President’s Corner

Time is going by quickly... only seven months left until we will meet in Atlanta. The planning of our IBC2024 meeting is progressing extremely well: the conference website is up and will be continuously updated with the latest information about the meeting, the conference budget has been approved, all invited sessions and short courses have been selected, two special sessions organized by young statisticians from different IBS regions will be featured in the scientific program, we have received 438 abstract submissions for contributed sessions, several awards will be presented to distinguished IBS members in recognition to their contributions to the Society and the profession, and, last but not least, we are truly delighted to announce that Sander Greenland, an outstanding statistician and epidemiologist, has accepted our invitation to give the opening presentation at our conference. We are looking forward to an exciting and thought provoking talk. We are lucky that this talk will be presented at the beginning of our conference, such that we will have plenty of time during the meeting to discuss Sander’s thoughts on “Toward Restoring Realism in Statistical Training and Practice.” I am so grateful that everything is running smoothly thanks to the many people taking care of the organization of our conference: Dimitris Rizopoulos (Netherlands Region), leading the International Program Committee (IPC), is overseeing all submissions, which is a tremendous task. The Local Organizing Committee (LOC), under the leadership of Lance Waller (ENAR), ensures great support with respect to all big and all small local issues related to the meeting. Jenna Beak, from MCI, is looking for the best places to have our social events and handling other event planning issues. The driving force behind all these activities are our IBC2024 organizing president, José Pinheiro, and the IBO office, in particular Alexander Iula and Peter Doherty. They are working to ensure that IBC2024 will not only be a successful conference, but also a great opportunity to meet each other and to share our ideas and research with our wonderful IBS community.

We should not underestimate this fantastic opportunity to meet in person, to chat, to build new networks or to expand existing ones, as well as to develop new ideas for future collaborations. I think most of us missed these face-to-face meetings during the COVID-19 pandemic. I am extremely happy to be a member of such a vibrant scientific society that offers many great opportunities for networking with scientists whom I would otherwise probably have never met in my career. And there are so many more benefits to being a member of IBS: the many committees that provide a sound scientific and organizational infrastructure, e.g., the Editorial Advisory Committee, the editorial office, and the (associate) editors of our journals, who altogether ensure that our journals keep publishing articles of high scientific quality; the support that is offered for small IBS regions in the developing world, such as travel grants and lower membership.
fees; many educational activities not only for early career researchers, such as short courses and our lecture series. Perhaps many more benefits of IBS membership have come to your mind when reading this. If this is the case, please send an email to me, or to the chair of the Representative Council, Tim Friede (German Region), with your thoughts and suggestions. We have just established a task force consisting of members of the Representative Council to work on a brochure highlighting the benefits of our society. I would like to invite you to spread the word about the IBS and its regions.

As you may know, we are also working closely together with other scientific organizations. Recently, the Royal Statistical Society (RSS) approached us with a great suggestion. They took the initiative to establish a new international statistical prize, commemorating the life and work of Sir David Cox. The Cox Medal will be jointly awarded by the American Statistical Association, the Bernoulli Society, the International Mathematical Society, the International Statistical Institute, IBS, and RSS. The award will be presented every three years, with three medals being given each time, to improve diversity and to make for a more rigorous selection process. The medals will be awarded to individuals in mid-career, with an age limit of 50 years old. The medals will recognize research that is original, with conceptual depth and novelty, and which moves the field or a substantive application area forward, in the fields of statistical theory, methodology and applications to represent David’s breadth of interests. There will be two committees: Alan Welsh (Australasian Region) and Tom Louis (ENAR) will represent our society in the Search Committee and Ruth Keogh (British and Irish Region) in the Prize Committee.

I am looking forward to report in my next greetings on further new regions to join our society, on the work of the Conference Advisory Committee on the selection of the site for our next IBC and many more IBS related topics.

All the best,

Iris Pigeot
International Biometric Society President
pigeot@leibniz-bips.de
From the Editor

This issue of the Bulletin is enriched with latest updates on IBC24 as elaborated well in President’s corner followed by an informative writeup from the IBO. Both together take us with our soul and body to the venue of the upcoming conference at Atlanta. The sequences of academic as well as the alongside refreshing events are quite encouraging towards a grand success of IBC24. Furthermore, the ongoing activities reported so far by the twelve regional correspondents do indicate that how versatile is IBS system all over the globe. We shall appreciate, again and again even at the cost of repetition the valuable updates from Biometrics, JABES and the continuance of contributions for Software corner and STRATOS.

In continuity with the reviews on the basic themes I & II, that were published in Vol-36 - issues 1 & 2 of the Bulletin and once again brought-up in recent issues of BB, the discussions on basic theme - III are outlined hereunder;

“To continue with our thinking derived from the philosophy that this whole universe is full of uncertainties is true in the case of variability also; whether two exactly similar subjects or even objects can exist in this universe? Each subject or object with its own updated identity is subject to change within itself every fraction of time in nano or picoseconds, apart from being distinguished to be quite different from other similar objects and subjects. If we are sensitive enough in making measurements, we must realize that we are not the same individuals today as we were yesterday. One’s own physiological, biochemical and anthropometric profile is continuously changing. Some are random fluctuations, while some permanent changes are part of the process of aging. Searching for any natural phenomena or characteristic that can be called a constant may not yield results but identifying a variety of variables and observing their behaviour is everyday science. Whatever way we might define homogeneous groups or individuals, heterogeneity is bound to prevail at some level. Variability, like uncertainty once again can’t be eliminated but is potentially measurable. Indeed, measures of deviation and central tendency play a key role in all research. — — — Though still more difficult is to understand the role of relativity hidden invariably in most of the scientific explanations, it is desirable to know the limitations and care needed in acquiring the scientific knowledge. Do we notice or feel that day and night we are riding a great spaceship called Earth, revolving around the Sun with a speed of approximately 105,600 Kms an hour? --- --- ---”.

The response to the Editor’s column in the subsequent issue-IV (Vol-36) highlighted an article by Prof Abhaya Indrayan from India, “The Case for Launching Statistical Medicine as a New Medical Specialty”.

“Medical science takes pride in dividing itself by body parts, organs, and systems, such as cardiology, nephrology, gastroenterology, and neurology. These subjects are recognized as medical specialties and super-specialties. There are also holistic specialties such as computer medicine, translational medicine, and family medicine, which do not concentrate on a particular organ or system. But there are also other disciplines such as academic medicine1 and legal medicine2 that are only indirectly related to the core clinical activities of diagnosis, treatment, and prognosis. -- -- --.

Statistical medicine was recently proposed as a new medical specialty because of its significant role in the management of health3. That proposal defined statistical medicine as “that part of medical science that uses statistical tools and methods to make decisions regarding health and disease in individuals and communities”. The objective of this proposed subject too is to improve health outcomes as is of other specialties of medicine. The article also explained how statistical medicine is very different from clinical epidemiology and medical statistics. The present note tries to strengthen this proposal further and presents its rationale as an innovation of biostatistics.— — —

Uncertainties are profound in any medical setting, and they can completely derail a medical decision. The process of diagnosis, treatment, and prognosis is always inflected with such uncertainties, and the management is best done by a judicious mix of probabilities with value judgment of the clinical condition of the patient. For correct application, it is necessary to understand the concept of probability fully well and to learn the rules such as of addition and multiplication, and those governing the concept of conditional probabilities with distinction between probability of disease given complaints (P(D/C)) and probability of complaints for known disease (P(C/D)). Understanding and proper application of Bayes’ rule is a great help in this respect. This rule also helps to understand why predictivities of a medical test can be poor despite high sensitivity and specificity. The referenced article3 provides details of how statistical indicators, indexes, and scoring systems have pervaded the medical science and used for clinical decisions. It would help to realize that a measurement such as albumin level is a medical indicator of an aspect of liver function, whereas pain score on a 0 to 10 — — —”.

Ajit Sahai
Biometric Bulletin, Editor

Update from the IBO

As I write this we are entering June, and the calendar tells us that only six months remain before our next International Biometric Conference. And the staff at the IBO are already seeing the excitement that is growing as our members prepare to come together again for the 32nd time in our history.

Registering for the conference now? Be sure to select a Short Course and reserve your ticket for the Thursday Gala Dinner at the extremely popular Georgia Aquarium! Both options are available as you go through the registration process. Interested in securing access to all Georgia Aquarium exhibits? Consider purchasing a pass to enjoy all exhibits from 4:00PM-8:00PM the evening of the Gala Dinner (a dinner ticket required to qualify for this offer).

Believe it or not, the IBC has not been held in the United States in quite some time. Carrying on our traditions as a Society will be important as IBC Atlanta planning continues. But also on display in Atlanta will be many recent innovations and services aimed at improving the attendee experience. The new Mentoring Lounge, first introduced in 2022, will return to Atlanta, and new mentoring-related programming will also be debuted. The traditional Young Statisticians Showcase session, first launched twelve years ago, will make its return alongside a brand-new Young Researchers Panel that will focus on those emerging statisticians representing the next generation of our profession! New funding programs are being developed to help us bring even more researchers from low- and middle-income countries to this edition of the IBC, while tangible support from our members and our Regions continue to
strengthen our delegation. Add to this an increase in special sessions, while we continue to maintain our focus on quality education. I look forward to bringing you even more information about the IBC in the coming weeks. In the meantime, be sure to view our Schedule at a Glance and other IBC-related features in this issue of the Biometric Bulletin.

Our awards ceremony is always a highlight at the IBC. And for those who have never attended this conference, did you know that there are actually two awards programs? One celebrates the Society’s major awards, while the other honors recipients of IBC-specific awards, including those recognized for their oral session, poster sessions and journal submissions, to name just a few. Of course, we also honor those who are recognized for their professional and personal contributions regardless of the sponsoring societies. And it is in this spirit that I wish to highlight several other awards programs, all of which are quite important in their own right.

First, I will start with yet another new and innovative program that I hope the membership will appreciate and support! The IBS is a key stakeholder in the development of the David Cox Medal for Statistics, which will be awarded for the first time in 2025. The award will recognize mid-career individuals, with an age limit of 50 (with exceptions made for mitigating circumstances such as career breaks). Awardees’ research will need to be original, with conceptual depth and novelty, moving the field or a substantive application area forward. The David Cox Medal for Statistics commemorates the pioneering statistical work of Sir David Cox in the fields of statistical theory, methodology and applications. Three medals will be awarded every three years by the RSS in partnership with the American Statistical Association (ASA), the Bernoulli Society, the International Biometric Society (IBS), the Institute of Mathematical Statistics (IMS) and the International Statistical Institute (ISI). The deadline for nominations is 31 October, 2024. For a copy of the nomination form, click here. I would personally like to recognize Society member Ruth Keogh for agreeing to serve on the Prize Committee, and also past IBS President Tom Louis for volunteering to serve on the Search Committee.

As an aside, I wanted to recognize the personal connection that many of you may have to David Cox, who was influential in opening doors for many aspiring and talented statisticians. President Iris Pigeot recently commented on her personal experience, and she is not alone: “As a biometrician, I got to learn very early about the Cox model in my academic career. When I submitted my first paper to Biometrika, I got a hand-written commented version back with an encouraging personal letter from David. I was so proud that the paper was accepted and that he answered personally. He was a wonderful personality, inspiring and supportive.” The Society is honored to join with our sister organizations in recognizing David while also extending the lasting impact of his work through this medal.

The IBS and other statistical societies are teaming up to promote the 2025 International Prize in Statistics, and I am inviting you to consider submitting nominations for this prize. Nominations are open through 1 October, 2024 for the 2025 prize, which is awarded for a major achievement developed through a single contribution or multiple contributions over a period of time. The prize can be awarded to individuals, teams, or organizations, and is meant to recognize powerful ideas that have led to breakthroughs in statistics and data science and demonstrated impact on applications, methodology, theory, or practice. Please go to the link above for information about the nomination process. The nomination form may also be found through that link. Please direct your questions to Nominations@StatPrize.org.

And of course, as of this writing, nominations are still being accepted for three of the Society’s most revered awards: Honorary Life Membership, The Rob Kempton Award for Outstanding Contribution to the Development of Biometry in the Developing World, and The Award for Outstanding Contribution to the Development of the IBS, not to mention the 3rd Florence Nightingale Award. The International Biometric Society (IBS) and the Caucus for Women in Statistics (CWS) continue to jointly sponsor the award to honor a junior researcher who exemplifies the ideals of Nightingale, a pioneer of visual statistics and an inspiring figure with a passion to care for wounded soldiers and use data to fight for public health improvements. We look forward to honoring our own in Atlanta with these and other awards this December.

Speaking of December, it will be here before we know it. I urge all who are considering coming to Atlanta for the conference to do so not only because it will be the highlight of the year for new and seasoned professionals in our field, but because it will really be the first time since Barcelona in 2018 that the entire community will be able to come together. Riga was a wonderful conference, but it also had its challenges due to the regional armed conflict and continued travel-related restrictions connected to the global pandemic.

There will undoubtedly be challenges related to travel to the United States for some, for which I am also urging you to register now (login required), prepare your visa applications (check out this overview to begin the process), and enter the queue for any needed interviews immediately. We have already been made aware of interviewing delays associated with nonimmigrant visas in one country, so we ask you not to wait. Remember that it is your responsibility to complete the visa process in a timely manner; if required, and remember that the IBS is not responsible for any losses incurred by registrants that are denied a visa to travel to the conference. Those eligible for visa waivers include citizens of the United Kingdom, Andorra, Australia, Austria, Belgium Brunei, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Israel, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, San Marino, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland and Taiwan according to the U.S. Department of State.

And finally, I wanted to close by sharing a few words about a somewhat simpler process, and that is the new process for accessing the Biometrics journal through the IBS website! Remember that free access to Biometrics online is an exclusive benefit of membership in the Society. New access instructions have been worked out between the Society and our new publisher, Oxford University Press. To access the journal, just login to www.biometricsociety.org, then go to https://members.biometricsociety.org/publications/biometrics. You will then see a button that reads “Access electronic copies here”. Click the button, and you are in!

My best wishes to you and your colleagues.

Peter Doherty
Executive Director
The International Biometric Conference is set to welcome statisticians, mathematicians, biological scientists, and others devoted to interdisciplinary efforts in advancing the collection and interpretation of information in the biosciences to Atlanta, USA from 8-13 December 2024.

Schedule at a Glance

**An Experience You Don’t Want to Miss!**
*Check out the IBC2024 Schedule-at-a-Glance*

**SUNDAY, 8 DECEMBER**
- 7:30 - 18:00: Registration Open
- 8:30 - 17:30: Committee/Board Meeting
- 9:00 - 16:00: Short Courses
- 9:00 - 16:00: Executive Board Meeting
- 18:00 - 19:00: Welcome Reception

**MONDAY, 9 DECEMBER**
- 9:00 - 10:30: Opening Ceremony & Presidential Address
- 9:00 - 17:30: Contributed Sessions
- 11:00 - 17:30: Committee Meetings
- 11:00 - 17:30: Showcase Sessions
- 12:45 - 13:45: Young Statistician Luncheon
- 17:45 - 18:45: Posters and Networking Session
- 20:00 - LATE: Young Statistician Reception

**TUESDAY, 10 DECEMBER**
- 9:00 - 17:30: Mentoring Lounge Open
- 9:00 - 17:30: Showcase Sessions
- 9:00 - 17:30: Contributed Sessions
- 9:00 - 17:30: Invited Sessions
- 11:00 - 17:30: Committee Meetings
- 14:00 - 15:30: General Membership Meeting
- 17:45 - 18:45: Posters and Networking Session

**WEDNESDAY, 11 DECEMBER**
- 7:00 - 9:30: Meet-up Spot for Tours & Excursions
- 9:00 - 17:30: Special Atlanta Tours & Excursions (no sessions today)

**THURSDAY, 12 DECEMBER**
- 9:00 - 17:30: Showcase Sessions
- 9:00 - 17:30: Contributed Sessions
- 9:00 - 17:30: Invited Sessions
- 9:00 - 17:30: Committee Meetings
- 11:00 - 12:30: Representative Council Meeting
- 18:00 - 20:00: Gala Dinner at Georgia Aquarium

**FRIDAY, 13 DECEMBER**
- 9:00 - 13:00: Contributed Sessions
- 13:00 - 14:00: Closing Ceremony and Awards

*This schedule is subject to change.*

**REGISTER TODAY!**
[ibc2024.org](http://ibc2024.org)
Editorial Updates

Biometrics

Recent papers in Biometrics

The Biometric Methodology section of the first issue sets out with a discussion paper, entitled: “The central role of the identifying assumption in population size estimation,” by Serge Aleshin-Guendel, Mauricio Sadinle, and Jon Wakefield, and with discussion contributions by Ruth King, Rachel McCrea, and Antony Overstall; John Whitehead; Daniel Manrique-Vallier; and Li-Chun Zhang.

The following papers are being published in Biometrics Methodology:

Regular articles include:

• “Conditional modeling of panel count data with partly interval-censored failure event,” by Xiangbin Hu, Wen Su, Zhi-Sheng Ye, and Xingqiu Zhao;
• “Fitting the Cox proportional hazards model to big data,” by Jianqiao Wang, Donglin Zeng, and D.Y. Lin;
• “Efficient computation of high-dimensional penalized generalized linear mixed models by latent factor modeling of the random effects,” by Hillary M. Heiling, Naim U. Rashid, Quefeng Li, Xianlu L. Peng, Jen Jen Yeh, and Joseph G. Ibrahim;
• “Asymptotic uncertainty of false discovery proportion,” by Meng Mei, Tao Yu, and Yuan Jiang; “Bias correction models for electronic health records data in the presence of non-random sampling,” by Jiyu Kim, Rebecca Anthopolos, Judy Zhong;
• “Accounting for network noise in graph-guided Bayesian modeling of structured high-dimensional data,” by Wenrui Li, Changhee Chang, Suprateek Kundu, and Qi Long;
• “Changing interim monitoring in response to internal clinical trial data,” by Michael A. Proschan, Martha Nason, Ana M Ortega-Villa, and Jing Wang;
• “Diagnostics for regression models with semicontinuous outcomes,” by Lu Yang;
• “Simultaneous variable selection and estimation in semiparametric regression of mixed panel count data,” by Lei Ge, Tao Hu, and Yang Li;
• “Sparse ordinal discriminant analysis,” by Sangil Han, Minwoo Kim, Sungkyu Jung, and Jeongyoun Ahn; “Nonparametric predictive model for sparse and irregular longitudinal data,” by Shixuan Wang, Seonjin Kim, Hyunkeun Cho, and Won Chang;
• “Robust data integration from multiple external sources for generalized linear models with binary outcomes,” by Kyuseong Choi, Jeremy M.G. Taylor, and Peisong Han;
• “Proportional rates models for multivariate panel count

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Biometric Bulletin
data,” by Yangianchen Xu, Donglin Zeng, and D.Y. Lin;
• “Efficient designs and analysis of two-phase studies with longitudinal binary data,” by Chiara Di Gravio, Jonathan S. Schildcrout, and Ran Tao;
• “A Bayesian survival tree regression model using latent Gaussian processes,” by Richard D. Payne, Nilabja Guha, and Bani K. Mallick;
• “Personalized treatment selection via product partition models with covariates,” by Matteo Pedone, Raffaele Argiento, and Francesco C. Stingo;
• “Homogeneity pursuit and variable selection in regression models for multivariate abundance data,” by Francis K.C. Hui, Luca Maestriini, and Alan H. Welsh;
• “Incorporating graph information in Bayesian factor analysis with robust and adaptive shrinkage priors,” by Qiyiwen Zhang, Changgee Chang, Li Shen, and Qi Long;
• “Efficient estimation for left-truncated competing risks regression for case-cohort studies,” by Xi Fang, Kwang Woo Ahn, Jianwen Cai, and Soyoung Kim;
• “Adaptive sequential surveillance with network and temporal dependence,” by Ivana Malenica, Jeremy R. Coyle, Mark J. van der Laan, and Maya L. Petersen; and
• “Multiple augmented reduced rank regression for pan-cancer analysis,” by Jizhou Wang and Eric F. Lock.

Articles in the Biometric Practice section of the first issue of the 2024 volume include:
• “Soft classification and regression analysis of audiometric phenotypes of age-related hearing loss,” by Ce Yang, Benjamin Langworthy, Sharon Curhan, Kenneth I. Vaden Jr., Gary Curhan, Judy R. Dubno, and Molin Wang;
• “Inferring a directed acyclic graph of phenotypes from GWAS summary statistics,” by Rachel Zilinskas, Chunlin Li, Xiaotong Shen, Wei Pan, and Tianshong Yang;
• “Longitudinal varying coefficient single-index model with censored covariates,” by Shikun Wang, Jing Ning, Ying Xu, Tina Ya-Chen Shih, Yu Shen, and Liang Li; and
• “Incorporating participants’ welfare into sequential multiple assignment randomized trials,” by Xinru Wang, Nina Deliu, Yusuke Narita, and Bibhas Chakraborty.

2025 – 2027 Biometrics Co-editor Search
As mentioned before in these columns, a search committee is in place to identify a successor for Biometrics Co-editor Katja Ickstadt (German Region). Katja is serving as the European Co-editor for the years 2022 – 2024. The search committee, consisting of Geert Molenberghs, Biometrics Executive Editor, Chair (Belgian Region); Erica Moodie, Biometrics CE (ENAR); Katja Ickstadt, Biometrics CE (German Region); Matthew Schofield, Biometrics CE (Australasian Region); Ronald Geskus, EAC Chair (Netherlands Region); Tomasz Burzykowski (Belgian Region); Rhian Daniel (British and Irish Region); Andrea Lavalle (Argentinean Region); and Edmore Ranganai (South Africa), is concluding its deliberations and will identify a successor for Katja, hopefully before too long. We will report on the proceedings in the next Biometric Bulletin.

Associate Editor Panel turnover
The panel of Associate Editors is composed of about 100 colleagues who each serve two-year terms. This means that every 1 July a number of them end their terms. A number of Associate Editors are retiring on 1 July 2024 and we wholeheartedly thank them for their invaluable service to the journal’s peer review process, over the past two years and for several much longer than that: Jiguo Cao, Lin Chen, Xin Chen, Xavier de Luna, Sebastien Haneuse, Nadja Klein, Danping Liu, Torben Martinussen, Vilda Purutçuoğlu, Zheyu Wang, and Shanshan Zhao. The following colleagues will join the panel on the same date: Bibhas Chakraborty, Rob Deardon, Michael Fay, Shirin Golchi, Liangyuan Hu, Shu (Joy) Jiang, Lan Luo, Rajarshi Mukherjee, Shaun Seaman, Susan Shortreed, and Rui Wang. We are grateful for their willingness to join and dedicate time and expertise to the journal’s peer review structure. At the same time, we are thankful for the service of our continuing Associate Editors and those who will be starting a new term.

Biometrics Editorial Board Meetings
In keeping with tradition, there will be two online board meetings (12 July 2024; 29-30 August 2024) for the benefit of our Associate Editors and Co-editors. They are organized at different times of day, to give everyone a chance to attend at least one of them at a reasonable hour of the day. Since 2024 is an IBC year, a face-to-face meeting will be organized during the meeting in Atlanta, Georgia.

Geert Molenberghs
Biometrics Executive Editor

The Journal of Agricultural, Biological, and Environmental Statistics (JABES)

With the special issue on “The Hawkes Process: Theory, Methodology, Algorithms, Extensions, and Applications in Environmental Sciences” recently closed, we have the following special issue currently running (see related information and open calls published at https://www.springer.com/journal/13253/updates):

Special Issue on New Perspectives in Statistics, Data Science and Econometrics for Agriculture, Land Use and Forestry. Human activities impact terrestrial sinks, through land use, land-use change and forestry (LULUCF), altering the carbon cycle between the terrestrial biosphere and the atmosphere (United Nations Climate Change, 2023). The 6th Intergovernmental Panel on Climate Change
The winners of the Best Paper Award for 2022 published in JABES are:

**Winner:** Probabilistic Forecasts of Arctic Sea Ice Thickness Peter A. Gao, Hannah M. Director, Cecilia M. Bitz, & Adrian E. Raftery [JABES, 27, 2 (2022) pages 280-302]

**Honorable mention:** A Bayesian Approach for Data-Driven Dynamic Equation Discovery Joshua S. North, Christopher K. Wikle, & Erin M. Schliep [JABES, 27, 4 (2022) pages 728-747] The winners of the Best Paper Award for 2023 published in JABES are:

**Winner:** Asynchronous Changepoint Estimation for Spatially Correlated Functional Time Series, Mengchen Wang, Trevor Harris, Bo Li [JABES, 28, 1 (2023) pages 157-176]

**Honorable mention:** Modeling Community Dynamics Through Environmental Effects, Species Interactions and Movement, Becky Tang, James S. Clark, Peter P. Marra, Alan E. Gelfand [JABES, 28, 1 (2023) pages 178-195]

This award is presented at the International Biometric Conference (www.ibc2024.org) every two years, and the winning authors are invited to join for the awards ceremony and also present their papers at the special JABES Showcase Session during IBC2024, which will take place during the week of 8-13 December 2024 in Atlanta, USA.

JABES should be home for Data Science broadly defined as the science of learning from data, incorporating advances in computation and data analytics, with statistical theory and inference for problems coming from the branches that sustain the journal. We would like to encourage interdisciplinary submissions that involve collaboration between statisticians and other data scientists to find solutions to these challenges, through innovative methodological developments and applications, bringing together data science and statistics. The innovative methodology should be directly motivated by real world data problems in agricultural, biological and environmental settings. For more information on upcoming issues, the editorial board, and the aim and scope of the journal, please visit our website. We also accept submissions of books to review in the upcoming issues of JABES; to submit a book for review, please see the above website (click on “Editorial Board”) or contact Vanda Inancio de Carvalho (vanda.inacio@ed.ac.uk), University of Edinburgh, UK. Please follow us on Twitter: @JabesEditor.

Jorge Mateu  
Editor-in-Chief

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**Guest Editors:** Felicetta Carillo, Paolo Maranzano, Philipp Otto

**Deadline for submissions:** July 15, 2024

JABES has invited the winners and those receiving an honorable mention in the competition of the Section on Statistics and the Environment (ENVR) of the ASA to publish their winning papers with us. The winning authors are requested to participate in ENVR’s JSM Topic Contributed Session during JSM 2024 in Portland.

JABES is committed to highlight the best contributions through a year, and after an internal voting system amongst the AE, the winners for 2022 and 2023 are the following.
Software Corner
Further ideas for exploring missing data

Nicholas Tierney
Infectious Disease Ecology and Modelling group
Telethon Kids Institute, Perth, WA, Australia

Introduction
When you do data analysis, you come across missing data. Because I felt so frustrated by how hard it was to handle and wrangle missing data, I wanted to make it easier. In my endeavours I have written two R packages, visdat and naniar, for exploring missing data, and several papers on the topic (Tierney 2017; Tierney and Cook 2023; Borg, Nguyen, and Tierney 2022).

The present goal is to share some ideas on exploring missing data, using naniar, and visdat. To that end, we will focus on four questions.

1. How do we start looking at missing data?
2. How do we explore missingness in variables?
3. How do we explore missingness relationships?
4. How do we explore imputed values?

Questions 1 and 2 were explored in the previous Software Corner article. This article considers questions 3 and 4.

But first, let’s reacquaint ourselves with the data.

The Data
The data used for this paper is measurements of rodents in Kansas, from Hope (2023). The use of this data is inspired by Allison Horst’s “Exploring missing values in naniar” shiny application. In this paper we use a different, larger set of the data. For information on the metadata of the paper see here. The data set provides various biometric length and weight measurements, for four species of rodents: the Eastern woodrat, Prairie vole, Western harvest mouse, and Deer mouse.

How to explore missingness relationships?
We can identify key missing variables using vis_miss(), gg_miss_var(), and gg_miss_upset(), but for further exploration, we need to explore the relationship amongst the variables in this data: date, species, total_length, tail_length, hind_foot_length, ear_length, weight, sex, and age.

Exploring using bivariate plots
Let’s say that we want to explore the relationship between tail length and ear length. Figure 1 shows a scatter plot of tail length and ear length.

```r
library(tidyverse)
library(visdat)
library(naniar)

ggplot(rodents,
  aes(x = ear_length,
      y = tail_length)) +
  geom_point()

Warning: Removed 530 rows containing missing values or values outside the scale range (`geom_point()`).
```

The problem with this is ggplot removes the missing values. It’s great that we get a warning message but this makes them hard to explore. We can impute missings with values 10% lower than the minimum value in that variable, which puts these values in a margin area on the graphic. This method comes from ggobi (Cook and Swayne 2007), and manet (Unwin et al. 1996).

This imputation is wrapped up in the geom_miss_point() ggplot2 geom. Figure 2 illustrates this by exploring the relationship between tail length and ear length from the rodents dataset.

```r
ggplot(rodents,
  aes(x = ear_length,
      y = tail_length)) +
  geom_miss_point() +
  scale_colour_brewer(palette = "Dark2")
```

Figure 1: Plot of ear length against tail length. Ear length is on the X axis and tail length is on the Y axis. We learn that there is a reasonable positive

missing

Figure 2: Improved plot of tail length against ear length, we can now see the missing values are imputed 10% below the minimum value. The green dots on the Y axis represent tail_length values that have missing ear_length. There aren’t any missing values on the X axis, because there aren’t times where tail length is missing when ear length is missing. The row of dots in the bottom left corner are missing for both tail length and ear length.
Being a proper ggplot geom, it supports all of the standard features of ggplot2, such as facets and themes as shown in Figure 3.

```r
ggplot(rodents, 
aes(x = ear_length, 
y = tail_length)) +
geom_miss_point() +
facet_wrap(~species) +
theme_minimal()
```

Figure 3: A faceted version of the improved tail length against ear length plot where each species is split out into its own subplot. We learn that there are different patterns of missing data for each species.

**Exploring using modelling**

The previous article introduced upset plots, as shown in Figure 4, to help identify structure in the missigness. We can perform some basic clustering on the missingness and then learn which variables and their values predict these missingness groups using decision trees (Tierney et al. 2015a; Barnett et al. 2017). We start by adding missingness clusters, choosing four based on Figure 4.

```r
gg_miss_upset(rodents)
```

![Figure 4: An upset plot of 7 sets of missingness in the rodents data displaying a more nuanced depiction of the patterns of missingness in the data. The size of each combination of missingness in variables is plotted. We learn that the two biggest sets of missingness occur when ear length and total length are missing, and when weight, hind foot length, tail length, ear length, and total length all go missing together.](image)

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We encourage exploring different numbers of clusters. We can then confirm this pattern using visualisations as shown in Figure 5.

```
rodents_miss_clust <- rodents |> 
  add_miss_cluster(n_clusters = 4) 

gg_miss_var(rodents_miss_clust, facet = miss_cluster)
```

![Figure 6: A plot of tail length by weight. The imputed tail length values are not visible because we have no way to identify them in the data.](image)

We use the R package rpart (Therneau and Atkinson 2023) to fit a classification and regression tree (CART) to the data using all variables. This technique for exploring structured missingness in data was explored in more detail in Tierney et al. (2015b).

```
library(rpart) 
rodent_miss_cart <- rpart( 
  factor(miss_cluster) ~ ., 
  data = rodents_miss_clust)
```

Variable importance scores (Table 1) reveal the most important variables for predicting missingness cluster are date and sex.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>date</td>
<td>221.39</td>
</tr>
<tr>
<td>sex</td>
<td>167.96</td>
</tr>
<tr>
<td>hind_foot_length</td>
<td>20.28</td>
</tr>
<tr>
<td>age</td>
<td>15.08</td>
</tr>
<tr>
<td>species</td>
<td>10.67</td>
</tr>
<tr>
<td>tail_length</td>
<td>7.37</td>
</tr>
<tr>
<td>weight</td>
<td>5.18</td>
</tr>
</tbody>
</table>

To better understand these relationships, we would recommend exploring using partial dependence plots using packages such as vip (Greenwell and Boehmke 2020) and other decision tree plots using rpart.plot (Milborrow 2022).

**How do we explore imputed values?**
The simputation package provides a nice interface to imputation. We will impute values for tail_length and weight using the impute_lm() function, then visualise the data, as seen in Figure 6.

```
library(simputation) 
rodents |> 
  impute_lm(tail_length ~ species + age) |>
  impute_lm(weight ~ species + age) |>
  ggplot(aes(x = weight, 
            y = tail_length)) + 
  geom_point()
```

The key takeaway here is there is now a copy of the data bound to it, with each column ending in _NA, and the values either being “NA” for missing, or “!NA” for not missing. For more details on the ideas underlying this, and the benefits, we recommend reading our paper, “Expanding Tidy Data Principles to Facilitate Missing Data Exploration, Visualization and Assessment of Imputations” (Tierney and Cook 2023).

Using the shadow matrix to keep track of where the missings are, you can actually keep track of the imputations, colouring by what was previously missing in tail_length. For example, let’s create the nabular data, then impute the data for both tail_length and weight using a random forest, and plot it in Figure 7.
The simputation package has a nice option to add residual noise to the imputations - in this case we can add some normal noise to the observations, where the residuals are draws with replacement from the model residuals. This gives us much greater variation in the imputations.

The different imputation methods are visualised side by side in Figure 8. We have also included mean imputation, as a naive comparison. This first imputes the data using the residual method, then rowbinds the two datasets together, creating a column called “imputation_type”, which records which type of imputation was used, either “add_residual” or “no_residual”.

The imputation provides imputations that are not representative, linear models with no residuals are representative of the data but very concentrated, and adding residuals adds much more variation to your data.

**Conclusion**

In these two software corner articles we have demonstrated the use of the visdat and naniar R packages for exploring and understanding missing data. To find out more please take a look at the vignettes for visdat and naniar.

**References**


Hope, Andrew. 2023. “CSM08 Small Mammal Host-Parasite Sampling Data for 16 Linear Trapping Transects Located in 8 LTER Burn Treatment Watersheds at Konza Prairie.” Environmental Data Initiative. [https://doi.org/10.18637/jss.v105.i07](https://doi.org/10.18637/jss.v105.i07).


---

**Figure 8:** Comparing imputation methods of tail length in a scatterplot of tail length vs weight. Weight is on the X axis and tail_length is on the Y axis, and the points are coloured by whether they are imputed - ‘NA’ indicates a previously missing value that has been imputed. We learn that mean imputation provides imputations that are not representative, linear models with no residuals are representative of the data but very concentrated, and adding residuals adds much more variation to your data.
**STRengthening Analytical Thinking for Observational Studies (STRATOS): Neutral comparison simulation studies as the cornerstone to compare statistical methods**

Anne-Laure Boulesteix (1,2), Mark Baillie (3), Dominic Edelmann (4), Leonhard Held (5), Tim Morris (6), Willi Sauerbrei (7) on behalf of the Simulation Panel

(1) Institute for Medical Information Processing, Biometry and Epidemiology, Faculty of Medicine, Ludwig Maximilian University of Munich, Munich, Germany

(2) Munich Center of Machine Learning, Munich, Germany

(3) Novartis Pharma AG, Basel, Switzerland

(4) Division of Biostatistics, German Cancer Research Center, Heidelberg, Germany

(5) Department of Biostatistics at the Epidemiology, Biostatistics and Prevention Institute, University of Zurich, Switzerland

(6) MRC Clinical Trials Unit at UCL, London, UK

(7) Institute of Medical Biometry and Statistics, Medical Center - University of Freiburg, Freiburg, Germany

In Issue 2/2020 the simulation panel of the STRATOS initiative was introduced. In the second paragraph it reads ‘It is obvious that simulation studies, and the more complex concept of ‘neutral comparison studies’ (Boulesteix et al. 2017), are and will remain a key instrument to systematically assess and/or compare competing statistical methods and to create solid evidence to support STRATOS guidance. The panel had published a letter to the Editors of Biometrical Journal (the journal of the IBS-GR, -ROeS and -IR) entitled “On the necessity and design of studies comparing statistical methods” (Boulesteix et al., 2018). The first goal of this letter was to point out the importance of neutral comparison studies, the second goal was to stress the necessity to study the methodology of such comparison studies, in particular the design and the assumptions underlying simulation studies.

To further promote this type of studies and the improvement of their methodology, a team gathering four STRATOS members (ALB, MB, TM, WS) and two further biostatisticians committed to the topic (DE, LH) edited a special collection that recently appeared in Biometrical Journal entitled “Towards neutral comparison studies in methodological research.”

As outlined in the editorial (Boulesteix et al., 2024), “[b]iomedical researchers are frequently faced with an array of methods they might potentially use for the analysis and/or design of studies. It can be difficult to understand the absolute and relative merits of candidate methods beyond one’s own particular interests and expertise. Choosing a method can be difficult even in simple settings but an increase in the volume of data collected, computational power, and methods proposed in the literature makes the choice all the more difficult. In this context, it is crucial to provide researchers with evidence-supported guidance derived from appropriately designed studies comparing statistical methods in a neutral way, in particular through well-designed simulation studies.

While neutral comparison studies are an essential cornerstone toward the improvement of this situation, a number of challenges remain with regard to their methodology and acceptance. Numerous difficulties arise when designing, conducting, and reporting neutral comparison studies. Practical experience is still scarce and literature on these issues almost inexistent. Furthermore, authors of neutral comparison studies are often faced with incomprehension from a large part of the scientific community, which is more interested in the development of “new” approaches and evaluates the importance of research primarily based on the novelty of the presented methods. Consequently, meaningful comparisons of competing approaches (especially reproducible studies including publicly available code and data) are rarely available and evidence-supported state of the art guidance is largely missing, often resulting in the use of suboptimal methods in practice.

In this context, the intention of this collection was to gather (and stimulate the production of) studies in the field of biometrics that aim to fill this gap and, as such, can be regarded as atypical. We called for the submission of

1. well-designed neutral comparison studies of methods (including but not limited to studies arising from community challenges), that is, comparison studies fulfilling the two following criteria: (i) focused on the comparison of existing methods already described elsewhere rather than on a new prototype method being introduced; (ii) authored by a group of researchers who are (ideally) approximately equally familiar with all the compared methods;

2. papers defining, developing, discussing, or illustrating concepts related to practical issues and improvement of neutral comparison studies in the context of methodological biometrical research, including but not limited to the design, analysis, and presentation of reliable simulation studies, study protocols, study registration and (structured) reporting, replication studies, uncertainty quantification, and research synthesis. Papers of this type will provide a lens through which to critically reflect on neutral comparison studies in the future.”

The special collection includes as many as 23 high-quality contributions presenting neutral comparison studies on various biometrical topics as well as metascientific contributions addressing the methodology of such studies. A special session with three talks from authors of the special collection and a panel discussion was organized at CEN23 in Basel by Sarah Friedrich. The topic attracted a lot of attention and stimulated fruitful discussions at the conference. Our expectations were overall clearly exceeded!

The Simulation Panel contributed a paper of the second type (“papers defining, developing, discussing, or illustrating concepts”) entitled “Phases of methodological research in biostatistics—Building the evidence base for new methods” (Heinze et al., 2024). In this framework, methodological studies are viewed as contrib-
uting to “evidence on methods” in a similar way as the different clinical trial phases in drug development. Importantly, the paper stresses the importance of late phase studies – consisting of the extensive study of methods in a neutral way in various settings with the aim to understand when it is recommended or not. We believe such methodological guidance deserves more attention and space in major (bio)statistical journals.

We hope the success of our special collection will be the beginning of a paradigm shift changing the way the scientific community as a whole addresses the process of method development and evaluation to generate more reliable empirical evidence.

References:


Australasian (AR)
IBS-AR Student Scholarships
To help attract enthusiastic and talented students to career paths in biometrics, the Australasian Region offers scholarships for suitably qualified students who intend to undertake a fourth or honours year of study, or a coursework Masters, in statistics, mathematical statistics, biostatistics, bioinformatics or biometrics.

This year we had several excellent applications and we are delighted to announce the winners: Peter Orlovskiy (Masters student at the University of Auckland, New Zealand) and Ryan Borges (Honours student at the University of Sydney). Congratulations!

Biography - Peter Orlovskiy
After strongly considering studying actuarial science or economics, I stumbled upon, and found myself in, data science; I found the challenges satisfying, the mental stimulation sometimes intense, and quickly became fascinated with how binary machines can accomplish tasks like word generation, language translation, image classification, and video segmentation. Since then, I have not looked back.

Currently, I’m studying for a Master of Data Science at the University of Auckland, where I’ll be under Joerg Wicker and Katerina Taskova’s excellent supervision. My research aims to use adversarial learning to explore existing fisheries models’ applicability domains and create a methodology/criterion to estimate their future performance after encountering distributional shifts.

My current interests include adversarial attacks, biologically inspired spiking neural networks, and the conditions under which adding stochastic elements to deep networks can help improve robustness against adversarial attacks. However, I am also interested in reinforcement learning, knowledge representations, machine understanding, and reasoning. I regularly attend machine learning seminars and participate in discussions about new findings and thoroughly enjoy learning about SOTA techniques and methodologies.

Outside of data science, I love reading about black holes and dark matter; and being the nerd that I am, I love watching math videos on YouTube. Physically, I enjoy hiking, swimming, and climbing mountains. I play tennis and love my early morning saunas. I am an avid fan of science fiction and epic space fantasy, and my friends and

Region News
Argentinian (RArg)
Between 8-10 October 2024, the Argentine Group of Biostatistics (GAB), representing the Argentine Region of the IBS, will convene the XXVIII Scientific Meeting of the GAB. The event will be hosted at the Faculty of Natural Sciences, University of Buenos Aires. Distinguished national and international speakers, including Dr. Raúl Macchiavelli (University of Puerto Rico), Dr. Juan Antonio Carbonell-Asins (Institute for Health Research, Valencia, Spain), Dr. Florian Hartig and Dr. Maximilian Pichler (University of Regensburg, Germany), Dr. Pablo Inchausti (University of the Republic, Uruguay), Dr. Anabel Forte (University of Valencia, Spain), Andreas Mayr (University of Bonn, Germany), Elena Ieno (Highland Statistics Ltd.), Dr. Javier Mariani (Huésped Foundation, Argentina), Dra. Maria Llamas (University of San Martín, Argentina), Dr. Walter Sosa Escudero (University of San Andrés, Argentina), MSc. Iván Barberá (University of Comahue, Argentina), Dr. Pablo Turjanski, Dr. Regino Cavia, Dra. María Eugenia Szretter Noste, Dra. Lucía Babino and MSc. Valeria Gogni (University of Buenos Aires, Argentina), among others, will enrich the event with their expertise. The Meeting agenda will feature keynote lectures, short courses covering specific topics, workshops, and the Young Biometricians Contest.

Currently, Argentina is facing significant socioeconomic obstacles, especially regarding the funding of science and technological development. Despite these limitations, we are firmly committed to strengthening the capacities and bonds of our scientific community dedicated to biostatistics and data science, convinced of its essential contribution to national development.

Silvia Sühring
Biometric Bulletin Correspondent

Biography - Peter Orlovskiy

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I enjoy discussing fiscal and economic policy during our (charcoal) BBQs. I believe I have finally found where I want to be and where I want to go. I would like to say thank you to the huge amount of people who have made an impact on me throughout my journey. I wouldn’t be here without you.

Likewise, a huge thanks to the Australasian Region International Biometric Society. It is a great honour for me to have been selected for this scholarship. Your faith and support in me will go a long way.

Thank you.

Biography - Ryan Borges

Ryan Borges is currently studying Honours in Statistics at the University of Sydney. His Honours project aims to develop a framework that incorporates both patient risk factors and their adherence to optimise cancer screening policies. He aims to construct and solve this problem as a partially observable Markov decision process and is supervised by Dr Qiuzhuang Sun.

In 2022, Ryan had the opportunity to study on exchange at the University of Pennsylvania in Philadelphia, USA, where he was exposed to the breadth of research and commercial work overseas. In his free time, Ryan plays the violin in a symphony orchestra, runs, reads fiction, and consumes science podcasts on 2.5x speed.

With a broad range of interests, Ryan has also completed internships during his degree in infrastructure private equity and strategy consulting, where he was first exposed to the economics of healthcare service providers and the use of data-driven insights to better inform commercial decision-making. His interests currently lie in better understanding how statistical insights can improve decision-making in healthcare at the clinical and policy level in Australia. After Honours, Ryan hopes to either pursue a PhD or work in consulting with a focus on the life sciences and healthcare space.

Garth Tarr
Biometric Bulletin Correspondent

Austro Swiss (ROeS)

Adaptive Designs and Multiple Testing Procedures - Joint Working Group (Section) of the ROeS and the German Region of the IBS

The Working Group (WG) of Adaptive Designs and Multiple Testing Procedures held this year’s workshop at Hotel Vibra Algarb in Ibiza from 25-26 April 2024. In total 66 researchers registered to discuss and share recent developments in clinical trials. The keynote speakers were Dominic Magirr from Novartis Pharma AG with lecture on “Deconstructing the Max-combo Test” and Annette Kopp-Schneider from German Cancer Research Center with the lecture “Borrowing from external information in clinical trials: methods, benefits and limitations.” The workshop included two invited sessions “Methodological and practical outcomes from the Adaptive Designs Working Group of the MRC-NIHR Trials Methodology Research Partnership” and “Practical experiences of using software to design clinical trials using simulations,” and seven contributed sessions. The book of abstracts is available online at the workshop website, and the presentations are available on request.

Photos of the event can be found on the website (see photo gallery). One can also review how the workshop went through the tweets on the X/Twitter account. The workshop was also announced in the local newspapers Diario de Ibiza and Nou Diari.

In addition, there were elections for chair and co-chair of the Adaptive Designs and Multiple Testing Procedures WG. The new chair is Marta Bofill Roig (Medical University of Vienna), and the co-chair is Moritz Fabian Danzer (University of Münster). We would like to take this opportunity to thank Thomas Asendorf (University of Göttingen) for the last two years as WG chair.

Last but not least, it was announced that the next workshop on Adaptive Designs and Multiple Testing Procedures will take place in Regensburg in 2025. Further information on registration will follow!

Sonja Zehetmayer
Biometric Bulletin Correspondent

Brazilian (RBras)

68th RBras Annual Meeting

The 68th RBras (Brazilian Region of the International Society of Biometrics) was held on 29-31 May 2024 in Piracicaba-SP, being organized by the Department of Exact Sciences at ESALQ/USP, with the theme “Data Science, statistics and postgraduate studies: opportunities and challenges.” The event featured the following guest speakers: Chris Brien (Australia), Elisângela A. S. Lizzi (Brazil), John Hinde (Ireland), Rafael Izbicki (Brazil), Tarylee Reddy (South Africa), Victor H. Lachos Dâvila (USA), among others. In total, 232 works were submitted for poster presentation and 23 for oral presentation. The event celebrated 60 years of the Postgraduate
Just in case there is a member from the IBS-RCAC who did not connected to a network of more than 6,000 biostatisticians from around the world!

IBS-RCAC Members can now pay Dues via the IBS website

Thanks to Ryan Dee and team from our IBS office in Washington, DC, members of the IBS-RCAC can now seamlessly pay their membership fees via the IBS website. This represents achievement of an important milestone as payment via the website was not possible before April 2024. As such our membership looks for possible before April 2024. As such our membership looks for

The new board of directors and two new advisors of RBras were elected and sworn in on 30 May 2024. The RBras Board of Directors is made up of the President, Secretariat (1st and 2nd Secretary) and Treasury (1st and 2nd Treasurer).

Special Edition of SIGMAE Magazine

For the 68th RBras, as held 29-31 May 2024, a partnership was made with Sigmasmagazine for the publication of a special edition with complete articles from the event. Authors who have works approved for the 68th RBras (poster, oral communication, competition, mini-course, round table, thematic session, conference, mini-conference, etc.), will be able to send complete articles to the special edition of Sigmagazine.

Cristian Villegas and Marcelo Andrade da Silva
Biometric Bulletin Correspondent

Cameroon (GCmr)

The International Biometric Society - Cameroon (IBS-GCmr) is glad to initiate a monthly lecture series open to members, students and professionals in the region and beyond to increase professional development and interaction. The first lecture, delivered by Che Henry, was held on 26 of April 2024. The lecture introduced the concept of cohort sampling designs and their application to time-to-event data. The next session was held on 31 May 2024 with the topic “Improving Dose Finding Studies in Drug Development: the MCPMod Approach” to be presented by Jose Pinheiro. The lecture was held on Zoom using the link (https://washington.zoom.us/j/97410964772).”

Che Henry
Biometric Bulletin Correspondent

Central American and Caribbean (RCAC)

IBS-RCAC Members can now pay Dues via the IBS website

Thanks to Ryan Dee and team from our IBS office in Washington, DC, members of the IBS-RCAC can now seamlessly pay their membership fees via the IBS website. This represents achievement of an important milestone as payment via the website was not possible before April 2024. As such our membership looks forward to making more timely payment of our fees and thus stay connected to a network of more than 6,000 biostatisticians from around the world!

Just in case there is a member from the IBS-RCAC who did not receive the e-mail with the instructions regarding accessing the payment platform, please find below the eight (8) easy steps to renew your membership online:

1. Click this link to log into your IBS Account: https://members.biometricsociety.org/home
2. Click ‘Sign In’ at the top right-hand corner of your screen.
3. Enter your username and password. If you do not know your username and password, please email ibs@biometricsociety.org to retrieve them.
4. Once logged in, click ‘Community’, in the primary navigation at the top of the screen.
5. In the drop-down menu, click on ‘My Profile.’
6. Choose ‘Renew Your IBS Membership Now’ from below the ‘Renew Membership’ option.
7. Choose ‘Show My Price’ and then ‘Save Changes’
8. Proceed to process payment.

Membership fees are due on 1 May of each year.

Research activities of members

Publications

Dr Adriana Perez is the first author of a publication which featured examination of the relationship between use of e-cigarettes and the age of onset of asthma in U.S. adults and youth. The manuscript was accepted for publication in the JAMA Network Open journal on 11 March 11 2024 and will be published on 17 May 2024. The authors and title of the article are shown below.


Dr Raul Macchiavelli, Professor of Biometry, University of Puerto Rico, Mayaguez and coauthors produced a paper which featured use of nutrient data to assess the water quality patterns from 55 Biometric Bulletin, Volume 41, Issue 2. IBS RCAC contributions. docx Page 2 of 2 stream stations in different parts of Puerto Rico. The team fit the regression models using generalized additive mixed models (GAMM) and splines which are piecewise polynomial functions with restrictions on the methods for smoothing at the nodes. The reference for the journal article are shown below.

information is preserved for future generations. Following the legal deposit the Technical Report that features data analysis using methods appropriate for data from a complex sampling design was made publicly available. The reference and web link to the report are shown below.


**A new grant awarded**

As part of a five-year, $3.9 million grant awarded to UTHealth Houston, Adriana Pérez, PhD, professor in the Department of Biostatistics and Data Science with UTHealth Houston School of Public Health in Austin, received a subcontract valued at $1.9 million. The subcontract will allow Dr Perez and her team to investigate factors which lead to or are associated with disparities in the care of Parkinson’s disease and Parkinson’s disease dementia patients. The larger $3.9 million grant will fund the investigation of health service outcomes and disparities in Parkinson’s disease and Parkinson’s disease dementia and how these may be affected by integrated palliative care. Further details of the award can be found here. (UTHealth Houston researcher receives NIH subcontract to study effects of integrated palliative care on Parkinson’s, related dementia - UTHealth Houston).

**Novie Younger-Coleman Ph.D.**
Biometric Bulletin Correspondent

**French (RF)**

Some news from the French Region of the IBS “Société Française de Biométrie (SFB)”

On 28 May 2024, the French Region of the IBS organized an invited session within JdS’2024, the 55th annual meeting of the French Society of Statistics (SFdS) which took place in Bordeaux, France. The session included 3 invited speakers: Marie-Pierre Etienne (AgroCampus Rennes), Sabine Hoffmann (Ludwig-Maximilians Univ., Munich) and Hélène Jacqmin-Gadda (Inserm Bordeaux).

Coming events of the French Region of the IBS include:
- The next edition of the annual joint conference of the “Statistics and Health” axis of the CNRS Math-Bio-Health thematic network, the group “Biopharmacy and Health” of the SFdS and the French Region of the IBS, to be held in Paris Santé Campus 7-8 November 2024.
- The awarding of the biennial Daniel Schwartz dissertation prize during the Young Researcher Day, to be held at the beginning of 2025 in Bordeaux, France (call for applications closing 1 September 2024).

More information can be found on our [website](#).

Anne Thiebaut
Biometric Bulletin Correspondent

**German (DR)**

**The 70th Biometric Colloquium**

The annual meeting of the German Region drew 312 participants in person and 31 online to Lübeck, 28 February - 1 March, to hear their selection of the 142 contributed and 40 invited talks, participate in one of the four tutorials, and view the 21 posters. Discussions continued at night during the town hall reception and the conference dinner, both of which were attended by about half of the participants.

Inke König and Silke Szymczak hosted a smoothly organized conference. During the session on the history of biometric colloquia we learned about the mores in the times of chalk on blackboard and of overhead slides. Then, the prize for best presentation was abolished after having been won by female doctoral students of the same professor year after year. In the lecture for the public given by Stefan Sauerland we learned the kind of evidence needed

**Chinese (CHINA)**

The 2024 Pacific Causal Inference Conference

Causal inference has gained popularity in fields including statistics, biostatistics, biomedical science, computer science, economics, epidemiology, and various social sciences. Prof. Zhou, as the founding Chair of the organizing committee, has been hosting the Causal Inference for the 5th time. The conference aims to share the latest development on causal inference by inviting university-based statisticians/professors and industry-based statisticians/scientists. The Pacific Causal Inference Conference will be held in Shanghai on 5-6 July in a combination of offline and online.

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- The next edition of the annual joint conference of the “Statistics and Health” axis of the CNRS Math-Bio-Health thematic network, the group “Biopharmacy and Health” of the SFdS and the French Region of the IBS, to be held in Paris Santé Campus 7-8 November 2024.
- The awarding of the biennial Daniel Schwartz dissertation prize during the Young Researcher Day, to be held at the beginning of 2025 in Bordeaux, France (call for applications closing 1 September 2024).

More information can be found on our [website](#).

Anne Thiebaut
Biometric Bulletin Correspondent

**Chinese (CHINA)**

The 2024 Pacific Causal Inference Conference

Causal inference has gained popularity in fields including statistics, biostatistics, biomedical science, computer science, economics, epidemiology, and various social sciences. Prof. Zhou, as the founding Chair of the organizing committee, has been hosting the Causal Inference for the 5th time. The conference aims to share the latest development on causal inference by inviting university-based statisticians/professors and industry-based statisticians/scientists. The Pacific Causal Inference Conference will be held in Shanghai on 5-6 July in a combination of offline and online.

**French (RF)**

Some news from the French Region of the IBS “Société Française de Biométrie (SFB)”

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Anne Thiebaut
Biometric Bulletin Correspondent

**German (DR)**

**The 70th Biometric Colloquium**

The annual meeting of the German Region drew 312 participants in person and 31 online to Lübeck, 28 February - 1 March, to hear their selection of the 142 contributed and 40 invited talks, participate in one of the four tutorials, and view the 21 posters. Discussions continued at night during the town hall reception and the conference dinner, both of which were attended by about half of the participants.

Inke König and Silke Szymczak hosted a smoothly organized conference. During the session on the history of biometric colloquia we learned about the mores in the times of chalk on blackboard and of overhead slides. Then, the price for best presentation was abolished after having been won by female doctoral students of the same professor year after year. In the lecture for the public given by Stefan Sauerland we learned the kind of evidence needed
for smartphone apps to be reimbursed by statutory health insurance, when the speaker from the competent authority entered discussion with a manufacturer of such an app. Pupils attending the workshop aimed at prospective students learned about machine learning from Helena Zacharias. The panel discussion organized by the early Career Working Group addressed the questions that graduate students may have about their career. The lecture series “Statistics in Practice” by Antonia Zapf and her team from Hamburg covered diagnostic accuracy studies: Basic and advanced statistical methods. Program and abstract book may still be found on the website.

Young Talents Awards

During the annual meeting of the German Region awarded its young talent awards. The Bernd-Streitberg Award went to Niklas Brunn for the master thesis at the Ulm University: “Combining Componentwise Boosting with Neural Networks for Structuring Latent Representations” Sonja Drescher for the master thesis at Göttingen University: “Evaluation of Index-based Response-adaptive Randomization Procedures in Clinical Trials” The Gustav-Adolf-Lienert Award went to young scientists for their articles:

1. Alexandra Erdmann (Ulm): “Connection between survival multistate models and causal inference for external treatment interruptions.” Statistical Methods in Medical Research 2023;32:267-286


The presentations of other participants had a quite high overlap with Jeremy Yoder’s tutorial. Tobias Mette (Bavarian State Institute of Forestry) presented predictions for the distribution of edible chestnut in Bavaria, which were positive over the 21st century, and of beech and nordic fir, which were negative. Hendrik Edelhoff (same institution) investigated location-dependent prevalence of chamoises by capture-recapture methods. Leonie Gass (University of Bayreuth) achieved predictions for the red fir. Johannes Ponge (University of Münster, online) showed agent-based models of epidemics. Andreas Bender (Ludwig-Maximilians-Universität München) investigated the generalization error in spatial models with clusters. Max Pichler (University of Regensburg) compared machine learning methods. The participants found the local organization at the Bavarian State Institute of Forestry and the meeting atmosphere simply excellent.

Abstracts and most of the presentation slides are available from https://www.biometrische-gesellschaft.de/arbeitsgruppen/bayes-methodik/workshops.html.

Honored for their service to the IBS German Region with the Susanne Dahms Medal. (from left): Richardus Vonk, Katja Ickstadt, Tim Friede.

Participants of joint workshop. Jeremy Yoder in front row, third from left.


Four Working Groups had their bi-annual joint meeting in Freising (close to Munich) on April 24th to 26th. The topic was “Bayesian Additive Regression Trees (BART).” More than 30 participants, of these approx. 10 online, were counted.

After an introduction by Colin Carlson (Georgetown University, online), Jeremy Yoder (California State University) gave a hands-on tutorial on BART for species distribution models. Points of special interest were on the one hand variable selection and on the other hand prediction in the presence of interactions.

The examples included binary data (presence/absence of Joshua trees in Southern California) and continuous data (recovered forest areas after wildfires in Portugal). Practical exercises provided insight in the workflow for a systematic BART analysis. Different model variants were tried, all biologically motivated. The methods were explored up to their limits, so that a case of MCMC non-convergence could be observed.

This is a paid ad from StataCorp
Upcoming Meetings

6-7 June 2024 in Dresden
English language workshop of groups Mathematical Models in Medicine and Biology and Statistical Methods in Bioinformatics with keynotes by Anne-Christin Hauschild, Kathrin Thedieck, Carsten Marr:
https://www.biometrische-gesellschaft.de/arbeitsgruppen/statistische-methoden-i-d-bioinformatik/workshop2024.html

27-28 June 2024 in Soest
Summer conference of the Working Group Landwirtschaftliches Versuchswesen on the subject “Data Science and KI in agriculture testing”

28-31 July 2024 in Günzburg’s Reisensburg
“Statistical Computing”. IBS-DR working group Statistical Computing and GfKl working group Classification and Data Analysis. Confirmed invited speakers: Achim Tresch (König) - Feature extraction for multivariate spatial data. Eyke Hüllermeier (München) - Uncertainty Quantification in Machine Learning; From Aleatoric to Epistemic. Sarah Friedrich (Augsburg) - Regularization methods in clinical biostatistics: State-of-the art and possibilities for improvement
https://sysbio.uni-ulm.de/ocs/index.php/statcomp/statcomp2024

17-18 September 2024 in Dortmund

25-27 September 2024 in Wiesbaden
Non-Clinical Statistics Conference 2024
https://www.biometrische-gesellschaft.de/arbeitsgruppen/non-clinical-statistics.html

24 November 2024 in Darmstadt
Workshop of the working group Pharmaceutical Research.
https://www.biometrische-gesellschaft.de/arbeitsgruppen/pharmazeutische-forschung.html

Reinhard Vonthin
Biometric Bulletin Correspondent

Japan (JR)
The 2024 Annual Meeting of the Biometric Society of Japan

The 2024 Annual Meeting of the Biometric Society of Japan (BSJ) will be held on 10-11 May 2024 in hybrid combining online and onsite at the Centennial Hall Kyushu University School of Medicine, Fukuoka, Japan. Two special sessions on recent topics about heterogeneous causal effect estimation and strategies for personalized medicine and the BSJ Honorary Award will be organized. The tutorial seminar entitled “Model selection for high-dimensional data” will also be organized jointly with the Japanese Society of Applied Statistics.

The 2024 Japanese Joint Statistical Meeting
The BSJ is one of the six sponsoring organizations of the meeting and the 2024 Japanese Joint Statistical Meeting will be held on 1-5 September at Tokyo University of Science, Tokyo, Japan. The BSJ is organizing an invited session entitled “Infectious disease control and data science: From COVID-19 to the next pandemic.” The society is also organizing an invited session in which the winner of the Young Biostatistician Award conferred by the society will present his/her research.

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Biometric Bulletin 20
The 2024 Biometric Lecture
The first lecture, which was co-organized by Department of Biostatistics, Graduate School of Medicine, Hokkaido University, was held on 4 March 2024 in hybrid combining online and onsite at Hokkaido University, School of Medicine, Centennial Hall, Sapporo, Japan, where Dr. Thomas Scheike (University of Copenhagen) provided a great lecture, entitled “Analyzing recurrent events in the context of randomized clinical trials”. The second lecture, which is co-hosted by Research Center for Medical and Health Data Science, the Institute of Statistical Mathematics, will be held on 29 July 2024 in hybrid combining online and onsite at Meeting Space AP Nishi-Shinjuku, where Dr. James M. S. Wason (Newcastle University) will give an excellent lecture, entitled “Making more rare disease trials feasible with innovative statistical methods”.

Meetings:
10-11 May 2024
The 2024 Annual Meeting of the Biometric Society of Japan
Centennial Hall Kyushu University School of Medicine, Fukuoka, Japan

1-5 September 2024
The 2024 Japanese Joint Statistical Meeting
Tokyo University of Science, Tokyo, Japan

Western North American (WNAR)

IBS/WNAR Outstanding Impact Award and Lectureship
Nominations for the 2024 IBS/WNAR Outstanding Impact Award and Lectureship were due in late 2023, and the 2024 award recipient will be announced at the June WNAR/IMS meeting in Colorado. The award recipient will present the Research Impact Award Lecture at the JSM on 5 August 2024 from 2:00 - 3:50 p.m. (#1638). Please start thinking about nominating your colleagues for the 2025 award submission, due this fall.

The WNAR of IBS Outstanding impact and Lectureship Award was established in 2021 to recognize an outstanding individual or team, regardless of race, gender, sexual orientation, nationality or citizenship, who has made a significant impact on our society through service and/or research in the development and application of statistical, mathematical, and data science theory and methods in the biomedical or environmental sciences. A significant impact can comprise either a single contribution of extraordinary merit or an outstanding aggregate of contributions that significantly impacts to biosciences and environmental sciences. More information about the award process can be found on the WNAR award website: https://wnar.org/IBS/WNAR-Outstanding-Impact-Award

2024 WNAR/IMS meeting
The 2024 WNAR/IMS meeting WNAR/IMS meeting was held in Fort Collins, Colorado from 9-12 June 2024. The conference was joint with the 2024 Graybill Conference, held at Colorado State University. Meeting summary information will be in the next bulletin issue. Scientific program co-chairs: Prince Allotey (UV) and Catherine Lee (Kaiser Permanente), email: wnarprogramchair@gmail.com IMS program chair: Jie Peng (UC Davis) Local organizer and Graybill Organizer: Wen Zhou (Colorado State) Chair of Student Award Committee: Kayleigh Keller (Colorado State) Short Courses on Sunday 9 June 2024:
• Adaptive and Bayesian Methods for Clinical Trial Design
• N-of-1 Trials for Personalized Healthcare
• The DOOR is Open: A Patient-Centric, Pragmatic Approach to Clinical Trials based on
• Beneficentrisk N-of-1 Trials for Personalized Healthcare
• Small Sample, Sequential, Multiple Assignment, Randomized Trial (snSMART) Designs and Methods for Chronic, Rare Disease Drug Development
• Bayesian Borrowing Techniques for Rare Disease Clinical Research

The WNAR website will have the most up-to-date status of the meeting.

Jessica Minnier
Biometric Bulletin Correspondent

The Netherlands (ANed)
The Netherlands (BMS-ANed)
https://www.vvsor.nl/biometrics/

As part of our ongoing series of online seminars in Biostatistics, we are honoured that Nan van Geloven from the Leiden University Medical Center will talk about: “Prediction under interventions: why, what and how?” on Thursday 16 May 2024. The seminars aim at a broad biostatistical audience, in particular PhD students. The link to the seminar will appear here. More details on this event will follow in the next issue of the Biometric Bulletin.

Finally, our next BMS-ANed activity will be organized on Thursday 20 June 2024 in Rotterdam in honor of the 2022 Hans van Houwelingen Biometry Award won by Anirudh Tomer (Erasmus MC) for his paper with Dimitris Rizopoulos, Ewout Steyerberg, Daan Nieboer and Monique Roobol: “Shared decision making of burdensome surveillance tests using personalized schedules and their burden and benefit”, published in 2022 in Statistics in Medicine. The theme of this half-day event is “Statistical and Machine Learning Methods for Sequential Decision Making.” The General Members Assembly will precede the meeting. Details on the invited speakers, exact location and registration are available online.

Roula Tsonaka
Biometric Bulletin Correspondent
Announcements & Upcoming Events

IBS, IBS Regional and Non-IBS Events and Meetings

The 2024 Joint Statistical Meeting
3-8 August 2024
Portland, Oregon
Canada

ENAR 2024 Joint Statistical Meeting
3-8 August 2024
Portland, OR, United States

The 2024 Japanese Joint Statistical Meeting
1-5 September 2024
Tokyo University of Science, Tokyo, Japan

Argentine Group of Biostatistics (GAB)
XXVIII Scientific Meeting of the GAB
8-10 October 2024
Faculty of Natural Sciences, University of Buenos Aires

32nd International Biometric Conference (IBC2024)
8-13 December 2024
Atlanta, Georgia USA

View the full meetings calendar here!

IBS, IBS Region and Non-IBS Events and Meetings

View the full meetings calendar here!

Is something missing? Would you like to add your meeting or event to our calendar?
If so, please send an email to IBS@biometricsociety.org

1. Event Title
2. Event Description & Location
3. Event Category (IBS Regional Event, IBS Event, Non-IBS Event)
4. Event Link
5. Start/End Date

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