

statistical society of australia incorporated

# newsletter

31 march 1991

number 54

## New President and Secretary Elected to Central Council

### Helen L. MacGillivray - Secretary

BSc (Hons) UQ, 1972,  
PhD UQ, 1979.

Helen is currently Senior Lecturer in Statistics, School of Mathematics, Queensland University of Technology, Brisbane.



She has held office in the Queensland Branch SSA as President in 1987-1989, Secretary in 1985-1987 and Secretary and Local Arrangements Chairman for the 7th ASC, Brisbane in 1984.

After completing honours in Mathematics, Helen worked at ANU as a Tutor in Statistics, before returning to Brisbane where her husband was doing his PhD. She then did her PhD mostly part-time while working at the University of Queensland as a Tutor, Senior Tutor, and Temporary Lecturer in Statistics, and at ANU as a Counsellor in Mathematical Methods in the Communications and Skills Unit. Since obtaining her PhD, she has worked as a Lecturer and Senior Lecturer in Statistics at UQ. In July, 1990, she moved to her current position in Professor Tony Pettitt's department in which exciting developments in teaching, consulting and research in Statistics are taking place.

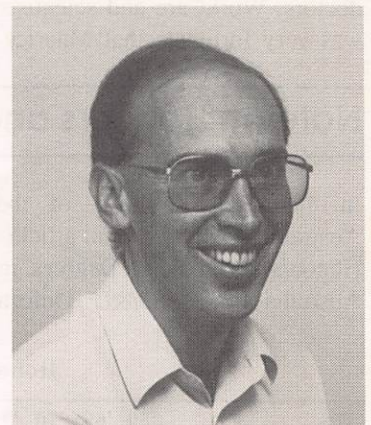
Helen's research interests lie in distributional properties with a range of applications, from uses of distributional families in Inference and EDA, to modelling engineering

and population processes. Her teaching experience is both varied and extensive, has covered most areas and levels of Statistics, has involved both small and large classes, and has particularly involved honours groups and service courses to Engineering, Science and Pharmacy students. She has also been involved in speaking about Statistics in schools, Summer Science Schools, and award presentations.

Helen and her husband have two daughters, aged 12 and 9.

### Timothy C. Brown - President

I was born in Melbourne in 1953. I did a BSc in statistics at Monash and then spent a year as a research student of Bruce Brown at La Trobe. In 1976 I went to Cambridge where I did a PhD in probability, supervised by Geoff Eagleson. Bruce and Geoff were outstanding supervisors, dealing out lots



of interesting and solvable problems. It was a great time to be at Cambridge, as among my fellow students were Bernard Silverman, David Aldous, Frank Kelly, John Kent and Brian Ripley. I was also influenced heavily by David Kendall, who seems to me to combine sophisticated practical problems and mathematics in a magic way.

*Editors: D.E. Shaw, CSIRO, DMS, PO Box 218, Lindfield, NSW 2070*

*E. Brinkley, Australian Bureau of Statistics, PO Box 10, Belconnen, ACT 2616.*

*R.I. Forrester, CSIRO, Biometrics Unit, INRE, GPO Box 1666, Canberra, ACT 2601.*

*The views of contributors to this Newsletter should not be attributed to the Statistical Society of Australia, Inc.  
Deadline for next issue: 19 April 1991*

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In 1978, I moved to the University of Bath where I got a job as Lecturer in Statistics. Bernard Silverman and I moved there at the same time - I was hired as the minor part of a package, which was luck indeed for me. Like Cambridge, I greatly enjoyed my time at Bath and the statistics group there was (and is) a very stimulating and exciting one. I did some consulting there with biologists, something which proved to be very significant for me in the long run.

When my wife and I had our first child, we decided that Australia was still home and I returned to a fixed-term Lectureship at Monash in 1981. A few anxious years followed in which I was (isn't hindsight a great thing!) far too preoccupied with what would happen when my Lectureship ran out - at that time, all fixed-term Lecturers at Monash were sacked on the day their contracts ran out, no matter whether the department wished to renew the contract. Nevertheless, it was a privilege to be back as a colleague of those who taught me as an undergraduate, and looking back it is good to remember days when my main duties were teaching and research with a little consulting on the side.

Chris Heyde moved to the Chair in Statistics at the University of Melbourne in 1984 and immediately set up a Statistical Consulting Centre to work both inside and outside the University on a self-supporting basis. I was lucky enough to get the job as foundation director of the Centre - lucky not least because there was certainly a risk involved on both sides because my research had been in pure and applied probability, and my consulting experience was quite limited. There followed three years of very hard, but immensely rewarding, work dealing with clients as diverse as manufacturers of poker machines and cars, doctors, WorkCare and scientists of many persuasions. I was very fortunate that Maurice Belz had done so much

pioneering work in consulting more than 20 years before, and that the Department of Statistics (particularly Betty Laby and Ken Sharpe) had continued to consult with so many people since that time. So often, people would say "Oh yes, we are used to consulting with your department. Now, we have got this problem that I am sure you will solve so easily ...". The last phrase is a real give-away - in my experience you can always count on at least a month's work from such a phrase. As well as consulting, I had two research students, and started a consulting course in the new Master of Science programme joint between the universities in Melbourne.

My time at Melbourne finished when I was lured to the outer ends of the universe here in Perth and took up the position of Professor of Mathematics (Probability/Statistics) at the University of Western Australia in 1987. In no time at all, I learned to rage at the "Eastern States" for their ignorance of the most important third of Australia (guess where that is), and in a few more years I will almost qualify for the most important title of "sandgroper". Statistical life here is very lively, and our monthly Society meetings get attendances comparable to those in Melbourne, but with a third the membership. With family, 5 research students, consulting, teaching and countless committees, I don't have much spare time, but when I do, I relax well with music and reading, and am involved in the local Uniting church.

Perth is a beautiful city, with the best climate and beaches in Australia (eat your heart out Sydney). You too have a great chance to reorient your perspective on Australia by attending the 11th Australian Statistical Conference here in July 1992. It has become cheap to fly here and we are already busy organising what should be a sensational week. See you then!

## Note on Honours and Higher Degrees in Statistics in Queensland

In the last Newsletter of the Statistical Society of Australia, there was an article by Dr Peter Petocz on Honours and Higher Degrees in Statistics Completed in Australia 1959 - 88/89. Unfortunately, there appears to

have been some problem in getting the appropriate information from Queensland to him. The relevant details are presented in the following table.

Honours and Higher Degrees in Statistics, Queensland 1959-90

		'59-'69	'70	'71	'72	'73	'74	'75	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	Tot
<b>Honours Bachelors degrees</b>																								
Griffith	M										1	1			1	1	1	1	2	1	1			10
	W										1	1	3	1	1	2		2			1	1	1	
Queensland	M		4	6		3		1	2	2	3	1	1	2	1	2		2	4	2	2	1	2	41
	W		1	1		2	2		1	1	1		1	2	1	1		1	1		2	2		19
<b>Research Masters degrees</b>																								
Griffith	M																					1		1
	W																							0
Queensland	M		1		1						1					1				1				5
	W		1					1		2		1												5
<b>Doctorates of Philosophy</b>																								
Griffith	M																							0
	W																						1	1
Queensland	M					1	1	1	1					1					1					6
	W												1						1					2

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## CENTRAL COUNCIL

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The Annual Meeting was held on Wednesday 6 February 1991. Some of the matters discussed included the following.

**Australian Foundation for Science:** The foundation has been set up (by the Academy of Science) as a general entity for the promotion and support of Science and Technology in this country. They plan to raise \$10m. The Society has been invited to join the AFS at a cost of \$5000, which may be spread over 5 years. A letter from Professor Heyde, as interim chairman of the AFS, on the difference between FASTS and AFS was tabled, and Dr Field had arranged for a video on AFS to be viewed (this was viewed after the meeting). Because the Branches had not seen all the original material sent by AFS, it was decided that this should be sent to all the Branches, with the offer to view the video and a request for comment.

**SSA Tie and Scarf:** Dr Nick Garnham had conducted a competition for a suitable logo for the SSA, and has produced designs and costings for a tie and scarf using the winning logo. It was proposed and approved that the logo be adopted as the official logo of the SSA, and that the prize with thanks be awarded to its designer, Paul Jackaway.

**Annual Financial Report:** The Treasurer presented the report, noting the increase in capitation fees of \$2 for ordinary members and \$1 for students and retired members. The Treasurer indicated that there was a need to draw up a budget for the AGM, particularly in view of the Society using funds in taking a more pro-active role.

**Elections:** Council endorsed the selections of the Nominating Committee - Professor T.J. Brown as President, Professor R.G. Jarrett as Vice-President and Dr J.T. Wood as Treasurer. Professor Brown moved a vote of thanks from the chair to the retiring President, Professor Jarrett, and to Dr Wood and Dr Field, who retired as Secretary between the July 1990 meeting and this meeting.

**Representatives on Other Committees:** National Committee for Mathematics - a report was tabled from Professor Heyde, who was thanked on behalf of the

Society and re-elected. Australian Geoscience Council - Dr Nick Fisher was re-elected. Australian Mathematical Sciences Council - Professor Tim Brown and Professor Richard Jarrett were re-elected.

**Australian Mathematical Sciences Council:** The report of the President of the AMSC was tabled, and Professor Brown reported on the last meeting, commenting on the valuable role being played by the AMSC in a number of ways, including obtaining and disseminating information.

He requested and received Council support to protest to Mr Dawkins about the non-appointment of Gavin Brown to the ARC. An engineer had been appointed instead, and this was the first time a chairman of a sub-committee had not been appointed to the ARC itself.

The AMSC plans to hold a one or two day symposium with a wide spectrum in August, 1991. It was suggested that Sydney or Melbourne would be better locations for a wide spectrum public meeting than Canberra. AMSC has also requested a nomination of a keynote speaker for member Societies' conferences in 1992; Professor Jarrett was nominated, subject to his approval. ASTEC has called for submissions on future directions of research funding in Australia; Professor Brown has written a submission from SSA.

### Conferences:

10thASC/2ndPSC - Reports from the Local Arrangements Committee and the Programme Committee were tabled. The chair moved a vote of thanks to the conference organizers for a conference of very high standard.

Statcomp/Biostats - The proposed programme received enthusiastic support, and a proposal for student support was discussed.

11th ASC, Perth 1992 - arrangements are well under way.

12th ASC, Melbourne 1994 - Venues and accommodation have been booked at Monash.

H.L.MacGillivray  
Secretary

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## Survey Results on Certification

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### Janice Derr, Penn State University

In April, 1990, a questionnaire concerning the certification of statisticians was sent out to all 360 of the US subscribers of The Statistical Consultant. The responses from this survey provided material for my talk at the ASA meetings in the invited session "Should Certification be an Option for Statistical Practitioners?" organized by James Boen, University of Minnesota. I want to thank all 232 who took the time to respond to this questionnaire. There were many thoughtful comments, and it was very interesting to read and summarize the responses (listed here).

### 1. Respondent Profile:

- 97% received an academic degree in Statistics or related field;
- 84% have the PhD degree;
- 18 years was the mean number of years working as a statistician, with a standard deviation of 8 and a range of 0 to 45 years;
- 82% reported academic occupations, with 10% in industry and the remainder in government, self-employed, or "other";
- 35% was the mean percentage of working activity reported as spent in statistical consulting, with a range of 0-100%;

- 67% reported private consulting in addition to their regular job.

## 2. Opinion about certification:

- 143 of the respondents, or 62% said "Yes" to the question: "Do you think that the ASA should implement some form of certification?" 80 said "No" and 9 did not reply.

Respondents were then invited to describe what type of certification process they favoured. The number of people answering the subsequent questions ranged from 133 to 150.

- 78% felt certification should be voluntary (as opposed to mandatory).
- 69% felt that reporting education should be done with transcripts,
- 27% felt that self-report of education was sufficient, and 4% felt that no education report should be required.
- 56% felt that names of references should be sent in with the application for certification,
- 22% felt that letters of references should be sent in, and 22% felt that references should not be required.
- 94% felt that criteria for certification should be based on education, 89% felt that criteria should be based on experience,
- and 51% felt that criteria should not be based on results of standardized tests.

- 65% felt that levels of certification should be put into place.
- 84% felt that removal of certification should be possible.
- 60% felt that certified statisticians should be reviewed periodically to maintain certification.
- 62% felt that there should be a suggested code of conduct for certified statisticians; 37% felt this code should be required, and 1% felt there should be no code of conduct.
- 51% felt that a certification panel should be able to provide advice in disputes between a certified statistician and a client or employer; 27% were opposed to any arbitration function, and 22% felt that there should be a formal arbitration procedure.

Finally, respondents were invited to write down any further comments about certification, which I have transcribed into a document to give to the ASA Committee on Certification, along with a copy of these results. I want to acknowledge the efforts of Aref Dajani in preparing the questionnaire.

### Editorial Note:

This article is reproduced from *Amstat News*, December 1990. Certification of Statisticians has been a topic for considerable discussion within the Statistical Society of Australia in recent times. This issue of *Amstat News* also included an interesting Editorial on this topic.

## BRANCH REPORTS

### New South Wales

#### Christmas meeting

"Marley was dead." Statistics at Christmas' was the intriguing title of the talk at the Christmas meeting of the NSW Branch in November. The speaker was Tom Pettigrew of the Ford Motor Co of Australia.

Tom described his background as an engineer and gave examples of how for the past twelve years at Ford Australia he had been examining the fundamentals of engineering work. The importance of maxims such as 'what you can't measure you can't control' was examined.

In returning to his text, Dickens' A Christmas Carol, Tom pointed out that it has (surprisingly) some statistical overtones.

Scrooge was saved by being generous. Statisticians, too, can be saved by being generous! They need to develop better ways of explaining concepts to workers who possess common sense, but no mathematics. Tools are needed which allow complicated methods to be used easily, but properly.

The ensuing discussion, both statistical and literary, continued for some time in conjunction with the end-of-year dinner.

### Victoria

#### Control Charts and Quality

The October meeting was held jointly with the Australian Organisation for Quality and was addressed by Doug Shaw. Doug outlined the role of control charts in establishing whether a process is in control and enabling immediate action if not. He emphasized that control charts not consulted for immediate remedial action are useless, except as a historical record, and should not be kept. Control charts should be used in service and administration as well as on the shop floor, though this creates some measurement difficulties. On the shop floor operators will need to be trained to keep and use control charts. The training will emphasize: training for immediate use; their use for process control, not operator oversight; charting is part of the job; and the distinction between specification limits and control limits. He said that there is a need for management to understand variability and how to read control charts rather than look at pages of numbers. The problems associated with control charts include: some consider control charts ARE quality (other procedures may be appropriate in some cases); treatment of correlated data from a continuous process; use with short, disjoint runs where process changes between runs; collection of too much data can lead to the ability to detect changes which are not practically important.

## Research at the Accident Research Centre

Dr Narelle Haworth described an experiment measuring driver fatigue by frequency and duration of eye closures and tracking errors at the November meeting. The experiment was conducted using a video of test track driving at 90 kph and was conducted at night. Problems arise in analyzing the results of the experiment since during the nominal driving time of 4 hours, 9 out of 27 experimental subjects fell asleep. The experiments showed no difference in the mean time in the experiment between different driver treatment groups. The question is what to do about the dropout subjects: only analyze until the first subject drops out; only analyze the data for those subjects who last the full time of the experiment; increase the sample size (expensive); shorten the duration of the experiment (doesn't produce fatigue).

Max Cameron discussed his use of Traffic Accident Commission files on claims merged with the police accident report forms. A general model for the chain of events leading to road trauma has been developed. The analysis aims to measure the conditional probability of steps in the chain for different classes of road users. The aim is to identify suitable classes of road users for counter measures to reduce the risk of accident or the risk of severe injury if an accident occurs. The techniques were illustrated with the pedestrian and motorcycle groups.

## Queensland

### Chaos in Agriculture

After a pleasant complimentary lunch a talk by David Meyer, Senior Biometrician for the Queensland Department of Primary Industries, concluded our activities for 1990. The mathematics of chaos including the Mandelbrot set were introduced. The theory of chaos is used in meteorological forecasting and to predict population fluctuations in entomology and pathology. The fishing industry of Australia may well be an instance of chaotic behaviour. The industry continues in equilibrium for some years with a sustainable yield and then without warning collapses to a totally fished out situation.

## South Australia

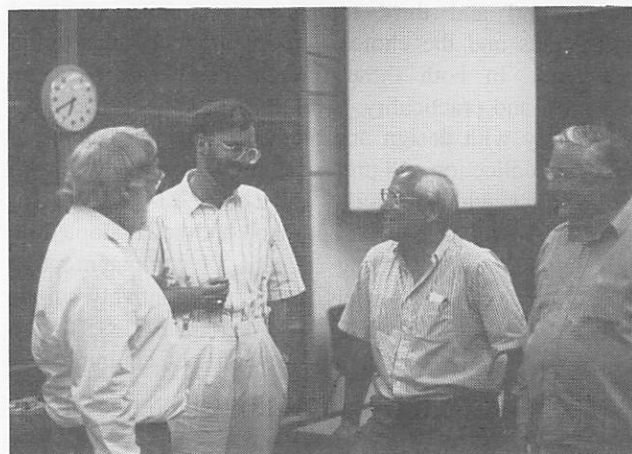
As reported in the November 1990 issue, the Branch was addressed by Stephen Fienberg (Carnegie-Mellon University, Pennsylvania) on "The political and statistical dimensions of the debate over the adjustment of the U.S. Decennial Census".

### Finding Good Experimental Designs by Serendipity

On November 27, 1990, the Branch was addressed by Bill Venables (University of Adelaide). Traditionally, experimental designs have been constructed by very sophisticated combinatorial methods. A high degree of symmetry in the design was necessary to ensure both high efficiency and a simple analysis. Since the analysis no longer presents such a problem, designs can be considered that do not satisfy such strict symmetry requirements as were previously necessary, and a variety of simpler methods of construction can be used.

This talk looked at ways of finding good, though not necessarily optimal, designs by searching through the class of all designs using various strategies (including randomized ones, hence the title). The methods have much in common with the currently fashionable simulated annealing algorithm in combinatorial optimization and these connections were discussed. The talk mainly dealt with classical block designs and row-and-column designs.

The talk was followed by a barbecue for members and partners. A large number participated in what was generally agreed to be a very successful occasion. The Branch is grateful to the organisers for their hard work.



(from left to right) Bob Hall (SA Vice-president), Alan Branford (SA Secretary), Stephen Fienberg, Graham Wilkinson.

## Western Australia

### Experiences with Statistics and TQM in Industry

The penultimate branch meeting for 1990 was treated to a lively address by Cathy Jablonsky, a quality consultant currently based at one of Alcoa's alumina refineries in the south west of WA. Cathy, who hails from the USA, working for J.T. Luftig and Associates, is a chemical engineer with master's level training in statistics. She has lots of first hand experience in applying statistical tools and ideas in process industries, including the manufacture of silicon chips, chain saws, bullets and alumina. Drawing on examples from these and other industries, Cathy explained her experiences with gauge assessment, SPC and industrial experimentation. These examples gave ample illustration of the need for getting involved in the many non-statistical aspects of SPC and industrial experimentation; careful attention to gauge capability issues; and adaptability and common sense in the selection of statistical tools.

It was an entertaining evening showing that the use of statistical tools in the quest for total quality management can be both challenging and fun.

## Canberra

### Teaching and Use of Statistics for Forestry Field Trials in Developing Countries

Dr Emlyn Williams, of the CSIRO's Biometrics Unit, addressed the Branch at the meeting on 23 October 1990.

Dr Williams spoke of his experiences in a three year ACIAR project (now nearly concluded) which involved him in a great deal of field work in Asia and Africa. Three topics received particular attention.

The first was the design and analysis of field and glasshouse trials, many of which were row and column designs with continuous replicates. Dr Williams had devised and used designs which were more nearly orthogonal and more readily available than traditional lattices. While no analytic solution to the problem of optimisation had been found, a computer program had been written to produce efficient designs.

The second and third topics were training of local statisticians and the choice of appropriate hardware and software. In both these the emphasis had been on relevance and practicality. The training courses had dealt not merely with design and analysis of experiments, but with data collection and preprocessing (cleaning), and with the genetics which underlay the choice of varieties for testing. A similar realistic approach had been adopted on the computer side, choosing 286 and XT computers rather than more expensive models, and hence relatively simple software such as GENSTAT 4 (rather than GENSTAT 5 which would have been unduly slow on such equipment).

#### **1990 Knibbs Lecture - Statistical Challenges of AIDS**

The 1990 Knibbs lecture was presented by Professor Niels Becker, La Trobe University, on 27 November 1990. Professor Chip Heathcote and Dr Patty Solomon, both from the Australian National University, were the discussants for the talk.

Dr Becker began the talk with a brief discussion on AIDS research. He pointed out that one of the central issues for statisticians is estimating the distribution of the incubation period. This distribution is central to many concerns such as advising patients, evaluating treatments and predicting AIDS cases. By using retrospective data from transfusion related AIDS cases and the like, Dr Becker described how models can be formed based on likelihood functions, how parameters can be specified, and how statistical inferences can be made about these parameters. Dr Becker then turned his attention to extrapolating these models to predict the incidence of AIDS in the future. He described the method of Back Projection and a non-parametric method with smoothing. Methods of modelling the effects of treatments on the incubation period were also described. Dr Becker concluded the talk with a brief discussion of topics which the statistician can usefully collaborate with medical researchers.

Dr Solomon replied to Dr Becker's talk by discussing her views on non-parametric methods and smoothing. She also raised the issue of fitting models to subgroups within the population, such as people in different geographic regions and risk groups. Professor Heathcote then discussed certain independence assumptions used in the models and the importance of statisticians gaining access to data on AIDS.



**LA TROBE UNIVERSITY**

**School of Mathematical and  
Information Sciences**

## **SENIOR LECTURER/ LECTURER IN STATISTICS**

**(Tenurable, commencing before  
March 1992)**

The Department of Statistics strongly supports research and is particularly active in the areas of inference for stochastic processes, robust statistics, conditional inference, statistics for AIDS data and other areas of biostatistics. Applicants should have a strong record of research into statistics and/or probability, and must provide evidence of teaching competence. Duties include teaching at all levels, supervision of higher degree candidates, and research.

For further information contact Professor Niels Becker, telephone (03) 479 2606, email stanb@lure.latrobe.edu.au

Ref. No. ACA3/079.

Closing Date: 19 April 1991.

Salary: \$43,984-\$51,015 (Snr. Lecturer); \$33,163-\$43,096 (Lecturer).

Applications (marked confidential) including reference number, names and addresses of three referees and curriculum vitae should be forwarded to the Appointments Officer, La Trobe University, Bundoora, Vic. 3083, Australia.

**Equal Opportunity is University Policy.**

## OBITUARY

### Dr Chris Higgins

It was with great sadness that we heard of Dr Chris Higgins' sudden death last December. Chris died of a heart attack after competing in a long distance race in a veteran's athletics meet.

Chris' exploits in economic policy were numerous culminating in his appointment as Secretary of the Treasury. His contributions in this area have been well documented; less well known are his contributions to statistics.

Chris commenced his working career at the Australian Bureau of Statistics (ABS) in the early 1960's after being awarded a statistics cadetship. After spending several years at the ABS, he went to USA where he successfully completed a PhD in economics at the Wharton school. He returned to work in the national accounts area of the ABS.

It was in 1970 that I first had the pleasure of meeting Chris. I worked under Chris' guidance on the development of the first National Income Forecasting Model. This was pioneering work in the then relatively new discipline of econometrics. The main responsibility for maintaining the model was transferred to Treasury (again, with Chris' guidance in the early years) and it is a testimony to the skill of his work that an updated version of the model is

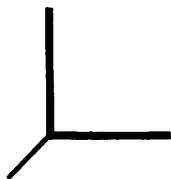
still operating and actively used in government policy making.

Although Chris left the ABS for Treasury in the early 1970's, he remained a loyal supporter of the ABS and a valued source of advice. He was a member of the Australian Statistics Advisory Council (ASAC) for a 4 year period from the mid 1980's. Although Chris was quietly spoken, his comments were always greeted with the silence one earns when what they have to say is valued. His comments were always well based and constructive. We regarded him as one of our most valued members of ASAC.

Chris was a member of the Statistical Society for over 20 years. He also spent time as Canberra Branch councillor some of which overlapped with my time as President. Although he was a very busy man, he made the time to attend most Council meetings and again was a valued and wise source of advice.

Australia cannot afford to lose people with Chris' energy and ability if we are to become the clever country. His sudden death is not only a great loss to his family but the Australian community. He was also a very nice man who earned the respect of all who met him.

Dennis Trewin  
Australian Bureau of Statistics



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## FASTS News

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### Views Firm on Co-operative Research Centres

The views of the Minister for Science and Technology Simon Crean and those of Chief Scientist Ralph Slatyer have indicated the Government's 5 criteria for what could be successful applications for CRC funding.

- (1) No creative accounting, there has to be real money committed.
- (2) Programmes should be well focussed and targeted at problems/needs relevant to Australian interests.
- (3) Must have a community which understands the value of intellectual capital. They could include training/environmental interests.
- (4) Must have a clear picture of what future benefits will flow.
- (5) Must represent real co-operation.

### Coalition Policy in State of Flux

The Coalition is preparing new S&T policies and is seeking input from the S&T community. FASTS is preparing a submission for them. They would appreciate any input. Send your views to Peter McGauran, MP, Parliament House, Canberra ACT 2600.

### FASTS AGM Sets Goals

The Annual General meeting of FASTS held on 5 November at the National Science and Technology Centre in Canberra decided FASTS should become more proactive. Specific goals included:

- Support for successful triennium funding for CSIRO.
- the development of FASTS S&T policy which could be used as a benchmark against which could be measured the new Coalition policy when it emerges and also the PM's White Paper due in May 1992.

eliciting the aid of FASTS Member societies to make 1992 the year of "Science for Society". The aim would be to publicise how the various disciplines contributed to the quality of life in Australia. This would be one means to focus public attention on science in an election year, or just prior to it.

### The PM's White Paper

At a seminar sponsored by the Australian Science and Technology Council (ASTEC) and the Australian Research Council on 24 October 1990, there was consensus amongst a wide cross-section of the S&T community that a white paper on S&T would be welcome. It would be along the lines of the 1989 May Statement, setting broad directions for research.

The game plan is that ASTEC would produce an issues and options paper. The Chief Scientist's S&T Co-ordinating Committee would draft a paper based on this for the PM's Science Council. When the paper is endorsed, it will be tabled by the PM in Parliament. So far ASTEC has been given the go-ahead to produce the issues and options paper.

### Edwards Memorial Oration

The President of FASTS, Professor Tony Wicken gave the A.W.T. Edwards Memorial Oration at the Australian Society for Medical Research Annual Conference at Lorne on 10 December. The ASMR seemed pleased with his paper which picked up themes which continue to occupy FASTS's thinking: to attract the human resources needed for the "clever country" the Government and industry must improve salaries and conditions. Too many good students with high marks in mathematics and science are being attracted into law and business at the expense of mathematics, science and technology.

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## Letter to the Editor

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### Coming Shortly (in Statistics)?

Oliver D. Anderson

Department of Statistical and Actuarial Sciences, Room 9005 EMSc, University of Western Ontario, London (Ontario), Canada N6A 5B9.

We have all heard of the mythical(?) New World practice of judging academic productivity by physical weight of publications. (Indeed, *News and Notes* of the RSS has recorded results, in a recent page-count tournament, where a well-known scouse made the international statistical quarter-finals.) But now, a new angle is developing.

Recently, checking the credentials of an author from the physical sciences (who always appeared to work with collaborators), I looked up some of his "*et al*" publication references. The surname began with "Ab", and the first article I found gave 128 co-authors. (Indeed, 15% of the whole publication was spent on listing all the contributors

alphabetically, together with their affiliations.) With many North American universities awarding half Brownie points for substantial (ie long) joint papers, one can see the attraction of such a strategy.

In all, I found five of "Ab"'s articles published from August to December 1989, with a mean number of authors per paper working out as 137.4. Glancing at the five bibliographies: of 87 listed works, 47 were of the *et al* type.

Investing early in my dynasty's future tenure prospects, I sign myself

Oliver D. Anderson (1),  
Oliver D. Anderson II (2),  
Oliver D. Anderson III (3), ...

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(1)University of Western Ontario, (2)As yet unknown,  
(3)Again unknown, ...



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## AUSTRALASIAN CONFERENCES

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### CONFERENCE SUMMARY

**Stochastic Systems Workshop, 13 - 17 May 1991, ANU.**  
(Full details this issue.)

Prof. C.C. Heyde, School of Mathematical Sciences, ANU, GPO Box 4, Canberra ACT 2601, tel. 249 2957, fax 249 0759, email cch308@csc.anu.oz.au

**Combined Statcomp/Biological Statistics Meeting, 1 - 5 July 1991, Coolangatta, Queensland.** (Full details Newsletter 51 and 53.)

Prof. Tony Pettitt, School of Mathematics, QUT, GPO Box 2434, BRISBANE QLD 4001, Telephone (07) 223 2309, Fax (07) 229 1510, email zsmappettitt@qut.edu.au.

**Data Analysis Workshop on Design of longitudinal studies and analysis of repeated measures data, 10-12 July 1991, ANU, Canberra.** (Full details Newsletter 53.)

Dr Sue Wilson, Statistics, IAS, ANU, GPO Box 4, CANBERRA ACT 2601.

**Australasian Meeting of the Econometric Society, 10-13 July 1991, UNSW, Sydney, NSW.** (Full details Newsletter 53.)

Programme Co-Chairmen: Ross Milbourne and Ronald Bewley, School of Economics, University of New South Wales, PO Box 1, KENSINGTON NSW 2033.

**Workshop on Saddlepoint Methods in Statistics, 17-19 July 1991, ANU, Canberra.** (Full details Newsletter 53 and this issue.)

Dr Jim Booth, Statistics Research Section, ANU, GPO Box 4, CANBERRA ACT 2601, tel. 249 4543, fax 249 0759, email jim@srs1.anu.edu.au

**Twelfth International Joint Conference on Artificial Intelligence (IJCAI-91), 24-30 August 1991, Sydney.**

Information: Joseph Katz, MITRE Corporation, MS-K318, Burlington Road, Bedford, MA 01730, USA.

**ANZAAS Congress 1991, 1-3 October 1991, Adelaide.** (Full details this issue.)

Professor David Boyd, University of Adelaide, GPO Box 498, Adelaide, SA 5001, tel (08) 228 5843, fax (08) 223 7650.

**11th Australian Statistical Conference, 6-13, July 1992, University of Western Australia, Perth, WA.** (Full details Newsletter 53 and this issue.)

Chairman of Programme Committee, Prof. Ian James, Mathematics, Murdoch University, Murdoch WA 6150, tel. (09) 332 2480, fax (09) 310 1711, email james@prodigal.murdoch.edu.au.

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### WORKSHOP ON STOCHASTIC SYSTEMS, 13 - 17 May 1991

The School of Mathematical Sciences at ANU will hold an informal Workshop on Stochastic Systems from 13 to May 1991. The emphasis will be on asymptotic behaviour of the stochastic models.

Invited participants include: T.C. Brown (UWA), H. Cohn (U Melbourne), D.J. Daley (ANU), W.J. Ewens (Monash U), C.C. Heyde (ANU), G. Kersting (Frankfurt U), F.C. Klebaner (U Melbourne), A.G. Pakes (UWA), P.K. Pollett (U Qld), M.P. Quine (U Sydney), R.L. Tweedie (Bond U).

For further information contact: Prof. C.C. Heyde, School of Mathematical Sciences, ANU, GPO Box 4, Canberra ACT 2601, phone 249 2957, fax 249 0759, email cch308@csc.anu.oz.au

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### STATCOMP/BIOSTATS 91, 1 - 5 July, 1991

STATCOMP/BIOSTATS 91 is the biennial meeting of the Statistical Computing and Biological Statistics Sections of the SSA., being held in conjunction with the Biometrics Society (Australasian Region), the International Association for Statistical Computing (ISI) and the CSIRO Biometrics Units. The second circular (including registration form) was sent to branch secretaries in late January for distribution to members. Contact your secretary or the conference secretary if you did not receive one. Abstracts should be submitted by 31 March and the registration form returned by 31 May to the conference secretary.

The Conference will be held in the week 1-5 July, from Monday morning to Friday lunchtime, at the Greenmount Resort Hotel, Coolangatta on the Qld-NSW. border. STATCOMP will occupy the first half of the programme and BIOSTATS the second half. The keynote speakers and their topics are:

#### STATCOMP

*Julian Besag:* Computational aspects of image & spatial analysis;  
*Peter Hall:* Computational techniques for the bootstrap;  
*Peter Thomson:* Smoothing algorithms for time series;  
*Sanford Weisberg:* Dynamic graphical techniques in diagnostics.

#### BIOSTATS

*Kaye Basford:* Three-way methods for multi-attribute GxE data;  
*Chris Glasbey:* Image analysis in agricultural research;  
*Charles McGilchrist:* Mixed models for discrete data;  
*Roger Mead:* Measurement scales and self adjustment;  
*Richard Morton:* Over-dispersion in generalised linear models.

For additional information, Dr R.J. Wilson, Conference Secretary, STATCOMP/BIOSTATS 91, Mathematics Department, University of Queensland, QLD 4072, phone (07) 365 3328; fax (07) 870 2272; e-mail rjw@axiom.maths.uq.edu.au

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### WORKSHOP ON SADDLEPOINT METHODS IN STATISTICS, 17 - 19 July 1991

The Centre for Mathematics and its Applications at ANU will hold a workshop on the theory and use of saddlepoint methods in statistics from Wednesday 17 to Friday 19 July 1991.

A (tentative) list of invited speakers and topics to be covered at the workshop is as follows:

A survey of tail area approximations  
A survey of saddlepoint approximations in resampling  
(John Robinson, University of Sydney)

Approximate predictive pivots and densities  
Saddlepoint methods in multivariate analysis  
(Ronald Butler, Colorado State University)

Saddlepoint methods in bootstrapping confidence bands in non-parametric regression  
Saddlepoint methods in conditional inference  
(Suojin Wang, Texas A&M University)

Approximation of bootstrap distribution functions  
Saddlepoint approximations for iterated bootstrap confidence intervals  
(G.A. Young, University of Cambridge)

There will be no charge for attendance and everyone is welcome. If you are interested in participating in the workshop or would like further information, please contact: Jim Booth, Statistics Research Section, ANU, GPO Box 4, CANBERRA ACT 2601, tel. 249 4543, fax 249 0759, email jim@srs1.anu.edu.au

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**ANZAAS CONGRESS 1991 - ADELAIDE, 1 - 3 October, 1991****Reproduction and Renewal**

Without renewal, plants, land, individuals and nations wither.  
Without reproduction, life disappears.

The 1991 ANZAAS Congress is about a fundamental process for life and society.

Papers are called for on the Congress theme - **Reproduction and Renewal**. Sessions are planned on the following specific topics:

**Biological Sciences**

Reproduction in plants and animals  
Renewal of the degraded environment  
Population control and toxins  
Human reproduction - research, law and ethics  
Reproduction in an arid environment  
Counting the cost - genetic engineering.

**Social Sciences**

Women in science - the conflict of reproduction and research  
Science in schools - where the renewal starts  
Renaissance in the universities  
Personal renewal for the professional  
Renewal on retirement  
Communication - the Catalyst for renewal

**Physical Sciences**

Case studies in the application of basic science  
New materials in engineering and research  
Cities - a wasting asset in need of renewal  
The multi-function polis  
Exploiting scientific discoveries  
Manufacturing the future

Titles and abstracts should be submitted by February 28, 1991 to ANZAAS Congress 1991, c/o Professor David Boyd, University of Adelaide, GPO Box 498, Adelaide SA 5001; telephone (08) 228 5843; fax (08) 223 7650.

**11th AUSTRALIAN STATISTICAL CONFERENCE, PERTH, 1992**

Planning is well underway for the Australian Statistical Conference to be held at the University of Western Australia, 6 - 10 July 1992.

The Programme Committee (Peter Hall, Doug Shaw, Tim Brown, Matt Knuiman, Russell John (Secretary) and Ian James (Chair)) is now calling for suggestions from members and from other interested parties regarding possible themes on which the Conference might concentrate.

A section on Accident and Injury Statistics, with particular emphasis on Road Safety, is being coordinated by Matt Knuiman with sponsorship from the Federal Office of Road Safety. Other possible topics which have been suggested at this stage include:

- Statistics in Natural Resources Management;
- Causal Models;
- Longitudinal Data Analysis;
- Empirical Processes and their Applications.

Any suggestions for invited and keynote speakers would also be welcomed by the Committee.

Please direct suggestions and inquires to **Chairman of Programme Committee**, Prof. Ian James, Mathematics, Murdoch University, Murdoch WA 6150; phone (09) 332 2480; fax (09) 310 1711; email james@prodigal.murdoch.edu.au.

**The University of Queensland  
Department of Mathematics**

**Particulars relating to the position of  
LECTURER IN MATHEMATICAL STATISTICS  
(Temporary)  
(Department of Mathematics)**

**Qualifications:** Applicants should possess or have submitted a PhD. Applications are welcome from persons with teaching and research experience in any area of mathematical statistics.

**Duties:** The successful applicant will be responsible to the Head of Department. The appointee will join the Statistics group of the Department and will be expected to undertake reasonable lecturing and examining duties and other relevant duties. In addition to teaching, the appointee will be expected to play a full part in the research activities of the group whose present establishment is one Professor, one Reader, three Senior Lecturers, one Lecturer, one Senior Tutor and supporting Tutorial staff (together with the advertised vacancy).

**Salary:** The salary range for a Lecturer is A\$33,163 - 34,584 - 36,003 - 37,420 - 38,841 - 40,257 - 41,677 - 43,096 per annum.

**Date of Taking up Duty:** The successful applicant will be required to take up duty by the beginning of second semester, 22 July 1991.

**Period of Appointment:** The appointment will be for a period of 12 months.

**Method of Application:** Applications, together with résumé, should be forwarded to:

**Dr V.G. Hart, Head, Department of Mathematics,  
The University of Queensland, 4072 QLD  
Australia**

and should reach him no later than **10 April 1991**.

Applicants should request three referees to send their reports directly to Dr V.G. Hart at the above address also.

"Equal Opportunity in employment is University  
Policy"

Douglas Porter  
Secretary & Registrar

## OVERSEAS CONFERENCES

**4th Valencia International Meeting on Bayesian Statistics**, 15-20 April 1991, Peniscola, Spain.

Information: Professor J.M. Bernardo, Palacio de la Generalidad, Caballeros 2, E-46001 - Valencia, Spain.

**International Symposium on Nonparametric Statistics and Related Topics**, 5-9 May 1991, Ottawa, Canada.

Information: A.K. Md.E. Saleh, Dept. of Mathematics, Carleton University, Ottawa, Ontario, Canada K1S 5B6.

**International Biostatistics Conference in the Study of Toxicology**, 23-25 May 1991, Tokyo, Japan.

Information: Isao Yoshimura, Secretariat, Local Organizing Committee, c/o SAIENTISUTO-SHA, 3-2 Kandasurugadai, Chiyoda-ku, Tokyo 101, Japan.

**The 11th International Conference on Decision Support Systems**, 3-5 June 1991, Manhattan Beach, CA, USA.

Information: Julie Eldridge, Associate Director, The Institute of Management Sciences, 290 Westminster Street, Providence, RI 02903, USA.

**11th International Symposium on Forecasting (ISF')**, 9-12 June 1991, New York, USA.

Information: Dr Lilian Shiao-Yen Wu, Mathematical Sciences Dept., IBM-Thomas J. Watson Research Centre, PO Box 218, Yorktown Heights, NY 10598, USA.

**Bernoulli Society 20th Conference on Stochastic Processes and their Applications**, 10-14 June 1991, Nahariya, Israel.

Information: R. Adler, Industrial Engineering and Management, Technion, Haifa 32000, Israel.

**Symposium on Longitudinal Data Analysis**, 19-21 June 1991, Fort Lauderdale, FL, USA.

Information: Murray Selwyn, Statistics Unlimited, 2000 Commonwealth Ave., Auburndale, MA 02166, USA.

**International Research Conference on Reliability**, 19-22 June 1991, Columbia, MO, USA.

Information: Asit P. Basu, Conference Coordinator, 328 Mathematical Sciences Building, University of Missouri-Columbia, Columbia, MO 65211, USA.

**International Conference on Game Theory**, 25-27 June 1991, Fiosole (Florence), Italy.

Information: Piero Tani, Dipartimento di Scienze Economiche, Universita di Firenze, via Curtatone 1, 50123 Firenze, Italy.

**Eighth meeting of European Association for Research on Plant Breeding (EUCARPIA)**, 1-6 July 1991, Brno, Czechoslovakia, entitled "Biometrics in Plant Breeding".

Information: Dr Josef Pesek, PO Box 120 Lidicka 25-27, CS 657 20 BRNO, Czechoslovakia.

**International Graduate Summer Session in Epidemiology**, 7-26 July 1991, MI, USA.

Information: Dr David Schottenfeld, Professor and Chairman, Department of Epidemiology, The University of Michigan, School of Public Health, 109 Observatory Street, Ann Arbor, MI 48109-2029, USA.

**Joint Meeting of the Society for Clinical Trials and International Society for Clinical Biostatistics**, 8-12 July 1991, Brussels, Belgium.

**International Conference on Industrial and Applied Mathematics (SIAM)**, 8-12 July 1991, Washington, DC, USA.

Information: SIAM, 3600 University City Science Center, Philadelphia, PA 19104-2688, USA.

**International Workshop on Statistical Modelling and Latent Variables**, 15-17 July 1991, Trento, Italy.

Information: K. Haagen, Istituto di Statistical, Università di Trento, Via Verdi 26, 38100 Trento, Italy, Fax (\*39)-461-881499 or Hans Schadee, Dipartimento di Politica Sociale, Università di Trento, Via Verdi 26, 38100 Trento, Italy, email CONF91@ITNCISTI or SCHADEE@ITNCISTI.

**1991 Joint Statistical Meetings**, 19-22 August 1991, Atlanta, GA, USA.

Information: ASA, 1429 Duke Street, Alexandria, VA 22314-3402, USA.

**The 8th International Conference on the New Quality Philosophy in Statistical Research**, 19-22 August 1991, Atlanta, GA, USA.

Information: V. Shvyrykov, IS-SSE, 536 Oasis Drive, Santa Rosa, CA 95407, USA.

**IMSIBAC-4**, 4th International Meeting of Statistics in the Basque Country, 4-7 September 1991, Bilbao, SPAIN.

Information: J.P. Vilaplana, P.O Box 32, 48940 LEJONA/LEIOA, SPAIN.

**International Statistical Institute, 48th Biennial Session**; 9-17 September 1991, Cairo, Egypt.

Information: ISI Permanent Office, 428 Prinses Beatrixlaan, PO Box 950, 2270AZ, Voorburg, The Netherlands.

**7th International Genstat Conference**, 23-27 September 1991, Papendal (near Arnhem, Holland).

Information: Roger Payne, Rothamsted Experimental Station, Harpenden, Herts, United Kingdom, AL5 2JQ.

**Statistics in Public Resources and Utilities, and in Care of the Environment (SPRUCE)**, 7-10 April 1992, Lisbon, Portugal.

Information: V. Barnett, Dept. Probability & Statistics, The University, Sheffield, S3 7RH, UK; Phone (44) 742 768555, ext. 4297; Fax(44) 742 739826; e-mail IVB@UK.AC.SHEF.PA

**Fifth International Symposium on Statistical Decision Theory and Related Topics**, 14-20 June 1992, West Lafayette, USA.

Information: Shanti S. Gupta, Dept. of Statistics, Purdue University, West Lafayette, IN 47907, USA.

**The 5th International meeting on Statistical Climatology (5IMSC)**, 22-26 June 1992, Toronto, Canada. Held jointly with the 12th Conference on Probability and Statistics in Atmospheric Science.

Information: Francis W. Zwiers, Numerical Modeling Division, Canadian Climate Centre, 4905 Dufferin Street, Downsview, Ontario, Canada M3H 5T4.

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GPO Box 573,  
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Advertising will be carried in the Newsletter on any matters which the Editors feel are of interest to the members of the Society. In particular, advertisements of statistical vacancies, statistical literature and calculators will be welcome. For details of advertising rates etc. contact either the Editors or Dr J.T. Wood at the same address.

Members are requested to notify their local branch secretaries (see this page of the Newsletter) of change of address, in order that Newsletters and Journals can continue to be despatched to them.