

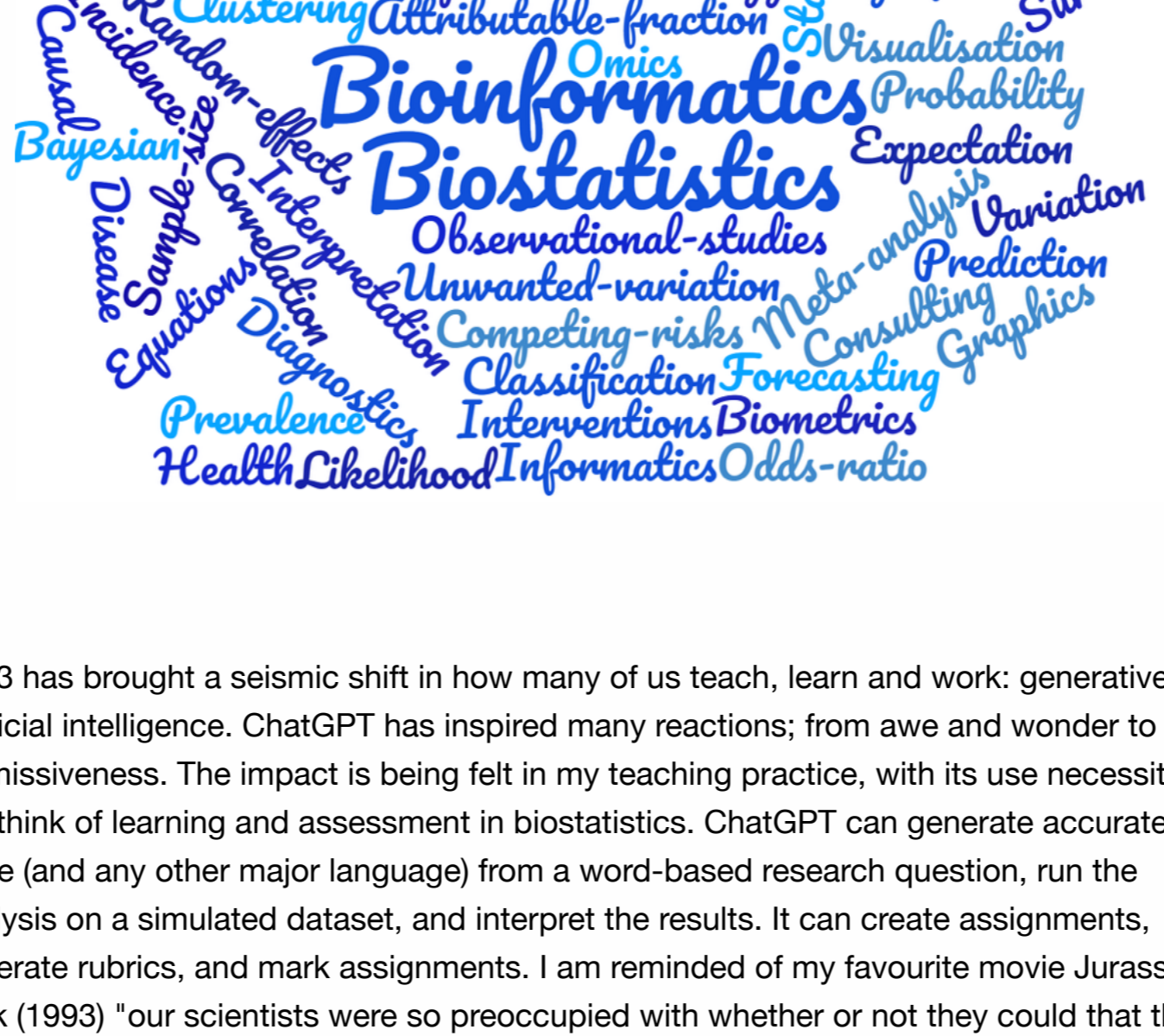
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SSA Biostatistics & Bioinformatics Newsletter

Q1 2023

Welcome to the SSA Biostatistics and Bioinformatics Newsletter for Q1 2023



2023 has brought a seismic shift in how many of us teach, learn and work: generative artificial intelligence, ChatGPT has inspired many reactions; from awe and wonder to dismissiveness. The impact is being felt in my teaching practice, with its use necessitating a rethink of learning and assessment in biostatistics. ChatGPT can generate accurate R code (and any other major language) from a word-based research question, run the analysis on a simulated dataset, and interpret the results. It can create assignments, generate rubrics, and mark assignments. I am reminded of my favourite movie, Jurassic Park (1993) "our scientists were so preoccupied with whether or not they could that they didn't stop to think if they should." While ChatGPT may not chase and eat us, it does force the contemplation of some critical questions. What are we really trying to teach our students? What are the attributes that our graduates must have? How do we assess these attributes fairly and appropriately in this new era?

In other news, preparations are being finalised for the 2023 Australian Statistical Conference (ASC) and Australian Conference on Teaching Statistics (OZCOTS), which will take place in Wollongong from the 10th to the 15th of December 2023. It is shaping up to be a fantastic meeting and we look forward to seeing you there.

KAM
On behalf of the BnB committee

Careers Corner

SSA Careers Centre
https://careers.statoc.org.au

Featured Positions

Graduate or Early Career Statistical Consultant
Data Analysis Australia
Western Australia

Senior / Principal Research Fellow / Professor in Biostatistics
Charles Sturt University
Orange, Blue Mountains & Central West NSW

Trainee Biostatistician
Ministry of Health
Sydney NSW

Senior Research Fellow/Ass. Professor, Biostatistics, Clinical Research Unit
University of New South Wales
Kensington, Sydney NSW

Upcoming Events

UPCOMING EVENTS

SSA WA: Early Career & Student Statisticians Evening

The WA Branch of the Statistical Society of Australia are delighted to host an evening dedicated to Early Career and Student Statisticians. All visitors are welcome to attend this event, especially anyone studying or interested in pursuing a career in statistics.

Date: Tuesday, 9 May 2023
Time: 5:30PM - 7:00PM (Livestream starts at 6:00PM)
Location: Cheryl Praeger Lecture Room, The University of Western Australia
Cost: Free. Drinks and pizza sponsored by the Branch.

Two speakers have been invited to speak at this event: Sophie Giraudou (recipient of the 2022 Honours Scholarship) and Tim Pesch (PhD student at UWA).

SSA NSW May event: Dr Gery Geenens - Towards a universal representation of statistical dependence

We are happy to announce a seminar by Dr Gery Geenens and Qian Jin. We hope to see you all there.

Any questions, please feel free to contact: secretary.nswbranch@statoc.org.au.

Date: Wednesday, 17th May 2023
Time:
5:30pm - 6:15pm: Qian Jin
6:15pm - 6:30pm: Break
6:30pm - 7:30pm: Gery Geenens
7:30pm onwards: Dinner (at a nearby restaurant). Please **RSVP for dinner** to attend.

Venue: Room 4082, Anita B Lawrence Centre (formerly Red Centre), UNSW Australia or via zoom (link to be sent).
RSVP: Please use the register via [this page](#) if you are attending in person.
Please **register here** if you would like to attend online and receive zoom link and details.

Statistical Consulting Network May Meet-Up

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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 (AEST). 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.

Friday 26th May, 12:30-1:30 PM (AEST).
Zoom link: <https://unsw.zoom.us/j/86501152277?pwd=SVFCaU10URxYU2aHFCN9Y2RjZz09>
Slack Workspace link: <https://app.slack.com/client/T03A8UK5H2M/C039PLRTY52>
[Show details](#)

When
26 May 2023
12:30 PM - 1:30 PM (AEST)

How to Become a Fellow of the Australian Academy of Science

Are you interested in learning about the nomination process for Australian Academy of Science (AAS) fellowship and strategies for improving gender balance within the Academy? Join the Australian Mathematical Society (AustMS), Women in Mathematics Special Interest Group (WIMSIG), and the AAS for an online information session on May 31st 2023 from 1:00 pm - 2:00 pm AEST.

Featuring presentations from accomplished AAS Fellows and a Q&A panel discussion, this event is a valuable opportunity to gain insights into the AAS nomination process and connect with peers in the scientific community.

Don't miss this chance to learn about the nomination process and connect with some of the amazing AAS Fellows. Register now to secure your spot!

Registration link: <https://www.eventbrite.com.au/e/wimsig-information-session-on-aas-fellow-nomination-process-tickets-623407066317>

When
31 May 2023
1:00 PM - 2:00 PM

SMC Down Under
10 Jul 2023 - 13 Jul 2023
Location: 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 below has all the details:

<https://research.qut.edu.au/qutcds/events/smc-down-under-23/>

The workshop is sponsored by the Australian Mathematical Sciences Institute, Australian Mathematical Society and QUT Centre for Data Science.

64 World Statistics Congress

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](#).

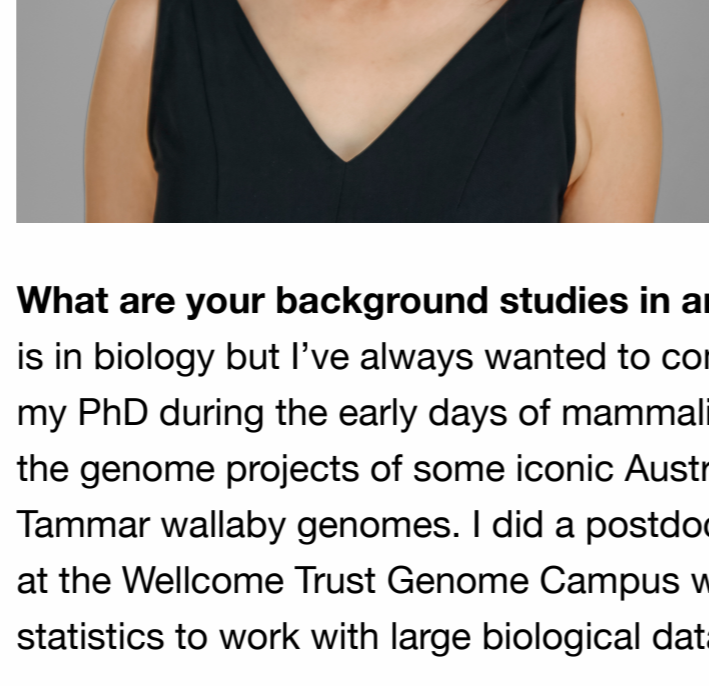
General enquiries about the Scientific Programme should be directed to scientific@isi2023.org.

For more information please click [here](#).

16 Jul 2023 - 20 Jul 2023
Ottawa, Canada

Meet our mailing list

An Interview with Dr Emily Wong



Where do you currently work?
Head of Regulatory Systems lab at the Victor Chang Cardiac Research Institute and affiliated with UNSW Sydney

What field do you associate with, biostatistics or bioinformatics (or both)?
Bioinformatics (but I identify as a biologist and envy biostatisticians)

What are your background studies in and how did you join this field? My background is in biology but I've always wanted to combine this with a more informatics focus. I did my PhD during the early days of mammalian genome sequencing where was involved in the genome projects of some iconic Australian mammals including the platypus and Tammar wallaby genomes. I did a postdoc at the European Bioinformatics Institute in UK at the Wellcome Trust Genome Campus where I used informatics and most importantly statistics to work with large biological datasets to understand biology.

Why did you want to work in this field? Genomics research is very exciting and fast-moving. I love seeing how statistics/informatics can be applied in such a way on biological datasets to discover novel biology. Compared to the wet lab, computational research allows you to run experiments quickly and cheaply to test your latest hypothesis. There is a creative component there too which is exciting as you need to craft your experimental plan and structure in a way to address your question. Because many hypotheses turn out to be wrong in science, the speed and lack of expense (bench work is expensive!) associated with computational work gives you the opportunity to test many hypotheses. There are also so many datasets publicly available that you can published top-notch genetics research discovery new biology without touching a pipette.

What is the most exciting concept/idea upcoming in your work or field? I think the use of deep learning as a tool to understand biology. The performance of some of these models on classification of genomic regions and cell types are impressive but as I biologist I want to understand and interpret the black box because there is still so much unknown in the way the genome functions. I'd like to see deep learning and other machine learning methods used to discover new biology. To do this we need to combined ML with validation experiments. As there is tremendous growth also in the areas of synthetic biology, single cell biology and DNA/RNA sequencing, we have also started working these technologies.

If you didn't pursue biostatistics and/or bioinformatics, what would have been your alternate career? Maybe a writer or an investigative journalist (although I'm not sure I'd be any good!)

Want to be featured in the next member profile?



We are always in need of more member profiles. It's a great way to get some exposure to our >500 readers. If interested, please let [Alberto Nettel-Aguirre](mailto:Alberto.Nettel-Aguirre) or [Nicola Armstrong](mailto:Nicola.Armstrong) know.

Podcasts & Blogs



Anatomise Biostats
A great blog by Anatomise Biostats and bioinformatics firm, specialising in biostatistics and bioinformatics services. Frequently updated with topics ranging from the relevance and use of p-values and confidence intervals to the role of biostatisticians, Bioinformaticians & other Data Experts in Clinical Research (to name the last 2 posts), it is a great resource to stay up to data with recent trends and gain insight into issues we face working in the field.

<https://anatomisebiostats.com/biostatistics-blog/>



The Bioinformatics Chat
A wonderful podcast about computational biology, bioinformatics, and next generation sequencing. In this podcast, host Jacob Schreiber interviews bioinformaticians from academia and industry, diving into modelling approaches and applications in various life science domains. With over 60 podcasts already available, it's a great resource to explore new concepts and get technical understanding of different modelling techniques.

<https://bioinformatics.chat>

Do you have a favourite statistical podcast or blog?

If you would be happy to provide a brief overview of your favourite statistical podcast or blog to feature on our mailing list, please contact [Kylie-Ann Mallitt](mailto:Kylie-Ann.Mallitt) with the details.

Featured articles

Evaluation of open search methods based on theoretical mass spectra comparison
Albane Lysiac^{1,3†}, Guillaume Fortin^{1†}, Géraldine Jean^{1†} and Dominique Tessier^{2,3†}

<https://bmcbioinformatics.biomedcentral.com/articles/10.1186/s12859-021-03963-6>

In this paper Lysiac et. al. present methods for assessing the quality of Open Modification Search (OMS) methods. The OMS have been a good way for researchers to better characterize proteins based on spectra, yet the quality had not been thoroughly assessed. The authors cleverly use theoretical spectra only, which, as we non bioinformatician I am, I understand to play the role of "simulated" data where we control or know what to expect. Hence the authors can have a good measure of the methods used. Based on their results they make recommendations on strategies to be used when using OMS.

- Alberto Nettel Aguirre

Recent publication that you'd like to share?
We love learning about all things related to biostatistics and bioinformatics. If you have a recent publication (your own or other) that you'd like to have featured in our newsletter, please contact [Nicola Armstrong](mailto:Nicola.Armstrong) with the details.

Closing comments

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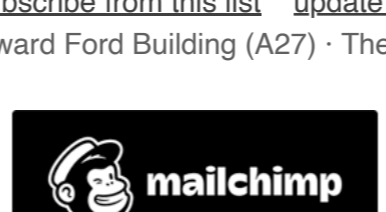
Our Section is interested in biostatistics and bioinformatics and we are looking for ways to make your membership of more use to you. We are all committed to assisting our membership with the content of this newsletter, whether it helps your career in these fields or raises new opportunities for getting involved in the fields. As such, we need to hear from our members, especially regarding ideas for events, presentations, and/or workshops that we are not aware of, or that you'd like to see happening. We hope you enjoyed reading all different parts of the newsletter. Feel free to suggest other items for newsletter.

If your colleagues would like to receive this newsletter, they can sign up via mailchimp

To view previous newsletters please see our [section's webpage](#).

Social media

We encourage all our members to follow our activities on our social media account links below. We actively promote upcoming events, job opportunities and relevant material. Our online community is growing on Facebook and Twitter! If you have any material you would like us to promote on our social media outlets or share with fellow members, please let [Kylie-Ann Mallitt](mailto:Kylie-Ann.Mallitt) know.



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