From: To: Subject: Date: Statistical Society of Australia Marie-Louise Rankin Stats Matters & Events Wednesday, 22 February 2023 6:04:12 PM



23 February 2023

Dear Marie-Louise,

What should the SSA do?

You may think the answer to this is obvious. Perhaps you have a grounded, intuitive sense of the desirable activities of the Society, or you like what we've done over the decades and hope that will continue.

There are core activities that are indeed likely to be constant and persistent, such as Branch and Section events, and the national conference. For the SSA to be vibrant and engaging, however, it's good to step back and formulate our specific plans and strategies with focus and intention. If you think about your time with the SSA so far, I'm sure you will recognize new and altered activities and areas of focus. Things change, and they need to.

This leads to a Strategic Plan. The <u>SSA has one currently</u>; it was last updated some years ago. Last year the Executive commissioned Belinda Moore of <u>Strategic Membership Solutions</u> to lead us through the process of a new Strategic Plan.

This will build on our heritage and achievements, analyse the current context, and concentrate the SSA's work and activities on what matters most to you, the members of the Society.

Belinda has a wealth of experience in strategic planning, and specifically for societies, so she is ideally placed to lead this process.

I want to emphasise here that the process is, and will be, highly consultative. You will not be able to say (reasonably) that you did not get a chance to have your say. Central Council has already met with Belinda, and so has the Executive. A survey is about to go out to all members. Belinda will be facilitating focus groups and consultations with Branch Presidents, Section/Network Chairs, Vice-Presidents, Early Career and Student Chairs and representatives and others, including past Presidents. You are warmly invited to contribute when asked, and for the future of the Society it is vital that we get wide and extensive engagement. The Society needs YOU! ... and your important input to the Strategic Plan process.

lan Gordon

SSA President

Read newsletter in your <u>browser</u>

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Exploring the Intersection of Causal Inference in Econometrics and Health: Insights from the SSA Seminar

The SSA seminar on Causal Inference in Econometrics and Health provided a useful introduction to causal inference in those two fields, but it was particularly interesting seeing the two introductions presented side-by-side. It showed the ways in which understandings of causal inference have drawn from some of the same key works but evolved in different ways. Dr Akanksha Negi (econometrics) and Associate Professor Margarita Moreno-Betancur (health) showed the terminology and toolkits of researchers in their areas are recognisably different, even if the basic understanding of causation is similar. Obviously, there are real differences in the kinds of research done in these two fields, but it seemed that there is also a lot they can take from each other.

Much of the discussion in the question-and-answer portion was an opportunity for the presenters to discuss these differences.

I found a conversation about Target Trial Emulation and econometrics (my discipline) particularly interesting because it is not a part of our literature. Econometricians often use experimental designs as the yardstick against which to compare our own quasi-experimental and fully observational designs. Target Trial Emulation might provide a good structure in which to make these comparisons in some situations. This is representative of my major takeaway from the session. It is not that either approach can do something radically different from the other, but having different approaches developed semi-independently means there are often parts of one approach that are clearer or more elegant than in the other. When we are trying to do something as challenging as causal inference, having a range of different tools and concepts available can benefit any practitioner regardless of their discipline.

By Patrick Rehill

PhD student in causal machine learning, Australian National University (ANU)

Call for submissions for the

2023 Venables Award for Developers of Open Source Software for Data Analytics.

The goal of this award is to encourage new open source software development from the Australian community with a view to support efforts to develop and share data science and statistics methodology.

For inspiration, see the information about the 2022 winners here.

Bill Venables pioneered the use of the S and consequently R languages in Australia. His book "Modern Applied Statistics with S" co-authored with Brian Ripley was the primary manner that many analysts learned their trade, across

the globe. It is now in its fourth edition. For many people, Bill's tutorials on data analysis with S and R was the first entry point to working with data. Throughout his many years in academia and with CSIRO, Bill has contributed to the analysis of data from many fields but primarily in ecology, environment, and climate change.

Sponsored by the Australian Research Data Commons (<u>ARDC</u>).

Find out more

Be part of the IAPA Women in Analytics Spotlight for 2023 #EmbraceEquity

To celebrate International Women's Day, the Institute of Analytics Professionals of Australia (IAPA) will again shine a spotlight on women in analytics in Australia. In 2023 IAPA hopes to showcase even more women in even more wide-ranging and interesting roles. Be part of the community and get involved!

The 2023 IWD theme #EmbraceEquity recognises that each person has different circumstances, and allocates resources and opportunities needed to reach an equal outcome – addressing imbalanced social systems. In a data context, Data Equity means embracing principles and practices to guide anyone who works with data (especially data related to people) in every step of a project through a lens of justice, equity, and inclusivity.

If you are a woman* working in Australia in a data and/or analytics role (from data engineering, data science, data analytics, data visualisation, AI, ML, data governance, business intelligence and all the roles in-between) IAPA would like to include your profile as part of the IAPA Women in Analytics spotlight series.

Add your profile before 5.00pm AEDT on Thursday 2 March 2023 to be included.

Spread the word! Encourage a woman friend, colleague or co-worker to submit their profile too!

Submit your profile <u>here</u>.

*Note : "woman" is anyone identifying as a woman.

Breaking the Illusion: The Gambler's Fallacy and the Hot-Hand Fallacy in

Decision Making

In his article "Past experiences and statistical deception", Riccardo Pandini, <u>CEOWorld Magazine</u>, discusses the human tendency to rely on past events when making decisions about the future, leading to errors of judgement.

"Statistics is more complex than our minds want us to believe", he states, going on to explain two fallacies that arise from this tendency: the gambler's fallacy and the hot-hand fallacy. The gambler's fallacy involves the mistaken belief that past events have an influence on future ones, while the hot-hand fallacy involves the mistaken belief that independent outcomes are positively correlated.

According to Pandini, both fallacies stem from the human tendency to apply the law of large numbers to small sample sizes, leading to distorted interpretations of data. These errors of judgement can occur in many fields and can lead to serious problems, especially if they are made in the financial market.

This is where statisticians play an important role. By communicating the dangers of relying on past data to predict future outcomes, statisticians can help individuals make more informed decisions, avoid errors related to small sample sizes, and minimise the risk of significant financial losses.

By Marie-Louise Rankin

Read Riccardo Pandini's full article here

Mentioned in previous newsletters

Election of Executive Members

Members are advised that the Executive position of Vice President will become vacant at the Society's Central Council Annual General Meeting in 2023. The SSA Rules provide for a Nominating Committee, consisting of the current Executive and the Branch Presidents, to solicit nominations and submit a list of nominees to Central Council. Should an election be required, Central Council will then arrange a ballot of all financial members of the Society.

Details about the role of SSA Vice President can be viewed <u>here</u>.

Members of SSA are invited to submit nominations for the position of Vice President. Nominations must be in writing and signed by the nominator(s), and must be accompanied by a written and signed statement from the nominee

accepting the nomination. Nominations should be submitted to the <u>SSA President</u> or to a Branch President before 31st March, 2023.

Doug Shaw, Secretary

Society Awards

The Society awards a gold medal, the Pitman Medal, at most once annually, in recognition of outstanding achievement in, and contribution to, the discipline of Statistics. Honorary Life Membership honours outstanding contribution to the profession and the Society, while a Society Service Award may be awarded to a Society member in recognition of sustained and significant service to the Society.

An Awards Committee, chaired by the President of the Society, makes recommendations to the Society's Central Council as to appropriate Award recipients. Pitman Medals and Honorary Life Memberships are usually announced at the Society's Conference.

Members of the Society are encouraged to propose suitable recipients of the Pitman Medal, Honorary Life Membership or a Society Service Award. Suggestions, with brief supporting information, should be emailed to the undersigned.

Doug Shaw, Secretary

ASC 2023: Call for Abstract Reviewers

The ASC 2023 Scientific Programming Committee (SPC) is currently seeking expressions of interest from SSA members interested in undertaking the peer review of abstracts for the conference. All areas of statistical expertise are welcome. The Australian Statistical Conference, partnered with the Australian Conference on Teaching Statistics (OZCOTS), will take place in Wollongong from 10th-15th December 2023.

Each reviewer will be responsible for blind reviewing up to 20 abstracts of up to 300 words aligned with their area of expertise and each abstract will have 2 reviewers. Review criteria and information on how to review the abstracts will be provided once the call for reviewers closes. **Reviewers must be available to review abstracts between April and May 2023**.

Selection of reviewers will be based on SSA membership and area of

expertise, with the number of reviewers based on the number of abstract submissions. If you are able to review abstracts, please complete the <u>online</u> registration form. Abstract reviewer registrations will close on <u>31st March 2023</u>

Call for nomination: Horizon Lectures, <u>Australian Statistical Conference</u>, 10-15th December 2023 (ASC 2023)

The Statistical Society of Australia (SSA) and ASC 2023 Scientific Programme Committee are delighted to open nominations for the inaugural Horizon Lectures, to be given at ASC2023 in Wollongong, 10th- 15th December 2023.

The Horizon Lectures aim to recognise emerging leaders in Australia's statistics community and their contributions to advancing statistical practice across academia, government, and/or industry. Lectures will be awarded to mid-career statisticians working in any discipline who have made an impact within their field(s) of expertise and have demonstrated leadership in building capacity in statistical expertise within Australia.

Up to three (3) Horizon Lectures will be awarded for presentation at ASC2023. All Lectures will be presented together as a plenary session to all conference delegates. Lectures can be on any area of statistics in line with the awardee's expertise. Each awardee will receive up to \$2,500 to cover conference and travel costs.

Nominations involve a written statement (up to 1,000 words) summarising how the nominee meets the award selection criteria. Nominees must be a member of the SSA and be employed as a statistician in Australia. Nominations must be supported by another member of the SSA.

Full details on eligibility, award selection criteria and submission are available in the nomination form, available on the <u>conference website</u>. Nominations must be submitted by **5 pm AEST, 28th February 2023**. Late nominations will not be accepted.

Questions about the Horizon lectures can be sent to ASC 2023 Scientific Programming Committee at <u>asc.ozcots2023@gmail.com</u>



SSA Events

Statistical Consulting Network February Meet-Up

Friday 24th February, 12:30-1:30 PM (AEDT), online

Come along with your thinking cap, maybe a problem, and some lunch!

The Statistical Consulting Network invites you to their monthly meet-up, a virtual lunchtime meeting where statisticians help each other out with problems that they aren't sure how to deal with. This virtual meeting is held on Zoom at lunchtime on the last Friday of each month, 12:30-1:30 PM (AEDT). We start each meet-up with announcements, or occasionally a special topic discussion, then discuss problems that attendees have brought along with them.

If planning to share a problem, please make sure you think about how to communicate the broader context for the study (What is the research question? How were data collected?), not just the part of it you are unsure about. If the problem relates to data properties and model-fitting then it might help to bring along some exploratory analyses. Please consider whether you need permission from your client to share these details, and obtain any relevant permissions from them.

We also have a Slack workspace where members of the consulting network can communicate between meetings, or post problems or relevant materials they would like to discuss during a meeting.

Zoom link

SSA Canberra Branch meeting: The trials and triumphs of survey estimation

You're invited to the Canberra Branch's first branch meeting of 2023! Join us for an engaging presentation by Dr Lauren Kennedy from Monash Uni (soon to be Uni of Adelaide) on the trials and triumphs of survey estimation. The event will be available both in-person and online, so you can participate no matter where you are.

Don't miss out on this exciting opportunity to learn from a leading expert in the field!

Date: Tuesday 28 Feb 2023

Time: 5:45pm – no later than 7:15pm AEDT

Venue: Allan Barton Forum, ANU College of Business & Economics, Building 26C, The Australian National University (<u>Building 26C ANU</u>), or via Zoom.

The Zoom link for the event is available <u>here</u>. It will be open from 5.30pm. RSVP is *not* required.

Looking for the abstract? Click here.

2023 Statistical Society of Australia (SSA) Welcome Event

1 March 2023, 5pm AEDT, online and in - person (in Vic and NSW)

Please join us at one of our first networking events for 2023. Anyone with an interest in statistics is welcome to attend to learn more about the SSA and its members.

We have an incredible group of presenters lined up to share their diverse perspective and experience of life as a statistician and their involvement with the SSA:

Ian Gordon

Professor Ian Gordon is the President of the SSA, the Director of the Statistical

Consulting Centre at The University of Melbourne and has more than 30 years of experience in applied statistics. In his spare time, Ian likes to do cryptic crosswords, rogaine, play cricket, and pat the dog.

Elizabeth Korevaar

Elizabeth Korevaar is a postdoc at Monash University researching statistical methods for meta-analysis of interrupted time series, and cluster randomised trial design and analysis. Lizzie is a member of the SSA Vic council and co-chair of the SSA Mentoring Program. Lizzie's favourite things about her work are the variety of subject areas and problems that statistical methods are used for, and discussions with the amazing Biostatistics community

Joanne Potts

Dr Joanne Potts is the Director of The Analytical Edge Statistical Consulting. Joanne has a wealth of experience working in statistics, across academic, government and the private sector. One thing Jo has learnt from many years working as a statistical consultant is you never stop learning! She thinks it is one of the best aspects of her job: the diversity of statistical methods and the areas of science in which they apply.

Zhi Yang Tho

Zhi Yang Tho is a PhD candidate at The Australian National University researching statistical methods for multivariate data. Zhi Yang also enjoys teaching undergraduate and postgraduate statistics, and is committed to inspiring students to enjoy statistics through the use of interesting, real-world problems

This event will be chaired by

Rheanna Mainzer

Dr Rheanna Mainzer is a biostatistician at the Murdoch Children's Research Institute and the Vice President of Membership for the SSA. Her current research examines methods for handling missing data in large-scale longitudinal studies.

Find out more and register here.

Small Area Estimation Workshop: Combining Census and survey data to create reliable local-area estimates by Andrew Ward.

8 Mar 2023, 1:00 PM – 5:00 PM (AEDT), online

The Statistical Society of Australia (SSA) and the Social Research Centre (SRC) proudly offer the workshop. This workshop will give an overview of considerations, methods, tools and outputs for small area estimation. Topics covered will include the following:

- Design considerations, including questionnaire items and sources of auxiliary data;
- Preparation of survey and auxiliary data for modelling;
- Model building and production of estimates; and
- Options for presentation and visualisation of results.

For more information on this workshop click here.

Expression of Interest in Survey and Data Science Courses in 2023–24

1 Jun 2023 (AEST) - 31 Oct 2024 (AEDT), online-weekly one hour classesthis is 6 courses offered over the next year

Due to the high demand for the Sampling Course in 2022 and strong interest in other courses from the <u>International Program in Survey and Data Science</u> (IPSDS) Masters program the Social Research Centre and Statistical Society of Australia have partnered again to expand IPSDS course offerings in Australia.

If you are interested in the Item Nonresponse, Sampling, Big Data/Machine Learning for Surveys and/or Weighting courses please register your interest so that we can determine whether there is sufficient demand.

To show your interest click <u>here</u>.

Save the date: ASC and OZCOTS 2023

10-15 December 2023, University of Wollongong, NSW

Find out more

Other Events

IASE webinars

The International Association for Statistical Education (IASE) presents our March 2023 webinar. Rolf Biehler and Yannik Fleischer, Paderborn University, Germany are presenting, and we welcome you all to join us. We also ask you to share this invitation with high school statistics teachers and other statistics education networks. We welcome IASE and non-IASE members to the session.

Details about the webinar are below and on our webinar page.

Machine learning in secondary statistics education - challenges and possible ways to address them

7 March 2023; 7am – 8:30am AEDT

Statistics is a field that is rapidly evolving towards data science, and with it, data-driven machine learning (ML) is emerging as a field with numerous applications that can be both beneficial and controversial. ML has been successful in producing useful applications for society, but it has also raised concerns about bias in algorithms and data, surveillance misuse, and delegating responsibility to machines. The general public often lacks access to ML and AI methods, which can lead to difficulty distinguishing between legitimate concerns and false suspicions. This is why ML and AI literacy should be an essential component of data literacy.

The Project Data Science and Big Data (ProDaBi, <u>www.prodabi.de/en</u>) at the Paderborn University is investigating which aspects of ML can and should be taught in secondary school statistics classes. We are developing and testing teaching materials for students in grades 5/6, 9/10, and 12/13. One of our primary focuses is on data-based decision trees as a specific ML method. For students in grades 5/6, we use an unplugged approach with data cards, while for older students, we use various digital tools such as CODAP for data exploration and semi-automatic decision tree construction, and Jupyter Notebook with integrated libraries in prepared environments that allow for applying ML algorithms without requiring coding skills from students.

During the talk, we will present our approach to ML in statistics education, our materials, and the use of digital tools, as well as the datasets we use. Nutrition data, data on media use of adolescents, and data from parking space occupancy are used by students to develop predictive models. We will also discuss the evaluation of models and sources of bias, as well as potential problems in the societal use of ML methods. Overall, our goal is to promote ML and AI literacy and equip students with the knowledge and skills they need to navigate this rapidly developing field in a responsible and informed manner.



Job vacancies in SSA's Career Centre

Consulting Statistician (early - mid career)

Victoria

Symbolix

We are looking for an early career Consulting ...

Postdoctoral Fellow

Australian Capital Territory

Australian National University

Classification: ANU Academic Level A Salary package: ...

Lecturer / Senior Lecturer in Biostatistics

South Australia

School of Public Health, The University of Adelaide

Applications must be submitted through The University ...

Senior Psychometric Analyst

New South Wales

Department of Education

Ongoing Full-Time Location: Parramatta (Hybrid ...

Biostatistician

New South Wales

University of Sydney

Full time fixed term (part time considered) until ...

View All Jobs

If you have news from the Australian statistical community to share in Stats Matters and Events, please get in touch <u>with us</u>! We love getting feedback too.

Unsubscribe