



The New Zealand Statistical Association

nzsa.rsnz.org

# Newsletter

Number 62

September 2005



## SKYCITY, Auckland

3-7 July, 2006

You are warmly invited to attend the Australian Statistical Conference/New Zealand Statistical Association Conference 2006 at SKYCITY, Auckland.

SKYCITY Auckland Convention Centre is located in downtown Auckland. It is the newest and most technically advanced convention centre in New Zealand.

The Program Committee is working hard on developing the Conference Program.

Three Keynote Speakers have accepted invitations: David Donoho, Peter Hall, and Xiao-li Meng. All three are COPSS Award winners. Keynote speakers will present a plenary session. In addition, Ray Chambers will deliver the Foreman Lecture, which will also be a plenary session.

A range of Invited Speaker Sessions are planned and of those invited the following speakers have accepted: Christian Robert, Junji Nakano, Bill Venables, Brian Cade, Mark Burgman, Tony Pettitt, Alan Rodrigo, Emlyn Williams, Steve Buckland, Rachel Fewster, Brian McArdle, Nozer Singpurwalla, Alastair Scott.

Invited sessions are planned in the following areas and topics:

### Statistical Methodology

- Bayesian Statistics
- Modern Goodness of Fit Theory and Methods
- Multivariate and High Dimensional Data
- Spatial Statistics

- Stochastic Processes
- Modern Statistical Inference

### Computational Statistics

- Statistical and Machine Learning
- Computationally Intensive Statistics
- Statistical Computing
- Resampling Methods.

### Statistics in Biology and Medicine

- Biostatistics
- Bioinformatics
- Statistical Genetics
- Forensics
- Medical Sciences
- Statistics in Ecology and the Environment

### Special Interest Sections

- Industrial Statistics
- Statistical Education
- Surveys and Management
- Indigenous Statistics
- Young Statisticians
- Econometrics and Finance.

### Key Dates

Call for Abstracts: 31 October 2005

Abstracts Submission Deadline: 16 February 2006

Authors notified of acceptance: 28 March 2006

Early Bird Registration Deadline: 25 April 2006

For further information, including satellite workshops, visit the conference website at

<http://www.statsnz2006.com/>

Email: [d.scott@auckland.ac.nz](mailto:d.scott@auckland.ac.nz)

*David Scott*

## NZSA Visiting Lecturer 2005

The NZSA was fortunate to be able to host Professor C R Rao as the NZSA Visiting Lecturer for 2005. It is not often that we have the opportunity to host such a distinguished researcher, one who has had such a profound influence on theory and applications of statistics.

The catalyst for his visit was Simo Puntanen, University of Tampere, Finland, who, as a member of the International Organising Committee for the 14th International Workshop on Matrices and Statistics (IWMS 2005) held at Massey University, Albany campus in late March, extended an invitation to him to speak as a Keynote Speaker at the Workshop. This motivated us to put in place a package that would cover a month's visit to New Zealand. Through sponsorship we were able to cover his entire visit. The NZSA covered travel throughout New Zealand, Nye John assisted with some international air travel and support associated with a one-day Workshop at Ruakura, local universities covered local expenses, and IWMS, through sponsorship, was able to cover his entire local and Workshop expenses. Massey University also appointed him as a Distinguished Visitor with public lectures at Palmerston North and Albany. Nokia, Finland, supported him as the Nokia Lecturer at IWMS, 2005.

For an 84 year old, the itinerary we put together was quite demanding. Following his arrival in Auckland on March 7, he gave a seminar on March 8 to the Department of Information Systems and Operations Management, University of Auckland on "Statistics: The science, technology and art of creating new knowledge". Accompanied by Mrs Rao he flew to Dunedin on Sunday March 13 and gave a seminar the next day on "Cross Examination of Data". On Tuesday March 15 he spoke at the University of Canterbury on "Statistics: The science, technology and art of creating new knowledge". The next day



*CR and Mrs Rao with George Styan, Werner Trenkler and Shayle Searle at the IWMS dinner.*

*CR Rao and Nye John (University of Waikato) view the photograph of Sir Ronald Fisher (Rao's PhD supervisor) and CP McMeekan (Director of Ruakura) taken at Ruakura in 1959.*



he flew to Wellington and on Thursday March 17 he spoke on "Cross Examination of Data" at Victoria University of Wellington. He was driven that afternoon to Palmerston North by Dr Ganesalingam (who was one of his previous students) to give a talk at Massey University on Friday March 18 on "Statistics: Reflections on the past and visions for the future". Both he and Mrs Rao flew to Rotorua on the Saturday for some well earned rest and recreation. A bus trip to Hamilton on the Monday had him ready to deliver four talks on Tuesday March 22 at the one-day workshop at the McMeekan Centre, Ruakura, Hamilton on "Exploratory Data Analysis and Statistical Learning". On Wednesday March 23 I drove him to Auckland where he delivered a seminar within the Department of Statistics, University of Auckland, on "Statistics: Reflections on the past and visions for the future". He spent Easter with relatives on a trip to the Bay of Islands. On the opening day of IWMS 2005 he gave a plenary talk, which also served as an open lecture to the public, on "Statistical proofs of matrix theorems". The following day he delivered a more specialist talk to the workshop on "Anti-eigen and anti-singular values of a matrix". Both he and Mrs Rao left Auckland to return to the U.S. via India on Friday April 1.

I wish to express my appreciation to all who made his and Mrs Rao's visit such an enjoyable experience. He impressed us with his energy and took considerable interest in the statistical activity going on in the country. In particular I would like to mention Nye John, whose initial efforts lead to the viability of Professor Rao's visit, and Dr Danny Walsh, in the Institute of Information and Mathematical Sciences, who assisted me with the planning of his itinerary, liaising with the universities, travel agents and Professor Rao. His visit was very successful and one that will leave many of us with many enjoyable memories.

*Jeff Hunter*

## President's Column



This morning brings a request from Roger Littlejohn to write a "President's Column" for the Newsletter. I'm very tempted to say "Go away, I'm on study leave!" but, softie that I am, I thought that I'd comply. Fortunately I got some inspiration from "Morning Report" today,

where Sean Plunkett was interviewing Bill English and the President of the NZEI about National's plans for school reports. There was a debate between the two guests about National's plan to have school reports report "top third", "middle third", and "bottom third" for each subjects. This plan was strongly opposed by the NZEI.

This might well be thought to be outside my competence, but I feel that I actually understand the arguments on both sides. Because I don't think either guest presented them clearly I will try to do the job for them.

First I will argue against class ranking information in school reports. I can do this as a former sixties student radical (well, at least liberal!) The problem is that labels attached early in life have been shown in sociological studies to persist throughout life, irrespective of whether they can be objectively justified or not. A string of school reports giving low class ranks to a pupil will stigmatize him/her as "dumb", a label that can be hard to shake. Furthermore this ranking information is not needed. All that a parent (or employer) needs to know is whether the child has met expectations in subject X or not. Modern school reports contain a wealth of information of this type.

Now I will argue for class ranking information in school reports. It is very difficult for a parent to know from standards achieved/not achieved information just how well a child is doing at school and whether there is a problem that needs parental attention. The school curriculum continues to change and the parent may not be aware of whether a particular assessment item should be regarded as important or not. Even where the subjects may be familiar to the parent, such as reading and arithmetic, changes in pedagogical fashions and the order in which material is taught may make the parent feel ill-placed to judge. But relative performance in relation to the rest of the class is something anyone can understand regardless of how well they understand the teaching goals. Parents

who are alerted early enough to potential educational problems have the chance to provide well-targeted support to the child.

What has this got to do with statistics? Well it certainly has something to do with measurement in a social context. We probably are well-placed to think about the strengths and weaknesses of ranks versus raw data. I think that it is our duty to bring this understanding to this and other social issues. It sometimes may even be worth taking a stand about something - but I don't think that I'm quite there yet!

*Murray Jorgensen*

## Executive News

Some changes have been made to the organization of the NZSA Executive for 2005/6. Constitutionally the Executive Committee of the NZSA consists of the elected officers of President, Secretary and Treasurer, the Corporate Members' Representative and five other elected committee members.

It has also been a long-standing tradition of the NZSA that convenors of standing committees, and journal and newsletter editors, also attend Executive meetings. In theory these people have no vote unless they are also one of the nine mentioned above. However as the executive rarely makes decisions other than by consensus this distinction has little practical effect.

Following the AGM the Executive Committee (with allocated responsibilities) is constituted of: Murray Jorgensen (President), Judi McWhirter (Secretary), Neil Cox (Treasurer), Mike Doherty (Corporate Members' Representative), Jennifer Brown (Awards), Ian Westbrooke (Publications), Jenny Mason (Science Fairs), Alex Neill (Education), Mik Black (Young Statisticians).

The following people also have representation within the NZSA: Stephen Haslett (Theory & Methods Editor, ANZJS), Harold Henderson (Membership), Claire Jordan (Standards), Roger Littlejohn (Newsletter Editor, Webmaster), Russell Millar (Applications Editor, ANZJS), James Reilly (SAPQC), John Haywood (Wellington Statistics Group), David Scott (ASC/NZSA 2006), Mike Camden and Alasdair Noble (Education).

At the AGM it was decided to raise subscriptions for 2006 by \$10 for regular members and by \$5 for student and retired members. This is particularly to ensure that journal costs are covered. However, for members receiving the journal online-only there will be a discount to the new subscription rate of \$5. Full details of rates for all options will be available at <http://nzsa.rsnz.org/form.php> when subscriptions are next due.

## Editorial



In the months since the last newsletter New Zealand has been a good place to be, certainly for the statistical community. On more than one occasion I have found myself commenting, "I expected this to be good, and it has turned out better than I expected". Remarkably, this has

pertained to the weather, even the weather in Dunedin! And you will already have perceived Murray Jorgensen's ineffable ability to 'have his cake and eat it, too'.

I add my word of thanks to those whose careful planning, hard work and wide connections have ensured the success of our 'conference season'.

One of the challenges presented to us by Emery Brown was that in our involvement with scientists we should not only collaborate in the science, but even "direct the science". By this he meant that, through our understanding of the stochastic aspects of the processes under investigation, we have the insight to advise on what is the appropriate direction for the experimentation to go. This requires a deep understanding of the subject matter. He expressed the need for students to cross-train in another discipline. This is a lofty vision for us - for many statistical consultants, to be asked about the design of an experiment before it is carried out is a rare delight. I myself am fortunate in working in a culture where consultation at this level is a norm, though I work as a generalist.

This role of mathematically "directing the science" was also illustrated (rather amusingly) by James Sneyd (U. Auckland) in a recent seminar on calcium oscillations, that has been presented at various venues. He had been challenged by an eminent physiologist to say what experiment should be done to distinguish between two competing models, on the basis that mathematical models had contributed little to the field. This was definitely a non-trivial exercise, but the experiments have now been performed (though whether the results are believed is still an open question, it appears).

*Roger Littlejohn*

### Join the NZSA

A membership application / change of address form is available at <http://nzsa.rsnz.org/form.php>

## Submissions to the Newsletter

The Newsletter welcomes any submissions of interest to members of the NZSA. News about New Zealand statisticians, statistical meetings, statistical organisations, statistics in education, or statistical curiosities are suitable for inclusion. Letters that raise issues of importance to statistics in New Zealand are also welcomed. Photographs of recent gatherings and new appointees are of particular interest. Electronic submissions are preferred.

*Next deadline 24 February, 2006.*

## Advertising In the Newsletter

The Newsletter accepts advertising of interest to statisticians in New Zealand. Advertising is placed subject to space considerations. Personal advertising by NZSA members will be published free. Other advertising is \$250 per page, \$140 per half page, and \$75 per quarter page. Other sizes can be quoted on request. All advertising requests should be directed to the editor.

### Editor

Roger Littlejohn  
AgResearch, Invermay  
Private Bag 50034, Mosgiel, New Zealand  
Phone: +64-3-489-9082; Fax: +64-3-489-9037  
Email: [roger.littlejohn@agresearch.co.nz](mailto:roger.littlejohn@agresearch.co.nz)

## Newsletter on Web

An online version of this newsletter is available at <http://nzsa.rsnz.org/Newsletter62/index.htm> It will be regularly updated with information and your letters.

Email: [roger.littlejohn@agresearch.co.nz](mailto:roger.littlejohn@agresearch.co.nz)

## New members

A warm welcome to 28 new members of the NZSA, 14 of whom are from Statistics New Zealand, and 8 of whom are new student members from NZ or Australia, who receive their first year's membership free.

Regular members: Clinton Hayes, Emma Hooper, Bhaskaran Nair, Rico Namay, Tiri Sullivan, Temaleti Tupou, Sela Xie, Felibel Zabala, Krishna Bhatta, Sue Brown, Vera Costa, Simon Leong, Zoe Wood, Carmel Woods (all SNZ), Philip Schluter, Esther Meenken, Catherine Loader, Dong Wang, Steve Ranford, Rachel Dingle.

Student Members: Debasish Roy, Hayley Knox, Philip Roderick, Anh Vinh Le, Carla Meurk, Jennifer Tsu-Yun Tso, William Probert, Maheswaran Rohan.

## HMM Programme

The second workshop in the NZIMA “Hidden Markov Models and Complex System” Programme will be held in Wellington from 5-8 December, 2005. Detailed information, including forms for registration and submission of abstracts, is available on the workshop webpage <http://nzsa.rsnz.org/HMM2/index.htm>, and will be updated as plans progress. Enquiries about the programme can be sent to Mark Bebbington ([m.bebbington@massey.ac.nz](mailto:m.bebbington@massey.ac.nz)) and about registration or accommodation to Ray Brownrigg ([ray@mcs.vuw.ac.nz](mailto:ray@mcs.vuw.ac.nz)).

The registration fee will be \$200, with a \$150 NZIMA subsidy for New Zealand residents; the workshop dinner at the Skyline Restaurant on the Tuesday evening will cost \$50. There will also be NZIMA scholarships for students, to cover travel and accommodation costs. Those attending should arrange their own accommodation, preferably around the Thorndon (northern) end of the city to be close to the workshop venue; links to suitable accommodation are on the webpage.

The first day will consist of revision and tutorial material on models and algorithms, along with software demonstrations. Subsequent days will include presentations from NZIMA Visiting Fellows, including Peter Clifford of Oxford University (right) and Hal White of UC San Diego (below right). Offers have also been made to other distinguished contributors in the field.

We are also hoping for strong contributions from NZers who presented and participated at Wanaka, as well as establishing connections with more NZers using HMMs over a range of applications.

### HMM Seminar Series

The Hidden Markov Models Programme is running a weekly seminar series over September-October, with presentations from post-docs and other Programme participants. It is primarily based in Wellington, but there is funding within the programme for each speaker to travel to another venue to give their seminar there. If you are interested in arranging such a seminar, please contact David Vere-Jones ([David.Vere-Jones@mcs.vuw.ac.nz](mailto:David.Vere-Jones@mcs.vuw.ac.nz)). Further details will be notified on <http://nzsa.rsnz.org/HMM2/>

[links.htm](#) as they come to hand. Talks scheduled henceforth, with most venues in the Cotton Building, VUW, are:

Tuesday Sept 13, 12 noon, Andrea Ridolfi: “*Power Spectra of Point Processes and Related Signals*”

Friday Sept 16, 12 noon, Junko Murakami. “*Introduction to Particle Filters for HMMs*”

Friday Sept 23, 12 noon, Marcus Frean: “*Particle Filters and Inference for Stochastic Processes on Graphs*”

Friday Sept 30, 12 noon, Pierre Ailliot: “*Markov-switching AR models for wind time series*”

Friday Oct 7, 12 noon, Paul Malcolm (Canberra) “*Parameter Estimation for Asset-Price Evolution Dynamics via M-ary Detection*”

Friday Oct 21, 12 noon, Paul MULLOWNEY (Christchurch).

Friday Oct 28, 12 noon, Mike Paulin (Otago) “*The Neural Particle Filter: A model of neural computations for dynamical state estimation in the brain*”

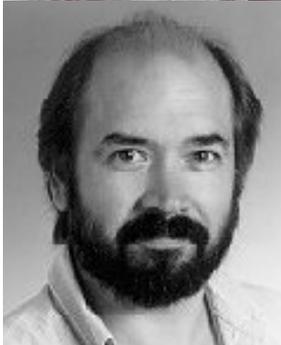
Friday Oct 14, 12 noon, David Bryant (Auckland).

### Post-doctoral Fellowships

Post-doctoral fellowships have been awarded under the HMM programme to Junko Murakami (right) and Pierre Ailliot. Junko was a speaker at the Wanaka Workshop. She recently completed a PhD at Arizona State University on aspects of the numerical performance of EM algorithm applied to HMMs, and has previous research and consulting experience in Japan and US. She will be working with David Vere-Jones on HMMs in Seismology.

Pierre Ailliot (right) completed his PhD at Université de Rennes and IFREMER on “Markov switching autoregressive models: Applications to wind time series”. He has arrived in New Zealand, and is stationed at NIWA in Wellington, working on HMMs for rainfall.

Paul MULLOWNEY, a joint post-doc at the Universities of Canterbury and Pittsburgh, is working within the Programme (though not funded by it) on “*Stochastic Differential Equations with applications to fisheries and neuroscience*”.



## ICOTS-7: Working Cooperatively in Statistics Education Salvador (Bahia), Brazil, July 2 - 7, 2006

The International Association for Statistical Education (IASE) and the International Statistical Institute (ISI) are organising the Seventh International Conference on Teaching Statistics (ICOTS-7), which will be hosted by the Brazilian Statistical Association (ABE) in Salvador (Bahia), Brazil, July 2-7, 2006.

Planning is now well advanced and the ICOTS-7 website at <http://www.maths.otago.ac.nz/icots7> is being continuously updated. It contains summaries of Topics and Sessions, abstracts for all the invited papers, contact addresses for invited speakers, session organisers, topic convenors and organising committees and much more about the conference organisation.

The website also has information about the charm of Salvador Bahia and pictures of the guest rooms and conference facilities at the Othon Hotel where the conference is being held. Conference participants are encouraged to stay at the Othon Hotel, and enjoy views like this.



### Call for Papers

Statistics educators, statisticians, teachers and educators at large are invited to contribute to the Scientific Programme. Types of contributions include Invited Papers (now mainly complete), Contributed Papers and Posters. Voluntary refereeing procedures will be implemented for ICOTS-7. Details of how to prepare manuscripts, the refereeing process and final submission arrangements are on the website.

### Invited Papers

Invited Paper Sessions are organised within 9 different Conference Topics. The list of Session themes, with e-mail contact information for Session Organisers, is available on the ICOTS-7 website under "Scientific Programme".

*John Harraway with staff from the Department of Statistics at the Federal University of Bahia, Salvador. The Local Organising Committee is based in Sao Paulo but the local university is providing support in Salvador.*



### Contributed Papers

Contributed Paper sessions will be arranged in a variety of areas. Those interested in submitting a contributed paper should contact either Joachim Engel ([Engel\\_Joachim@ph-ludwigsburg.de](mailto:Engel_Joachim@ph-ludwigsburg.de)) or Alan MacLean ([alan.mclean@buseco.monash.edu.au](mailto:alan.mclean@buseco.monash.edu.au)). The deadline for refereed invited and contributed papers is 1 November 2005, for non-refereed papers 1 January 2006.

### Posters

Those interested in submitting a poster should contact Celi Lopes ([celilopes@uol.com.br](mailto:celilopes@uol.com.br)) before February 1, 2006.

More information is available from the ICOTS-7 website at <http://www.maths.otago.ac.nz/icots7> or from the ICOTS IPC Chair Carmen Batanero ([batanero@ugr.es](mailto:batanero@ugr.es)), the Programme Chair Susan Starkings ([starkisa@lsbu.ac.uk](mailto:starkisa@lsbu.ac.uk)), and the Scientific Secretary John Harraway ([jharraway@maths.otago.ac.nz](mailto:jharraway@maths.otago.ac.nz)).

*John Harraway*



*Emery Brown and David Vere-Jones exchange ideas during the NZSA Conference.*

## NZSA 2005 Conference

Our annual conference, held at Salmond Hall, University of Otago in early July, was attended by 116 people, including 19 teachers. Contributing to the general success of the meeting were the clement weather, superb food (and yes, that's what the students get fed), inspiring input from the invited speakers and an extraordinary number of student papers (12 oral and 3 poster) that made judging the HRS Student Prize a difficult job. Thanks to our sponsors, SAS (satchels), HRS (student prize, see below) and SPSS (Young Statisticians' evening, see page 16). There are photos and reports from the conference throughout the newsletter.

*Roger Littlejohn*

### Young Statisticians

The SPSS Young Statisticians' evening, held on the first night of the NZSA conference, gave participants "young in heart or years" a prime opportunity to meet and frolic together. The evening commenced with a couple of games of riotous Laser Force and a round of erratic mini-golf. The Laser Force battles were fearsome, energetic and competitive with Matthew Schofield (Otago University) and Adam Smith (DOC) proving themselves to be particularly lethal in the arena. The second half of the evening was devoted to the pursuit of eating and drinking in a quintessential Dunedin restaurant – "the Speights Ale House" - during which John Harraway staged a raffle for the graduate package generously donated by SPSS. Numbered tickets were placed in an empty Speight's jug, well mixed and drawn blind, hence its fair to say that Tiri Sullivan (Stats NZ) won by pure chance.

*Vanessa Cave*



*Winners of the Hoare Research Software student prizes at the NZSA Conference. Pictured from left to right are Matt Davis (best poster); Ray Hoare; winner of the best student talk, Jonathan Godfrey, who has made a habit of winning this over recent years and has just completed his PhD at Massey; runners up: Carla Meurk, Andrew Gormley; also Alistair Merrifield (not in photo).*

*Cliff da Costa, Ganes Ganesalingam and Satish Iyengar (left to right) enjoy a tea break.*



### Statistics Education DVD

A special session on statistics education was organised at the NZSA Conference this year. Statistics as a subject is found uninteresting by many high school students. To address the issue and motivate the teaching of statistics it was decided to ask seven researchers at the University of Otago to speak on a study from their research and to show the statistics procedures used in their work. All high schools from Ashburton to Invercargill were invited to send representatives. Half the schools were represented. It was decided to make a DVD of the talks using the Staff in the Higher Education Development Unit at the University of Otago.

The DVD will be available for use in all high schools in New Zealand next year. We are grateful to a grant of \$750 from the Campbell Fund to assist with the production of the DVD. The data sets being used will also be available for high schools on an accompanying CD. The project is being coordinated by John Harraway.

The seven projects covered were:

"Answering public health questions through epidemiological/statistical analyses." Dr Nigel Dickson (Preventive and Social Medicine)

"Holiday activity hit parade of foreign tourists to New Zealand." Dr Jurgen Gnoth (Marketing)

"Takahe breeding." Dr Ian Jamieson (Zoology)

"Aviation accidents and incidents." Assoc Professor David O'Hare (Psychology)

"Iron deficiencies in young children: should parents be worried." Dr Elaine Ferguson (Human Nutrition)

"How people feel about themselves when they are rejected from physical activity." Dr Motohide Miyahara (Physical Education)

"O Cockle, where art thou?" Dr Austina Clark and Dr Fred Lam (Mathematics and Statistics)

Subsequently two clips have been filmed for SNZ and these will be added to the DVD.

*John Harraway*

**HIDDEN MARKOV MODELS AND COMPLEX SYSTEMS  
FIRST WORKSHOP  
Lake Wanaka Centre, 29 June - 1 July 2005  
<http://nzsa.rsnz.org/HMM1/index.htm>**

Under the auspices of NZIMA the first workshop on “Hidden Markov Models and Complex Systems” was held in Wanaka from 29 June to 1 July. About 40 international and domestic participants gathered to share ideas on the use of Hidden Markov Models and related methods to analyse data from a wide variety of applications. It was superbly organized by Roger Littlejohn (AgResearch) with some help from University of Otago and the organizing committee. Roger and his associates had arranged for beautiful crisp mornings, lots of sun and a limited amount of rain. The views of the lake and its surroundings were stunning!

The workshop started with a well balanced “warm up” on the topic of Hidden Markov Models (HMM). Presenters included Geoff Nicholls (Simple HMMs and Bayesian methods), Murray Jorgensen (the EM algorithm), Peter Thomson (semi-Markov processes), David Vere-Jones (point processes), and Mark Bebbington (Viterbi algorithm). Pdfs of the tutorials are available at <http://nzsa.rsnz.org/HMM1/programme.htm>.

There were a number of eminent international speakers with broad expertise in the area of HMM.

Dr Emery Brown, who holds professorial appointments at Harvard Medical School and MIT as well as being director of the Neuroscience Statistics Research Laboratory in the Department of Anesthesia and Critical Care at Massachusetts General Hospital, spoke on “*Using the State-Space Paradigm to Analyze Information Representation in Neural Systems*”. He described some of the important problems and procedures that arise in the analysis of high-dimensional spike train (point process) measurements, with vivid dynamic illustrations of the interactions between neuron firing and rat navigation.

Dr Rolf Turner (University of New Brunswick, Fredericton) spoke on the issues in building a hidden Markov generalized linear model for Sydney faecal coliform count data, with a special emphasis on the assessment of the precision of the parameter estimates, i.e., of calculating the covariance matrix of these estimates. He also made a brief second presentation on some problems of non-uniqueness arising in the application of the Viterbi algorithm to HMMs.

The third visiting fellow was Dr Mark Berman CSIRO Mathematical and Information Sciences, Sydney. He discussed “*The Use of HMMs and Related Techniques in Signal and Image Analysis*”.

He outlined a more general form of the Viterbi algorithm and illustrated its application to a range of problems in signal and image analysis, some of which are HMMs and some of which are shortest path problems.

The contributed talks covered a wide variety of applications of HMM. Robert Davies talked about “*Testing for Markov Switching*” and Robert Breunig continued on “*Specification Testing of Markov-Switching Models*”. Satish Iyengar gave two talks - “*Multiple Neural Spike Trains*” and “*Diffusion Models for Integrate-and-Fire Neurons*”. Mike Paulin was passionate about his work on “*Spiking Neural Networks*”. Ilze Ziedins presented her findings on “*HMMs in Telecommunications*”. Roger Littlejohn talked about his study related to “*HMMs for Growth Hormone*” and Mike Steel discussed “*Covariation-Type Models for DNA Evolution*”. Robin Milne presented an application of HMM in “*HMMs for Ion Channel Data*” and Junko Murakami, who is a Post-doc in the Programme, gave a presentation on parameter estimation. Marcus Frean is a computer scientist and his presentation on “*Message Passing Algorithms for Factor Graphs*” showed that HMM’s are of interests to a broad community of researchers.

The social side of the workshop was excellent. We enjoyed a nice reception and dinner, and had a half day off to enjoy and explore the surrounding area. A group of 15 visited the local Rippon Vineyard and tasted “...the 2003 Pinot Noir which was written up in the Listener as one of the most outstanding New Zealand Pinot Noir’s yet...!” Another group walked up Mt Roy, which was challenging, but the view from the top was magnificent (appreciated by David Vere-Jones below) and made all the efforts worthwhile.

For more details on the first workshop, bibliography on HMM, software and Web Links please see <http://nzsa.rsnz.org/HMM1/programme.htm>. Our second workshop on HMMs is scheduled to be held in Wellington, 5-8 December, 2005 (see page 5).

*Stefanka Chukova*



## ANZJS

The course of this year is seeing a complete rotation in the Editorial roles for ANZJS. Kerrie Mengersen (Queensland University of Technology) is now Managing Editor, taking over from Chris Lloyd (Melbourne Business School). Kerrie was an Invited Speaker at the recent NZSA Conference, and is well-known for her contributions in Bayesian Statistics. Steve Haslett (Massey University) was appointed as a Theory and Methods Editor earlier this year.

Russell Millar (University of Auckland) will hand over his position as Applications Editor later this year, although he does not yet have a successor. The Association is very grateful to Russell for his sterling efforts over a busy period.

The number of Theory and Methods papers submitted to ANZJS continues to be high although the acceptance rate is not, and there are to be two 'bumper' issues published. In order to be sure of covering associated costs the NZSA AGM approved an increase in the subscription rate for members.

The homepage for ANZJS is now <http://www.statsoc.org.au/Publications/ANZJS.htm>.



*Kerrie Mengersen, Managing Editor of ANZJS, and Claire Jordan at the NZSA conference dinner.*

### Accessing ANZJS online

#### Blackwell Synergy

Members will shortly receive instructions and a new password from Blackwell Publishing on how to log-on to the *Australian and New Zealand Journal of Statistics* online directly through Blackwell Synergy ([www.blackwell-synergy.com](http://www.blackwell-synergy.com)) - for fast and reliable access everytime.

#### StatsWeb

See <http://nzsa.rsnz.org/newsletter/News60.pdf> page 9 for instructions.

Check with your library about access to ANZJS online through the subscriber-based providers Ingenta, Ebsco, SwetsWise or OCLC.

## Awards

### Honorary Life Members

Honorary Life Membership of the NZSA was granted to Steve Kuzmicich and John Darwin, who have both been Government Statisticians in the course of their illustrious careers. The text below is adapted from citations they received from the Association.

Steve Kuzmicich served as Secretary-Treasurer of NZSA from 1959-1960 and as President from 1963-1965 and contributed very widely to the Association since joining in 1956. Next year he celebrates 50 years as a member of the NZSA. He has contributed to statistics in New Zealand on the wider sphere, particularly as Government Statistician from 1984-1991, and has helped raise statistical awareness within the community. He has earned his role as the Elder Statesman of Statistics in NZ.

John Darwin (below) served as Secretary-Treasurer of the NZSA from 1956-8 and as President from 1961-3. He was leader of the Statistics Section of the Applied Mathematics Division of DSIR for many years. He was appointed in 1978 as Deputy Government Statistician and then in 1980 as Government Statistician, head of the Department of Statistics, until his retirement in 1984, the culmination a very successful career. A fascinating biographical note on John's career, written by Robert Davies in 1984, is available at <http://ifs.massey.ac.nz/mathnews/centrefolds/31/Aug1984.shtml>.



## Statistics Education News

### International News

**ICOTS-7, Working Cooperatively in Statistics Education, Salvador (Bahia), Brazil, July 2-7, 2006.**

Full details on the ICOTS-7 Conference are given on Page 6, and at <http://www.maths.otago.ac.nz/icots7>.



**IASE Satellite to ISI-55, 4-5 April 2005, Sydney.**

The theme was Statistics Education and the Communication of Statistics. Many New Zealanders participated in this conference and the IASE statistics education section at ISI. Some of the participants were: Chris Wild, Rachel Cunliffe, Mike Forster, David Vere-Jones, Sharleen Forbes, Harold Henderson, John Pemberton, Mike Camden, Lesley Hooper, Pauline Stuart, Gareth McGuinness, Bronwyn Weston, Vasha Parag. Publications from both these conferences can be obtained from the website: <http://www.stat.auckland.ac.nz/~iase>.

**New Book.** In April 2005, a book entitled “Exploring probability in school: Challenges for teaching and learning”, edited by Graham Jones, was published by Kluwer. This book presents extensive research on different aspects of teaching and learning probability at all Year levels.

### Local news

**The Fourth International Forum on Statistical Reasoning, Thinking and Literacy (SRTL-4).**

The Forum took place at The University of Auckland in July. This particular gathering of researchers has played an important role in advancing understanding of the richness and depth of reasoning about distribution, a key focus of statistics education.

The forum was sponsored by Key College Publishing (USA), The American Statistical Association (ASA) Section on Statistical Education, the Department of Statistics, The University of Auckland, the Department of Mathematics at the University of Auckland, and the New Zealand Statistical Association (NZSA).

The focus of SRTL-4 on *reasoning about distribution* emerged from the previous three SRTL conferences. Distribution is a key concept in statistics, and yet statisticians and educators may not be aware of how difficult it is for students to develop a deep understanding of this concept. When students are

given tasks involving comparing distributions or making inferences, they often fail to utilize relevant information contained in the underlying distributions. Curricular materials often focus on construction and identification of distributions, but not on what these distributions mean to students and how they interpret them.

Twenty researchers in statistics education from six countries shared their work. New Zealanders involved in SRTL-4 were: Maxine Pfannkuch, Chris Wild, Ross Parsonage, Tim Burgess and Pip Arnold. Sessions were held in an informal style, with a high level of interaction. With emphasis on reasoning about distribution, a wide range of research projects were presented spanning learners of all ages, as well as teachers. These demonstrated an interesting diversity in research methods, theoretical approaches and points of view.

The programme began with an overview talk by Chris Wild entitled: “A statistician’s view on the concept of distribution”. Eight presentations of SRTL-4 were thematically grouped into five clusters. A cluster included one or two ninety-minute research presentations to the entire group, small group discussions, and a whole group reflection on the cluster. All presenters showed a small subset of video segments of their research. The programme ended with three discussants reflecting on reasoning about distribution from research, curriculum, and technology viewpoints.

The research forum proved to be very productive in many ways. Several types of scientific publications will be produced including a CD-ROM of the proceedings, and a special issue of Statistics Education Research Journal (SERJ) on reasoning about distribution. SRTL will set up its website at the Department of Statistics, University of Auckland at <http://www.stat.auckland.ac.nz/>

For further information on SRTL please contact the Co-chairs Joan Garfield ([jbg@umn.edu](mailto:jbg@umn.edu)) and Dani Ben-Zvi ([dbenzvi@univ.haifa.ac.il](mailto:dbenzvi@univ.haifa.ac.il)).

**The CensusAtSchool Project.** This project, sponsored by the Department of Statistics, The University of Auckland, Statistics New Zealand, and The Ministry of Education, was launched on 15 August 2005. The project is co-directed by Chris Wild and Rachel Cunliffe and aims not only to give students the experience of participating in a census but also to provide rich classroom resources for Years 5 to 10 students using the CensusAtSchool data. For more information, photos, press releases, newsclips, exciting new classroom resources see: <http://www.censusatschool.org.nz/>

*Maxine Pfannkuch*

## STATISTICS '05 Workshops

There will be three Workshops on (i) Research Methods: Modelling & Inference, (ii) Experimental Design, and (iii) Spatial Sampling and Capture-Recapture Models for Survey Methods, held at the U. Wollongong from 28-30 November, 2005.

The Experimental Design Workshop will honour the career of Professor J.A. ('Nye') John. We expect that virtually all Experimental Design researchers in Australia and New Zealand will attend. Susan Lewis, U. Southampton, will present a Plenary address.

We invite registrations and offers of papers. Early bird registrations (\$100 for one workshop, \$150 for two or more workshops) will close on 31st October. Early career researchers (ECRs) and postgraduate students (PGs) may attend all workshops for \$100. Thanks to sponsorship from the Australian Mathematical Sciences Institute, financial support may be available for ECRs and PGs.

For further details and a registration form go to [www.math.uow.edu.au/research/statistics05.shtml](http://www.math.uow.edu.au/research/statistics05.shtml).

*Ken Russell*

## Training and Development Directory

The Training and Development Directory can be found at [www.statisphere.govt.nz/AboutOfficialStatistics/training-and-development-directory.htm](http://www.statisphere.govt.nz/AboutOfficialStatistics/training-and-development-directory.htm). It contains courses, seminars and workshops which may be of use to New Zealand government sector employees and researchers.

Please provide feedback to [Marie.Nissanka@stats.govt.nz](mailto:Marie.Nissanka@stats.govt.nz).

*Marie Nissanka*

## Campbell Estate Fund

The NZSA were the recipients of a very generous donation (\$48,000) from Professor Campbell's estate.

There is roughly \$1500 funding available each year for special projects that are in the realm of Professor Campbell's interests. Refer to <http://nzsa.rsnz.org/funding.shtml> for more details.

Applications are received twice a year (April/October) and are invited for funding for projects in 2005/06. There is no formal application process but please supply details of your project, the full project budget, the amount you are requesting, a short statement about why your project is within Professor Campbell's interests, and your full contact details.

Please send your applications to the Secretary, ([judi@stats.waikato.ac.nz](mailto:judi@stats.waikato.ac.nz)), NZSA, PO Box 1731, Wellington. For more details contact Jennifer Brown ([j.brown@math.canterbury.ac.nz](mailto:j.brown@math.canterbury.ac.nz)) or Harold Henderson ([Harold.Henderson@agresearch.co.nz](mailto:Harold.Henderson@agresearch.co.nz)).

*Jennifer Brown*

## Conference Brief

See Gordon Smyth's Australasian conference list  
<http://www.statsci.org/conf/index.html>

### Workshop on Experimental Design

*University of Wollongong*

November 28-30, 2005

Web: <http://www.math.uow.edu.au/research/statistics05.shtml>

Email: [kgr@uow.edu.au](mailto:kgr@uow.edu.au)

### Estimation and Modelling Procedures for HMM and Related Models

*Wellington*

December 5-8, 2005

Web: <http://nzsa.rsnz.org/HMM2/index.htm>

Email: [m.bebbington@massey.ac.nz](mailto:m.bebbington@massey.ac.nz)

### MODSIM05 - 16th Biennial Congress on Modelling and Simulation. Management Control and Decision Making for Ecological Systems

*Melbourne*

December 12-15, 2005

Web: <http://www.mssanz.org.au/modsim05/>

Email: [pkp@maths.uq.edu.au](mailto:pkp@maths.uq.edu.au)

### Mathematics-in-Industry Study Group 2006

*Massey University, Albany, Auckland*

January 30 - February 3, 2006

Web: <http://misg2006.massey.ac.nz>

Email: [g.c.wake@massey.ac.nz](mailto:g.c.wake@massey.ac.nz)

### ICOTS 7 - Working Cooperatively in Statistics Education.

*Salvador, Brazil*

July 2-7, 2006

Web: <http://www.maths.otago.ac.nz/icots7/>

Email: [batanero@ugr.es](mailto:batanero@ugr.es)

### ASC/NZSA 2006 Statistical Connections

*Auckland, New Zealand*

July 3-7, 2006

Web: <http://www.statsnz2006.com/>

Email: [d.scott@auckland.ac.nz](mailto:d.scott@auckland.ac.nz)

### IBC 2006

*Montreal, Canada*

July 16-21, 2006

Web: <http://www.ibr2006.org/welcome.html>

Email: [IBC2006@nrc-cnrc.gc.ca](mailto:IBC2006@nrc-cnrc.gc.ca)

## Local Scene

### Crop and Food Research

Our two new biometricians, Esther Meenken and Andrew McLachlan, started soon after the last newsletter went to press. Esther studied at Otago, had a student placement at Ruakura, and then spent a year working for the Department of Primary Industries in Victoria, before joining our Lincoln crew. Andrew came to Palmerston North from a job tutoring and giving advice to post-grad's at Lincoln University. He is also a participant in Stats NZ's Survey of Family Income and Employment.



They both had a good time at the NZSA conference in Dunedin (pictured above); particularly the Young Statisticians evening, which appropriately combined aspects of the analytical (Mini Golf), the random (Laser Force) and a brewery visit. Getting back proved a bit of a challenge; fog at Dunedin meant Andrew got a coach tour of coastal South Canterbury. Esther managed to fly out of Dunedin but nearly got diverted to Wellington because of fog at Christchurch.

*Duncan Hedderley*

### Massey University, Albany

On June 13-14 Beatrix Jones attended a workshop on Random Graphs and Stochastic Computation at the Statistical and Applied Mathematical Sciences Institute (SAMSI) in Research Triangle Park, North Carolina. This was a small workshop of about 35 participants, concerned with both the mathematical properties of random graphs and graphical models, and uses of graphs in modeling social, biological, and

electronic networks. SAMSI puts on several conferences/workshops each year associated with its theme programs—themes for the 2005-2006 academic year are Astrostatistics; Defense and Homeland Security; and Financial mathematics/statistics and econometrics. They also host long term visitors associated with each theme. Keep an eye on [www.samsi.info](http://www.samsi.info) for upcoming programs.

This year the Statistics staff at Albany, under Jeff Hunter's leadership, along with assistance from Freda Anderson as the Workshop Secretary, served as the Local Organising Committee for the International Workshop on Matrices and Statistics (March 29 to April 1). The Workshop was a great success with Professor C R Rao (Penn State), Professor Shayle Searle (Cornell), Professor Eugene Seneta (Sydney) and Professor George Seber (Auckland) delivering Keynote lectures. A full report can be found on the web at [iwms2005.massey.ac.nz/publications.html](http://iwms2005.massey.ac.nz/publications.html) as the Foreword to the Workshop Proceedings. In addition, the conference proceedings have been published online at [iims.massey.ac.nz/research/letters](http://iims.massey.ac.nz/research/letters) and will shortly be released as a non-refereed high-quality print publication for distribution.

Jeff Hunter "formally" retired from his fulltime position in July to take up a part-time position in the Institute, while retaining his position as the Discipline Leader in Statistics on the Albany Campus. He has also "picked up" additional tasks including the Project Manager role for the Strategic Positioning project for the Albany Campus, membership of the Academic Committee, membership of the university Council Committee on Honorary Awards, and the Agenda Advisory Group for the Academic Board - so much for a phased retirement!

*Paul Cowpertwait*



*Shayle Searle describes his long association with SAS to NZ representative, Jim Hooper, at the IWMS workshop. Shayle's "Recollections from a 50-year Random Walk midst Matrices, Statistics and Computing" was a highlight of the workshop.*

## University of Auckland

The department has been having a media frenzy recently! First of all, Russell Millar (below) appeared on John Campbell Live in early July. His briefing was



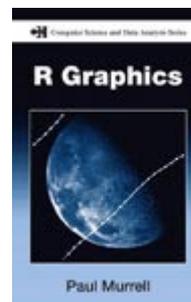
to tell the audience the probability of winning Lotto -- although we all know that if Russell really had inside Lotto information we'd be advertising for a new lecturer. The segment was created by Jacqui Brown and her crew and was filmed in a lecture theatre on the Tamaki campus. The style was light-hearted, but nonetheless demonstrated some solid statistical points, including conditional probabilities and misuse of the "law of averages". Russell's night of fame has been recorded for posterity and will be played in our first-year lectures for years to come.

Big in the news in recent weeks has been CensusAtSchool New Zealand, an online census for Year 5 to Year 10 school students. The Census team has developed a set of fun ready-to-use classroom resources which encourage students to be "data detectives" based on the CensusAtSchool results. CensusAtSchool is a joint project, hosted by our department in concert with Statistics New Zealand and the Ministry of Education. Rachel Cunliffe and Chris Wild are co-directors, and Maxine Pfannkuch is making sure that the teaching resources are using the brightest and best of recent research in statistical



education. The census has already been a phenomenal success, with over 14,000 school students taking part in the first 6 days after its launch on 15th August. Media publicity covered the launch with four TV show interviews: One News, Te Kaea, Tonight and Breakfast, as well as numerous print articles with actor Shane Cortese helping the launch. For more information, see the website [censusatschool.org.nz](http://censusatschool.org.nz).

Paul Murrell has also hit the publicity stands with his new book *R Graphics*, published by Chapman and Hall in July. Paul is also launching a Data Exposition competition open to everyone, including students and group entries. The competition will be judged at the 2006 Joint Statistical Meetings in Seattle. The challenge is to provide an effective graphical summary of a NASA data set. More details can be found at <http://www.amstat-online.org/sections/graphics/dataexpo/2006.php>. It would be great to see a winner from New Zealand, so students and staff should start thinking about their entries now!



Even our MSc students are famous. Mike Manning, who is studying for his MSc while working for NIWA in Wellington, appeared on 60 Minutes in April in a piece about the satellite tagging of white sharks. Lecturers have been giving Mike a wide berth ever since.

On the 13th and 14th of April we held a retirement conference for Alastair Scott under the auspices of the International Association of Survey Statisticians. The conference featured approximately 75 attendees, including ten high-profile international invited speakers. The venue was the conference room of the maritime museum, which was transformed on the night of the 13th for the conference dinner. The setting, the venue and the food got rave reviews from the visitors. The conference itself wasn't half bad either.

In other news, Marti Anderson and Russell Millar have been dividing their time between Perth, Auckland and Alaska in their work on fisheries and multivariate ecological analysis.

Doctoral student James Russell spent time in Brazil to give a student finalist talk at the Society for Conservation Biology. He then travelled to Oregon for the Association of Pacific Rim Universities Annual Doctoral Students Conference on the multidisciplinary theme "Moving Towards a Sustainable Future". Tim Langlois and Yuichi Hirose have both completed their PhDs recently.

And finally, we welcome our new senior lecturer, James Curran, fresh from the fields of the Waikato. Welcome, James!

*Rachel Fewster*

## University of Otago

The most obvious and recent event here at Otago was the NZSA Annual Conference. This was held at Salmond Hall from the 4<sup>th</sup> to the 6<sup>th</sup> of July and was a great success. It was a change in venue for us (as we have used Selwyn for previous conferences) and we were most impressed. Conference satchels were provided by SAS and proved very popular. Since the conference and the accommodation were in one place, no one was compelled to get out into the Dunedin mid-winter (which is a beautiful thing). The number of students who entered talks and posters was gratifying. Some participants (nominally, the Young Statisticians) spent an evening playing Laser Strike and having dinner. Tiri Sullivan of Statistics New Zealand won the SPSS Graduate Package. At the conference dinner the next night, music was provided by a local Dunedin Band. Student prizes were awarded by Ray Hoare of HRS. It seemed that everyone had a pretty good time.



*Adam Smith, Ian Westbrooke and David Fletcher (Conference Chair) outside Salmond Hall during NZSA 2005.*

Seminars presented in the department this year have included C R Rao's 'Cross Examination of Data', which was truly inspiring. Rachel Fewster from Auckland gave an interesting and well attended talk on 'Variance estimation for systematic designs in strip or line transect sampling'. Mark Meerschaert, our new Professor in Applied Mathematics talked on 'Parameter estimation for heavy tail data'. Mark has an interest in both mathematics and statistics which is already proving a collaborative shot in the arm.

John Harraway was recently elected a Vice-President of the International Association for Statistical Education. He is also Scientific Secretary for ICOTS7 being held in Salvador, Bahia, Brazil in July 2006. The website for ICOTS7 is maintained in

our Department. <http://www.maths.otago.ac.nz/icots7/>. Earlier this year John spent six weeks in Brazil meeting local committees associated with ICOTS both in Sao Paulo and Salvador. While in Brazil he spoke at the 9th Brazilian Regression Conference and at Universities in Sao Paulo and Piracicaba. (Members may be interested to know that Bryan Manly is currently a visiting Professor at the University in Piracicaba.)

David Fletcher left for Europe immediately after the NZSA conference, on conference and study leave. He attended the 25<sup>th</sup> European Meeting of Statisticians in Oslo, where he bumped into Murray Jorgensen. Murray and David both enjoyed the conference dinner, held at a grand hotel high above the city that was the venue for the talks that eventually lead to the Oslo Peace Accord in the Middle East. Murray can be seen looking intently at David Fletcher's poster on "Model-Averaging in Factorial Experiments". David arrived in London en route to



the conference the day after the first bombings in London, and was not sure what to expect on his arrival. All went well for the first half hour, before his laptop bag, containing a computer, passports, tickets, camera and cellphone were whisked away by a modern-day Artful Dodger... quite a welcome in many ways, and a world away from Dunedin! Several days later things had calmed down, and Oslo was a most enjoyable location for a conference. There was talk of many things, including "Sparsity", which seems to be a fruitful area of research for those with minds clever enough to deal with these things, such as David Donoho of Stanford, one of the invited speakers.

Richard Barker has been in the US on sabbatical since early June, working with Bill Link at Patuxent.

*Claire Cameron*

## HortResearch

It is quite some time since John Maindonald and Rod Ball left HortResearch. I guess, therefore, it's appropriate to introduce our biometrics team again. Currently the team consists of Nihal De Silva, Patrick

Connolly and Padmaja Ramankutty, all based in Mt Albert Research Centre in Auckland, and Peter Alspach in Motueka near Nelson. It is possible that we will need another biometrician to join the team at some stage. Nihal works closely with the molecular geneticists on genetic mapping. He is happy to see the paper on “Estimation of allele frequencies in polyploids under certain patterns of inheritance”, published online in *Heredity*. Peter works with the breeders on quantitative genetics aspects, and is particularly pleased to have had some collaborative work with David Fletcher (Otago) accepted for publication recently. Patrick is enthusiastically programming in R. Padmaja has just completed a year with us and is finding that there is more to horticulture experiments than she first thought.

*Nihal De Silva*

## AgResearch

John Koolaard recently joined our section and is based at Grasslands, Palmerston North. Vanessa Cave will soon be leaving to do her PhD on “Integrated Modelling of Bird Populations” with Steve Brooks at University of Cambridge.

Our Bioinformatics, Mathematics and Statistics Section held their three-day annual get-together at Ruakura in March, with the middle day spent at the C R Rao workshop. As well as technical talks and a planning session, the group spent an interesting hour or two at the Waitakaruru Arboretum and Sculpture Park [www.sculpturepark.co.nz](http://www.sculpturepark.co.nz) near Hamilton, en route to the airport.

Peter Johnstone presented a 3-day workshop in experimental planning at the Agriculture Faculty at Sao Paulo. He also attended the Conference on Regression Models at Sao Pedro Piracicaba – Brazil - 9th School on Regression Modelling and presented an invited paper. David Baird spoke at the NZ Bio



*Benoit Auvray, Paul Smale, John Koolaard, Dave Saville, Fred Potter and Zaneta Park-Ng at the Waitakaruru Arboretum and Sculpture Park*

2005 Conference on “Maximizing the information from Microarrays” in Auckland in March. Harold Henderson and Roger Littlejohn attended the International Workshop in Matrices and Statistics at the Albany campus of Massey University in March. Two of the workshop organisers, George Styan and Simo Puntanen, were hosted at Raglan, Ruakura and University of Waikato (with George giving a seminar) for a few days after the workshop. Harold also attended the International Association for Statistics Education workshop and presented a paper “Visualising data with dynamic graphics in Excel” in Sydney in April. Ken Dodds gave a talk on “Fine mapping with experimental populations” at the NZ Molecular mapping workshop in May. David Baird and Harold Henderson gave an invited talk on “Graphical and Computing Techniques for Large Data sets” at the NZSA conference in Dunedin. Peter Johnstone gave a seminar on Pattern Recognition at the Maths and Stats Department of Otago University in August.

*Dave Saville and Harold Henderson*

## Massey University, Turitea

Steve Haslett has again been travelling extensively overseas, with recent visits to Minneapolis as an invited speaker at the Joint Statistical Meetings, and to Helsinki to speak at a conference in small area estimation, also taking in Washington, Dublin and Newcastle to visit research colleagues.

Steve and Geoff Jones are completing another poverty-mapping project for the UN World Food Programme, producing small-area estimates of poverty and malnutrition for Nepal for use in aid targeting. They have each spent several weeks in Kathmandu working with staff at the Nepal Central Bureau of Statistics and the local WFP office. The Himalayas did become visible one evening, but the rest of the time were hidden by the monsoon clouds. No signs of Maoist activity in the Kathmandu Valley, but there were a few student demonstrations and road closures to contend with.

Doug Stirling is currently on sabbatical at the University of Reading developing his CAST (Computer Assisted Statistics Teaching) software, in particular adding chapters about multiple regression and multivariate analysis. In September he is running a Workshop in Slovenia at the Applied Statistics 2005 conference.

A large (but not random) sample of Massey PN statisticians attended and presented at the NZSA conference in Otago. Many of us even managed to return from it eventually, although we suspect a few may still be lost in the fog.

Congratulations to Jonathan Godfrey, who has

been appointed to a permanent position as Lecturer in Statistics. Sadly Jonathan will no longer be eligible for the Best Student Presentation prize at the NZSA (or any other) conference, so his long winning streak has finally come to an end.

Mark Bebbington signed himself out of hospital to attend the first Hidden Markov Models and Complex Systems workshop in Wanaka. Apparently the scientific programme just edged the food for accolades, although the fusion cuisine was a little rough on his tender stomach. For his pains (literally) he now finds himself in charge of the programme for the second workshop, scheduled for the less distracting surrounds of downtown Wellington. Mark is also eagerly anticipating the arrival of the new professor to take over his administrative duties, although it is not true that that he is crossing off the days on his calendar.

Chin Diew Lai presented a talk at an invited session “Variance issues in the design of control charts” at the Fourth International Symposium on Business and Industrial Statistics, Palm Cove, Queensland, 13-16 April, 2005. Jonathan Godfrey also attended this symposium.

Greg Arnold has recently returned from a trekking holiday in the Peruvian Andes. Apparently the air was very thin on top, but the same could perhaps be said for Greg (sorry, Greg!).

We are holding a Statistics Forum on 28th October. The purpose of this forum is to bring researchers together for a day to present their current work and join in group discussions on issues relevant to their applications. We would also like this forum to give our majoring and postgraduate students the opportunity to participate in a friendly environment and learn vital research skills. For more information please contact Dr Ganes Ganesalingam, phone +64 6 356 9099 ext 2462 or email: [s.ganesalingam@massey.ac.nz](mailto:s.ganesalingam@massey.ac.nz), [a.d.noble@massey.ac.nz](mailto:a.d.noble@massey.ac.nz) or visit our website <http://www-ist.massey.ac.nz/seminars.asp>.

*Geoff Jones*

## **Statistical Methods - Statistics New Zealand**

Joining us in the last 12 months are Rico Namay, Eleanor Posados, Chris Gianos, Walter Davis, Alan Bentley and Krishna Bhatta from overseas. Local appointees are Felibel Zabala, Carmel Woods, Zoë Wood, Peter Fieger and Emma Hooper, We’ve also had join us from elsewhere in Statistics New Zealand Angela Forbes, Tiri Sullivan, Tim Duke, Dariusz Bielawski and Sela Xie. And last, but not least has been the return of Matt Cronin and Soon Song. Helen Stott departed to MSD after nearly 21 years at



Statistics NZ. Other departures include Lisa Corscadden (return to Statistics Canada), Sarah Crofts (return to UK ONS), Irene Zheng (Auckland) and Peter Woods (OE). Soon to depart are Rissa Ota (MSD) and Bhaskaran Nair (MEd). After all this we have 57 statisticians working in our area, so you would think we have enough. Well no. We are currently going through the graduate recruitment process and plan to recruit at least 4 more. We’ve gone through the applications and are interviewing 16 of the products of the university statistics education system.

Vera Costa went to Canada to a conference on editing and imputation and took the opportunity to visit Statistics Canada for a week, plus her son at Berkeley, on the way home to New Zealand. We had a large contingent at the ISI conference in Sydney in April. They were John Crequer, Lisa Corscadden, Meraud Bawden, Andy Smith, Mike Doherty and Mike Camden, who also attended a Statistics Education



*Tiri Sullivan (SNZ), winner of the SPSS Graduate Pack, speaking at the NZSA 2005 Conference.*

workshop prior to the workshop. We also had a good representation at the IASS meeting celebrating Alistair Scott's retirement, as well as having a few people at the IAOS conference on Small and Indigenous Populations. Not surprisingly we had a large number at the NZSA conference.

I have mentioned in the past OSRDAC which has been created to build up links within the official statistics system, and between that system and the user community. Amongst things they are doing is the creation of a network of professional statisticians within the official statistics system. When I think of the number of statisticians it is sometimes hard to realise that in some departments there are a lot less statisticians. I know of one department with one. They have had an initial meeting in Wellington in August. As part of this network they have arranged to have Alistair Scott present a two day course on analysis of data from complex surveys in the beginning of November. Another initiative has been OSResearch. This is to encourage research into problems that are a particular issue in the official statistical system. The call for expressions of interest was sent out some months ago and the initial submissions reviewed in July. A subset of the EoI were asked to put in a full proposal. If you missed this round the call for next year's research will go out in February. The only major consideration is a government department has to agree to be a sponsor.

Brian Pink, the Government Statistician, has renewed his contract to early 2008. We have rebranded ourselves and now have a new logo, which is displayed on the previous page. As part of this there is a nifty 3-minute video that talks about what we do that is available from [Sam.Fisher@stats.govt.nz](mailto:Sam.Fisher@stats.govt.nz) and will be on the web in October. While the branding has changed, the work hasn't.

*Richard Penny*

## University of Waikato

July 2005 saw the departure of James Curran, to take up a position as Senior Lecturer at the University of Auckland. His contributions to the departmental teaching and administration, particularly his vast knowledge on the latest happenings in the computer world, will be greatly missed. Our loss is definitely their gain. We are also to lose another member of the department. Nye John has announced his retirement at the end of June 2006. In his honour, Ken Russell of the University of Wollongong, NSW, is organising a workshop on "Experimental Design" to be held at the end of November, 2005. Further details can be obtained from <http://www.math.uow.edu.au/research/statistics05.shtml>. Nye and his wife Alison will be "retiring" to the sunny Marlborough to run a vineyard.

More than 75 participants, from as far away as Helsinki, took part in our one day workshop, entitled "Data Scrutiny and Data Mining", held in March 2005 (pictured below). We were very privileged to have as the presenter, the NZSA Visiting Lecturer, Professor C R Rao from Penn State University, USA.



As most people are aware, Professor Rao, is one of the most eminent statisticians in the world, with a biography that lists two pages of medals, high level appointments, awards, publications and qualifications, spanning six decades. Anyone who has studied statistics will have come across his name. Technical terms such as Cramer-Rao inequality, Rao's Score Test, the Fisher-Rao Theorem and Rao distance appear in all standard books on statistics.

Dave Whitaker has returned from leave and resumed his role of Chairperson of the department. While he was away, he visited Dave Johnson at Loughborough, England. During his time there, they put in the final touches for the second edition of their book, "Statistical Thinking for Managers", which is co-authored with Nye John. In April, Dave and Nye John presented papers at the 4<sup>th</sup> International Symposium on Business and Industrial Statistics held in Queensland. After that conference, Nye attended the 55<sup>th</sup> Session of ISI, held in Sydney. Nye was also an invited speaker at the 24<sup>th</sup> International Workshop on Matrices and Statistics, held in Auckland at the end of March.

Before James left us, he went to Tempe, Arizona, where he was an invited speaker at the 6<sup>th</sup> International Conference on Forensic Statistics. In June, he went to Sitges, Spain, where he had been invited to give a day long workshop on the statistical evaluation of multivariate trace evidence. Bill Bolstad attended the American Statistical Association meeting held in Minneapolis, Minnesota, where he gave a paper. Murray Jorgensen also attended the 55<sup>th</sup> Session of ISI in Sydney in March, and in July, he was an invited contributor at the Satellite meeting on Hidden Markov Models, held in Wanaka, prior to attending the NZSA 2005 meeting in Dunedin. Judi McWhirter also attended this conference. At the

AGM, held at the conference, Murray was re-elected as President of the Society and Judi was re-elected Secretary. Currently, Murray is on sabbatical. Since going on leave, Murray has given a contributed paper at the European Meeting of Statisticians held in Oslo, visiting Bill Reed at the University of Victoria in British Columbia, en route. Murray has just returned from Queensland, where he was visiting with Geoff McLaughlin.

Recent seminars:

Rosemary Bailey (*Queen Mary University of London*) "Hasse diagrams to describe the structure of designed experiments."

Nye John (*University of Waikato*) "Design, GenStat and CycDesign."

Peter Mullins (*Sage Consultants Ltd*) "Using Excel for inspecting segments of a time series of reasonable length."

Beatrix Jones (*Massey University, Albany*) "Fitting and interpreting sparse Gaussian graphical models for high dimensional data."

Chris Triggs (*University of Auckland*) "Establishing Identity."

Michael Stuart (*Trinity College, Dublin*) "Mathematical thinking versus statistical thinking; redressing the balance in statistical teaching."

Claire Jordan (*Massey University, Albany*) "CART, PPM's and PBRF."

George Styan (*McGill University, Montreal*) "Issai Schur (1875-1941) and the early development of the Schur complement,  $S - RP^{-1}Q$ : photographs, documents and biographical remarks."

Daniel Walsh (*Massey University, Albany*) "The Importance Sampling Hough Transform."

Jan Bulla (*Goettingen University, Germany*) "Introduction to Hidden Markov Models."

Angelika van der Linde (*University of Bremen, Germany*) "General measures of variability and dependence for multivariate continuous distributions."

*Judi McWhirter*

## Department of Conservation

Adam Smith has moved from full-time contract work with DOC in Christchurch to a one-year Masters course with Marti Anderson at University of Auckland, but is now living in Wellington and will be keeping his hand in with statistical consulting half a day a week in DOC's head office. Carla Meurk (right), having completed her Masters, will be working until Christmas



with Ian Westbrooke in DOC's Christchurch science group. Ian and Adam (and Carla) all enjoyed the NZSA conference in Dunedin. Ian also attended the ISI meeting in Sydney in April, and, with Jennifer Brown, organised a very successful session on measuring the impact of environmental and conservation management. Ian managed to head on to Hobart afterwards to visit the Australian Antarctic Division, and meet the statistician and some quantitative ecologists there. There are a number of statisticians and ecologists interested in conservation and ecological management in NZ and Australia, and we have established a very informal group **ANZecoSTAT** to facilitate communication. To join, go to <http://groups.yahoo.com/group/ANZecoSTAT>.

In June, Ian and Jennifer took about 30 DOC staff, in 3 groups, through a 3-day course on "*Statistical Modelling using S-plus*", focussed on revising linear models and introducing generalised linear and additive models. Next task is a series of ten workshops from Invercargill through to Whangarei - half a day introducing survival analysis, and the other half day introducing matrix population models using PopTools. Two technical publications that may have wider interest will shortly be freely available on the DOC website (<http://www.doc.govt.nz/publications/004%7escience-and-research/index.asp>), "*A practical guide to the management and analysis of survivorship data from radiotracking studies*", which includes how to implement Kaplan-Meier analysis in Excel; and "*Designing science graphs for data analysis and presentation*".

*Ian Westbrooke*

## University of Canterbury

Dominic Lee and Marco Reale gave talks at the workshop on Statistics and Probability in Communications Engineering (SPICE), organised by Peter Smith. The workshop was held on 1 September 2005 at the University of Canterbury. The other speakers were David Hart, Andrea Ridolfi, Peter Smith, David Vere-Jones and Ilze Ziedins.

Jennifer Brown attended the statistics meeting at the International Congress of Ecology in Montreal in August, presenting a paper on her work with Jake Overton on biodiversity sampling. She then travelled to West Virginia to work with David Smith on adaptive sampling. Earlier in June she spent time with DOC and Ian Westbrooke training DOC staff on the fine art of statistical modelling.

Granville Tunncliffe-Wilson is coming to NZ for the month of October and visiting Marco Reale and Carl Scarrott at UoC, followed by John Haywood at VUW.

*Carl Scarrott*

## What is the third, missing, shape on Marie Fitch's shirt?



### From a Conversation between Enrico Fermi and Freeman Dyson

In desperation I asked Fermi whether he was not impressed by the agreement between our calculated numbers and his measured numbers. He replied, "How many arbitrary parameters did you use for your calculations?" I thought for a moment about our cut-off procedures and said, "Four." He said, "I remember my friend Johnny von Neumann used to say, with four parameters I can fit an elephant, and with five I can make him wiggle his trunk." With that, the conversation was over.

*Neil Cox*

### A Communication Challenge

*R v Adams (1998) 1 Cr App R 377-385*

**"To introduce Bayes theorem, or any similar method, into a criminal trial plunges the jury into inappropriate and unnecessary realms of theory and complexity deflecting them from their proper task".**

Lord Chief Justice (Lord Bingham); Mr Justice Potts & Mr Justice Butterfield

*Graeme Bremner*

## Bruce Weir to move to Seattle



Bruce Weir (left) has been appointed as the chairman of the Department of Biostatistics at the University of Washington, Seattle, with an adjunct appointment in Genome Sciences, from early next year. Bruce is currently the William Neal Reynolds Professor of Statistics and Genetics and Director of the Bioinformatics Research Center at North Carolina State.

Bruce Weir has been praised as a strong leader, a visionary researcher and a preeminent educator of genomic scientists. While at North Carolina, he established the graduate program in bioinformatics, the Summer Institute in Statistical Genetics, which was also presented in Christchurch in 2001, the C. Clark Cockerham lecture series, and the Bioinformatics Research Center. Bruce did his undergraduate study at Canterbury, held positions at Massey, then did his PhD in statistics with a minor in genetics at NC State in 1968 and has been on the faculty since 1976. In 2003, he received the O. Max Gardner Award, North Carolina State's highest faculty honor.

## Caption contest



### Phil Schluter on "Single Patient Trials"

All entries will be placed on <http://nzsa.rsnz.govt.nz/Newsletter62/caption.htm>. Enter by email to [roger.littlejohn@agresearch.co.nz](mailto:roger.littlejohn@agresearch.co.nz).

Last issue ("I will not call it Bartsian Statistics again") provided its own caption and got no entries!

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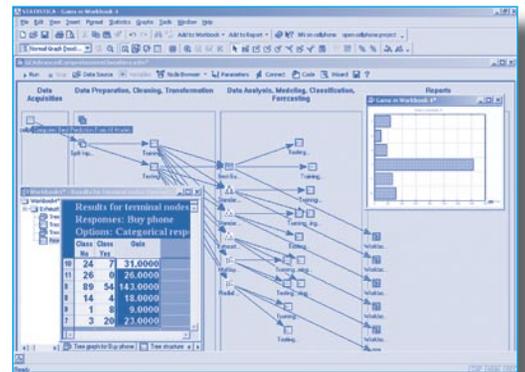
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