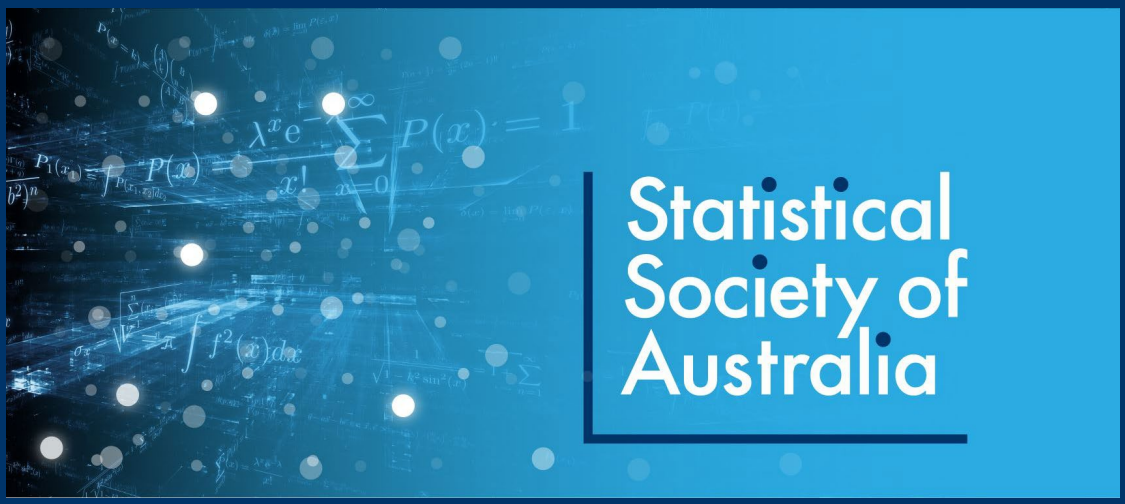
From: Statistical Society of Australia
To: Marie-Louise Rankin
Subject: Stats Matters & Events
Date: Thursday, 29 June 2023 4:20:15 PM



STATS MATTERS & EVENTS

29 June 2023

Many of us oldies remember a time when the landline would ring, and how our heart would do a little jump because we knew a friend or family member would be at the other end of the line.

These days, when the landline rings, I don't even pick up anymore, because 9 out of 10 times it will be a scammer. Before the novelty of the scammers wore off, my family would have a bit of fun with them. Sometimes I'd say I'd get my husband to talk to them, then instead I'd put our ten-year-old on the line. Or I'd go along with what they wanted me to do for a while and pretend I'm really checking my computer for the virus the scammer claimed it had. After a while my husband discovered a better method, saying things like "Hold on a minute, let me check that.," and put the receiver down for a while, coming back every five minutes or so, to tell them he'd be right back. The aim was to annoy the scammers, so they wouldn't call us again, and to keep them tied up so that they would have less opportunity to scam other people.

This week I saw on the news that there is now an AI bot, that does just that! APATE AI bots, named after the Greek goddess of deceit and fraud, are sophisticated artificial intelligence systems specifically programmed to engage with scammers and waste their time. These bots emulate human behavior and

communication styles, enabling them to convincingly interact with scammers and prolong the duration of their engagements. APATE AI bots act as virtual defenders, playing a crucial role in countering fraudulent activities and protecting potential victims. The APATE Project was developed at the Macquarie University Cyber Security Hub.

The primary objective of APATE AI bots is to frustrate, confuse, and ultimately waste scammers' time. These bots typically employ a combination of automated and human-like responses, designed to simulate real conversations with scammers. By imitating human behavior and responses, APATE AI bots can effectively engage scammers in lengthy interactions, diverting their attention from potential victims.

The more time scammers spend interacting with the bots, the less time they have to scam real people.

The bots are equipped with a range of sophisticated features that enhance their ability to deceive scammers. Natural language processing (NLP) algorithms allow them to comprehend and generate human-like responses, ensuring a convincing and seamless conversation. Advanced machine learning techniques enable the bots to learn from previous encounters, adapting their strategies to better counter scammers' tactics over time.

As scammers continue to exploit vulnerable individuals and businesses, innovative technologies like APATE AI bots provide a powerful defence against their malicious activities. By wasting scammers' time and gathering valuable intelligence, these AI bots play a crucial role in combating fraudulent schemes. As technology evolves further, it is imperative that we continue to invest in innovative solutions to protect individuals and create a safer online environment for everyone.

If you want to know more about APATE AI bots, click here.

Until next week!

Marie-Louise Rankin
Executive Officer

Read newsletter in your browser

In this newsletter:

Top-Up Scholarship Winners' reports

Greek government lodging appeal against European Court ruling siding with

Andreas Georgiou

SSA events

Other events

Current Job Vacancies

The reports have come in. Read about last year's **Top-Up Scholarship Winners** and how their scholarships helped them with their research.

Kylie Lange

I am very grateful to have been a recipient of a SSA PhD top-up scholarship for 2022. As I was coming back to full-time study after many years in the workforce there definitely was a financial impact, and the SSA scholarship helped to alleviate some of that pressure. The scholarship roughly spanned the second year of my PhD, and it has been both a busy and exciting time.

My PhD topic is 'Design issues for partially clustered trial', focusing on sample size methods for clinical trials where observations are partially clustered, conducted at The University of Adelaide, South Australian Health and Medical Research Institute and the Australian Trials Methodology Research Network.

I discovered early on in my research that while partial clustering occurs frequently in many settings, there was no consensus on how such trials are described. I therefore developed a unified framework of terminology and definitions for the range of partially clustered trials that occur in practice. During the scholarship year I was able to present this research (virtually) at the Current Developments in Cluster Randomised Trials and Stepped Wedge Designs conference held by Queen Mary University of London, and a paper was published earlier this year in Clinical Trials. I also presented at the SSA's Early Career and Student Statisticians Miniconference, speaking about my experiences building a statistical career without postgraduate qualifications, and why I am now undertaking a PhD. I also volunteered to present my PhD research to the clinical research group where I have worked as a biostatistician for 15 years. It was an interesting challenge to describe statistical research

methods, simulation studies, and where sample size formulae come from to an audience of medical doctors and research scientists!

Another major project I have undertaken in the last year has been a simulation study to assess the performance of generalised estimating equations (GEEs) and mixed effects models for the analysis of partially clustered trials, and whether existing GEE-based sample size methods are appropriate if the analysis is performed using mixed models. I will be presenting this work at the International Society of Clinical Biostatistics conference in August and the Australian Statistical Conference in December, with a paper currently in preparation.

I am looking forward to another rewarding year and I again thank the SSA for their support.

Matthew Sainsbury-Dale

My name is Matthew Sainsbury-Dale and I'm now in the final year of my PhD at the University of Wollongong (UOW), under the supervision of Associate Professor Andrew Zammit Mangion and Distinguished Professor Noel Cressie.

(with Raphaël Huser (left)
and Andrew Zammit-Mangion (right)

The last year has been a busy one for me. I spent 5 months in Saudi Arabia, working on my PhD with Professor Raphaël Huser's group at the King Abdullah University of Science and Technology (KAUST). I didn't know what to expect beforehand, but I had a great time in the end. KAUST is a bubble of sorts, an island of the West within the Middle East, so day-to-day life wasn't so different to life at home. We did, however, have many opportunities to explore the country, which has plenty to offer, from the corals of the Red Sea to the tombs of Hegra. An interesting place for sure. I also enjoyed the community at KAUST; people are welcoming and eager to socialise. It was a great experience and, for any students that have the opportunity to study abroad, I would highly recommend it!

Academically, I've been focusing on likelihood-free parameter estimation using neural networks. We now have an arXiv paper that provides an introduction to the topic. I'm currently working to extend the framework to (i) cope with missing data, using the EM algorithm, and (ii) to accommodate irregular spatial data, by employing graph neural networks. We've made good progress on these topics, and we expect to be able to report our findings soon.

I'll be presenting our research at several international conferences in the next couple of months. First at Extreme Value Analysis (EVA) in Milan, then at Spatial Statistics in Colorado, and finally at the Joint Statistical Meetings (JSM) in Toronto. I feel very fortunate to have these opportunities as a PhD student; a big thank you goes to my supervisors, Andrew and Noel, Raphaël and KAUST, and the Statistical Society of Australia for their generous top-up scholarship. After these conferences, it's hammer-and-tongs thesis writing, with an aim to finish before the Australian Statistical Conference (ASC) in December. Fingers crossed!

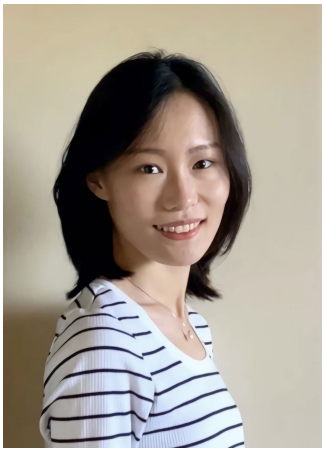
Malindrie Dharmaratne

I am extremely grateful to the SSA for awarding me a PhD Top-Up Scholarship. The scholarship eased my financial stress during the final year of my PhD. This scholarship was especially instrumental when I was writing up my thesis as I didn't have to take up additional tutoring hours during this time. I was also able to use funds from this scholarship to attend local conferences in my field of research. The gender balance quota system in awarding this scholarship ensured equitable opportunities for female early career researchers like me. Earning this scholarship was an honour and I have added this to my list of accomplishments during my PhD.

Jiaxin Zhang

I am deeply grateful for the opportunity and support from SSA top-up scholarship, which has been instrumental in shaping my academic and personal growth.

One of my most memorable experiences was utilising the funds awarded by the SSA to cover my personal costs during a two-week visit to a



prestigious research group at the University College London last year. This experience allowed me to work closely with esteemed researchers, learn from their expertise, and contribute to cutting-edge research initiatives.

By sharing my work with them, I have gained recognition for my contributions and received valuable feedback that has further refined and strengthened my research. The meetings and discussions I had with them deepened my understanding of my field, broadened my perspective, and enhanced my communication skills with my collaborators.

Apart from the visit, I've also been encouraged by feedback from the SSA top-up scholarship committee "The combination of multiple imputation and causal inference outlined in your application sounds like a rich area of research and look forward to hearing more about it as your work progresses". I appreciate the recognition bestowed upon me by the committee, and I am filled with a sense of pride and anticipation for my ongoing work. It was the end of last year when my supervisors and I were deliberating on the topic for the final paper of my PhD. Among the three proposed topics, I boldly decided to embark on the most challenging one. Despite the concerns regarding the workload and uncertainties surrounding this topic, I was fuelled by its potential and deemed it a risk worth taking. Although this work is ongoing, I'm pleased to reply to the committee that it had significant progress regarding the current results. We plan to extend it to broader areas in causal inference with missing data issues.

I feel thankful for the trust they have in my abilities and the dedication they show in supporting young scholars such as myself.

Greek government lodging appeal against European Court ruling siding with Andreas Georgiou

As reported by "Breaking Latest News", the Greek government is continuing its fight against statistician Andreas Georgiou, who revised the country's deficit

figures upwards during his time as the head of the Greek statistical office. Despite international bodies confirming the accuracy of his revisions, the government and judiciary have persisted in prosecuting Georgiou. Recently, the government appealed against a ruling by the European Court of Human Rights that stated Georgiou was denied a fair trial.

Many economists, including Megan Greene, chief economist at consultancy Kroll, which is about to join the Bank of England's monetary policy committee, have expressed concern over the government's actions and believe Georgiou is being made a scapegoat for past manipulations of deficit numbers. The Greek government's actions may hinder their goal of attaining investment grade status for Greek government bonds.

Georgiou, who now resides in the United States, has faced numerous court cases and financial difficulties as a result of the ongoing legal battles. Despite his expertise and international recognition in the field of statistics, his career has been adversely affected by the situation.

In 2018, the Statistical Society of Australia (SSA) co-signed a statement initiated by the American Statistical Association together with close to fifty other organisations and over 1,000 individuals, calling on Greek authorities to halt the legal proceedings against Andreas Georgiou.

Read more

Mentioned in previous newsletters:

SSA Branches have opened applications for funding to attend ASC/OZCOTS 2023

Branches of the Statistical Society are offering funding for student and early career members of the society to attend the Australian Statistical Conference (ASC) and Australian Conference on Teaching Statistics (OZCOTS) in Wollongong, 10th - 15th December 2023. All branch funding will cover registration to the conference, with some branches covering additional travel if funds allow. For full details see each branches' announcement.

- Canberra (check your email for 'Canberra branch ASC & OZCOTS 2023 rego grant')
- NSW (application form)
- Queensland (application form)
- South Australia & Northern Territory (application form)
- Victoria & Tasmania (application form)

Western Australia (application form)

With best wishes,

ASC & OZCOTS 2023 Programming Committee

SSA Equity, Diversity and Inclusion Committee: We want you!

The SSA's Equity, Diversity and Inclusion (EDI) Committee is charged with ensuring that our Society is welcoming and accessible to all. Since its formation in 2021, we've done many things to ensure diversity of our Society, including developing guidelines to help ensure Branch and Section events are welcoming and inclusive, seeking feedback on EDI issues from our members, and providing feedback to the Australian Bureau of Statistics on the inclusion of questions on sex and gender in future censuses. You can find out more about the committee here.

If you're enthusiastic about equity, driven by diversity, or interested in inclusion, then we'd like to invite you to join the EDI Committee. For more information, please get in touch with the EDI Committee chair, Jess Kasza.

SSA Events

Statistical Consulting Network May Meet-Up

30 June 2023, 12:30 PM – 1:30 PM AEST, held 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.

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

Slack Workspace link

Check out these pre-conference workshops held in Wollongong on 10 December 2023:

- Essential Skills for Statistical Communication presented by Professor Sir David Spiegelhalter, University of Cambridge and Dr Linden Ashcroft, University of Melbourne

  The workshop will include a panel discussion. Presenters Prof David Spiegelhalter and Dr Linden Ashcroft will be joined by applied mathematician and science communicator Dr Sophie Calabretto, and ABC journalist and 'lapsed mathematician', Casey Briggs, to share their experiences.

- Statistical Consultancy – The Essentials for Getting Started and Ongoing Success Presented by Professor Julie Simpson, University of Melbourne, A/Professor Emily Karahalios, University of Melbourne and A/Professor Karen Lamb, University of Melbourne, A/Prof Sue Finch from The University of Melbourne and

- Deep Statistics for More Rigorous and Efficient Data Science presented by Professor Xiao-Li Meng, Harvard University

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Australian Statistical Conference (ASC) and Australian Conference on Teaching Statistics (OZCOTS)

10th - 15th December 2023, Wollongong

Other events

AMSI Winter School 2023 on Modelling our Changing Biosphere.

3 Jul 2023 – 14 Jul 2023

Applications are open for AMSI Winter School 2023 on Modelling our Changing Biosphere.

Hosted by QUT from 3-14 July this national research training and networking event is designed specifically for postgraduate students, early career researchers and industry professionals looking to upskill. The focus of the 2023 program is the Earth's biosphere, which encompasses the interconnected physical and biological systems that support human life. Participants will explore how mathematical modelling can help to preserve and sustain our biosphere in the face of human-driven change.

For more information click here.

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SMC Down Under

10 Jul 2023 – 13 Jul 2023, held at the Queensland University of Technology (QUT), Brisbane, Australia

SMC Down Under is a workshop on **sequential Monte Carlo** at Queensland University of Technology (QUT), Brisbane, Australia from 10-13 July.

The workshop will bring together the SMC community to discuss the theory and practice of sequential Monte Carlo. The workshop will consist of contributed talks, posters, and collaborative sessions to discuss current trends in SMC and its future directions.

They have a great line up of keynote speakers: Dr Francesca Crucinio, Professor Sumeetpal Singh, and Dr Saifuddin Syed.

Workshop registration and abstract submission are open. Please note that abstract submissions close **5 May 2023.** The website has all the details.

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64 World Statistics Congress

16 Jul 2023 (EDT) – 20 Jul 2023 (EDT), held in Ottawa, Canada

The 64th WSC 2023, to be held 16-20 July in Ottawa, Canada, will highlight the developments and contributions of statistics, statistical science, and data science in all aspects of life, particularly the well-being and welfare of people. The WSC 2023 will host talks and presentations on a wide variety of topics, with the overall goal of presenting a balanced program that provides a sense of the current state and future direction of statistics and their applications.

The program will span the full field of statistics including academia, business, industry, government and official statistics in line with the breadth of ISI and the Associations affiliated with ISI. Topics include but are not limited to official statistics, survey statistics, environmental statistics, business and industrial applications of statistics, mathematical statistics, probability, statistics and data science, statistics education, statistical literacy, statistical computing and data visualization.

The opening of the submission process, which is planned for March, will be announced on the congress website WSC 2023.

General enquiries about the Scientific Program should be directed to scientific@isi2023.org.

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IWSM 2023- The 37th International Workshop on Statistical Modelling

17 Jul 2023 – 21 Jul 2023, held at the Dorint-Hotel in Dortmund, Germany

The IWSM 2023 program is currently in the planning stage and will be announced here as soon as it is fixed

Keynote Speakers

- Gillian Heller (AUS, University Sydney)
- Simon Wood (UK, University Edinburgh)
- Maria Iannario (ITA, University Naples)
- Brian Reich (US, NC State University)
- Sports Analytics group of the football team Borussia Dortmund (the speaker will be announced soon)

Deadlines

The deadline for oral short paper submission has been extended to 7 March 2023.

The deadline for poster short paper submission is 31 March 2023.

Details for submissions are available here.

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Spatial Statistics 2023: Climate and the Environment Inbox

18 Jul 2023 – 21 Jul 2023, held at the University of Colorado Boulder, USA

Welcome to the 6th Spatial Statistics conference, which will be held at the University of Colorado Boulder, USA, from 18 - 21 July 2023 under the theme Climate and the Environment.

The conference will provide a forum to debate and discuss how to use spatially referenced data to advance our understanding and provide support for decision making in the domain of Earth system dynamics.

This conference will focus on climate change dynamics, their causes, their effects and their future. The conference theme will be the perspective of the Earth as a unified system with connections and feedbacks between physical and biological spheres and also human activities. Crucial developments in the methodology are in new scalable methods, spatio-temporal statistics, prediction and statistical aspects of modeling, like spatial and spatio-temporal extremes, attribution and forecasting.

For more information click here.

Current Vacancies in SSA's Career Centre

Professor in Financial Mathematics or Mathematical Statistics

Other

University of Leuven (KU Leuven)

The Faculty of Science at KU Leuven (Belgium) ...

Lecturer in Mathematics and Statistics

Western Australia

Murdoch University

See Murdoch University's web page for information ...

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