

NZCSRSC 2008 is here!

You can hear excited voices every Wednesday morning in the meeting room, as thirteen keen, enthusiastic, sometimes fatigued students huddle around a table organising the next New Zealand Computer Science Student Conference. Each member of the committee (or Minister, as they are known) believes in the goals of the conference and is working hard to bring together the NZ CS postgraduate research student family in Christchurch (14-17 April 2008).

Although things have changed in the ICT world, the challenges faced by research students today are similar to those faced by the founders of the NZCSRSC back in 1992. Researchers have to be proficient at writing, submitting, and presenting academic papers. They need to know how to review academic papers. Researchers are also faced with long periods of isolation leading to the lack of a support network, disillusionment, tunnel vision, and decrease in motivation.

This is where the NZCSRSC comes in. Run by postgraduate students, this is your conference. Each CS postgraduate research student in NZ is encouraged to participate; by writing, submitting and reviewing, and by attending. Students who have just entered research are introduced to the wider NZ CS family; it helps knowing that you are not alone! Attending the conference enables discussions, getting feedback on your ideas, and receiving advice from the more experienced, "wiser" students in the family. Participating in interactive tutorials, meeting the industry, being inspired by keynote speakers, and socialising are just a part of the event. Building long-term friendships also means having a sounding board and getting that all-important email from a friend who understands – just as you feel you're wading aimlessly, through a swamp in your research.

So, go on, tell us about your research. The call for papers has gone out to all universities and is available at the NZCSRSC 2008 website, <http://nzcsrsc08.canterbury.ac.nz>. The submission deadline is 14 December 2007. We've kept the student registration fee at a very low price of \$40. The local contact details for each university are online. General queries can be made to nzcsrsc08@canterbury.ac.nz.

We look forward to hearing from you and receiving paper submissions in the near future!

Moffat Mathews
 General Chair, NZCSRSC'08
 University of Canterbury

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Otago CS

News

The department's move to an integrated location in the Owheo building was delayed, and will now take place in the middle or at the end of 2008. At this time, the staff and laboratories currently scattered over seven different locations around the campus will be brought together.

Information Discovery Group

A new Research Group, Information Discovery, has been formed in the department. Members include **Andrew Trotman, Richard O'Keefe, Janet Rountree and Nathan Rountree**. Research topics include search engine technologies, data mining, and quantitative and qualitative information discovery. This new group is in addition to the current research groups at Otago: AI, Systems, Graphics and Vision, Theory of Computing.

Appointments

Janet Rountree and **Lubica Benuskova** have been appointed as lecturers. Lubica will join us in 2008.

Hans van Ditmarsch has left the department, but retains a role as an Honorary Senior Lecturer.

Senior Teaching Fellow **Morag McKenzie** will leave the department at the end of November.

Research Fellow **Peter Vlugter** will be finishing in December.

Events

The Australasian Conference on Combinatorial Mathematics and Combinatorial Computing is being organised by the department and will be held at the University of Otago from 3-7 December.

Speakers include:

Nik Ruskuc, University of St Andrews:

Endomorphisms of combinatorial structures

Richard Nowakowski, Dalhousie University:

A k-bitzer's guide to combinatorial game theory

Chris Godsil, University of Waterloo:

Quantum Physics and Algebraic Graph Theory

Elizabeth Billington, University of Queensland:

Graph decompositions and the 4-cycle: a survey

Brian Alspach, University of Newcastle NSW:

Time-constrained Graph Searching

Gareth Jones, Southampton University:

Maps on surfaces

New Zealand Institute of Mathematics Algorithmics

The department is also helping to organise the New Zealand Institute of Mathematics Algorithmics meeting in February 2008 in Napier. More info:

<http://www.cs.otago.ac.nz/algorithmics/activities/febmeeting.html>

Robert Pollock

Victoria

News

New Bachelor of Engineering

The first cohort of our new Bachelor of Engineering have passed through their first year, with new courses ENGR 101 (Engineering Technology) and SWEN102 (Introduction to Software Modelling) being run for the first time.

New Faculty of Engineering

A new Faculty of Engineering was established earlier this year for the new BE degree. Next year, this academic structure will be joined by a new department. The Computer Science group is expected to move out of the current School of Mathematics, Statistics, and Computer Science (SMSCS), to join with the electronic and computer systems engineers from the School of Chemical and Physical Sciences (SCPS) to form a new School of Engineering and Computer Science. Work will start soon on a new building sited between SMSCS and SCPS, which will house (among other groups) some of the engineering staff and facilities.

ACSW 2009

VUW will be hosting the Australasian Computer Science Week (ACSW) in January 2009 (provisional dates are 20-23 January). A full announcement will be made at the ACSW2008 conference in Wollongong (22-25 January 2008). ACSW2009 is co-chaired by **Alex Potanin** and **John Hine**.

Appointments

A professor in Software Engineering, **Thomas Kühne**, started his appointment in the Faculty of Engineering at Victoria University of Wellington in November 2007. Thomas has previously been an Assistant Professor at the Darmstadt University of Technology in Germany where he worked on topics in Software Engineering such as Metamodelling, Architecture Refinement, and Model-Driven Development.

Several new staff associated with the Software Engineering and Network Engineering programmes will be starting in the new year.

Visitors

Gary Haggard was visiting from Bucknell University over the last year, working with **David Pearce** on algorithms for computing Tutte polynomials, and also working with **Geoff Whittle** from Mathematics. David and Gary have been invited to attend a six-month workshop being put on by the Newtonian Institute at Cambridge University, UK.

Scholarships

Stephen Nelson was awarded a VUW targetted PhD scholarship to work on *First-class relationships in Object-Oriented Languages*, supervised by **David Pearce** and James Noble.

Chris Male was awarded a VUW Masters Scholarship to work on a *Type Inference system for Java*.

Masters Theses

Darren Willis—*The Java Query Language (JQL)*.

Darren has moved to Innaworks, a small company working on optimising software for mobile phones, which is currently employing a significant number of our best graduates.

Dean Pemberton—*An Empirical Study of Internet Background Radiation Arrival Density and Network Telescope Sampling Strategies*.

Alex Koudrin—*Network Reliability and Resiliency in Next Generation Networks*.

Peter Andreae

Waikato

News

CHINZ 2007

The 8th annual conference of the New Zealand Chapter of ACM Special Interest Group on Computer Human Interaction (SIGCHI-NZ) was held at the University of Waikato from 2-4 July 2007. Around thirty HCI researchers and students from across New Zealand and other countries attended this small but highly successful conference. The conference programme included a diverse range of technical papers with a particular focus on design as an important aspect of HCI, and keynote talks by **Ian Witten** and **Hazel Gamec**. The conference also included a one-day graduate student workshop on Interaction Design, which was attended by ten students who presented their research work, and participated in presentations given by **Mark Billingham** and **Masood Masoodian**.

Building Research Capacity in Strategically Relevant Areas

In September the TEC announced our success (with Auckland) in obtaining funding which is being allocated through the latest round of the Building Research Capability in Strategically Relevant Areas Fund.

The University of Auckland and the University of Waikato will jointly receive \$3.2 million over the next two years to build an ICT research community within New Zealand, with a focus on excellence shown by young and emerging researchers. Computer science has a relatively short history of research in New Zealand despite the phenomenal growth of this discipline in recent years.

Mark Apperley, **Tony McGregor** and **Steve Reeves** are in the project team and have been working with Auckland to finalise details.

New Zealand Open Source Awards

The WEKA machine-learning project was one of four finalists at the inaugural New Zealand Open Source Awards (category: open source project).

Upcoming Events

Computing Women Congress in February 2008

The third Computing Women Congress (CWC) will be held in February 2008 at the University of Waikato. The CWC is a conference for female students, academic and professional staff who study or work in Information Technology.

The CWC is a different kind of conference. The congress aims to provide role models for those early in their computing careers and also a meeting place for those

well into their careers. By learning from each other's skills and experiences, we seek to form a community that shares interests and knowledge. The student paper session offers a friendly forum for students to showcase their work and receive constructive feedback.

Important Dates:

14 December 2007: Deadline for submission of student papers
4 January 2008: Early bird registration deadline
11-15 February 2008: CWC Conference
More info: <http://www.cwc.org.nz/>

Image and Vision Computing New Zealand Conference

Image and Vision Computing New Zealand (IVCNZ) is New Zealand's premier academic conference on all aspects of Computer Vision, Image Processing, Visualisation and Computer Graphics. In 2007, IVCNZ will be held in Hamilton and hosted by the Department of Engineering, UOW, from 5-7 December.

More info: <http://eng.waikato.ac.nz/ivcnz07/>

Appointments

Clare Timpany commenced as a part time Computer Graphic Design lecturer in June this year after completing her MCGD and studying on the Leonardo Project in Europe and England during 2006.

Seminars – visitors

Ryan Tarak, Microsoft Academic Liaison Intern, May.
Visual Studio 2008

Robert O'Callahan, Mozilla Corporation, August.

Foxholes: news from the front line of the browser wars

Patty Kostkova, City ehealth Research Centre, City University, London, August.

Building internet digital libraries for patients and professionals – do they have impact?

Rolf Turner, Faculty of Education, University of Auckland, September.

Direct maximization of the likelihood of a hidden Markov model.

Research Grants

FRST

David Bainbridge:

Develop new systems and tools capable of driving world-leading, innovative, multi-media content management.

Tony McGregor/Richard Nelson:

Develop autonomous network technology.

Geoff Holmes

Software to automate the processing and quality control of chromatographic data.

Lincoln

Ian Witten

Software to automate the production and delivery of practice exercises for overseas students learning English.

Steve Reeves

Develop tools to support our theory of flexible refinement.

Scholarships

University of Waikato Doctoral Scholarship

Anna Huang: *Simultaneous Multi-way Clustering*

2007 University Blues awards to Computer Graphic Design Students

Sporting Blues Awards

Chris Dunn: Wakeboarding

Vina Aurellia: Badminton

Creative & Performing Blues Awards

Chris Dunn: Graphic Design

Masters Theses

Bowering, Bruce—*Geospatial searching and browsing digital photographic collections*

Chen, Jingyu—*Design, implementation and evaluation of a mobile exhibition guide*

Dhwale, Pushkar—*Bare-hand 3D gesture recognition system*

Evans, Reuben—*Clustering for classification*

Huang, Xiaotie—*Development of a map service*

Kibriya, Ashraf—*Fast algorithms for nearest neighbour search*

Pradhananga, Nripendra—*Effective linear-time feature selection*

Wang, Andy Yi—*Design and evaluation of a mobile photo gallery in TIP*

Yu, Xiaofeng—*Prediction intervals for Class probabilities*

Zhang, Yiwen Edmond—*Kid's music box: a digital music organizer designed with children for children*

PhD Theses

Armstrong, Dean—*Easing the transition from inspiration to implementation: A rapid prototyping platform for wireless medium access control protocols*

Genet, Bryan—*Is semantic optimization worth-while*

Keegan, Te Taka—*Indigenous language usage in a digital library: he hautoa kia ora tonu ai*

Luckie, Matthew—*Per-Hop internet measurement protocols packet probing techniques*

Olsson, Anette—*Understanding and enhancing customer-agent-computer interaction in a customer service setting*

News

Lego Robotics Workshop

In early October **Keith Unsworth** and **Alan McKinnon** ran a Lego robotics workshop attended by some of the Canterbury Science Fair winners. A grateful parent wrote in and described the session as “suitably challenging”. It will be great if some of these young winners return in future years as software and I.T. students!

Applied Computing Group celebrations

On 10 October 2007, the Applied Computing Group celebrated the first year of the Software and Information Technology qualifications and twenty years of applied computing, with a very successful birthday party. The party was attended by past, present and prospective students, staff and local industry representatives. Proceedings were opened by the VC, **Roger Field**, with **Alan McKinnon** speaking on behalf of the Group and **Howard Nicholls** from an industry perspective. To cap off the formal part of the evening there was a ceremonial cake cutting. The cake cutters were three former students who each represented different eras of computing education at Lincoln. **Audrey Yates** studied applied computing when it was still part of the B.Com.Agr. degree, **Robert Densie** was one of the first B.App.Comp. graduates while **Alan Liu** was the very first B.S. & I.T. graduate.

Following the formal proceedings guests were kept busy with trivia quizzes, a highly competitive robotics challenge and some end user conundrums.

Award

Congratulations to **Yanbo Deng** who won the best presentation award at the Lincoln University Postgraduate Students' Conference in August.

Research and Study Leave

Keith Unsworth has just returned from two weeks as Visiting Lecturer to the School of Mathematical Sciences, Universiti Sains Malaysia, Penang. While there, Keith contributed to the research activities of staff and research students in Computer Aided Geometric Design (CAGD). He also conducted a two-day workshop on the use of MatLab in problem-solving in CAGD and presented a research seminar on *An Introduction to the use of A-Splines in Geometric Design*.

Research Grant

Stuart Charters has secured a \$25,000 grant from the Lincoln University Capital projects Fund to build a heterogeneous grid computing testbed which will be used for collaborative research at Lincoln and with colleagues in the UK.

Provisional Patents

Kenji Irie is an employee of Lincoln Ventures Ltd but is doing his PhD under the supervision of **Alan McKinnon** and **Keith Unsworth** from Applied Computing and also **Ian Woodhead** from Lincoln Ventures. Kenji has lodged a provisional patent for a novel algorithm for the removal of shadows in outdoor scenes, based on a surface's response to sunlight and skylight. Those going to the Image and Computer Vision Conference (ICVNZ07) at Waikato in December will get the full details.

Another patent application has been lodged for a device developed by **Alan McKinnon** to predict the solar radiation at a particular location on the earth's surface taking into account local obstructions such as trees, buildings and hills. The device involves processing images taken at known angles to find the sky and then tracing rays from the sun through these images. Unfortunately this patent has not fared as well, as soon after lodgement it was discovered that a patent pending has recently been published for a device developed by a US company based on exactly the same principles.

Masters Theses

Yanbo Deng—*Using web services for customized data entry*

Theresa McLennan

Auckland

News

Endowment

A \$1.7 million endowment to the Department of Computer Science was formalized at a ceremony on the 4 April 2007, where the Vice-Chancellor and the Bedogni family signed agreements to establish a fellowship, and a prize in perpetuity, for Open Systems Research. The Bedogni family established this gift to commemorate their son **Clinton Bedogni**, who had recently been killed in a tragic traffic accident. Clinton had developed an intense interest and capability in the Linux system. This endowment provides for a Fellowship in open systems research as well as a biennial prize in open systems research, in perpetuity. Many in the Department had the opportunity to meet with the Bedogni family at a morning tea visit, and we expect them to visit the Department at least yearly as these two initiatives get established. Our plan is to advertise the Fellowship in 2007, and have the first Fellow in position towards the end of this year.

Royal Society of New Zealand have just announced six of their prestigious medals for 2007, and **Alexei Drummond** has gained the Hamilton Memorial Prize. They noted that

Alexei has made a significant contribution to computational modelling, with implications for population genetics, phylogeography and phylogenetics.

MentorNet

The department has agreed to join the MentorNet scheme, originating from the USA and recently joined by ACM, to provide university students (mainly females) with mentors drawn from industry and academia.

OLPC

The Department has agreed to host the OLPC (One Laptop Per Child) in NZ, in some spare space in our lab area. There will be about seven or eight laptops as well as development PC's in that room. As an open source project we are providing access for up to 25 developers in that space and we expect that some of the developers and projects that come from the OLPC initiative will involve our students.

Accelerating Auckland

The accelerating Auckland initiative, to enhance the interest in ICT by students in the Auckland region (which groups all Tertiary Educational Organizations in the Auckland Region), has formed itself into an incorporated society. This will help them to bid as an independent entity for funding. Currently, they have a \$1 million contract from TEC to take forward a large range of initiatives, targeting students from secondary school through to the universities. This includes the ICT Academy initiative, which is currently run from CSI. Our involvement with this initiative helps to bring the University (and our department) to the notice of many more secondary school students than we are currently able to access.

Jim Warren gave his inaugural professorial lecture on 11 September speaking on *Improving Chronic Care, Minimising Disability: an IT research programme*.

John Rugis (PhD student) got a poster into the top ten at SIGGRAPH 2007. This is an enormous honour for any Computer Science academic, and more so for a PhD student.

Radu Nicolescu hosted the NZ.NET User Group's Architecture camp 2007 at Tamaki and he has gained a lot of favourable comment from those involved in the camp.

Research Grants

The Centre for Software Innovation at the University of Auckland was awarded nearly \$3.4million by FRST for a four year project on Software Process and Product Improvement. This will focus on three theme areas—process and project management improvement, software

imaging and visualisation, and enriching model-driven engineering. The project is very much a cross-university collaborative venture, being lead by **John Grundy** with **John Hosking**, **Emilia Mendes** and **Ewan Tempero** from University of Auckland; **James Noble**, Victoria University, **Mark Utting**, University of Waikato, **Jens Dietrich**, Massey University, **Steve MacDonell**, Auckland University of Technology, **Neville Churcher**, University of Canterbury and **Rick Mugridge**, Rimu Research Ltd.

Appointments and departures

Brian Carpenter, an IBM Distinguished Engineer, has joined us from IBM on a rolling contract to work in the data communications area. Brian is heavily involved with the development of IPv6. Brian has arrived just in time to lecture the second half of COMPSCI 314 and COMPSCI 742!

Abraham Alawi joined the Department in April from Massey University, in the Unix/Linux systems administrator role.

Bruce Hutton has been a member of the Computer Science Department since 1981, largely responsible for organizing courses. He retired in July, and at his request there was no public farewell ceremony. However, many members of the department took Bruce to dinner, and expressed to him their appreciation of his services to the department.

Kevin Novins has been a key member of the graphics group and passionately concerned about the wellbeing and direction of the Computer Science Department, but in view of his family circumstances in the USA, he has decided not to return to NZ. We will sorely miss his input and contributions. We are even cheated of the opportunity to properly farewell Kevin from our ranks, but we hope that Kevin will pass our way in the future, to allow for some farewell.

Seminars

- Mark Moir**, *Hybrid transactional memory.*
- Marius Zimand**, *Extractors via constructions of cryptographic pseudo-random generators.*
- Rick Thomas**, *Finite automata and algebraic structures.*
- Mike Usmar**, *It's an education project, not a laptop project – Nicholas Negroponte.*
- Jiamou Liu**, *On complexity of Ehrenfeucht-Fraïssé games.*
- Henning Koehler**, *Domination normal form – decomposing relational database schemas.*
- Montalban Antonio**, *Well-quasi-orderings and computability theory.*
- Jasvir Nagra**, *Is obfuscation really impossible?*

- Jorn Christensen**, *Monotonic heuristic evaluation function learning effect upon A* performance.*
- Sasha Rubin**, *Automatic structures and injective presentations.*
- Fuad Tabba**, *Introduction to transactional memory, and NZTM: Nonblocking zero-indirection transactional memory.*

MSc Theses

- Da An**—*3-D Face Reconstruction Techniques: A Comparative Study*
- Fuad Al Tabba'**—*Practical Transactional Memory: The Hybrid Approach*
- Damir Azhar**—*Implementing an Object-Oriented Network Traffic Flow Meter*
- Gopi Dinakara**—*Investigating Multi-company and Within-company cost estimation models for Web applications*
- Songyue (Simon) Gu**—*3d Sketch Interface for Biomedical Modeling*
- Nicholas Hay**—*Universal Semimeasures: An Introduction*
- Qiang Ji**—*Traditional Passive Replication Approach With Parallel Processing*
- Yun-Bum Kim**—*Graph Compounding for the (Degree, Diameter) Problem*
- Jingyi (Joe) Li**—*2D Volcanic Soil Porosity Analysis Using Image Processing Techniques*
- Xiaoli Liu**—*RDWSEE: A Reliable Distributed Web Service Execution Engine*
- Zhengyuan Luo**—*Investigation of a Real-time ETL layer*
- Nicolai Moles-Benfell**—*The Use of Production Complexity in the Cryptanalysis of Block Ciphers*
- Zhenzhen Mu**—*Efficient mapping of XML to RDBMS for Clinical Data Repositories*
- Rachel Patel**—*Exploring better techniques for diagram recognition*
- Bo Qi**—*An Evaluation of Communications Standards for Improving the Interoperability of Small Electronic Medical Devices*
- Jing Qian**—*Early Web Cost Estimation Using the Modified Use Case Points Method*
- Lei Wang**—*A Constant Encoding Algorithm Which Tamper-proofs the CT-Watermark*
- Yang (Max) Wang**—*Developing Efficient Mobile Agent Systems using Aspects*
- Huiling Wu**—*Performance of Distributed Services*
- Tianjing (Damon) Xu**—*JCGROUP: A General Purpose Distributed Computation Framework in Java*
- Moqing Zhang**—*A Study of 2D/3D active contour techniques*
- Rui Zhang**—*Interactive GPU-Supported rendering and Styling of Virtual Hair*
- Shuyi Zhou**—*Verging Axis Stereo Photogrammetry*

PhD Theses

Jasvir Nagra—*Thread-based Software Watermarking*
Jiang Liu—*Noise-driven Concurrent Stereo Matching*

Bereavement

Jennifer Lennon, who was known to many in the faculty from her long and passionate career in Computer Science, passed away in mid-July following a period of illness. The funeral was held at the Maclaurin Chapel at the university with attendees from across the university as well as friends from her many extra-curricular activities.

John Hamer

Massey

News

Catherine McCartin attended the Workshop for Women in Mathematical Sciences at Long Bay, Auckland. **Jens Dietrich** presented a paper at Rule ML 2007 in Orlando, Florida, and **Stephen Marsland** was an invited speaker at a workshop on *Habituation: The Foundation of Learning and Attention* in Vancouver, Canada

Appointments

We welcome three people to the Computer Science group in January of next year, all of whom are joining us from the Information Systems group here at Massey. **Sebastian Link** will be based in Palmerston North and **Jose Maria Turull-Torres** in Wellington, while for **Sven Hartmann** it has yet to be decided. All three are interested in XML and database research. Their arrival will coincide with the repositioning of Computer Science from the Institute of Information Sciences and Technology to the newly formed School of Engineering and Advanced Technology (SEAT).

Seminars

There have been a good number of interesting seminars, including external ones by **Kuldar Taveter** (University of Melbourne) and **J.P. Lewis** (Weta Workshops). **Stephen Marsland** also hosted a visit by **Xavier Pennec** (INRIA, France).

Stephen Marsland

Canterbury

News

Unplugged in China

Tim Bell has just returned from a month at HUST University in Wuhan, China. One of the projects he has been working on there is the translation (language and culture) of the “CS Unplugged” project. A cooperative project between Japan, Korea, and China has come together to work on adapting the Unplugged activities to that area of the world. Despite being very popular in these countries, its adoption in NZ remains slow, and a special one-day training session will be held in Christchurch in conjunction with NZCSRSC 2008 (see Page 1) to build up local expertise.

More info: <http://csunplugged.org>

NZi3 breaks ground at UC

NZi3 is the national ICT Innovation Institute based at the University of Canterbury, and work has just commenced on a new building to house the institute. It is intended to be a ‘hothouse’ of strategic ICT research and aims to be a place that transforms ideas from the lab, across the innovation gap, into industry. The director, **Darin Graham**, took up his post earlier this year.

More info: <http://www.uci3.canterbury.ac.nz/>

ICTG commences VIPER Project

A team from the Intelligent Computer Tutoring Group (ICTG) has begun work on designing and building a Virtual Interactive Practice Environment Resource (VIPER). This project involves the design, development and implementation of an innovative interactive, multimedia virtual practice environment which will provide students of medical imaging with hands-on practice opportunities using accurate simulations of x-ray imaging technologies in a learner-safe environment. It is based on ASPIRE, and involves enhancements to ASPIRE to support new domain types. VIPER forms a subpart of an IDF research grant.

More info:

<http://www.cosc.canterbury.ac.nz/tanja.mitrovic/ictg.html>

Postgraduate Diploma papers may be offered in electronic classrooms

After a successful year for the new Postgraduate Diploma in Computer Security and Forensics, a plan has been put forward that might see selected papers offered over the high-speed education network in Wellington and Auckland in 2008. Although this was the first year the specialised postgraduate diploma was offered, the Computer Security and Forensics programme has been running very successfully at UC for the last three years. This new plan

could see more industry, government, and local students from the two centres take part in the programme.

More info:

http://www.cosc.canterbury.ac.nz/open/CS_Fdistance_Learning_2008.pdf

Research Grants

Andy Cockburn awarded Marsden Grant

Associate Professor Andy Cockburn (Computer Science and Software Engineering) has been awarded \$400,000 over three years to develop and test new tools to improve navigation within and between computer documents. It will also deliver theories to allow designers to predict and explain the efficiency of alternative designs without the need for time-consuming implementation and evaluation.

More info:

<http://www.cosc.canterbury.ac.nz/research/RG/HCI/HCIlab>

Departures

We are sad to farewell **Pramudi Suraweera** who is leaving to take up a Cognitive Scientist position at Carnegie Learning Inc. in Pittsburgh, PA (US). Pramudi started at UC as a student in 1997 (in the old computer science building!) and worked as a CS tutor and a researcher in the Intelligent Computer Tutoring Group (ICTG), designing and building projects such as ASPIRE (an internationally used web-enabled authoring system for building intelligent tutoring systems). More recently, he was working on building an Engineering Mechanics Intelligent Tutoring System funded by an HP grant, to be used in first year university engineering courses.

More info: <http://pramudi.googlepages.com>

Conferences and Events

ATNAC 2007

The Australasian Telecommunication Networks and Applications Conference, a major annual conference bringing together telecommunications research and development staff from universities and industrial research laboratories of the region, is organized with the active involvement of members of the UC Network Research Group. **Krys Pawlikowski** is chairing its Technical Program Committee. For the first time since 1992, the conference will be held outside Australia and is planned in Christchurch, 2-5 December, 2007.

More info: <http://atnac2007.massey.ac.nz/>

CSSE Postgraduate Conference 2007

Thirty-six students presented their research at the annual Computer Science and Software Engineering Postgraduate Conference (September 2007). The two-day event showcased the large variety of high quality research undertaken by students in the department.

Keith Humm, Delio Brignoli, and Moffat Mathews won the best Honours, Masters, and PhD presentations respectively. The keynote address was given by Peter Eades (University of Sydney). **Darin Graham** (director of NZi3) also spoke about the new direction of research and collaboration at UC with the birth of the NZi3. More info: <http://www.cosc.canterbury.ac.nz/open/conf/pg2007>

HIT Lab NZ Open House

On September 21st, the doors of the normally secure HIT Lab were flung open for members of the public to come and see the latest human computer interaction technologies that are being developed. People of all ages filled the corridors, walking from room to room, experiencing, and interacting with a myriad of futuristic technologies.

More info:

http://www.hitlabnz.org/route.php?r=eventview&event_id=37

Awards

Warwick Irwin and Sung Eun Bae, who successfully defended their PhD theses in June and September this year, have had their theses placed on the Dean's List. The Dean's List comprises of the best PhD theses of the University of Canterbury.

Moffat Mathews won the top prize in the International IET (Institution of Engineering and Technology) Write around the World Competition, with his paper *Intelligent Learning: The Future of Education*. He will present his paper in three member countries of his choice during his trip around the world.

Scholarships

Di Zhou received an NZi3 Masters scholarship for his research into *Intelligent Decision Support Systems*. This is a collaborative project between NZi3, Jade, and Port Otago. Jade 6.2's Java interoperability will be used to take data from Port Otago's Jade Master Terminal (JMT) Operating System and combine it with Java multi-agent technology, to research ways of automatically improving container loading for the port. Di Zhou is working under the supervision of Richard Pascoe.

Telecom has awarded a scholarship to **Xianglin Deng** for her Masters work on Voice over IP security. This scholarship recognises the commitment and importance that Telecom place on applied research in the area of application security in their networks and is a valuable contribution to the computer security and forensics research group. She is working under the supervision of Ray Hunt.

David Thomson received a University summer scholarship (one of only ten scholarships) for his project

Mining student logs from Intelligent Tutoring Systems. He will be working under the supervision of **Tanja Mitrovic**. In addition, five students have received NZi3 scholarships valued at \$4,000 each, to work on industry-based projects. Ten students have also received department scholarships to pay towards their COSC 366 summer research paper.

Masters Theses

- Mohammad Basher**—*Average Case Analysis of Algorithms for the Maximum Subarray Problem*
Ryan Mallon—*The Semantics, Formal Correctness and Implementation of History Variables in an Imperative Programming Language*
Lin Tian—*Improved Shortest Path Algorithms by Dynamic Graph Decomposition*

PhD Theses

- Sung Eun Bae**—*Sequential and Parallel Algorithms for Generalized Maximum Subarray Problem*
Nilufar Baghaei—*A Collaborative Constraint-based Intelligent System for Learning Object-Oriented Analysis and Design using UML*
Warwick Irwin—*Understanding and Improving Object-Oriented Software Through Static Software Analysis*

Moffat Mathews

AUT

News

Awards and Recognition

Ajit Narayanan has taken up the position as ACM NZ Chair.

Dave Parry has been appointed editor-in-chief of Healthcare & Informatics Review Online, the journal of Health Informatics New Zealand.

Dave Parry has also been appointed to the Health Information Strategy Action Committee (HISAC), Patient Authentications and Security Committee.

Dave Parry, Judith Symonds and **Jim Briggs** have had a paper, *RFID solutions to support home telecare information flows*, accepted for the Health Informatics New Zealand (HINZ) conference in Rotorua in October. This paper has also been provisionally accepted for "Health care and informatics review online".

Stephen MacDonell has been invited to join the Editorial Board of Journal Information and Software Technology.

PhD student **Yingjie Hu** has been recognised as among the top 10 percent of doctoral students in New Zealand, winning a prestigious Top Achiever Doctorate Scholarship from TEC. Hu has been granted \$94,000 for research on *evolving intelligent methods and systems for bioinformatics data analysis*. His findings will be applied on problems of cancer diagnosis and prognosis and drug target discovery. He is currently a PhD student at AUTS's Knowledge Engineering and Discovery Research Institute (KEDRI) under the supervision of **Nikola Kasabov**.

Certified Information Systems Auditor (CISA) Geographic Excellence Awards recognizes the CISA exam's top scorer in each of ISACA's five regions. **Petteri Kaskenpalo**, CISA, senior lecturer at AUT University received the award for the Oceania region for the end of 2006 exam.

Brian Cusack has been re-appointed by Standards NZ to act as expert negotiator for IT Governance standards on the International Standardisation Organisation (ISO) software engineering sub-committee (SC7).

Nurul Sarkar has been elected Joint NZ ComSoc Chapter Chair of the IEEE New Zealand North Section.

Research Grant

A new HRC grant has been established for KEDRI with the University of Auckland (\$150,000), *Smoking cessation identification based on voice analysis*.

Appointments

Ajit Narayanan has settled into his new role as Head of School for Computing and Mathematical Sciences at AUT University. Ajit has come from Portsmouth University in the UK and previous to that Exeter University. Ajit has strong research interests in the application of artificial intelligence techniques in bio-informatics and systems biology.

Alvis Fong will be joining the school from NanYang University Singapore in December 2007. Alvis has strong research interests in multimedia information processing, signal processing and software engineering.

Events

Computing and Mathematical Science celebrated 40 years anniversary this year from ATI, AIT to AUT University. Alumni speakers from Slingshot, ACP Media, IBM NZ Ltd and Honda NZ presented talks about commercial and industrial developments in Computing from the 1960's.

The International Symposium on Research Methods (ISRM) took place 4 July 2007. The Director for the

Centre for Research on Information Systems Management (CRISM) is PACIS Programme Co-chair **Felix Tan**.

Research Events

Several staff and students in the school will be taking part in the Software Innovation and Engineering New Zealand (2007) Workshop, 26-27 November. This event is being hosted by the University of Auckland in conjunction with the FRST-funded Software Product and Process Improvement (SPPI) project in which AUT is a partner. The event is to incorporate a meeting of the SPPI investigators, a Graduate Symposium (chaired by **Stephen MacDonell**), a teaching stream (with **Tony Clear** a PC member) and a research stream.

International Visitors

Don Gotterbarn, visiting professorial fellow with the School and Director of the Centre for Software Engineering Ethics Research at East Tennessee State University, was here for a week in October to work with the team of researchers involved in the SoDIS Project. Don reviewed progress of student projects and we held the 10th SoDIS Symposium showcasing progress with the research programme.

Wing Ip, Vice President of the National Central University of Taiwan and Professor, Graduate Institute of Astronomy and of Space Science is here to find opportunities for collaboration.

Ajit Narayanan