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The New Zealand Statistical Association
nzsa.rsnz.org

Newsletter

Number 59 March 2004

NZSA 2004 Conference
Victoria University of Wellington
Thursday 1 July 2004

Venue
Hunter Building, Victoria University.

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

Invited Speaker
Andrew Harvey (Professor of Econometrics, University of Cambridge). Andrew is a well-known critic of the Box-Jenkins methodology and has been the leading advocate of structural time series models as the appropriate foundation for economic time series analysis and forecasting. One of his many studies was influential in the retention of compulsory seat-belt legislation in the UK.

Abstract Submission
Abstracts may be submitted online in plain text format. This is the strongly preferred mechanism, available soon from this page.

Conference Website
http://www.mcs.vuw.ac.nz/events/NZSA2004/index
Email notification of conference is pending completion of website.

Registration
Visit the conference website. Registration desk open from 8:30 am on 1 July, sessions start at 9:30 am.

Cost (excludes dinner)
$85 for the day, $100 after 30 April
$45 for students, $50 after 30 April

Conference dinner (Thursday night)
$50 per person (including some drinks)

AGM
The AGM of the NZSA will be held at 5 - 6 pm on 1 July at the conference venue.

Contacts
The conference secretary is John Haywood (email: John.Haywood@mcs.vuw.ac.nz); Richard Arnold and Ivy Liu are on the Organizing Committee.

Important Dates (all 2004)
30 April - Deadline for Early Bird registration
15 May - Deadline for Abstracts
15 June - Cutoff for full refund of registration fee (50% refund up to 30 June)
1 July - Conference
1 July - (7 for 7:30 pm) Conference Dinner

Accommodation
Delegates should make their own arrangements. A list of suitable providers is available from the website.

Related Event
Andrew Harvey will be presenting a time series session on Friday 2 July as part of the New Zealand Association of Economists (NZAE) Conference, which will be held concurrently at the James Cook Hotel. See www.nzae.org.nz/conferences/ for details. This URL will be linked from the NZSA Conference site.

Structure and Uncertainty: statistical modelling, stochastic systems and Bayesian computation

Peter Green
One-Day Workshop

McMeekan Centre, Ruakura, Hamilton
Thursday 1 April, 2004

Registration:
Register online at http://www.stats.waikato.ac.nz/
Programme:
9:30 - Registration
10 am - 4:30 pm - Workshop
4:30 pm onwards - Dinner at The Station
Cost: $100 including dinner, or $75 without dinner.
Webpage: http://www.stats.waikato.ac.nz/ and follow links.
Contact: kdevoy@waikato.ac.nz

Full details on Page 13

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President's Column - Changing faces

NCEA's replacement of School Certificate, 6th Form Certificate and now Bursary, is essentially complete. Our NZSA Education Committee is currently planning a Saturday in March to organise material for the new section in the year 13 (7th Form) NCEA subject 'Mathematics with Statistics'. In some quarters, this subject is becoming known as 'Statistics and Modelling'. The name change reflects some change in emphasis. The sample for the Scholarship 'Statistics and Modelling' exam (which is new this year, too) is also being carefully considered by a group at Auckland University, by members of the Education Committee itself, and by various other individuals from within NZSA.

The 'Statistics and Modelling' subject at Year 13 does not of course contain only Statistics, but it is the first formal impression that the school students have of our discipline. These are the students that may take a first year Statistics paper at university (a number of them under compulsion) and they are essentially the pool from which the future New Zealand graduates in Statistics will be formed.

The school Statistics curriculum in its various guises has had considerable input from NZSA members in the past. There has been growing concern over recent years that the material the students are expected to cover is still not sufficiently 'data led' and instead focuses on formal mathematical manipulations, rather than on an understanding of the underlying concepts.

The current Statistics Scholarship sample examination does not allay concerns about such formal manipulations. For example, one question requires students to calculate regression coefficients from a set of numbers, which is certainly not a skill requiring understanding of meaning, and a rather time consuming exercise for an examination anyway.

The central problem with implementation seems to be in three parts. Firstly, it is far easier to examine formalities than to test understanding. Secondly, the new curriculum has been put in place without providing teachers with much of the basic material (eg data sets) that will be necessary for them to teach and assess. This would not be so much a problem if teachers of Statistics in schools all had a wealth of material collected from experience as practising statisticians themselves, but in general they do not. Thirdly, limited access to hardware and software makes it very difficult for some teachers and students to take a 'data led' approach.

With insufficient Ministry of Education funding available yet for resources, it is this second part of the problem that the Education Subcommittee's weekend efforts will begin to address. The efforts will aim to construct data-based assessment tasks for the new Year 13 standard. You could make a very practical contribution by sending datasets (either before or after the resource weekend) to Lesley Hooper, the Education Committee Secretary <lesley.hooper@stats.govt.nz>. Further detail is elsewhere in this newsletter.

There is also a deeper question about curriculum content or emphasis, and here my views are more personal ones. As a statistician who regularly acts as a Statistical Consultant, you might surmise that I would be completely in favour of a 'data led' approach to Statistics. However I am not, or, at least, not entirely so. Many practical problems I encounter require theoretical solutions, and theoretical solutions generally require sound mathematics. I really see these two parts as complementary, and both as being necessary. And just to be quite clear, by mathematics I do not mean formal manipulations without understanding. I mean that Statistics curricula need to give students all the tools necessary to take apart a statistical problem set at the appropriate level, and to put together a sound answer.

I believe we need to make this clear even at NCEA Level 3. Otherwise we risk losing the better students because there is not sufficient mathematics provided, or complexity of data sets permitted, to support a deeper understanding. For example, when considering the relationship between variables, the new content at Year 13 requires only analysis of bivariate continuous data. 'Data led' Statistics is, at best, not so constrained, nor simply words about pictures, or even pictures about data. A wider perspective is needed.

Why are these issues important to us in the Statistics profession? Well, there is certainly a societal requirement for more statisticians. Given this, I think we need to ask ourselves why so few of the students who study Year 13 Statistics end up graduating in the subject, and, more importantly, what we as an Association can do to help change this situation. Although they are, of course, not the only ones involved, the Education Committee's weekend commitment is a very welcome step in this direction.

Stephen Haslett

Editorial

Those of you who follow the online newsletter (http://nzsa.rsnz.org/Newsletter58/index.htm) will know that it has been intensively updated since the hard copy was posted out last September. This includes news and letters to the editor on the electronic journal proposal (special thanks to Neville Bartlett, President of SSAI, for bringing us right up to date here, see pages 6-7), NCEA and wider statistical education issues (covered here by Steve Haslett and Mike Camden), and the FRST funding of science. Concerning the last, a letter has been sent to the Minister of Science and Technology, Pete Hodgson, by Steve Haslett on behalf of the NZSA, requesting a review of the current FRST funding system. This is available online and is reprinted in this newsletter. The PSA have hosted an open letter to the Minister of similar content (http://www.psa.org.nz/science.asp).

Further, a number of notable awards have been made to Association members recently. Jeff Hunter received a New Zealand Science and Technology Bronze Medal (see page 14), Rachel Fewster and Brian Easton received Marsden Awards (page 19), Mike Steel a Maclaurin Fellowship (page 11), and Bruce Weir the O. Max Gardner Award (page 22).

We have also linked to magazine articles on R, Bjorn Lomburg and Chris Frampton, and to the NSF Report on the Future of Statistics. We will continue to carry any such links you send to me. And there have been entries for the Caption Contest (precious few from the University of Auckland) – my favourite was from Ken Dodds. Thanks to Dave Saville for providing this issue with some light entertainment that is currently 'doing the rounds' (see page 19).

A wide range of opinion has been expressed on the electronic journal proposal, much in favour of retaining the current format, while the option of open access has been raised. This debate is operating in a much wider arena than 'down under stats' - the New Scientist interview with Harold Varmus is linked from the online newsletter. It now seems that events concerning the ANZJS are proceeding at a sensible rate through a democratic process

In this issue we have reports from two of the December meetings and information on this year's events. Peter Green's WCAS Workshop is soon after the release of this newsletter, while the NZSA One-Day Conference is shortly before the Cairns IBS/SSAI Conference in July, and will be notified by email soon.

With such fervent activity it's important to step aside for a moment and think about what it all means, which is of course why we have a newsletter! - not to mention summer holidays. I hope you're all refreshed and ready to go for the year. If not, get a coffee and read on …

Roger Littlejohn

NZSA Web Site

The NZSA web site is now hosted by the Royal Society of New Zealand at http://nzsa.rsnz.org/index.shtml. The new webmaster is Roger Littlejohn (roger.littlejohn@agresearch.co.nz), who takes over from David Scott. The format of the site has been retained, although Roger plans to update it at some future stage. Our thanks to David and the University of Auckland for their contributions.

Submissions to the Newsletter

The Newsletter welcomes any submissions of interest to members of the New Zealand Statistical Association. 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 27 August 2004.

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.

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Newsletter on Web

An online version of this newsletter is available at
http://nzsa.rsnz.org/Newsletter59/index.htm
It will be regularly updated with information and your letters.
Email: roger.littlejohn@agresearch.co.nz

Honourable Pete Hodgson
Minister for Research Science and Technology
Minister for Crown Research Institutes
Parliament, Wellington

22 December, 2003
Dear Mr Hodgson

Funding for government science organisations

The New Zealand Statistical Association (NZSA) was established in the 1950s and is the professional association for New Zealand's Statisticians. Its membership of around three hundred consists mainly of researchers both in government and elsewhere, government employees, academics, teachers, and private consultants. Almost all scientists with postgraduate qualifications in Statistics, who are actively involved in statistical practice in New Zealand, are members of the Association.

The NZSA Executive has requested I write to you to request a review of the current FRST funding system for CRIs and similar agencies.

Recently FRST has made decisions that have had considerable impact on existing research programmes. Many of our members are involved across a range of such programmes, and so perceive the concerns of scientists directly affected, while not having self-interest in commenting on these matters.

Further, under the FRST funding model, previous decisions and policies have resulted in a downgrading of statistics and operational research, largely because these fields apply across 'output areas' and hence are not a priority in any individual area. In the future, it seems likely that science research, and statistics and operations research in particular, will have to meet page charge costs for journal publication. This will require changes, since such costs are not currently included in the funding model.

We wish to express three concerns:

1. Current contestability leads to high volatility, fragmentation, and abrupt changes in research direction, which are not in the interests of long-term quality science;
2. FRST has become a *de facto* employer of scientists, which overrides the autonomy of science organizations;
3. Instability of funding for particular programmes threatens the careers of current staff and the career specialisation decisions of what should be the next generation of statisticians.

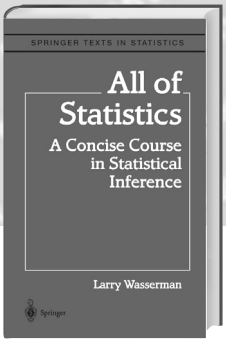
We suggest that positive contributions to the reform process might be achieved by:

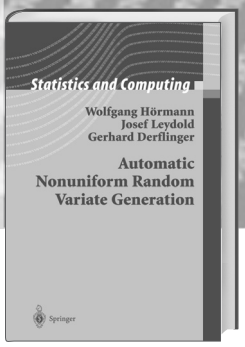
1. Having a limited amount of contestable funding to provide for elite research by individuals or small groups, work in new areas, and where there are 'gaps' identified which are not covered by the current organisations.
2. Replace FRST 'bidding' by a constructive review process on a 3-5 year time-frame for research teams, where the emphasis is on helping the teams improve their research effectiveness and setting direction for future research. Reviews would be carried out by small teams consisting of senior scientists from within the organization and outside experts, who actually understand the science and its consequences.
3. Ensure there is a budget to cover publication costs in disciplines such as statistics that are not directly funded as FRST output areas.
4. Ensure there is funding support for research into methodology for pan-scientific disciplines such as statistics, operational research and bioinformatics.

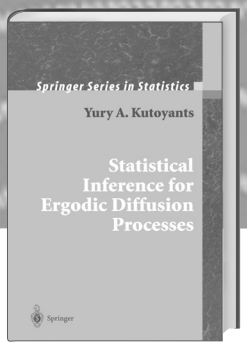
In summary, the present situation with science funding through FRST is causing unnecessary anxiety, and acting to the detriment of the community as a whole, not only to those directly involved in science research. The situation is particularly difficult for research areas, such as statistics and operations research, which are without a specified output class, but which have an essential role to play across a range of disciplines. The solution does not necessarily require large amounts of additional funding. What is needed most urgently is (a) a system with improved stability and recognition that a sound framework for science requires this stability, (b) recognition of the skills of research staff, and (c) the ability to respond quickly to new directions.

Yours sincerely
Dr Stephen Haslett
President, New Zealand Statistical Association

Springer for *Statistics*







L. Wasserman

All of Statistics

A Concise Course in Statistical Inference

Written for people who want to learn probability and statistics quickly.
The book provides a concise introduction to a larger number of topics that are usually included in a graduate-level mathematical statistics class.
It brings together many of the main ideas in modern statistics in one place.
The book is suitable for students and researchers in statistics, computer science, data mining and machine learning.

2004. XIX, 442 p. (Springer Texts in Statistics)
Hardcover **€ 84,95**; sFr 144,00; £ 65,50
ISBN 0-387-40272-1

D. S. Silvestrov

Limit Theorems for Randomly Stopped Stochastic Processes

The first book to present a state-of-the-art overview of both theory and applications. It covers and demystifies the vast, and technically demanding, Russian literature in detail.

2004. XIV, 398 p. (Probability and its Applications)
Hardcover **€ 109,95**; sFr 186,00; £ 60,00
ISBN 1-85233-777-X

W. Hörmann, J. Leydold, G. Derflinger

Automatic Nonuniform Random Variate Generation

The recent concept of universal random variate generation can only be found dispersed in the literature. Being unique in its overall organization, the book covers not only the mathematical and statistical theory but also deals with the implementation of such methods.
All algorithms introduced in the book are designed for practical use in simulation and have been coded and made available by the authors. Examples of possible applications of the presented algorithms are presented at the end of the book.

2004. X, 442 p. (Statistics and Computing) Hardcover
€ 74,95; sFr 127,00; £ 57,50
ISBN 3-540-40652-2

W. Härdle, L. Simar

Applied Multivariate Statistical Analysis

A state of the art presentation of the tools and concepts of multivariate data analysis with a strong focus on applications.
The text presents a wide range of examples and 228 exercises.

2003. IV, 486 p. Softcover **€ 69,95**; sFr 123,50; £ 54,00
ISBN 3-540-03079-4

Y. A. Kutoyants

Statistical Inference for Ergodic Diffusion Processes

Encompasses a wealth of results from over ten years of mathematical literature. It provides a comprehensive overview of existing techniques, and presents - for the first time in book form - many new techniques and approaches.
A state-of-the-art reference that will prove invaluable to researchers, and graduate and postgraduate students, in areas such as financial mathematics, economics, physics, mechanics and the biomedical sciences.

2004. 490 p. (Springer Series in Statistics) Hardcover
€ 84,95; sFr 144,00; £ 65,50
ISBN 1-85233-759-1

A. A. von Davier, P. W. Holland, D. T. Thayer

The Kernel Method of Test Equating

The first presentation of the kernel method in book form. Kernel Equating (KE) is a powerful, modern and unified approach to test equating. It brings together several methods into an organized whole rather than treating them as disparate problems.

2004. XXII, 229 p. 63 illus. (Statistics for Social Science and Public Policy) Hardcover **€ 74,95**; sFr 127,00; £ 57,50
ISBN 0-387-01985-5

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Education Committee

As usual, there are several opportunities for the statistical community to support the progress of school statistics.

Statistics and modelling in Year 13

With the arrival of NCEA Level 3 this year, the old Year 13 (7th Form) subject Maths with Stats becomes transformed into a somewhat altered subject. Sometimes the new subject gets called Statistics and Modelling. This name reflects the shift in content. The new subject has some more stats (relationships between numerical variables), the same probability, and less maths (the part that remains is the "modelling"). The new content poses a challenge for teachers, who need to work out how to teach and assess it (and they'll need suitable datasets). At the same time it brings a great opportunity for students to take a highly visual and interactive approach to real data.

Our job is to spend a Saturday in March constructing some assessment tasks for this. Your job is to send us some fascinating NZ-based datasets!

Scholarship in Statistics and Modelling

As the Bursary exams disappear, so do the old Year 13 Scholarship systems. There's a new award, with the same content as NCEA Level 3, but a new slant. Thanks to input from NZSA's Education Committee, this slant includes "statistical thinking". We hope that the defining document for this award will lead the whole school system into a very thoughtful, practical and satisfying vision of statistics.

The NZ Curriculum Review

The Ministry of Education has set up several teams that are reviewing the entire NZ school curriculum. There is a wonderful (and urgent) opportunity for the statistical community to make sure that stats in the NZ Curriculum

- has a sound progressive structure itself,
- has a healthy relationship with the maths,
- has strong links with sciences, social sciences, communications subjects, etc. The stats needs to be there when the other subjects need it.

The Education Committee has met with some of the Ministry's managers of the Review. Maxine Pfannkuch represents us on the Maths Group. Late last year Mike Camden put our views to the Maths, Social Sciences and the Umbrella groups.

Maxine reports from the Maths Group that Statistics is currently being viewed as a discipline in its own right with strong links to mathematics. Hence the curriculum subject "mathematics" is becoming "mathematics and statistics".

This project runs till 2006, and there will be opportunities for NZSA members to contribute. If you'd like to be involved, please let us know.

NZAMT Conferences

The recent NZ Association of Maths Teachers' Conference was in July last year, in Hamilton. Jeff Witmer (our third NZSA overseas invited speaker for these events) and Harold Henderson both gave plenary sessions and workshops. They both demonstrated to the 400 or so teachers present that stats can be graphic, relevant and surprising.

The next NZAMT conference is in Christchurch, September 2005.

The Committee

The committee continues to meet in Wellington, with some attendees from Palmerston North, and some e-mail contacts. If you want to work with us, please let us know!

Datasets

Members of NZSA could make a very practical contribution to school Statistics by sending in some datasets (to Lesley, who is the Education Committee secretary Lesley.Hooper@stats.govt.nz). They will be most useful for the immediate NCEA situation if they are

- in some spreadsheet software format,
- contain two or more numerical variables and some categorical variables,
- are cleaned (at least of the errors that an outside user could not fix),
- are well documented, with variable definitions and a 'story' about the origin,
- have a nice fresh local NZ context.

Mike Camden

ASES (Australian Statistics Education System)

A series of documents have been produced jointly between the Statistical Society of Australia, the Australian Bureau of Statistics and the Curriculum Corporation. These are in the public domain at www.statsoc.org.au. The objective is an integrated approach to Statistics education in Australia that is designed both to ensure a supply of statistical professionals for industry, research and academia, and to help Australian people understand and respond in better-informed ways to the uncertainties of the world they live in.

Statistics Education News

International News

The International Association for Statistical Education

(IASE) has a new website at http://www.stat.auckland.ac.nz/~iase/. It is an excellent website. It has a publications page from which over 500 papers from IASE publications and proceedings can be located and downloaded. There is also information about IASE forthcoming activities and links to conference websites such as:

• The IASE Research Roundtable on "Curricular development in statistics education" at Lund, Sweden, 28 June to 3 July 2004. The Roundtable will bring together a small number of experts, representing as many different countries as possible, to discuss one another's views and approaches to the curriculum for teaching statistics. Mike Camden, Statistics NZ, is on the Roundtable organising committee. For more information see the conference web page: http://hobbes.lite.msu.edu/~IASE_2004_Roundtable.

• The 10th International Congress on Mathematics Education, 4-11 July 2004, Copenhagen. IASE is collaborating in the organisation of specific statistics education activities such as the special topic group "Research and development in the teaching and learning of probability". More information is available from the website http://www.icme-10.dk/.

• The IASE Satellite Conference on Statistics Education and the Communication of Statistics, 4-5 April 2005. This conference will be held before the ISI-55 conference in Sydney. It will give the opportunity for people to enjoy presentations given by people who have a special interest in communicating data-based results. There will be a number of invited speakers, as well as the opportunity for others to give contributed presentations. The presentations are planned to include discussions of the main components in statistical communication and the relevance of statistical communication in the general education of citizens. We hope that a lot of New Zealanders will participate in this conference and present papers. See www.stat.auckland.ac.nz/~iase/conferences.php?show=iase2005.

• ICOTS-7, 2-7 July 2006, Salvador, Brazil. Preparation for this conference is underway. John Harraway, Otago University, is the scientific secretary on the International Program Committee Executive, while John Shanks, Otago University, has set up the website. See http://www.maths.otago.ac.nz/icots7/layout.php for a stunning website.

Local News

The Fourth Statistical Reasoning, Thinking, and Literacy International Forum (SRTL-4) will be held in Auckland on 2-7 July 2005. A preliminary notice calling for proposals will be sent out in April 2004. There will be a website set up for this forum which will be accessible through the IASE website.

Maxine Pfannkuch

Join the NZSA

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

New members

A warm welcome to new members of the NZSA

John Randal	Melanie Bell	Rissa Ota
Tarsha Thrush	Steven Miller	Terry Moore
Jason Turner	Zhiping Gong	Hilary Ferral
Tony Fakahau	Lyndon Walker	Praneel Roy
Alysha Nickerson	Gavin Armstrong	
Peter Dillingham	Jason O'Sullivan	

Accessing ANZJS online

StatsWeb

To access full text articles is simple:

- go to http://www.statsjournalsweb.com;
- click 'Browse Journals and Societies' ;
- locate *Australian and New Zealand Journal of Statistics*, click 'Logon' and enter the password (which has been distributed to members).
- locate the issue and article you require and click on the Article button for the pdf file of the full text.

You may also be able to access ANZJS online through the subscriber-based providers Blackwell Synergy, Ingenta, Ebsco, SwetsWise or OCLC. Check with your library for details.

Campbell Estate Fund

A reminder that 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 newsletter 56 on the web (nzsa.rsnz.govt.nz/Newsletter56/campbell.htm) for more details.

Applications are received twice a year (April/October) and are invited for funding for projects in2004/05.

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, (a.d.noble@massey.ac.nz), New Zealand Statistical Association, PO Box 1731, Wellington.

For more details contact Jennifer Brown (j.brown@math.canterbury.ac.nz) or Harold Henderson (Harold.Henderson@agresearch.co.nz).

Jennifer Brown

Should ANZJS become electronic-only?

Introduction

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

Current situation

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

Advantages of electronic-only publishing

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

Disadvantages of electronic-only publishing

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

Feedback from members

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

Institutional subscribers

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

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

Aspects that need to be changed

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

Next steps in the decision making process

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

Neville Bartlett

Biostatistics Workshop December 2003

Recent Developments in Statistical Methods for Evidence Synthesis

Speakers: Keith Abrams, Alex Sutton, Nicola Cooper of Department of Health Sciences, University of Leicester, UK; Peter Herbison, Department of Preventive and Social Medicine, University of Otago.

Organisers: Derrick Bennett of Clinical Trials Research Unit, University of Auckland; Peter Herbison, Sheila Williams of Department of Preventive and Social Medicine, University of Otago.

Sponsors: Health Research Council of New Zealand, University of Auckland, CTRU.

Photos on Page 19.

Evidence based medicine, or basing treatment on the results of all the available evidence, is central to current practice of medicine. It is no longer acceptable to carry out a rather general review, which, however objective it tries to be, reflects to some extent the prejudices of the reviewer. A systematic review makes the search strategies explicit and uses meta-analysis to combine the results. Thus, the workshop was for both medical practitioners and statisticians.

The early part of the workshop dealt with fixed and random effects models, tests of heterogeneity and sources of bias, with a special emphasis on publication bias. This was covered by Alex Sutton, who also demonstrated some of the software available for the classical approaches to meta-analysis. In the afternoon session Keith Abrams provided one of the clearest and most compelling presentations of the arguments for a Bayesian approach that I have ever heard. Even so, I think the subtleties of confidence intervals and credibility intervals escaped some of the audience. The Bayesian approach pretty much means priors and "Bugs". Should the priors be informative, conservative or sceptical? In a sense they provide a sensitivity analysis because they force one to examine the underlying assumptions. Keith also showed how WinBugs could be used for classical methods.

For me, Friday was the most interesting day. Keith dealt with melding the results of randomised control trials, where randomisation takes care of the underlying confounding, and observational studies, which are presumed to be subject to all sort of bias. He used as an example the association between hormone replacement therapy (HRT) and breast cancer, where large observational studies have shown that HRT was a risk factor for breast cancer and relatively small randomised trials were neutral. High discounting of the observational studies suggested that there was indeed an increased risk of breast cancer with HRT. This was consistent with the result of a large randomised trial published in 2002. This was an important public health problem as well as an interesting statistical problem. Alex then illustrated approaches to estimating the difference between two treatments when both had been compared with a placebo, a not uncommon problem, because drugs are often compared with placebo in different trials for regulatory reasons, when in practice the superiority of one is of more interest.

The last session took a much wider look at synthesising evidence. Both Alex and Nicola presented material covering approaches to economic decision-making for relatively common problems such as prophylactic antibiotic use in Caesarean section, and taxane use in advanced breast cancer. A more problematic issue was the effect of screening for rare diseases where randomised trials were impractical. These approaches emphasised again how important it was to make the underlying assumptions explicit.

Much of the data used by the Leicester team was especially chosen to illustrate the techniques of meta-analysis. In real life things are not always so straightforward. Peter Herbison described his experience with meta-analyses for incontinence, for which there is a variety of treatments and a variety of outcomes. Although there is a fair amount of material, not all of it measures quite the same thing or does it quite the same way. People argue that in some cases it would be advantageous to use individual patient data. Peter showed how difficult it was to obtain data from enough studies to carry out a worthwhile analysis.

As usual, the annual biostatistics workshop (this was the 6th) provided a good opportunity to see friends and colleagues. Despite being taken over by their respective universities, the former HRC statisticians continue to have much in common. The workshop was also a time to meet new people and get to know others better. The conference food was the best yet, and dinner, although noisy, provided belly dancing as well as Greek, Turkish, and Italian food.

Sheila Williams

Biennial Conference of the International Biometric Society (Australasian Region) 2003

The conference was held at the Australian National University, Canberra, December 3-5, 2003. The ANU Centre for Bioinformation Science was simultaneously hosting the AMSI Summer Symposium in Bioinformatics, which the biometrics registrants were welcome to attend. The local organizing committee for the conference consisted of Ann Cowling (ANU), Warren Muller (CSIRO), Alice Richardson (University of Canberra), Simon Barry (BRS) and Bob Forrester (CSIRO). About 45 biometricians participated (a contingent of 9 from NZ) and altogether 25 papers were presented.

Lightning and a storm (apparently Canberra is quite famous for this) hailed the arrival of the statisticians. The conference was opened by David Lindenmayer (ANU) and Ross Cunningham (ANU), who jointly presented an interesting and accessible paper on large-scale natural experiments in landscape ecology. After outlining some of the ecological background to these types of studies, they discussed the issues in their work that are pertinent to both ecological and statistical sciences. Matt Wand (UNSW), also an invited speaker, described an approach of using a non-parametric mixed model to fit individual growth curves to each subject in longitudinal data. The motivating dataset for this talk was made up of repeated recordings of heights of girls undergoing different therapies for a type of leukaemia. He also discussed the implementations of the model in SAS, S-PLUS and R. Complementing contributed talks also focused on various problems arising in ecology and health.

The first day was concluded with the conference dinner, held on the top floor of the Rydges Hotel with beautiful views of the city. Our efforts to squeeze through the main entrance, swarming with excitable teenagers whose school ball was taking place at the same venue, was rewarded by much dining and er…networking. The following morning, Mick Roberts (Massey University) woke us up with an interesting talk on his experiences in Asia modelling the spread of the dengue virus and the much talked-about SARS. He was followed by Annette O'Connor (Office of the Chief Veterinary Officer, Canberra), a quantitative epidemiologist, who discussed the application of infectious disease spread models as decision making tools. This was illustrated by interesting examples including the well-known 2001 UK outbreak of foot-and-mouth disease.

After a contributed session on disease-spread modelling, followed by lunch, David Baird (AgResearch) opened a session on microarrays (held jointly with the Bioinformatics Symposium). He gave a brief overview of the statistical issues in experiments using two colour cDNA microarrays and discussed the use of REML analysis to simultaneously normalize and estimate gene expression. This approach is additionally extended to take into account systematic within-array bias, such as spatial and carryover effects between adjacent spots. Harold Henderson (AgResearch) accompanied David's talk by discussing the use of dynamic graphics for microarray data, focussing primarily on methods for exploring and visualizing the data both pre- and post-normalisation. Harold's presentation was so dynamic that the room's computer (miffed at being sidelined by a laptop) automatically shut down the room, turning the projector off and plunging the auditorium into darkness. The rest of the conference featured contributed sessions covering a wide range of biometric applications. The statisticians, increasingly exhausted by the information intake, were kept interested thanks to the varied and interesting talks.

The conference concluded on Friday afternoon with closing remarks and the presentation of student prizes. Carole Wright (University of Waikato) was awarded first prize for her talk entitled "Quick construction of resolvable row-column designs" (she is pictured below receiving the prize from John Reynolds). The second prize went to Marie Forrester

(Queensland University of Technology) for "Statistical and stochastic epidemic models of MRSA occurrence within an intensive care unit given incomplete observations". More details about the conference (including photos!) can be found at wwwmaths.anu.edu.au/events/IBS03/.

Katarina Domijan

Postscript: Special thanks from the Editor (who was equipped only for clement weather) to Alice Richardson, who provided the loan of an umbrella. Coming from Dunedin, he doesn't actually own one.

IBS Honours Scholarships

The Australasian Region of the International Biometric Society has awarded two inaugural scholarships for students intending to undertake a full-time fourth or honours year of study in statistics, mathematical statistics, biostatistics or biometrics. Scholarships are A$1000 for one-year.

There were 15 applicants, 4 of whom were from New Zealand, while most Australian states were also represented (NSW 4, Vic 3, SA 2, Qld 1, WA 1).

John Reynolds, regional President of the IBS, remarked, “All 15 were very strong applications and we feel the future of biometrics and biostatistics in Australasia is going to be in very capable hands. Several applicants had near-perfect academic records, so it was a very competitive field. The two recipients of awards were from the University of Melbourne.”

See http://www.statsci.org/ibc/ for further details.

Visiting Maclaurin fellowship

Prof Hal Caswell (Woods Hole Oceanographic Institution, Massachusetts) is a visiting Maclaurin Fellow with a 3 month tenure. He has been in New Zealand since December 2003, and working with a number of different colleagues in Auckland and Wellington on the development and analysis of matrix models for spatially structured populations. As a result of his attendance at the 3rd International Wildlife Management Congress at the University of Canterbury, he participated in a workshop organized by the New Zealand Ministry of Fisheries to develop plans for using population models to guide policy on reducing the by-catch of albatross and other seabirds in New Zealand waters.

NZIMA Maclaurin Fellowship

Professor Mike Steel (right), University of Canterbury, is one of two recipients of a Maclaurin Fellowship for 2004. The Fellowship is offered annually to enable full-time research. It was set up two years ago, and is funded by the New Zealand Institute of Mathematics and its Applications (NZIMA), one of the government's new 'Centres of Research Excellence' based in Auckland.

Mike receives a NZ$160,000 grant over 14 months (the term is extended since he has a 0.15 FTE involvement in Marsden on a different grant), commencing in February 2004, on "Random discrete structures with applications in evolutionary biology".

He will investigate how random processes can help us understand some complex problems in evolutionary biology, specifically:

- Stochastic models of (plant and animal) speciation, and using the 'shape' of published evolutionary trees to test these.
- Random catalytic models that are relevant to the problem of how self-sustaining biomolecular systems became established in the origin of life.
- Information-theoretic limits that should provide some answers to the question of how far back in time we can hope to resolve deep divergences in the tree of life.

These topics will involve the use of a range of tools from stochastic process theory - particularly random-graph theory, martingales, Markov processes, information theory, coupling, etc.

Much of this work will involve close collaboration with some leading probability theorists from Berkeley and Stanford, as well as a series of visits by researchers to U. Canterbury. He will also make several visits to researchers this year, starting with a trip to China in February, followed by visits to Canada, USA, UK, Sweden, Germany, and Israel.

The NZIMA also funded us this year for a 1-year programme called "Phylogenetic Genomics", providing $171,000 for two 6-month postdocs, 3 MSc students, and funding of conferences and workshops. This programme has been really successful.

Mike Steel directs the Biomathematics Research Centre, and is Professor in the Mathematics and Statistics Department of the University of Canterbury. He is currently a program associate of the Canadian Institute for Advanced Research (Evolutionary Biology) and an Associate Editor of Systematic Biology. He is also on the editorial board of Journal of Computational Biology, and is a principal investigator and founding member of the Allan Wilson Centre for Molecular Ecology and Evolution, and the NZ Institute of Mathematics and its Application.

Conference Brief

See Gordon Smyth's Australasian conference list
http://www.statsci.org/conf/index.html
Details for planned conferences and workshops are given below.

CART Data Mining'04: First International CART(R) Conferences

San Francisco / Madrid
March 23-24 / 25-26, 2004
Abstract submission: 27 October, 2003
Web: http://www.cartdatamining.com/

Structure and Uncertainty: statistical modelling, stochastic systems and Bayesian computation

McMeekan Centre, Ruakura, Hamilton
April 1, 2004
Presenter: Peter Green
Web: link from http://www.stats.waikato.ac.nz/
Email: kdevoy@waikato.ac.nz

NZSA Conference

Victoria University of Wellington
July 1, 2004
Early bird registration: 30 April, 2004
Abstract submission: 15 May, 2004
Web: www.mcs.vuw.ac.nz/events/NZSA2004/
Email: John.Haywood@mcs.vuw.ac.nz

24th International Symposium on Forecasting

Shangri-La Hotel, Sydney
July 4-7, 2004
Web: http://www.isf2004.org/
Email: isf2004@unsw.edu.au

International Biometric Conference and Australian Statistical Conference

Cairns Convention Centre
July 11-16, 2004
Early bird registration: 1 March, 2004
Abstract submission: 1 December, 2003
Web: www.ozaccom.com.au/ibc2004
Email: cairns2004@ozaccom.com.au

Estimating Animal Abundance Workshop

University of Canterbury
July 19-22, 2004
Presenters: David Borchers and Walter Zucchini
Web: http://www.ruwpa.st-and.ac.uk/aecourseNZ/
Email: iwestbrooke@doc.govt.nz

Thirteenth International Workshop on Matrices and Statistics: in Celebration of Ingram Olkin's 80th Birthday

Bedlewo, near Poznan, Poland
August 18-21, 2004
Web: http://matrix04.amu.edu.pl/
Email: amark@owl.au.poznan.pl

2004 International Conference on Bioinformatics (InCoB04)

Auckland, New Zealand
September 5-8, 2004
Web: http://www.incob.org/
Email: a.rodrigo@auckland.ac.nz

International Statistical Conference "Visions of Futuristic Statistical Methodologies"

Kandy, Sri Lanka
December 28-30, 2004
Web: http://www.st.rmit.edu.au/~desilva/conference/slstat.htm
Email: s.ganesh@massey.ac.nz

Thredbo Conference of the Australasian Region of the International Biometric Society and Australasian GenStat Users Association

Thredbo Alpine Hotel, Thredbo Village, NSW
February 6-11, 2005
Web: http://wwwmaths.anu.edu.au/thredbo2005/
Email: Warren.Muller@csiro.au

International Statistical Institute Conference

Sydney Convention and Exhibition Centre
April 5-12, 2005
Web: http://www.tourhosts.com.au/isi2005/
Email: isi2005@tourhosts.com.au

ISBIS 4 - International Symposium on Business and Industrial Statistics

Cairns, Australia
April 13 - 16, 2005
Web: http://www.action-m.com/isbis4/
Email: isi2005@tourhosts.com.au

Measuring Small and Indigenous Populations IAOS Satellite meeting

Te Papa Tongarewa/Museum, Wellington
April 14-15, 2005
Web: http://www.stats.govt.nz/ISIsatellitemeeting
Email: ISIsatellite@stats.govt.nz

Conference Details

Structure and Uncertainty: statistical modelling, stochastic systems and Bayesian computation

Peter Green One-Day Workshop

McMeekan Centre, Ruakura, Hamilton
Thursday 1 April, 2004

Professor Peter Green has just completed his term as President of the Royal Statistical Society and is Professor of Statistics at the University of Bristol. He is distinguished for his wide-ranging achievements in computational statistics.

Abstract

The statistical modelling ideas discussed in this workshop embrace traditional technologies such as linear and generalised linear models, smooth nonparametric regression, mixed effects models, and methods from spatial statistics, but set them in the broader and more coherent framework of hierarchical modelling. Fully probabilistic modelling means that information from all observed data is available to make simultaneous inference about all unknowns. Ideas from probability and graph theory allow and encourage a modular approach to model building, which allows complex models to be built from small and comprehensible components. Such structured model building is amenable to elicitation and specification, computation and inference.

The workshop will cover some of the underlying principles, look at a range of applications probably including ion channel data analysis, disease mapping, astronomical redshifts, and DNA forensics, and discuss computational methods including Markov chain Monte Carlo and probability propagation.

A good overall reference for research in this whole area is the recent edited volume published by Oxford University Press: 'Highly Structured Stochastic Systems', edited by P. J. Green, N. L. Hjort and S. Richardson (2003). (See www.stats.bris.ac.uk~peter/HSSS/)

Programme: 9:30 Registration; 10 am - 4:30 pm workshop; from 4:30 pm dinner at The Station.
Cost: $100 including dinner, or $75 without dinner.
Webpage: www.stats.waikato.ac.nz/
and follow links, includes registration.
Contact: kdevoy@waikato.ac.nz

XXIInd International Biometric Conference in parallel with Australian Statistical Conference

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

It is expected that the joint conference will attract over 700 delegates and include eminent international speakers, leading researchers and participants from both Australia and overseas. Delegates will be able to attend sessions of either conference, ensuring a rich and varied scientific program.

Cairns has been chosen as the venue as it is the central hub of beautiful North Queensland, and an array of social events and tours will be arranged to take advantage of this.

A draft programme is available at www.ozaccom.com.au/Cairns2004/program.html

NOW OPEN!
The earlybird deadline has passed, but registration for the conference is still available at www.ozaccom.com.au/Cairns2004

We look forward to seeing you in Cairns in 2004!
IBC & ASC 2004 Congress Secretariat
cairns2004@ozaccom.com.au

Local Scene

Massey University, Albany Campus

There's been comings and goings at the Albany campus. We lost two staff at the end of last year but gained two more recently. About the losses: Kathy Ruggiero returned to her homeland (that large barren wasteland to our west) to join CSIRO in Canberra and knuckle down to some full-time research in "Alpha Designs", i.e. experimental design. Paul Bracewell completed his PhD and left to join OffLode, a Wellington-based Data Mining company. We really enjoyed having Kathy and Paul in the team; as well as being very useful, both were lots of fun to have around. We wish them all the best for their future careers.

The arrivals are: Dr Claire Jordon (Lecturer) and Marie Fitch (Senior Tutor). We are also expecting Dr Beatrix Jones and Dr Daniel Walsh to join us later in the year from North Carolina (we'll tell you more about them when they get here). So the net result is an increase in our staff numbers, which will address growth in student numbers on this campus and the corresponding demand for our service teaching – unfortunately the growth was not in the number of students majoring in statistics!

Claire Jordon comes from the University of Limerick, Ireland. Claire has the following to say about Limerick: "... I hail from Limerick City in the Republic of Ireland. Limerick is the spiritual home of Irish rugby and the scene of the All Black's famous defeat by Munster in 1978. It is Ireland's third-largest city and is located in the Southwest of the country on the banks of the River Shannon, Ireland's longest river, and recently achieved fame as the setting for Frank McCourt's best-selling autobiography "Angela's Ashes". [I was interested to note how far back the Irish have to go to claim a defeat of the All Blacks - I didn't realise the All Blacks were any good :-)]

Claire joins us as a Lecturer and comes armed with a BSc and Masters in Applied Mathematics and Computing and a recently awarded PhD in "Bayesian Classification using Product Partition Models" [I expect Howard will be really pleased to have some moral support at last from a fellow Bayesian!] Anyway we're looking forward to Claire's contribution and very pleased to have her aboard.

Marie joins the team as a Senior Tutor to assist with the first year teaching. Marie has heaps of invaluable teaching experience having spent the last 10 years teaching maths and stats at Corran School (Auckland City), where she was also a careers advisor. I understand Marie is enjoying the more relaxed atmosphere that Massey Albany offers, although, of course, the pace quickens somewhat when term starts! We welcome Marie to our team, and look forward to working with her.

Our Data Mining Centre is up and running with Denny Meyer orchestrating. We also have a new Data Mining major on the horizon, which is pooling resources widely across our institute by combining papers in statistics, computer science and information systems. Denny is also organising (with Ganesh, and Tim Ball) two data mining workshops this year under the auspices of the Data Mining Centre - April 5-7th in Wellington, June at Albany (date not yet set).

Our statistics major went under review last year (both internally and externally). One net result of the review, and various cross-campus debates, is that the Albany campus is now introducing R to second year students via two papers "Probability Modelling" (161230) and "Statistical Modelling" (161231). We are hoping that the inclusion of more statistical programming at second year will work well for our BInfSc students.

We are proud to announce that Jeff Hunter's contribution and efforts in promoting our discipline were recently recognised by the Royal Society of NZ. At a function held at Massey University Albany Campus on 28 November 2003, attended by many colleagues, family and friends, Jeff was presented with a 2003 New Zealand Science and Technology Bronze Medal by Dr Jim Watson, President of the Royal Society of New Zealand (below). Well done Jeff!!

Others news: Tasos Tsoularis and Barry McDonald both attended the "Mathematics in Industry Study Group" which was organized by Graeme Wake (who now resides on our campus, after having moved up from Canterbury last year). Howard

stepped down from being discipline leader in the statistics group (a role which Jeff Hunter has taken over), because of the workload involved in directing the information sciences programme. Jeff attended the 12th International Workshop on Matrices and Statistics at Dortmund, Germany, in August , and also secured the 14th workshop to be based at Massey's Albany Campus from March 29th to April 1st, 2005. Further announcements for this conference will follow in due course.

My own news is a bit meagre in comparison. I'm still beavering away at stochastic rainfall modelling; I had a successful trip to the Bureau of Meteorology in Melbourne, where they plan to implement my algorithms into a software package for use by engineers throughout Australia. Why they need a rainfall model for that barren wasteland over there still beats me! I suppose it just makes my job easier: 0 0 0 0 0 ...

Paul Cowpertwait

University of Auckland, City Campus

We have enjoyed a lively stream of visitors in the City Campus over the summer. Hal Caswell and Christine Hunter joined us for three months from Woods Hole Oceanographic Institution near Boston. Many readers will remember Hal from the 2002 SEEM4 conference in Dunedin, where he presented a workshop on matrix population models. His visit was funded by a Maclaurin Fellowship from the NZIMA Centre for Research Excellence.

Susan Pitts, from the University of Cambridge, spent a month visiting Ilze Ziedins. Other members of the department were quick to appreciate the value of having two experts in queuing theory on-site, and we haven't had to wait for our coffees all summer!

Statistical computing is thriving with the visits of John Chambers, from Bell Labs, and Masayuki Jimichi, from Kwansei Gakuin University in Japan.

John Chambers, the designer of S and 1999 winner of the prestigious Software System Award of the ACM, will give a series of five talks through March on his recent research on statistical computing. Masayuki Jimichi is here until September.

Over the summer we also welcomed a former student of the department, Jonathan Reeves, who now lectures in financial econometrics at the University of New South Wales in Sydney.

The new semester is starting again, and we welcome Steven Miller to the department as a PhD student. Steven will work with Rachel Fewster on a Marsden funded project to investigate rat invasions through the NZ archipelago from genetic records.

Many department members spread their wings in November and December.

Ross Ihaka and Paul Murrell were invited speakers at the Modern Statistical Visualization workshop at the Institute for Statistical Mathematics in Tokyo. They each gave three talks on R and Visualization. Rachel Cunliffe gave a keynote presentation at the Australian Conference on Teaching Statistics (OZCOTS) in Melbourne, where she gave a workshop on narrated PowerPoint presentations. After a job well done, she slept soundly through Melbourne's 100-year storm that night. Chris Wild, Matt Regan, and Maxine Pfannkuch attended the Delta Conference in Queenstown on undergraduate teaching in mathematics, where Chris was a plenary speaker.

Ilze Ziedins gave an invited talk at the Annual Allerton Conference on Communication, Control and Computing in Illinois in October. In March she is travelling to Minnesota as an invited participant at the IMA programme on Probability and Statistics in Complex Systems.

After 33 years in the department, Alastair Scott has decided to retire at the end of the year. When Alastair joined the department in 1972, university funding was booming and he was given an entire new seven-storey building all to himself! Unfortunately the honeymoon lasted only a couple of days before the rest of the department moved in. Alastair was the first head of the Statistics department when it was established in 1994, and his wise vision and ever cheerful manner have been a constant inspiration to generations of students and staff. We have reluctantly granted him retirement leave on the sole condition that he continues to visit the department five days a week.

To mark Alastair's achievements, he was last year made an Honorary Life Member of the NZSA. This honour was also accorded to George Seber, who retired from the department in 1998. To fill the positions left open by Alastair and George, we are expecting to advertise two Chairs (full Professor positions) early this year. Watch this space!

And finally, Arden Miller and his wife Melissa celebrated Christmas last year with the birth of their first baby, Abigail Jada. Congratulations!

Rachel Fewster

Proteus Research & Consulting

In December 2003, together with Jennifer Brown (University of Canterbury), we gave a workshop on "Statistical guidelines for monitoring animal populations" at the International Wildlife Management Conference in Christchurch.

Darryl MacKenzie is working primarily on the occupancy models he has been developing over the past 3 years. These are increasingly being used by ecologists when monitoring species presence-absence at a number of sites, as they allow for imperfect detectability of the species. He recently completed a project of this kind for the Pacific Lumber Company in California. This involved assessing how occupancy of forest stands by an endangered seabird (the marbled murrelet) varied across the landscape. Darryl is also completing research into a comparison of study designs for estimating long term trends in occupancy. After writing the simulation programme and deciding upon the factor levels within the simulation study, he estimated that 6 years of CPU time would be required to complete the study! Naturally he has revisited his code and consulted with the client in order to focus on a less ambitious number of scenarios. Darryl is also working on a draft of his first book, entitled "Occupancy estimation and modeling: inference methods for patterns and dynamics of species occupancy", co-authored with Jim Nichols of the Patuxent Wildlife Research Center and Ken Pollock of North Carolina State University.

David has recently been finishing off two projects with Mandy Tocher, from DOC, on modelling the effects of translocating frogs and on the design and analysis of a monitoring programme for skinks in Central Otago. You can find out more about what we do at www.proteus.co.nz.

David Fletcher

Massey University, Palmerston North

The Massey statisticians at Palmerston North have finally relocated from the Social Sciences Tower to the AgHort Building, thereby joining the computer scientists and information engineers who make up the rest of our Institute. Our arrival coincided with that of our new Head of Institute, Professor Janina Mazierska, formerly of James Cook University in Australia. The week before the start of the first semester saw us frantically packing and unpacking boxes while simultaneously trying to prepare for a new academic year. The drama of the occasion was heightened by the floods and high winds which hit the Manawatu at this time. Ganesh's house came closest to being flooded, but his vantage point near

the swollen river did enable him to take some stunning photographs of cows swimming to safety, which later appeared in the local newspaper (and here).

Steve Haslett managed to avoid the trauma of moving by the simple expedient of being somewhere else, although as the "somewhere else" in this case was Dhaka, it might have been less traumatic staying here. Steve was giving the final presentation of the results of a project which he and Geoff Jones carried out for the World Food Programme and the Bangladesh Bureau of Statistics during October to December, involving small-area estimation of poverty and malnutrition incidence. They describe the experience of living and working in Dhaka as one not to be missed.

Earlier in the year Steve was in Uganda, providing sample design and implementation advice to the Global Entrepreneurship Monitor (GEM) programme. This is one of 37 international surveys (representing 62% of the world population) that is carried out by GEM, which has both strong academic links and connections with the United Nations Business Council. Steve returned to learn of his promotion to full professor, for which we congratulate him.

Dongwen Luo successfully defended his thesis in October and has now been awarded his PhD. Alasdair Noble and David Alexander have submitted theirs and are awaiting further developments.

Geoff Jones

University of Waikato

Waikato University has come up trumps again! At the recent International Biometric Society (Australasian Region) Conference, PhD student Carole Wright was the winner of the best student presentation prize. (She was the winner of the Hoare Research Software prize for the best student paper at last year's NZSA Conference in Palmerston North.) The Biometrics conference was held in Canberra in December 2004 and was also attended by Nye John and David Whitaker.

Carole has now submitted her thesis entitled

"Variety Trials in 2-dimensional layouts". Our other PhD Student, Khangelani Zuma (right), has also submitted his thesis. The title of his thesis is "Sexual Network Random Effects Model of Migration and Spread of HIV and other STIs in South Africa". Later this month, we welcome another PhD student, Oday Theodore, who joins us from Iraq.

Bill Bolstad's book "Introduction to Bayesian Statistics" is now with the publishers and will be released in April.

On Apri 1, 2004, the Statistics Department will be presenting a one-day workshop by Professor Peter Green. Professor Green has just completed his term as President of the Royal Statistical Society and is Professor of Statistics at the University of Bristol. He has recently been elected a Fellow of the Royal Society. The theme of the workshop is "Structure and uncertainty: statistical modelling, stochastic systems and Bayesian computation" (see page 1).

A recent visitor to the department was Ken Russell from Australia. He spent two months with us over December and January, working with Nye John.

Finally, just a little note on "all in a day's work". James Curran flew to Sydney for the day to attend the Sydney Summer Statistics Workshop – 2004 at the end of February. There he met Harold Henderson, from AgResearch in Hamilton. Harold, who was also over "for the day" to give a talk, had ridden his pushbike to Hamilton Airport, where he caught a flight to Auckland International Airport. Going from one extreme to the other, Harold then spent an hour in the Koru lounge, while waiting for his international flight! (See photo competition on page 19 - Ed)

Recent Seminars:

Graham McBride (NIWA, Hamilton) "Some Issues in Quantitative Health Risk Assessments for Waterborne Diseases"

Chris Wild (Department of Statistics, University of Auckland) "Regression Problems with Missing Data"

Megan Jowsey (Project Coordinator) and Rachel Cunliffe (Website / Publicity Developer) "CensusAtSchool NZ: a statistical experience for children"

Nicholas Longford (De Montfort University, Leicester, England) "Stability of household income in European countries"

Neil Cox (AgResearch, Hamilton) "What role does Excel have in the practice and teaching of statistics?"

Judi McWhirter

AgResearch

The statistics/bioinformatics group has had a few comings and goings of late. Mark Schreiber, bioinformatician, left in mid-December to take up a position as Principal Scientist with the Novartis Institute of Tropical Disease in Singapore - all the best, Mark! To replace him, David Townley begins in early April. David is currently working for a leading product-based biopharmaceutical company (CAT) in Cambridge, England. In addition, the number of bioinformaticians is being increased to four with the appointment of Anette Becher who starts at Invermay in early March. Anette comes from Oxford University Bioinformatics Centre, England. Welcome, Anette and David!

On the statistics side of the group, we welcome Vanessa Cave, who started work as a statistician at Invermay in February. As a little background, Vanessa hails from Southland originally. She graduated in 2002 with a first class Honours degree in Statistics from the University of Otago. For her project she investigated the methods and theories behind matrix population models, and applied them to the Banks Peninsula Hector's Dolphin population. Last year she had an O.E. during which she worked in a public school in Somerset (England), tutoring students, supervising sports and activities, and so on. She also took the opportunity to travel around Continental Europe, Morocco and Turkey.

David Baird is temporarily away for the month of March, visiting Scotland & England to work with BioSS, BBSRC and VSN on microarrays.

On the conference scene, Harold Henderson and David Baird gave invited talks at the Australasian Regional Biometrics Conference in Canberra in December, entitled respectively "Examples of Dynamic Graphics for Microarray Data" and "Design, Normalization and Quality Control for 2 colour cDNA Microarray Experiments." Roger Littlejohn and Katarina Domijan also gave talks at this conference, entitled respectively "Where have all the GDDs gone?" and "Semi-mechanistic modelling in nonlinear regression: a case study." In Queenstown in November, Dave Saville gave a talk and ran a two-hour workshop, both on the geometry of linear models, at the Remarkable Delta:03 Conference (Full name: 4th Southern Hemisphere Symposium on Undergraduate Mathematics and Statistics Teaching and Learning!). Ken Dodds attended a sheep gene mapping conference (he decided to spare us the full name!) in Toulouse, France, in December, giving a talk on QTL for number of teats.

Dave Saville

Crop and Food Research

The Crop and Food biometrics team has been very productive lately: baby Ethan was born to John and Antoinette Koolaard in November, and Maaike Bendall is expecting a baby at the end of April. Ethan is doing well, although he has not yet performed his first t-test. Maaike is taking a year's maternity leave, and so we are in the process of finding someone to cover for a year. Duncan Hedderley and Ruth Butler are escaping the oestrogen-laden office environment in July for sunny Cairns, where they'll attend the International Biometric Conference.

Maaike Bendall

University of Auckland, Tamaki Campus

The new School of Public Health building is almost finished and is already occupied. This has dramatically increased the number of staff and students on campus. With it we gain additional services, such as a third cafeteria and (at last) an EFTPOS machine. The Landcare building in the southwest corner of the campus is also showing good progress, and not far from that, the extended and refurbished student cafeteria will be open in a couple of weeks.

The stats group moved from building 723 to 721. This was to make room for folk associated with commerce and the Bachelor of Business and Info Mgmt program. Despite a move of a mere 50 metres, it was a nightmare, and many staff and students lost belongings. Most, but not all, were later found in the wrong offices. Some items, particularly computer peripherals, have never been found. Thanks heaps to the moving company, which I had better not name! Anyway, the important thing is that we are nicely settled into 721, the admin building. We have a few mathematicians for company, and 721 is joined to the new Public Health building by a sky bridge.

Thomas Yee is nearing the end of his year-long leave to Singapore and will be back with us by midyear. Marti Anderson and Russell Millar went on their annual fish survey dive trips in January, and were lucky to enjoy the period of good weather before it all turned to custard. This time they got in a few extra dives at some offshore islands, including the Poor Knights, Aldermans and Mayor Island.

On the business front, everyone is doing well, pumping out research, hosting visitors, getting loads of grants, and coping with the rigours of the new semester of teaching . Enough said.

Russell Millar

Subject: Al-Gebra vs G. Bush

At New York's Kennedy airport today, an individual, later discovered to be a public school teacher, was arrested trying to board a flight while in possession of a ruler, a protractor, a setsquare, a slide rule, and a calculator.

At a morning press conference, Attorney General John Ashcroft said he believes the man is a member of the notorious al-gebra movement. He is being charged by the FBI with carrying weapons of maths instruction.

"Al-gebra is a fearsome cult," Ashcroft said. "They desire average solutions by means and extremes, and sometimes go off on tangents in search of absolute value. They use secret code names like "x" and "y" and refer to themselves as "unknowns", but we have determined they belong to a common denominator of the axis of medieval with coordinates in every country.

"As the Greek philanderer Isosceles used to say, there are three sides to every triangle," Ashcroft declared.

When asked to comment on the arrest, President Bush said, "If God had wanted us to have better weapons of maths instruction, He would have given us more fingers and toes.

"I am gratified that our government has given us a sine that it is intent on protracting us from these maths-dogs who are willing to disintegrate us with calculus disregard. Murky statisticians love to inflict plane on every sphere of influence," the President said, adding: "Under the circumferences, we must differentiate their root, make our point and draw the line."

President Bush warned, "These weapons of maths instruction have the potential to decimal everything in their reckoning on a scalene never before seen unless we become exponents of a Higher Power and begin to factor-in random facts of vertex."

Attorney General Ashcroft said, "As our Great Leader would say, read my ellipse. Here is one principle he is uncertainty of: 'though they continue to multiply, their days are numbered as the hypotenuse tightens around their necks'."

Marsden Awards

Congratulations to those who received Marsden Fund Awards in last year's round announced on 11 September. They include NZSA members Rachel Fewster (University of Auckland) and Brian Easton.

Rachel Fewster's (right) award is for "Stochastic modelling of rat invasions among islands in the New Zealand archipelago". The project will use genetic samples of Norway rats from clusters of islands to estimate current rates of interbreeding between different island communities. Rats are known to travel to islands under their own steam, but we don't know how often this occurs or what the factors are that make islands vulnerable or immune. The eventual aim is to identify islands that could be safe from rat reinvasions, so that the current rat populations can be eradicated and the islands established as conservation reserves.

Brian Easton's (below) is for "Diminishing distance: New Zealand in a globalising world". From his proposal, "Globalisation has shaped the world economy for the last two centuries. It also has shaped New Zealand, as for instance when refrigeration, together with steam ships and telegraph, led to a New Zealand economy based on pastoral farming selling to Britain. While there was a period of stagnation in the globalisation process in the middle of the twentieth century, innovations such as containerisation and mass air travel revitalised the globalisation pressures after World War Two. More recently, the information and communication technology revolution has transformed access to information and simplified international contacts. Among the consequences of these changes have been an acceleration of globalisation with less restricted trade in more goods and services, foreign investment and capital flows, the potentiality for substantial human migration (as well as the huge tourist industry), a revolution in information access, and the growth of institutions such as the IMF and the WTO which attempt to regulate international economic activity. Local cultures and the nation state are being transformed. This project will trace these impacts on New Zealand in the past and today, looking forward to the way globalisation will impact on the future, while contributing to international scholarship on the economics of globalisation." He comments "It does not include any inferential statistics, although I am hoping to construct some measure of distance through time."

Biostatistic Workshop photos

Enjoying a break are Alastair Scott (left), Peter Herbison and Derrick Bennett (right), Melanie Bell and Jean Hay-Smith (below). See page 9 for report.

Caption contest

Where is Harold going?

All entries will be placed on http://nzsa.rsnz.govt.nz/Newsletter59/caption.htm. Enter by email to roger.littlejohn@agresearch.co.nz.

Local Scene Extra

Victoria University

Quite a lot has happened at VUW recently on the Stats/OR front. One of the biggest pieces of news is the departure of Yu Hayakawa (right), who left VUW early in February 2004, after 11 years here. Yu has accepted a position of Associate Professor in Statistics at Waseda University, Tokyo, back in her home country of Japan. Her many valuable contributions at VUW will be remembered for a long time, and the memory of her infectious enthusiasm and happy smile will stay with us for even longer, I suspect. We wish Yu all the best in her new position.

Before leaving VUW, Yu Hayakawa organised a Workshop on Point Processes in Reliability, jointly with Stefanka Chukova. The meeting was held in September 2003, and further details can be found on line at http://www.mcs.vuw.ac.nz/events/workshop03

Stefanka also participated at the International Conference in Reliability and Survival Analysis, May 21-24, 2003, Columbia, South Carolina, USA.

Richard Arnold and Yu Hayakawa spent 2 weeks at Hong Kong University in December 2003, working with Paul Yip on Bayesian approaches to the analysis of capture-recapture datasets.

Helen Haywood turned 1 on 5 December 2003, which meant that her dad, John (below), had to hurry back from the second day of the Inaugural New Zealand Time Series Study Group Workshop held at University of Canterbury, where he was one of the invited speakers. John also (jointly) presented a paper at the 2003 NBER/NSF Time Series Conference, which was held at the University of Chicago in September 2003, in honour of George Tiao's retirement. In addition, John gave invited talks to the Statistics New Zealand Time Series in Official Statistics Day (in December 2003, in Christchurch) and to the Reserve Bank of New Zealand in August 2003.

Ivy Liu, Dong Wang and John Haywood all gave talks at the NZSA 2003 Conference held at Massey University (Palmerston North) in July. In August, Ivy also gave a talk at the 54th ISI meeting held in Berlin, Germany, in the same session as Sir David Cox. Perhaps not surprisingly, that session was well attended. Dong recently spent the summer months working in China and Australia, and arrived back at the end of February to start teaching 100-level statistics the next day.

Shirley Pledger has been enjoying sabbatical leave since September 2003, which continues until the end of June 2004. Shirley spoke at two conferences last year: EURING 2003 in Radolfzell, Germany (in October), and the International Wildlife Management Congress in Christchurch, in December. Shirley has hosted three visitors recently. Ken Burnham came from Colorado State University in December, while Hal Caswell and Christine Hunter, both from Woods Hole Oceanographic Institution, Massachusetts (but visiting Auckland University Statistics Dept), were here in February 2004. Shirley recently honed her skills capturing and recapturing frogs on Maud Island in Pelorus Sound; however, she tells us she was there officially as a statistical consultant.

Estate Khmaladze was on sabbatical leave from mid-2003 to January 2004. In September he spoke at a conference at the Institute for Mathematical Research in Oberwolfach, and also was International Programme Committee Chair for the Kolmogorov-100 conference in Tbilisi, which had 49 selected participants from 32 countries. Estate spent November at the University of Karlsruhe, working on his Marsden-funded project on applications of differential geometry to statistics. In February 2004, back at VUW, Estate gave a paper at the VIC 2004 Conference: an international meeting in cooperation with the Israel Mathematical Union, the New Zealand Mathematical Society and the New Zealand Institute of Mathematics and its Applications. Estate's talk was in the session on Geometric Aspects of Functional Analysis.

Our PhD students have been busy too. Nuovella Williams returned home to Montserrat in early March 2004, where she will complete the write-up of her thesis shortly. Caroline Roughneen has been visiting VUW from Trinity College, Dublin, since July 2003. Currently she is back in Ireland, but Caroline will be returning to Wellington within a couple of months. Steve Johnston is (jointly) responsible for the newest addition to the Stats/OR fold here at VUW: Timothy was born safe and sound (and pretty quickly too!) on 25 February 2004. The whole family are doing well, although Steve is looking a bit more tired than usual.

John Haywood

Wellington Statistics Group

The Wellington Statistics Group (WSG), a local group of the NZSA, continues to meet regularly, with a typical gap between meetings of 5-6 weeks, and a slightly longer break for summer. Over the last year, in reverse chronological order, there have been WSG talks given by:

Brian Easton: "The Econometrics of Household Equivalence Scales"

Stefanka Chukova (right) and Yu Hayakawa, VUW: "Warranty analysis: An overview and some new probabilistic models"

Nick Longford, De Montfort University, Leicester, UK: "Stability of household income in European countries in the 1990s and a NZ connection"

Caroline Roughneen, Trinity College, Dublin: "Study of Engineering as a Career Choice"

Mark Weatherall, Wellington School of Medicine and Health Sciences: "Prevention of falls and fall related fractures in community dwelling older adults: A meta-analysis of estimates of effectiveness based on recent guidelines"

Leigh Bull, DOC: "Sizing up shearwaters: morphological variation in the genus Puffinus"

Chris Francis, NIWA: "Simultaneous testing for mean and variance differences with nasty data"

Srinivas Chakravarthy, Kettering University, USA: "Impact of worker cross-training in service systems"

The next two WSG meetings will be addressed by Shirley Pledger (left) on 25 March, and Jim Liu on 29 April. Shirley will be talking on "Using finite mixtures to model heterogeneity in capture-recapture models", while Jim will tell us about "Dynamics of interpersonal political environment and party identification: Longitudinal studies of voting in Japan and NZ".

Anyone who wishes to be informed of future WSG events is welcome to contact Convenor, John Haywood: John.Haywood@mcs.vuw.ac.nz.

John Haywood

NCSU Award for Buce Weir

Dr Bruce Weir (right), William Neal Reynolds Professor of statistics and genetics at North Carolina State University and one of the world's foremost researchers on statistical analysis of DNA for forensic, human health, and agricultural applications, has been honored with the O. Max Gardner Award, the highest faculty award presented by the Board of Governors of the NCSU.

The award is presented each year to one faculty member from the system's 16 campuses recognized as having "made the greatest contribution to the welfare of the human race."

Weir developed statistical tests of the frequency of genetic profiles that are now the standard for evaluating DNA evidence in forensic cases. He spearheaded reforms to the national guidelines on forensic DNA analyses, was instrumental in achieving acceptance of DNA evidence in courtrooms, and is co-author of the definitive textbook on statistical inference in forensics. Weir also established statistical measures of genetic linkage that are critical for mapping genes associated with human disease. His seminal work in genetic descent and recombination in inbred and mixed populations laid the foundation for describing genetic differentiation among groups of animals and plants and has led to continuing improvements in crop and livestock breeding.

Weir received his PhD in statistics, with a minor in genetics, from NC State in 1968 and joined the faculty in 1976 as a professor of statistics. He is head of the program in statistical genetics, director of the NIH program grant in statistical and quantitative genetics, founder and manager of the annual Summer Institute in Statistical Genetics, and founding director of the Bioinformatics Research Center. The program he heads is widely recognized as one of the world's leading research and graduate training centers for the design and application of computational and statistical methods to problems in genomics.

Prior to joining NC State's faculty, Weir was senior lecturer and reader in mathematics at Massey University in Palmerston North. He received his bachelor's degree in 1965 at the University of Canterbury and did post-doctoral work in genetics at UC-Davis. Weir is the author or co-author of seven books and more than 150 papers.

Thanks to NSCU News Services

University of Otago

David Fletcher and Richard Barker attended the 3rd International Wildlife Congress in Christchurch in December. David, Darryl Mackenzie and Jennifer Brown ran a workshop on statistical methods in ecology and Richard ran a mark-recapture course with Gary White from Colorado State University. February saw Richard make another trip across the Tasman to work on monitoring native fish communities in the Murray River and over-abundant koala populations.

Richard Barker

Editorial Extra

This issue of the newsletter has taken on a life of its own, with several new items coming through close to print. Here is an excerpt from Steve Thompson's most recent Royal Society Alert, including a distinctive vision of scientific publishing in New Zealand. This will contribute to the discussion of the future of the ANZJS and complement Neville Bartlett's earlier account.

Roger Littlejohn

THE ROYAL SOCIETY AND INNOVATION IN NEW ZEALAND

Comment by Royal Society CEO, Dr Steve Thompson (steve.thompson@rsnz.org)

For a full version see

www.rsnz.org/news/alerteditorial.php?issue=311

This week we print a special wide-circulation edition of the Royal Society of New Zealand's newsletter, SCIENCE ALERT. Once a year the Society takes stock of the Government programmes, and others it administers. This edition outlines for you a summary of the priorities we have established within our own sphere of action for science and technology, as part of New Zealand's innovation spectrum. We set out eight priorities that we will implement with your help and the efforts of our members and staff. Please contact the Chief Executive, Dr Steve Thompson, if you have any comment or would like to discuss these issues in more detail. See our web site at http://www.rsnz.org for full details, via: Society Affairs > Annual reports > Progress report to Government.

Royal Society Priorities for the Medium Term

Much work remains to be done to build a sound foundation for the appreciation and use of knowledge in New Zealand. We devote much of our own limited resources to pursuing this goal. We also believe that the professions of science and technology need rebuilding to a healthy and aggressive state. From a professional's point of view, satisfying careers imply status, stability and salary - and science and technology in general possess none of those characteristics. Our own resources are also channelled into support for the profession.

Our current priorities for development of those of our activities which support the Growth and Innovation Framework are:

Priority 1: Journal Publishing

Scientists need professional support, and the Society publishes, on behalf of government, a suite of learned journals. The Society sees scope for a vibrant publishing activity, with titles being added in environmental science, social science, and biotechnology/food systems. We envisage a progressive move to "free access" publishing, where publication charges are met by author-pay plus government coverage of the remaining deficit, and papers are then released free to the Web. Two key objectives for New Zealand science would be met:

1) a readily available publishing avenue for New Zealand and regional papers, and
2) worldwide exposure of New Zealand authors and results.

Each journal would be aggressively marketed to reach beyond New Zealand to include those parts of the Southern Hemisphere (e.g., Pasifika, South America, South Africa) where similar ecological or social questions exist (for instance in areas of biosecurity or indigenous populations).

In the Society's view, the scenario above would:

- give the journals a solid focus as "Southern Hemisphere" regional journals;
- give New Zealand authors access to world-wide readership;
- be in line with current moves to "open access" as technology allows; and
- be financially viable with continuing "public good" input from government.

Other priorities are:

Priority 2: Marsden Fund
Priority 3: Talented Young New Zealanders
Priority 4: Science Promotion
Priority 5: International Science and Technology Linkages
Priority 6: James Cook Research Fellowships
Priority 7: New Zealand Science, Mathematics and Teacher Fellowships
Priority 8: New Zealand Science and Technology Medals

Our New Webpage

(just like the old one)

STATISTICA Data Miner

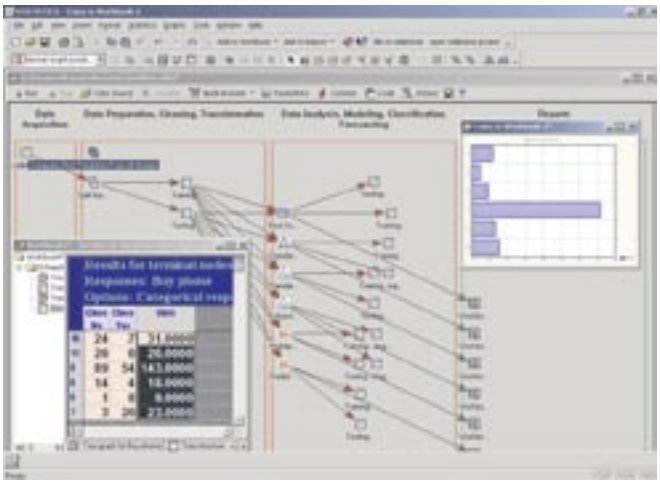
Hoare Research Software Ltd

With the release of STATISTICA™ Data Miner, StatSoft has claimed a leading position in the development of statistical software.

It's comprehensive…
To the best of our knowledge, STATISTICA Data Miner contains the most comprehensive selection of data mining methods available on the market. It has by far the most comprehensive selection of clustering techniques, neural network architectures, classification/regression trees, multivariate modelling (including MARSplines), and many other predictive techniques.

It's inclusive…
Use basic statistical, graphics and visualisation procedures at any stage of your analysis, because Data Miner is built as an extension of the STATISTICA statistics program. For instance, tabular output from a neural network model can be used as input to graphing or statistical operations.

It's easy to use…
STATISTICA Data Miner uses simple mouse-driven techniques that adhere to the general standards for a Windows user interface.



It's fast…
Comparisons with similar software show important speed advantages for STATISTICA Data Miner.

It includes deployment facilities…
STATISTICA Data Miner is built with deployment in mind - and is supplied with a variety of deployment tools, at no extra cost.

It's programmable…
Like the whole of STATISTICA, Data Miner is fully programmable in STATISTICA Visual Basic, so you can easily customise it and incorporate it into your existing corporate computing environment.

Build up to it…
If you are not ready for full-scale data mining yet, but are doing some analysis, start off with STATISTICA and add tree analysis or neural networks, before implementing a full data mining solution to your business.

Ideal for education…
The STATISTICA product range is ideal for teaching statistics and machine learning. Talk to HRS to find out why the Australian Council for Education Research is working with StatSoft to deliver courses in Data Mining.

See for yourself…
You can see an animated slide show that covers the main points, at www.hrs.co.nz/slideshows.aspx.

More information…
For more information, contact Darrel Amarasekera on 0800 477 776, email darrel@hrs.co.nz or visit our website www.hrs.co.nz/statistica_dataminer.

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