 50 years experience as a learner, reader, author, teacher, advisor, reviewer and editor, I have been making brief notes about good practices followed by leading specialists. Naturally, there are differences, and this brings expected and unexpected challenges. Thus I arrive at the idea to prepare a short material, different versions of which were distributed around the world over the last couple of years. Some colleagues, authors and/or editors, expressed a positive opinion and supported the idea to look at how we write and what eventually can be done for the better image and aesthetic view of our works. Publishers and Editors (believe they) are the 'commanders' deciding what is the 'right' policy. Still, there is always some freedom.

So, essential is to think not only of the content, but also of the general 'quality' of the outcome of our works from the point of view of their easy accessibility by potential readers. There is a common illusion, everybody believes that she/he is an excellent writer, speaker, etc. Yes, there are many such cases. And ... there are counterexamples.

It was and is not clear how to find an appropriate platform for discussions among the scientific community with the goal to arrive at a compromise for at least a minimum of well selected suggestions to be recommended for implementation. Surely there are colleagues who are willing to come up with new valuable suggestions. This would confirm the statement that 'two heads are better than one'. And ... a hundred of heads is even better. This is why the appeal is to the members of professional organizations. Just to mention that a short Essay of 2 pages has been published in the Bulletin of the IMS with quite positive feedback. A version of my short notes was distributed among all members of the Italian Statistical Association and also of the Greek Statistical Institute. Not surprisingly, some colleagues are positive and enthusiastic about the necessity to do something, however, which is normal, there are sceptics.

I am grateful to the Editors of Bernoulli New for the opportunity given to me to share my concerns and specific suggestions with the members of Bernoulli Society.

My appeal is addressed to *Probabilists, Statisticians, Mathematicians*, to *Publishers, Editors, Authors, Reviewers*, to look at the current situation. If a wish, with some efforts one can arrive at a common opinion: let us try and do something useful for improving the quality and the image of all papers, books, etc., in Probability and Statistics.

Here are three reasonable and well-motivated 'rules':

Rule 1. Use one letter/symbol as the notation for only one item/object.

Rule 2. For each specific group of objects, use the same font.

Rule 3. For different groups of objects use different fonts.

In my opinion, shared by many others, these are a kind of indisputable rules. They can be slightly modified, perhaps new rules added. For now, let us stick to these three.

Question: Are you comfortable with the following *terrible examples* in the literature?

Example 1: Let the IID $\{X_n\}$ be ID with DD ... (That author meant: IID = 'independent and identically distributed', ID = 'infinitely divisible', DD = 'decreasing dependence'.)

Example 2: The probability $\Pr(\xi \leq x)$, its expectation $\mathbb{E}\xi$ and variance $\text{var}\xi$...

(Here 'Pr', ' \mathbb{E} ', 'var', are in one group of objects, however they are written in three different ways. So, let us use one font, 'sans serif' is the most appropriate: $P(\xi \leq x)$, $E[\xi]$, $Var[\xi]$.)

Example 3: For a RV $\mathbb X$ on the probability space $(\Omega, \mathcal F, \mathbb P)$ with values in $\mathbb R$, denote

 $\mathbb{E}[\mathbb{X}] = \int_{\Omega} \mathbb{X}(\omega) d\mathbb{P}; \quad \mathbb{P}[\mathbb{X} \leq x] = \mathbb{F}(x), \ x \in \mathbb{R}.$ (Here, the same font 'bb' is used for five different objects. Terrible! What a taste?!)

Abbreviations: Some publishers do not allow abbreviations. If allowed, here is a set of a good selection. The meaning of each is absolutely clear at one glance:

i.i.d., r.v., d.f., a.s., m.g.f., p.g.f., ch.f., inf.div. (with no space between).

It is old-fashionable to write RV, PDF, CDF. Density is density, why PDF? Why capitals? Why CDF? It is cumulative by definition! Write simply 'density' and 'd.f.'.

Mathematics Subject Classification (MSC): Use the last **MSC 2020**. Strangely, there are still papers in journals (not by the IMS and BS) referring to MSC 2010.

Traditionally, we look for works of good content in our specific area. Next, we do pay attention to how appropriate, clear and distinct notations are used. Good notations make the works easier to read! This observation does not apply to people who only write but do not read. The worst is, there are authors who do not care of it at all.

Below is a brief list of basic notations (Many of them are widely used in Mathematics):

- For the 'standard normal density' use φ , not ϕ ('varphi' not 'phi').
- Use 'cal' font for the normal distribution, $\mathcal{N}(0,1), \mathcal{N}(\mu,\sigma^2)$, standard, with parameters μ,σ^2 .
- For spaces and sets, use 'bb' font: $\mathbb{R}=(-\infty,+\infty)$, \mathbb{R}^n , $\mathbb{R}_+=[0,\infty)$, \mathbb{Q} for the rationals, \mathbb{C} for the complex plane, $\mathbb{N}=\{1,2,\ldots\}$ or \mathbb{Z}_+ , $\mathbb{N}_0=\{0,1,2,\ldots\}$ or \mathbb{Z}_0 , $\overline{\mathbb{N}}=\{\ldots,-1,0,1,2,\ldots\}$ or \mathbb{Z} . Remember, 'bf' font is reserved, see the next item.
- Keep 'bf' font for matrices and vectors, A, B, ...,

a, **b**,

- Font 'cal' is good for families, σ -algebras, sets of functions: $\mathcal{A}, \mathcal{B}, \mathcal{F}, \mathcal{C}, \mathcal{P}, \mathcal{M}$, etc.
- Use Roman font, 'rm', for 'e', 'd' 'exp', 'Re' and 'Im', respectively (Napier constant, differentials, exponent, real and imaginary parts of a complex number). Not e, d, exp, and not $\Re e$ and $\Im m$. Also write ε , not ϵ .
- \bullet To use 'parentheses' in $\max\{a,b\}$, $\min\{a,b\}$, is better than $\max(a,b)$, $\min(a,b)$, etc.
- For functions (= mappings), use \mapsto not \rightarrow ; the latter is 'reserved' for convergence.
- \bullet For specified, say s-convergence, use $\stackrel{s}{\to}$, but not \to_s and not \to^s .
- ullet For convergence, instead of $\overset{n \to \infty}{\longrightarrow}$, it is better to avoid overloading and write $n \to \infty$ after.
- Two symbols: $X \perp Y$ for orthogonal (uncorrelated) r.v.s; $X \perp \!\!\! \perp Y$ for independent r.v.s.
- \bullet Write $X \sim F$, or $X \sim f$, for a r.v. X with d.f. F, or density f.
- \bullet Keep $\,\Gamma(\cdot)$ and $\,B(\cdot,\cdot)$ for the classical Euler's Gamma function and Beta function.
- Use $\gamma(a,b)$ or Gamma(a,b), gamma distribution with parameters a,b. Not $\Gamma(\alpha,\beta)$.
- Use $\beta(a,b)$, or Beta(a,b), for the beta distribution with parameters a,b. Not B (α,β) .
- ullet Use ${
 m Exp}(\lambda)$ for the exponential distribution with parameter λ . But not ${
 m exp}_\lambda$.
- Use Bin(n, p) for the binomial distribution with parameters n, p.
- ullet Use $\operatorname{Poi}(\lambda)$ for the Poisson distribution with parameter $\lambda.$
- ullet Use $\operatorname{Ge}(p)$ or $\operatorname{Geo}(p)$ for the geometrical distribution with parameter p.
- Use 'sans serif' font for the following objects/items, they are all in one group: P, E, V or Var, $Cov(\cdot,\cdot)$, $Corr(\cdot,\cdot)$, for probability, expectation, variance, covariance, correlation.

It is remarkable, 'sans serif' font was used by A.N. Kolmogorov in his book *Grundbergiffe der Wahrscheinlichkeitsrechnung*, Julius Springer, 1933, and later in any of the many translations and editions, including in *Foundations of Probability Theory*, Chelsea Publ. Co., 1956.

Several outstaning scientists have used in their books 'sans serif' font. Here are only a few names: K.L. Chung,

A.N. Shiryaev, S. Foss, V.G. Kulkarni, R. Gatto, I. Song.

Here are just a few names among the many authors using 'sans serif': S. Molchanov, V. Panov, A. Bulinskii, I. Pinelis, V. Abramov, L. Bogachev, Ph. Ernst, G. Peskir, C. Genest, F. Ouimet, V. Ulyanov, D. Dai, Zh. Su, H. Wang, A. Veretennikov, V. Malinovsky.

It is pity, fonts like p, \mathbf{P} , \mathbf{P} , for 'probability', are still in use as 100 years ago. They should be forgotten by smoothly switching to 'sans serif' as an excellent option.

Final words: While the mathematical content is a priority number one, not less important are things of technical nature, like those discussed above. To use systematically good notations and abbreviations will lead to an improved 'face' of the writings in Mathematics, hence in Probability and Statistics.

There are masterly written books and masterly designed journals. This is when the author's good taste coincides with good journal rules. It is enjoyable to see notions, notations and abbreviations which are indeed 'distinct and well-recognizable'. Two conclusions:

- Let us follow the Masters!
- Make your own works attractive and a source of intellectual pleasure!

It is appropriate to give here the following relevant citation:

A.N. Kolmogorov: Mathematics is a synthesis of the two ideals making meaningful human life, the ideal of truth and the ideal of beauty.

I do not attempt to discuss here on other important

aspects such as 'Citation Style Recommendations' and 'References style'. These are up to Publishers, journal Editors, etc.

Among the large number of available sources, below are just a few works by Masters.

References

- [1] P. Halmos, How to write Mathematics, *L'Enseignement Mathématique*, **16**:1 (1970) 123–152.
- [2] D. Knuth, Two notes on notation, *The American Mathematical Monthly*, **99**:5, 403–422.
- [3] S. Wolfram, Mathematical Notation: Past and Future, In MathML and Math on the Web: MathML International Conference, Urbana Champaign, USA, (2000)
- [4] S. Krantz, *Handbook of Typography for the Mathematical Sciences*, Chapman & Hall/CRC, 2001.
- [5] K. Abadir, J. Magnus, Notions in Econometrics: a proposal for a standard, *Econometrics Journal*, **6**:1 (2002) 76–90.
- [6] T. Tao, What is good Mathematics, *Preprint, Department of Mathematics, UCLA*/
- [7] I. Pak, How to write a clear Math paper: Some 21st century tips, *Journal of Humanistic Mathematics*, **8**:1 (2018) 301–328.
- [8] L. Devroye, Google: Font family 1001 fonts, www.luc.devroye.org/fonts.html
- [9] J. P. Serre, How to write Mathematics badly. www.youtube.com
- [10] J. Stoyanov, Mathematics Notation in Probability and Statistics, *Bulletin of the IMS*, **52**:4 (2023), 25–26.



Jordan M. Stoyanov

Forthcoming Conferences, Meetings and Workshops, and Calendar of Events

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Bernoulli-IMS 11th World Congress in Probability and Statistics: August 12-16 2024; Bochum, Germany



The Bernoulli-IMS 11th World Congress in Probability and Statistics will be held from 12 to 16 August 2024 on the campus of Ruhr University Bochum, Germany. The World Congress will be the major international conference in the area of Probability and Statistics in 2024, where scientists from around the globe will gather to exchange ideas and to present the results of their most recent research.

The provisional program (information about the program is continuously updated) can be found at

Plenary lectures: www.bernoulli-ims-worldcongress2024.org/plenary-lectures

- Invited paper sessions: www.bernoulliims-worldcongress2024.org/invited-paperssessions
- Organized contributed paper sessions: www.bernoulli-ims-worldcongress2024.org/ organized-contributed-paper-sessions

For more information about the World Congress please visit the website

https://www.bernoulli-ims-worldcongress2024.org/.

BS-IMS World Congress Pre-Meeting for Young Researchers 2024

This traditional pre-meeting event preceding the BS-IMS World Congress in Probability and Statistics, will bw held from 10-11 August 2024 on Campus Essen, University of Duisburg-Essen. It addresses young researchers at an early stage of their academic career*. Participants will be given the opportunity to learn about selected modern research directions at the interface of probability and statistics, and to participate in

discussions that pertain to career development. A further focus is to enable young researchers to network among their peer group. More information is available at

https://www.bernoulli-imsworldcongress2024.org/young-researchers-premeeting.

Causal Inference and Prediction for Network Data: August 18 - 23 2024; Banff, Canada

The Banff International Research Station will host the "Causal Inference and Prediction for Network Data" workshop in Banff from August 18 - 23, 2024, in cosponsorship with the Bernoulli Society, through its Committee on Statistical Network Science. This workshop focuses on modeling and inferring causal relations in network data and leveraging these model inference for predictions. Causal inference between variables based on observations in a network has been an extremely challenging problem, requiring adapting existing inference frameworks to networks. The workshop will bring researchers from theory, computation, and different applications together, to help theoreticians and methodologists focus on real problems, and to alert application researchers to the newest developments in methods.

The Banff International Research Station for Mathematical Innovation and Discovery (BIRS) is a collaborative Canada-US-Mexico venture that provides an environment for creative interaction as well as the exchange of ideas, knowledge, and methods within the Mathematical Sciences, with related disciplines and with industry. The research station is located at The Banff Centre in Alberta and is supported by Canada's Natural Science and Engineering Research Council (NSERC), the U.S. National Science Foundation (NSF), Alberta's Advanced Education and Technology, and Mexico's Consejo Nacional de Ciencia y Tecnología (CONACYT). Virtual access to the workshop will be available via Zoom. Spaces will be limited. If interested in an invitation to attend, please contact Tianxi Li (tianxili@umn.edu).

Other Events

22nd Workshop on Stochastic Geometry, Stereology and Image Analysis: June 2-7 2024, Bad Herrenalb, Germany

The 22nd Workshop on Stochastic Geometry, Stereology and Image Analysis is the next workshop in a series of meetings on stochastic geometry, stereology, image analysis, and related fields. The SGSIA workshops constitute a principal forum for researchers working with random geometric objects. Since the

beginning, the workshops have focused on both the consolidation and advance of the title disciplines, and their development as valuable tools in a number of applied fields. More information can be found at https://sgsia24.math.kit.edu/.

Fall School "Time Series, Random Fields and beyond"

The German-Japanese Fall School "Time Series, Random Fields and beyond" will take place at Ulm University, September 23 - 27, 2024. It is organized jointly by the Institute of Statistical Mathematics (Tokyo), University of Tokyo, Tohoku University (Sendai) and Ulm University. It targets graduate and PhD students as well as PostDocs who would like to learn more about the state-of-the-art in random processes in space and time as well as related topics. The focus of the school includes the geometry of random fields and their excursions, multivariate extreme value theory, Markov Chain Monte Carlo, hyperuniformity in random geometric systems as well as spectral methods for spacetime series. The following international experts will give lectures in their fields:

■ Hermine Bierme (University of Tours, France)

- Zakhar Kabluchko (University of Münster, Germany)
- Kengo Katamani (Institute of Statistical Mathematics, Tokyo, Japan)
- Michael Klatt (German Aerospace Center, Ulm, Germany)
- Yasumasa Matsuda (Tohoku University, Sendai, Japan)
- Gennady Samorodnitsky (Cornell University, Ithaca, USA)

The registration is now open. There are still few vacant slots for contributed talks and posters. More information can be found at www.uni-ulm.de/mawi/mawistochastik/allgemeines/aktuelles/fall-school-timeseries-random-fields-and-beyond-2024/.

Calendar of Events

This calendar lists all meetings that have been announced in this and previous issues of *Bernoulli News* together with forthcoming meetings organized under the auspices of the Bernoulli Society or one of its Regional Committees (marked by).

A more comprehensive calendar of events is available on the BS Website www.bernoulli-society.org/index.php/meetings.

May 2024

■ May 29-31 (2024), Ole E. Barndorff-Nielsen Memorial Conference;

June 2024

June 2-7 (2024), 22nd Workshop on Stochastic Geometry, Stereology and Image Analysis; Bad Herrenalb, Germany.

July 2024

 OJuly 12-14 (2024), Statistics and Data Science Conference; Kunming, China.

Quote of the Issue:

"Find something that you love to do and do it for good."

August 2024

- OAugust 10–11 (2024), BS-IMS World Congress Pre-Meeting for Young Researchers 2024, Essen, Germany
- OAugust 12–16 (2024), Bernoulli-IMS 11th World Congress in Probability and Statistics; Bochum, Germany.
- OAugust 18–23 (2024), Causal Inference and Prediction for Network Data; Banff Canada.

September 2024

- September 23–27 (2024), Fall School "Time Series, Random Fields and beyond", Ulm, Germany
- September 24–25 (2024), *Statistical Modeling* with *Applications 2024*, Belgrade, Serbia.

October 2025

■ October 5-9 (2025), 65th ISI World Statistics Congress 2025, The Hague, The Netherlands

Lester Mackey

Recent Issues of Official Publications

Bernoulli Vol. 30, No. 2: May 2024

Editors-in-Chief: D. Paindaveine

http://projecteuclid.org/current/euclid.bj

"On Azadkia-Chatterjee's conditional dependence coefficient," H. Shi, M. Drton, F. Han, 851-877.

"Laplace priors and spatial inhomogeneity in Bayesian inverse problems," S. Agapiou, S. Wang, 878–910.

"Variance estimation for sequential Monte Carlo algorithms: A backward sampling approach," Y. Janati El Idrissi, S. Le Corff, Y. Petetin, 911–935.

"Reproduction of initial distributions from the first hitting time distribution for birth-and-death processes," K. Yamato, K. Yano, 936-960.

"Maximal displacement of spectrally negative branching Lévy processes," C. Profeta, 961–982.

"Malliavin calculus techniques for local asymptotic mixed normality and their application [...]," M. Fukasawa, T. Ogihara, 983-1006.

"On the separation cut-off phenomenon for Brownian motions on high dimensional [...],"M. Arnaudon, K. Coulibaly-Pasquier, L. Miclo, 1007–1028.

"A recursive distributional equation for the stable tree," N. Chee, F. Rembart, M. Winkel, 1029–1054.

"Rearranged dependence measures," C. Strothmann, H. Dette, K. Friedrich Siburg, 1055-1078.

"A diffusion approach to Stein's method on Riemannian manifolds," H. Le, A. Lewis, K. Bharath, C. Fallaize, 1079–1104.

"A new shape of extremal clusters for certain stationary semi-exponential processes [...]," Z.L. Chen, G. Samrodnitsky, 1105–1153.

"Asymptotic normality for a modified quadratic variation of the Hermite process," A. Ayache, C. A. Tudor, 1154-1176.

"Inverse covariance operators of multivariate nonstationary time series," J. Krampe, S. Subba Rao, 1177-1196.

"Rough paths and symmetric-Stratonovich integrals driven by singular covariance Gaussian processes," A. Ohashi, F. Russo, 1197–1230.

"Mean stationarity test in time series: A signal variance-based approach," H.K. To, K.W. Chan, 1231–1256,

"Bayesian estimation of nonlinear Hawkes processes," D. Sulem, V. Rivoirard, J. Rousseau, 1257-1286.

'Optimal weighted pooling for inference about the tail index and extreme quantiles," A. Daouia, S. A. Padoan, G. Stupfler, 1287-1312.

"Testing with p*-values: Between p-values, mid p-values, and e-values," R. Wang, 1313–1346.

"Sequential testing for elicitable functionals via supermartingales," P. Casgrain, M. Larsson, J. Ziegel, 1347–1374.

"Comparison principle for stochastic heat equations driven by α-stable white noises," Y. Wang, C. Yan, X. Zhou, 1375–1400.

"Berry-Esseen bound and Cramér moderate deviation expansion for a supercritical branching random walk," T.T. Bui, I. Grama, Q. Liu, 1401–1415.

"Inadmissibility of the corrected Akaike information criterion," T. Matsudau, 1416-1440.

"Characteristic kernels on Hilbert spaces, Banach spaces, and on sets of measures," J. Ziegel, D. Ginsbourger, L. Dümbgen, 1441–1457.

"Empirical likelihood ratio tests for non-nested model selection based on predictive losses," J. Jiang, X. Jiang, H. Wang, 1458-1481.

"Sectional Voronoi tessellations: Characterization and high-dimensional limits,"A. Gusakova, Z. Kabluchko, C. Thäle, 1482–1501.

"On Z-mean reflected BSDEs," J. Derchu, T. Mastrolia, 1502-1524.

"Bayesian multiscale analysis of the Cox model," Bo Y.-C. Ning, Ismaël Castillo, 1525-1554.

"Spine for interacting populations and sampling," V. Bansaye, 1555-1585.

"Strong and weak convergence for the averaging principle of DDSDE with singular drift," M. Cheng, Z. Hao, M. Röckner, 1586–1610.

"Gaussian Whittle-Matérn fields on metric graphs," D. Bolin, A. B. Simas, J. Wallin, 1611-1639.

"Exact detection thresholds and minimax optimality of Chatterjee's correlation coefficient," A. Auddy, N. Deb, S. Nandy, 1640–1668.

"Estimating a regression function in exponential families by model selection," J. Chen, 1669-1693.

Stochastic Processes and their Applications

Vol. 172: June 2024

Vol. 60: April 2024

Editor-in-Chief: Matthias Löwe

http://www.sciencedirect.com/science/journal/03044149

"The spatial sojourn time for the solution to the wave equation with moving time: Central and non-central [...]," C. A. Tudor, J. Zurcher, 104333 "Wasserstein distance estimates for jump-diffusion processes," J.C. Breton, N. Privault, 104334. "Heat kernel fluctuations and quantitative homogenization for the one-dimensional Bouchaud [...]," S. Andres, D.A. Croydon, T. Kumagai, 104336.

"Hyperbolic radial spanning tree," D. Coupier, L. Flammant, V.C. Tran 104318.

"A detection problem with a monotone observation rate," E. Ekström, A. Milazzo 104337.

"1 stable fluctuation of the derivation martingale of branching and down walls," H. H. V.V.

"1-stable fluctuation of the derivative martingale of branching random walk," H. Hou, Y.X. Ren, R. Song, 104338. "A geometric extension of the Itô-Wentzell and Kunita's formulas," A.B. de León, S. Takao, 104335.

"Ornstein-Uhlenbeck type processes on Wasserstein spaces," P. Ren, F.Y. Wang, 104339.

"Metastability for the degenerate Potts Model with positive external magnetic field under Glauber dynamics," G. Bet, A. Gallo, F.R. Nardi, 104343.

"Exponential ergodicity of Lévy driven Langevin dynamics with singular potentials," J. Bao, R. Fang, J. Wang, 104341.

"Optimal stopping of an Ornstein–Uhlenbeck bridge," A. Azze, B. D'Auria, E. García-Portugués, 104342.

"Revisit of a Diaconis urn model," L. Yang, J. Hu, Z. Bai, 104352.

"Solutions for Poissonian stopping problems of linear diffusions via extremal processes," J. Lempa, H. Saarinen, W. Sillanpää, 104351.

"Central limit theorem with rate of convergence under sublinear expectations," Q. Zhou, Á. Sakhanenko, J. Guo, 104353

"Limit theorems for a branching random walk in a random or varying environment," C. Huang, Q. Liu, 104340

Bernoulli Society Bulletin e-Briefs

Editor-in-Chief: A. Caponera

https://www.bernoullisociety.org/publications?id=171

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Publications and Meetings

The Bernoulli Society official journals are Bernoulli and Stochastic Processes and their Applications. In addition, the BS co-sponsors the following open-access online publications: Electronic Communications in Probability, Electronic Journal of Probability, Electronic Journal of Statistics, Latin American Journal of Probability and Mathematical Statistics, Probability Surveys and Statistics Surveys. Published twice a year, Bernoulli News provides detailed information about activities of the Society, while Bernoulli e-Briefs is a bimonthly electronic information bulletin that summarizes and draws the attention of relevant information to the membership.

The Bernoulli Society organizes or sponsors several international meetings which have a prominent relevance in the fields of mathematical statistics, probability, stochastic processes and their applications. These meetings are often held in conjunction with the ISI and other ISI Associations, the IMS or by the BS Regional and Standing Committees. Some of the meetings with a proud tradition are the Bernoulli-IMS World Congress in Probability and Statistics every four years, the Conference on Stochastic Processes and their Applications (SPA) organized every year, the ISI World Statistics Congress (formerly ISI Session), the Latin American Congress in Probability and Mathematical Statistics (CLAPEM) organized every two or three years, the European Meeting of Statisticians (EMS) organized every two years and the European Young Statisticians Meeting (EYSM) organized every two years.

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Bernoulli Society membership https://www.isi-web.org/index.php/ memberships

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- PhD students developing countries: €12.
- Members from developing countries, retired members and retired couples: €34.
- Joint BS-IMS memberhip: \$154.
- Joint BS-IMS-ISI membership (only for elected ISI Members): €195.