



INTERNATIONAL SOCIETY FOR BAYESIAN ANALYSIS

# THE ISBA BULLETIN

OFFICIAL BULLETIN OF THE INTERNATIONAL SOCIETY FOR BAYESIAN ANALYSIS

## MESSAGE FROM THE PRESIDENT

Aad van der Vaart  
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Welcome to the second ISBA bulletin of 2024!

This is also the second bulletin put together by Francesco Denti, who took over this service from Gregor Kastner this year. We owe both of them our great thanks.

At the time of writing, we are two weeks away from the ISBA World Meeting in Venice. Our team of organisers, local and program council, sponsorship committee, and others, have been working very hard over the past year, with increasing intensity in the last months, and we are in expectation of a great event. I am looking forward to meeting many (or even most) of you in Venice. Registrations are approaching 800, the scientific program is better than ever, the location and facilities superb, including possibilities if you wish to bring your children. Only our prior expectation of the interest in the closing banquet, historically a highlight of the conference, has been off. In these times, are we "all work" and less interested in the social parts of the conference, or are other factors at play?

Many of our ISBA committees have also lived up to their tasks in the past months, or are currently working hard, as you can read in this bulletin. Some results will be announced or celebrated at the world meeting: prize laureates, fellows, committee members. (Please join us for the celebrations at the conference dinner, I believe it is still

possible to reserve a seat.) Searches for a new editor for Bayesian Analysis, a new president-elect and executive secretary and new board members are also on their way (the latter to be put to a membership vote later this year). Thanks to the work of many, and this of course includes our section boards, our society is as active as ever. See the list of activities in this bulletin.

Sad news has reached us as well. In the past half year we lost two more prominent members, David Draper and R.V. Ramamoorthi. This followed the passing of Thomas Leonard, whose obituary appeared in last bulletin. You can read about David's and RVR's many contributions to our society and our science in this bulletin, and will be able to join a memorial or commemorative session at the world meeting. They and others who contributed so much to the growth of ISBA will be missed.

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## FROM THE EDITOR

Francesco Denti

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Hello, ISBA community! June is ending, the World Meeting is coming up, and it's time for the second issue of the ISBA Bulletin 2024!

First and foremost, join me in welcoming the new Associate Editor of the Bulletin, Déborah Sulem. She will direct the *News from the World* section, to which she has already given her personal touch, inaugurating a super interesting Q&A section.

As usual, this issue opens with a message from our ISBA president, Aad Van der Vaart. In the following pages, you will find various personal recollections written to remember two outstanding members of the Bayesian community who passed away in recent months: David Draper and R.V. Ramamoorthi.

You can then read the contributions by Sergios Agapiou, the Program Chair, and Mark Steel, the Editor-in-Chief of Bayesian Analysis. Don't miss the Award section written by Surya Tokdar and Xiaojing Wang, where you will find all the nominations of the Savage 2023 Award finalists. Beatrice Franzolini updates us about the numerous j-ISBA initiatives coming up in the summer. The new "j-Author spotlight" section is a success, full of great reports. Thanks to all the junior researchers who have contributed! Finally, check out the new Déborah Sulem's News from the World Section. It lists plenty of events; take notes!

Once again, thanks to all the contributors who made this issue possible. I hope to see you all soon in the beautiful canals of Venice. Enjoy!

## REMEMBERING DAVID DRAPER (1952-2024)

Dimitris Fouskakis

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It is with deep sorrow that we announce the passing of David Draper, at the age of seventy-two, on May 8, 2024, in Santa Cruz, California. David was a distinguished and pioneering statistician, an amazing teacher and an inspiring supervisor, whose contributions to the field have left an indelible mark. He was a true expert in analysing complex data and gained great satisfaction in successfully addressing real-life challenges in a variety of fields. In 2002 he served as President of the International Society for Bayesian Analysis (ISBA) and since 2014 he was made an ISBA



fellow for his fundamental Bayesian research on model uncertainty, hierarchical modelling, and applications of Bayesian decision theory in complicated applied settings. In addition, he made significant contributions to applied Bayesian problem-solving in education, environmental risk assessment, health policy and medicine, and gave significant service to ISBA and the Bayesian community more widely including extensive Bayesian educational activities.

He was born in Omaha, Nebraska and raised in Temple Hills, Maryland. David's interest in statistics began from an early age. He studied Mathematics at the University of North Carolina, Chapel Hill, from 1970-1974 and was awarded with highest honours. In 1980 he received a M.A. in Statistics, from

the University of Berkeley in California and in 1981 he completed a PhD in Statistics, from the same institution, under the supervision of Erich Lehmann.

After his PhD, David began his academic career when in 1981 he joined the Department of Statistics in the University of Chicago as a Research Associate. In 1984 he moved to the RAND Corporation, in Santa Monica, California to the Statistical Research and Consulting Group, initially under the Department of Economics and Statistics and thereafter under the Graduate School of Policy Studies. From 1990 he joined the Division of Statistics in UCLA and in 1992 he took on the position of Associate Director of the Statistical Consulting Centre in the same institution. In 1993 he moved to the UK where he was appointed Lecturer in Statistics, within the Statistics Group of the Department of Mathematical Sciences at the University of Bath. At Bath he was promoted to a Readership in 1995 and awarded his first chair in 1999. After 8 years in the UK he moved back to the US in 2001, to the University of California at Santa Cruz (UCSC), as the founding Chair at the Department of Applied Mathematics and Statistics in the Baskin School of Engineering where was also Professor of Statistics. In addition, he taught and worked on research projects at the University of Chicago, the University of Washington and the University of Neuchâtel (Switzerland). He was a fellow of the American Association for the Advancement of Science, the American Statistical Association, the Institute of Mathematical Statistics, and the Royal Statistical Society.

David's research work was both prolific and influential. His research concerned methodological developments in Bayesian statistics, with particular emphasis on hierarchical modelling, Bayesian nonparametric methods, model specification and model uncertainty, quality assessment, risk assessment and applications in the environmental, medical, and social sciences. His outstanding 1995 paper on Assessment and Propagation of Model Uncertainty, which was published as a discussion article in the Journal of the Royal Statistical Society, Series B, has received more than 2400 citations from researchers working in many different disciplines. In this methodological article he documents, in an exceptionally clearly written way, the failure of standard empirical model-building methods to capture the uncertainty in the modelling process itself and demonstrates the success of a Bayesian approach to solving the problem. After 28 years this paper is still a joy to read and continues to inspire many researchers in various fields.

He was the author or co-author of more than 100 contributions to the research literature, including books, journal articles, letters, book chapters, book reviews, encyclopaedia articles, invited discussions and contributed discussions and during his academic career he received more than \$5 million in grants to fund his research as a PI or co-PI. He was an Associate Editor for six leading journals, and he organised or co-organised six international research conferences. He gave a significant number of invited, special invited and plenary talks at major research conferences and leading statistics Departments and his short courses were highly regarded.

David was a charismatic, inspiring, dedicated and skilled teacher and supervisor. His teaching philosophy was to excite students about the topic, using real-life examples and applications and his teaching was always extremely interactive, since he strongly believed that students should be an active part of the teaching process. His energy and enthusiasm were infectious, he had a unique way to make the complex appear simple and was always willing to spend more time than was scheduled to explain ideas and discuss them with students; in return he was loved by many students who regularly in student feedback described David as the best professor they were ever taught by. During his academic career he received numerous awards for Excellence in Teaching, from the University of Chicago, from the RAND Graduate School of Policy Studies, from the University of Bath and from the University of California at Santa Cruz (the last one only two years ago!) and fortunately David never stopped teaching. In 1998 and 2004 he received an Excellence in Continuing Education award from the American Statistical Association. He mentored nine graduate students to Ph.D. degrees at Universities in Sweden, the U.K. and the U.S., and he supervised three post-doctoral research associates at Bath and UCSC.

David had a strong passion for Bayesian Statistics. During his academic career he gave more than forty short courses on Bayesian methods and applications in Brazil, Canada, Finland, Greece, India, New Zealand, Switzerland, the U.K. and the U.S. He used to call himself a de Finetti-style Bayesian, since he was arguing that prediction of observables is more fundamental than inference about unobservables and (conditional) exchangeability judgments are more fundamental to predictive modelling.

His memory and significant contributions will continue to inspire and guide future generations of statisticians. For me David was my academic father, he was the person that persuaded me to follow the path I am currently in, and I owe him much of my success. He taught me in a vigorous way, how to be a good teacher, how to do research and how to analyse data. I will deeply miss working together with David, our interesting discussions and, above all, I will miss our friendship.

David, you will be profoundly missed! Thank you for giving us all so much!

## REMEMBERING R. V. RAMAMOORTHY (1950-2023)

Subhashis Ghoshal

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Professor R. V. Ramamoorthi, popularly known as RVR, passed away on November 13, 2023, in the Indian city of Bengaluru. RVR served as a faculty member of the Department of Statistics and Probability at Michigan State University from 1982 to 2019, after which he retired and relocated to Bengaluru. He was being treated in a Bengaluru hospital for about a month for respiratory problems. The resulting complications eventually led to a massive heart attack and his death.

RVR was born on June 12, 1950, in a Tamil-speaking family in the southern Indian state of Kerala. He studied mathematics at Utkal University in Bhubaneswar to obtain his Master of Science degree. He subsequently enrolled in the doctoral program at the Indian Statistical Institute (ISI), Kolkata, where he worked with the late Professor Jayanta Ghosh (also known as JKG). He wrote a master's thesis on sufficiency to obtain his Ph.D. in 1981. During this time, legendary mathematician David Blackwell visited the ISI and showed substantial interest in RVR's research. The two collaborated to publish an extremely intriguing result on sufficiency in 1982 in the *Annals of Statistics*. They showed that the concept of Bayes sufficiency is strictly weaker than sufficiency. The idea of Bayes sufficiency of a statistic  $T$ , which means that the posterior distribution depends on the data only through  $T$  for any prior, was introduced by Kolmogorov in 1942. It was widely believed, including by Kolmogorov himself, that Bayes sufficiency is equivalent to classical sufficiency. The paper by Blackwell and RVR showed that the relations are far more intricate because the posterior distribution depends on the choice of a version of the conditional distribution. The paper is a measure-theoretic artwork, a topic that fascinated RVR throughout his career. He wrote his final paper a few months ago for a volume in the International Indian Statistical Association (IISA) Series on Statistics and Data Science published by Springer that I am currently editing. The paper is based on RVR's special invited talk at



the IISA Conference in Bengaluru in 2022 on Doob's theorem. This intriguing result that concludes that a Bayesian's posterior distribution is *always* consistent, albeit in the Bayesian's interpretation of consistency at "parameter values that matter" as per the prior distribution. In his paper, RVR established relations between Doob's form of posterior consistency with concepts like Bayes singularity and Bayes sufficiency. This paper shows how effectively descriptive set theory and measurability concepts can be used in statistics.

RVR was an intimate friend of JKG. Possibly influenced by JKG's increasing admiration of Bayesian thoughts, from the mid-nineties RVR started working on Bayesian nonparametrics. He and JKG published a paper on posterior consistency for censored data using a Dirichlet process prior. At that time, RVR was visiting the ISI on his sabbatical leave while I was finishing my doctoral thesis at the ISI. Soon JKG, RVR, and I started working on convergence aspects of Bayesian nonparametrics. We were fascinated by Lorraine Schwartz's posterior consistency theorem from the sixties. We thought her paper was underutilized and had tremendous potential in deriving posterior consistency theorems for various nonparametric and semiparametric models. Our collaboration led to results on the posterior consistency of the semiparametric location problem, density estimation using a Dirichlet process mixture prior, and posterior consistency for semiparametric linear regression. RVR had a galvanizing role in the collaboration. These papers led to a general understanding of posterior consistency by refining Schwartz's theorem. The general theory of posterior contraction rates developed subsequently has roots in these works. RVR had a pivotal role in the collaboration. JKG and RVR then wrote a book on the theoretical aspects of Bayesian nonparametrics. Published in 2003 by Springer, this remained the only textbook on the topic for a long time.

RVR did not write too many papers. He worked only on the problems which fascinated him. But in all his papers, his profound thoughts were reflected. People who knew him closely admired him for his deep knowledge, thoughts, modesty, and sense of humor. He could mix with anyone, carry out meaningful conversations with diverse topics, and make these conversations truly interesting with a punch of humor. He was a mentor whom I could always approach for career advice. Perhaps more importantly, he inspired my belief that to do great work, we must have a passion for our work.

RVR was a popular teacher. He generously spent numerous hours helping the students while teaching or serving as his department's director of graduate studies. His doctoral students deeply admired him for the support he gave to them. RVR had deep connections with Indian and Italian colleagues and held visiting appointments and many institutions, including the University of Pavia, University of Rome, and Bocconi University, Milan, in Italy, and the ISI (Kolkata, Delhi, and Bengaluru), the Indian Institute of Science, Bengaluru, and the Chennai Mathematical Institute, Chennai, in India.

People admired RVR for his scholarly wisdom, down-to-earth lifestyle, ability to mix with others, and great sense of humor. We will miss him dearly.

## Personal recollections

*Igor Prünster*

The first time I met R.V. Ramamoorthi I was still a PhD student. During a coffee break he started talking to me and I clearly wasn't at ease – the type of feeling we probably all experienced when first meeting scholars whose papers we had read and studied. He clearly noted it and immediately started telling stories with his acute sense of humour, which everyone who was fortunate enough to know him certainly recalls. One of his jokes of the time stuck with me: 'I have never actually seen data, for me they have always been just random variables and R.V. stands for that'. Over the years I learned a lot from both his pioneering papers on foundational aspects of Bayesian inference and the stimulating conversations I had with him. He was passionate about research in the most genuine and selfless way I ever witnessed. Having known him has been a great privilege. He will be greatly missed by the whole Bayesian community.

*Dario Spanò*

When I heard about the passing of R.V. Ramamoorthi, suddenly the image came back to me of him on the day we met for the first time, in January 2001. I was a PhD student from Pavia, coming to visit him at the MSU without a predefined research goal or a set timeframe, not knowing many words of English. He was waiting to welcome me at the Lansing airport, holding - unplannedly - a copy of "Statistical Science", so that I could identify him since we had never met before. He smiled when he saw me laugh at the sight of the journal. Then he drove me through a Michigan snowstorm, up to my apartment in campus; already after a few minutes of conversation, he had managed to make any initial (strong) sense of subjection or reverential fear evaporate.

This ability of making you feel at home stood out consistently as a distinctive characteristic of R.V.'s interaction with people. It is but one of the many aspects of Ramamoorthi's quiet and at the same time charismatic personality, which has helped me, and probably other young researchers, to find our own feet and gain confidence and sense of belonging in the complex environment of academic research. These immaterial qualities of Ramamoorthi I feel are worth celebrating as much as his scientific contributions.

R.V., or "Random Variable" (he liked to say this was his real name), or "Il Rama" (as I dubbed him in Milanese slang), had the rare ability to treat anyone with the greatest respect; when working he was rigorous and demanding, but always patient and never patronising; he was also humorous and sympathetic in difficult times; beyond mathematics, he was genuinely curious to know you and your opinions; open-minded, never indulging in small talks beyond necessary, always having at heart fundamental questions, just like in his own research.

I haven't been in contact with R.V. for more than a decade but I know that the way I try to supervise PhD students or to interact with colleague, is still now, as it has always been, deeply influenced by his example.

R.V. once said to me he loved people who "when they smile, they mean it". He was one of them.

*Wesley Johnson*

Ramamoorthi was a dear friend. He spent a one quarter sabbatical at UC Irvine about 15 years ago with his wife. We had many wonderful evenings together. He gave lectures on BNP. And then I saw little of him until the IISI meeting in Bangalore last year. We shared wonderful moments there as if it was only yesterday that we last saw each other. He seemed to have not aged at all, and I was sure he would continue that way for a long time to come. He had a wonderful knowing smile and sense of humor. I will keep that smile and his humor within me forever.

*Sonia Petrone*

The loss of R.V. Ramamoorthi leaves a deep void. He was a profound thinker, an extraordinary researcher, a wonderful person, and a dear friend. Many of us knew him from his work on sufficiency and Bayesian theory, and studied his book with J.K. Ghosh, a landmark in Bayesian nonparametrics, 'the' reference on its fundamental theory. His last paper on Doob's theorem speaks of his deep and rigorous thinking. R.V. Ramamoorthi, Rama for us, his "Italian friends", was a Maestro - always stimulating with deep research questions, friendly, generous of advice, from deep concepts to the finest measure-theoretic details of a proof. And he was a true friend, very dear, and a lot of fun with his unique sense of humor. Rama spent several research visits in Italy. In one of these, (back in 2010, and it feels like yesterday!) he taught a PhD course at Bocconi University on Bayesian nonparametrics and consistency. Students loved him. At the end of his beautiful course, he thanked the students and with his warm smile and humor said thank you and goodbye dear all, "remember me when you will be famous professors." We have lost a Maestro and a wonderful person. Of course, dear Rama, you will be remembered forever by all of us.

## FROM THE PROGRAM COUNCIL

Sergios Agapiou

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**ISBA World Meeting 2024** We are two weeks away from the [ISBA 2024 World Meeting](#) in Venice. We have an outstanding program, with well over 200 total speakers and more than 400 poster presentations. With the generous support of our sponsors, we have been able to provide a very large number (around 150) of travel awards to junior researchers. We are looking forward to seeing many of you there!

We remind you that the gala and awards ceremony will be held on the night of Saturday July 6, at the Hilton Molino Stucky Hotel. The Gala offers a chance not only to socialize with friends and colleagues over great food in a stunning setting but also an opportunity to celebrate the accomplishments of our prize winners. During the ceremony, we will be recognizing the Savage Award winners and finalists, the Mitchell Prize winners, the DeGroot Prize winner, the Lindley Prize winners, the Blackwell-Rosenbluth award winners, new Fellows and Zellner medalists.

We are happy to report that tickets are still available for purchase [here](#) (note that the gala was not included in the main conference registration).

**(Co-)Sponsorship/Endorsement Requests** If you are planning a meeting and would like to request financial sponsorship (or co-sponsorship) or non-financial endorsement from ISBA, please submit your request to the program council at [program-council@bayesian.org](mailto:program-council@bayesian.org). Detailed information on how to submit a request for either sponsorship or endorsement can be found [here](#).

## UPDATES FROM BA

Mark Steel

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I hope you are all well. A lot of us are, no doubt, excited about the upcoming ISBA World Meeting in Venice, where I hope to see many of you!

On the occasion of that World Meeting we will finally know the winner(s) of the 2022 Lindley Prize, who will be announced during the banquet. So make sure you are there to witness the announcement of this and many other coveted awards in a splendid environment enjoying excellent food. The eight wonderful papers eligible for the 2022 Lindley Prize were published in the December 2023 issue of *Bayesian Analysis* and the difficult task of picking a winner was taken on by the knowledgeable and committed members of the Lindley Prize Committee, which I have the pleasure to chair. I want to convey my deep gratitude to the members of that Committee: Julyan Arbel; Alejandra Avalos-Pacheco; Veronica Berrocal; Alice Kirichenko; Mario Peruggia; Igor Pruenster; Alexandra Schmidt; Botond Szabo and Stéphanie van der Pas, for their hard work on the judging as well as to the Managing Editor of *Bayesian Analysis* Maria Kalli for valuable support during the process of deliberation.

I would like to remind you that we now welcome contributed discussions of the manuscript: “Sparse Bayesian factor analysis when the number of factors is unknown” by Sylvia Frühwirth-Schnatter, Darjus Hosszejni and Hedibert Freitas Lopes, which can be found in the Advance publication section of the journal or at [this link](#). Please note that contributions should be no more than two pages in length, using the BA L<sup>A</sup>T<sub>E</sub>X style. The discussions should be submitted using the [journal submission page](#) by **September 30, 2024**. Please choose “contributed discussion” as manuscript type and clearly indicate which Discussion Paper your discussion refers to when submitting your contribu-

tion. Your contributions (along with the invited discussions) will be sent to the authors who will get the opportunity to respond in a rejoinder. I look forward to receiving your contributions.

## AWARDS

Surya Tokdar and Xiaojing Wang

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The ISBA Prize Committee and sub-committees have continued their important work within ISBA. We had a celebration for our winners last August during the Joint Statistical Meeting at Toronto in Canada. This year, the ISBA Awards Ceremony will take place during our ISBA World Meeting held in Venice, Italy from July 1st to July 7th, 2024. In this issue, we celebrate the Savage Finalists.

### Savage 2023 Award Finalists

In the **Category of Applied Methodology**, the four finalists (in alphabetical order of their last name) were: **Raquel A. Barata** for the thesis “Flexible Dynamic Quantile Linear Models” (Supervisors: Raquel Prado and Bruno Sansó); **Wei Jin** for the thesis “Novel Bayesian Methods for Precision Medicine in HIV ” (Supervisor: Yanxun Xu); **Matteo Pedone** for the thesis “Covariate-dependent Bayesian Models for Heterogeneous Populations” (Supervisors: Francesco C. Stingo and Raffaele Argiento); and **Annie E. Sauer** for the thesis “Deep Gaussian Process Surrogates for Computer Experiments” (Supervisor: Robert B. Gramacy).

In the **Category of Theory and Methods**, the four finalists (in alphabetical order of their last name) were: **Mario Beraha** for the thesis “Statistical Learning of Random Probability Measures” (Supervisor: Alessandra Guglielmi); **Jeremias Knoblauch** for the thesis “Optimization-centric Generalizations of Bayesian Inference” (Supervisor: Theo Damoulas); **Jeffrey Negrea** for the thesis “Approximations and Scaling Limits of Markov Chains with Applications to MCMC and Approximate Inference” (Supervisors: Daniel Roy and Jeff Rosenthal); and **Lionel Riou-Durand** for the thesis “Theoretical Contribution to Monte Carlo Methods and Applications to Statistics” (Supervisors: Nicolas Chopin and Arnak Dalalyan).

The Savage Award 2023 sub-committees comprised of Radu Craiu (Chair), Veronica Berrocal, Marta Blangiardo, Jim Griffin, Paul Gustafson, Kerrie Mengersen, Jason Roy, Aretha Teckentrup for the category of Applied Methodology, and Trevor Campbell, François Caron, Pierre Jacob, Jaeyong Lee, Fan Li, Meng Li, Xenia Miscouridou, Luis Nieto-Barajas, Peter Orbanz, Matteo Ruggiero (Chair), Johannes Schmidt-Hieber, Giacomo Zanella and Mingyuan Zhou, for the category of Theory and Methods. They were all very impressed with the high quality of submissions this year and congratulate all applicants on their fine contributions to Bayesian statistics.

The Savage finalist’s presentations have been scheduled on Friday, July 5th in ISBA World Meeting and the award ceremony is scheduled during the banquet on Saturday, July 6th. You are all invited to attend and we hope to see many of you there!



## JUNIOR ISBA

Beatrice Franzolini  
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Dear ISBA community,

We are very excited about the numerous events and initiatives coming up this summer! We are looking for two new board members, have extended the deadline for nominations for the Blackwell-Rosenbluth Award, and have an exciting lineup of events in Venice (at the BAYSM and the ISBA World Meeting) and around the globe throughout the summer. More details about all the activities are provided below.

For any questions or suggestions please feel free to reach out to the j-ISBA board via e-mail at [jisba.section@gmail.com](mailto:jisba.section@gmail.com).

### **j-ISBA is looking for officers!**

In the upcoming ISBA elections, the j-ISBA board will need two new board members, to fill in the positions of **Chair-Elect** and **Treasurer** for the years 2025-2026. I can tell you firsthand that it is a really rewarding and exciting experience. Senior PhD students, postdocs, and early career researchers are encouraged to apply. Those interested in being nominated for the elections are invited to contact the j-ISBA board by July 15 2024 via e-mail at [jisba.section@gmail.com](mailto:jisba.section@gmail.com). Please include your CV and a short motivation letter.

### **2024 Blackwell-Rosenbluth Award**

The deadline for the Blackwell-Rosenbluth Award 2024 has been extended to **July 1, 2024**. The award aims to recognize outstanding junior Bayesian researchers based on their overall contribution to the field and community. We welcome nominations of junior researchers working in the broad spectrum of topics in Bayesian statistics, including but not limited to methods, theory, computation, machine learning, data science, biostatistics, econometrics, industrial statistics, environmental science, and software. Winners will be invited to present their work in two online events and receive three years of free ISBA and j-ISBA membership. See the [Blackwell-Rosenbluth Award webpage](#) for more info.

### **BAYSM and ISBA in Venice**

- **j-ISBA meeting at ISBA.** On Thursday, July 4th, at 6 pm at the conference venue of the ISBA World Meeting, there will be a j-ISBA meeting to which **all early-career Bayesian researchers are invited**, whether they are j-ISBA members or not. The meeting is an opportunity to connect with other junior fellows, interact with the j-ISBA board, learn more about j-ISBA and its activities, and share your suggestions. If all of this is not convincing enough, you can still come just to enjoy a glass of Prosecco, which will be served during the meeting.
- **Blackwell-Rosenbluth award ceremonies.** During the ISBA World Meeting, we will recognize the 2023 Blackwell-Rosenbluth Award winners on two occasions:
  - At the award ceremony during the conference gala on Saturday, July 6th.
  - At the j-ISBA meeting on Thursday, July 4th, between 6 pm and 7 pm.

- **BAYSM 2024** is taking place in Venice, Italy, on June 29-30, 2024. Alongside the exciting talks, BAYSM will also host a **mentoring panel** on Sunday June 30th, 17:00-18:00, providing young researchers with the opportunity to ask questions about the challenges and difficulties of academic careers to senior professors from our community. We are honored to have Professors Michele Guindani, Steven MacEachern, Kerrie Mengersen, and Sonia Petrone as panelists for the mentoring panel. During BAYSM, j-ISBA is sponsoring Awards for Best talk and Best poster at BAYSM2024, which all comes with a monetary prize to support young researchers.
- **j-ISBA sponsored session at ISBA: “Junior advances in scalable Bayesian computational methods” @ 2024 ISBA World Meeting 2024**, Venice, Italy, 1-7 July 2024.  
*Speakers:* Paolo Ceriani, Jeremias Knoblauch, Yuexi Wang  
*Discussant:* Gareth Roberts

## Other sessions and conferences

- The first j-ISBA-sponsored session of 2024 took place in June at the 4th Italian Meeting on Probability and Mathematical Statistics in Rome, Italy, featuring four outstanding speakers. **Claudio del Sole** (Bocconi University) discussed the construction of a Nonhomogeneous Pitman-Yor process, where dependence among locations and atoms can be induced, leading to more flexible and tailored priors in Bayesian nonparametrics. **Federica Stolf** (University of Padova) presented an intriguing Multivariate Probit Indian Buffet Process, which models dependence among species and allows for a growing number of species in latent feature models. **Francesco Mascari** (Bocconi University) showed how to measure dependence between random probability measures using reproducing kernel Hilbert spaces, an approach applicable both a priori and a posteriori. **Francesco Gili** (Delft University of Technology) tackled Wicksell’s inverse problem using a Dirichlet process model, providing many interesting asymptotic results and comparing it to an isotonic frequentist estimator.

In the picture, you can see (from left to right) Marta Catalano—who deserves a big big thank you for jointly organizing the session—myself, Claudio, Francesco M., Francesco G., and Federica.



- Do not miss out on the upcoming j-ISBA **organized and sponsored sessions** in 2024, in China at EcoSta 2024, in Oregon at JSM 2024, in Mexico at the Frontiers of Bayesian Inference and Data Science Workshop and in the United Kingdom at the RSS international conference! Details can be found here: [j-ISBA activities list](#).
- All j-ISBA members will be welcome to virtually participate in the **Frontiers of Bayesian Inference and Data Science Workshop** in Oaxaca, Mexico, from September 1st to 6th, 2024. More information will be provided soon.

## j-Author Spotlight: recent research highlights from junior researchers

Finally, the best part of the j-ISBA updates: here are the recent research works from j-ISBA members that you won't want to miss out on.

- **Improvements on scalable stochastic Bayesian inference methods for multivariate Hawkes process** by Alex Ziyu Jiang.  
(authors: Alex Ziyu Jiang, Abel Rodriguez)  
*Summary:* Multivariate Hawkes Processes (MHPs) are a class of point processes that account for complex temporal dynamics among event sequences. In this work, we study the accuracy and efficiency of three classes of stochastic gradient algorithms which, while widely used in Bayesian inference, have rarely been applied to MHPs: stochastic gradient expectation-maximization, variational inference and Langevin Monte Carlo. An important contribution is a novel approximation to the likelihood function that retains the computational advantages associated with conjugate settings while reducing approximation errors. The comparisons are based on various simulated scenarios and an application to risk dynamics in the Standard & Poor's 500 intraday index prices among its 11 sectors.  
**Read the full paper at:** <https://link.springer.com/article/10.1007/s11222-024-10392-x>
- **Logistic-beta processes for dependent random probabilities with beta marginals** by Changwoo Lee.  
(authors: Changwoo J. Lee, Alessandro Zito, Huiyan Sang, David B. Dunson)  
*Summary:* The beta distribution serves as a canonical tool for modelling probabilities in statistics and machine learning. However, there is limited work on flexible and computationally convenient stochastic process extensions for modelling dependent random probabilities. We propose a novel stochastic process called the logistic-beta process, whose logistic transformation yields a stochastic process with common beta marginals. Logistic-beta processes can model dependence on both discrete and continuous domains, such as space or time, and have a flexible dependence structure through correlation kernels. Moreover, its normal variance-mean mixture representation leads to effective posterior inference algorithms. We illustrate the benefits through nonparametric binary regression and conditional density estimation examples.  
**Read the full paper at:** <https://arxiv.org/abs/2402.07048>
- **Covariate-Assisted Bayesian Graph Learning for Heterogeneous Data** by Yabo Niu.  
(authors: Yabo Niu, Yang Ni, Debdeep Pati, Bani K. Mallick)  
*Summary:* We propose a novel covariate-dependent Gaussian graphical model that allows graphs to vary with covariates so that observations whose covariates are similar share a similar undirected graph. To efficiently embed Gaussian graphical models, we explore both Gaussian likelihood and pseudo-likelihood. From a theoretical perspective, the proposed model has large prior support and is flexible to approximate conditional covariance matrices. We show that the rate of posterior contraction is minimax optimal assuming the true density to be a Gaussian mixture with a known number of components. The efficacy of the approach is demonstrated via simulation studies and a real data analysis.  
**Read the full paper at:** <https://www.tandfonline.com/doi/abs/10.1080/01621459.2023.2233744>
- **Nonparametric Copula Models for Multivariate, Mixed, and Missing Data** by Joseph Feldman.  
(authors: Joseph Feldman, Daniel R. Kowal)  
*Summary:* Modern data sets commonly feature both substantial missingness and many variables of mixed data types, which present significant challenges for estimation and inference. To address these challenges, we develop a novel Bayesian mixture copula for joint and nonparametric modeling of multivariate count, continuous, ordinal, and unordered categorical variables, and deploy this model for inference, prediction, and imputation of missing data. Most uniquely, we develop a novel, widely applicable, and computationally efficient strategy for marginal distribution estimation under copula models that eliminates the need to specify

individual priors for each marginal yet delivers posterior consistency for the copula parameters under missingness-at-random. We deploy our model for modeling and imputation of a subset of variables from the National Health and Nutrition Examination Survey, and provide evidence that complete case analyses may underestimate the adverse associations between drug-use and self-reported poor mental health.

**Read the full paper at:** <https://jmlr.org/papers/v25/23-0495.html>

- **Fast Variational Inference for Bayesian Factor Analysis in Single and Multi-Study Settings** by Blake Hansen.

(authors: Blake Hansen, Alejandra Avalos-Pacheco, Massimiliano Russo, Roberta De Vito)

*Summary:* Factors models are widely used to analyze high-dimensional data in single-study and multi-study settings. Bayesian inference for such models relies on Markov Chain Monte Carlo (MCMC) methods, which scale poorly as the number of studies, observations, or measured variables increase. We addressed this issue by constructing new variational inference algorithms to approximate the posterior distribution of Bayesian latent factor models. We conducted extensive simulations to evaluate the advantages of our proposed algorithms and showed their ability to estimate factor models in high-dimensional and multi-settings. The proposed algorithms provide fast approximations and estimate the data covariance matrix with accuracy comparable with MCMC-based approaches.

**Read the full paper at:** <https://doi.org/10.1080/10618600.2024.2356173>

- **Nonparametric regression on random geometric graphs sampled from submanifolds** by Paul Rosa.

(authors: Paul Rosa, Judith Rousseau)

*Summary:* We consider the nonparametric regression problem when the covariates are located on an unknown smooth compact submanifold of a Euclidean space. Under defining a random geometric graph structure over the covariates we analyze the asymptotic frequentist behaviour of the posterior distribution arising from Bayesian priors designed through random basis expansion in the graph Laplacian eigenbasis. Under Holder smoothness assumption on the regression function and the density of the covariates over the submanifold, we prove that the posterior contraction rates of such methods are minimax optimal (up to logarithmic factors) for any positive smoothness index.

**Read the full paper at:** <https://arxiv.org/abs/2405.20909>

- **Nesting Particle Filters for Experimental Design in Dynamical Systems** by Sahel Iqbal.

(authors: Sahel Iqbal, Adrien Corenflos, Simo Särkkä, Hany Abdulsamad)

*Summary:* In this work, we propose a novel approach to Bayesian experimental design for non-exchangeable data that formulates it as risk-sensitive policy optimization. We develop the Inside-Out SMC<sup>2</sup> algorithm, a nested sequential Monte Carlo technique to infer optimal designs, and embed it into a particle Markov chain Monte Carlo framework to perform gradient-based policy amortization. Our approach is distinct from other amortized experimental design techniques, as it does not rely on contrastive estimators. Numerical validation on a set of dynamical systems showcases the efficacy of our method in comparison to other state-of-the-art strategies.

**Read the full paper at:** <https://arxiv.org/abs/2402.07868>

Are you a j-ISBA member and would you like to showcase your work in the j-Author Spotlight section of the next bulletin? Please fill out the Google Form with information about your work at [this link](#).

## NEWS FROM THE WORLD

Déborah Sulem

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Dear ISBA community,

I am honored to be the new Associate Editor of the *News from the world*. My first contribution as an editor is to add a new section where I propose one or more questions and collect answers from ISBA members. As summer is the time when many of our members go to conferences, the question of this Bulletin was: **what is your favourite Bayesian conference and why?**

### Q&A: what do you believe think?

Amy Herring (Duke University)

*"My favorite conferences are smaller ones, like the Bayesian Nonparametric (BNP) Networking workshops, the recent EnviBayes workshop, or the j-ISBA meetings. I enjoy getting to meet people and to know their work over a couple of days, at sessions, coffee breaks, and dinners. I also like a one-track format, which leads me to listen to a better diversity of talks than if I followed tracks only very close to my area — I find I learn a lot that way!"*

David Rossell (Universitat Pompeu Fabra)

*"Although I enjoy all Bayesian meetings, and I do love the flavour of smaller and more focused section meetings like Bayescomp, O'Bayes or BNP, ultimately if forced to choose I would say that the world meeting is my favourite one. It is true that its parallel sessions and larger crowd make the meeting a bit harder to navigate, this is an unavoidable evil of larger gatherings. However, this is more than compensated by the much richer research diversity, the caliber of the speakers, and the chance of seeing so many friends and collaborators all together. Also, I have found the meeting to preserve the open and friendly atmosphere of smaller meetings, which reminds me of the earlier Valencia meetings that were so influential for me back in the day."*

Pierre Alquier (ESSEC Business School)

*In the past years, I attended many Bayesian conferences: ISBA world meeting, BNP, O'Bayes, etc. Each of them were amazing, each time I learnt a lot and enjoyed the interactions. I will not even try to pick one as my favourite. However, I will take the opportunity to send kudos to AABI, the Symposium on Advances in Approximate Bayesian Inference. This conference is quite young, as are its organizers! They have made an amazing job to promote Bayesian methodology outside the Bayesian community, to the core ML community. I wish them good luck for the 6th edition in 2024, and I recommend all ISBA members to attend the workshop or check their proceedings.*

### Upcoming Meetings, Conferences, and Workshops

- **ISBA World Meeting 2024**, July 1-7 2024, in the Department of Economics at Ca' Foscari University of Venice, Italy. The conference is preceded by **BAYSM 2024** on June 29-30 2024, organised by the j-ISBA section, and a **satellite workshop** on June 25-28 2024, in the Instituto Eulero at the Università della Svizzera italiana in Lugano, Switzerland. The world meeting is also followed by the **Uncertainty, Bayes and Statistics workshop - A meeting in honor of Guido Consonni**, taking place on Monday 8<sup>th</sup> July at Università Cattolica del Sacro Cuore in Milan.
- **useR! 2024**, 8-11 July 2024, Salzburg, Austria. This conference, organized by R community volunteers and supported by the R Foundation, showcases applications and developments of R software.

- **7th International Conference on Econometrics and Statistics (EcoSta 2024)**, July 17-19 2024, hosted by Beijing Normal University, Beijing, China. This conference is held in hybrid format and includes all topics within the scope of the journal *Econometrics and Statistics*.
- **40<sup>th</sup> Conference on Uncertainty in Artificial Intelligence (UAI)**, July 15 - 19 2024, in the Barcelona School of Economics and Universitat Pompeu Fabra, Barcelona, Spain. UAI is one of the biggest international conferences on research related to knowledge representation, learning, and reasoning in the presence of uncertainty, and this edition will notably host a tutorial on "Causal Graphical Methods For Handling Nonignorable Missing Data" by Razieh Nabi and two workshops on **Causal inference** and **Causal inference for time series data**.
- **6<sup>th</sup> Symposium on Advances in Approximate Bayesian Inference (AABI)**, July 21 2024, Vienna, Austria. This is a workshop of the **International Conference on Machine Learning (ICML)** focusing on approximate Bayesian inference in the fields of deep learning, reinforcement learning, causal inference, decision processes, Bayesian compression, and differential privacy, among others.
- **VIASM Workshop on Bayesian learning and network analysis**, July 26-27 2024, Vietnam Institute for Advanced Study in Mathematics (VIASM), Hanoi, Vietnam. This workshop is part of a Summer School Series on Mathematical Statistics and Machine Learning and aims at enhancing interactions between students and faculty from Vietnamese universities and the broader community.
- **Joint Statistical Meetings (JSM) 2024**, August 3-8 2024, Portland, Oregon, USA. JSM is one of the broadest statistical events, with topics ranging from statistical applications to methodology and theory to the expanding boundaries of statistics, such as analytics and data science. It gathers students and statisticians from academia, industry, and governments, and includes many professional development workshops.
- **Bernoulli-IMS 11th World Congress in Probability and Statistics**, August 12-16 2024, Ruhr University Bochum, Germany. This congress is organised every four years by the Bernoulli Society and the Institute of Mathematical Statistics. The conference features 16 plenary talks, more than 40 invited paper sessions, and a large number of contributed paper sessions as well as poster sessions.
- **Frontiers of Bayesian Inference and Data Science**, September 1-6 2024, hosted at the Casa Matemática Oaxaca (CMO) in México and organised with the Banff International Research Station for Mathematical Innovation and Discovery (BIRS). This is a 5-day workshop which focuses on junior career researchers while also including senior researchers. There will notably be a mentoring panel for young researchers and a session on data science education.
- **Bayesian methods for Social Sciences II workshop**, 16-18 October 2024, Amsterdam, The Netherlands. This 3-day event will gather statisticians, mathematicians and social scientists around the theme of Bayesian statistical methods for the social sciences. This area has been growing rapidly in the past decade, and the speakers will include some of the leading researchers in the area from around the world. It is the second edition of the workshop. The first edition was held in Paris in October 2022 and was a great success. The first day of the workshop, 16 October 2024, will consist of introductory tutorial sessions. Days 2 and 3 will consist of talks and posters on cutting-edge research in the area. The call for posters is open until 6 September and registration is open until 27 September.

## And don't forget:

- **Bayesian workshops at the University of Amsterdam**, The Netherlands, July 2024
  - [Theory and Practice of Bayesian Hypothesis Testing: A Hybrid JASP Workshop](#), July 15 – 16 2024
  - [Annual JAGS Workshop: Bayesian Modeling for Cognitive Science](#), July 8 – 12 2024
- [Applied Bayesian Statistics Summer School 2024](#), August 26-30, 2024, in Villa del Grumello, Como, Italy. The school's topic is *Bayesian phylogenetics and infectious diseases*.
- [ISBA-BNP Networking Workshop](#), July 30 – August 2, Singapore. This edition will offer three mini-courses delivered by Peter Orbanz (University College London), Li Ma (Duke University), and Kerrie Mengersen (Queensland University of Technology). The workshop closes the summer program on [Interpretable Inference via Principled BNP Approaches in Biomedical Research and Beyond](#), running from July 8 to August 2.
- [COBAL-EBEB 2024: VII Latin American Meeting on Bayesian Statistics \(COBAL\) and XVII Brazilian Meeting of Bayesian Statistics \(EBEB\)](#) from December 2 to 6 2024 at the Federal University of Minas Gerais (UFMG), Belo Horizonte, in Brazil.
- [Bayesian Nonparametrics \(BNP\) Networking Workshop](#) from July 30 to August 2, 2024, hosted by the Institute for Mathematical Sciences (IMS) at the National University of Singapore.
- [EAC-ISBA Conference 2024](#) on June 25-26, 2024 at the Education University of Hong Kong (EdUHK) and organised by the Eastern Asia Chapter of ISBA (EAC-ISBA).
- [43<sup>rd</sup> International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering](#) from July 1 to 5, 2024 will take place in Ghent, Belgium, from July 1 to 5, 2024.
- [València International Bayesian Analysis Summer School \(VIBASS7 2024\)](#) from July 8 to 12 2024 in València (Spain).
- [2024 European Seminar on Bayesian Econometrics \(ESOBE\)](#) taking place on August 22-23 2024 at Örebro university in Sweden.

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