

### NZSA2008 Conference University of Waikato Hamilton July 7 - 8

You are warmly invited to attend the 59th Annual Conference of the New Zealand Statistical Association at the University of Waikato on Monday and Tuesday July 7 and 8.

### Themes

Papers are invited from any area of probability and statistics. Student presentations are especially welcome.

### **Student Prizes and Student Travel Grants**

Hoare Research Software will again sponsor \$1000 in student prizes. The NZSA has some funds available to support students at New Zealand Universities travelling to the conference. For further information contact Jennifer Brown at

j.brown@math.canterbury.ac.nz.

### **Statistics Education Session**

There will be a session on statistics education of interest especially to high school teachers, with the aim of providing materials and real data that will be useful in the classroom. A nominal registration fee will be charged for any teachers wishing to attend only this session.

### **Conference** Website

This is currently in preparation. A link to the conference website will appear in <u>http://nzsa.rsnz.org/</u><u>NZSA2008/index.htm</u>. An email will be sent to members when the conference web goes live.

### **Abstract Submission**

Further details will be given on the conference website when available.

### Registration

Details will be appearing on the conference website. An early bird registration discount will apply. Student registration will receive a 50% discount. Members of the NZSA and the SSAI will also receive a discount.

### AGM

The annual general meeting of the New Zealand Statistical Association will be held after the last sessions on the first day of the conference.

### **Conference Dinner**

A conference dinner is being planned for the evening of Monday 7th July.

### **Organising Committee**

Currently the core of the committee comprises Judi McWhirter, Harold Henderson, James Curran, and Rohan Maheswaran. We are interested in recruiting a few more members. If anyone is interested in helping, please contact Judi McWhirter: judi@stats.waikato.ac.nz.

Published by the New Zealand Statistical Association (Inc.), P.O. Box 1731, Wellington, New Zealand. The views expressed by contributors to this *Newsletter* should not be attributed to the New Zealand Statistical Association.

## Ray Chambers, NZSA Visiting Lecturer 2008

The 2008 NZSA Visiting Lecturer is Professor Ray Chambers of the University of Wollongong. Professor Chambers is currently Professor of Statistical Methodology at the University of Wollongong and has extensive research interests in the design and analysis of sample surveys, official statistics methodology, robust



methods for statistical inference and analysis of data with group structure.

Statistics New Zealand is hosting Professor Chambers' visit to New Zealand, and the New Zealand Statistical Association, through its Visiting Lectureship, is enabling him to visit other New Zealand centres. His schedule is:

24 March: Arrival in Christchurch

- 25 March: Stats NZ office in Christchurch
- 26 March: Canterbury University
- 27 March: Otago University in the afternoon and NZSA in the evening
- 2 3 April: Stats NZ office in Wellington
- 3 April evening: presentation and dinner with Wellington Stats Group
- 4 April: Victoria University
- 7 8 April: Stats NZ office in Wellington
- 9 April: Massey University, Palmerston North
- 14 April: Waikato University
- 15 April: University of Auckland
- 16 April: Fly home

Local Contacts: Christchurch : Jennifer Brown Dunedin : John Harraway Wellington : Sharleen Forbes Palmerston North : Steve Haslett Hamilton : Murray Jorgensen Auckland : Chris Triggs

For further information concerning Professor Chambers' visit contact:

Kim Cullen Statistics New Zealand +64 (04) 931 4886 kimberly.cullen@stats.govt.nz

## Science Fairs - Farewell to Jenny Mason

For many years the NZSA and Statistics New Zealand have been sponsoring prizes for the best use of statistics in a science project by school students competing in the regional science fairs around the country. Many members of the society will have helped



occasionally in judging at one or more of the now 24 fairs that are held every year. Perhaps not many will know that, as Science Fairs Convenor, Jenny Mason has been coordinating this effort since the mid-1990s, easily the longest-running continuous service in any role within the Association. Her tireless efficiency in this work has been greatly appreciated by everyone involved.

Jenny left Statistics New Zealand recently and has decided that it is time to pass the convenor's job on to someone else. Tim Hawkes at SNZ has agreed to take over. The Association wishes to acknowledge her long-lasting contribution to this means of promoting statistics in schools and in the wider community. Thank you, Jenny!

### Tim adds:

"A chance meeting at an athletics competition has led to me taking over the reins of the Science Fair coordinator role for the NZSA from Jenny Mason. I am excited about getting stuck into my role as I begin to make contact with the regional Science Fairs for 2008.

"I would like to thank all those who assisted as judges of the NZSA and Statistics New Zealand awards for best use of statistics in a science project in 2007. Should anyone be interested in becoming involved in judging in 2008, please email me (<u>tim.hawkes@stats.govt.nz</u>). I expect to be in contact sometime in the next few months with those judges from last year who expressed an interest in being involved this year.

"Finally I would like to thank Jenny Mason for all her hard work as the science fair coordinator over these past years and I hope to continue to perform the role to a high standard."

### **Conference - ICOTS8**

The next International Conference on Teaching Statistics is being held in Ljubljana, Slovenia 11-16 July 2010. The Conference Theme is *data and context in statistics education: towards an evidence-based society*. The conference topics and committees are named below. Anyone interested in being associated with or organising a session under one of the topics can express their interest to any of the topic convenors or to the Chair of the Programme Committee, John Harraway (jharraway@maths.otago.ac.nz). The sessions within each topic will be developed over the next nine months.

### **Topics And Topic Convenors**

1. Data and context in statistics education: towards an evidence-based society Brian Phillips <u>bphillips@swin.edu.au</u>

Irena Ograjensek <u>irena.ograjensek@ef.uni-lj.si</u>

2. Statistics education at the school level Mike Shaughnessy <u>mikesh@pdx.edu</u> Doreen Connor doreen.connor@ntu.ac.uk

3. Learning to teach statistics

Katie Makar <u>k.makar@uq.edu.au</u>

Joachim Engel engel@math.uni-hannover.de

4. Statistics education at the post secondary level Elisabeth Svensson <u>elisabeth.svensson@esi.oru.se</u> Larry Weldon <u>weldon@sfu.ca</u>

5. Assessment Beth Chance <u>bchance@calpoly.edu</u> Iddo Gal iddo@research.haifa.ac.il

6. Statistics education, training and the workplace Gabriella Belli <u>gbelli@vt.edu</u>

Peter Petocz <u>peter.petocz@mq.edu.au</u>

7. Statistics education and the wider society Richard Gadsden <u>R.J.Gadsden@lboro.ac.uk</u> Oded Meyer <u>meyer@stat.cmu.edu</u>

8. Research in statistics education Arthur Bakker <u>a.bakker@fi.uu.nl</u> Tim Burgess <u>t.a.burgess@massey.ac.nz</u>

9. Technology in statistics education Deborah Nolan <u>nolan@stat.berkeley.edu</u> Paul Darius <u>paul.darius@biw.kuleuven.be</u>

10. An international perspective on statistics education Delia North <u>northd@ukzn.ac.za</u> Enriqueta Reston <u>edreston@yahoo.com</u>

11. Contributed papers

Gilberte Schuyten <u>Gilberte.Schuyten@UGent.b</u>e James Nicholson <u>i.r.nicholson@durham.ac.uk</u>

12. Posters

Mojca Bavdaz mojca.bavdaz@ef.uni-lj.si

### GenStat 2008

### **Preliminary announcement:**

The Australasian GenStat Conference, 2008: *Biometrics in Primary Industries and the Environment* is to be held at Marylands Country House, Marysville, Yarra Valley Ranges, Victoria, Australia on 2-5 December 2008.

There will be a pre-conference workshop in Experimental Design, at the University of Melbourne on 1 Dec 2008.

Further details will be advertised in the next couple of months and will be available on the conference web site. This site should be active from late February (www.dpi.vic.gov.au/genstat2008)

This conference traditionally has a friendly atmosphere and attracts a mix of consulting biometricians and people developing methods for applied statistics, not all of whom are GenStat users. It is a chance to meet the GenStat developers and to hear about new features in the package, but a major focus is on biometrical applications and new developments in biometrics.

## Florence Nightingale - A New Zealand Connection

The recent exhibition "Real Gold: Treasures of the Auckland City Library" at the Auckland Central City Library contained an item of interest to statisticians. Items for the exhibition were selected from the many rare, valuable and wonderful "treasures" cared for by the Special Collections team at Auckland City Libraries. The collections contain thousands of items and are based on a gift by Sir George Grey to the newly founded Auckland library in 1887.

One exhibit on display was a letter to Sir George Gray, 28 July 1863 which ended:

"You will do a noble work in New Zealand. But pray think of your Statistics. I need not say, think of your Schools. But people often despise Statistics as not leading to <u>immediate</u> good.

> Believe me Yours ever Sincerely Florence Nightingale"

For further details see: <u>http://0-</u>www.aucklandcity.govt.nz.www.elgar.govt.nz/dbtwwpd/virt-exhib/realgold/Science/florencenightingale.html.

### Editorial

February is a busy time for me. Summer School is just finishing and there are exams to mark. Semester One is about to start. And then there's the newsletter to put together. So evenings have been finding me sitting at a table at home surrounded by piles of bright yellow exam scripts, while the rest of



the family watch TV. It can be quite depressing when students seem unable to make sense of statistical arguments. I had just hit a particularly rich vein of abysmal scripts (funny how they cluster together) when I was distracted by a ringing announcement from the TV: "New Zealanders eat twice as much red meat as the rest of the developed world!".

My astonishment subsided somewhat when I realized they were probably not talking about total consumption, but some sort of per capita average. I wondered how this was estimated. One method is the national accounting system using records of production, exports and imports to get total consumption and then dividing by total population. But I know from work with the World Food Programme that the Food and Agricultural Organization is moving away from this system towards a survey-based method which they think gives greater accuracy. At the same time, food consumption data from surveys is notoriously unreliable. How much red meat did your family eat yesterday? Then there's the question of "adult equivalence". Should we adjust the per capita averages for the age and gender structure of each household or population? Is all the meat consumed? In our family a certain proportion always goes to the cat during cooking - we call it the meat tax. Finally, the operation of red meat consumption as a risk factor, for heart disease say, will depend on the entire distribution and not just the mean.

It seemed to me that a good half-hour programme could have been put together, explaining where this statistic came from and what it means. But the programme in question had no time for this - hardly had they finished dropping this one on us when they were rattling off the next enlightening statistic: "This kilogram of minced beef, when it was alive, belched out enough methane to fill a balloon the size of Chester Borrows, before the stomach-staple", or something like that - I was having trouble keeping up. And so it continued, one meaningless "fact" after another, all designed apparently to convince us that Science is Fun but Global Warming is Bad, without really explaining anything.

I suppose we should be pleased to see statistics featuring so prominently in the mass media. But I couldn't help connecting the shallowness of the presentation with the bewilderment of my students. Making sense of statistics requires some effort, and we might as well admit it. A later courtroom drama also featured statistical arguments - the prevalence of HIV, the effectiveness of condoms - but they seemed much more apposite and understandable. Maybe only in the world of fiction, where the audience's attention can be taken for granted, can we allow ourselves the luxury of explaining what we mean. And maybe I should cancel all future lectures and get my students to watch Boston Legal instead.

Geoff Jones

### 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 22 August, 2008

### 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

Geoff Jones IIS&T, Massey University Private Bag 11122, Palmerston North, N Z Phone: +64-6-350-5799; Fax: +64-6-350-2261 Email: <u>g.jones@massey.ac.nz</u>

### **Newsletter on Web**

An online version of this newsletter is available at

<u>http://nzsa.rsnz.org/Newsletter67/index.htm</u> It will be regularly updated with information and your letters.

Email: g.jones@massey.ac.nz

### **President's Column**



For the past two years I have attended the Royal Society of New Zealand Honours Dinner, this time, most conveniently for me, at the Dunedin Town Hall. These have been events with a delightful charm and energy, with youth and seniority, artistic creativity and scientific analyses placed in juxtaposition,

and have managed to celebrate achievement in a spirit of teamwork and cooperation rather than success as an end in itself. Also, there have been statisticians receiving awards on both occasions! (Jeff Hunter receiving our Campbell Award in 2006 and Xiaogu Zheng the Edward Kidson Medal from the Meteorological Society of New Zealand in 2007.)

The theme for 2007 was Antarctic research. The dinner started with a reading of Derek Mahon's poem Antarctica by Bill Manhire ("I am just



going outside and may be some time") and an organ recital, then a presentation from the Otago Girls' High School winners of the 2007 Freemasons Big Science Adventure DVD competition including a travelogue from Greenland. There was also a live phone link to Antarctica and a display of the flag Sir Edmund Hillary planted at the South Pole in 1958. Not to mention the dinner, and the awards, and lots of "science stuff". Some of the recipients even managed to express subtle political statements ("it's amazing the role serendipity has played in my career", "a special thanks to our long term funders").

I enjoyed the evening; it inspired me and gave me a lift, which I very much appreciate. But I've just remembered, I must return the penguin suit.

Roger Littlejohn



### **New members**

A warm welcome to 10 new members of the NZSA who have joined since September 2007, taking our current membership to 399.

Regular members: Valerie Cox, Rolf Turner, Ken Richardson, Sweta Baldawa, Magnus McGee, Nicholas Jon Horton.

Student members: Katrina Poppe, Nihal Jayamaha, Steven Hung-Hsi Wu, Miriam Hodge.

### Join the NZSA

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

### NZSA Membership rates

Given rates apply from April 2008 - March 2009 and are in NZ\$.

	NZ	Overseas
Ordinary	80	85
Student & Retired	40	45
No paper journal	-5	-5
(electronic only - s	see next co	olumn)
SSAI Member	50	55
(journal funded fro	om SSAI	membership)

### **Back Copies of NZ Statistician**

A CD archive of "The New Zealand Statistician" is available from the NZSA. For details see http://nzsa.rsnz.org/archive\_NZS.shtml.

Copies of this CD are available for

Current members \$5 Past members \$25 Non members and libraries \$55

To order a copy email Harold Henderson (Harold.Henderson@agresearch.co.nz).

### **ANZJS - Book Review Editor**

The Australian & New Zealand Journal of Statistics needs a new Book Review Editor. Responsibilities will include maintaining contact with publishers, finding suitable reviewers, monitoring reviews, and ensuring a steady stream of high quality book reviews for each issue of ANZJS. If interested, please contact Prof Kerrie Mengersen, k.mengersen@qut.edu.au. There is no fixed closing date. The vacancy will remain open until filled by a suitable candidate.

### Awards

### Fellowship of RSNZ - Chris Wild

Congratulations to Professor Chris Wild of the University of Auckland, who has been made a fellow of the Royal Society of New Zealand. Professor Wild has earned a very high international reputation for his work in several areas of statistics, and the important contribution that



he has made to research in other disciplines.

One strand of his work is concerned with developing methodology for the design and analysis of medical studies. The methods in his landmark paper "Fitting prospective models to case-control data" (the lead paper in the 1991 issue of Biometrika) have been further developed to enable researchers to use a whole range of new study designs. His current work draws on his combined expertise in response-based sampling and in frailty modeling, to produce efficient methods for handling data from retrospective family studies that are used widely in genetic epidemiology. A second strand is his work on nonstandard regression methodology, a subject on which his encyclopaedic book "Nonlinear Regression" with George Seber is the authoritative reference. A third strand of his work with broad international recognition is his research into the philosophy of statistics and modes of statistical thinking.

The respect that he commands worldwide is illustrated by his being invited as Opening Plenary Speaker at the 2004 conference of the Royal Statistical Society, and the ten invited addresses he has given at meetings of the International Statistical Institute and the American Statistical Association.

## Edward Kidson Medal - Xiaogu Zheng

Congratulations to Dr Xiaogu Zheng of NIWA who has been awarded the Edward Kidson Medal, for his outstanding contributions to meteorological research, by the Meteorological Society of New Zealand. The Medal was presented at the RSNZ awards dinner in December.

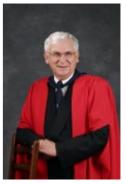


The Kidson Medal award is named in honour of Dr Edward Kidson, Director of the New Zealand Meteorological Service from 1927 to 1939. The medal is awarded to the author of an outstanding paper published in a refereed scientific journal during the preceding three years. Dr Zheng's medal was awarded for the scientific paper "A study of predictable patterns for seasonal forecasting of New Zealand rainfall" published in the Journal of Climate in 2006.

Dr Zheng obtained his PhD in Statistics at the Department of Mathematics, Beijing Normal University in 1985. From 1987 to 1990 he was a Postdoctoral Fellow at the Institute of Statistics and Operations Research, Victoria University, supervised by David Vere-Jones and Peter Thomson, before joining the National Institute of Water and Atmospheric Research in Wellington as a Climate Statistician.

### Statistics and Applied Probability: A Tribute to Jeffrey J. Hunter

Prof Jeff Hunter has been honoured, on his retirement from Massey University, with a special issue of the Journal of Applied Mathematics and Decision Sciences. This special issue acknowledges Jeff's many contributions to probability and statistics over a long career of 40-plus years, and is available



online (<u>http://www.hindawi.com/journals/jamds/</u> volume-2007/si.1.html) from the journal website.

### **Campbell Estate Fund**

The NZSA was the recipient 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 <u>http://nzsa.rsnz.org/funding.shtml</u> for more details.

Applications are received twice a year (April/ October) and are invited for funding for projects in 2008/09. 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, (<u>fletcher@maths.otago.ac.nz</u>), NZSA, PO Box 1731, Wellington.

For more details contact Jennifer Brown (<u>j.brown@math.canterbury.ac.nz</u>) or Harold Henderson (<u>harold.henderson@agresearch.co.nz</u>).

Jennifer Brown

### **Statistics Education News**

### International News

Joint ICMI/IASE Study, Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education. The International Commission on Mathematics Instruction (ICMI) and IASE are running a joint study focused on statistics in June 2008 in



Monterrey, Mexico. Carmen Batenero is chair of the International Programme Committee of the joint study. Papers have been submitted. For more information see: <u>http://www.ugr.es/~icmi/iase\_study/</u>.

**ICME** (International Congress on Mathematical Education). At this conference in Monterrey, Mexico, 6-13 July 2008, there will be two topic studies groups on the research and development in the teaching and learning of statistics and probability. See: <u>http://icmel1.org</u>

**International Statistical Review Special Issue** on Statistics Education. Chris Wild was the guest editor for the December issue of International Statistical Review (Volume 75 Issue 3 Themed Papers on Statistical Education, www.blackwell-synergy.com/toc/ insr/75/3). It contains a suite of educationally focused papers which should be of interest to practitioners and technology buffs as well as academics and other educators. A basic theme of the papers is how to give students experiences much closer to the practice of professional statisticians than has been possible in the past. This is done by using technology to collapse the time scale needed for instruction. The main areas used as illustrations are the design of experiments and multivariate analysis. Although these are relatively advanced topics, many of the ideas discussed can be applied at any level of statistical education.

### Local News

Mathematics and Statistics School Curriculum. The new 2008 school curriculum was launched at the end of last year. Mike Camden gave a presentation to a Royal Statistical Society group in the UK on the changes that had been made to the statistics curriculum and how the NZSA had been involved in the process.

The CensusAtSchool Project. This project, sponsored by the Department of Statistics of The University of Auckland, Statistics New Zealand, and the Ministry of Education will continue to run this year under the directorship of Rachel Cunliffe and Chris Wild. The main emphasis in 2008 will be on producing new resources for schools that will be closely aligned to the school statistics curriculum. For more information see:

http://www.censusatschool.org.nz/.

Doctoral Thesis in Statistics Education. Tim Burgess, Massey University recently completed his EdD thesis entitled *Investigating the nature of teacher knowledge needed and used in teaching statistics*. His research centred on teachers of Years 6 to 8 students.

Maxine Pfannkuch

### NZSA Education Committee

The NZ Curriculum emerged in November 2007 (<u>http://nzcurriculum.tki.org.nz/</u>), with, as you might expect, a learning area newly labelled Mathematics and Statistics. The job for NZSA now is to help ensure that teachers have whatever support they want for delivering it. One part of that support will be the glossary. This will be accessible by internet, and needs to give a school-friendly lead into about 50 statistical terms.

Mike was in the UK in December, and spoke with an RSS-organised group about the curriculum. (<u>http://www.rss.org.uk/main.asp?page=2908</u>). They were impressed - not by him, but by the content and design of the curriculum. He may have made it sound a lot more perfect than it is!

There will be another downstream task of ensuring that the NCEA Standards are revised to be in keeping with the spirit and content of the new curriculum.

Back in September, the NZ Association of Maths Teachers held its 10th biennial conference, in Auckland. NZSA was very ably represented by our invited speaker, Maxine, in an address titled *Statistics teaching at the beginning of the 21st century*. We were also ably represented in several workshops, including one by Alex Neill and Deborah Brunning of this committee, titled *Statistical shifts and the curriculum*. The next NZAMT is in Palmerston North, in 2009 (p in the sky: <u>http://www.nzamt.org.nz/</u> nzamt11/).

Dates of EdComm meetings this year are:

Tue 26 Feb Tue 15 Apr Thur 5 Jun Tue 12 Aug Thur 9 Oct Thur 4 Dec

Meetings are 4-6pm (-ish). We have booked rooms in both Wellington and Auckland, and car parks 6 and 7 in Wellington.

Mike Camden

### Vacancy - Senior Statistician

The grass is greener here - it's statistically proven.

As New Zealand's largest research institute and the world leader in pastoral research, we're entirely confident in making such a claim. Because the fact of the matter is-for Statisticians-AgResearch offers a scale, range and quality of professional challenge that's truly unrivalled.

Each day we're breaking new ground at the forefront of science discovery, and without high-end biometric expertise, much of what we achieve simply wouldn't be possible. As such, your knowledge and abilities will be embraced here...and given the resource, freedom and opportunity to thrive. We think you'll find the diversity and complexity of the work invigorating; and working collaboratively with industry-leading researchers, scientists and statisticians professionally intriguing and stimulating. In a nutshell, this is your window to step up and provide a level of technical leadership, specialised analysis and statistical advice that truly showcases your seasoned statistical prowess.

Our work has a significant and very tangible impact on New Zealand's agricultural sector...and you'll play a major part in its success. It will come as no surprise then that you'll need to be qualified to PhD level, and regarded as an authority in the development and implementation of statistical solutions. As you will be providing expert consulting services to the research teams, outstanding communication and interpersonal skills are critical, but given your broad experience we're sure you'll excel in this area. Your leadership skills will also be valued as your role includes the opportunity to further build the statistical consulting team.

No doubt our grass is looking green already, but we've plenty to make it greener. Ongoing support and professional development opportunities, travel to international conferences, truly family friendly work environment...and let's not forget the stunning Southern lifestyle. Our Lincoln Campus is situated 15km out of Christchurch so offers the very best of rural life just minutes from the garden city.

So, if you're ready to experience the greenest pastures the job description is available online and applications are invited at http://www.agresearch.co.nz/recruitment/ Reference AGR707.

If you've got specific questions please email Dr Anette Becher: <u>anette.becher@agresearch.co.nz</u>.

Applications close 11 April 2008.

### **Conference Brief**

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

### **Australian Statistics Conference 2008**

Melbourne 30 June-3 July, 2008 Web: http://www.asc2008.com.au/

### OZCOTS 2008 - 6th Australian Conference on Teaching Statistics

Melbourne

3-4 July, 2008

Web: http://silmaril.math.sci.qut.edu.au/ozcots2008/

## **New Zealand Statistical Association Conference** 2008

University of Waikato

7-8 July 2008 Email: judi@stats.waikato.ac.nz

### ISBA2008 Conference of the International Society for Bayesian Analysis

Hamilton Island, Queensland 21-25 July, 2008 Web: http://www.maths.qut.edu.au/asba/docs/ isba08/ Email: c.alston@qut.edu.au

#### Workshop: Experimental Design

University of Melbourne 1 Dec 2008 Web: http://www.dpi.vic.gov.au/genstat2008/

### Australasian GenStat Conference, 2008: Biometrics in Primary Industries and the Environment

*Marysville, Victoria* 2-5 December 2008.

Web: http://www.dpi.vic.gov.au/genstat2008/

### Third IAPR International Conference on Pattern Recognition in Bioinformatics (PRIB 2008)

Melbourne

15-17 October, 2008

*Web:* <u>http://www.infotech.monash.edu.au/about/</u> <u>news/conferences/prib08/</u>

### ANZJS Corner

Over the last year the ANZJS Editors (Kerrie Mengersen, Jeff Wood, Ken Russell and Steve Haslett) have held a number of meetings, including the first face-to-face meeting of the current editorial panel in Sydney on 24 May 2007.

A number of issues were discussed at length.

The Editors have been considering content and direction for ANZJS. Of necessity, this is driven in part by citation indices, but we also recognise that there could be more local content, both in terms of authorship and focus, without detriment to either the Theory and Methods or the Applications sections. We have also discussed how to get more high quality applications papers submitted, and whether the criteria for acceptance of such papers needs reconsideration. We are advertising for a new Book Review Editor. We are looking medium term at a web-accessible system so authors and editors can better monitor submitted papers, and at whether we currently have the best mix of Associate Editors to cover the very wide range of statistics papers submitted to ANZJS. We are working toward focusing some journal issues around invited papers and special topics, with submitted papers on the same or similar topics in the same issue. We are considering how best to support the editors and control workload through widening the group of people involved, for example, through assistance, particularly for Kerrie and Ken.

We were pleased to note that Blackwell, the ANZJS publishers, provide partial funding toward ANZJS operational expenses, and once this is available to the Editors from the two associations there can be more operational flexibility than is possible at present. This could usefully include more regular meetings of the editors.

We are considering whether a questionnaire to you, the journal's subscribers, would be a useful way to canvas your views, and if so, what best to put in it.

A central, more long term question concerns Open Access, and whether this is the best mode for future publication of ANZJS. For those of you wanting to know more, there is a useful background article to which Murray Jorgensen provided a link. This is Jim Pitman's IMS presidential address devoted to "Open Access to Professional Information": http:// www.imstat.org/news/ims\_pres\_address07.pdf. The SSAI and NZSA executive committees plan to make sure there is extensive discussion on Open Access and ANZJS at the next meetings of NZSA and SSAI in mid-2008.

We think putting a regular column on ANZJS in the SSAI and NZSA newsletters could be a possibility. That way, we can outline what is happening at ANZJS in more detail, and get more timely feedback from you all.

John Haywood has recently been appointed Associate Technical Editor for ANZJS.

Steve Haslett

### Read the latest in statistics from Australia, New Zealand and the world online today

Published on behalf of the Statistical Society of Australia Inc. and the New Zealand Statistical Association

- Applications
- Theory & Methods
- Reviews
- Historical and General Interests

### NZSA members can access the Journal for FREE through Blackwell Synergy at www.blackwell-synergy.com/loi/anzs

Simply log on using your member number and provided password for complete access to abstracts and full articles from the Journal.

Forgotten your password? Contact Blackwell Publishing at e-mail: synergy@asia.blackwellpublishing.com



Managing Editor: Professor Kerrie Mengersen Print ISSN: 1369-1473 Onlir

Online ISSN:	1467-842X	
Current Volume:	49	
Frequency:	4 issues per volume	

### **Local Scene**

### AgResearch

At Lincoln, we recently farewelled David Baird who left AgResearch in December after 24 years. David has gone to live in Wanaka, where he has set up in private practice under the name VSN (NZ) Limited. We wish him all the best with his new venture. He'll be continuing to spend a lot of his time on GenStat (with VSN International), and is contracting 20% of his time back to AgResearch, so he won't be idle! David's position as biometrician at Lincoln has been advertised (see page 8) but has yet to be filled (any takers?).

At Palmerston North, we welcome Dongwen Luo to AgResearch and our section. Dongwen studied for his PhD at Massey and then Macquarie (Sydney) Universities with Professor Graham Wood on the geometry of generalised linear models. After undertaking a post-doc position in computational bioinformatics at Macquarie, Dongwen returned to New Zealand in 2004 and took up a position as Statistician at the Fonterra Research Centre in Palmerston North. For the past two years he has been in Perth (WA) having a break from statistics and a taste of the business world.

This summer, Aaron Bryant worked as an intern with Roger Littlejohn at Invermay on hidden Markov models with feedback for deer feeding data. Also, Yann Poulouin, a Masters student from France, is on a work placement for six months from February with Neil Cox at Ruakura.

Congratulations to Ken Dodds for receiving a C. Alma Baker Fellowship for travel to the United Kingdom to visit Scottish Agricultural College for approximately three weeks during April to work on the analysis of whole genome marker data for estimating genetic value.

On the conference scene, Ken Dodds attended the 3rd International Congress on Quantitative Genetics in China in August and talked on relatedness: "Using genetic markers in un-pedigreed populations to detect a heritable trait". Martin Upsdell attended the 5th Biosecurity Summit in Auckland in October. MAF, who hosted the summit, are a key customer for Container Scan, which Martin is working on. David Baird and Dave Saville attended the Biometrics by the Beach conference at Coffs Harbour, NSW in December, and Dave presented a paper entitled "A design for cultivar evaluation trials sown in a serpentine fashion".

Dave Saville

### University of Auckland

The department is delighted to congratulate Chris Wild FRSNZ on his election as a Fellow of the Royal Society of New Zealand in November for his "very significant contributions to both statistical methodology and statistical education". Chris is our third FRSNZ, with Alastair Scott and George Seber. Congratulations Chris on this richly deserved achievement!

Meanwhile, the mantle of Head of Department passed from Alan Lee to Chris Triggs, who was instituted in a d e p a r t m e n t a 1 coronation ceremony in February. Coronation regalia befitting of the occasion failed to gain



budget approval, but a cardboard Burger King crown was found to suffice. Welcome to the job, Chris, and our thanks to Alan Lee for heading the department through 2007.

In the Marsden round, Yong Wang and Sharon Browning both gained Fast Start grants. Yong's grant aims to develop his algorithms for fast computation for fitting mixture models, and Sharon's covers new methodology for determining the genetic contributions to disease.

Our new lecturer Stephane Guindon, appointed last year, has achieved a rare honour: his article with Olivier Gascuel, 'A simple, fast and accurate algorithm to estimate large phylogenies by maximum likelihood', published in Systematic Biology in 2003, has topped 1000 citations! Fewer than 25 scientific articles published since 2003 have been cited 1000 times or more. (How many of these 25 have the word 'simple' in the title remains unknown.) Stephane's algorithm is implemented in the software PhyML. Citations are still rolling in - as I write the total is 1026 and counting...

Three of our completing PhD students have gained prestigious postdoctoral positions around the world. Christian Roever and James Russell successfully defended their theses last year. Christian has now taken up a postdoctoral fellowship at the Max-Planck Institute for Gravitational Physics (Albert Einstein Institute) in Hannover, Germany. James is basking in the tropical sun on Reunion Island in the Indian Ocean, where he is studying the impacts of invasive mammals on seabirds. His ambition is to be the first to find the nesting site of the near-extinct and almost never-seen Mascarene petrel. Steven Miller, who has just submitted his thesis, has taken up a postdoctoral appointment at Trinity College Dublin, studying the movements of ancient peoples through Europe using genetic, linguistic, and archaeological data.

Our current PhD students have also been busy. Lyndon Walker's research on inter-ethnic cohabitation was featured in the New Zealand Herald in December with the intriguing title 'Maori mix up love lives'. Radio interviews on Radio Waatea and Radio PI followed. Particular interest was generated by the decrease in the proportion of Maori people who live with a Maori partner.

Jenny Wilcock won the Early Career prize for best oral presentation at the Biometrics Australasian Regional Conference in Coffs Harbour in December. Also at the conference were invited speakers Russell Millar and Nick Horton, who is visiting the department from Smith College, Massachusetts. Nick has already made stellar contributions to department life, including an excellent talk on statistical education backed up with stunning culinary hospitality. He will not be allowed home if he produces another dinner like his recent welcome for the Longitudinal Data Analysis workshop participants!

Rachel Fewster

### **Crop & Food Research**

In December Bob Burn and Fiona Underwood from University of Reading (UK) ran their Practical Bayesian Data Analysis courses at Crop & Food Research in Lincoln and AgResearch Grasslands in



Palmerston North. The team who did the Aotearoan organising (Ruth Butler, assisted by Andrew McLachlan, Esther Meenken and John Koolaard from AgResearch) were very pleased by the turn-out - thirty-nine when they had initially been expecting twenty or twenty five - primarily from the CRIs and NZ universities, although one keen person came from RMIT in Melbourne. Bob and Fiona did a great job, despite fighting jet-lag and the after-effects of a heavy term of teaching in the UK. Most of the participants agreed that, although they had found the course challenging, it was an excellent introduction to the ideas: everyone thought the course had been very enjoyable and useful.

Duncan Hedderley

### Wellington Statistics Group

Since the beginning of 2007, there have been nine talks given to the Wellington Statistics Group. These were:

- 7 Feb 2008, John Lewis, Weta Digital
- 4 Dec 2007, I-Ming Liu, Victoria University
- 20 Nov 2007, Mike Camden and Paul Cowie, Statistics NZ
- 24 Oct 2007, Jim Renwick, NIWA
- 18 Sep 2007, Peter Thomson, Statistics Research Associates
- 6 Aug 2007, Nick Longford, SNTL, Reading, England
- 9 May 2007, Shirley Pledger, Victoria University
- 18 Apr 2007, Stephen E. Fienberg, Carnegie Mellon University, Pittsburgh

22 Mar 2007, Richard Arnold, Victoria University Further details of these and all previous talks can be found on the NZSA Local Groups web page: <u>http://</u><u>nzsa.rsnz.org/local\_groups.shtml</u>. This web page also contains contact details of the group, names of sponsors, and details of forthcoming talks. A link can also be found here where anybody can add or delete their name from the mailing list.

If anybody is visiting Wellington at a time coinciding with a talk, then you are most welcome to attend. No registration is required. People should not feel reticent about offering a talk that they would like to present. Many work somewhat isolated from other statisticians and often have little opportunity to discuss their work with others. Hopefully we can provide a forum for these people too.

We are grateful to all the WSG sponsors: Victoria University of Wellington, Statistics New Zealand, the Ministry of Social Development and Statistics Research Associates Ltd. Thanks also to Ivy Liu who dealt with the room bookings for 2007, and Alistair Gray who continues to look after the finances and refreshments at each meeting. John Haywood is now back from UCLA and is again helping with room bookings, etc.

### Victoria University

### David Harte

As foreshadowed in the last Newsletter of 2007, we have welcomed the arrival of a new Consulting Statistician: Nokuthaba Sibanda. Nokuthaba landed in Wellington in mid September 2007, coming from London, where she did her PhD at Imperial College and later worked as a Research Fellow at the London School of Hygiene and Tropical Medicine. Since arriving, Nokuthaba has settled into the Group well and has been kept pretty busy fielding consulting requests. Also, Nokuthaba's son is now attending the same school as Ivy Liu's twins and John Haywood's daughter; more probable than it first sounds, perhaps, but still an interesting 'local cluster'.

Everyone is now back from their recent sabbaticals, with John Haywood returning first in December 2007, in time for Helen to start school just as she turned five. Helen thinks school is great, despite (not because of, really!) a long summer break after her first two weeks at school. Richard Arnold came home in mid-February 2008, having spent three months at Waseda University (Tokyo) visiting former colleague Yu Hayakawa, then four months in Seattle at the University of Washington, visiting Jon Wakefield in the Department of Biostatistics. Richard spent this time working on MCMC estimation in capturerecapture modelling. Obviously Richard's work with Yu Hayakawa went well, because at the time of writing Yu is enjoying a return two-week visit to VUW to work jointly with Richard and Stefanka Chukova. The whole Group are excited to see Yu back in Wellington, and we're celebrating with a number of social events while she's here. We're also looking forward to a return visit from Nokuthaba's predecessor, Colleen Kelly, who will be in Wellington for almost a week in mid March.

Estate Khmaladze also returned to Victoria at the end of January 2008 after a busy time away. On his way to Europe in July 2007 Estate gave two seminar talks in Sydney, to Mathematics and Statistics departments separately. Then in September he was an invited speaker at the 14th Workshop on Stochastic Geometry, Stereology and Image Analysis in Neudietendorf (near Erfurt), Germany. Estate was speaking on the differentiation of set-valued functions, and gained the impression that geometers and image analysts will certainly use such techniques in an enormous variety of applications. In October Estate gave a public presentation to the Georgian Mathematical Society and was also made a Doctor of Business Honoris Causa by the Georgian-American University in Tbilisi. Estate then spent two weeks in Karlsruhe in active discussion with three German professors of geometry and stochastic geometry. Towards the end of his sabbatical, Estate was an invited speaker at the Platinum Jubilee Conference of the Indian Statistical Institute in Kolkata and at a second conference in Hyderabad. He then spent some time in South Indian jungles, riding elephants and living on a boat, before giving a series of linked presentations over three weeks at Hong Kong Baptist University, on Change-set problems, random tessellations, and set-valued analysis.

Although not on sabbatical, Dong Wang recently spent time in both Beijing and Melbourne, returning to VUW at the start of Trimester 1. Similarly, Stefanka Chukova was travelling and visited the US over the NZ summer. Stefanka has great news about her new grand daughter, Kara Whitney Battestilli, who was born on 12 December 2007 and is a very happy, peaceful baby. Stefanka also visited Professor Harry Perros at North Carolina State University, where they made some initial progress on a new joint research project related to service science.

David Vere-Jones has been busy recently, as one of the Organising Committee of the February 2008 Evison Symposium held at VUW to commemorate the contribution of Frank Evison (former Professor of Geophysics at VUW) to earthquake forecasting and related fields. Further details are available on the Evison Symposium website: <u>http://www.gns.cri.nz/</u> <u>evisonsymposium/</u>.

David notes that there is some focus on statistical seismology because of its growing role in the development and assessment of time-varying estimates of earthquake risk. In conjunction with the Evison Symposium, a raft of friends and visitors are currently in NZ: Yosi Ogata, Jiancang Zhuang and Takai Iwata, all currently based in Japan, Yan Kagan, David Jackson and others from the USA, Annemarie Christofferson, Stefan Wiemer and others from Europe. In addition, two younger [so DVJ wrote...] visitors are spending three months working with the joint Stats/Geophysics Group at VUW. They are Katerina Orfanogiannaki from Athens (hidden Markov models) and Abigail Jimenez from Spain via Canada (cellular automata and other models for self-organizing criticality). The Evison Symposium is partly supported by the Earthquake Commission (EQC), which is also backing a proposal to set up a testing centre in NZ (one of only three internationally) for evaluating probability forecasts for earthquakes. David also noted that, "finally, Vol2 of Daley and Vere-Jones has actually appeared, and is definitely the LAST of these efforts!" For more details, see: Daley, D.J., Vere-Jones, D., An Introduction to the Theory of Point Processes, Volume II: General Theory and Structure, Springer, 2nd ed. (2008), 573 pages. A bit of light bedtime reading, perhaps...

Finally, there are a number of talks in the Wellington region in the coming weeks, many of which may be (just?) after the Newsletter appears. Here are some details provided by David Harte, the current Wellington Statistics Group (WSG) Convenor. The first three are WSG talks:

4 Mar, 6:00pm: Martin Bland on "Risedronate, the BBC, and me" at the Old Government Building, see: <u>http://nzsa.rsnz.org/WSG\_archive.shtml#bland</u>

17 Mar, 6:00pm: Jiancang Zhuang on "Visualizing patterns in earthquake clusters by using a point process model", see:

http://nzsa.rsnz.org/WSG\_archive.shtml#zhuang

3 Apr, 6:00pm: Ray Chambers on "Measurement Error in Auxiliary Information", see: <u>http://</u>nzsa.rsnz.org/WSG\_archive.shtml#chambersr

Other known talks in Wellington in the next month or so are:

7 Mar, 12:00pm: Martin Bland on "The Tyranny of Power" at Victoria University.

2 Apr, 3:00pm: Ray Chambers on

"Robust Prediction of Small Area Means and Distributions" at Statistics NZ.

4 Apr, 12:00pm: Ray Chambers on "Maximum likelihood under informative sampling" at Victoria University.

7 Apr, 3:00pm: Ray Chambers on "Estimation of the Finite Population Distribution Function" at Te Puni Kokiri.

8 Apr, 1:00pm: Steve Haslett, Geoff Jones and Alasdair Noble on "Small Domain Estimation in NZ Unemployment and Maori Expenditure" at Statistics NZ.

Some further details about all of the above talks can be found at: <u>http://nzsa.rsnz.org/local\_groups.shtml</u> John Haywood

### Massey University, Albany

At the end of November we officially farewelled Jeff Hunter at a function to mark his retirement. This was a fitting tribute to his work that was attended by many including former colleagues from Palmerston North and Auckland University. Paul Cowperthwait and Graeme Wake edited a special issue of the Journal of Applied Mathematics and Decision Sciences as a tribute to Jeff.

Danny Walsh and Marie Fitch both presented workshops at the NZAMT conference in September.

Howard Edwards attended the 2007 Genetic and Evolutionary Computation Conference (GECCO 2007) at University College London July 7-11 to present a paper and a poster based on joint work with Matthew Walker and Chris Messom. He also attended the Royal Statistical Society's annual conference in York the following week. In the preceding week Howard attended the conference in honour of Emeritus Professor John Deely at the University of Canterbury, Christchurch, as one of John's first PhD students.

Paul Cowperthwait attended the NZ Hydrological Society Conference on "Water and Land" in November where he presented a paper on "Developments of fine scale structure for point process models of rainfall" (co-authored with Valerie Isham and Christian Onof).

Marie Fitch completed her Masters at the end of 2007 and is now beginning a PhD under the

supervision of Beatrix Jones and James Curran. Lillian Werner also completed her Masters and is now back in the USA working at the medical centre in Hershey Pensylvania (yes, the place where they make the chocolate!)

Beatrix Jones (pictured right) presented a talk entitled "Using paths through graphical models to dissect pairwise relationships" at the WNAR meeting of the International Biometric Society, June 24-27 at the University of California, Irvine.



Marie Fitch

## University of Otago, Maths and Stats

Two occurrences of note in the Department of Mathematics and Statistics at Otago in February have been Richard Barker taking over as HoD and the arrival of new lecturer Chris Fonnesbeck. Chris is a Canadian by birth and has degrees from University of British Columbia and University of Georgia. In his own words, lifted from the Blogosphere, he is "a marine mammal biologist, statistician and ex-Vancouverite working for the State of Florida's remote research outpost in Atlanta, GA". Perhaps he will be able to do something about the long absence of dugongs from the waters of Otago Harbour

Irene Goodwin

### Fonterra

Since the last report we have recruited Stella Sim, poached from Livestock Improvement (an organisation affiliated to Fonterra). Stella is based at Te Rapa and has been responsible for upgrading the R skills (and to a lesser extent the Bayesian knowledge) of the rest of the team. Roger Kissling will be attending the meeting of the Codex Committee on Methods of Analysis and Sampling, held in Budapest in early March, as technical advisor to the NZ government delegation. Roger and Rob Crawford have been preparing comments on some of the papers to be discussed at that meeting.

In May Rob Crawford will be attending the International Dairy Federation Analytical Week, held this year in Switzerland, specifically to attend the meeting of the Joint Action Team on "Statistics and Sampling" of which he is the chairman.

Roger Kissling

### **University of Canterbury**

Raazesh Sainudiin (Raaz) has recently joined us as a Lecturer in Statistics. Raaz (pictured right) has research interests in statistical inference for stochastic processes embedded within stochastically evolving networks. Examples include statistical decision problems in population genetics,



phylogenetics, and ecological genetics. Raaz is also interested in set-valued mathematics and statistics that account for the numerical and/or empirical resolutions of a statistical experiment. Such set-valued experiments are particularly interesting if their index map is highly nonlinear and/or they rely on heuristic, local, point-valued algorithms to implement their decision procedure. For more details see: <u>http:// www.math.canterbury.ac.nz/~r.sainudiin/</u> <u>ResStmntRaaz.pdf</u>.

Congratulations to Jennifer Brown on being promoted to Associate Professor. Timothy Robinson, from University of Wyoming, is visiting the department until June 2008. Timothy's background is in industrial statistics and he is working with Jennifer on a number of environmental statistics projects. Jennifer Brown, has also been awarded a Geospatial Research Centre grant to investigate the feasibility of using heat-seeking equipment on remote controlled planes to locate pest animals.

Associate Professor Pete Smith (pictured right) has joined the group part-time (jointly with electrical engineering. Among other interests, Pete is interested in stochastic models for wireless communications.



Dominic's masters student Jason

Bentley won a prize for best student presentation at the 2007 Spring Bayes Conference in Brisbane for his talk on "Exact Markov Chain Monte Carlo and Bayesian Variable Selection". This prize continues his successful run after being awarded one of the HRS student prizes at NZSA2007. Well done Jason!

The 12th annual phylogenetics conference, Whitianga '08, was held at a lodge in Whitianga on the Coromandel from 10-15 February 2008. Talks were presented by Mike Steel, Charles Semple, Raaz Sainudinn and Postdoctoral Fellow Bhalchandra Thatte; our PhD students, Klaas Hartmann, Mareike Fischer and Beata Faller; and visitors from Germany, Simone Linz and Tanja Gernhard.

Carl Scarrott

### Massey University, Turitea

In early September 2007, Alasdair, Steve, and Geoff attended the SAE2007 conference in Pisa, where between them they gave three talks and took 27 photographs of the leaning tower.

In October Ganes and Alasdair organized another Palmy Stats day, which attracted 48 participants. The keynote speaker, Ian Westbrooke, gave an interesting account of the diverse problems arising from his work at the Department of Conservation.

Martin Hazelton travelled to Dunedin later in October to give a seminar at Otago University ("From Estimation of Traffic Flows to Deconvolution of Densities: Some Statistical Linear Inverse Problems"). In January this year he visited Adrian Baddeley at the University of Western Australia and gave a one-day course on Advanced Regression Modelling under the auspices of the Statistical Society of Australia.

Jonathan Godfrey finally got married to Olivia on 27th January in Wellington. They honeymooned in Cairns. The wedding statistics: 140 guests present, including the first time that all six of his father's kids were in the same room at the same time; 13 of Olivia's mother's kids were present (a record for them too), and seven guide dogs (six working and one retired). The honeymoon statistics are not available. For the record, Jonathan now has an additional six sisters-inlaw, and ten brothers-in-law, but only one mother-inlaw: that's on top of the ones already accumulated from the Godfrey side.

The New Year brought us a New Institute. Massey's restructuring of Engineering saw us leave the Institute of Information Sciences and Technology (which now no longer exists) and join the Institute of Fundamental Sciences. Someone should make a board game out of this. We are still in the same offices, although there is a plan to co-locate us with the other Fundamentalists before the next restructuring.

Steve Haslett was a moderator at the Mathematics in Industry Study Group, 28th January - 1st February, in Wollongong, and then stayed on to work with Ray Chambers. Later in February Steve went to the Asian Institute of Technology in Bangkok to assist in the running of a workshop on small-area poverty estimation, as part of a new service agreement with the World Food Programme. Later trips to Cambodia, Bhutan and East Timor are in the pipeline.

Geoff Jones attended the Australasian Region Biometrics Conference in Coffs Harbour, "Biometrics by the Beach" in early December and gave a talk on "Modelling growth patterns via constrained hierarchical b-splines". He returned just in time to join Alasdair Noble in delivering the first day of a very successful course on "Bayesian Models for Diagnostic Testing", the main presenters being Wes Johnson and Ian Gardner from the University of California. Geoff then left for a family wedding in Malaysia, and managed to give a seminar on "Measuring poverty and malnutrition" at the University of Malaysia in Sarawak before being whisked off for a sumptuous lunch.

Geoff Jones



Seal-ed with a kiss? Geoff Jones and a mystery guest at the conference dinner in Coffs Harbour.

### **University of Waikato**

It has been a relatively quiet time for all in the Statistics Department at the Waikato University. Although we are still waiting for replacements for James Curran and Nye John, there is good news on that front. We are hoping to appoint a new lecturer very soon, and also that the vacant chair will be filled before the year is out. This is probably just as well as Ray Littler, who has been part-time in the department whilst filling the role of Deputy - sometimes Acting - Dean of the School of Computing and Mathematics Sciences, retired at the end of the year. Fortunately for us, he is continuing to contribute to some of the teaching in the department. Another impending departure is David Whitaker, who plans to retire mid-year. In preparation David has stepped down as Chairperson of the Department and Murray Jorgensen has now taken on that role. At present we are hosting David Johnson from Loughborough, who is also contributing to the teaching in the department.

July 7 and 8, 2008, will see Waikato University host the New Zealand Statistical Association 2008 Conference. (See elsewhere in the newsletter for further information.)

Recent Seminars In The Department:

Russell Millar (University of Auckland) "Assessment of Hierarchical Models for Count Data."

Rolf Turner (University of New Brunswick) "Direct Maximization of the Likelihood of a Hidden Markov Model". Scion (NZ Forest Research Institute)

We are now all working under the 'Scion' brand since our 'Ensis' joint venture with CSIRO has been replaced by a co-operative agreement.

Phil Wilcox, Rod Ball and MapNet (the NZ network of gene mapping researchers) contributors have a concept proposal accepted by FRST for a 'Virtual Institute of Statistical Genetics' (VISG). The full proposal has just been submitted. The odds are now 50:50. The proposed VISG consists of statisticians and geneticists from CRIs and Universities and will develop statistical methods to tackle the large amounts of genomic data becoming available with increases in genotyping technologies, and new applications becoming possible for gene mapping across sectors in New Zealand. The VISG will be managed by Phil, with oversight from a governance board including Bruce Weir (U. of Washington), Peter Visscher (QIMR) and Elspeth MacRae (Scion). Statisticians involved include Rod Ball (Scion), Nihal De Silva (HortResearch), Mik Black (Otago), Sharon Browning (Auckland), Ken Dodds (AgResearch) and Benoit Auvray (AgResearch).

Five projects have been proposed including large datasets (e.g. whole genome mapping and prediction), gene networks (e.g. relationships between expression levels of many genes, proteins and metabolites in relation to biochemical pathways), structural genetics (polyploidy and copy number variation), population structure, experimental design, plus under-pinning methodology (e.g. algorithms, MCMC samplers, convergence etc). The VISG expects to fund several PhD students or PostDocs, who may also be hosted by Bruce Weir at the University of Washington for some time. Expressions of interest to Phil.Wilcox@scionresearch.com, or

Rod.Ball@scionresearch.com.

Rod Ball has had a paper: "Quantifying evidence for candidate gene polymorphisms - Bayesian analysis combining sequence-specific and QTL co-location information" published in Genetics: <u>http://</u><u>www.genetics.org/cgi/content/abstract/177/4/2399</u>, and has been promoted to principal scientist. He is heading to Finland in April to develop collaboration on hybrid MCMC and analytical methods for whole genome models with Mikko Sillanpää at the University of Helsinki on an ISAT travel grant. While there he will give a short course on association mapping and attend the IUFRO conference on modelling and simulation at Koli, Finland (near Joensuu). *Olkaa hyvä!* 

Judi McWhirter

# Explore your data quickly with STATISTICA



This page displays four menu options in STATISTICA showcasing the vast range of statistical functions that can be performed. Contact HRS today if you wish to try out any of these functions on your data or to find out what other features are available.

uick Advanced		ОК
ype of analysis:	Specification method:	Cancel
±≇≉ One-way ANOVA	🖪 Quick specs dialog	-
3댐 Main effects ANOVA	Analysis Wizard	🔉 Options 👻
Factorial ANOVA	Analysis syntax editor	(=) Open Data
💷 Nested design ANOVA	Distribution:	
31 Simple regression	Normal	CASES 9
nultiple regression	L. Poisson	E Weighted
Factorial regression	IA Gamma	moments
K Polynomial regression	A Binomial	OF=
Response surface regression	L.A. Multinomial	10 W/1 10 1911
🖄 Mixture surface regression	. Ordinal multinomial	
Analysis of covariance	Inverse normal	
🜆 Separate-slopes model	1.1.1	
Homogeneity-of-slopes model	Link functions:	
General custom designs	Power	

### Advanced Linear & Nonlinear Models

STATISTICA provides a wide array of the most advanced modelling and forecasting tools on the market, including automatic model selection facilities and extensive, interactive visualisation tools.

- GLM General Linear Models
- Generalized Linear/Nonlinear Models
- General Regression Models
- PLS General Partial Least Squares Models
- I NIPALS Algorithm (PCA/PLS)
- Variance Components
- Curvival Analysis
- 🛝 Nonlinear Estimation
- // Fixed Nonlinear Regression
- 🔠 Log-Linear Analysis of Frequency Tables
- Time Series/Forecasting

Name:

2030

\$몰 Structural Equation Modeling

### Generalised Linear / **Non-linear Models**

Hypothesise, test and find relationships in your data with generalised linear and non-linear modelling. Perform quick or advanced tests using ANOVA, and plot your distributions. Perform single, multiple or factorial regression analysis. What ever your general statistics needs, STATISTICA has the tools for you.

### **Data Miner**

The data mining option has a comprehensive selection of data mining solutions with an icon-based, extremely easy-to-use user interface. It features a selection of completely integrated, and automated, ready to deploy "as is" (but also easily customisable) systems of specific data mining solutions for a wide variety of business applications.

STATISTICA Data Miner is the ideal tool for uncovering hidden trends. explaining known patterns and predicting the future.

### **Multivariate Exploratory Techniques**

STATISTICA provides a broad selection of exploratory techniques for various types of data, with extensive, interactive visualisation tools.

- Cluster Analysis
- 🔆 Eactor Analysis
- Principal Components & Classification Analysis
- 🎭 Canonical Analysis -
- 🗐 <u>R</u>eliability/Item Analysis
- 🔬 Classification Trees
- K Correspondence Analysis
- 🔆 Multidimensional Scaling
- 🔄 Discriminant Analysis
- General Discriminant Analysis Models

DRILL	Data Miner - General Slicer/Dicer Explorer with Drill-Down
5	Data Miner - General Classifier (Trees and Clusters)
<b>.</b>	Data Miner - General Modeler and Multivariate Explorer
22	Data Miner - General Eorecaster
P	Data Miner - General Neural Network Explorer
	Ngural Networks
W/	Independent Components Analysis
86	Generalized EM & k-Means Cluster Analysis
22	Association <u>R</u> ules
$\hat{\mathbf{M}}$	General Classification/Regression Tree Models
£λ	General C <u>H</u> AID Models
ŝ	Interactive Trees (C&RT, CHAID)
A B	Boosted Tree Classif and Regression
200	Random Forests for R
	Generalized Additive M
MAR	MARSplines (Multivariate approx place
2	Machine Learn to retuin the
1	Generalized <u>A</u> dditive M MARSplines (Multivariat) Machine Learn Rapid Deploymence Goodness of Fit, Clas Feature Selection Feature Selection Complete and return it coard STATSTFREE
FIT ?	Goodness of Fit, Clas
12	Rapid Deploymence Set your fit coard Goodness of Fit, Clas STATSTEREE Feature Selection Info Kit!
22.0	Combining Group

#### **5 Ways to obtain your FREE STATISTICA INFO KIT:** 1. Call 0800 477 776 or 07 839 9102 2. Mail back a copy of the form below completed 3. Email 2030@hrs.co.nz **4. Fax** the card to 07 839 9103 **5. Visit** www.hrs.co.nz/2030.aspx **Note:** Please quote lead reference 2030 when contacting us for your info pack.

### Yes - Please send me a FREE Info Kit that includes:

### STATISTICA Info



### The HRS Software Guide!





**Bet Your Free STATISTICA Info Kit!** 

New Zealand's Technical Software Source

Your particular interest:

**Contact Details** 

Position:\_\_\_\_\_ Department:\_\_\_\_\_

Organisation:\_\_\_\_\_ Address 1: Address 2:\_\_\_\_\_

City:\_\_\_\_\_ Phone:\_\_\_\_\_ Fax:\_\_\_\_\_ Email:\_\_\_\_\_ Your industry: