statistical society of australia incorporated

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Inaugural Queensland Statistics Conference

The inaugural Queensland Statistics Conference took place from 1-3 October 2003. The 2nd of October saw the first day of proceedings, and was a cold and blustery day. However, the welcome by conference organisers in the tea room of the University of Southern Queensland Department of Mathematics and Computing was warm enough for the coldest of climates. With tea and coffee being served during registration, conversation centred on the R workshop jointly presented by John Maindonald (ANU), Ross Darnell (UQ), Peter Baker (CSIRO) and Peter Dunn (USQ) the previous day. A rousing success by the sounds of it, I was disappointed I was unable to attend.

Attendees were taken through an introduction to R with John Maindonald, starting by familiarising themselves with the R environment, inputting data and basic plotting methods among other things. Things moved pretty quickly and soon complicated plotting techniques that get the most out of the graphical capabilities in R were demonstrated.

Ross Darnell led the second session of the workshop, this one on Non-Linear Mixed Models in R. The focus of the session was the "lme" package in R, designed specifically for this type of modelling. Attendees looked at the same dataset throughout the session. Procedures for modelling with the data were covered, followed by useful approaches for plotting the main effects and interactions of the models. Lastly, Ross demonstrated code to examine the validity of any models derived, and the significance of any random and fixed effects terms in the model.

Dr Baker solves the problem of arriving late to meetings

Peter Baker discussed the value of the R packages, Emacks Speaks Statistics (ESS), Bioconductor, BugsR and bqtl/qtl. Each package has its own utility. ESS is designed to improve the user interface of S and R. Bioconductor is a work in progress of an open source software package for the analysis of genomic data. BugsR (bugs.R) is a package to use WinBugs in R, though it is not available at CRAN. The last two packages bqtl and qtl are used in analysis of data from studies in population genetics.

The last session of the day was presented by Peter Dunn on "Sweave" which is a framework for mixing R and LATEX. This allows graphics and models produced in R to be used as embedded code in LATEX documents. This enables graphics to be updated very easily within these documents without the need to reproduce and then insert graphics.

Many of the presentations given on Thursday, the first official day of proceedings, examined various statistical applications to the natural sciences, including ecology, agriculture and medical studies. Alex Creagh from Griffith University discussed the applicability of case control designs to the study of natural disturbance events in rainforest ecosystems. There were also several presentations on novel statistical methods and efforts to

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improve established techniques, such as the presentation by Olena Kravchuk from the University of Queensland on a new rank test of location equivalent to the Wilcoxon two sample test, suitable for the hyperbolic secant distribution. Also included in Thursday's programme were presentations by invited speakers Dave Butler and Kerrie Mengerson. Dave demonstrated the value and applicability of SAMM, an S-Plus module for mixed models using restricted maximum likelihood (REML), with spatio-temporal data from a white clover breeding program. However, he left most of the examples to his colleague Alison Kelly, who spoke right after him. Dave is a consulting statistician with the Queensland Department of Primary Industries involved with crop genetic improvement programs. Kerrie Mengerson is a Professor of Statistics at the University of Newcastle. Kerrie's presentation focussed on a key research interest, Bayesian modelling. These methods were presented in the context of case control and cohort studies into the effects of passive smoke.

Friday saw many more presentations from students, researchers and applied statisticians including the two invited speakers Bob Murison and John Maindonald. Bob Murison from the University of New England also discussed SAMM and ASREML, identifying examples where this S-Plus module is most valuable. John Maindonald gave a presentation called "Predictive validation issues in data mining" where he discussed approaches (both theoretical and empirical) for assessing the predictive accuracy of models. John is the senior author of the book "Data Analysis and Graphics Using R" recently published by Cambridge University Press. Another highlight was from Daniel Burrell, a student from the University of Southern Queensland, who presented a paper on a new goodness of fit statistic for generalised linear models.

The conference concluded with closing comments from Bronwyn Harch (CSIRO), the president of the Queensland Branch of the Statistical Society of Australia, who awarded the prize for the best student presentation of the conference, a prize of $250 from the Queensland branch of the SSAI and a $50 book voucher from Pearson Education to the runner up. Ben Stewart-Koster from Griffith University won the $250 for his presentation on "Statistical modelling and the problem of scale in ecology" and Rodney Ellis from the University of Queensland won the book voucher for his presentation titled "The use of correspondence analysis applied to marine data".

All in all the first Queensland Statistics Conference was a great success with speakers from around Australia contributing to the program. Having the conference in a regional centre was a great idea. It certainly opened my eyes to the possibilities of future statistical research beyond the traditional centres in Brisbane and the other capitals. The success of the conference was due to the fantastic efforts put in by Peter Dunn (USQ) in particular and also the assistance provided by Ross Darnell (UQ) – a big thank you to them!

Ben Stewart-Koster
Honours Student – Griffith University

IBC 2004 XXIInd International Biometric Conference

in parallel with

ASC 2004
Australian Statistical Conference

11-16 July 2004
Cairns Convention Centre,
Cairns Queensland Australia

www.ozaccom.com.au/cairns2004

Early Bird Registration Closes 1 March!

IBS

SSAI
Statistical Society of Australia Inc.

President's Corner

ASC 2004

ASC 2004 will be held in Cairns from 11th to 16th July in parallel with IBC 2004 and a broad-ranging program has been organised (go to the conference web-site http://www.ozaccom.com.au/cairns2004/ for up-to-date information). Over 500 abstracts had been submitted for oral and/or poster presentations when submissions closed early in December. It is great to see such strong interest in the conference. Early bird registration closes on the 1st March so there is not a lot of time if you want to take advantage of the discount available. I have already registered and look forward to seeing you there in Cairns.

Daryl Daley Festschrift

Daryl Daley will turn 65 early in April and SSAI/NZSA will recognise Daryl's contribution to probability and statistics in Australia and internationally by publishing a festschrift issue of the Australian and New Zealand Journal of Statistics. Peter Taylor and Philip Pollett have arranged papers from an eminent list of contributors and this is a measure of Daryl's standing worldwide. A special session in Daryl's honour will be held at ASC 2004 and a list of the festschrift papers can be found at the conference web-site (see above). Details of the ASC 2004 session will also be included there as soon as they are available.

ANZJS

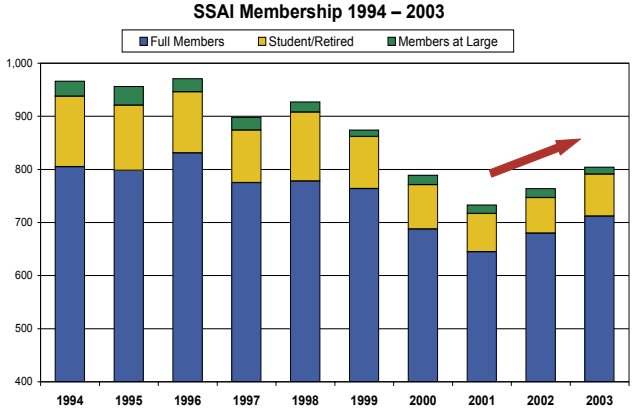
Presentations about the possibility of ANZJS becoming electronic-only have been held in Canberra, Adelaide, Perth and Brisbane. A session will be held in Sydney late in February. Thank you very much to all of those who attended and contributed comments, suggestions and views. The SSAI/NZSA group considering the matter have had a telephone conference to discuss progress and would welcome any further suggestions. A brief summary of the issues and progress towards a recommendation is provided elsewhere in this newsletter.

Volunteers

It has been claimed that the Society is run by an elite group of people. Having been a member of the Victorian branch council (in the past) and central council (at present) I can assure you that there is a great diversity of people involved and that the eliteness is purely based on willingness to contribute time and effort to the society's activities. Enthusiastic (new or old) blood is always welcome. There are a few roles that require an apprenticeship (in some form) but most do not. I have found that my roles in the society have provided a valuable way to interact with other members of the profession. It is much better generally to have a large number of people involved in society activities as this helps to build a healthy and vibrant organisation. As you will see from the points below there are plenty of ways to contribute. How about it!

ISI 2005

The International Statistical Institute will be holding a very large conference in Sydney from 5th to 12th April 2005 (see http://www.tourhosts.com.au/isi2005/). SSAI is assisting with the organisation of this conference and we are seeking volunteers to assist with the contributed papers that will be submitted later in 2004. Some effort is required in the next few weeks but the bulk of the work will occur around November of this year.



Membership

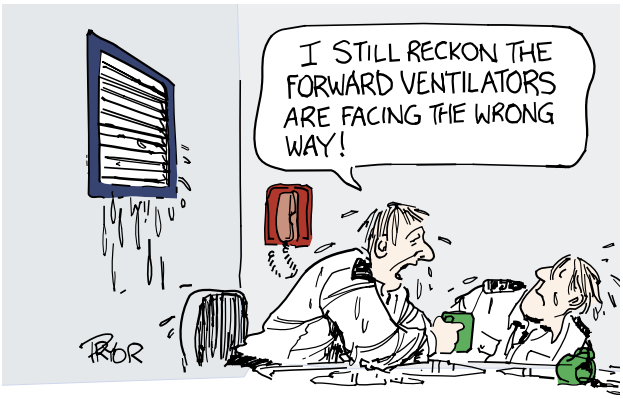
It is great to see that SSAI membership is increasing again although we have some way to go before we get back to the levels of the early nineties. Congratulations to the branches and everyone else who has endeavoured to 'turn things around'.

ASC/NZSA 2006

The 2006 conference will be held in Auckland and be conducted in co-operation with the NZSA. A memorandum of understanding between the two societies has been agreed, a conference organiser has been appointed and detailed planning will get underway shortly. There is plenty of scope for members to participate in a variety of roles (either on the organising committee or on the program committee). Here is your chance to make a contribution and to have some influence on the outcome. Simply contact me directly or anyone else on the executive or branch council.

Neville Bartlett

Email: Neville@nrbartlett.com.au



Sinking mystery

In 1980 the 90,000 tonne bulk ore tanker MV Derbyshire sank with all hands in a typhoon, south of Japan – the largest British ship ever lost at sea.

Analysis of the wreck 4 kms beneath the Pacific revealed it had sunk when the forward cargo hatch failed – and the crew was blamed.

But statisticians were able to show the loss was really due to gradual leakage through forward ventilation pipes forcing the bows lower in the water, until pounding waves finally burst the hatch.

The crew were exonerated posthumously, thanks to statistics solving a problem that had puzzled investigators for 20 years.

Statistics: a job for professionals

www.statsoc.org.au/PublicAwareness

Should ANZJS become electronic-only?

Introduction

This note briefly describes the main differences between publishing with hardcopy and electronic-only publishing along with an update of feedback from members and the steps that are being taken towards a recommendation. A series of presentations to the SSAI branches is nearly complete and these sessions have resulted in a wide variety of views being expressed along with many useful suggestions. A trans-Tasman group of four people (Murray Jorgensen and Russell Millar from NZSA with Chris Lloyd and Neville Bartlett from SSAI) have been charged with examining the various options and putting a recommendation to both societies. A poll of members may be used as part of this process.

Current situation

The ANZJS is available in hardcopy and also in an electronic version. Access to the electronic version is available to all SSAI and NZSA members by going to the Stats Web site (http://www.statsjournal sweb.com), click on 'Browse Journals & Societies' and logon under Australian & New Zealand Journal of Statistics. When prompted for a password enter 'analysing' (without the delimiters). The pdf files that can be viewed here cover the years 1998 to the present issue. A search capability is available. This access is quite basic and does not have sufficient functionality to be the only form available to members.

Advantages of electronic-only publishing

Use of colour, sophisticated graphics, demonstrations and data sets would become available with electronic-only publication. There would be hyperlinks to references and no need to publish four issues of 128 pages a year. Quality and clarity of material could be the only criteria for acceptance of papers with extremely long or very terse papers being rejected. In principle, papers could be as long as authors wished but extreme length may reduce the succinctness of the exposition. Papers would be published as soon as they were ready and not have to wait for a suitable slot in the printing schedule. Cost savings (due to the removal of printing) could be used to provide enhanced electronic capability. Members requiring personal copies (albeit electronic) of papers could be supplied with a CD-ROM/DVD version.

Disadvantages of electronic-only publishing

Should the ANZJS become electronic-only, some members feel that the perception of the journal will suffer in the eyes of the profession generally. No mainstream statistics journal has successfully made the transition to be electronic-only and it is believed that concern about this point is holding existing journals back from the abandonment of hardcopy. Many journals are undergoing the step of adding electronic access as well as maintaining hardcopy versions. Hardcopy is seen as being dependable (always there) and a drop in readership is feared if the regular arrival of the printed edition no longer occurs. Concern about electronic archiving and access for some members are also issues.

Feedback from members

In addition to reinforcing the main points in favour of or against electronic-only publishing a number of other points were made. The printing characteristics of some web-based applications have proven to be a source of frustration and will affect acceptance of any new electronic version of the journal. Printing pdf files does not pose any difficulty apart from the time to download the files. The permanence of hardcopy needs to be matched by some off-line form of the electronic version (such as CD-ROM or DVD) being made available to members. Numerous other suggestions have been made.

Institutional subscribers

Most institutions recognise that the majority of access to journals is done electronically but they are quite reluctant to give up hardcopy just yet. This is partly because a major publishing agent went bankrupt and left subscribing institutions with hardcopy as their only form of access until alternatives were found (and purchased). A survey of institutions that subscribe to ANZJS is underway but only 10% have responded so far and 40% (17 out of 43) of these are not prepared to re-subscribe to the journal in an electronic-only form. A higher response rate will be needed before any firm conclusions will be made on this front.

It should be noted that SSAI and NZSA jointly hold the copyright to the ANZJS. In the unlikely event that our publisher goes bankrupt, is purchased by another business or ceases to operate then we have control over who can publish the journal. Alas, if we do not have archival copy then this may provide some practical difficulties for a while.

Aspects that need to be changed

Archiving of electronic copy is one area that needs to be tackled regardless of whether the journal becomes electronic-only (see comment in the previous section). Improved electronic access for members who are not covered by organizations that are institutional subscribers is another worthwhile aspect that is being considered. The currently available mechanism via StatsWeb (see above) is poorly known to members and has limited functionality.

Next steps in the decision making process

The review committee are examining another Blackwell journal (Journal of Risk and Insurance) that has an enhanced electronic version. This is being considered as a potential model for ANZJS but the feedback so far is not all positive. Institutional subscriber reaction will have a strong influence on what options are feasible and further responses will be sought. Once a clearer set of practical options are available along with robust costing then the review team will consider what recommendations to make.

Neville Bartlett

Highlights of the forthcoming September Issue 46(1) of the Australian and New Zealand Journal of Statistics is a 192 page festschrift in honour of Daryl Daley.

Contributors to this special issue are Joe Gani, Peter Whittle, Tony Pakes, Stephan Böhm, Lothar Heinrich, Volker Schmidt, Chris Heyde, Geoff Laslett, J. Paige Eveson, Tom Polacheck, Dietrich Stoyan, Helga Stoyan, Gunter Döge, J.F.C. Kingman, Stephen Cornell, Valerie Isham, Peter Hall, Nader Tajvidi, Phil Pollett, Hanjun Zhang, Naoto Miyoshi, Tomasz Rolski, David Vere-Jones, Frederic Paik Schoenberg, Aleksandras Baltrūnas, Claudia Klüppelberg, R.A. Vesilo, M.R. Leadbetter, G.V. Spaniolo, Frank Ball, Robin Milne. This impressive list is testament to the esteem in which Daryl is held by the international applied probability community.

This special issue was edited by Peter Taylor and Phil Pollett. I would like to thank them for their special efforts in producing such an outstanding issue.

Chris Lloyd

Letters to the Editor

Dear Editors

I have been a member of the SSAI for many years. I was against accreditation when its introduction was being discussed, and I am still against it. Please be advised that I do not want any of my membership fees to be used to support the accreditation process or any associated advertising.

I realize that the debates about accreditation will be endless but I still wish to add my two bits worth. First of all, in my thesaurus "accredited" is not a synonym of "competent" and "non-accredited" is not a synonym of "incompetent". An interesting situation arises when an accredited statistician commences work in a new field e.g. moving from engineering applications to agricultural applications. I believe that even an accredited statistician will initially be prone to making possibly naive errors until he or she has gained some experience in the new field. How long will it take for the accredited statistician to gain sufficient experience to be a competent agricultural statistician? I believe there can be times and situations when an accredited statistician is not fully competent and may not even be aware of it! It seems logical to me that the supporters of accreditation should therefore insist on accreditation for particular fields rather than some sort of generic accreditation. Will they? Of course I believe that they won't but I also believe this is an important issue because, to my horror, the SSAI is portraying accreditation as some sort of certificate of competence.

How many members support accreditation? How many members intend to seek accreditation? How many members are accredited? Can we please have some up-to-date answers to these questions? We seem to be approaching a two tier society apparently intent on providing maximum benefits ONLY to accredited members. For example I am offended that accredited members may be entitled to reduced costs for attending workshops etc. Let the accredited members be satisfied with the improved employment prospects they presumably believe accrue to them by being accredited. I read that a fund has been established to promote accreditation through a combination of corporate donations and surpluses from Continuing Professional Development workshops. If the corporate donors know that they are supporting accreditation then I have no objections, but I again find it offensive if workshop surpluses are being used to support or promote accreditation.

I also hope that the Public Awareness Campaign to support professionalism and accreditation is being funded using only the extra fees paid by accredited members and any corporate donations provided explicitly for this purpose. With regard to the Campaign I confess that the Pryor cartoon on p.7 of Newsletter No. 104 leaves me cold and the caption below it does not get me excited (of course these are very personal reactions). The caption does not provide enough information about the calculation of risk of failure for the ill-fated Space Shuttle Challenger mission so it is difficult for me to make an informed comment. Many thoughts passed through my mind when I first read the caption – e.g. the joke that 49.7% of all statistics are made up and the rest are wrong; Han Solo's remark to "never tell me the odds" (would even the relatively high risk of failure as estimated by the statisticians been enough to persuade NASA management to abandon the mission, given that they went ahead with the launch even though the air temperature was more than 20 degrees Fahrenheit cooler than the recommended minimum which they had apparently been advised); and in any case did the calculated risk of failure pinpoint the infamous O rings as a likely cause of failure?

Anyway, after seeing the Pryor cartoon I decided I should track down the corresponding booklet of Success and Disaster stories which I duly found on the SSAI web page. As a bit of rah-rah-rah for the statistical profession my overall impressions were quite favourable. It did not enlighten me further with regard to the Challenger disaster but this is perhaps understandable given the booklet's purpose. I thought the "Census discrimination" example was unwise, especially given that the internment during a major world war may even have saved some lives despite the obvious negatives. Can a suitable peace time example be found rather than risk raising very complex moral issues in which avoiding ethnic discrimination may have actually led to more death and suffering? With regard to "Patching the missing holes" the statistician's logic was, in fact, potentially flawed but we are not given enough information to vindicate the statistician's suggestion. Besides this, the statistician's suggestion could have been offered by any one with problem solving skills, it did not require any statistical training whatsoever, and I believe that many statisticians would not have even thought of it. I suspect that the "Smoothing the Internet" example was simply either a dumb analysis or dumb reporting or both, and that Internet performance must eventually reach a peak before declining rapidly – perhaps much depends on what is meant by "full to capacity". I think readers who only read the first paragraph of the Internet example would be shaking

Dear Editors

In the November 2003 issue of the SSAI newsletter Murray Cameron commented that in relation to traditional biometric work "Better training of researchers and better software have reduced the demand for statistical innovation". Our experience is the exact opposite.

It is true that improvements to statistical software continue to make more and more powerful and sophisticated methods available on researchers' desktops. However many researchers do not have the understanding to use these methods effectively, and if they do have this understanding it is not practicable for them to spend the time necessary to maintain it. Methodologies which researchers have difficulty with include many of the modern approaches to the analysis of data with multiple sources of variation, frailty models, generalized additive mixed models, etc. Many researchers seem to have a poor understanding of how to use regression splines appropriately.

Much of what has been taught to non-statisticians is not very useful and often irrelevant to the making of inferences. On the other hand the training of researchers in statistical concepts and thinking has increased their understanding of the power of sound statistical practice. They realize that it enables them to design their experiments more effectively and to extract more information from their data. They still require help from practising statisticians, but the help they require is often at a more advanced level than it would have been in the past.

Why do statisticians continue to sell themselves short? To quote John Nelder (*The Statistician*, 1999) "the public image of statistics is poor and may be getting worse. Almost nobody knows what statisticians do, and we in turn have been remarkably ineffective in explaining to non-statisticians what we are good at". The comment by Murray is just another example of why statisticians will lose further influence and, if it continues, will ultimately not survive!

Yours sincerely

Jeff Wood and Ross Cunningham
Australian National University

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Advertising

Advertising will be carried in the Newsletter on any matters which the Editors feel are of interest to the members of the Society. For details of advertising rates, etc. contact the Editors at the above addresses.

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Letters to the Editor

Continued

their heads in disbelief. If the booklet was promoting the employment of professional statisticians on statistical tasks then my overall satisfaction rating would be high. However, its major emphasis is on the employment of accredited statisticians and this I again find offensive. The overall tone is that only accredited statisticians can help employers, with a hint that non-accredited statisticians may be unprofessional or incompetent. And why the emphasis on Government departments instead of all employers? I work for a Government department. If I continue to reject accreditation then it appears that I am in the situation of belonging to a society which is systematically attempting to take away my livelihood. I feel my long-term future may be threatened so with mixed feelings of sad reluctance and grim determination I offer the following:

I believe we humble members are encouraged to report published examples of bad statistical practice to the Society for investigation (presumably by an accredited statistician!) so I wish to report the Society's own newsletter. An example occurs in the Continuing Professional Development section (!) on p.17 of Newsletter No. 104. In particular I refer to the 95% confidence limit calculation concerning the 24 out of 25 workshop attendants who considered their workshop lunch excellent. Of course the calculation itself could have simply resulted from some youthful exuberance or be an example of statisticians having fun with numbers. Putting these possibilities aside, my own thoughts are that we are really dealing with a population of 25, or perhaps with a nonrandom subset of all of the people who ate the lunch. In any case no confidence limits should have been calculated or reported. If I am correct then what are we to think of the slogan "Statistics: a job for professionals" when the SSAI cannot even clean up its own Newsletter?

Please, please be assured that this is not a personal attack on any individuals. There have been other instances in the past when I could have questioned the validity of certain statements in the society's Newsletter. I am simply against accreditation of statisticians here in Australia and am merely intent on forcefully expressing my view. If we really must persist with accreditation my own preference would be that all publicity, booklets etc. push ALL employers for employment of PROFESSIONAL statisticians and that accreditation receive much less emphasis, something like an optional extra. Does the SSAI exist for all those with an interest in statistical practice, or does it exist only for accredited statisticians?

Sincerely yours,
Marks R. Nester

Editorial

The pre-Christmas conference season is behind us now, and reports from several recent conferences are in this Newsletter. Letters to the Editor are continuing to arrive at a steady rate, and more appear in this issue. If you would like to express a view about a matter of interest to Society members, please write to the Editors at any time. We will typically seek a response from relevant members of the Society, and endeavour to print letters and responses in the same issue.

Central Council and the Canberra Branch have also been busy in the preceding year, producing posters for displaying and celebrating statistics in Australia. An article about the posters appears in this issue of the Newsletter. The Editors hope that you will consider purchasing a set (or several sets!) of posters for your institution's noticeboards. There was a limited print run in 2003, and plans for a bigger and brighter project in 2004. If you have a view to express to the project managers, please contact them – they'd love to hear from you!

Competition

The Editors are still seeking entries in the competition announced in the November newsletter.

The object is to come up with an adjective that is the most appropriate for a statistician (or biometrician or whatever). We're looking for something like a "nonplussed mathematician" or a "mean statistician".

The best entries will appear in the next issue of the Newsletter, so send your contributions to the Editors by 10 April 2004.

The next

Australian Statistical Conference

is in

Cairns 11–16 July 2004

in parallel with the next

International Biometrics Conference IBC2004

Peter Diggle, Patrick Heagarty, Andrew Harvey, Noel Cressie, Yoav Benjamini, Peter Muller, Peter Thompson, Eleanor Feingold, Robert Kohn and Matthew Stephens will be there to talk to you.

Will you be there to hear them?

Register now to save money!
Visit

www.ozaccom.com.au/cairns2004

to find details of the scientific program, workshops, accommodation, social program and tours, and how you can register.

Early bird registration closes 1 March 2004.

Feature: A Career in Statistics

Betty Laby shares with us some moments from a career that spanned over 30 years working with statistics.

My career in statistics began in 1950, two years after Maurice Belz formed the first autonomous Department of Statistics in Australia at the University of Melbourne. He introduced a service within the department to assist other scientists at the University with the analysis of their experiments. My job was to analyse data for the Statistics staff, as well as staff and postgraduate students from other departments in the University.

At first, I and two research assistants used electro-mechanical calculators, but gradually we progressed to electronic machines. At the same time, I acquired some knowledge of statistical methods.

One of our first outside jobs was the analysis of measurements of birds and seals in several locations in the Antarctic. This topic was among the many disciplines covered in our work, spanning Architecture to Zoology. Over the years, our consulting service was called upon to assist with many research projects; these resulted in several postgraduate and staff research publications. My help in these was acknowledged with gratitude, or in some cases joint authorship.

In 1984, a Statistical Consulting Centre was formally opened at the University of Melbourne; it continues to supply a service "to promote the practice of appropriate and informative statistical methods". I became a member of its staff, and continued to help with the analysis of various studies referred to the Centre. One of these, for Alcoa of Australia, was concerned with a longitudinal study of the lung function of workers in an aluminium smelter.

When I retired in 1985, I was appointed an associate in the Department of Statistics, and continued to assist with selected projects for the next 10 years, including the Alcoa study and the preparation of a paper for publication based on it. I spent one day a week on this task, and on keeping in touch with the Consulting Centre. The Alcoa paper "A longitudinal study of lung function in non-asthmatic workers in an aluminium smelter" was finally published in 1997. In my last years as an associate, I was an observer at some of the meetings which preceded the merger of the Mathematics and Statistics Departments, and was sorry when the amalgamation took place.

Betty Laby at home in Mt Eliza.

It is nearly 18 years since I retired, and my only remaining association with my old colleagues is an annual Christmas lunch with the Alcoa group. Soon after my retirement, Jane Matthews became Secretary of the Australasian region of the International Biometric Society, and I agreed to act as its Treasurer for two years.

I was kept busy writing the Australian Dictionary of Biography entry for Maurice Belz, and later looking after Marjorie Belz's estate, which took nearly three years to settle. Marjorie died in 1995 at the age of 97, and I was co-executor of her estate, part of which was left to the University of Melbourne to commemorate Maurice's considerable contribution to statistics in Australia.

In 1986, my sister Jean and I went to live in our old family home in Mount Eliza, about 50 kilometres south of Melbourne. However, for about 15 years, we maintained our flat in Kew to enable us to attend functions in the city with our Melbourne friends. Most years, this included the Belz lecture and dinner of the Victorian branch of the SSAI.

At Mount Eliza, we spend as much time as possible trying to look after our large garden. We no longer travel overseas, but until recently we took our holidays interstate. Our last trip was to Mildura in 1998, when Jean helped a balloon launching group from Laramie, Wyoming, USA, to carry out some atmospheric research with the CSIRO.

I keep in contact with a few of my old statistical friends. Warren Ewens makes time to come and see us on his visits from Philadelphia. We are pleased to see Herbert David on his rather less frequent trips to Australia. Daryl Daley has family in Melbourne, and so comes down from Canberra quite often. Evan and Judy Williams live in Geelong, on the other side of Port Phillip Bay, but we keep in contact by telephone. Joe Gani and his family have been our good friends for many years, and since Joe's retirement in 1994, we have been able to see him on his regular visits to Melbourne, and our less frequent visits to Canberra. In 1948 and 1949, we were both working in the Mathematics Department of the University of Melbourne. I have boxes of postcards and letters from the Gani family from all corners of the world, spanning a period of 55 years.

Apart from gardening, I have tried my hand at various handicrafts, including patchwork to use up material left over from our dressmaking days. Various relatives seek help in compiling our family tree, which is quite illuminating. Much less entertaining is the endless paperwork associated with taxes and account keeping: I would enjoy my retirement more if the various levels of government did not make life so difficult.

Betty Laby
Mt Eliza, Victoria 3930

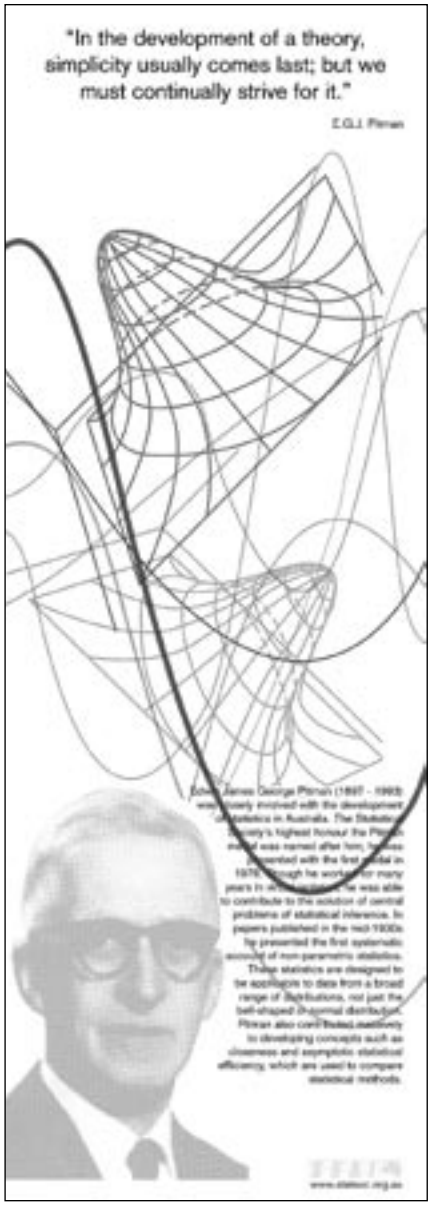
Membership Renewals

Renewal notices were mailed to all members in December 2003.

Thank you all the members who have already renewed. Please note that if your membership renewal is outstanding at 31 March 2004 you will not receive any more SSAI publications until payment is received.

If you did not receive your renewal notice please contact Jane Waslin at the SSAI office (ssai@ozemail.com.au).

Feature: A Celebration of Statistics in Australia



The Canberra Branch, in conjunction with Central Council and the University of Canberra, is delighted to announce that it has completed a pilot project to produce a series of posters for display in universities, in workplaces, indeed in any location frequented by people with an interest in statistics.

The main aim of the pilot project was to celebrate the history of statistics in Australia. The idea arose from a scheme operating at the University of Canberra. In the first semester of their third year, Graphic Design students at the university design posters for external clients as a part of their assessment. There is a charge for printing, and a minimal design fee.

In early 2003, we realised that the SSA could make use of this opportunity. However there was insufficient time to gain widespread support for the project amongst the statistical community. A pair of Graphic Design students became involved immediately in designing four posters on important Australian statisticians. They eventually handed the project on to a third student who completed the work in November.

The poster series is a celebration of statistics in Australia, focusing on four important Australian statisticians – Cornish, Knibbs, Lancaster and Pitman. These men were chosen to represent a range of the Australian states and a range of areas of application/theory, as well as for the importance of their work. Other statisticians who were considered for the posters were Belz, Moran, Hannan, Wilkinson, Foreman and Watson.

With such a variety of people and contributions that could be displayed on a poster, we see the current series as a pilot project. Next year we would like to continue the project. We would now like to consult with other branches to reach agreement on the intended audience, poster aims, poster series topics, individual poster topics, material to be included on each poster, and methods of marketing the posters. Possible aims for future poster series could include

1. encouraging students to study statistics and become statisticians;
2. promoting statistics as a profession;
3. raising awareness of important scientific advances that have been made by applying/developing statistical techniques; and
4. showing the range of the disciplines in which statisticians are employed.

If you have a comment about the current set of posters, or would like to discuss ideas for future posters, please use the discussion board on the SSAI website. Go to http://www.statsoc.org.au/~ssacanb and follow the link to the discussion board.

The limited print run of posters will be sold by the SSAI Office at a cost of $30 for the series of four posters. These funds will be used to refund the Canberra Branch and the University of Canberra for their part of the funding, and support a broader project in 2004. We hope that every university department in Australia will purchase a set, along with a wide variety of workplaces where statistical methods are in frequent use.

Ann Cowling and Alice Richardson

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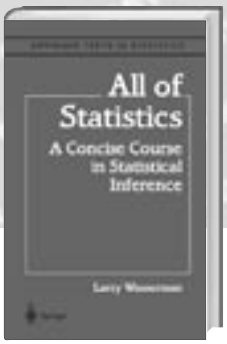

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My name is Peter Howley and for those of you who didn't know I was appointed as the SSAI's Section Chair of Statistics in the Medical Sciences in mid-2003. I'd like to extend my wishes for a positive and fruitful New Year and take the opportunity to begin 2004 with a brief introduction of myself.

From 1995-98, I worked full-time as a statistician in the Health Services Research Group (HSRG), Newcastle whilst lecturing part-time at the University of Newcastle. The HSRG is a multi-disciplinary team that provides consulting, research and training to support data-based decision making in health care. Major statistical analyses and reports included the Quality in Australian Health Care Study which assessed adverse events and the potential for quality improvement in the healthcare system; the Cancer Action in Rural Towns project which studied the effects of community cancer-prevention programmes on smoking behaviours by sampling adolescents and adults from rural towns in NSW; and an Ethnic Study which analysed the association between ethnic background, admission rates and length of stay in hospital.

I have lectured full-time since 1999 and I am submitting my Ph.D. (Statistics) thesis in early 2004 entitled "Analysing and reporting clinical indicators using hierarchical models". The thesis involves research into the use of Bayesian hierarchical models for the reporting of performance indicator data for the Australian Council on Healthcare Standards and Adverse Event and Patient Safety studies. My broader interests lie with research and applications of statistics in the fields of health, medicine, finance, management, industry, business and education and quality improvement activity in those areas. I'm currently a chief investigator of projects looking into the robustness of newly developed reporting and analyses techniques for clinical indicator data, the use of employee attitude surveys in local business and industry and improving the reporting of the University's performance indicators. I've presented two-day seminars on continuous improvement to businesses, including an aged care organisation.

I would also like to take this opportunity to commence an article which I will continue through ensuing editions of the newsletter. The article, entitled 'A brief journey around the globe', will feature profiles from researchers across the world describing their working environments and experiences as well as perspectives on the past, present and future research and applications of statistics in the health and medical sciences. The first of many forthcoming international contributions is from Canada and was written by colleagues employed at the Queen's Cancer Research Institute, Ontario.

'A brief journey around the globe'

Statistics in the Division of Cancer Care and Epidemiology at Queen's Cancer Research Institute – A decade in health services research

The Radiation Oncology Research Unit (RORU) began as a multidisciplinary health services research group established in the Department of Oncology at Queen's University in 1992, with a mandate to study all aspects of the delivery of radiation treatment. In 1997, the group was designated as a Provincial Research Unit within Cancer Care Ontario, a provincial government cancer agency of Ontario, Canada.

In 2001, the RORU joined with several new researchers in cancer care and epidemiology to create the Division of Cancer Care and Epidemiology (DCCE) of the Queens Cancer Research Institute (QCRI). The interests of the Division broadened to include: environmental and genetic aspects of cancer etiology; population-based needs assessment; the management and outcome of cancer at the population level; access to cancer treatment services; clinical decision-making; the evaluation of treatment guidelines; and the development of public policy related to cancer prevention and treatment.

The DCCE, headed by Dr. Mackillop, has thirteen principal investigators with expertise in radiation oncology, surgical and medical oncology, palliative care, epidemiology, psychology, health economy, and medical physics. There are currently four biostatisticians/statistical analysts who provide statistical expertise and statistical computing skills to support the research program.

Drawing from a decade-long experience, we describe the life of a statistician in health services research as challenging and exciting. The first challenge is associated with study design. The studies conducted in the DCCE employ a variety of study designs such as population-based studies, sample based case-control studies through retrospective chart review, and survey based studies. Traditional statistical training led us to believe that good statistical practice starts with an optimal design, which results in a well-balanced sample that suits exactly the desired analysis. However, in health services research, such an ideal and clean dataset is often impossible or impractical to obtain. In some other cases, what we are interested in is, in fact, what happened in the population at large. In these cases, we work with population data, in which the unbalanced sample sizes across study units, unaccounted confounding and imputed data due to a lack of information are inherited through the design.

Along with these challenges, we also witnessed with excitement the growth of statistics in health services research, for example, the introduction of hierarchical modeling to the field. The new methodologies have provided solutions to some above-mentioned issues. At the same time, they also posted new challenges and opportunities. We find ourselves constantly facing the questions such as: when to use the new modeling methods, how to calculate sample size, and how to assess model adequacy.

The second challenge lays in the balance between sound statistical methods and the interpretability of the results to health care providers and health officials. At the DCCE, statistical development is not for the sake of statistics, but for the sake of cancer research. Although as a branch of mathematical science, statistics has its own beauty, it is a useful and powerful tool that millions of researchers in the applied fields rely on to draw meaningful inference and conclusions. We as statisticians need to select or build tools that are reliable, transparent, and best suited to the purpose. In order to achieve this goal, a good biostatistician also needs to be an expert in their applied field. Regardless how advanced statistical methodologies become, this will remain a challenge.

by Jina Zhang-Salomons, Patti Groome and William J. Mackillop.

I hope that you enjoyed this article and trust that you look forward to future instalments.

All the best and remember, without data you are just another person with an opinion.

Peter Howley

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The 2003 Ken Foreman Lecture by Ken Brewer

At the monthly meeting of the Canberra Branch of the SSAI on 14 October 2003, Dr Ken Brewer of the ANU presented the 2003 Ken Foreman Lecture. Ken Brewer (KB) began by expressing his deep gratitude to Ken Foreman (KF), for whom he worked at the ABS from 1954 to 1974. This was an immensely stimulating time throughout, in which KB learnt a great deal. KB has many fond memories of KF, including his saying: "I wouldn't even scratch myself without carrying out a pilot test first." In a recent book (Brewer, 2002), KB has paid tribute to KF by modelling one of that book's principal characters on him.

One of KB's early projects under KF was the sample redesign of the ABS's three Business Surveys: Capital Expenditure, Stocks, and Labour Turnover. In one of the Capital Expenditure Survey's industries he came across a group of several extreme observations. The practice in those days was simply to ignore an extreme observation, unless it was extraordinarily extreme, in which case the standard procedure was to delete it from both the sample and the sample frame and add it on at the end with a sample weight of unity. KB did not feel comfortable with either of these options, which he saw as potentially causing a significant bias. So he investigated the matter and found that the extremes in question all corresponded to financial institutions. This led him to create a separate industry under this heading which was then completely enumerated. Two similar groups of extremes were found in the Stocks Survey. Experiences such as this taught KB the importance of understanding the nature of data collections and also the way in which potential respondents organise their business.

In the same project, KB came across a variance anomaly whilst attempting to improve on the common practice of treating a completely enumerated stratum with nonresponse as though it were a sampled stratum, and the respondents as though they had been randomly selected. In an attempt to solve the anomaly, KB devised the notion of conditional variance under a prediction model, and a few years later published a paper featuring that idea in the then fledgling Australian Journal of Statistics (Brewer, 1963). In the mind-set of the 1960s, this idea was very new, and it was a measure of KF's open-mindedness that he encouraged KB to submit for publication. Later, his idea was developed further in JRSSB (Foreman and Brewer, 1971), and two decades later KF published a monumental book on survey methods in which the topic is treated at length (Foreman, 1991).

Robert Clark and Ken Brewer

KF's attitude was in stark contrast to that of Morris Hansen, who abruptly ended a conversation with KB in 1966 at the US Bureau of Census when he realised that the topic was population models. But KB was not alone in his treatment by Hansen. Apparently, Morris Hansen and Richard Royall almost came to blows several times in the 1970s, because of their violent disagreements over the usefulness of model-based inference. Interestingly, the idea of a population model goes as far back as 1938 when it was used for analysing soil samples at the CSIRO in Canberra (Fairfield Smith, 1938). Nowadays, population models can be found almost everywhere in the sampling literature, for example in the classic book by Särndal, Swensson and Wretman (1992).

Throughout his career KB has devoted much time and thought to the relationship between design-based and model-based inferences. He sees that each has its merits. In particular, design-based inference becomes more and more realistic as both the sample size and population size increase. On the other hand, model-based inference may be more useful when the population and sample are small, as often occurs for small areas, even where the overall population and sample are large. Moreover, there are advantages in using both approaches together, and KB has over the years devised several hybrid estimators with very attractive properties.

KB emphasized that this drawing together of the two inferences, together with various spin-offs, would not have seen the light of day had it not been for the consistently sympathetic support and ready collaboration of KF. He concluded by leaving the audience with a thought which he had never heard from KF's lips but which was exemplified by almost everything he did: "Take your time to think about what you are trying to achieve. The more you know and understand about it, the better you will be able to tackle it in the long run." Following the lecture, KB's discussant Dr Robert Clark of the ABS provided an illuminating overview of model-based inference from his own perspective, including examples of where this approach has had or is likely to have the greatest impact on survey sampling.

Borek Puza
16 October 2003

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55th ISI Session

Sydney, 5-12 April 2005

Preparations for the 55th Session in Sydney 5-12 April 2005 are well underway. The 2005 ISI Session will provide an opportunity for delegates to exchange new ideas, develop new contacts, and discuss current trends and developments in Statistics and its relevance to real world problems.

The Scientific Program for the 55th Session of the ISI includes Invited Paper Meetings, Contributed Paper Meetings, Poster Sessions, Short Courses and Tutorials. The Session will also provide theme days for those interested in particular topics. Statistics relating to finance, the environment and genomics will be the special themes for the 55th Session.

The Invited Paper Meetings have been developed by the Program Committees of the ISI and its Sections. The following is a partial and tentative list of invited paper meetings (IPM).

Partial and tentative list of invited paper meetings (IPM):

1. President's IPM
2. Best papers from developing countries
3. Random matrices and methods for high dimensional data
4. Recent developments in financial econometrics
5. Nonparametric methods for functional data
6. Nonparametric methods for structural econometric models
7. Errors in measurement: recent advances
8. Stochastic networks
9. Inverse problems and functional estimation
10. Recent developments in joint modelling of longitudinal and survival models
11. Sampling methods for animal populations
12. Local parametric modelling for curve estimation
13. Estimation of the support and efficiency frontiers
14. Internet tomography
15. IAOS forum
16. Impact of the "international indicators of development" movement on national statistical programme priorities
17. Statistical measurement issues requiring collaboration among NSOs
18. Statistics on international migration
19. Response burden and response rates
20. The role of official statistics in innovation, knowledge management and development of the new economy
21. The regional and urban dimension of official statistics: small area statistics and data of particular relevance to regional and urban planning (SCORUS item)
22. Standards for regional and urban indicators (SCORUS item)
23. Functional data analysis in quantitative finance
24. Optimisation algorithms for experimental designs
25. Statistical learning from data
26. Computational tools for microarray analysis
27. Statistical environments in the network age
28. Computational advances based on the EM algorithm
29. Pattern recognition in high dimensions
30. Introduction to technical aspects of DNA microarray experiments
31. The PLS (Partial Least Squares) approach in data analysis
32. The use of simulation in statistics education
33. Reasoning about variation
34. Teaching statistics on-line
35. Statistical literacy
36. Quality assurance in statistics education
37. Ethical standards in statistics education
38. Using history of statistics to enhance the teaching of statistics
39. Developments in the analysis of longitudinal survey data
40. Use of model diagnostics in survey sampling
41. Calibration in practise
42. Quality measurement and reporting for surveys
43. Resampling methods for variance estimation in complex surveys
44. Experiences in data collection with internet surveys
45. Inferential potentials of non-probability samples
46. Confidentiality protection in national statistical offices
47. Surveys of small and medium sized enterprises

Members of the 2005 ISI Organising Committee after their recent meeting in Sydney. L-R: Steve Dangaard, John Struik, Siu-Ming Tam, Anna Poskitt, Roslyn McLeod, Jonathan Palmer, Dennis Trewin, Graeme Hope, Felicity Kent, Nick Fisher, Sara Foda and Geoff Lee.

Provisional Program

	Morning	Early Afternoon	Late Afternoon	Evening
Monday 4 April	Short Courses	Registration Short Courses	Registration Short Courses	
Tuesday 5 April	Registration Short Courses	Registration Short Courses	Opening Ceremony *	Welcome Reception *
Wednesday 6 April	Scientific Meetings	Scientific Meetings	Scientific Meetings	Optional Social Event
Thursday 7 April	Scientific Meetings	Scientific Meetings	Scientific Meetings	Australiana Night *
Friday 8 April	Scientific Meetings	Scientific Meetings	Scientific Meetings	Optional Social Event
Saturday 9 April	Scientific Meetings	Excursions	Excursions	
Sunday 10 April	Excursions	Excursions	Excursions	
Monday 11 April	Scientific Meetings	Scientific Meetings	Scientific Meetings	Farewell Party
Tuesday 12 April	Scientific Meetings	Scientific Meetings	Scientific Meetings	

* Functions included in Registration Fee

More details on the scientific program will be listed on the 2005 ISI website at www.tourhosts.com.au/isi2005 as they are developed.

Register your interest now!

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NATIONAL SYMPOSIUM ON PROBABILITY AND ITS APPLICATIONS

ANU Mathematical Sciences Institute
22-23 April 2004

A National Symposium on Probability and its Applications, in honour of Chris Heyde's 65th birthday, is to be held at the ANU Mathematical Sciences Institute on 22-23 April 2004. Several speakers from Australia and overseas will be presenting papers.
If you would like to attend, please let Joe Gani know at

gani@maths.anu.edu.au

We hope to hold a banquet on the evening of 22 April in honour of Chris Heyde, at which he will be presented with the Festschrift which Eugene Seneta and I have been preparing for him. The venue for this event has yet to be decided, and may depend on the number of people who wish to take part in it. Please let me know if you would like to attend the banquet; the cost is likely to be around A$ 30-35 per person.

If you have any queries about the arrangements for the Symposium, I shall be glad to respond to them. You will find details posted at

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BioinfoSummer

"Mathematical, Statistical and Computational Challenges in Bioinformatics" was the theme of the extremely successful Australian Mathematical Sciences Institute (AMSI) Summer Symposium in Bioinformatics, hosted by the Australian National University's Centre for Bioinformation Science, December 1-5. Sponsors also included Cray, Ceanet, the Australian Partnership for Advanced Computing and ANU's National Institute for Bioscience (NIB). There were ~150 registrants. The days were organised into Themes, allowing attendees who were unable to attend the whole week to select those areas of particular interest. The Themes were: Introduction to Molecular Biology; Sequences & Data; Evolutionary Models & Genetics; Protein Structure & Function and Microarrays & Experimental Design, the last theme being held jointly with the IBS Australasian Region's biennial meeting. Each day started with Educational Lectures followed by a mix of Keynote and Specialist talks. Most days had parallel sessions in the afternoon, allowing those students who had registered for the Graduate Course Award in Bioinformatics to do the Educational Computer Lab session while others attended Specialist talks.

The keynote speakers were John Mattick (Institute for Molecular Bioscience, Brisbane), Terry Speed (Walter & Eliza Hall Institute, Melbourne), Simon Easteal (ANU), Warren Kaplan (Garvan Institute, Sydney), Mark Ragan (IMB, Brisbane), Gordon Smyth (WEHI, Melbourne), Sue Wilson (ANU). A poster session was held on Tuesday evening, and student scholarships were awarded to 28 successful applicants. The ceremony was followed by a well-attended public lecture by Jenny Marshall-Graves (ANU) on "Unravelling the Kangaroo Genome". NIB prizes were awarded to Ann Kwan (best poster), Penny Bennett and Natalie Thorne (best student talk, shared) and Jim Stankovich and Antonio Reverter (best talk by a researcher within ten years of receipt of PhD, shared).

Susan Wilson

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Dr. Sarjinder Singh is an Assistant Professor at St. Cloud State University, St. Cloud, MN, U.S.A.. He has published over 80 research papers. He introduced ideas of higher order calibration, hybridizing imputation and calibration, bias filtration, hidden gangs, several new randomized response models, median estimation using two-phase sampling, and exact traditional linear regression estimator using calibration in survey sampling. In this book you can enjoy his new ideas such as: How Michael 'Selected' Amy.

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QUEENSLAND

Members of the Queensland Branch organised a conference to encourage less experienced statisticians and students to present their work in an informal venue. Another aim of the conference was to give members outside of Brisbane an opportunity to contribute to the Branch, which is difficult with the traditional monthly meetings that are held in Brisbane. The Toowoomba campus of the University of Southern Queensland supported this friendly ambience.

Local organiser Peter Dunn put in a sterling effort to organise a web site, conference administration, the conference dinner, sponsors, program, conference satchels, even morning and afternoon teas. Peter did get some moral support from other committee members and more practical help from USQ students Melissa Buckley, Helen Nkansah, Daniel Burrell, Anita Fredericks and Andrew Powierski. Some attendees even suggested Peter arranged the dramatic fog that engulfed Toowoomba for the entire first day. Super effort Peter.

Prior to the conference, John Maindonald presented an R workshop on Wednesday, 1st October. Over 20 participants worked through a well-structured practical session run by John. In addition to John's input, three other speakers, Ross Darnell, Peter Baker and Peter Dunn gave presentations on specific R packages, lme, Bioconductor, and Sweave.

The conference featured the guest speakers Kerrie Mengersen ("Adjusted likelihoods for meta-analysis: Effects of environmental tobacco smoke"), John Maindonald ("Predictive validation issues in data mining"), Dave Butler ("SAMM: An S-Plus module for mixed models using REML") and Bob Murison ("Where ASREML is best") and 16 contributed talks, six of which were from students. The range of topics was diverse as were the applications, including talks on agriculture, econometrics, health, environmental and industrial quality control. A full program can be found at the Conference web-site at http://www.sci.usq.edu.au/staff/dunn/qstatconf/index.html. The winners of the student talks were: Ben Stewart-Koster (Griffith University) who won $250 from the Queensland Branch and Rodney Ellis (UQ) who won a $50 book voucher from Pearson Education.

Attendees warm up during morning tea

The informalities continued with the conference dinner at Gaby's restaurant with a mystery after-dinner speaker, and an impromptu "Guess-the-Mathematically-Important-Numbers-Arranged-In-A-4-By-4-Square" game adjudicated by Bob Murison and won by Rodney Beard. Not sure about the relevance of the 4 by 4 design but it seemed like a good idea at the time.

Sponsors of the conference were Duxbury, SPSS and CSIRO.

It is hoped that the conference can be run every two years as not to clash with the SSAI national conference. The conference was successful because of the effort of many people and their willingness to give some of their time for their colleagues. The conference returned a small profit to the Branch. I would like to thank the Branch Council for supporting the event and particularly the promotional effort of Bronwyn Harch. Again I would like to thank Peter Dunn for a superb effort in organising a great conference.

November meeting

Greg Lawrence, Client Manager with the Australian Bureau of Statistics, presented an entertaining sample of the 2001 Australian census. Greg discussed the primary reason for doing a census, a 'head count" at the National, State, local government areas and the smallest of sampling frames, the "Collection District", which represents approximately 220-250 dwellings. The new topics for the 2001 Census were regarding ancestry, computer use at home, internet use and schooling. Census data is divided into two sets of variables, those pertaining to people and those pertaining to dwellings, with connections relating these two as family relationships.

Greg explained the differences between the Australian Standard Geographical Classification (ASGC) and the Census Geographic Areas (CGA) which are approximated by postcodes. The former is a hierarchy incorporating the Access/Remoteness Index of Australia (ARIA) increasingly used by health and social researchers. Journey of work areas were an interesting topic based on connections between these CGAs.

Features of the 2001 Census showed an aging population, more than one quarter of Australians born overseas and decreasing households. Tasmania showed a drop in population from the 1996 Census. Greg defined the parameters used in functions to estimate the current resident population and flagged the imminent 20 million mark.

Of increasing importance is the aging population trend and Greg demonstrated how this varies significantly with locale.

Approximately 23% of households were single person households. Also 66% dwellings were fully owned or being purchased compared to 60%

in 1991, while the current monthly housing loan was $870 and the median monthly rental was $616.

Internet usage varied from 40-50% in the capital cities and much lower 10-20% usage in the rural areas.

Greg then took the opportunity to market ABS products and services. Discussions about these continued at a local Thai restaurant.

December Meeting

The final Branch meeting for 2003 was a presentation by SSAI President Neville Bartlett on issues surrounding the Australian and New Zealand Journal of Statistics going fully electronic. A discussion followed between the SSAI President and members of the Qld Branch. Much of this topic has been discussed elsewhere and the issues raised by members were noted by Neville.

The Christmas dinner held at Amphora's restaurant was well attended.

R Darnell

John Maindonald delivers his talk

Vale: John Douglas Kerr 1942-2003

On 26 November 2003, John Kerr sadly passed away after collapsing from a heart attack while riding his pushbike. Members of the Queensland Branch of SSAI will recall John arriving at meetings helmet in hand. John was a very active participant in many spheres of life.

After winning an Open Scholarship to the University of Queensland, John completed his B.Sc. (Hons) in 1963. In 1964, he worked briefly with ABS and then as a biometrician with the Queensland Department of Forestry, before joining CSIRO in 1965 to consult on statistics with researchers of the Fisheries and Marine Division. However, for most of his career in statistics, John worked as a consultant biometrician at the CSIRO Long Pocket Laboratory, Brisbane. During that time he made a very significant contribution to the research undertaken there and has over 50 scientific papers to his credit. John provided valuable statistical advice on parasitological and entomological research into buffalo fly and cattle tick and also the biological control of water weeds. This included a long and productive collaboration with

Dr Rob Sutherst and his colleagues on research into the effects of ticks and tick borne diseases on livestock productivity and methods of control. Even after his retirement from CSIRO in 1997, John continued to collaborate with Rob, and together with colleagues in Zimbabwe they extended their work in Australia to African conditions.

John's statistical expertise was not confined to methods for analysing insect and parasite data. With John Hargreaves and his colleagues, he developed a comprehensive sampling and computing procedure (BOTANAL) for visually estimating pasture yield and composition. The computer program which John wrote was widely used throughout CSIRO and the Queensland Department of Primary Industries by researchers undertaking grazing and agrostology trials. A lot of John's statistical analyses were carried out using a statistical package he had developed himself (FORALL) and which preceded many of the commonly available packages of today.

Always a confident and obliging consultant with all his clients, he also had a generous nature often donating to the University of Queensland. Upon retirement from CSIRO, John effectively started a new career as a historian and wrote extensively on the sugar industry, Queensland regional history, railways, ports and mining. He undertook detailed research on each topic and published 13 books in these diverse areas, adding to his early historical papers about statistics in the sugar industry and the statistical issues facing marine sampling.

John will be sadly missed and the condolences of all members of SSAI go to his wife, Dr Ruth Kerr.

CANBERRA

Talk on time dependent counts by William Dunsmuir

At the Knibbs lecture 25 November 2003, Professor William T.M. Dunsmuir of the University of NSW gave a talk titled "Estimation and Modelling in Time Series of Dependent Counts". William did his PhD in statistics at the ANU in the 1970's under Ted Hannan and Pat Moran.

The central theme of William's talk was that incorrect inferences may result if serial dependence in time series is not properly accounted for. One of his motivating examples involved a statistical analysis of deaths from heroin overdoses in NSW in a report on the medically supervised injecting centre at Kings Cross. Another example involved a study of the effects of factors such as airborne pollution, humidity and school terms on daily asthma presentations at Campbelltown, Liverpool and other hospitals in Sydney. Yet another example had to do with assessing the impact of alcohol policy on violent deaths, including suicide. One other illustration involved counts of purchases of alcohol by 'youthful-looking persons' without proof of age (research workers), and the question of whether a training program had improved the practices of staff in this regard.

William has used the framework of generalised state space models to address the problem of time dependence in count data. These models may broadly be categorised as parameter driven or observation driven. Generally, the theory for analysing parameter driven models is simpler, but observation driven models (also known as transition models) are easier to apply. William has compared many different approaches to dealing with count dependence including those of Zeger (1988), Chan and Ledolter (1995), Kuk and Cheng (1997) and Davis and Rodrigues-Yam.

William's discussants were Professor Ross Maller and Dr Steven Stern of the School of Finance and Applied Statistics at the ANU. Both recounted some of their own experiences with time dependent count data. One of Dr Stern's past projects involved measuring the ages of rocks using a machine called SHRIMP which shot ions into rocks, and then analysing the resulting counts using the Poisson distribution. In his rejoinder, William mentioned that goodness of fit tests under serial dependence have not been sufficiently developed and suggested this topic as worthy of future research.

VICTORIA

Estimating the causal effect of HAART (highly active antiretroviral therapy) in the Swiss HIV cohort study

Epidemiologists rarely attend Victorian Branch meetings because it is so hard for them to resist the attractions of MEG – the Melbourne Epidemiology Group, which holds regular topical seminars. So the September Branch meeting, held of course on October 7, took on a special standing when Jonathan Sterne, of the Department of Social Medicine at the University of Bristol, gave the presentation. Jonathan was visiting John Carlin, the irrepressible principal medical statistician at the Royal Children's Hospital Melbourne, for three months. It gradually became clear throughout the evening that Jonathan and John both have a Harvard connection, John through Rubin and Jonathan through Robins. To add to the sense of occasion, the audience of usual suspects was supplemented by a bubbling horde of young and eager epidemiologists.

Jonathan Sterne

In the early days of HIV and AIDS, when only one or two drugs of promising but unproven efficacy were available, a few randomised controlled trials (RCTs) were undertaken. These demonstrated that the proposed treatments did slow the progression of the disease, as hoped. Today RCTs are infeasible: numerous drugs and drug combinations are available, and few can be compared in RCTs; the medical treatment is customised to each patient so that randomised allocation is unethical; and greatly improved patient prognosis means that modern trials would take a long time and be very expensive. Even the best-designed modern studies give rise to time-dependent confounding between treatment and covariates: for example, antiretroviral therapy raises the CD4 cell count (a low cell count indicates that a patient's immune system is weakened by HIV), but the level of treatment is governed by the same cell count. Traditionally, such confounding is handled by statistical tools such as stratification or regression.

Jonathan described an alternative procedure, based on the *marginal structural models* of James Robins of Harvard University, that enables causal inferences to be drawn from modern cohort studies. Imagine, if you can, a trial with two time points. It has many of the features of a randomised controlled trial, but has been modified so that treatment and a covariate are confounded. At the first time point a patient is allocated either treatment or placebo with probability ½. At the second time point, treatment or placebo is again allocated randomly: the probability of treatment remains at ½ if the CD4 cell count is high, but rises to 0.9 if the cell count is low. The conditional probability of a high CD4 count at time 2 is, say, 0.3 under treatment at time 1, and 0.1 under placebo at time 1. The situation can be fully described by a probability tree diagram with 8 terminating nodes, corresponding to the 8 groups of patients: treatment or placebo at time 1, low or high CD4 count at time 2,

treatment or placebo at time 2. In contrast, there are only 4 treatment regimes: treatment or placebo at time 1, treatment or placebo at time 2. According to Robins, the only substantive difference between this trial and an RCT is the number of patients in each group. (In the RCT the data are classified by the 4 treatment regimes – the 8 groups are latent, but they still exist.) It is a trivial matter to adjust the group numbers in the non-RCT trial to those of an 'equivalent' RCT with equal numbers of patients in each treatment regime. The adjustment factors are called inverse probability weights. Causal inference can now be carried out by adjusting the outcome variables using these weights, Robins argues, just as if a genuine RCT had been conducted.

Jonathan Sterne applied this idea to a Swiss HIV cohort study with 12000 patients, 93000 follow-up visits, 36000 diagnoses, 11000 AIDS events and 4000 deaths. Of course, this is a much more complicated study than the didactic example of the previous paragraph: there are many more time points and possible treatment regimes. Hence the inverse probability weights are estimated using a logistic model rather than non-parametrically. Even so, causal inference using Robins' marginal structural model is unreliable because some group probabilities are very small, leading to huge inverse probability weights. Jonathan Sterne produced, as if by magic, some alternative *stabilised weights* to use instead of the inverse probabilities. These have been recommended by Robins, but Sterne did not explain their intuitive basis. At this point the troops became restless. No verbal tomatoes were actually thrown, but a couple of audience members were spotted ordering crates. From my follow-up reading of Robins' papers, it appears that the stabilised weights adjust to an RCT with *unequal* numbers per treatment regime, the same as those actually realised, so they are not too rocky.

Sterne showed us how to fit marginal structural models using the statistical package *Stata* – it takes only a few lines of code. He compared the results for the Swiss HIV study with those from more conventional, and biased, analyses.

Talks, such as this one by Jonathan Sterne, that disseminate and popularise new methods at an accessible level are very important. Robins has managed to convince journal editors, colleagues and students that his ideas have merit. It is time for them to be subjected to the blowtorch of wider experience and critical scrutiny that the general statistical community can provide.

Geoff Laslett

Teacher and student: glimpses into the lives and times of A. Y. Khinchin and B. V. Gnedenko

It is a fact not well-enough known that the Russian mathematicians who founded modern probability theory did so at grave risk to their lives. The moving story of the political dangers facing these pioneers was the essence of the 2003 Belz Lecture, sympathetically presented by David Vere-Jones, Emeritus Professor of Statistics at the Victoria University of Wellington, to a packed house at the October Meeting of the Victorian Branch. Although many gifted Russian mathematicians were involved, David chose Aleksandr Yakovlevich Khinchin and Boris Vladimirovich Gnedenko, with whom he has a direct professional association, as our windows into the drama.

Khinchin (1894-1959) studied under the real analysts D.F. Egorov and N.N. Luzin at Moscow University. He found himself in learned company. Luzin invited students to weekly intellectual evenings at his home, where they engaged in lively discussions of mathematics and partook of tea and nut-cake by the light of a kerosene lamp. In 1927 Khinchin was appointed Professor at Moscow University, where he established fundamental theorems in probability and stochastic processes. He held strong views on mathematical education. He was particularly critical of 'the widespread tendency for students to learn only the outer, formal content of a topic, without ever understanding its real meaning'. He recommended his own method of learning new material, namely to put aside the source document, and to try to reproduce the ideas, and extensions of them, using new notation and different steps from those of the original author. During the 1960s David helped

A walk on 'The Wild Coast'. David Vere-Jones at Blairgowrie Back Beach a few days prior to the 2003 Belz Lecture. Photo: Brian Phillips.

prepare an English translation of Khinchin's educational articles. This work appeared in 1968 under the title 'Essays in Mathematical Education'.

But ideologues were in power. They were suspicious and intolerant. Independence of thought, the life-blood of academics like Khinchin and his colleagues, was seen as a threat. In the late 1920s and early 1930s the Moscow Mathematics Society was accused of being a centre for anti-communist propaganda. Khinchin's teacher, Egorov, was a staunch supporter of academic freedom and the Russian Orthodox Church. He was denounced, deported and ultimately died after going on a hunger strike. For five years the situation hung in the balance. Luzin, the next scientific leader, was accused of liaising with European intellectuals with the aim of engineering a counter-revolutionary plot. At the last moment the charges were dropped, but he spent some time in a labour camp before reappearing in the 1940s.

Gnedenko (1912-1995) worked from 1933 to 1937 as a graduate student at Moscow University with Khinchin and A.N. Kolmogorov. In 1938 he was arrested, held for many months in grim conditions, and subjected to daily and forceful interrogation, with the aim of getting him to 'confess' that Kolmogorov was involved in an anti-communist plot. He feared that if he gave in, the whole Moscow school of probability would be lost. He insisted that the claims were false, and was ultimately released. Kolmogorov and Khinchin were able to secure his reinstatement in academia, but Gnedenko remained forever debarred from the highest honours. Gnedenko went on to do much original work on sums and maxima of sequences of random variables, on reliability and queuing theory. In 1960 and 1961, David had the privilege of working in Moscow as a graduate student under Gnedenko's supervision.

Like Khinchin, Gnedenko held influential views on mathematical education. He believed that the relationship between teacher and student was paramount – teaching mathematics means helping young people to reason for themselves, and to develop confidence in their reasoning skills. Despite his previous experiences at the hands of officials, Gnedenko often quoted from the canons of communist literature when these writings supported his own beliefs. For example, he cited Lenin in support of the need to include statistics in the school programme. On one occasion Gnedenko took a group of former students to the Lenin Museum outside Moscow, to look at Lenin's original writings on applied mathematics. In 1967, Gnedenko visited Australia (including Melbourne) at the invitation of P. Moran and H. Thomson, an event that several in the audience could recall.

Both Khinchin and Gnedenko were survivors in an extremely treacherous political environment. They had to walk a tightrope in which they preserved their own integrity while acknowledging the need to work within the system. It was truly an Age of Uncertainty, in two senses: political survival; and advances in the theory of probability.

It was a very successful evening. David's intimate and sensitive portrayal of the Moscow school of probability in its perilous formative years enthralled the large audience of over 70 people. Nearly 40 went on to an animated and convivial Belz Dinner, held at the Universal Café in Lygon Street.

Geoff Laslett

An old paradigm for a new technology: designs for cDNA microarray experiments

Kathy Ruggiero, of CSIRO Mathematical and Information Sciences in Canberra, spoke on designs for microarray experiments at the November meeting of the Victorian Branch. This work was initiated in Melbourne while Kathy was on sabbatical from the Institute of Information and Mathematical Sciences at Massey University, and I had the privilege of collaborating with her.

The technology of cDNA microarrays is often used to compare differences in gene expression between interventions on many (usually thousands) of genes simultaneously. In such cases the investigator would often like to make statements inferring cause

Kathy Ruggiero

and effect, that is, the responses observed between different interventions are indeed due to those applied interventions.

Kathy pointed out that the experimental design paradigm is needed to invoke cause and effect inference. She then showed how the experimental design paradigm can be practically invoked with cDNA microarray experiments, to provide efficient cause and effect inference. This involves knowledge of possible major sources of variation.

The invoking of the experimental design paradigm leads to major differences in the way microarray experiments need to be designed and analysed, compared to the predominant present approaches. The paradigm leads to row-column designs which do not require dye swaps of technical replicates and replaces the within array normalisation with *normalisation by design* using an intrablock analysis of variance. Further, it eliminates the need for control and/or housekeeping genes.

Kym Butler

SOUTH AUSTRALIA

Practical analysis of spatial point patterns

Professor Adrian Baddeley, Professor of Statistics at the University of Western Australia.

Adrian kindly delivered the second

Cornish Lecture to the SA Branch on 21 October 2003. The lecture series has been named to commemorate Alf Cornish, a leading figure in the early years of the statistical profession in Adelaide. The lectures are held biennially and presented by eminent statisticians from around the world. The first Cornish Lecture was delivered by Professor Terry Speed of the Walter and Eliza Hall Institute of Medical Research and the Department of Statistics, Berkeley, on the subject of 'Gene Expression'.

The statistical analysis of spatial point patterns is an important and challenging task and has many applications (e.g. in epidemiology, agriculture, ecology and materials engineering). It is challenging because it is methodologically different from most other areas of statistics. Statistical methods for point pattern data are relatively underdeveloped; the classical methods are very limited in scope.

Furthermore, the observation points of point patterns are not actual data points as information is conveyed by the absence of points.

Point patterns can be a binary (0/1) variable if we have a rectangle of squares. Models for point patterns include: inhomogeneity over space, inter-point interaction (if none is present we have a Uniform Poisson process) and covariate effects.

Technical problems include: one-dimensional time series have no natural analogue in higher dimensional space; most spatial point process models are intractable whereby moments are not known analytically; and the normalising constant in the likelihood is intractable. Also, time series methods cannot be generalised to spatial processes.

Ripley advocated a range of solutions such as analytic results for a Uniform Poisson process, the method of moments for a stationary process and summarising point patterns by simple statistics or measuring the distance between points compared to a benchmark (eg. Poisson). The classical approach for models aims to formulate and fit point process models to point pattern data. The main modelling tool is conditional intensity, conditional on probability of getting a point of the process at that location. Point process densities used are homogeneous Poisson, inhomogeneous Poisson and Strauss Process. The log-linear intensity is a large class of models of spatial trends with covariate effects and an intercept interaction. Maximum likelihood for point processes is analytically intractable and achievable with computationally intensive methods. Adrian outlined the use and flexibility of the pseudolikelihood. It is formally identical to the likelihood of GLM (binomial or Poisson log-linear regression) allowing use in standard software for GLM. The software R has been useful in fitting such models and also exhibits flexibility.

The speaker and topic attracted a large crowd who were drawn from a wide sector of the mathematical and statistical community. The talk generated many questions and discussion after which a large group adjourned to a local restaurant to continue the lively chat.

Margaret Swincer

Econometrics – where to from here?

Dr Tony Hughes of the Department of Econonomics, University of Adelaide.

The original concept of econometrics was a "synthesis of statistics and mathematics applied to economics" and traditionally focussed on structural analysis and forecasting.

An expert econometrician in the 60's and 70's could run a regression whereas today this has evolved to understanding a regression. Econometrics is now thought of as Economic Statistics where the distinction between econometrics and statistics is the role economics plays. The best economists today are mathematicians able to develop complex models of human economic behaviour.

In the past, linear regression models in economics used a very small number of variables with a big emphasis to transform the model. This dependence on regression has reduced with the advent of powerful computers and the development of other parametric/non-parametric methods. Maximum likelihood methods started to be used in the 70's and 80's, and had a big impact on micro economic models such as labour study models. For example, logit and probit models have been used to develop labour models, such as modelling whether people want to work. Maximum likelihood methods have also been useful with "simultaneity bias", where one or more of the explanatory variables are also functions of the response variable, eg supply and demand.

There is an increasing interest in semi-parametric/non-parametric methods (robust statistics) in econometrics such as generalised method of moments and bootstrapping. Nevertheless, regression techniques still have a strong hold in economics. The number one journal read by most economists, American Economic Review, publishes many papers that use standard linear regression (at the exclusion of other methods). In contrast Econometrica is filled with leading edge statistical methods. This position is slowly changing. One of the most heavily cited papers in recent times being Halbert White's 1982 paper, "Instrumental Variable Regression with Independent Observations" (Econometrica). This paper is significant in the development of White (or Huber-White) standard errors, which are standard errors adjusted for specified assumed-and-estimated correlations of error terms across observations.

Economists use a combination of non-sampling information and econometric methodology. For example if there is a strong prior belief or economic theory predicts that a particular coefficient is positive say, then this presumed structure is built into the model. This approach has the advantage of providing a lot of efficiency and power, but at the possible expense of robustness.

In the 1940's governments around the world established Central Statistical Agencies such as the Australian Bureau of Statistics. One theory for the rationale for setting up these agencies is that governments at time were heavily influenced by the economic theories of Keynes. Keynesian economics encourages governments to have a key central role in managing the economy. If for example, unemployment is high, then the government should pump prime the economy via expansionary monetary policy. This level of government control required collection of large quantities of timely and accurate information. Another theory is that with the introduction of computers, the ability for the government to collect and store large volumes of information increased dramatically.

As technology continues to improve at a rapid pace, the cost of acquiring and storing data decreases, and the demand for more data increases. Many examples of large data collections exist such as labour market panel studies in the US, Britain and Australia, supermarket

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Branch Reports

Continued

barcode data, stock market data and wholesale price of electricity measured in half hour blocks over the last five years.

The explosion of the incidence of credit risk is encouraging businesses to use data in much greater detail, for example identifying people who have been bad credit risks in the past, but who can still be profitable. This rapid increase of data acquisition and use raises a number of interesting questions:

1. Who owns your data? Do you own the data that your credit company has collected or do they own it? If they sell the data to another business, should you be entitled to some of the money?
2. What are the implications of the accumulation of data as Conglomerates continue to merge and expand? For example, if Coles Myer expanded their business to the financial services market, then the company has the potential to link client data from their two databases (ie matching consumer data with their financial services data).

Peter Ricci

Australasian Conferences

Statistical approaches to meta-analysis — Three courses for statisticians and reviewers in Melbourne and Sydney, March and April 2004

http://www.cochrane.org.au/statistics

Workshop on Contaminants and Ecological Risk Assessment

5 – 7 April 2004 — Adelaide – Details: www.clw.csiro.au/conferences/contaminants

CMA National Research Symposium on Probability and its Applications

22 – 23 April 2004 — Canberra
A meeting to present Chris Heyde with a festschrift on his 65th birthday.
Info at http://www.maths.anu.edu.au/events/sy2004

24th International Symposium on Forecasting

4 – 7 July 2004 — Sydney – Info at: http://www.isf2004.org

Econometrics Society Australasian Meetings

7 – 9 July 2004 — Melbourne Info at: http://www.monash.edu.au/oce/ESAM04/

Australian Statistical Conference

11 – 16 July 2004 — Cairns, Queensland
Contact: Neville Bartlett, neville@nrbartlett.com.au

International Biometric Conference

11 – 16 July 2004 — Cairns, Queensland
Contact: Kaye Basford, k.e.basford@mailbox.uq.edu.au

ISBIS 4 – International Symposium on Business and Industrial Statistics

13 – 16 April 2004 — Cairns, Queensland
Further information at http://www.action-m.com/isbis4/

Overseas Conferences

TIES 2004 – The International Environmentics Society and ACCURACY 2004: 6th International Symposium on Spatial Accuracy Assessment.

28 June – 1 July 2004, Portland, Maine, USA.
Info at: http://www.ncrs2.fs.fed.us/4801/meetings/ties/default.asp

The 6th ICSA International Conference

July 21 – 23 2004 — National University of Singapore (NUS), Singapore
More information can be obtained from the NUS-ICSA 2004 website at:
http://www.stat.nus.edu.sg/ICSA.htm

"Visions of Futuristic Statistical Methodologies"

28 – 30 December 2004 — Kandy, Sri Lanka
Conference website: http://www.st.rmit.edu.au/~desilva/conference/slstat.htm

SA Branch Christmas Dinner at the Tin Cat Cafe

Peter Ricci and Gary Glonek

Chris and Margaret Brien, Margaret Swincer

Alan James and Graham Wilkinson

Debra Partington and David Hirst

SSAI Members among the ISI Top 10!

Congratulations to Iain Johnstone and Peter Hall, SSAI members who feature in the Institute for Scientific Information list of researchers with the most citations between January 1993 and April 2003.

Website of the month

West Australian Branch member and AStat, John Henstridge, is director of Data Analysis Australia. The company has just turned 15. Their website, http://www.daa.com.au, describes the company's achievements since 1988 and lists their current activities. These include support for the Young Statisticians Section of this Society. Well done John and the team at DAA!

The National Undergraduate Statistical Careers Summit NUSCS 2003

On Monday and Tuesday 29-30 September 2003 the National Undergraduate Statistical Careers Summit (NUSCS) was held in Canberra. This workshop was part of a national campaign to increase awareness of statistics as a discipline and a career choice. The workshop was sponsored by the School of Finance and Applied Statistics (FAS) at the Australian National University (ANU), the Australian Bureau of Statistics (ABS), and the Statistical Society of Australia (SSA). The stimulus for the project came from FAS.

About 40 students were sponsored to attend the workshop. These were selected from over 120 applicants who applied from around Australia. The workshop consisted of a series of talks by about 20 leaders in the field from a wide range of sectors, including academia, public service, industry, finance, and private consultancy. The following is a brief outline of these talks, which took place at the ABS on Monday and at the ANU on Tuesday. More details can be found at http://ecocomm.anu.edu.au/events/nuscs

Dennis Trewin, the Australian Statistician, opened the Summit by discussing the importance of statistics in society, which has been growing because of the masses of databases becoming available and the trend towards evidence-based decision making.

Craig McLaren began the first session, titled Australia's Statisticians, by describing his work in the Time Series area at the ABS since he joined in 1999. One of his projects has been to develop a method which removes the Easter effect from seasonally adjusted time series. Next, James Chipperfield, also of the ABS, talked about his work with artificial neural networks and computer assisted interviewing (CAI). Then Bill Allen, Director of the Household Survey Methodology Unit at ABS, gave several examples of the importance of survey sampling and data analysis. One of his projects is to optimise the design of the Indigenous Health Survey.

Bronwen Whiting, of the Queensland University of Technology (QUT), began the second session, titled Teaching for Statistics' Future, by recounting how she came to do a PhD in Statistics. She talked about the benefits of teaching and academic life, and spoke very enthusiastically about the usefulness of statistics. Then Helen MacGillivray, also of QUT, described her experiences of teaching statistics since her first statistical teaching position in 1972. Helen stressed the importance of 'connecting' with students and teaching statistics in a coherent way.

Phil McCloud began the third session, titled Predicting Uncertainty – Farmers and Pharmacy, by talking about his experiences as a statistician in the pharmaceutical industry, in particular Roche since 1997. He gave a very illuminating overview of the strategic life cycle plan of a pharmaceutical drug, including details of the various clinical trials involved. Then Phil Kokic, of the Australian Bureau of Agriculture and Resource Economics (ABARE), gave an interesting talk on linking climate variability with farm financial performance. Phil has developed a new economic model which may help predict the impact of climate and commodity price variation on financial performance.

In the fourth session, titled Surveying – The Statistical Landscape, David Steele gave an illuminating presentation on sample surveys and related fields, with especial reference to the ABS, where he spent 17 years in the Methodology Division, and the University of Wollongong (UW), where he has been since 1992. David also described a project of his on the Irish Labour Force Survey, which he was able to redesign with a substantial increase in efficiency.

The final talk on Monday was by Ross Maller of the ANU, in the fifth session, titled Statistics - The Finance Frontier. Ross discussed the applications of probability and statistics in the very vigorous field of finance, and gave an overview of some key concepts.

The Summit Dinner was held at the Belconnen Premier Inn, where the guest speakers were Terry O'Neill and Michael Martin. In his talk, Michael gave highly entertaining advice on how to receive special treatment when attending a conference.

Annie Solterbeck of Statistical Revelations began the sixth session, titled Statistical Consulting – Ask the Oracle (Tuesday morning), by describing her life as a statistical consultant. She outlined her typical week and discussed some of the skills which are important in her line of work, such as being very organised. Then Robyn Attewell of Covance gave a talk on her experiences as a statistician over 20 years. In 1983 she completed a Masters in Statistics at ANU and joined INTSTAT, one of the first statistical consulting companies in Australia. Then Tim Higgins, an actuary and statistician at the ANU, gave an illuminating talk on modelling HECS, doubtful debt and revenue.

Richard Madden, of the Australian Institute of Health and Welfare (AIHW), began the seventh session, titled Healthy and Wealthy Statistics, by giving an overview of the organisation of which he has been director since 1996. He described the values and structure of AIHW, and pointed out that statisticians need not worry too much about their careers on account of their skills being in demand almost everywhere. Then Diane Gibson, Head of the Welfare Division of AIHW, talked about the distinction between survey data and administration by-product data. She also discussed evidence-based policy and different ways of reporting statistics. Next Chris Stevenson described his work as a biostatistician in the Health Division of AIHW. One of his projects has to do with determining numbers of bowel cancer patients who have been cured. Then John Goss, an economist in the Resources Division of AIHW, described a project aimed at assessing the combined effects of various risk factors for heart disease, after accounting for interactions and synergies.

Steve Stern of FAS began the eighth and final session of the Summit, titled Sugar, Safety, Satellites and Epidemics, by showing how classification trees could be used to help clinicians in the US determine insulin resistance in individuals based on other less direct measurements. His work has been presented this year to the American Diabetes Association. Then Terry O'Neill, Head of FAS, gave a very entertaining talk on safety measures in motor vehicles, including the use of air bags. Next, Niels Becker from the National Centre for Epidemiology and Population Health (NCEPH) at the ANU gave a fascinating presentation on the statistical underpinnings of epidemics. Niels talked about epidemics in general, but his comments had particular relevance given the recent SARS outbreak. Finally, Simon Barry from the Bureau of Resource Sciences spoke dynamically about the statistical problems associated with creating accurate land-use maps based on satellite imaging. His talk was brilliantly illustrated with maps of many parts of Australia.

Borek Puza

Report on Biometrics 2003

The biennial conference of the International Biometric Society (IBS) Australasian Region was held at the Australian National University (ANU) in early December 2003 and attended by 46 biometricians and statisticians. Over the two-and-a-half days of the conference, 25 talks were presented covering the themes of ecology, nonparametric mixed models, health, modelling disease spread, microarrays and various applications. The Australian Mathematical Sciences Institute (AMSI) Summer Symposium in Bioinformatics was also held at the ANU that week, and Biometrics 2003 participants were able to make the most of this by attending some of the Microarray and Experimental Design sessions held on the final day if they were of interest.

At Biometrics 2003, there were 7 invited speakers:

- David Lindenmayer and Ross Cunningham of the ANU ("Issues in the design, implementation and analysis of large-scale natural experiments in landscape ecology"),
- Matt Wand of the University of NSW ("Subject-specific curves for longitudinal data: keeping it simple and computable"),
- Mick Roberts of Massey University in Auckland, NZ ("A mathematician in Asia – dining on dengue and supping with SARS"),
- Annette O'Connor of the Office of the Chief Veterinary Officer in Canberra ("The role of infectious disease spread models in Australia's exotic animal disease response preparedness"),
- David Baird of AgResearch, NZ ("Design, normalisation and quality control for two colour cDNA microarray experiments"), and
- Harold Henderson of AgResearch, NZ ("Dynamic graphics for microarray data").

Nick Nicholls, Annette O'Connor and Mick Roberts.

John Reynolds presents Carole Wright with her prize.

Roger Littlejohn, Bob Forrester and Melissa Dobbie.

All gave well-polished talks and represented a range of backgrounds and subject areas within the Biometrics domain.

Four students gave presentations at the conference and for their efforts, the society provides free membership for one year to each student. However, there were also monetary awards on offer at this conference. Carole Wright of the University of Waikato, Hamilton, NZ took out the Platinum award for her talk on "Quick construction of resolvable row-column designs" and Marie Forrester of Queensland University of Technology, Brisbane took out the Gold award for her talk on "Statistical and stochastic epidemic models of MRSA occurrence within an intensive care unit given incomplete observations". Congratulations to all four speakers on the quality of their presentations.

The AGM of the IBS Australasian Region was held during the conference and the following office bearers were voted in:

President: John Reynolds (Peter MacCallum Cancer Center)

Vice President: Ann Cowling (Australian National University)

Treasurer: Warren Muller (CSIRO) with help from Brian Niven (University of Otago, NZ)

Secretary: Dave Saville (AgResearch, NZ)

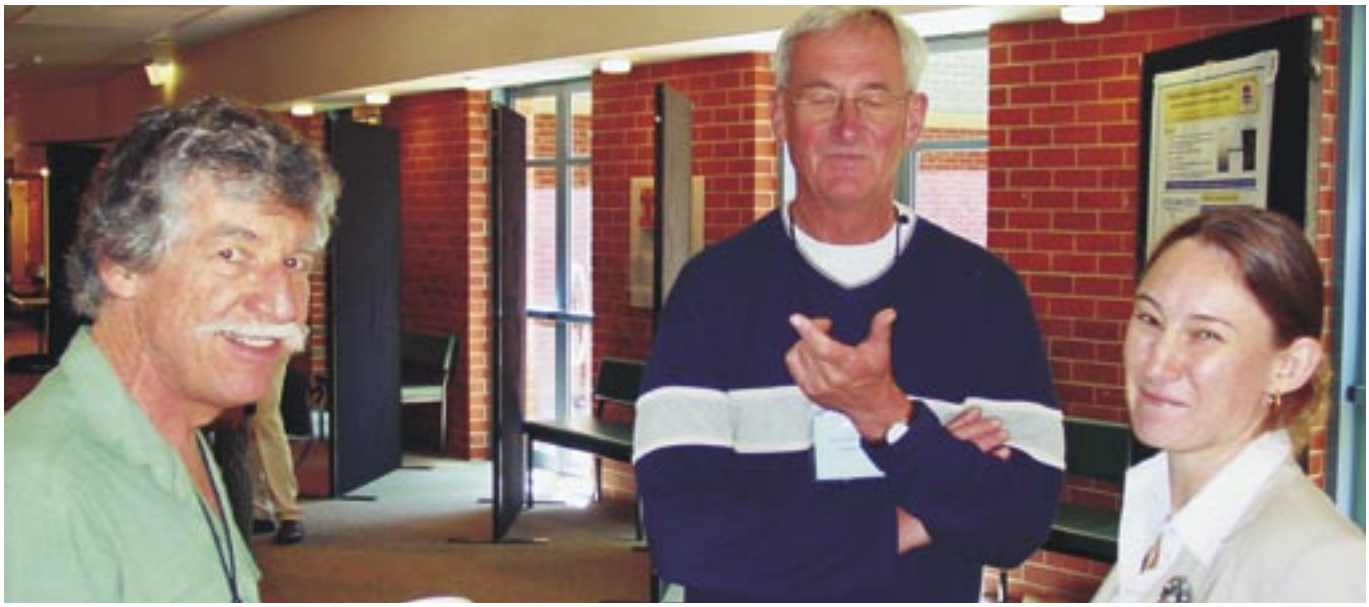
Biometric Bulletin Correspondent (Australasian region): Melissa Dobbie (CSIRO)

At the AGM, the decision was made to offer some financial support for student members to attend the upcoming IBC/ASC2004 meeting in Cairns in July 2004, so watch this space for more details! The region is also planning to award Honours/4th year scholarships starting in 2004 and further details about this will be announced shortly.

Being a boutique conference (by default), there was adequate opportunity for conversation with new and old faces and certainly no awkward decisions about which sessions to attend, as there were no parallel sessions. Congratulations are deserved to the Local Organising and Program Committees, both chaired by Ann Cowling of ANU, for organising a worthwhile and successful conference at short notice.

Further details about the conference, such as abstracts of all papers, copies of most contributed and invited presentations, and selected photos taken of participants, are available at http://www.maths.anu.edu.au/events/IBS02/index/html

Melissa Dobbie, CSIRO QLD



Warren Muller, Peter Johnstone and Ky Mathews.

Helen Nicol, Richard Morton and David Butler.