The New Zealand Statistical Association
Newsletter

Number 80   February 2018

Welcome

by Ian Westbrooke

NZSA President

I open on a sad note - marking the passing of our colleague John Koolaard. I sent the following message to his family:

> On behalf of the New Zealand Statistical Association, I extend our sincere condolences. John was a very well liked and highly respected statistician, who was always friendly and kind. John will be missed as a colleague and friend by us all.

A tribute to John is here.

I trust you all have had a good break and are ready for the challenges of the new year. I was fortunate to attend the SEEM conference in Queenstown, fitting 5 days on the Routeburn and Greenstone tracks before it; and enjoying the NZSA/IASC conference immediately after. It was great to see so many statisticians there.

On another more sober note, sexual harassment issues have been highlighted not only in the entertainment but also the statistical community internationally. The statement which NZSA sent to all members can be read here.

Best wishes for 2018.

Ian

Editorial

by Marie Fitch

Kia ora koutou,

I hope the New Year has started well for you. January began for me with an awesome five days walking the Old Ghost Road in the North West of the South Island. We try to include a tramp (usually South Island) in our summer holiday each year. I always enjoy the scenery, the birds (this year many very friendly robins and cheeky weka) not to mention the chance to breathe in that fresh mountain air.

As always, thanks to those who have found time in the pre-Christmas rush or these early days back at work to contribute to this newsletter. It is great to see the increase in contributions including new columns from the Student and Early Career Network and the R User groups. I would also like to acknowledge the contributions made by John Koolaard over several years to this newsletter as the contributor of the AgResearch news. A tribute to John is here.

The next newsletter is planned for June so if you have ideas or contributions for it please contact me, preferably by the end of May.

Ngā mihi o te Tau Hou ki a koutou katoa,

Marie

View out towards Murchison from Old Ghost Road

Conferences

2017 NZSA Conference

by Thomas Yee (General Chair)

The Joint NZSA+IASC-ARS+ORSNZ Conference was held at the Owen G. Glenn Business School Building of the University of Auckland from 10–14 December. The conference was attended by around 350 delegates which was about double the usual number. The approximate numbers of the biggest groups were NZ (110+), Japan (60), Korea (41), Taiwan (19), Australia (14), Hong Kong (11). More unusually, there was a group of delegates from the Philippines (6), and participants from as far as Denmark, Romania, and Switzerland. As the conference marked the retirement of Ross Ihaka (one of the two co-founders of R) and was joint with the International Association of Statistical Computing (Asian Regional Section), there was a strong R flavour throughout.

The main conference was preceded by R workshops for women (on Thursday) and for Year 12 girls (on Friday) by **Hadley Wickham** (Rstudio) and **Dianne Cook** (Monash University), and then by four half-day workshops centered on R (by Aucklanders **Thomas Lumley**, **Paul Murrell**, **Rolf Turner**, **Chris Wild**) held on the Sunday.

The keynote speakers included **Ross Ihaka**, who gave an overview of how R was developed and future directions; **Jenny Bryan** from University of British Columbia and RStudio; **Simon Urbanek** from AT&T Labs in the US; and **Luke Tierney** from R core. A special session was held in honour of **Professor Alastair Scott** who passed away earlier in the year, and **John Neuhaus** (UCSF, USA) featured as one of the speakers. **Alan Gelfand** (Duke University, USA) also gave a plenary talk.

There were 222 invited and contributed talks by academics, students and practitioners from NZ and abroad. Most were presented in one of seven parallel streams!

We thank the many people who made the conference a success. At the risk of inadvertently missing some names we wish to especially thank the following people: **Ciprian Giurcaneanu** who led the Scientific Programme Committee, **James Curran** who headed the Local Organising Committee, **Abhinav Chopra** for his IT work, **Rolf Turner** for his administrative work, **Lisa Hall** who organized the Monday evening event for early career and student statisticians, the six workshop presenters, **Tessa Lloyd-Hagemann** and her Event Services team, photographers **Harold Henderson** and **Wai Loong Tham**, NZSA Executive Committee members for support, and the student helpers who were led by **Liza Bolton** and **Matt Regan**. Last but not least, we are indebted to our sponsors (*ANZJS, Harmonic Analytics, IASC-ARS, ISBA, Minitab, NZSA, SAS*, and *Wiley*) for their generous financial support.

Photo by Wai Loong Tham

See more photos from the 2017 conference:
https://www.flickr.com/photos/111101747@N06/sets/72157663632210687
and https://www.nzsa2017.com/photos/

A report on (and photograph of) the recipients of the three NZSA awards can be found later in the Newsletter, here.

Harmonic Analytics Student talk award winners: Timothy Bilton (U. Otago), Tom Elliott (U. Auck), Andrea Havron (U. Auck), Sih-Jing Liao (Massey).

Student talk high commendations: Losana Vao Latu Latu (U. Cantab), Sarah Sonal (U. Cantab), Oliver Stevenson (U. Auck).

Student talk award winners (from left): Andrea, Sih-Jing, Timothy, Tom, Martin Hazelton (Awards Committee convenor), Lisa Chen (Harmonic Analytics, sponsor), Oliver, Sarah, Losana

2018 NZSA Conference

The 2018 NZSA conference will be held at the Palmerston North campus of Massey University from 27 to 30 November. Principal organisers are Jonathan Godfrey and Rina Parry. Rina and Jonathan ask you to note the dates in your diaries now. They want to let you know that we will start in the early afternoon of the 27th and finish at lunchtime on the 30th so that there is plenty of time to travel on the day, rather than eat into your weekends. The website should be up and running during soon and guest speakers will be announced throughout the build-up. While a formal theme has not yet been decided, Rina and Jonathan have posed the question, "Are we changing the face of statistics or just getting older?"

PN has dozens of accommodation options, including modern On-Campus facilities for those of you that wish to walk to the conference sessions. There are numerous flights from Auckland each day, several from Christchurch and daily services to/from Hamilton for those attendees who wish to enjoy the aerial view of the Central Plateau. PN has the full range of restaurant options on offer and there are plenty of walking tracks on and around campus to help you get out and enjoy the clean air of the Manawatu.

Obituary: John Koolaard

by MARYANN STAINCLIFFE

John Koolaard 19 July 1965 - 11 January 2018

It was with great sadness that we said goodbye to a valued friend, colleague and statistician who died after a battle with cancer. John began his statistics career at Massey University, winning the student prize at the 1995 NZSA conference for his talk on "Regularised discriminant analysis". This was the topic of his PhD that was awarded in 1997.

In 1996 he began working at Crop & Food before moving to AgResearch in 2005, based at Grasslands campus in Palmerston North. In 2007, he become the Team leader for the statistics team based at Grasslands, and continued in this role until taking sick leave at the end of 2016. During his time on sick leave he remained part of the team, attending team meetings and supporting others around him.

As colleagues we will remember John as a calm, cheerful, honest and very friendly person. He was a great team leader, involving the Grassland team members in various discussions as often as he could. These included discussions on how best to analyse certain data that came our way and of course discussions on various management issues such as budgeting, conference attendance, project handling, AgResearch leadership and how to handle 'challenging clients'. John was an excellent statistician with a wide range of capabilities. Most of all, he was someone who simply got on with work but with care and patience.

The scientists that John worked with all have positive words to say about him, describing him as a really nice guy who was enjoyable to work with, acting with humour and empathy. They also describe him as an expert in his professional field and a "patient champion of statistics" who is forever helpful and insightful.

John was always open about his Christian beliefs and allowed them to guide his character. It is this faith that gave him and his family strength and resolve in his final days. May he rest in peace in Heaven.

Participants in the student prize, 1995 NZSA conference.
From left to right, back row: Ray Hoare (Hoare Research Software, sponsor), John Koolaard (winner), Chris Stephens (highly commended), Mahammad Salehi, Sifa Mvoi, Front: James Curran, Andrew Balemi.

From the NZSA executive

Statement on sexual harassment

Sexual harassment issues have been highlighted not only in the entertainment industry but also the statistical community internationally. NZSA sent the following statement to all members and to the ANZSTAT mailing list in response:

> The officers and executive of the New Zealand Statistical Association take very seriously the reports of inappropriate behaviour towards colleagues, especially any form of sexual harassment. We value a society where all members are treated equally and with respect and have been disturbed and disheartened to read about the recently highlighted problems in our field. The NZSA code of conduct (Link here) states "Members should in their professional statistical practice have regard to basic human rights and should avoid any actions that adversely affect such rights."
>
> We have started working with the other statistical organisations in Australasia - Statistical Society of Australia and the regional body of the International Biometrics Society - to develop appropriate approaches to this serious issue, which may have joint elements as well as individualised strategies and best future practices for each society.
>
> Any NZ statistician with immediate concerns should contact the secretary or president (with confidentiality assured).
> Ian Westbrooke, President,
> iwestbrooke@doc.govt.nz
> Vanessa Cave, Secretary,
> vanessa.cave@agresearch.co.nz

NZSA support for Greek Statistician

The American Statistical Association is circulating a statement in support of Andreas Georgiou, the prosecuted former Greek chief statistician, and his colleagues. In December the NZSA executive decided to add The New Zealand Statistical Association's name to the statement. The statement can be read here.

There is an also an individual sign-on form if you would like to add your individual support. You can find it here.

If you would like to read more about Andreas Georgiou, you can find links here.

Stories of interest

NZSA Awards 2017

NZSA Campbell Award

The Campbell Award is the Association's premier whole-of-career award, aimed at recognising an individual's sustained contribution to the promotion and development of statistics. Nominees must excel in at least one of the following areas: statistical research, statistics education, major contributions to New Zealand through statistical projects, and a sustained record of leadership in, and service to, statistics in New Zealand.

Jennifer Brown
   University of Canterbury

This year's recipient has a strong all round case against these criteria. She is a leading researcher in statistical ecology; has led an excellent teaching programme in statistics at the University of Canterbury; and has been a superb servant of the New Zealand Statistical Association, having served as President from 2008-2011 and Convenor of the Awards Committee for over ten years prior to that. Indeed, fittingly it was an initiative of hers that led to the establishment of the Campbell Award.

Worsley Early Career Award

The Worsley Research Award recognizes outstanding recent published research from a New Zealand statistician in the early stages of their career. In particular, applicants must be within seven years of confirmation of their PhD. New Zealand is fortunate to have some excellent young statisticians, so this year's recipient is joining a distinguished group.

Ben Stevenson
   University of Auckland

Modern-day wildlife surveys deploy sophisticated instruments to detect individuals, such as microphones, high-definition video cameras, and drones. Ben develops novel statistical methods to understand animal populations from the resulting data, keeping pace with the changing landscape of ecological monitoring.

Littlejohn Research Award

The Littlejohn Award is the Association's premier research award, recognizing excellence based on publications during the five calendar years preceding the date of the award. The members of the Awards Committee were presented with a particularly difficult choice this year, with multiple excellent nominations.

Matt Schofield
University of Otago

Matt has research interests in Bayesian statistics. His research involves methodological development, Bayesian computation and model assessment. His work is motivated from applications primarily in ecology and environmental sciences, including capture-recapture experiments, behavioural ecology and dendroclimatology.

Martin Hazelton (Awards Committee Convenor), Matt, Ben, Jennifer, Ian Westbrooke (NZSA President)

R Users Groups

by SHIRLEY WU

The R Users Groups reflect the community of R users within New Zealand and are about profiling the breadth of the R statistical programming language, assisting users with tips and techniques and supporting the increased use of the language within analytical work.

Membership numbers for the Auckland and Wellington R Users Groups have been increasing steadily. As of December 2017, Wellington has 283 members and about 30-50 members are regularly attending our talks. Auckland has 974 members and has recruited two more volunteers this year to help with organising events due to the continued increase in membership. The highlight for Auckland this year was having **Hadley Wickham** present to the group on "Expressing yourself with R". Live streaming of Associate Professor **Ross Ihaka**'s talk "Statistical computing in a (more) static environment" (2017 series of the Ihaka Lectures) was provided to the group in March. Wellington has had an excellent line-up of speakers this year; recent meetup topics include deep learning, practical big data issues and R Shiny. The highlight for this year was having **Peter Ellis** (ex MBIE Manager Sector Trends) talk to the group about his work on forecasting the NZ 2017 General Election using R and Stan in August.
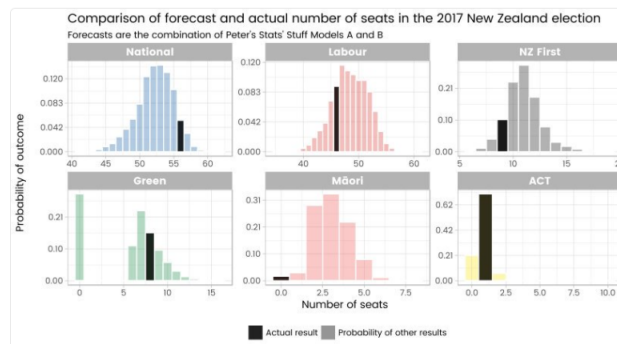
We conducted a survey in July this year to help better understand membership profile, preferred meeting formats and topics of interest. Dealing with big data in R was the most requested topic, followed closely by R Shiny. Members were also interested in interactive plots, non-R related data analysis work (i.e., topics with a statistical computing lens in general) and integration between R and other tools or databases.

Peter Ellis' tweet on 6th October about the election results and his predictions (link)

Most of the Wellington talks can be found from our YouTube channel "Wellington R Users Group". NZSA, Auckland University, MBIE and Harmonic Analytics have all continued to provide sponsorship to support our activities. The R users groups would like to express our sincere gratitude to these organisations. The NZSA continuing professional development committee and the R Users groups are planning to join forces to offer introductory R training to the data science community. We will continue to work together in the new year to make this a reality.

Canterbury Data Event - Analytics Forum

by RICHARD PENNY

On 13 November the Analytics Forum held a meeting, Analytics and Data Science Across Sectors, in Christchurch. **John Crequer**, **Richard Penny** (StatsNZ) and **Ian Westbrooke** (NZSA President) initiated this meeting as the first of an ongoing series of data events in Canterbury. Eighty people attended, with government departments and agencies, universities and private companies represented.

The audience at Canterbury Data Event

Attendees were welcomed by **Jennifer Brown** (University of Canterbury) who made it clear that whatever you wanted to call it (e.g., analytics, data science, machine learning, statistics) didn't matter. It was understanding and using data sensibly that was the goal. The first speaker was **Kevin Ross**, General Manager of Precision Driven Health, and founder and chair of the New Zealand Analytics Forum. Kevin gave an introduction on the use of analytics in the health sector. He was followed by **James Williams** a Director at Isogonal and Lecturer in the Department of Mathematics and Statistics at the University of Canterbury, also Co-Director of the Data Science programme at the university. James also gave some examples of the use of analytics, but also provided some warnings that there is more to it than applying computer code to the data at hand. Their talks were followed by a discussion of the future of data events in Christchurch.

The feedback was very enthusiastic and we have many ideas for data events in 2018. If you wish to know about future Canterbury Data Events email richard.penny@stats.govt.nz.

Student & Early Career Update

by LISA HALL

Since becoming the Student & Early Career representative on the NZSA committee a year ago there have been a few changes including the rebranding of the network. Rebranding from the Young Statisticians Network to the Student & Early Career Statisticians Network (S&ECS) has made the network more inclusive, especially to those who have returned to study later in life or changed careers. The definition of early career was also extended from 5 to 10 years to increase engagement and enable those who have had a few years in the workforce to share their experiences with students and others who have joined the workforce more recently. 2017 saw some new regional representatives come on board the team to facilitate event organisation at a regional level throughout the year. I would like to acknowledge the work done by Devendra Oak (Auckland rep), Amanda Hughes (Wellington rep), Rory Ellis (Canterbury rep) and Timothy Bilton (Otago rep) throughout the year. It has been great having more activity in the network with your input.

Timothy Bilton and I had the opportunity to attend the SSAI Young Statisticians conference which was held in Coolangatta in September. The conference was held at Mantra Twin Towns Resort which sits on the state border of Queensland and New South Wales. Given the week of conference coincided with daylight savings there were lots of signs informing everyone that the hotel would be running on Queensland time and thus not changing their clocks forward. The conference proved to be a great experience with many quality presentations and opportunities for networking with our Australian counterparts. We saw some NZ successes which included myself winning third place for best presentation and **Rodelyn Jaksons** winning second place for the video presentation competition. Thank you to the Campbell Bequest Fund for providing support to enable us to attend this conference.

Half of the venue for the YSC conference was in NSW with the other half sitting across the border in Queensland.

Timothy Bilton and Lisa Hall at the Australian YSC in September 2017

The ISI Young Statisticians invited session at the 2017 IASC-NZSA conference. Pictured are **Han-Ming Wu** *(session chair),* **Jun Tsuchida, Lisa Hall, Ben Stevenson** *and* **Shih-Hao Huang**

At the 2017 NZSA conference at Auckland University the Student & Early Career Network hosted an invited session. This was followed up by a networking event held at The Bluestone Room with sponsorship from *Minitab* and *Wiley*, the publisher of the Australian and New Zealand Journal of Statistics. We were lucky to have two guest speakers from *Parrot Analytics* - a data scientist and a data engineer - who talked us through what happens behind the scenes when predicting what TV shows will be popular. Their talk entitled "From Game of Thrones to Gilmore Girls: How Parrot Analytics Uses Data to Find Out What's Popular Around the Globe" was a great example of some of the recent advances in big data and advanced analytics. The event was also a valuable networking opportunity for those who attended.

Parrot Analytics' network of demand showing the relationships between TV shows in the US.

The S&ECS events over the past year have included a movie night for the Oscar nominated film 'Hidden Figures', various screenings of the Ihaka seminar series around the country and a selection of networking events. We are hoping to run a number of similar events in 2018. To stay up to date with the events happening in your area, like our Facebook page or follow us on LinkedIn. Please get in touch with your local rep if you have ideas for 2018 events or ways that the network could better serve our members (http://www.stats.org.nz/youngstatisticians/).

News from the Statistics Education Teams

Statistics Education News

by MAXINE PFANNKUCH

Local News

The 10th International Research Forum on Statistical Reasoning, Thinking and Literacy

Maxine Pfannkuch, **Stephanie Budgett** (University of Auckland), and **Pip Arnold** (Cognition Education Ltd) organised and hosted the Tenth International Research Forum on Statistical Reasoning, Thinking and Literacy (SRTL-10) in Rotorua from 2 - 8 July. These biennial Research Forums, co-chaired by **Dani Ben-Zvi** (Israel) and **Katie Makar** (Australia), offer an opportunity for a small, interdisciplinary group of researchers from around the world to share their work, discuss important issues, and initiate collaborative projects. As a result of these gatherings, there is now a growing network of researchers interested in studying the development of students' statistical literacy, reasoning, and thinking at all age levels. This year's theme was "Innovations in statistical modelling to connect data, chance and context" and was the second time it has been hosted in New Zealand since the Forum's inception in 1999. **Chris Wild** (University of Auckland) was the keynote speaker while **Anna Fergusson** (University of Auckland), Stephanie and Maxine gave in-depth presentations. Discussion groups on the papers presented are a feature of these Forums where participants can debate questions such as:

- How can technology help to develop students' reasoning about statistical models and modelling in the context of connecting data, chance and context?
- How do students explore, construct or mend models at different ages?
- How are ideas related to statistical models and modelling understood and used by students in connecting data, chance and context?

The attendees, from six countries, also enjoyed exploring Rotorua including the Polynesian Spa, Waimangu Valley, Treetops Walk, a Hangi and Maori Concert and a Duck Tour around three lakes. From the Forum 15 papers were submitted at the beginning of December for a Special Issue in the journal ZDM Mathematics Education, the Guest Editors of which are Maxine, Stephanie and Dani. We thank NZSA for their support for this international statistics education forum.

SRTL-10 participants

Statistics Teacher's Day, Auckland
The Department of Statistics, University of Auckland and the Auckland Mathematics Association organized and ran a very successful Statistics Teacher Day on 28 November 2017 with over 280 teachers attending. The day was very ably led by the convenors, **Anna Fergusson** and **Marie Fitch**. The first plenary speaker was **Rhys Jones**, originally from Cardiff University but now at University of Auckland, who gave a well-received talk on: "The joy of data analysis and critical thinking - a Welsh perspective". The second plenary speaker was **Chris Wild** who, by the end of his talk: "Oh say, can you see . . . ?", had people dancing in the aisles.

Other regional associations that ran mathematics and statistics teacher days at the end of 2017 were the Bay of Plenty Mathematics Association, Wellington Mathematics Association and the Otago Mathematics Association where Anna Fergusson was again invited to present three workshops on teaching statistics and probability.

People in statistics education research

Congratulations to **Anna Fergusson** who graduated with first class honours for Masters of Professional Studies (Mathematics Education). Her dissertation was titled: "Informally testing the fit of a probability distribution model." She is now enrolled in a PhD in statistics education. Congratulations also to **Malia Puloka** who graduated MSc with second class honours based on her thesis titled "Exploring Year 13 students' probabilistic reasoning from an eikosogram." She is currently in the process of enrolling for her PhD. Both of them presented their research at the 2017 New Zealand Association of Mathematics Teachers Conference in Christchurch in October. Anna also presented two workshops at the American Statistical Association's Teachers' Workshops as part of the Joint Statistical Meeting in August 2017 in Baltimore. Based on her PhD research, **Pip Arnold** was invited to and attended a meeting in Los Angeles in October about updating the publication GAISE (Guidelines for Assessment and Instruction in Statistics Education), which is published by the American Statistical Association. **Stephanie Budgett** presented her statistics education research work at the Royal Statistical Society International Conference in Glasgow in September. **Rhys Jones** submitted his PhD thesis in statistics education in December. **Maxine Pfannkuch** will step down from her role as Editor of the Statistics Education Research Journal (a journal under the auspices of the International Association for Statistical Education) in 2018, a position she has held for four years. See: https://iase-web.org/Publications.php?p=SERJ.

CensusAtSchool Project
The CensusAtSchool online survey this year had over 20,600 Year 5-13 NZ students from 418 schools taking part. **Chris Wild** and **Rachel Cunliffe** are Co-Directors of the Project and

Atakohu Middleton writes press releases. Media coverage has been substantive with 10 articles appearing in media publications. Rachel was interviewed on radio four times and TV three times about the findings. **Anne Patel** is responsible for the teaching resources on the website. See: www.censusatschool.org.nz

FutureLearn MOOC - Data to Insight: An Introduction to Data Analysis
Chris Wild, with the assistance of **Mike Forster** again ran this eight-week course, from October to December 2017. The course is centered on Chris Wild's innovative software iNZight.

Stats Chat Blog (www.statschat.org.nz)
Encourage your statistics student to subscribe to Stats Chat - my students learn a lot from **Thomas Lumley**'s musings on media statements. Stats Chat was launched by the Department of Statistics, University of Auckland in 2011, and is continuing to have a good hit rate (about 220,000 page-views per year, the majority of the traffic being from NZ). Thomas Lumley and **David Scott**, University of Auckland, are the main contributors.

International News

Electronic Conference on Teaching Statistics (ECOTS), Data Science for All, 21-25 May 2018. See:
https://www.causeweb.org/cause/ecots/ecots18

The Tenth International Conference on Teaching Statistics (ICOTS-10), 8-13 July 2018 in Kyoto, Japan. Many New Zealanders have submitted papers to this conference and Chris, Pip, and Stephanie are Topic Convenors. See: http://icots.info/10/

World Statistics Congress 2019, 18-23 July in Kuala Lumpur, Malaysia. The International Association for Statistical Education (IASE) will organize Invited Paper Sessions for this conference (see http://www.isi2019.org/)

The 11th International Research Forum on Statistical Reasoning, Thinking and Literacy will be held 14-20 July 2019 in Los Angeles, USA. The theme of the Forum is New ways of interacting with data, context and chance in statistical modelling processes (see http://srtl.info).

NZSA Education Committee

by Mike Camden

Is there time for a rest … ?

We have a fine curriculum, NCEA standards that assess it, and and plenty of energetic teachers. Is it time we took a rest? It seems not, as we're in a field full of opportunities:

- the arrival, in the last six months, of Digital Technologies | Hangarau Matihiko into the curriculum, and into NCEA Level 1 for 2018. See the Ministry of Education's work here, and our input here.
- new aspects of statistical practice that may become accessible to school students, as these things change: data, software, devices available to students, analysis methods, and statistical thinking needs for future citizens and workers.
- the rise of data science, which could synthesize all this.

2017 was the second year of using our strategy document. It states that overall we want to:

- cooperate and collaborate with key stakeholders
- maintain a high profile across key stakeholders
- maintain our currency in statistical best practice and statistics education research
- proactively seek out and assess new opportunities for statistics education.

We have plenty to be proactive about, and we'd welcome NZSA member feedback and input on any of it.

Here's some detail about the opportunities above:

- data science, data harvesting and wrangling, algorithmic thinking and coding
- predictive modelling
- geo-coded data and maps
- text and image data
- reproducible research and workflows using dynamic documents
- the relationship of Statistics with Digital Technologies.

Committee membership is 28 and growing.

This year we:

- welcomed back **Emma Mawby** and **Anne Lawrence**
- welcomed new arrivals from overseas **Rhys Jones** and **Matt Parry**. We look forward to the insights they bring with them into NZ.

We also helped celebrate **John Harraway**'s move out of full-time work, contributing (via **Alasdair Noble**) to the symposium in his honour, and noted his ongoing active interest in statistical education. The ODT has a nice summary here. A festschrift is in the works.

Thanks, John, for a vast set of contributions to statistical education, here and overseas. Please keep up your interest.

We had four meetings in the year, with the help of the Zoom conferencing service. We thank the University of Otago (and in particular **Greg Trounson** of the Department of Mathematics and Statistics there) for their support with this service. We find it very pleasant and constructive to be able to see and talk with a dozen colleagues over half a dozen locations, and to have the minutes appearing miraculously via **Anna Fergusson** and GoogleDocs.

Local News

Statistics at ...

AgResearch Statistics Group

by MARYANN STAINCLIFFE

On a sad note we said goodbye to John Koolaard, a valued friend and colleague, who died in January. A tribute to John is here.

A notable highlight was **Timothy Bilton**, a PhD student jointly with the University of Otago, winning the student talk prize at this year's MapNet meeting in Palmerston North. Timothy was also a joint winner of the student talk prize at the IASC-ARS/NZSA conference in Auckland.

Esther Meenken attended the Precision Agriculture conference held in Hamilton 16-18 October. The 550 attendees represented growers, farmers, industry, and university and CRI researchers. Sessions focussed on the use and uptake of digital technologies in the areas of livestock farming and crops. 40% of sessions had a direct focus on data and variability. Although there were many modellers and machine learning researchers present, panel discussants identified a need for greater statistical input. We also had representation at Biometrics by the Border in November, SEEM in December and IASC-ARS/NZSA in December.

We ended the year with **Harold Henderson** beginning phased retirement. But don't worry you will continue to see Harold about as he will continue with the team for at least two years to help provide support for a new recruit at Grasslands and to allow the rest of the team to adjust to the transition without adding to our workloads.

Harold

AUT:

Department of Biostatistics and Epidemiology

by PRIYA PARMAR

In the past 6 months, the department's regular biostatistical clinics have extended beyond the Akoranga campus. Led by the head of department, **Nick Garrett**, and in partnership with the Faculty Associate Dean Maori Advancement, the AUTEC Secretariat, Faculty Postgraduate and Research Office and Centre for Pacific Health and Development Research our department clinics have been integrated with research support clinics based at AUT's South campus. These clinics are designed to support postgraduate students and staff who are planning or undertaking research. Advice on researching with Maori and Pacific, qualitative methods, planning and funding, ethics, biostatistical and epidemiological topics are available. After spending 2 years with the Populations Divisions team at the United Nations on extended research leave, **Mark Wheldon** was offered an opportunity to stay with the team in New York. Mark formally resigned from our department at the end of 2017. We wish Mark well in his future research efforts. At the end of last year our health economist, **Dr Braden Te Ao** joined the University of Auckland's Public Health division based at the Tamaki campus. We wish Braden well in this new role. Last September **Rose Sisk** and **Philip Prah** attended and presented at the Young Statisticians Conference in the Gold Coast, and met with the team at Berghofer Queensland Institute for Medical Research. Nick Garrett attended the International Society of Environmental Epidemiology in Sydney.

School of Engineering, Computer and Mathematical Sciences

by KATE LEE

On 23rd and 24th November 2017, the Mathematical Science Research Group (MSRG), hosted the 2017 AUT Mathematical Sciences Symposium. This annual event develops and promotes opportunities for AUT academic staff to collaborate with colleagues from other universities. This year's symposium focused mainly on Computational & Mathematical Modelling, Financial Analytics, Statistical Methodology and Stochastic Modelling. The Symposium had 7 plenary talks and 24 contributed talks and was attended by 47 participants from a number of Australasian institutes and companies.

Prof Jeffrey Hunter has been visiting India to take up a number of invitations - Keynote Speaker at the 2nd International Conference on "Recent Advances in Mathematical Sciences and its Applications" (RAMSA-2017) held over December 12-14, 2017 at Jaypee Institute of Information Technology, Noida, New Delhi and, as an Invited speaker at the "International Conference on Linear Algebra and it Applications" (ICLAA-2017) held over Dec 11-15. He also delivered two guest lectures at Vellore on Dec 19. **Dr. Kate Lee** took research leave for the second semester in 2017. She visited the University of Oxford in UK and Université Paris-Dauphine in France. She gave an invited talk at the 2017 International Workshop on Objective Bayes Methodology (10-13 December 2017) in Austin, US. We welcomed **Dr Nuttanan Wichitaksorn** to our department from semester 2, 2017. He attended the Sixth Wellington Workshop in Probability and Mathematical Statistics (WWPMS 2017), 4-6 December 2017 at Victoria University of Wellington.

Department of Conservation

by HELENE THYGESEN

The Department of Conservation hired two new statisticians in 2017: **Dong Wang** (formerly NIWA and Canterbury) started in January 2018, and **Helene Thygesen** (formerly various European organisations) started in July 2017. Other than the ongoing work on wildlife monitoring, visitor surveys and pest control evaluation, we are involved in some methodological work on the use of propensity scoring in pest control evaluation (**Ian Westbrooke**, together with collaborators in Melbourne) and in the analysis of helicopter flights (Helene Thygesen and **Derek Brown**, together with Canterbury). In terms of teaching, we continue to deliver both 3-day courses and online training for our own staff as well as for external participants. The subjects are observational study design, population dynamics, GLM and data wrangling. The participation has been drying up a bit as many DOC staff members have already taken those courses, so we want to renew the portfolio this coming year.

Massey University, Palmerston North

by JONATHAN GODFREY

Martin Hazelton has spent a good portion of the year as Acting Head of the Institute of Fundamental Sciences. He has (so far) achieved his primary goal in this role, which is to ensure that no-one has poisoned themselves or set fire to one of the experimental laboratories. In the few moments of his time which were not occupied in such duties, Martin was fortunate enough to win a Marsden grant for 2018-2020 for a project entitled "Polytope samplers: theory, methods and applications".

In June **Geoff Jones** went to Hanoi for four days to continue collaboration with the UN FAO on endemicity of avian influenza. Geoff is a member of a research consortium of Australasian epidemiologists and statisticians, that was accepted as an OiE (World Organization for Animal Health) Collaborating Centre for Diagnostic Test Validation Science in the Asia-Pacific Region back in February.

Geoff seems to have been doing the conference rounds late in the year as he attended the Regional Biometrics Conference in Kingscliff, NSW, in November, where he presented a talk on multivariate binary longitudinal data. In December he attended the NZSA Conference in Auckland where he presented a completely different talk on longitudinal multivariate binary data.

Of greatest note is that as of January 2018, Geoff is now Professor of Biostatistics; he states, "I'm not sure how that happened" but the rest of us do. Congratulations Geoff.

We had two PhD completions in the second half of 2017: **Nadeeka Premarathna** and **Edgar Santos-Fernandez**, and we seem to have missed reporting that of **Penny Bilton** before that.

Matthieu Vignes visited the I2M lab at Marseilles University (France) from 19th June 2017-20th July 2017 on causal RNA networks for the analysis of RNA-seq data from Progeria patients. His hosts were **Prof Pierre Pudlo**, **Dr Elisabeth Remy** and **Dr Anais Baudot**.

The most exciting news of the last few months has been the arrival of **Jonathan Marshall**'s first child, Samuel Caleb Dittmer Marshall, who arrived in late November. Mum, Dad and Samuel are doing well.

Rina Parry and **Jonathan Godfrey** are gradually sorting out the planning of the 2018 NZSA Conference to be held at the Massey University campus in Palmerston North from 27-30 November. We look forward to seeing you there.

Plant and Food Research

by Duncan Hedderley

Peter Jaksons attended MapNet 2017 in Palmy. It was a great, friendly conference with attendees from a variety of backgrounds and organisations. As I write (December 2017), several people (**Kate Richards**, **Lindy Guo** and **Maryam Alavi**) are in Kingscliff, New South Wales, at the Australasian Biometrics conference. Lindy has a poster on changes in kiwifruit during storage. Later in December, Kate, Lindy and **Mark Wohlers** will be attending the NZSA conference in Auckland. We are hosting a couple of students: **James Ding** (studying at Canterbury University, working with Peter Jaksons at Lincoln on automating data analysis) and **Morgan Guillaudeux** (studying at Agro-Campus Ouest, Rennes, France, working with Linley Jesson in Hawke's Bay, creating automated reporting functions for climate data).

Department of Statistics, The University of Auckland

by Marie Fitch

When the Nobel Prize for Physics went to three members of the team who played a decisive role in the observation of gravitational waves, Associate Professor **Renate Meyer** had more reason than most statisticians to be excited. Read more here.

Associate Professor **Rachel Fewster** has landed a $680,000 Marsden Grant that promises to supercharge our biodiversity monitoring toolkit. "In a nutshell, this project is about getting higher-value information from routinely collected data," Rachel says. See more here

Renata   *Rachel*

Professor **James Curran** is working with American researcher Dr **Patrick Buzzini** of Sam Houston State University on a project that promises to help police identify the origin of fake banknotes through the printers and the ink used to make them. Read more about this project here

As at 1 February, James takes over as HoD from **Ilze Ziedins**.

James   *Ilze*

New and returning faces

After completing her PhD in the Department of Statistics, **Claudia Rivera Rodriguez** got a post-doctoral role at the hallowed Harvard University in the United States, working with medical and public health researchers. She has now returned to the department as a lecturer. Read more about Claudia here.

In September we welcomed **Rhys Jones** who joined the department as a Professional Teaching Fellow. Rhys hails from Wales and has a particular passion for helping students face their fears and to get over "statistics anxiety". Read more about Rhys here.

Claudia   *Rhys*

Retirements and changes

Ross Ihaka has officially retired, but a few lucky students will have him as their lecturer next term. He discusses what's next here.

Professor **Chris Wild** has gone part-time as a (lengthy) prelude to retirement. But he's still

focused on bringing statistics to the masses. Read more here

Student successes

Andrea Havron and **Louise McMillan** won best student talk, and runner up, awards at the Stats in Ecology and Environmental Monitoring conference in Queenstown. Two of our PhD students, **Tom Elliott** and **Andrea Havron**, received best student talk awards at the NZSA conference, and **Oliver Stevenson** (younger brother of Ben) was highly commended.

At the end of 2017, we awarded eight summer scholarships, each worth $6,000 over 10 weeks, to high-achieving students to work on real-world, supervised research projects. Find out about the students and their work here.

Other happenings

This year for the first time our annual *Statistics Teachers' day* was held at our city campus. We had around 270 teachers who enjoyed great plenaries from **Rhys Jones** and **Chris Wild** (you just had to be there!) Shortly after that, we had the *foRwards R* workshops for women and Year 12 girls run by **Di Cook**, **Hadley Wickham** and **Jenny Bryan**.

And last but certainly not least: congratulations to **Yalu Wen**, proud mother of baby Albert!

(*With thanks to* **Atakohu Middleton** *for allowing me to extensively plagiarise the last 3 department newsletters she wrote at the end of 2017!*)

University of Otago:

Department of Mathematics and Statistics

by AUSTINA CLARK

There was a one day Symposium held in Dunedin on September 1 last year to honour **John Harraway** for his contributions to Statistics over 50 years. There were 30 participants including some of John's long term friends, **Helen MacGillivray** from Australia and President of the ISI, **Len Cook** and **Bryan Manly**.

John Harraway. Photo: Peter McIntosh, Otago Daily Times

See also the article about the symposium in the Otago Daily times.

Prof **Alan Gelfand** from Duke University visited Otago in December/January. He was a keynote speaker for the SEEM conference in Queenstown in December which was organised by the Department. During his visit he presented a two-day workshop for ecologists and statisticians.

Division of Health Sciences

by CLAIRE CAMERON

Probably the most significant thing that has happened is that Associate Professor **Robin Turner** has been appointed as the Director of the newly formed (as of 20th of November) Biostatistics Unit. Robin has come from the University of New South Wales (most recently) to take up this position and Dunedin has turned on the sunshine for her. Many of us are feeling optimistic about where the new unit will take us. **Michel de Lange** has been working in the biostatistics group for a few months now on various projects. On the 28th of November, **Gabrielle Davie** and colleagues hosted "Advancing Health Research at Otago: Using the IDI and other linked administrative datasets Symposium" in the Hunter Centre at the University of Otago. Many people attended and it was a great success. **Ari Samaranayaka** and **Bryan Manly** ran two workshops called "Basic statistical methods for health researchers" on the Dunedin Campus and Ari attended a workshop at Sydney University on relative risk estimation. Finally, **Claire Cameron** attended the "Advanced Course in Epidemiological Analysis" at the London School of Hygiene and Tropical Medicine. That was a thoroughly enjoyable and worthwhile experience - and she has an enormous folder to show for it.

University of Waikato

by CHAITANYA JOSHI

It has been some time since we have had an update on what is happening here at Waikato. We have updated our course offerings and accordingly our major is now called 'Data Analytics' instead of 'Statistics'. In January 2017, Dr **Yoonsuh Jung** left Waikato University and went to a position at the University of Korea. Our Statistics group at Waikato now consists of four staff members.

Bob Durrant has been on sabbatical visiting collaborators in Europe. He gave several seminars while there, including fulfilling a personal ambition to talk to the Statistics group at UCL. He also gave a well-received talk at the Te Punaha Matatini retreat in Waitetuna on the difficulty of achieving privacy in data analysis.

Lyn Hunt was a speaker at an invited session on Mixture models at EcoStat2017 in Hong Kong and has recently returned from Australia where she spent time undertaking research with **Prof Kaye Basford** on mixture models. She also attended the Biometrics by the Border conference in Kingscliff, NSW where she presented a paper.

Chaitanya Joshi presented his work on Bayesian robustness at two international conferences - GDRR in Madrid and BoB in Australia. He has been working with NZ Police to model crime and is now also part of New Zealand Institute of Security and Crime Science (NZISCS) which was recently established at the University of Waikato. University of Waikato has now officially become the preferred partner of NZ Police and is part of the new Evidence Based Policing Centre being established in Wellington.

The university hosted another successful Statistics Scholarship Day in August for senior secondary students in the wider Waikato/Bay of Plenty region intending to take the Scholarship Statistics exam. The event was organised by the Waikato Maths Association and convened by Nicola Petty of the Statistics Learning Centre. **Steven Miller** gave a short talk to the students, and was invited to present an extended version of this talk at the Bay of Plenty Mathematics Association Mini-conference in Whakatāne. Steven also attended the 2017 NZSA conference in Auckland, presenting preliminary results from the Marsden Fast-start funded project with which he is involved.

The Department of Mathematics and Statistics is looking forward to welcoming a new tutor and a new Statistics lecturer position to be jointly shared with the School of Psychology in 2018.