

Australasian Region

IBS-AR

Newsletter



Issue 20
February 2017

President's Corner



Alternative facts, falsehoods, lies, words that put their mark on the beginning of 2017 and expressions that seem to signal the dawn of a new era. What attracted me to study statistics, admittedly over 20 years ago,

was its promise to be different: Unravelling sound information from data, empowering scientists from all areas of research with data analytic tools to explore and confirm the questions that matter. In a world where it seems acceptable to consciously tell a lie, often supported by alternative interpretation of evidence from data, it is an individual decision to retain integrity.

Biometricians contribute greatly to the integrity of statistical methodology and practice: multiple-testing adjustments, inference after model selection, imputation of missing data and robust estimation are just four of many examples where choosing the right approach matters when the intent is to understand the truth. I always disagreed with Mark Twain's classification of lies: *lies, damned lies and statistics*. Intention does matter!

I have the privilege to serve the region for two years as its president; this comes with increased opportunity to further develop our region, building on the achievements of my predecessors in the role.

I thank Ross Darnell, also on behalf of all members, for a very successful presidency. Certainly the "Biometrics by the Harbour" conference stands out in our memory. Ross, together with the members of the local organising committee and the scientific programme committee, did a marvellous job. I thank Ross for initiating the next regional conference "Biometrics by the Border" and he will assist in making this another memorable occasion.

During his two years as president, Ross contributed further as a member of the IBS Conference Advisor Committee (specifically reviewing the submissions for the 2018 Barcelona and the 2020 Seoul conferences), represented our region on the Representative Council and regularly wrote in this very newsletter, which just underwent a major makeover. A special vote of thanks to Vanessa Cave, our Newsletter Correspondent, for her valuable work.

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As you compare the last newsletter with this 20th issue, you will notice not only a new design but several other initiatives. There are new sections that:

- Welcome new members
- Show membership statistics
- Celebrate members who have their 10, 25 or 40+ year membership anniversary
- Introduce two mid-career members, an opportunity to raise their profile in the wider biometrics community in our region
- Highlight recent papers from regional members in the two IBS journals Biometrics and JABES

In this issue, you will also find an update on our upcoming November conference. With the help of James Curran (Chair of the Scientific Committee "Biometrics by the Border"), a strong, diverse and all female keynote speaker line-up is now confirmed.

I am looking forward to acting on my aims for the next two years: 1) to increase the standing of women in the society overall, 2) to increase the attractiveness of IBS-AR for mid-career researchers through recognition of their work, and 3) to increase the value of the society for early career professionals through mentoring and career development opportunities.



Samuel Mueller (samuel.mueller@sydney.edu.au)

Australasian Regional Council

President	Samuel Mueller (University of Sydney)
Past-President	Ross Darnell (CSIRO)
Secretary	David Baird (VSN NZ)
Treasurer	Warren Müller (Retired)
Newsletter Correspondent	Vanessa Cave (AgResearch)
Regional Website Manager	Hans Hockey (Biometrics Matters)
IBS Incoming President	Louise Ryan (University of Technology Sydney)
IBS Executive Board	Brian Cullis (University of Wollongong)
IBS Representative Council	Ken Russell (Retired) Katya Ruggiero (University of Auckland) Ross Darnell (CSIRO)

www.BiometricSociety.org.au



Facebook group: [IBS-AR](#)

Member Profiles

David Warton



*School of Mathematics and Statistics, Evolution & Ecology
Research Centre and Centre for Ecosystem Science
UNSW Sydney*

When and why did you join IBS? Years ago, maybe 2005-ish. It is the leading international society for applied statisticians, the regional conference is always fun and you can get a subscription to one of my favourite journals, Biometrics. Although nowadays I don't really read hard copies of anything so a subscription is less of a plus.

What biometrics related work do you do? Mostly fundamental research at the interface between statistics and ecology, a mixture of applied statistics and methodological research inspired by applied problems, more of the latter really, with a recent focus on tools for multivariate analysis and point processes.

What other research interests do you have? I keep an eye on mainstream trends in ecology, from a methodological standpoint, and the alignment between the questions people are asking and the methods they use to answer them. When there is a misalignment that is when there is a call for new stats methods.

What is your most memorable conference moment? There are a few, one that is up there was when Mario D'Antuono called an open bar at the Kiama conference a few years ago, "Biometrics at the Blowholes". Turns out there was a breathalyzer machine in the corner so we did an impromptu study of the relationship between blood alcohol level and alcohol consumption + covariates. Unfortunately we didn't think to get ethics approval so we couldn't publish the results. But we can say with confidence that drinking more makes you more drunk.

Where do you see IBS-AR as a professional organisation in 10 years from now? Hopefully bigger and broader, with statisticians engaging in a wider range of applied areas. There are a lot of fields of research with interesting methodological challenges that we don't seem to have much of a voice in at the moment. I also expect a much improved gender balance, with more women in senior roles in the profession. I think this has already started to happen, there are heaps of talented women in IBS-AR at all career stages doing interesting research and getting recognition for it, which is brilliant.

Joanne Potts

The Analytical Edge Statistical Consulting, Hobart



When and why did you join IBS? I joined the society when I attended my first IBC in 2004 in Cairns. I remember it was a big conference, and being a new graduate, I was a little overwhelmed in the presence of great statisticians whom I only knew of via reading their papers. Although I didn't present any work, conversations with people I met there shaped my later decision regarding whom to approach for PhD supervision.

To be completely candid, I probably joined the IBS for some trivial reason like "professional membership looks good on my CV" or "conference registration was cheaper". Now I believe my membership is more than that - I access journals, and keep abreast with recent research and tidbits from other members. I also think societies (professional or otherwise) need support at the "grass roots" level, so I will keep being a member in the future.

What biometrics related work do you do? Most of my consulting work is within the environmental sciences, covering a wide variety of statistical techniques and study species. For example, some of the projects I worked on in 2016 were: assessing the efficacy of a new hook design in the longline fishing industry to reduce seabird by-catch, developing a new abundance estimation method based on combining GPS tracking data with camera-trap data, and assessing how "virtual fences" that alert small mammals to oncoming road traffic can reduce roadkill in Tasmania. I even managed to do fieldwork in 2016, assisting a colleague monitoring some buttongrass meadows in the SW of Tasmania - simply stunning! (Hence my profile picture!)

What other research interests do you have? I'm pretty keen on the environmental sciences, so working as a statistician in that field is the best of both worlds for me! Other research interests are driven by a personal motivation too: medical research (e.g. helping improve patient care and treatment within the hospital system), and early childhood impacts (especially with regards to mental health outcomes later in life). Perhaps I might end up being employed on projects in those areas at some point in the future - one of the joys of consulting is you never know whom might contact you with what project!

What is your most memorable conference moment? My most memorable conference moment is perhaps for the wrong reasons: I had presented in Kiama in 2011 some work on biosecurity and risk-based search strategies during disease outbreak, and returned to my seat. The subsequent presenter spoke of hospital metrics, in particular the rates of stillbirth. My own daughter had just been stillborn only 4 months prior to the conference, and I had to try my all not to leave the room and burst into tears... Afterwards I spoke to the presenter who was very gracious. We spoke about the fact that attached to the statistics we report on are people's lives, and remembering to report on such matters with empathy and care is important.

Happier memories would have to include being reunited with old colleagues at each conference. In Kiama, it was the first time I got to see Vanessa Cave again after we had both left Scotland and returned to our respective home-countries which was lovely. Then at the 2015 conference in Hobart, I was really happy being reunited with old colleagues from the Victorian State Government, one in particular whom although we had kept in touch over email, but I hadn't seen since 2006 (Gabriela Borgognone). It was very special!

Where do you see IBS-AR as a professional organisation in 10 years from now? Within the organization, I'd like to see greater accessibility and diversity. A lot of work has been done to improve this, I am sure. For example, the Young Statisticians has a large and successful presence, but other groups need mentoring too, especially with respect to career options after finishing PhDs and post-docs. I also note Tasmania and NT are the only states/territories of Australia without stats society branches – perhaps it is time that changed.

External to the organisation, I'd like to see the profile of the society raised in the general public – and that includes having a greater role in STEM-policy and lobbying occur at the government level to support education in this area. We all know STEM in Australia is waning so perhaps more communication and outreach to the younger generation is needed – and I don't mean the Young Statisticians that are already at university and involved in statistics, but I mean captivating primary and secondary school students into STEM. The statistics field is pretty big, and the area of application is huge - there really is a topic for everyone. Surely we can try harder to inspire the next generation?

Thank you to David Warton and Joanne Potts for kindly agreeing to provide profiles in the inaugural edition of the new Member Profile section. We invite our mid-career members (i.e. members approximately 5 to 15 years into their professional career) to provide a profile for inclusion in a future newsletter. Please email the editor (Vanessa.Cave@agresearch.co.nz) for more information.

Software Corner

Interactive Data Analysis in R

In recent years, the power of R has been unleashed through the [Shiny](#) package which enables end users to interact with complex analyses without needing to know any R programming. A Shiny application is a web interface to an underlying R instance. It is remarkably easy to develop both simple and complex Shiny apps using R and importantly, it requires no special knowledge of HTML, CSS or JavaScript.

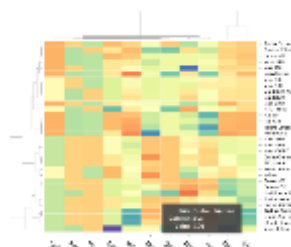
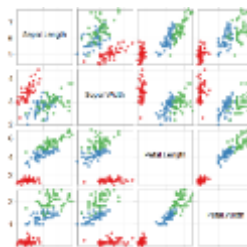


Shiny applications are reactive in a similar way to a spreadsheet. Outputs change instantly as users modify inputs, without requiring a reload of the browser. Advanced analytics can be programmed into the Shiny application and shared with collaborators who may upload their own data into the application. The application can be run locally on your computer, hosted on an internal server, or hosted online, for example through [ShinyApps](#).

One of the advantages of moving to a web-based approach is that it enables richer interactivity in data visualisation. There is a large, and ever increasing, pool of R packages that allow researchers to go beyond static plots. Many of these are based around the [htmlwidgets](#) framework that joins the raw statistical power of R with beautiful visualisations powered by JavaScript.

A [gallery](#) of packages has been created to showcase the various visualisations that are currently possible. Two popular packages for visualising networks are [networkD3](#) and [edgebundleR](#). The [pairsD3](#) package provides interactive pairs plots, [leaflet](#) package facilitates interactive maps, [d3heatmap](#) provides interactive heat maps and [rpivotTable](#) generates a pivot table that allows users to interactively summarise and plot data tables.

The combination of Shiny and interactive JavaScript driven plots provides a great way of sharing analyses with your collaborators and empowering them to explore the data and results themselves.



Garth Tarr (University of Newcastle)

Thank you to Garth Tarr for generously agreeing to be a regular contributor to the new Software Corner. Should you wish to provide a software article for the next newsletter, please email the editor (Vanessa.Cave@agresearch.co.nz).

Recent Papers

The International Biometrics Society publishes two journals, *Biometrics*, and, jointly with the American Statistical Association, the *Journal of Agricultural, Biological, and Environmental Statistics*. Papers recently published by our members in these two journals include:



Biometrics

June 2016, Volume 72, Issue 2

Claudia Rivera and [Thomas Lumley](#). Using the whole cohort in the analysis of countermatched samples.

September 2016, Volume 72, Issue 3

Md Hamidul Huque, Howard D. Bondell, Raymond J. Carroll and [Louise M. Ryan](#). Spatial regression with covariate measurement error: A semiparametric approach

December 2016, Volume 72, Issue 4

Luke R. Lloyd-Jones, Hien D. Nguyen, [Geoffrey J. McLachlan](#), Wayne Sumpton and [You-Gan Wang](#). Mixture of time-dependent growth models with an application to blue swimmer crab length-frequency data.

To submit a manuscript visit: <http://www.biometrics.tibs.org/>

Journal of Agricultural, Biological, and Environmental Statistics

June 2016, Volume 21, Issues 2

Hans-Peter Piepho, [Emlyn R. Williams](#) and Volker Michel. Nonresolvable row-column designs with an even distribution of treatment replication.

[Geoffrey Jones](#) and Wesley O. Johnson. A Bayesian superpopulation approach to inference for finite populations based on imperfect diagnostic outcomes.

[Daniel Fernández](#) and [Shirley Pledger](#). Categorising count data into ordinal responses with application to ecological communities.

To submit a manuscript visit: <http://www.editorialmanager.com/jabe/>

If your paper has been inadvertently omitted from this list, please email the editor (Vanessa.Cave@agresearch.co.nz) so that it can be included in the next edition.

Membership Milestones

Congratulations to the following members who've celebrated membership anniversary milestones:

≥40 years

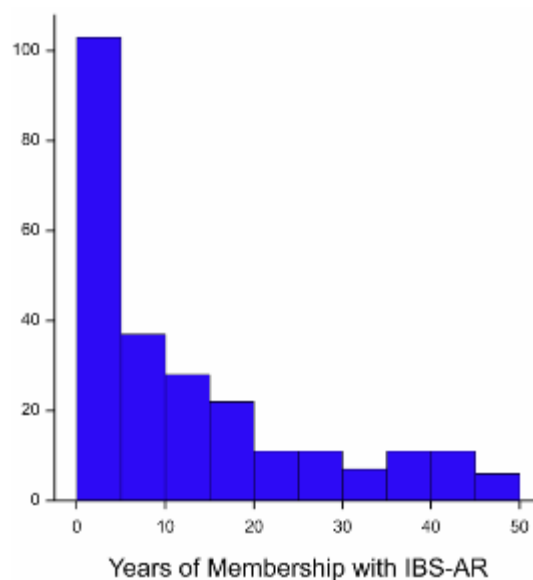
Kaye Basford, Chris Brien, Janet Chaseling, Annette Dobson, Bob Forrester, Arthur Gilmour, Harold Henderson, Richard Jarrett, Jill Kaldor, Bryan Manly, Geoff McLachlan, Warren Müller, Douglas Shaw, Tony Swain, Chris Triggs, Karen Wilson, Susan Wilson, and Jeff Wood

25 years

David Baird, John Carlin, Neil Coombes, and Alastair Scott

10 years

Ken Beath, Mario D'Antuono, Stephane Heritier, Olena Kravchuk, Serigne Lo, Dan Pagendam, and Jennifer Wilcock



Welcome to our new members: Dang Hung Thang (Vietnam National University), Quoc-Anh Trinh (Vietnam National University), Dinh Pham Tung (Vietnam National University), Amanda Wright (Student, Garvan Institute of Medical Research), Nanxi Zhang (Student, University of Queensland), Wei Zhang (Student, University of Auckland)

	Australia	New Zealand	Other*	
Life Member	2			2
Regular Member	151	40	7	198
Senior Retiree	11	5	1	17
Student Member	18	5		23
Supporting Member	1		7	8
	183	50	15	248

* China, Germany, Thailand, United Kingdom, USA, Vietnam

Biometrics by the Border

Australasian Regional Conference: 26th - 30th November 2017

The next regional conference of the Australasian Region titled "Biometrics by the Border" is to be held from 26-30 November at the Mantra on Salt Beach, Kingscliff which is located just south of the Gold Coast in Australia. It is a 20 minute drive from the Gold Coast International Airport and 1 hour 45 minute drive from the Brisbane International Airport.

The scientific programme committee has finalised keynote speakers. The all-female line-up celebrates achievements by women in the field of biometrics. We are excited to confirm that Professors Elisabetta Carfagna (University of Bologna, Italy), Di Cook (Monash University), Rachel Fewster (University of Auckland), Sonja Greven (LM University Munich, Germany), Louise Ryan (University of Technology Sydney), and Jean Yang (University of Sydney) are sharing their latest insights in their respective fields. Conference workshops are currently being finalised and we expect registration and abstract submission to open in early June.

The venue provides a range of accommodation types and budgets. It is adjacent to a great surf beach which is patrolled during that period. The local organising and program committees are working hard to make this a conference you will appreciate attending from both a social and science perspective.

Further information will soon be available on the conference website: <http://www.biometric2017.org>



Elisabetta Carfagna



Di Cook



Rachel Fewster



Sonja Greven



Louise Ryan



Jean Yang



Special Features

Experience of an Internship

A lot of people asked me “*Why are you going abroad? And why are doing a voluntary internship when you could go abroad for your compulsory internship?*”. Before I started studying I was sure about one thing: I want to travel around the world. Why shouldn’t I combine that with studying? There are a few reasons why I am doing a voluntary internship. First of all I want to do my compulsory internship in Germany, with the hope that the company I do my internship with offers me a job after that. Next, the soft skills you learn while you’re in a company in your own country are nothing compared with the intercultural skills you get from going abroad. You can get so many international connections and language skills out of an internship in another country. Finally, two internships are much better than one - you can’t get enough experience.

After a lot of research, and thanks to Professor Dr. Markus Neuhäuser who has connection with a New Zealand company, I got the opportunity to do an internship at AgResearch Ltd.

AgResearch is one of New Zealand’s crown research institutes. I am studying Biomathematics and I would love to join a research company in the future. Research is not only a German thing, research happens all over the world and I wanted to take the chance to see how international research works. So I worked in the statistics team as a statistician trainee for a 10-week internship.

Before I went to New Zealand I was worried that I would not meet all the requirements and expectations, because I may not have all the basics that I need for that kind of internship. Even after I prepared myself a lot for going abroad, I still didn’t have all the basics. I was so lucky that I had the most lovely, helpful and patient colleagues you could imagine. Looking back, I would say I started at zero when I came to New Zealand. Sure you have your links between the preparation of university and the work that you are doing, but as it says it is just preparation. And knowing the theory doesn’t

Janin Trinkaus

- 23 years old
- studying Biomathematics at the Koblenz University of Applied Sciences, Germany
- did a 10-week internship at AgResearch Ltd in Hamilton, New Zealand
- Contact: jtrinkau@hs-koblenz.de



Experiencing field work at Ruakura

mean that you're good in practice. I know that I do not have a 100%-knowledge of statistics now, but I would say that I am well prepared for everything that will come up in the future. I had so much fun being a statistician for a few weeks and worked on a lot of interesting projects. I think I now know the kind of job I want to do after finishing my studies. I came to New Zealand on my own, far away from family and friends and now I'm leaving this beautiful country and all the lovely people that made me feel like I have a second home.

Janin Trinkaus

Annual conference of ISCB and biennial ASC to be held jointly in Melbourne, 26th-30th August 2018



On behalf of the International Society for Clinical Biostatistics (ISCB) and the Statistical Society of Australia (SSA), we are delighted to announce that the 2018 annual conference of ISCB and biennial Australian Statistical Conference (ASC) will take place in Melbourne from 26th-30th August 2018. Please save the date! We are very excited at the prospect of bringing the ISCB conference to a location outside of Europe and North America for the first time in its 39 year history. We hope that this joint conference will bring together a broad range of statistical researchers from a variety of research areas for the international exchange of theory, methods and applications.

For up to date information, please visit our conference website <http://www.iscbasc2018.com>. You can also register your interest at our website or via email to iscbasc2018@arinex.com.au.

We look forward to welcoming you to Melbourne!

Local Organising Committee, ISCB ASC 2018

www.BiometricSociety.org.au



Facebook group: [IBS-AR](#)