

## Appointments

**Dr Donald Adjero**  
 Lecturer (from mid-1999)  
 Computer graphics

## Visitors

**Prof David Swayne** (July – September)  
 University of Guelph, Ontario, Canada  
 Environmental information and decision support systems

**Prof Yuzuru Morita** (July – September)  
 University of Saga, Japan  
 Neuro-fuzzy systems for control

**Prof Elie Sanchez** (August – September)  
 University of Marseilles, Marseilles, France  
 Neuro-fuzzy systems, genetic and DNA computing, bioinformatics

**Richard Stallman**, the founder of the GNU project, launched in 1984 to develop the free operating system GNU (an acronym for "GNU's, Not Unix"), gave a seminar at Lincoln University.

**Dr Stan Spzpakowicz** (July '98 – June '99)  
 University of Ottawa, Ottawa, Canada  
 Natural language processing, text analysis, text summarisation, decision analysis and support

## Departmental News

**25th Anniversary:** The department will celebrate its 25th anniversary (give or take a year) in November. Festivities coincide with the first subject conference of NZ CS departments for many years (see under Events, p. 3, for the conference programme) and the official opening of our new building (on November 11).

Wolfgang Kreutzer

### Canterbury

**Awards:** Don Kulasiri, Applied Computing, Mathematics and Statistics Group, has been awarded a position as senior member in the Society for Computer Simulation. Senior membership is a recognition of professional and technical competence in the field.

Blair Cassidy's 1997 PhD thesis "Simulating the stress-strain properties of woollen yarns" has won the Silver Medal (first place) in an international competition sponsored by the Worshipful Company of Woolmen of London. He will be flying to London in November to receive the medal from the Lord Mayor of London at a 'white tie' dinner attended by some members of the royal family. Blair has won a Japanese fellowship and left to work in Japan in August for one to two years.

Keith Unsworth, Applied Computing, Mathematics and Statistics was awarded \$1000 from Lincoln's new Fund for Excellence to support an international workshop on "Surface approximation and Visualisation" in February 1999.

Theresa McLennan was given a \$500 grant from the Fund for Excellence for research into success in introductory programming classes. This is an ongoing research project with Jim Young and Sue Clemes. Statistical modelling has so far shown that older students are doing better than younger ones and that females achieve just as well as males. Students enrolling with some experience in programming have not done any better than those with no previous computer contact.

**Light Relief:** At the beginning of July the staff of the former Centre for Computing and Biometrics held a wake to mark the passing of the old CCB and the re-

### Lincoln

### Otago IS

### Lincoln

### Waikato

### Canterbury

#### Contents

Appointments		One
Visitors		One
Departmental News:	Canterbury	One
	Lincoln	One
	Massey	Two
	Auckland	Two
FRST Funding		Two
Marsden Funding		Two
Events		Three
Masters Theses		Four
PhD Theses		Four

structuring into two new departments. The academic staff are now in the Applied Computing, Mathematics and Statistics Group of the Applied Management and Computing Division. (We are finding this quite a mouthful, especially towards the end of our monthly drinks sessions!). The services staff now form the major part of Computer and Educational Resources. The wake was attended by past and present staff members and a good time was had by all, as we reminisced about the good old days!

Elizabeth Post

## Massey

**IEEE Distinguished Visitor:** Chris Jesshope has just been appointed as an IEEE distinguished Visitor for the Asia Pacific Region. What this means is that local chapters of the IEEE in this region can request a number of seminars that he is willing to give and the IEEE will pay expenses when arrangements have been made.

Chris Jesshope

## Auckland

**Opening:** The Intelligent Active Vision group had a small opening ceremony for their new lab. The group, under the direction of Dr Jacky Baltes, is working on intelligent control of autonomous mobile robots in real time environments. They use RoboSoccer as a testbed.

**Hypermedia Unit News:** Two new research assistants are now working in the Hypermedia Unit. Benny Kannengiesser, from Freiburg Germany, is implementing a Mac viewer for Freiburg's Collaborative Authoring On the Fly system. The system will let us capture lectures while they are being given and edit voice and video before compressing the files and putting them into HyperWave for distribution. Our other new RA is Juergen Horwath, from Graz Austria. Juergen is working on setting up a virtual learning environment based on the GENTLE system that was developed in Graz. I assessed the system while in Graz and it is looking really good. We already have had expressions of interest in it from several other departments. Yes, we will demo it as soon as Juergen has adapted it to our requirements (and put some local content in!).

**Leaving:** We regret to report that Dr Christian Collberg will be leaving us in November to take up an Assistant Professorship at University of Arizona, USA.

Clark Thomborson

## FRST Funding

The following university projects have been awarded FRST funding in Output 9 "Information, Communication Networks and Services" for 1998 – 2001:

<i>Advancing information technologies through CASE</i> Daniela Mehandjiska-Stavreva Massey University	\$120,000
<i>Optimisation with business and industrial applications</i> David Ryan, Auckland University	\$230,000
<i>Mobile Telecommunications systems transmission engineering</i> Desmond Taylor, Canterbury University	\$293,000
<i>Distributed information systems</i> Martin Purvis, Otago University	\$462,000
<i>Spatial systems: modelling, analysis and management</i> Martin Purvis, Otago University	\$145,000
<i>Connectionist-based intelligent information systems (CBIIS)</i> Nikola Kasabov, Otago University	\$360,000
<i>Applications of broad-band communications</i> Weston Sandle, Otago University	\$180,000
<i>Fielded applications of machine learning</i> Geoff Holmes, Waikato University	\$192,000
<i>Collaborative information gathering</i> Mark Apperley, Waikato University	\$120,000
<i>Modelling of broadband networks and applications</i> John Cleary, Waikato University	\$180,000

The Manufacturing and Information Advisory Committee, who decided on the grants, consisted of:

Chair:

Dr Ian Smith, Deputy Vice-Chancellor (Research & International), Otago University

Members:

Dr Roz Buick, Trimble New Zealand Ltd  
 Prof Paul Callaghan, Massey University  
 Mr Bevin Cornwall, Science & Technology Management Consultant  
 Mr Ron Guthrie, Guthrie Consultants Ltd  
 Dr Rex Humphrey, Tatua Cooperative Dairy Co  
 Mr Robert Loughnan, Loughnan Consulting Ltd  
 Dr Ian Miller, Carina Chemical Laboratories Ltd  
 Mr Kevin O'Donnell, HortResearch  
 Assoc Prof Graham Wright, Auckland University

## Marsden Funding

The following computer science projects have been awarded Marsden funding by the Maths and Information Science Panel for 1998 – 2001:

<i>A study of the performance of asynchronously scheduled RISC pipelines</i> Chris Jesshope, Massey University	\$210,000
<i>Collaborative and multi-paradigm programming environments for children</i> Andy Cockburn, Wolfgang Kreutzer, Tim Bell Canterbury University	\$135,000

The Maths and Information Science Panel consisted of:

Convenor:  
Professor Rob Goldblatt, Victoria University

Panel:  
Sir Ian Axford, Max Planck Institut fur Aeronomie  
Professor John Butcher, University of Auckland  
Professor Michael Hendy, Massey University  
Professor JA (Nye) John, University of Waikato  
Professor Alastair Scott, University of Auckland  
Dr Geoff Wyvill, University of Otago

**Marsden Research Studentship:** Chris Jesshope has just been awarded a Marsden grant for research in advanced microprocessor architecture. He is looking for good graduate students to undertake this research. The research requires a knowledge of microprocessor architecture and of object oriented programming. It will involve the use of a framework to design an object-oriented, discrete-event simulator for a new microprocessor architecture. Detailed design work and optimisation of the ISA for the microprocessor and its implementation would follow.

For more information see: <http://fims-www.massey.ac.nz/~crjessho/html/DRISC.html>

A scholarship for three years at a rate to be negotiated is being offered. Chris is willing to merge two scholarships to get a good and enthusiastic student!

## Events

**Computer Science Subject Conference**  
Christchurch (Canterbury) 10–12 November '98  
Tuesday, 10 November

*Informal session on issues of interest*

Wednesday, 11 November

Welcome/Opening 9:00am

UG Curriculum and Delivery 9:30am

- Computer Science vs other disciplines (EE/MATH/IT)
- Core Computer Science
- Course accreditation
- Industry Liaison
- Optimal class size (say for each stage)
- Summer schools, distance learning
- Transfer of credit schemes
- Tutorial support
- Writing/presentation skills of undergraduate students
- Web based teaching
- Women in Computer Science

Morning Tea 10:30am

Workload Management 11:00am

- Assessment
- Automated marking schemes
- Collaboration

Lunch	12:00pm
Research Issues	1:00pm
• Industry Liaison	
• PGSF/Marsden/FRST	
• PG students	
First Programming Language	2:00pm
• Aims	
• What has worked/not worked	
Afternoon Tea	3:00pm
Pre University Issues	3:30pm
• Increasing general interest in computer science	
• Mathematics requirements	
• Should there be bursary in computer science, if so what should it contain	
• STAR programs with schools	
• Women in Computer Science	
Computer Science Association of NZ	4:00pm
• Exact role	
• Public student presentations	
• Student conference	
Closing	4:30pm
• Laboratory software	
• Library resources/electronic journals	
• Managing programmer/technical support	
• Other topics we are required to report on to the NZVCC	

Thursday, 12 November

*Informal session on issues of interest*

### Image and Vision Computing '98

Tamaki Campus (Auckland) 16–18 November '98  
See <<http://www.tcs.auckland.ac.nz/~ivcnz98/>>.  
The international programme committee selected four keynote speakers and twenty-eight papers for presentation, out of seventy-two submissions received from authors in sixteen countries.

### SIRC 98—10th Annual Colloquium of the Spatial Information Research Centre

Dunedin (Otago IS) 16–19 November '98  
Theme: Looking toward the next decade of spatial information research

The successes of the first decade could not have occurred, and will not continue, without the kind of interdisciplinary collaboration which is facilitated by SIRC colloquia. This colloquium, therefore, aims to reaffirm and encourage the interdisciplinary nature of SIRC and of spatial information research generally. The tradition of interdisciplinary interaction is set to continue into SIRC's second decade. Previous participants and contributors, as well as newcomers to the SIRC tradition—of all disciplines, from academia, government and industry—are invited to the University of Otago for SIRC 98. On behalf of the Organising Committee, SIRC, the University of Otago and sponsoring organisations, you are extended a warm invitation to attend and/or present your work at this colloquium, which celebrates 10 years of existence for the Spatial Information Research Centre.

For further information and to register your interest contact:

Dr Peter Firms  
 email: pfirms@infoscience.otago.ac.nz  
 or visit: <http://divcom.otago.ac.nz:800/sirc/sirc98/>

**ACSW'99—Australasian Computer Science Week**  
 Auckland 18–21 January '99

The last conferences this millennium of the Australasian Computer Science Association will be hosted by the Computer Science Department at the University of Auckland. This is only the second time that these conferences have been held in New Zealand.

ACSW'99 will incorporate the following conferences:

- ACSC'99 – The 22st Australasian Computer Science Conference
- ACAC'99 – The 4th Australasian Computer Architecture Conference
- ADC'99 – The 10th Australian Database Conference
- CATS'99 – The 5th Australasian Theory Symposium

All conferences will have proceedings published by Springer. More details are available at:

<http://www.tcs.auckland.ac.nz/~acsw99/>

Organizing Chair: Professor Bob Doran  
 Computer Science Department  
 E-mail Address: [bob@cs.auckland.ac.nz](mailto:bob@cs.auckland.ac.nz)

**Surface Approximation and Visualisation**  
 Christchurch 15–18 February '99  
 The topic Surface Approximation and Visualisation will be interpreted broadly and they expect participants with interests covering the spectrum from Approximation Theory, through Numerical Analysis and Computer Aided Geometric Design, to those whose main interest is applications (e.g., data mining and geophysics). They plan to allocate lots of time without lectures for informal interactions, including a conference trip to Hanmer Springs thermal area. The organising committee can be contacted by e-mailing [approx@math.auckland.ac.nz](mailto:approx@math.auckland.ac.nz) or via the conference homepage <http://www.math.auckland.ac.nz/Conferences/NZATG-2-1999>.

## Masters Theses

### Otago IS

1998

- Yang Cao—*Petri nets and EEPTN*
- Henry Hakopa—*Developing a land system for the Maori world view*
- Mark Laws—*A bilingual speech interface for New Zealand English to Maori*

Bruce McLennan—*Spatial information systems for wildlife conservation management: Tairaroa head royal albatross colony*

### Waikato

1998

Chung-yi Chang—*A cross-trace simulative study of client-side Web caching*

### Auckland

1998

Gordon Alford—*DNA computations: from Turing machines to H systems*

Sanjoy Kumar Banik—*Interactive computer vision course*

Chan Wing Kei—*Synchronisation Library for PVM*

Ling Chen—*Telephony over the Internet*

Sunny Daniels—*State-based model of parallel computation*

Morteza Mozaffri Khomami—*Study of queue prediction, a fast cell scheduling algorithm*

Jeong Seon Koo—*DermatExpert: a knowledge based system for dermatological diagnosis through the Internet*

Jarno van der Linden—*Querying in program visualisation*

Douglas Low—*Java control flow obfuscation*

Angela Kar Man Ng—*Towards 3D model reconstruction from photometric stereo*

Grant Ng—*Fitting surfaces to multiple orthogonal contour sets*

Kirubalaratnam Nithyaganesh—*Talk-net project: real-time speech communications using T-codes*

Ben Noonan—*Distributed event controller*

John Pearson—*Heuristic search in route finding*

Richard Westera—*Interactive machine translation using an Interlingua*

## PhD Theses

### Otago IS

1998

Samuel Mann—*Spatial process modelling for regional environmental decision making*

Maryam Purvis—*Dynamic modelling of legal processes with Petri nets*

Malcolm Shore—*Automatic enforcement of information security policies*

### Lincoln

1998

Liu Huawu—*Development of a simulation model for drying deformation in Radiata Pine boards*

Ranjith Punyawardena—*Assessment of growing seasons characteristics in the Dry Zone of Sri Lanka*

### **Waikato**

1998

William Teahan—*Modelling English text*

### **Auckland**

1998

Elena Calude—*Automata-theoretic models for computational complementarity*

Asat Arslanov—*Topics in algorithmic information theory*