



The Statistical Society of Australia NEWS

SSAI 

In this issue

Editorial	2
Events	2
Statement on the 2016 Australian Census	6
Emeritus Professor Christopher Robin Heathcote	7
Golden Jubilee Travel Grant	9
International Biometrics Conference (IBC)	12
National Schools Competition continues to grow: The 'STATS + X' initiative!	15
STEMS: Putting Statistics into STEM in the Age of Data	17
Canberra Branch	20
NSW Branch	22
SA Branch	27
VIC Branch	29
From the SSA Office	30

2016 AUSTRALIAN STATISTICAL CONFERENCE

Hopefully, by now you are aware that the 23rd Australian Statistical Conference will be held at the Hotel Realm in Canberra over December 5-9. It is being held in conjunction with the 14th Australasian Data Mining Conference (AusDM) and the 9th Australian Conference on Teaching Statistics (OZCOTS). The theme of the conference is Big Data - Mining, Analysing and Teaching. It aims to bring together the statistical approaches to data analysis with the techniques of data mining and their use in teaching statistics. Application to Big Data are of particular interest.

The keynote speakers have been finalized and they are:

Professor Sue Wilson, Department of Statistics, University of New South Wales, Moran Lecturer

Professor Jae Kwang Kim, Department of Statistics, Iowa State University, Foreman Lecturer

Professor Xue Li, School of Information Technology and Electrical Engineering, University of Queensland

Mr David Kalisch, Australian Statistician, Knibbs Lecturer

Professor Ming-Yen Cheng, Department of Mathematics, National Taiwan University

Professor Bill Cleveland, Distinguished Professor of Statistics, Purdue University.

Professor George W Cobb, Emeritus Professor of Statistics, Mount Holyoke College

Professor Jeffrey Rosenthal, Department of Statistics, University of Toronto, AMSI/SSAI Lecturer

Dr Kay Lipson, Director of Strategy, Online Education Services

More details of the speakers are [here](#) on the conference website.

> Continued on page 4



Old Parliament House. Photo: © Christa Cordes

September 2016
Issue 156

SSA

PO Box 213, Belconnen ACT 2616
We are located on the ground floor of
ABS House, room GN 311.
Phone 02 6251 3647
Email eo@statsoc.org.au
Website www.statsoc.org.au

Editor

Dr Douglas Shaw, Acting Editor

Correspondence

Please direct all editorial
correspondence to
Email eo@statsoc.org.au

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**DEADLINE FOR NEXT NEWSLETTER
10 November 2016**



FROM THE ACTING EDITOR

The 2016 Australian Census has generated a great deal of comment and discussion. The Executive of the Statistical Society of Australia felt that, in the lead up to the Census, a formal statement from the Society was appropriate. A press release was prepared and, with assistance from Science Technology Australia, distributed on the eve of Census Day. The press release was noted by a couple of news organizations, and led to a number of requests to the President for interviews. The press release is reproduced in this issue of the Newsletter.

ASC 2016 is fast approaching, and all the indications are that this will be an excellent conference. For details of keynote speakers, deadlines for early bird registration, etc. see the article from the organizing committee and the ASC 2016 advertisements in this issue of the Newsletter.

Eugene Seneta has passed on to me some papers relating to a NSW Branch Symposium on "Probability Theory and Applications", held in 1964. Included was the list of names and addresses for the participants. There were 193 participants listed, and I thought it would be interesting to see where they came from, based on the addresses given.

- 47 gave a private address, that is, no affiliation indicated
- 42 gave a University or College affiliation
- 29 gave a government affiliation (CSIRO, Bureau of Census and Statistics, ...)
- 75 gave a commercial affiliation

Nearly 40% of the participants at this symposium were from commercial organizations! It would be great if we could generate that level of broad interest in Society events these days – perhaps ASC 2016 will be a beginning?

Doug Shaw
Acting Editor

EVENTS

AUSTRALASIAN APPLIED STATISTICS CONFERENCE 2016

28 November – 2 December 2016, Barragga Bay, NSW

AUSTRALIAN STATISTICAL CONFERENCE 2016

5-9 December 2016, Canberra

JOINT INTERNATIONAL SOCIETY FOR CLINICAL BIOSTATISTICS AND AUSTRALIAN STATISTICAL CONFERENCE 2018

26-30 August 2018, Melbourne

A list of international events can be accessed here: <http://www.statsoc.org.au/events/other-events-international/>.

To have your event added to this list, please forward the event details in the above format to eo@statsoc.org.au

SECTION CHAIRS

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Chair: Christopher Drovandi
c.drovandi@qut.edu.au
Assistant Chair: vacant
<http://www.statsoc.org.au/sections/bayesian-statistics.htm>

Environmental Statistics

Co-Chair: David Warton
dwardon@maths.unsw.edu.au
Co-Chair: Jakub Stoklosa
j.stoklosa@unsw.edu.au
Assistant Chair: vacant
Mayukh.Samanta@qut.edu.au
<http://www.statsoc.org.au/environmental-statistics.htm>

Social Sciences

Chair: Michele Haynes
M.Haynes@uq.edu.au
Assistant Chair: vacant
<http://www.statsoc.org.au/social-statistics.htm>

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Chair: Peter Howley
Peter.Howley@newcastle.edu.au
Assistant Chair: vacant
<http://www.statsoc.org.au/statistical-education.htm>

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Chair: Stephen Horn
srthorn@effect.net.au
Assistant Chair: vacant
<http://www.statsoc.org.au/surveys-and-management.htm>

Biostatistics

Chair: Jake Olivier
j.olivier@unsw.edu.au
Assistant Chair: Nicholas Tierney
Nicholas.Tierney@gmail.com
http://www.statsoc.org.au/medical_statistics

Section for International Engagement

Mark Griffin
m.griffin@adasis-oz.com
Assistant Chair: vacant
<http://www.statsoc.org.au/IntEngagementSection>

Young Statisticians' Network

Vacant
<http://www.statsoc.org.au/about-young-stats.htm>

Further contact details for Society Secretaries and Section Chairs can be obtained by contacting the Society on (02) 6251 3647. If you are interested in applying for any of the vacant positions, please contact the Executive Officer (eo@statsoc.org.au).

SSA CENTRAL COUNCIL

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Secretary: Doug Shaw
secretary@statsoc.org.au

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Secretary: Warren Müller
secretary.canberrabbranch@statsoc.org.au

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Secretary: Thomas Fung
secretary.nswbranch@statsoc.org.au

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dimitrios.vagenas@qut.edu.au

South Australia

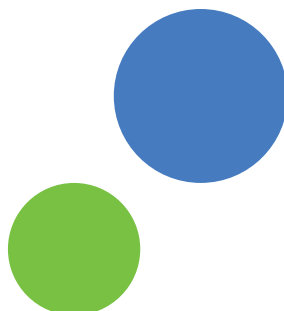
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vic.branch@statsoc.org.au

Western Australia

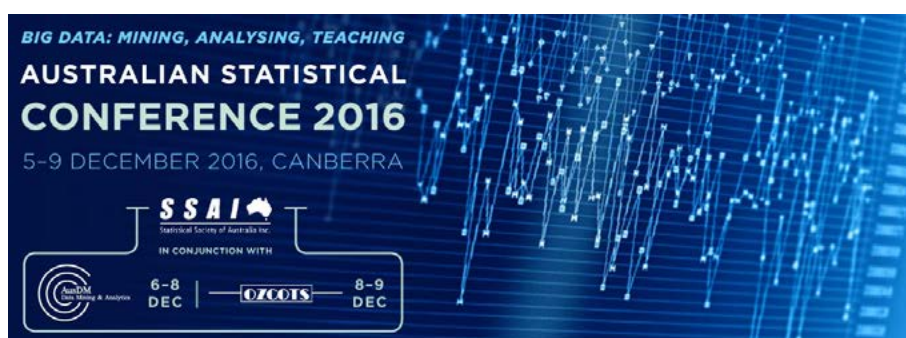
President: Alethea Rea
Secretary: Tom Davidson
tom.davidson@abs.gov.au



There are a number of invited sessions in the SSA conference. Two are memorials for Joe Gani and Peter Hall. The others have been organised by the sections of SSAI - Bayesian Statistics, Environmental Statistics, Social Sciences, Statistical Education, Surveys and Management and Biostatistics. Details will be available shortly on the website.

Details of the short courses close to the conference will be available shortly.

There will be a welcome reception on Monday 5 December and a conference dinner on Wednesday 7 December. The dinner is in conjunction with the Australian Mathematical Society which is holding its conference at ANU in the same week.



Key Conference Dates to remember are:

- 16 September – Early bird registration closes
- 24 October – Preliminary program available
- 5 – 8 December 2016 – SSAI Conference
- 6 – 8 December 2016 – AusDM Conference
- 8 – 9 December 2016 – OZCOTS Conference

We look forward to welcoming you at ASC2016!

Bill Gross

ASC 2016 Organising Committee Chair

BIG DATA: MINING, ANALYSING, TEACHING

AUSTRALIAN STATISTICAL CONFERENCE 2016

5-9 DECEMBER 2016, CANBERRA



REGISTRATIONS ARE NOW OPEN FOR THE

AUSTRALIAN STATISTICAL CONFERENCE 2016

in conjunction with the Australasian Data Mining Conference (AusDM)
and the 19th Australian Conference on Teaching Statistics (OZCOTS)

5th – 9th December 2016
Hotel Realm, Canberra

Big Data: Mining, Analyzing and Teaching

Join delegates from all areas of statistics, data mining and teaching to discuss, network and learn. Develop and share knowledge and expertise with world class Australian and International colleagues. The Conference will provide an excellent opportunity to be involved with presentations on a wide range of topics recognising the role that statistics and data mining play in all aspects of the modern life.

Watch this space for more information:

<http://asc2016.com.au/>

STATEMENT ON THE 2016 AUSTRALIAN CENSUS

Released on 8 August 2016

The Statistical Society of Australia is concerned that the current controversies surrounding the 2016 Census may impact upon the quality of the data collected and may be raising unnecessary fears in the community.

Australia is fortunate to have a history of highly regarded Censuses, amongst the best in the world. This has come about through the highly professional work of the Australian Bureau of Statistics (ABS) and has meant that the Census results have never been seriously questioned as they have been in many other countries, including leading countries such as the USA. Governments and the community rely upon and use data from the Census in many ways, perhaps more widely than many people realise. For example, the standard measures used to identify places of disadvantage and social need are all based upon the Census.

The ABS has had a history of being highly protective of the confidential information it collects, even before the current legislation that makes it clear that confidentiality is paramount. For many years it has collected names and addresses, so that field staff can check returns in initial stages of processing; these are not retained. The ABS already has systems in place to manage that information and keep it confidential. What is new is not the collection of names and addresses, but the retention of returns with identifying names and addresses for a longer time, and in that time use it to create more comprehensive and useful data sets by linking to other data, including previous Censuses.

As statisticians we recognise the potential value of more comprehensive data sets to enable better decision making in government. This can be to the benefit of all. We understand that access to this more comprehensive data will be subject to the same or stronger restrictions that are currently applied.

The Statistical Society of Australia is concerned that these changes, brought in with the 2011 Census and repeated in 2016, and that have many potential benefits, have not been handled well. In particular, the public whose cooperation is critical for a successful Census does not appear to have been adequately involved, and the reasons for the changes are even now not well publicised. This is an issue of transparency where the ABS needs to do better.

The Statistical Society of Australia hopes that the Australian public fully engages with the Census on 9th August 2016. The Society also hopes that the ABS adopts an approach of taking the community into its confidence in explaining what it is doing and why.

Further comment:

John Henstridge
President
john@daa.com.au

Scott Sisson
Incoming President
scott.sisson@unsw.edu.au

EMERITUS PROFESSOR

CHRISTOPHER ROBIN HEATHCOTE

passed away on 18 July 2016

Emeritus Professor Christopher Robin Heathcote, universally known as Chip, was born in Secunderabad, India on 18 April 1931.

He completed his schooling in Perth, a BA at the University of Western Australia (1956) and an MA at the University of Melbourne (1958) before enrolling for a PhD at the ANU. There Chip worked on queuing theory under the supervision of J.E. Moyal in the Department of Statistics in the Institute of Advanced Studies, receiving his PhD in 1962.

He was then appointed as a Senior Lecturer and later Reader in the Department of Statistics in the School of General Studies (later the Faculties) at ANU. In 1971, when E.J. Hannan moved to the Institute department, Chip was appointed to the Chair of Mathematical Statistics. (Deane Terrell was appointed Professor of Econometrics in the Department at the same time.)

Chip served as Dean of the Faculty of Economics for two separate terms from 1973 and from 1978. Chip held the Chair of Mathematical Statistics until his retirement in 1996; he then became a Visiting Fellow in the Centre for Mathematics and its Applications in what is now the Mathematical Sciences Institute at ANU. Chip was a Fellow of the Institute of Mathematical Statistics and the International Statistical Institute. He was editor of the Australian Journal of Statistics from 1971-1973.

Chip's research interests included stochastic processes, applied probability, empirical characteristic functions and, later in his career, demography and epidemiology.

In the 1990s, Chip introduced the teaching of Actuarial Studies to the Department of Statistics and Econometrics (now part of the Research School of Finance, Actuarial Studies and Statistics) at ANU, a very important innovation.

He was a gentle and civilised man who always saw the best in people. Chip was predeceased by his wife Nina; he is survived by his son Robin, and his family, and his daughter Sarah.

A.H. Welsh

AMSI BIOINFO SUMMER 16

A SYMPOSIUM IN BIOINFORMATICS

28 NOV – 2 DEC 2016 THE UNIVERSITY OF ADELAIDE

AMSI BIOINFOSUMMER introduces bioinformatics to students, researchers & professionals working in mathematics, statistics, IT, medical sciences, biological & chemical engineering

THEMES:

INTRODUCTION TO BIOINFORMATICS
ANALYSIS OF HIGH DIMENSIONAL DATA
RNA SEQ EXPERIMENTAL DESIGN & ANALYSIS
USING LONG READ SEQUENCING FOR WHOLE GENOME ASSEMBLY
CODING FOR BIOINFORMATICS

REGISTER: AMSI.ORG.AU/BIS



IMAGE: OVERLAPS BETWEEN KNOWN BIOLOGICAL PROCESSES BY VILLE-PETTERI MAKINEN, SAHMRI

AMSI RESEARCH



2016 AMSI-SSA LECTURER

JEFFREY ROSENTHAL

Professor of Statistics, University of Toronto

TOURING IN AUSTRALIA

28 NOV – 16 DEC 2016

research.amsi.org.au/amsi-lecturer/



The Mathematics of MCMC

From Lotteries to Polls to Monte Carlo

Adaptive MCMC For Everyone

Jeffrey Rosenthal is an elected fellow of the Royal Society of Canada (2012) and the Institute of Mathematical Statistics (2005). He was awarded the CRM-SSC Prize in 2006, the COPSS Presidents' Award in 2007, and the SSC Gold Medal in 2013. His book for the general public, *Struck by Lightning: The Curious World of Probabilities*, was published in sixteen editions and ten languages, and was a bestseller in Canada.

AMSI RESEARCH

GOLDEN JUBILEE TRAVEL GRANT

Thanks to the Statistical Society of Australia for awarding me a 2016 partial Golden Jubilee Travel Grant, and giving me the opportunity to attend one of the largest statistical conference in the world, Joint Statistical Conference (JSM) in Chicago Illinois, USA. There were more than 6,000 attendees, over 600 sessions and more than 1,000 student attendees.



Mahrita Harahap



Unfortunately I couldn't attend every session I was interested in, so I had to plan the days and sessions to visit since the conference hall was very big and I mostly stayed in sessions which were mainly related to my research field, such as the sessions on Statistical Climatology, Environment Statistics, Analysis of Large Spatial Data, Uncertainty Quantification in Climate Science, Environmental Extremes, Statistical Methods for Remote Sensing Data, Data Fusion and Environmental Applications. I also attended some other sessions unrelated to my field but in which I had an interest, such as Statistical Consulting, Credit Risk Calibration and Data Science.

I especially liked the Introductory Overview Lectures they had in the mornings on Spatial-Temporal Data Analysis, Causal Inference and Data Science. I learnt a lot from attending these interesting 2 hour overview lectures. I also attended some professional development sessions on Presentation Skills and Career Development which I found very useful and helpful as an early career researcher. At the end of each day, there were Student Mixers, Dance Party events and meet ups for certain sections, such as the Section on Statistics and the Environment Meeting and Mixer, which encouraged networking opportunities.

I presented a SPEED contributed session under Environmental Statistics of a 5 minute oral presentation which was then followed by an electronic poster on a 47 inch lcd screen later on the day. My presentation was on "Pattern identification of the interactive impacts of climatic variables on the coupling of carbon and water fluxes over Australian savannas using Principal Component Analysis". My presentation generated some insightful suggestions and discussions from academics and students about the method and the applications.

> Continued on next page

I had the opportunity to meet and watch another Australian statistician - Noel Cressie's talk on "Uncertainties in Spatio-Temporal Prediction for Carbon Cycle Science: From Satellite Data to Surface Fluxes". This was very useful because my research work is also on applications on Carbon Cycle Science and it was enlightening to hear he faced the same challenges when working in a field that we are both unfamiliar with and had to learn about.

This conference has been one of the highlights of my PhD Career and I highly recommend students attending and presenting their work at an international statistical conference. The JSM conference is great for learning new methods and professional networking. I met world famous statisticians from all over the World and definitely made some new lifelong friends. Chicago is also a beautiful city to visit. Thank you SSA for this opportunity I will never forget.

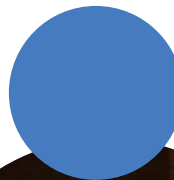
Mahrita Harahap

PhD Candidate

BMathFin (Hons) University of Technology, Sydney

MStat University of New South Wales

UTS School of Life Sciences



AMSI SUMMER SCHOOL 17

IN THE MATHEMATICAL SCIENCES

9 JAN - 3 FEB THE UNIVERSITY OF SYDNEY

- CATEGORY THEORY & COMPUTER SCIENCE
- COMPUTATIONAL BAYESIAN STATISTICS
- COMPUTATIONAL MATHEMATICS
- GEOMETRIC GROUP THEORY
- HARMONIC ANALYSIS
- MATHEMATICAL BIOLOGY
- MATHS & STATS OF BIG DATA
- OPTIMISATION

APPLY NOW AMSI.ORG.AU/SS

AMSI RESEARCH



CAPITAL NUMBER THEORY
8 - 9 APRIL
THE AUSTRALIAN NATIONAL UNIVERSITY

PROBABILISTIC & EXTREMAL
COMBINATORICS
DOWN UNDER
13 - 17 JUNE
MONASH UNIVERSITY

AMSI
WINTER SCHOOL **16**
4 - 15 JULY
THE UNIVERSITY OF QUEENSLAND

ERGODIC THEORY
& ITS APPLICATIONS
18 - 22 JULY
THE UNIVERSITY OF SYDNEY

MODU2016
18 - 22 JULY
RMIT UNIVERSITY

AMSI RESEARCH
AMSI
SCIENTIFIC EVENTS 16
WWW.AMSI.ORG.AU/SCIENTIFIC

WINTER OF
DISCONNECTEDNESS
1 - 12 AUGUST
THE UNIVERSITY OF NEWCASTLE

GEOMETRY
→ **ANU**
15 - 26 AUGUST
THE AUSTRALIAN NATIONAL UNIVERSITY

TOPOLOGICAL MATTER,
STRINGS & K-THEORY
5 - 9 SEPTEMBER
THE UNIVERSITY OF ADELAIDE

**ANIMAL
VEGETAL
MINERAL?**
18 - 23 SEPTEMBER
WESTERN AUSTRALIA

**MATHEMATICAL METHODS
FOR APPLICATIONS**
ANZIAM - ZAMA JOINT MEETING
11 - 14 NOVEMBER
HANGZHOU, ZHEJIANG PROVINCE, CHINA

INTERNATIONAL
CONFERENCE
**ON NONLINEAR PARTIAL
DIFFERENTIAL EQUATIONS**
28 NOV - 2 DEC
THE UNIVERSITY OF SYDNEY

AMSI
BIOINFO 16
SUMMER
28 NOV - 2 DEC
THE UNIVERSITY OF ADELAIDE

INTERNATIONAL BIOMETRICS CONFERENCE (IBC)

In July I was fortunate enough to attend the International Biometrics Conference (IBC) hosted by the Western North American Region (WNAR) of the International Biometric Society (IBS) in Victoria, Canada. The conference was held on 10-15 July at Victoria Convention Centre. It was an excellent conference with a diverse range of topics, including bioinformatics, sampling design, missing data, causal inference, cancer screening, network analysis and spatiotemporal modelling, among others.

Victoria is located on the Vancouver Island roughly half way between Vancouver and Seattle. While the flight from Sydney to Vancouver took around 14 hours, the connecting flight to Victoria only took a mere 25 minutes. Known as the "The Garden City", Victoria is frequently named one of the top 20 destinations in the world.



The port of Victoria.



Jarod giving his talk

My talk, titled "Multilevel Modelling of Counts with Gamma-Poisson Model" introduced a framework for modelling correlated count data. It is applied to ease privacy concern in population based administrative or census databases, and can be naturally extended to multilevel modelling of complex survey data in small area estimation. The session was well attended and generated some insightful discussions. I also had the opportunity to attend a short course on "A statistical approach to machine learning", delivered by Andreas Ziegler and Marvin Wright. The course introduced some of the most commonly used algorithms for classifications, along with their extensions. They showed that all problems from generalised linear models and survival endpoints can be tackled with the algorithms discussed.

I particularly enjoyed the special "Statistics in Practice" session on "Meta analysis of individual participant data (IPD)", as both Simon Thompson and Mark Simmonds gave an excellent up to date overview in this area. There are also a variety of activities tailored to young statisticians, including a warm-up session, a few showcases and a mixer, where I made some useful connections.

> Continued on next page

On the free day on Wednesday, I visited the Craigdarroch Castle, the Butchart Gardens and Canada's oldest Chinatown with a few other IBC members. Gastronomical highlights were the deliciously unhealthy poutine (hot chips, gravy and cheese curd), pancake with maple syrup, halibut (a local fish) and wild salmon (Australian salmon are all farmed).

Overall, I had a wonderful experience at the conference and would highly encourage all students and early career researchers to submit an application for the next round of travel grants. I would also like to express my gratitude to the Statistical Society of Australia and the Australasian Region of International Biometric Society for funding my trip.

Jarod Lee

University of Technology Sydney



Totem poles are everywhere, a good sign that aboriginal culture has been well preserved.



The Sunken Garden, within Butchart Gardens.



The British Columbia Parliament Building

SSA GOLDEN JUBILEE TRAVEL GRANT

It provides overseas travel funds to the Society's student members, who can prove consecutive SSA membership for a minimum of two years and who wish to attend overseas conferences at which they present a paper or poster.

A maximum of \$1000 is available per application, limited to a single trip during the course of the student's studies. Students will not be supported in their first year of study and will have had to be members of the Society for at least 2 years prior to the application deadline. Applications are required to be lodged in advance of travelling. In exceptional circumstances an application can be for post-conference support, but the application will then have to be made within 1 month of returning and the 2 year mandatory membership period prior to departure must still be met. Exceptional circumstances are limited to unforeseeable student out of pocket expenses arising from other funding sources not fulfilling their obligation or changes to the trip that could not have been avoided.

A complete application will consist of

- Information on the conference and its importance to student's work (2-3 lines)
- Details of the paper/s/poster student wants to present at the conference
- A list of other funds sought or promised, including student's home institution
- Student's out of pocket expenses expected
- Any other supporting material student feels is necessary
- A letter of support SIGNED by one of student's supervisors AND student's Departmental Head
- Student's CV

The application deadline is 31 March 2017.



If successful the student member is required to produce original receipts for amounts of equal or greater value than the grant. These receipts will be returned to the student marked with how much has been reimbursed. The student will therefore still be able to use the receipts for proof of attendance or to claim any funding shortfall from other organisations. The student member will also need to supply a report of his or her involvement in the conference to be published in the SSA newsletter. This report should confirm the actual travel details and papers presented.

Recipients of the grant are asked to acknowledge the SSA's support in the presentations and in any published version of the paper.

One travel grant is available per year. Assuming that more than one application will be received per year, either the Executive Committee or a special committee would help with the selection process.

For more information or to apply, contact the SSA Office (eo@statsoc.org.au).

With this travel grant program the SSA seeks to underline its objective to further the study, application and good practice of statistical theory and methods in all branches of learning and enterprise. It has been implemented to confirm to members that the SSA is willing to support student statisticians and their budding careers.

NATIONAL SCHOOLS COMPETITION CONTINUES TO GROW: THE 'STATS + X' INITIATIVE!

STATS + X = awesome investigation and poster

"when they do study them (the sciences) at school ... the best way to teach it inspirationally is to teach it the way it's practised"

QUOTE FROM THEN CHIEF SCIENTIST, PROF IAN CHUBB.

A prime stimulus of student engagement and promoting independent learning often lost in the teaching of statistics is context. Practicing statisticians have a context, and a problem to solve, and have chosen their environment rather than having it thrust upon them. Allowing students to take the lead, determine the context and self-diagnose are powerful motivators. Developing interest in statistics within interesting and self-motivated problems must be done early in a student's experience, to instil the idea that statistics is an enabler, not a curse.

In previous SSA Newsletters I wrote about the successful 2014 pilot of the National Secondary Schools Poster competition and how the Junior Division Winners from the Competition (Year 10 students from Lisarow High School, Central Coast, NSW) were announced at the International Statistical Institute's 60th World Statistics Congress in Brazil as the *Winners of the International Statistical Literacy Project – Junior Division*.

In 2015, the number of national participants tripled to 235 students contributing 76 poster submissions (from across all states and territories excluding South Australia and Northern Territory).

In 2016, with the further growth in secondary schools' participation and the expansion, by demand, to primary schools, we already have over 1000 participants (329 teams) registered, and the competition remains open until 10 November - see www.ssaipostercomp.info.

The competition encourages teams of 2 to 5 school students to develop, implement & creatively report upon an investigation in poster format (akin to a conference poster) towards addressing a practical question, on a topic of interest to them *from any field* (the X in 'STATS + X'), and utilising the collection, presentation and interpretation of data.

> Continued on next page

Teachers are saying:

"...a great vehicle for collecting real data, finding meaning amongst it all, and presenting it for a real audience. 21st Century learning at its best!"

HEAD MATH TEACHER

"a resounding success... motivates and engages students"

HEAD TEACHER, TEACHING AND LEARNING

"... a rewarding experience. So often in the mathematics curriculum, statistics is taught and practised in segregated pieces, and it's not that often that students get a chance to put it all together in a meaningful way."

MATHEMATICS AND FILM, TV AND NEW MEDIA TEACHER

National Schools Poster Competition website

Would you like to be involved in the 2016 competition and develop the next generation of statisticians?

Perhaps you would like to be a mentor, or maybe to help judge (all done online), or even be a regional coordinator. To assist, I have processes and materials that will simplify your activity and efforts. How much you are involved is up to you; we can discuss options and I'll endeavour to keep your workload as light as you prefer – having points of contact around Australia would be invaluable!

Do you have interest in helping create the next generation of Statisticians, working with Schools and Teachers, developing interest in the types of activities you enjoy, and helping to arrest the concerns of declining interest in mathematics, statistics and the sciences?

Would you like to know more about what is involved in coordinating locally as part of the national competition?

Please contact peter.howley@newcastle.edu.au or phone 02 49 215518 to discuss.

It would be great to hear that there are others who think this is a good idea and/or would like to see how they may get involved.

Having a local friendly and interested person as a point of contact for schools will be invaluable to the expansion of the competition.

I am pleased to advise that the CSIRO's Scientists- and Mathematicians-In-Schools Coordinator has offered that program's involvement in the competition, with their personnel eager to utilise the poster competition to engage with schools where possible. It is also being promoted through state Mathematical Associations and is also currently supported by RDA Hunter and the OLT-funded Inspiring Mathematics and Science in Teacher Education Project.


So please advertise widely and contact peter.howley@newcastle.edu.au or phone 02 49 215518 to discuss.

Peter Howley

The University of Newcastle

Chair of Statistical Education

Follow me on Twitter: @peterhowley0



Mentors
(who attend
schools to assist)
are saying:

"It was highly rewarding ... I was also inspired by their keenness in science and statistics"

"The poster competition provides students with a unique opportunity to combine the skills they have learned in Science, Mathematics and English to investigate a real world problem. I use the skills that are explored in the poster competition in my occupation to assist in experimental design."

STEMS: PUTTING STATISTICS INTO STEM IN THE AGE OF DATA

In 2016, the Statistical Society of Australia, via its Statistical Education Section, sought to develop a platform for the transformation of Statistics Education in Australia at high school and at university, in response to an increasingly massive demand for statisticians and an equally massive shortfall in supply. The emphasis was on Statistical Education in the more general context of Data Science.

A two-day colloquium and workshop was held 2 – 3 June, 2016, hosted by the University of Technology, Sydney, with the twin aims of developing an appropriately strategic view of needs, and then an overall plan to respond appropriately. There were over 100 attendees from all areas with an interest in statistics education, from primary school through to government and industry.

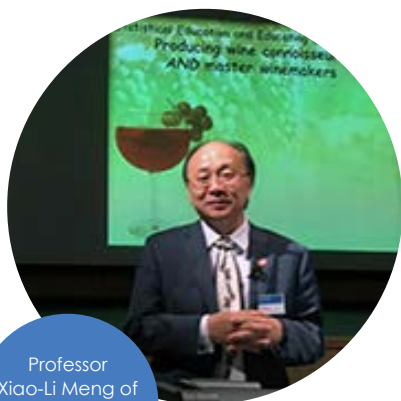
The first day of the event featured speakers and panellists from the Chief Scientist's office, the Office of the Prime Minister and Cabinet, BOSTES¹, the Commonwealth Bank, ACARA, Qantas, ACEMS, AMSI, SSA, the University of Newcastle, Harvard University, the University of Sydney, and the University of Technology Sydney. A highlight was the participation and presentation of a renowned statistical educator, Professor Xiao-Li Meng, Dean of the Graduate School of Arts and Sciences at Harvard University, who explained how the Harvard Statistics program is addressing some of these challenges and how he envisages the future for Statistical Education in the information age. We were also very fortunate to attract a number of colleagues from New Zealand, including a renowned expert in Professor Chris Wild.

The keynote presentations and panel discussion were recorded and are now available at <https://stems2016.com/presentations-videos/> and <https://stems2016.com/panel-discussion-video/> respectively.

The event stimulated interactions between primary education, secondary education, tertiary education, government and industry leaders about how to re-imagine Statistics curricula for K-12, undergraduate and postgraduate degrees in data-dependent disciplines to create the next generation of Statistics and Data Science graduates. The second day was devoted to commencing work on a plan for how we might transform statistics education in Australia. A number of key initiatives have been identified about which we shall report soon.

It was agreed that the STEMS colloquium would be an annual event, and further details and results of continuing working parties will be reported at the ASC2016 panel session (within the Statistical Education Session). You are invited to study the videos and to express your interest in being involved in this STEMS initiative by contacting the SSA Section Chair of Statistical Education, Peter Howley (peter.howley@newcastle.edu.au).

> Continued on next page



Professor
Xiao-Li Meng of
Harvard University
presenting

¹ BOSTES = Board of Studies Teaching and Educational Standards NSW; ACARA = Australian Curriculum, Assessment and Reporting Authority; ACEMS = ARC Centre of Excellence for Mathematical and Statistical Frontiers; AMSI = Australian Mathematical Sciences Institute.

Some key points the national colloquium advocated surrounding undergraduate course design:

1. Teach as we practise:

- A point championed by former Chief Scientist Ian Chubb, and supported by Harvard Prof Xiao-Li Meng, we must remember that in practice we start with a problem (context). We don't entice people to become wine connoisseurs by firstly explaining the chemistry behind the wine's creation; similarly Statistics should not focus on formulae. Rather, allow the student to become involved, to enjoy, and to engage with a problem and with data.
- Statistics is the Swiss Army Knife of disciplines, but do we exhibit it, do students get to feel and live it?

2. In all that we do (curriculum and program design), remember the practising statistician:

- We say Statistics is interdisciplinary. We say it is practical. Do we exhibit it, do students get to feel and live it? Do we create a grapevine of people spreading the word for us?
- Focus on problem solving / statistical investigations, and then provide statistical theory to support what we do and develop methods to deal with real problems with real data.
- Incorporate coding and a breadth of experiences.

3. Work closely with Computer Science (CS)

- The adage is '(STATS + CS) + X', where X is an individual's passion.
- Integrate CS as a first year course and associated communication-based courses (communicating with statistics, related skills, build breadth of skills).
- Remember that Big Data refers to large and complex data, and tackling Big Data calls for the uniting of statistical skills with those also skilled in visualisation, algorithms, computer languages and architecture, and data base management.

4. Develop flexible and nimble graduates who combine statistical skills with other discipline-based knowledge (e.g. biology, engineering, finance, medicine, etc)

- Ensure breadth of skills (from data management, to data analysis, to reporting and driving policy)

5. To build the numbers of graduates, we must recognise two streams of students: the mathematically oriented, and the (possibly) non-mathematically oriented whose interests lie principally/initially in other disciplines but who we can bring inside the tent if done well.

- Statistics is enabled by mathematics, but students don't necessarily need deep mathematical training to do statistics; many people from other disciplines have succeeded in Statistics – promote the subject so as to ensure that we attract those with interest in Statistics, rather than lose those who think that being strong at Mathematics is a prerequisite for being good at Statistics
- Advocate the aspect of statistical thinking, of practice-oriented.

6. Utilise technology and involve business and industry in the design and implementation of programs.

Peter Howley

The University of Newcastle
Chair of Statistical Education
Follow me on Twitter: @peterhowley0

Written on behalf of the STEMS2016 organising committee: Peter Howley (UoN), Nick Fisher (USyd), Louise Ryan (UTS) and Michael Martin (ANU).



One of the breakout groups, L to R: (mostly concealed) Geoff Prince, Xiao-Li Meng, Richard Arnold, Jessie Roberts, Jacqui Rammage, Spiro Penev, Jean Yang, Louise Ryan, Nick Fisher.



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CANBERRA BRANCH

A Statistical Framework for Analysing Big Data

Dr Siu-Ming Tam gave the 2015 Ken Foreman Lecture at the Annual General Meeting of the Statistical Society and ASPAI.

The objective of National Statistical Organisations (NSOs) like the ABS is to harness big data sources to create a richer, more dynamic, and focused statistical picture of Australia for better informed decision making. Dr Tam cautioned that big data tends to be a solution in search of a problem, and that we need to figure out what the problem is and analyse what the available data sources are rather than just bringing big data in to solve the problem.

Dr Tam highlighted three considerations that need to be met before big data can be used in official statistics:

What is the business benefit of using big data?

Who are the data custodians? Can we actually get hold of the required data?

How valid are the statistical inferences we can make using big data?

Big data also presents its own set of challenges – namely a big population, a large number of covariates, and a long time period (N , p , and t in statistical notation). While statisticians have techniques to handle large populations (e.g. sampling methods) and a long time period (e.g. functional data analysis and state space modelling), the real challenge is handling large number of covariates – with a large number of covariates we run the risk of finding spurious correlations between uncorrelated covariates. A recent simulation study found that the median correlation between variables in a dataset with 6,000 uncorrelated covariates was 60%!

Dr Tam discussed two possible applications of big data – using mobile phone base station data to estimate population movement, and predicting crop types and yields from satellite imagery. The mobile phone example was done using synthetic data due to unavailability of real data, whereas the crop yields example was based on work being done in the ABS at the time.

Dr Alan Welsh was the first discussant. He stressed the need for a more precise definition of big data, saying that size is not the sole determinant of big data, but newness and indirectness of collection need to be considered. He also maintained that just because we've listed all the issues associated with big data doesn't mean that they will hold and can be ignored in future analysis. Finally, he queried whether the simulated data Dr Tam presented in his mobile phone application was anything like the data that we would actually receive.

Dr Ray Lindsay was the second (and final) discussant. He pointed out that as big data is mostly derived from the internet, there are some issues we need to consider. One key consideration is that much big data is derived from large logs that are kept whenever someone clicks on a webpage (known as weblogs – not to be confused with blogs!). There are significant issues with extracting clean data from these weblogs (such as identifying whether users have clicked on links once or multiple times). Other considerations were the use of VPNs that allow users to appear to be in a location different from where they actually are, and that metadata collected from website owners will change over time.

Daniel Fearnley



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NSW BRANCH

Statistical Analysis in Private Health Insurance

Dr Michael Douman, Head of Business and Clinical Analysis, Bupa Australia

On 10 May 2016, the NSW Branch was fortunate to have Dr Michael Douman from Bupa Australia give a talk on Statistical Analysis in the Private Health Insurance Industry. The talk focused on the work Bupa Australia does in fraud detection and prevention, the contracting of hospital, medical and ancillary service providers, and product (insurance policy) development.

Australia spends approximately \$170 billion a year on health, of which private health expenditure is \$84 billion. Of total private health expenditure, private health insurance accounts for \$13 billion. For a commercial organisation like Bupa, there is an interest in determining: if clinical programs that Bupa offers are cost effective; the quality of services provided that Bupa pays for and associated adverse events; clinical drivers of cost; mortality and morbidity rates associated with individual clinicians and hospitals; customers need for health services (e.g. homeopathy); and claims leakage and fraud prevention.

The skills and knowledge needed to answer such questions is broad, with Bupa needing to draw on clinical knowledge, clinical practice experience, health economics, fraud (pattern analysis), data infrastructure, finance, and statistical methodologies from basic to advanced (e.g. simple summary statistics, GLMs, classification techniques, time series analysis, Kohonen networks, vector machines, association sequence analysis, etc).

Michael proceeded to give some specific examples of work Bupa had done in the area of suspicious claims and fraudulent behaviour. For example, Bupa attempted to answer the question of why some podiatrists are so significantly skewed to having initial consultations. To answer this, the utilization ratios of each benefit item per provider were extracted. Cluster analysis was then used to group 2,2238 providers according to their claims profile. K means clustering was used with the aligned box criterion to determine the number of clusters. A total of 19 clusters were created. Cluster 2 contained a chain of 12 providers along with a further 82 providers who exhibited similar claiming behaviour. From this cluster, podiatrists were referred for audit based on cases where no comprehensive nor prolonged services were offered, and there was a high volume of initial consultations, biometrics exams and custom orthotics. Following the audits, some providers were recommended for de-recognition from Bupa, which severely impacts their business model. This led to potential savings of \$680,000.

After several more examples, the talk concluded with Michael discussing the future of health analytics. With health costs continuing to escalate, the application of statistics to health questions will only increase. Difficult questions will need to be answered in order for health costs to be constrained, so health does not consume all. Thus, the application of statistics in the commercial sphere for a company like Bupa is morphing from basic management reporting to predictive analytics of both clinical and economic issues. Current issues that are holding this back include information asymmetry, whereby clinicians are the gatekeepers to knowledge, data not captured, poor data quality, meta

> Continued on next page



Statistical Analysis in Private Health Insurance - Dr Michael Douman

data and lack of accurate and standard definitions, legacy IT systems that are inflexible, organisational silos and competition. In addition, investment tends to be made on a reactive basis as opposed to a proactive basis – analytics are required when the business is doing poorly or facing crises, but why spend money if we are profitable and things are ok?

Michael's talk was very well attended by members and non-members alike, and triggered a number of questions. After the talk and questions, Michael and a group of attendees continued these discussions of health issues over salads, sandwiches and red wine!

Richard Hutchinson
(Covance)

National and local initiatives in Statistics Education

**Dr Peter Howley, School of Mathematical and Physical Sciences
Newcastle, 1 June 2016**

The June meeting for the NSW Branch was held on the eve of the *STEMS: Putting Statistics into STEM in the age of data* national colloquium and workshop. The speaker was Dr Peter Howley, the Head of the Education Section of the Society who played a key hand in organising the colloquium. He discussed his hugely successful SSA National Primary and Secondary Schools Poster Competition.

This project has only been running for a few years but has grown in scale very quickly. Several hundred submissions are expected this year from all over Australia, growing from 32 in 2014 and 76 in 2015. In short, teams of 2 to 5 students create a poster presentation on any topic that interests them, so long as it involves collecting and analysing some data. In particular participants are encouraged to think clearly about the aims of the study and to think about which results may or may not change if the study was conducted again.

Peter showed us several entries from recent years. Included in these were very sophisticated posters covering an amazing range of topic areas including

- deterioration of teeth in different liquids;
- growth rates of foot bacteria for males and females;
- representation of ethnicities in television advertising;
- did the amount of sleep for year 7 students decrease over 2010-2014?;
- analysis of cost effectiveness of wind turbines;
- environmental investigations;
- which substance best preserves an apple;
- supermarket comparisons.

More can be seen on the website: <https://www.ssaipostercomp.info>

Under certain conditions winners of the national competition also qualify for the International Statistical Literacy Project (ISLP). Fantastically, the Junior Division Winners from the 2014 national competition, Year 10 students from Lisarow High School (Central Coast, NSW) were announced as the winners of the Junior Division of the ISLP with their teeth deterioration poster at the 60th World Statistics Congress in Brazil. This was an amazing achievement in the first year the competition was run.

> Continued on next page

Peter conveyed very clearly his passion for statistical education and has clearly hit on a winning formula with this poster competition. The general idea of engaging students by getting them to think about things that interest them from a statistical point of view (without necessarily saying so explicitly) is very attractive in theory and seems very successful in practice.

A vital element of the competition's success is that interested statisticians (or other scientific communicators) play the role of mentor/facilitator at schools. Interest in the competition seems to be exploding so it is important that interested mentors also make themselves available so this important outreach work can continue. If any members of the Society are interested in helping they may contact Peter directly; peter.howley@newcastle.edu.au.

Michael Stewart



Professor Louise Ryan proving she owns a pair of stilettos.

Statistics in Stilettos

The NSW Branch of the SSA co-sponsored an exciting breakfast event, *Statistics in Stilettos*, at University of Technology Sydney. The event was part of a series organized by the Women in Mathematics Special Interest Group (WiMSIG) - see <http://www.austms.org.au/women+in+mathematics+group>. *Statistics in Stilettos* was organized by UTS Professor Louise Ryan, with expert administrative help from Ms Lucia Kralova.

Approximately 12 people attended the event, including 2 men. There was quite a range in terms of age and level of seniority, with a couple of students and junior researchers and several more senior women. Most attendees were from academia, but there were also a couple of people from industry. A lively discussion was held around a recently published article, "A conversation with Nan Laird", which Professor Ryan had authored. The article summarized an interview with Nan Laird, a distinguished Harvard Professor and one of the most highly cited statisticians in the world. The article talked about her life and career, including her perspectives on how to balance the demands of career and family. Attendees seemed to really enjoy the event. Those interested in the full article may find it at <http://arxiv.org/abs/1512.03533>.

Retention of names and addresses collected in the 2016 Census: A cautious step into known territory

Emeritus Professor Bruce Armstrong, University of Sydney, 12 July 2016

The NSW Branch was delighted to co-host a Public Lecture by Professor Bruce Armstrong on July 12th 2016 at the University of Sydney. Professor Armstrong is currently an Emeritus Professor at the University of Sydney and Visiting Professor at the University of Western Australia and has a stellar career in epidemiology and as a public health physician encompassing both academia and public service with accolades too numerous to attempt to recount in this event summary. So it was a great pleasure to have him speak on the upcoming intention of the Australian Bureau of Statistics (ABS) to temporarily retain personal identifying information during the census to allow linkage between databases.

The talk began with clarifying the current situation with data quality among government agencies. In particular, there is missed potential in the use of available data since government agencies do not share or link data in an

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adequate way and neither the public or research groups have adequate access to available data. There is a push to ensure data access and linkage policies are raised to a world class standard and provide a platform to encourage collaboration between government agencies, academia and industry to provide evidence based policy development and facilitate research.

Up until now, all identifying information in the census was destroyed by the ABS after the statistical processing was completed, unless respondents decided to opt-in and give their consent for data retention. The main change that is being proposed is that identifying information of the 2016 census is retained until that information is no longer useful or until August 2020, whichever occurs earlier. During this retention period, each survey respondent is given an anonymised name and MESH block code. The MESH block code is a geographical unit available on the ABS website (<http://www.abs.gov.au/websitedbs/censushome.nsf/home/meshblockcounts>). These names and MESH codes allow data linkage to future Censuses and other administrative data. The benefit of this is in allowing a richer picture of Australia while reducing costs to survey design in the ABS and meeting the demand of higher quality linked databases.

Professor Armstrong then discussed important concerns about the implementation of this process with the security of the linked data and privacy issues. Security-wise, the ABS plans to be the sole custodian of the linked data with the data being stored in a single location. The data cannot be transported away from this location and interested parties need to conduct their analysis there and are only permitted to take away the results of their analysis from that location and not the data itself. Along with other security and privacy risk countermeasures, Professor Armstrong made an important suggestion with a human subjects' rights protection committee (HSRPC) being formed as the gatekeepers that grant this access to help prevent re-identification risk.

To demonstrate the importance of linkage in producing high quality research, Professor Armstrong turned to some nations that already their own linkage system. These being social epidemiology in New Zealand in Ajwani et al. 2003; environmental health in Iceland with Kristbjornsdottir et al. 2016 and socioeconomic determinants of mortality in Switzerland in Bopp et al. 2009.

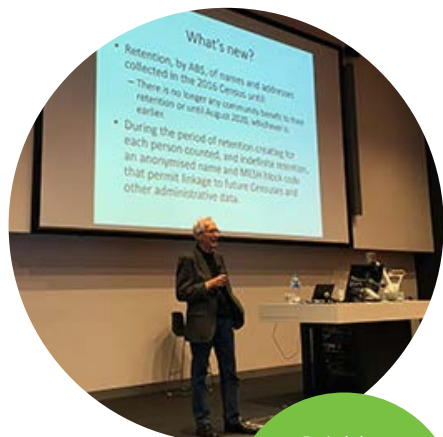
Professor Armstrong closed with a positive outlook that using temporarily identifiable information in creating and maintaining linkable census data sets can be done safely, securely and preserve privacy if done in the right way. The audience were impressed with the scope of the talk and it generated much discussion with Professor Armstrong at the end. It seems quite a number of attendees were unaware of this change previously and believe it could become a hot topic in the public domain in the near future.

The NSW Branch would also like to thank the Australasian Epidemiological Association (AEA) who co-sponsored the Public lecture.

Justin Wishart

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Retaining names and addresses collected with the 2016 Census - Emeritus Professor Bruce Armstrong.



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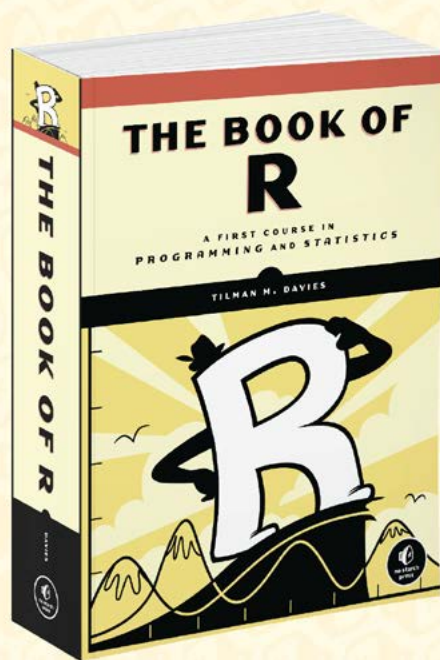
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SA BRANCH

June Meeting (22 June 2016)

Panel Discussion: Strategies to help students for effective learning of statistics

On the 22/6/2016 at 5:30pm, SSA hosted a panel discussion on the topic of "Strategies to help students for effective learning of statistics". The panel consisted of Dr David Butler, co-ordinator of the maths and writing learning centre in University of Adelaide. Dr Tyman Stanford, associate lecturer at the school of mathematical sciences at the University of Adelaide. Professor Richard Woodman, senior bio statistical consultant and director of Flinders centre of Epidemiology and Biostatistics at Flinders University, and Dr Lua Perimal-Lewis, research associate in the faculty of medicine and health sciences at Flinders University.

The panel of discussants had shared their thoughts on the reasons why many students struggle with learning statistics, and how educators can facilitate improved learning. They discussed that a wide range of disciplines require statistical knowledge for research, and statistical education is an area that the society should become more involved in.

The first question of the night was, "What makes learning statistics difficult for first year and second year students, particularly for those who do not have a strong background in mathematics"? On this topic there was a general consensus that many people lacked mathematical skills and also confidence, at the first year level. Dr Butler believes that part of the problem is students do not have a firm grasp on numbers, and the rules of how to manipulate equations. Professor Woodman finds that a lot of statistics courses, for non-mathematical programs, are simply service courses.

The second question was, "How can we help students to learn to choose what tools and concepts to apply when faced with statistical problems?" Dr Lewis shared a memory from her graduate days, which instilled in her an investigative mind set when applying statistics. Her supervisor was important in shaping her statistical mind, while Professor Woodman believes that a focus on the type of data, and what tests can be used that will satisfy the assumptions, with the reminder that the invaluable commodity of experience will always play a part. Dr Tyman emphasises the decision process, and the possible use of decision trees to help students.

The third question asked how teachers can better engage students. The panel believed that asking of questions, lecturer to student and student to lecturer, is key, as is students finding their own material, and sharing in groups. David Butler recalls doing simple experiments where the students conducted the trials, and were involved in every level, rather than just looking at someone else's data, .

The discussion covered issues including the balance between teaching theory and application, student 'knowledge gaps' in mathematics and the use of statistical software to promote learning.

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We didn't manage to solve the problem of the best teaching methods for statistics, but the passion brought to the debate on education is the best sign we have that things will continue to improve, for as long as there are teachers who believe in positively shaping young minds, then the standard will always increase.

The SSA thanks everyone who attended and especially our panel members for their time.

Peter Kasprzak

May Meeting (26 May 2016)

Happiness and the shapes of stories

Speaker: Dr Lewis Mitchell (University of Adelaide)

The speaker for the May meeting of the South Australian Branch was Dr Lewis Mitchell, a lecturer in applied mathematics at the University of Adelaide. The topic of Lewis' talk was "Happiness and the shapes of stories".

Lewis firstly introduced the background of the advent of 'sentiment analysis', known as 'hedonometer', in recent years that has led to novel methods for extracting information from large, unstructured, text-based corpora.

Lewis demonstrated two projects he and his collaborators in the USA and Australia had done by employing their text-based 'hedonometer', to measure population-level happiness using geotagged message from Twitter. Words have been scored on a scale of 1 (sad) to 9 (happy). For example, 'rainbow' is one of the happiest words (score 8.1) and 'earthquake' is one of the saddest (score 1.9). Their study shows that expressed happiness increases logarithmically with distance from an individual's average location. The least happy words, on average, are used at a distance representative of short daily commute to work. There was a general decline in the use of negative words as individuals travel farther from their expected location. They published a paper in 2013 and it can be found at <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0064417>.

Another study investigated the correlations between real-time expression of individuals across the United States and a wide range of emotional, geographic and health characteristic. The results show that Napa, California is the happiest city in the US, and Beaumont, Texas is the saddest city. The study also found that food-related words have the strongest positive and negative correlations with obesity. Their research shows that using the 'hedonometer' method on social media metadata has many potential applications in predicting or monitoring population-level events, such as civil unrest, human dynamics, disease prediction, presidential election results, etc.

During the final Q&A time, a few issues were discussed. Firstly, age bias while using data collected from social media – younger people could be over represented. Another potential bias is the text selection and classification. For example, the word "wine", would be highly likely a "happy word" for most people, but could be a neutral word for local people in a wine produce region or a restaurant owner.

Rosie Meng



Dr Lewis Mitchell

VIC BRANCH

SSA Vic has been particularly busy in the months since June with two very well attended meetings and a successful workshop at the time of writing this article (August 5). We have some exciting events planned for the remainder of the year too.

On July 19 we co-hosted an "Election Extravaganza" with Data Science Melbourne which was very well attended. Through some hard work from our new Vice President Jess Kasza, we were fortunate enough to attract not one, but three highly regarded speakers. Those speakers were Adrian Beaumont and Vanessa Teague from the University of Melbourne and Luke Mansillo from the University of Sydney. Just one week later we welcomed Jane Elith (University of Melbourne) to our monthly meeting where she delivered her seminar entitled "Species distribution models (and why I like working with statisticians)". Jane was the Life Scientist of the Year in 2015 and her talk highlighted that statisticians and other scientists can work very well together to produce important results that can have a big impact in scientific research. To quote one respondent to our Meetup page, "Fantastic presentation, building bridges with field ecologists so that they may have greater insights into the black box seems very worthwhile". We can definitely recommend that you have a look at some of Jane's research and many of you will recognize some familiar names among her co-authors.

On July 11-12 Professor Kerrie Mengersen (QUT) delivered her workshop "Intermediate Bayesian Statistics", to follow her workshop earlier in the year. This workshop was very successful, and well received, with 17 attendees. We would like to point out the Kerrie insisted that all profits went back into the Society, with some of those funds coming to SSA Vic and the rest to be used at a national level. In keeping in line with Kerrie's passion for promoting statistics and her reputation for mentoring others, we will be using the generated funds to somehow support our young statisticians. One of the possibilities that we are now discussing is a careers event for later in the year. So stay tuned on that one. A big thanks to Kerrie and her colleagues from QUT who helped make this happen and of course our council members Monika Buljan and Charles Gray for their big efforts on the local front.

Later in August (and of course well before you are reading this) we will welcome Adam Cagliarini from the Reserve Bank of Australia. Adam is the Deputy Head of the Economic Research Department so no doubt this talk will attract many new faces, as well as regular faces, to our monthly seminar. Our September meeting (which will actually be held at the start of October to avoid school holidays) will see up to three young statisticians present their work as part of the Young Statisticians Showcase. This event is a good opportunity for many of us to learn a little more about our younger colleagues and in the past has also attracted students to our meeting for the first time as members of the audience. Late October we will hold our annual Belz Lecture with our speaker to be confirmed for now, but no doubt announced by the time this article appears. The Belz Dinner will follow and we hope to see another great turnout. The aforementioned Careers event looks likely to be held in November. We also have many other things on the table which we will announce when confirmed.

Warm wishes to you all,

Luke Prendergast

FROM THE OFFICE

A few weeks ago the Statistical Society assembled a new website team, consisting of members, just like you, who want to help improve our current website.

Those of you who have been with the Society for a while now might be aware that the website, as you see it today, is not quite three years old. I suppose that in website years this is considered to be almost ancient! In the case of the website of the Statistical Society our hand is forced to make the changes sooner rather than later because of the introduction of the new logo. The website branding will need to be consistent with our letter head, business cards, certificates, etc. If you have not yet had a chance to check out our new logo, have a look here: http://www.statsoc.org.au/wp-content/uploads/2013/06/StatisticalSocietyOfAustralia_MiniBrandGuide-1.pdf.

Each branch of the Society is represented on this website committee and we already had two very productive meetings. When discussing the areas for improvement the team came up with quite an extensive list and we will need to make an assessment to see if we can actually get by with simply making changes here and there, or if we need to start from scratch. One question that came up during our deliberations was: "Who seeks out our website? What are members and non-members looking for when they head to website of the Statistical Society?" I would love to hear your thoughts on these questions.

Obviously having a functional, informative website enriches the membership experience. In this day and age users have come to expect websites where they can find the information which they are looking for instantly, renew their memberships quickly online, or find out about events and register for them straight away. Generally, they prefer being able to manage things without having to go through a person, especially when perusing the internet in the evenings or on the weekend.

We also use websites to be able to form an opinion in our mind about the organisation we are dealing with. We all have navigated away from websites because they looked unappealing. We might even have missed out on great products, just because the website did not sell them well. Or we are so impatient that if the technology is not right and we're supposed to wait - God forbid - ten seconds for a page to open, we swiftly move on.

All these thoughts have to be considered when we look at the revamp of our website. And this is the easy bit. I have not even started yet to talk about the website content. As you can see, it's a pretty daunting project - but with the hard work of our website committee and your invaluable ideas and feedback (please send to eo@statsoc.org.au) we're up to it!

Marie-Louise Rankin
Executive Officer



Marie-Louise Rankin

Would you like to contribute to the SSA newsletter?

Please contact your branch's newsletter correspondent:

Acting Editor: **Doug Shaw** (doug.shaw@internode.on.net)

NSW: **Dr Stephen Wright** (stephen.wright@uts.edu.au)

VIC: **Charles Gray** (vic.branch@statsoc.org.au)

ACT: **Dr Robert Clark** (robertgrahamclark@gmail.com)

QLD: **Lee Jones** (lee.jones@qut.edu.au)

WA: **Tom Davidson** (tom.davidson@abs.gov.au)

SA: **Dr Rosie Meng** (rosemengxq@hotmail.com)

SAVE THE DATE Joint International Society for Clinical Biostatistics and Australian Statistical Conference **26-30 August 2018**



**ISCB
ASC18**
26-30 AUGUST 2018
MELBOURNE, AUSTRALIA



**Joint International Society for Clinical Biostatistics
and Australian Statistical Conference 2018**

On behalf of the International Society for Clinical Biostatistics (ISCB) and the Statistical Society of Australia (SSA), the Organising Committee invites you to Melbourne, Australia in August 2018 for the Joint International Society for Clinical Biostatistics and Australian Statistical Conference (ISCB ASC 2018).

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MANAGED BY:  ISCB ASC 2018 Conference Managers: Arinex Pty Ltd
91-97 Irlington St, Collingwood, VIC 3066, Australia
Ph: +61 3 9328 9500 Fax: +61 3 9417 0899

To receive updates, please register your interest:  www.iscbasc2018.com @ iscbasc2018@arinex.com.au