

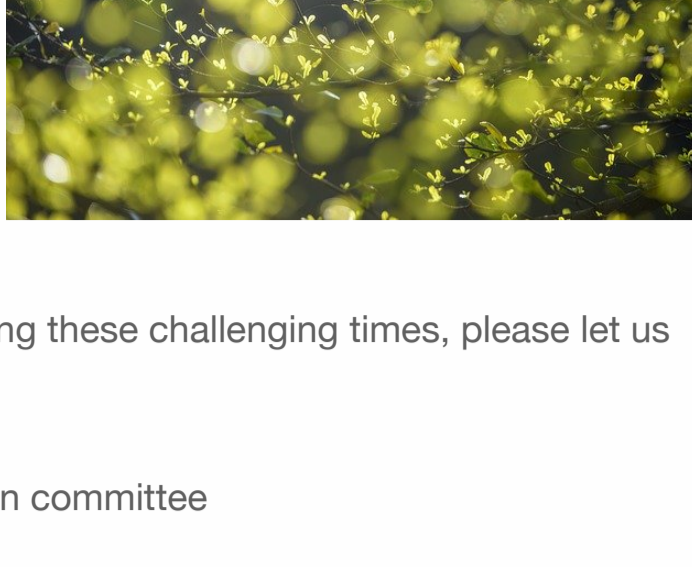
SSA Biostatistics & Bioinformatics Newsletter

Q2 2020

Welcome to our second newsletter of 2020!

The Biostatistics and Bioinformatics section committee hope you, your family, and your friends are keeping well. In particular those who are in Melbourne Lockdown 2.0, self-isolating or self-quarantining. Many of you have probably adapted to the new "normal" and are forging ahead!

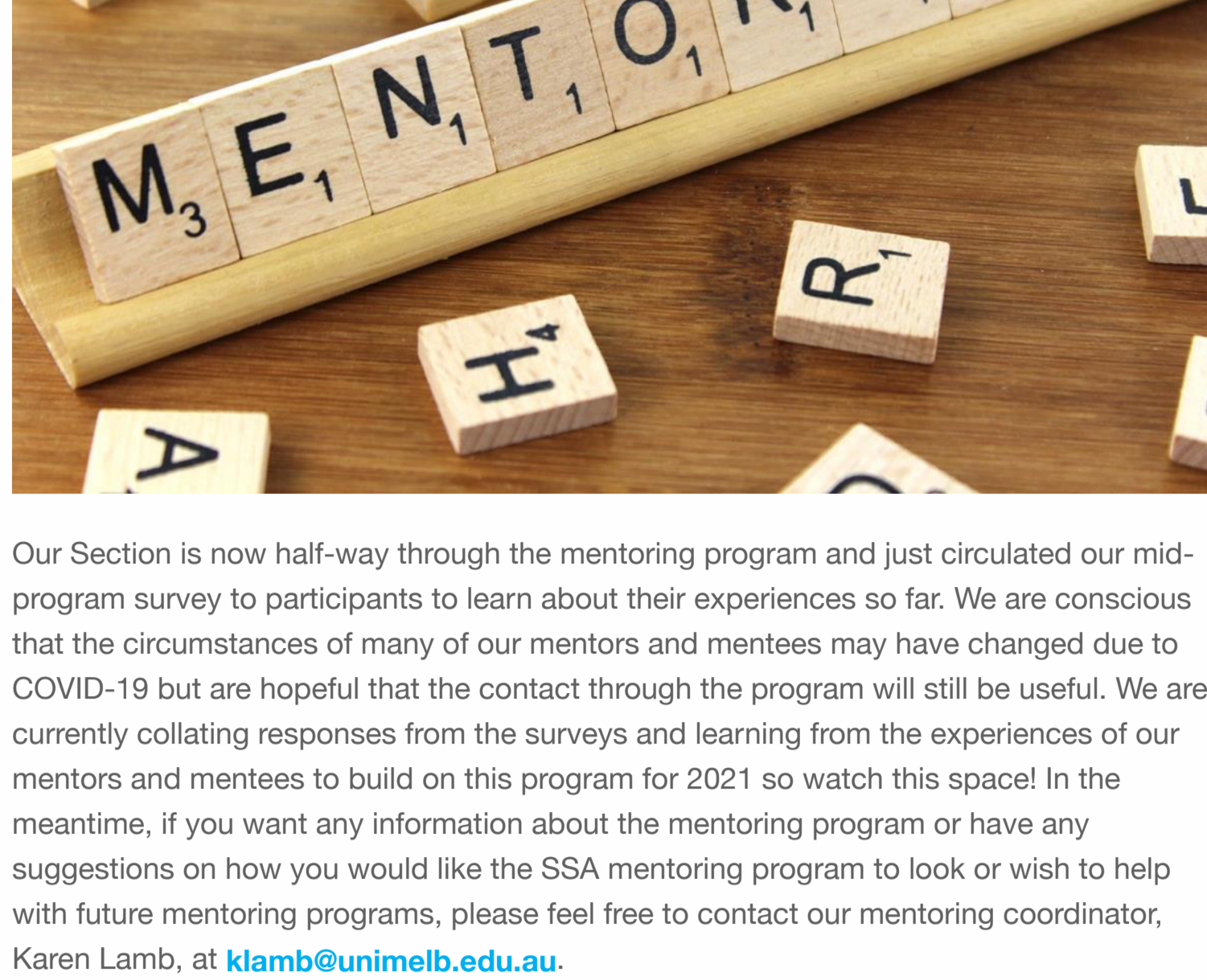
This newsletter contains updates on our mentoring program pilot and statistical consultancy workshop. Also, we have included some resources that may be of interest for those whose research may have been impacted as a result of this pandemic. Finally, to help you "stay at home", check-out our selection of favourite statistical podcasts.



If you have any ideas to support you better during these challenging times, please let us know, we are there for you!

The SSA Biostatistics and Bioinformatics section committee

SSA Biostatistics & Bioinformatics section mentoring update



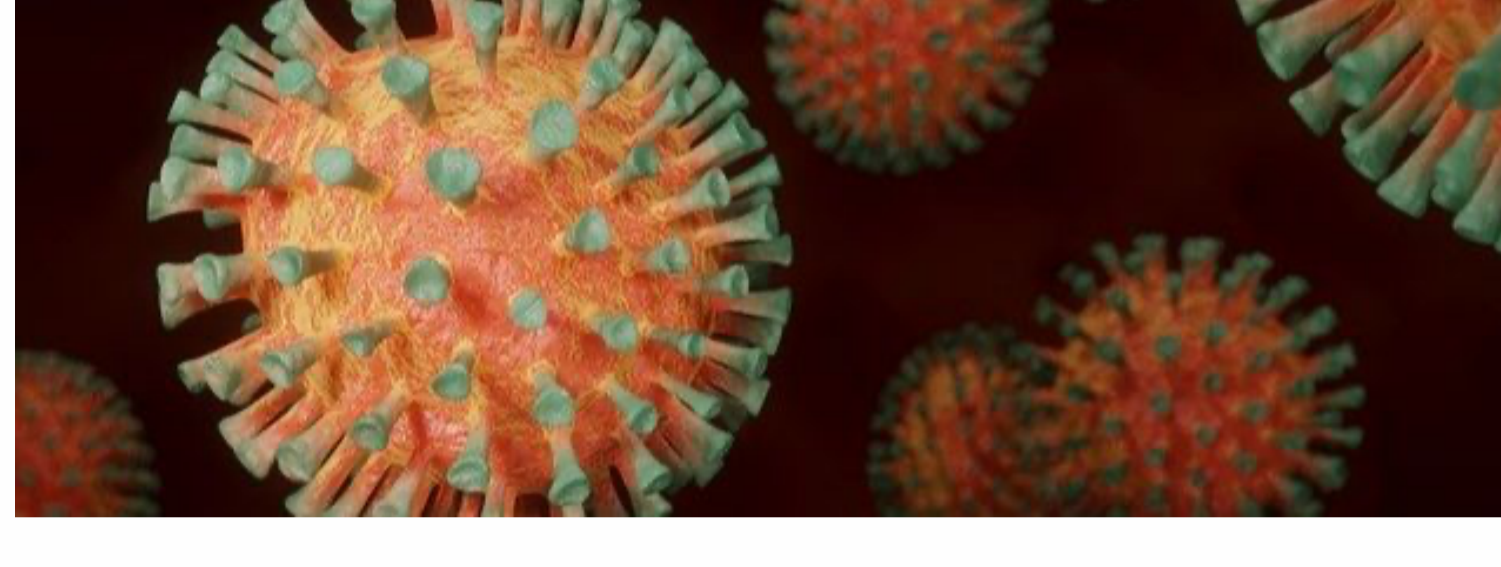
Our Section is now half-way through the mentoring program and just circulated our mid-program survey to participants to learn about their experiences so far. We are conscious that the circumstances of many of our mentors and mentees may have changed due to COVID-19 but are hopeful that the contact through the program will still be useful. We are currently collating responses from the surveys and learning from the experiences of our mentors and mentees to build on this program for 2021 so watch this space! In the meantime, if you want any information about the mentoring program or have any suggestions on how you would like the SSA mentoring program to look or wish to help with future mentoring programs, please feel free to contact our mentoring coordinator, Karen Lamb, at klamb@unimelb.edu.au.

In addition to coordinating the mentoring program, one of our committee members, Karen Lamb, took part in the SSA Victorian Branch mentoring evening on 23rd June. This two-hour event, conducted online via Zoom, consisted of short career presentations from a diverse group of senior mentors, as well as one-to-one discussion sessions between an early-career statistician and more experienced statistician to allow junior members to learn from more senior members. These conversations were conducted in a "speed dating" format to enable mentees to meet multiple mentors over the course of the evening. Karen really enjoyed the opportunity to meet with early career statisticians to discuss their career challenges, aspirations and to share her own experiences.

Resources related to COVID-19

You may be engaged and involved in the consequences of the pandemic on clinical trials and observational studies either via ongoing or new projects. Our Section is actively collating resources on the methodological aspects that you may have to tackle, for example:

- When discussing the impact of COVID-19 on ongoing clinical trials, the European Medicines Agency has finalised a [point to consider document](#) and the Food and Drug Administration (FDA) has finalised a [guidance document](#). Furthermore, a publication on [statistical issues and recommendations](#) for and challenges in assessing the impact on [integrity and interpretability](#) of clinical trials.
- When designing trials of interventions for COVID-19, a publication on efficient [adaptive designs](#).



This space is rapidly evolving. We welcome input from our member to help us collate a list of documents and publications on the topic of biostatistics and bioinformatics methodology to deal with the impact of the pandemic on both ongoing and new trials and studies. Please contact [Sabine Braat](#) or [Karen Lamb](#) if there is any resource you would like to share with other members of the Biostatistics and Bioinformatics Section.

Finally, the SSA has compiled some general [resources](#) on COVID-19.

Meet our mailing list



Name: Sandra Louw

Where do you currently work? I work as a statistician at McCloud Consulting Group, a contract research organisation providing biometric services to medical researchers, pharmaceutical and biotechnology companies.

What field do you associate with, biostatistics or bioinformatics (or both)? Biostatistics. In my job I use statistics for the design and analysis of clinical trial data. I also use machine learning techniques to analyse biological data.

What are your background studies in and how did you join this field? I studied statistics and actuarial studies at university. I became interested in biostatistics after attending the 2003 National Undergraduate Statistical Careers Summit in Canberra and hearing about the work of biostatisticians in the pharmaceutical industry. After watching a presentation by my (now) manager Philip McCloud I decided to pursue a career as a biostatistician instead of as an actuary.

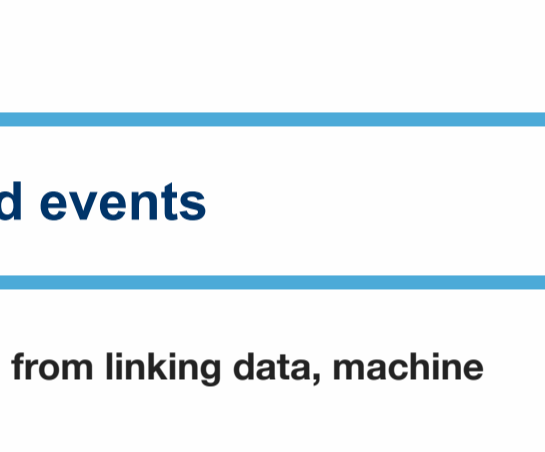
Why did you want to work in this field? I loved the idea that every time we analyse a clinical trial, we progress our knowledge of medical science. I also thought it would be exciting to be the first person to see the results of a clinical trial and break the good news (or bad) to the stakeholders.

What is the most exciting concept/idea upcoming in your work or field? It's exciting to see the combination of statistics and machine learning techniques being used to solve medical problems, for example for prediction in wide datasets with lots of patient features.

If you didn't pursue biostatistics and/or bioinformatics, what would have been your alternate career? If I wasn't a statistician I would like to be a fiction writer. I can imagine spending my days reading and writing, discussing books at writers' conferences, and attending the movie sets of my books as they get turned into movies!

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 >200 readers. If interested, please contact [Nicole De La Mata](#).



SSA webinars and events

How to make a learning healthcare system work: from linking data, machine learning to ethics by Dr Katrien Groenhouf

Our Section kicked off our first webinar of the year on 27th May with a members-only presentation from Katrien Groenhouf from the Netherlands. Katrien took time out of her busy schedule as a resident in obstetrics and gynaecology to give us an instructive overview on prior research she conducted as part of her PhD on learning from administrative health care data. Her research focused on the development of a learning healthcare system for cardiovascular risk management and involved expertise and collaboration between care professionals and clinicians, as well as data scientists. Katrien highlighted to us the importance of this collaborative work and understanding where data come from and how it will be used by clinicians in managing care. She provided insight into how routine care data can be used to improve care, how data sources can be linked to understand health and how challenging it can be working with data not designed for research purposes. The seminar ended with breakout sessions to enable attendees to chat to one another and Katrien to answer questions in small groups. Any SSA members who missed the webinar can access it [online here](#).

Getting to know our "cell mates": a practical approach to microbiome analysis through a biostatistician's lens by Dr Elasma Milanzi

On 19th June, Dr Elasma Milanzi shared her journey as a biostatistician into the field of microbiome analysis explaining the processing of raw reads, alpha and beta diversity, exploration and visualisation of microbiome data, and statistical methods for analysis of microbiome data in R. The webinar was attended by both members and non-members of the SSA. The recording will become available soon, please check out the [SSA website](#).

Two webinars on bioinformatics topics will be hosted later this year, including Professor Jean Yang (University of Sydney) and Professor Melanie Bahlo (Walter and Eliza Institute of Medical Research). All upcoming SSA webinars and events can be found [here](#).

Podcasts



Our [previous newsletters](#) have covered a range of biostatistics and bioinformatics blogs and podcasts. In this newsletter, we are highlighting a few podcasts that might interest our mailing list readers.

The R Podcast

This podcast provides advice, information and tips to tap into the power of R. There are 33 episodes you can listen to [here](#) that cover a range of topics including R markdown, Shiny R, reproducible analyses, ggplot and more. Eric Nantz is the creator of this podcast as well as a [youtube channel](#) and [website resources](#) to shape you into an R expert.



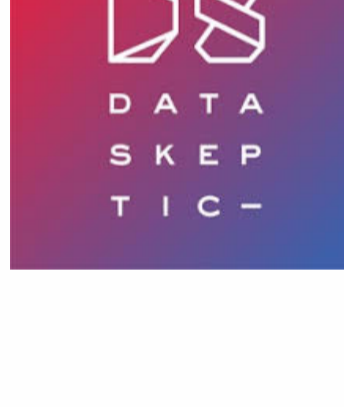
Stats + Stories

"Statistics need Stories to give them meaning. Stories need Statistics to give them credibility." What a beautiful blend of concepts to bring life to statistics and its purpose. Hosted by John Bailor, Richard Campbell and Rosemary Pennington, every Thursday they interview a guest speaker to bring the Statistics behind the Stories and the Stories behind Statistics. This podcast has a mammoth 157 episodes to surely keep you entertained at home. All episodes [available here](#).



Data Skeptic

This podcast has something for everyone with 300 episodes available that cover a range of interviews and discussions on data science, statistics, machine learning, artificial intelligence and alike. Hosted by Kyle Polich who critically evaluates scientific methodology, the veracity of claims and efficacy of approaches. Enjoy all episodes [here](#).



Do you have a favourite statistical podcast or blog?

We'd love to have your input to grow our lists. Perhaps you would be happy to provide a brief overview of your favourite statistical podcast or blog to feature on our mailing list. If so, please contact [Karen Lamb](#) with the details.

Featured articles

Estimating risk ratios and risk differences using regression
Naimi, A.I. and Whitcomb, B.W., 2020. *American Journal of Epidemiology*

One of the most commonly used regression for the binary outcome data is the logistic regression. In epidemiology there is enough literature which has shown that use of the relative risk estimate might be more insightful and easy to interpret compared to the estimate from the logistic regression. However, when it comes to the estimation of the relative risk one may compute this using the log-binomial regression in any standard statistical software. However, a common issue with the use of the log-binomial regression is the convergence issue. Many researchers have shown how to use the log-linear regression to estimate the relative risk as such, but, not much focus is given to the estimation of the standard errors. In this paper by Naimi and Whitcomb (2020) they describe how to estimate the relative risk using the standard glm method and also how to estimate the standard errors. For example, the glm method in Stata can be specified as "glm y x c, family(poisson) link(log) vce(robust)". The glm is the generalised linear model command with the outcome variable (y), the exposure (x) and the set of confounders (c). The command, family, indicates that one is using, Poisson, with the link function being, log, and the variance covariance matrix being specified using the vce option (robust) where the standard errors are estimated using the Sandwich estimator.

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 [Nicole De La Mata](#) with the details.

Statistical Consultancy Workshop

We are going online with our workshop on statistical consultancy!



The workshop is designed to provide participants with an understanding of some of the key skills involved in biostatistical consultancy. This will cover a range of topics including how to run a consultancy service and how to reach and interact with different clients. The workshop will feature presentations from statisticians experienced in biostatistical consultancy, as well as an interactive panel session to allow participants to pick the brains of our experts!

This workshop is aimed at statisticians who provide statistical advice, analysis, and training to non-statisticians. This workshop will be of greatest interest to recent graduates and early career researchers who are keen to develop their skills in this area.

Preparations are ongoing and will be announced via the SSA weekly newsletter and [website](#) as soon as possible.

Other upcoming events

While there is generally a range of other events of interest for our biostatisticians and bioinformaticians, the schedule of events have been substantially impacted by the COVID pandemic and many events have been cancelled. Please always check out the conference website to ensure you have the latest information on the conference. On the other hand, this has led to the creation of many virtual events that are often more affordable and accessible.

STATA conference 2020

Virtual conference, 30th-31st Jul 2020

Joint Statistical Meeting 2020

Virtual conference, 2nd-6th Aug 2020

41st Annual Conference of International Society for Clinical Biostatistics

Virtual conference (previously Kraków, Poland) 23th-27th Aug 2020

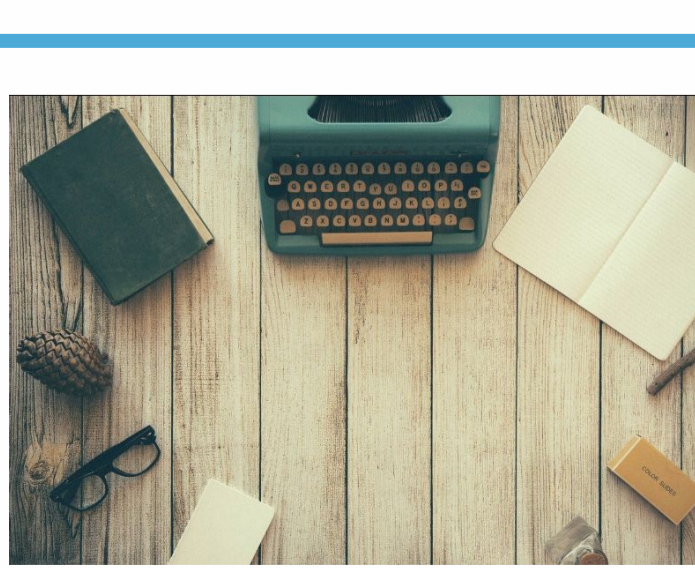
Royal Statistical Society International Conference

Virtual conference, Week beginning 7th Sep 2020

If you would like to advertise any upcoming biostatistics or bioinformatics events to our mailing list, please contact one of our co-Chairs, [Sabine Braat](#) or [Jaimi Greenstade](#)

Closing comments

Our Section Committee is interested in biostatistics and bioinformatics and we are committed to assisting you with your career in biostatistics or/and bioinformatics. We are interested in hearing from our members, especially regarding ideas for future events, presentations, webinars or workshops held by the SSA Biostatistics & Bioinformatics section. We are interested in hearing about our members and how they became involved in biostatistics or bioinformatics.



Please contact us via our section co-Chairs, either [Sabine Braat](#) or [Jaimi Greenstade](#) regarding these or any other related queries.

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 with over 697 followers on Facebook and 446 on twitter. If you have any material you would like us to promote on our social media outlets or share with the fellow members, please let [Sabine Braat](#) know.



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