



Computer Science Association of New Zealand
<http://www.cs.waikato.ac.nz/csanz>

Newsletter

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NZCSRSC 2010

NZCSRSC 2010 is coming to Absolutely Positively Wellington! We are proud to announce that the NZCSRSC will be held at Victoria University of Wellington from 12-15 Apr 2010. Preparation is already well underway to make NZCSRSC a great conference. Our team is really excited to be organising this event and we are working hard to make this a continued success building on recent successful NZCSRSC conferences.

So what is the NZCSRSC? If you are a Computer Science Research Student in New Zealand then this conference is especially for you, a conference for students, run by students. It is a chance for you to meet others from around the country, share your research and learn about what others are working on. It's aimed at getting us out from behind those computer screens and putting us face to face with the cutting edge of Computer Science research in NZ and the research students who are behind it all. It's also a great chance to build friendships among our research community that will last long after we have all (finally) finished our degrees. Students are encouraged to get involved by submitting their research papers and reviewing work by their peers. At the conference students will be showcasing their research during formal presentation and poster sessions, participating in workshops, and enjoying a number of exciting invited keynote presentations, along with fun social events. For those of you who have been to this conference in the past we know that you need no convincing of what a great experience attending the NZCSRSC is. We can't wait to see you once again and catch up on your latest work, this time here in Wellington!

The call for papers has already gone out to universities; you can also view it on the website. The submission deadline is 11 Dec 2009, so if you haven't already started your paper, get writing and tell the CS research community all about what you're working on. For more information see your local university contact (contact information is on the website) otherwise general queries can be made to Craig or Siva.

More info: <http://ecs.victoria.ac.nz/Events/NZCSRSC2010/>
Craig Anslow, craig@ecs.vuw.ac.nz
Siva Kumar Dorairaj, Siva.Kumar.Dorairaj@ecs.vuw.ac.nz
 Victoria University of Wellington.

Victoria

News

Victoria launches Computer Engineering Master's.
 Victoria University will offer a Master of Engineering next year, beginning in Feb 2010.
 More info: www.victoria.ac.nz/engineering

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IEEE Postgraduate Presentations Event 2009

On 4 Sep 2009, Massey and Victoria engineering and computer science students came together in the annual IEEE New Zealand Central Section postgraduate presentation event, held at Victoria University. Fifteen students presented to an audience of their peers, staff from Massey and Victoria and members from the IEEE and IET.

The overall winner was **Harry Jones** (Victoria) who talked about his honours project in channel sounding with software defined radio. In second place **Ayesha Hakim** (Massey) presented on a reliable hybrid technique for human face detection. As runners-up **Adrian Jongenelen** (Victoria) talked about compact real-time range imaging systems and **Keith Cassell** (Victoria) told us about clustering techniques to improve the maintainability of object oriented classes. **Harry Jones** received his prize from **Murray Milner**, Chair of the IEEE New Zealand Central Section Committee.

More info: <http://ewh.ieee.org/r10/nzc/>

The Clash of the Robots - the Annual Lego Competition

With names like Praying Muntaz, Predator, Icarus and Optimal Prime, the stage was set for an exciting match at the Annual Lego Competition. This competition gave students enrolled in ECSE430 Advanced Mechatronic Engineering II the opportunity to design, construct and programme autonomous robots that not only had to work but compete against each other. The aim of the competition was to score the most points by having the robots locate and physically pick up a puck then deliver it to a donut shaped goal.

Evening with Industry

On Thursday 6 Aug 2009, Victoria University was the host for the New Zealand Computer Society Evening with Industry 2009. The speakers came from a range of Wellington ICT employers, including BNZ, Catalyst IT, Code to Customer, InterGen, KPMG, ProjectX, Provoke and TradeMe and



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included **John Clegg** who spoke about Summer of Code 2009.

Pacific Network Operators' Group Meeting

Andy Linton, a teaching fellow at the Faculty of Engineering, took part in the Conference and Educational Workshop of the Pacific Network Operators Group (PacNOG). Held in Tahiti, the 5-day conference provided a forum for service providers in the Pacific Network community to meet and discuss current issues as well as receive technical training.

Industry Evening

On 10 Jun 2009, the Faculty of Engineering hosted industry people from the Wellington engineering and computer industry. The aim of the event was to further develop relationships in the community by showcasing the new Faculty of Engineering. The evening gave staff, students and industry the opportunity to interact and discuss developments in the engineering and computer science field.

Scholarships and Awards

Victoria PhD Scholarships (Jun 2009 round)

Sara Sharifzadeh
Nabeel Khan
Abhijit Karnik
Mario Andres

BuildIT PhD Scholarships (Apr 2009 round)

Urvesh Bhowan

VUW VC's Strategic PhD scholarships (May 2009 round)

Wenlong Fu

FRST Project PhD Scholarships

Cheoo Shaw Wei (Sebastian)

Te Tipu Pūtaiao 3-year PhD Scholarship

Ben Drayton

ACM Travel Scholarships

Kourosh Neshatian was awarded an ACM GECCO 2009 Travel Scholarship by the ACM SIGEVO group/society.

More info: <http://www.cs-conference-ranking.org/conferencerrankings/topicsii.html>

Seminars and Visitors

Angela Martin (University of Waikato)

Programmers are from Mars, Customers are from Venus: A Practical Guide to Working with Customers on Agile Projects

Omer Rana (Cardiff)

Pricing Clouds

George Allan

Grounded Theory as a Research Method

Errol Thompson

I know the programming language so I can write your program

Faisal Nabi

PhD Proposal Seminar: *Designing a Methodology for Secure*

Business Application Logic Integrity in e-Commerce Systems

Alistair Moffat (University of Melbourne)

Against Recall: Is it Persistence, Cardinality, Density, Coverage, or Totality?

Matt Duignan, Microsoft (Redmond)

Computer mediated music production: A study of abstraction and activity (And User Experience Research at Microsoft)

Ajay Kapur

21st Century Raga: Digitizing North Indian Music

Keith Cassell

Using clustering to enhance the maintainability of OO classes

Colin Atkinson

Boosting Productivity through Search-Driven Reuse

Andrew Craik

Using ownership to reason about inherent parallelism in object-oriented programs

Simon Doherty

Nonblocking Algorithms and Backward Simulation

Douglas Easterly

PhD Proposal Seminar: *Judgment Under Uncertainty in Life and Games*

Giorgio Sardo

Internet Explorer 8 for Developers

Carl Benton

PhD Proposal Seminar: *The design of a high-power high-fidelity audio digital amplifier*

Appointments

George Allan, Senior Lecturer in Engineering Project Management. 1 Jul 2009.

Tim Exley, Electronics Technician. Aug 2009.

Will Browne, Senior Lecturer in Computer Software Engineering. 14 Sep 2009.

Winston Seah, Professor of Network Engineering. Sep 2009.

Lily Rachmawati, BuildIT Postdoctoral Fellow (in Genetic Programming and Evolutionary Computation). Jan 2010.

PhD Theses

Simon Doherty—*The design and verification dynamic-sized nonblocking data structures.*

Christopher Lee-Johnson—*Emotion-based Parameter Modulation for a Mobile Robot Planning and Control System.*

MSc Thesis

David Stirling—*Enhancing Client Honeypots with Grid Services and Workflows.*

Aleksander Ristic—*Iterative Approach on Redesigning and Construction of a Pipe Inspection Robot.*

Ally Reid



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Canterbury

News

NCEA Digital Technologies revision

Recently the computing component of NCEA (called *Digital Technologies*) has undergone a major revision, with new standards to be rolled out during 2010, ready for year 11 students to use them in 2011. Of particular interest is a strand called *Computer Science and Programming*, which makes up about one fifth of the body of knowledge. This is intended to give high school students the option of getting a genuine taste of Computer Science.

The NZ Computer Science HODs have been very supportive of the changes, and support from the CS community will be essential for its effective implementation. The development is on a very fast timetable: the new body of knowledge was announced in Aug 2009, and is currently being fine-tuned.

Soon a team will be writing assessment standards based on the body of knowledge; the team will include **Peter Andreae** from Victoria. At the same time, Auckland Uni is funding the initial stage of the development of resources for teachers to help them prepare to teach CS topics that previously haven't been seen in schools. In Nov, **Tim Bell** from Canterbury will be visiting seven clusters of schools in all parts of the country to introduce teachers to the new material.

Most new topics will be covered only to a level where students are aware of various fields in CS, rather than having any serious expertise, as the goal is to have students better informed about what CS is, and whether it would be an interesting career option for them. Programming will be intermingled with CS concepts, rather than being a gateway to Computer Science.

CS academics can get involved in these changes in several ways: helping local teachers to up-skill in these areas, helping to develop resources for teaching topics of interest at an introductory level, and providing feedback on proposals.

Contact: tim.bell@canterbury.ac.nz

More info: <http://www.techlink.org.nz/curriculum-support/tks/>

The Programming Challenge for Girls (PC4G)

During Nov a series of Programming Challenge days will be held in five venues around the country, where year 10 girls will be given an introduction to the Alice programming language, and then asked to complete a challenge.

Chris Stephenson, the Executive Director of the Computer Science Teachers Association (CSTA), will be at each of the challenges, and during the challenge she will be giving a talk to teachers about the State of Secondary Level Computer Science Education in the U.S.

If you know of enthusiastic local schools that might be interested, please encourage them to participate.

More info: <http://www.pc4g.elementfx.com/>

Awards

A group of three CSSE students, "Team JET" (**Joey Scarr, Edwin Flores and Thomas Steinke**) were the top New Zealand team in this year's annual ACM South Pacific Regional Programming contest for the second year running. They came second out of the 73 teams competing and top of the 20 New Zealand teams, solving seven of the nine problems. Team JET will again get to compete in the ACM International Collegiate Programming Contest finals, to be held next February in Harbin, China.

Louis Sayers and Janina Voigt's entry in the UC entrepreneurship challenge took out the top prizes at the Entre prize giving in September. They won the best overall and best technical idea categories.

PhD student achievements at the recent BMVC09 conference:

Tom Botterill was awarded a BuildIT travel fund for PhD students.

Ray Hidayat had a paper accepted for an oral presentation in the Computer Graphic Design exhibition.

Andy Cockburn has been selected as a BuildIT Mentor for two emerging Computer Science researchers (at Waikato and Victoria), receiving an untied grant of \$8,000 in recognition of the work and to cover costs.

Visitors

Kari-Jouko Raiha, University of Tampere, Finland

Saila Ovaska, University of Tampere, Finland

Rainer Unland, University of Duisburg-Essen, Germany

Appointment

Tanja Mitrovic has been appointed Head of Department effective 1 Dec 2009.

Gillian Clinton

Waikato

News

Our BE in Software Engineering is now fully accredited by IPENZ

This accreditation came about through a lot of hard work from **Steve Reeves, Robi Malik, Mark Utting**, and others involved in the programme. We congratulate them for this achievement.

The New Zealand Greenstone Digital Library software has extended its reach as far afield as Kazakhstan. The free and open source software is being used in a new digital library of human rights resources, which was officially launched in the



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Kazakhstan capital Astana in July. The Human Rights Digital Library, held at the National Academic Library, will make more than 1,000 legal documents in both Kazakh and Russian more easily available to all citizens.

Computer Graphic Design Exhibition

The Computer Graphic Design exhibition entitled “Vitamin D” and held from 28 Oct to 5 Nov showcased graduating student work. On show was a wide range of work based on the theme of E-Motion. Work ranged from dynamic websites, animation, interactive, a tangible user interface, print media, face-tracking and pop-up books.

Awards and Prizes

University of California San Diego Student Data Mining Competition

All competitors were set the task of predicting anomalies in some e-commerce transaction data. **Quan Sun** (Masters student) won first place in the ‘hard’ option using the Weka datamining software developed at UOW.

BuildIT Research Publicity Prize for Pure ICT Research

Ian Witten and his PhD students were awarded the BuildIT Research Publicity Prize for Pure ICT Research, which recognises their achievements in publicising ICT research in the NZ media, and the wider impact that this has achieved for our discipline. They also received the Top ICT Research Publicity Prize.

Claude McCarthy Fellowship

Matthew Jervis was awarded a Claude McCarthy Fellowship for travel expenses to present a paper at the International Conference on Tangible and Embedded Interaction (TEI10) in Cambridge, Massachusetts in Jan 2010. These fellowships come from a bequest by the late Claude McCarthy and are awarded by the New Zealand Vice-Chancellors' Committee.

More info:

<http://www.nzvcc.ac.nz/scholarships/claudemccarthy>

International award for computer graphic design lecturer

Keith Soo has won an award for excellent artwork at the Shanghai Science and Art Exhibition, beating designers from a dozen other countries with his 3D colour, sound and movement installation. Keith represented New Zealand at the exhibition in Jun, which showcased some of the new technologies that will be exhibited at next year’s World Expo in Shanghai.

Top Achiever Doctoral Scholarship

Three of our Top Achiever Doctoral Scholarship applicants have been awarded scholarships. Warm congratulations to:
Sam Sarjant—*Statistical relational reinforcement learning*
Simon Ware—*Verifying nonblocking in discrete event systems using abstraction*

Michael Walmsley—*Automatic creation of dynamic second language reading texts*

Sam Sarjant and his co-researchers **Catherine Legg**, **Michael Robinson** and **Olena Medelyan** won a best paper award at the 2009 IEEE/WIC/ACM International Conference on Web Intelligence for their paper “All you can eat Ontology-Building: Feeding Wikipedia to Cyc”.

Ian Witten was awarded the “Santa Chiara Chair” Multidisciplinary Teaching Award at the University of Siena, Italy, which involved giving public lectures to PhD students in different disciplines, including the Humanities.

More info:

http://www.unisi.it/santachiara/prom_chair_08_09.html

NZNOG Conference

The NZ Network Operators Group (NZNOG) 2010 conference will be held at the University of Waikato, hosted by the WAND network research group from 27-29 Jan. The first ever NZNOG conference was held at Waikato in 2005 and it has now become a regular event. The call for papers and other information will shortly be available at <http://2010.nznog.org>.

Internship

Graduating Bachelor of Computer Graphic Design student **Marc McHardy** was awarded an internship from DigitalStream based on his exhibit that used face-tracking technology to drive shoe advertisements on an interactive digital poster.

More info: <http://digitalstream.co.nz>

Book

Ian H. Witten, David Bainbridge, David M. Nichols—*How to Build a Digital Library* (Second Edition). Morgan Kaufmann, San Francisco.

Seminars

Remco Bouckaert, Department of Computer Science, University of Auckland.

Making sense of (Bayesian) hierarchical clustering.

Peter Andreae, School of Engineering and Computer Science, Victoria University, Wellington. Sep.

Learning to act in a complex world.

Alvin Yeo, Centre of Excellence for Rural Informatics and Computer Science and Information Technology, Universiti Malaysia Sarawak. Sep.

Providing Equal Access to ICT's to Remote Rural Communities: Research Outcomes and Opportunities

Diego Spano, University of Moron, Argentina, Sep.
GPS-Latin American.



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Mohammed Samaka, Computer Science Department
University of Qatar. Aug.

*Brief presentation on Computer Science Department Qatar
and the NPRP programme.*

Rick Hargreaves, Wanganui School of Design and
Hargreaves Graphics, Wellington. Jun.

Working with Designers.

Tim Bell, University of Canterbury, Jul.

Unplugged around the world and out of our world.

Visitors

Yukiko Maruyama, IT Education Center, Tokai University,
Japan. Apl 2009-Apr 2010. Visiting as part of her sabbatical
leave and working with **Bill Rogers** and **Masood Massodian**
doing research on the differences between preferences of
Japanese and non-Japanese computer game players.

Diego Spano, University of Moron, Argentina, Sep. Diego
visited The Digital Library Lab for two weeks as part of the
UNESCO granted funds from Mellon Awards for Technology
Collaboration. In Oct **Ian Witten** visited Diego in Brazil and
Argentina to attend LATINOWARE 2009 and they presented
a Greenstone workshop together.

PhD Theses

Kathryn Hempstalk—*Continuous typist verification
using machine learning*

Gabriele Schmidberger—*Tree-based density
estimation: algorithms and applications*

Olena Medeyan—*Semantically enhanced automatic
keyphrase indexing*

MSc Theses

Robert Larkins—*Off-line signature verification*

Ta-Chun Leo Lin—*Improving digital library support
for historic newspaper collections*

Adam Lynam—*Prediction of oestrus in dairy cows: an
application of machine learning to skewed data*

Jonathan Miles—*Machine learning for adaptive
computer game opponents*

Grant Shannon—*Neon chalk: designing software to
support drawing as play for children with autism
spectrum disorders*

Master of Computer Graphic Design

Meng-Hsuan Amanda Lu—*The exploration of static
typography for expressing the emotive qualities of music*

Three generations in Computer Science.

When **Beverley Rogers** graduated in October with first-class
honours, it was a very special occasion for her grandfather,
who was in the audience. A mathematician, **John Turner**

was the foundation dean of the School of Computing and
Mathematical Sciences -- and the four-year BCMS degree was
his brainchild. "Grandfather was the driving force in my
mathematical learning," said Beverley, who's a straight A
student. "He's very proud of teaching me the quadratic
formula when I was 11 or 12." But that's not her only family
connection. Her father **Bill Rogers** is a computer science
lecturer, although she points out that she managed to escape
all his lectures by arranging a two-semester student exchange
to the University of Calgary in Canada. "My Dad lectures in
computer graphics, so I did all my graphics papers while I was
in Canada." On top of her university studies, Beverley was a
member of the Waikato team which won the Microsoft
Imagine Cup in 2007 with Gary's Lab, an interactive 3D
physics lab.

Lincoln

News

Restructuring

The proposed merger between Lincoln and AgResearch is not
going ahead. The two institutions will work together on closer
relationships for research and postgraduate supervision.

Imagine Cup

Team Think comprising third year Software and IT students
Mike Trengrove, **Graham Smart** and **Asa Wong**
represented New Zealand in Cairo in Jul at the World Wide
Finals of the Microsoft Imagine Cup. Despite not making it
into the last stages of the grand finals the team received a huge
amount of support and feedback from judges and other
competitors. The team travelled with **Dave Bales** of Statistics
New Zealand as Industry Mentor and **Stuart Charters** as
Academic Mentor. The team received significant press
coverage on TV, radio, in newspapers and magazines.

US Solar Energy Company Connection

On his trip home from study leave in the UK in Jun, **Alan
McKinnon** met up with **Keith Unsworth** who happened to be
on holiday in the US, and they visited Solmetric Corporation
in Sebastapol, north of San Francisco. Solmetric manufactures
a device which uses image processing to predict the solar
exposure at a location at any time of the year from a single
image of the sky recorded at that location. This visit was the
first face-to-face meeting in a collaboration that has developed
over the last couple of years. Solmetric is currently
contributing part funding for a summer scholarship in the
Department of Applied Computing.

AMCIS 2009 Shirley

Gibbs travelled to San Francisco in Aug for the Americas
Conference on Information Systems. She presented a paper
entitled *The Computing Skills Expected of Business
Graduates: A New Zealand Perspective.*

The paper was co-authored by **Alan McKinnon**.

Keith Unsworth

Otago CS

General News

Move into the Owheo building

In May and June the department moved from its various scattered locations around the campus into the Owheo building, Union Street East. This now houses all staff offices and computer science labs, and staff members are very pleased with their new accommodation and facilities. Student feedback has also been very positive.

25th Anniversary

The department celebrated its 25th anniversary on 11-12 Sep 2009. The celebrations started on Friday afternoon with a barbecue for staff and students, and continued on Saturday afternoon with lunch, a building tour and the opening of the department's computer museum.

The celebrations were concluded on Saturday evening with the festive dinner at Otago Museum with live jazz music. 120 guests, including current and former staff and alumni and friends of the department, attended the event. **Willem Labuschagne** with the assistance of **Marjan Lousberg** produced a booklet on the History of Computer Science at the University of Otago and the hardware we have used over the years. A feature article *25 years of Computer Science: A time of enormous change and extraordinary success* appeared in the Otago Magazine.

More info: <http://www.otago.ac.nz/news/otagomagazine/>

Graduate wins NBR Award

In September, Computer Science graduate **Heidi McQuillan** won the top prize at the NBR Audacious Student Entrepreneurs Challenge for her business plan for an online real estate system. She will use her \$20,000 prize money to patent her system and to develop a prototype.

More info: <http://www.nbr.co.nz/article/online-real-estate-tool-wins-nbr-audacious-entrepreneurs-award-111259>

Upcoming Computer Vision Conference

New Zealand will host the Asian Conference on Computer Vision in Queenstown in Nov 2010 with an international organising committee, including many from NZ universities.

More info: see www.accv.org

Research Grants

Lubica Benuskova has been awarded an University of Otago research grant to lead research on *Computational and Experimental Investigation of the Rules Governing Synaptic Plasticity* together with **Cliff Abraham** from the Department

of Psychology of University of Otago and **Peter Jedlicka**, from Goethe University, Germany.

Lubica has also been awarded a departmental research grant to lead the research on Dynamic Networks of the Brain, in collaboration with **Peter Nather** from Comenius University, Slovakia, and Associate **Liz Franz** from the Department of Psychology of University of Otago to analyse the brain MRI data by means of graph theory.

Visitors

International scientific visitors

Peter Jedlicka, from Goethe University, Frankfurt am Main, Germany, is visiting CS Otago for the period of 3 months, Oct-Dec 2009.

Peter Nather from Department of Applied Informatics, Comenius University, Bratislava, Slovakia, is visiting CS Otago for 2 months, Nov-Dec 2009.

Seminars

Tobias Langlotz, Graz University of Technology
Handheld Augmented Reality

Martin Takac, Postdoctoral Fellow, Department of Computer Science

Construction of Meaning

Peter Whigham and **Grant Dick**, Department of Information Science

Implicitly Controlling Bloat in Genetic Programming

Jason Leong, Co-founder of PocketSmith

Setting Up a Tech Business in Dunedin

Ann Morrison, Helsinki Institute of Information Technology
Maps, Augmented Reality, and Collaborative Problem Solving

Anthony Robins, Department of Computer Science
The elusive "programmer gene"

Prasan de Silva, Telecom

Mobile Network Evolution and Autodiscovery in Future Heterogeneous Network

Matthew Jenkin and **Chris Handley**, Department of Computer Science

What a good idea! A pity it won't work.

Jeremiah D Deng, Department of Information Science

What makes a natural scene? A few findings from feature analysis

J P Lewis and **Sebastian Sylwan**, Weta Digital
Mathematical Applications in Film Visual Effects

Chris Edwards, Department of Information Science

Bang, Beep, Buzz, Blip: Introducing Pure Data

Lubica Benuskova, Department of Computer Science
Small worlds in our heads

Brendon J Woodford, Department of Information Science
Rule extraction and visualisation from spatial data using a entropy-based fuzzy neural network



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Brendan McCane, Department of Computer Science
Shape Analysis and Morphometrics

Grant Dick, Department of Information Science
A broad spectrum network generator - from regular to scale-free in one easy step

Frank Innerhofer-Oberperfler, Institute of Computer Science, University of Innsbruck, Austria
Identification and Assessment of IT Business Risks

Nathan Rountree, Department of Computer Science
Generating "Rare" Association Rules

Zhiyi Huang and **Kai-Cheung Leung**, Department of Computer Science
Problems in parallel programming systems

Stephen Cranefield, Department of Information Science
Monitoring Social Expectations in Second Life

Willem Labuschagne, Department of Computer Science
Logical Illusions

Nigel Stanger, Department of Information Science
Keeping Research Data Safe

Research and Study Leave

Zhiyi Huang completed his RSL between Jan and Jul 2009 at MIT CSAIL. He worked as a visiting scientist with the MIT Cilk group on parallel computing and operating systems.

Staff News

Brendan McCane will continue as Head of Department for at least another three years from 2010, and will become an Associate Professor from then.

Nathan Rountree and **Lubica Benuskova** will become Senior Lecturers from Feb 2010.

Nathan Rountree and **Willem Labuschagne** were nominated for OUSA Teaching Awards in Sep.

MSc Theses

Robin Sheat—*The Impact of Representation on the Evolution of Genetic Algorithms*

Gregory Caza—*The role of social-pragmatic cues in word learning: a neural network model*

Swen Huebner—*Beliefs, Disbeliefs and Emotions*

Jochen Moellmer—*Numeric and stochastic simulation of fluids*

PhD Theses

Hayden Walles—A perceptual basis for noun phrase syntax

Robert Pollock

Massey

News

The **MUSE (Massey University Smart Environments)** research group has been awarded a BuildIT grant for the development of a research consortium in collaboration with the University of Auckland. The overarching goal of the consortium is to strengthen ICT research in the area of smart environments. The consortium is aiming at providing a significant environment for deployment of large-scale IT applications and hence bridging the identified gap in the domain between the theory and practical applications in the context of smart environments. This involves adapting and testing the applicability of data standards and interoperability approaches (developed for core construction processes such as commercial building design) through to more specialised and future oriented design and facility management processes required for smart environments.

Eva Heinrich is continuing to work on a new tool known as Lightwork - Managing Marking Effectively.

Work is progressing well on this new application that will support lecturers in the managing and marking of assignments. Lightwork is a Java rich client application developed under Eclipse RCP. It connects via a web services interface to the Moodle learning management system. The first production release of Lightwork is planned for Jan 2010. Early releases are available from the website and in Nov feedback forms for user acceptance testing will be added. The Lightwork project is open source and your feedback is welcome.

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

Stephen Marsland received funding from the RSNZ Marsden Fund in the 2009 round. His project, which is a collaboration with **Robert McLachlan** and **Matt Perlmutter**, both in the Institute of Fundamental Sciences at Massey, is entitled *Geodesics in Diffeomorphism Groups: Geometry and Applications*.

Appointments and Promotions

Stephen Marsland was promoted to Associate Professor in the recent Massey promotion round.

We have recently welcomed **Klas Modin**, who is a post-doc working with **Stephen Marsland**, **Robert McLachlan**, and **Matt Perlmutter**, on shape analysis. Klas is a native of Sweden and has a PhD in numerical analysis from Lund University. He is also a keen kite surfer, and he and Stephen are planning several kiting weekends as summer arrives.

Kudakwashe Dube joined our group as a Lecturer on 5 June. His research interests are in decision support systems in healthcare with a focus on computer-based clinical practice guidelines, software and data engineering and advanced

databases with a focus on supporting e-healthcare records, and computer security and privacy with applications to e-healthcare information.

Current projects focus on: algorithms for optimisation of person-specific diet and nutrition decisions, computer-based support for NZ nutrition guidelines, information and knowledge representation for supporting computer-based diet and nutrition applications, security and privacy framework for e-health records, information quality for healthcare decision support, and supporting “play” and “re-play” of information in databases with application to e-healthcare records.

Awards

One of our PhD students, **Ayesha Hakim**, received a presentation prize at the IEEE NZ Central Section postgraduate student presentations night for her talk on *Emotion recognition in images*.

Chris Johnston, successfully defended his Ph.D. thesis *VERTIPH: A Visual Environment for Real-Time Image Processing on Hardware*. Examiners’ comments included “outstanding” and “one of the best defended theses [they] had examined.”

Seminars and Visitors

Robert McLachlan, and **Matt Perlmutter**, on shape analysis.

Jens Dietrich is currently hosting **Claas Wilke**, a diploma student from the Technische Universität Dresden, who is working on model-based run-time verification of software components.

Christian Freksa visited the MUSE GROUP on his way to a sabbatical at the University of Melbourne. He was exploring the possibility of collaboration, including the chance for PhD students from both groups to visit each other, something that we think would be very exciting.

The School of Engineering and Advanced Technology, of which computer science is a part, had our IPENZ accreditation visit for all of the BE degrees, which includes Software Engineering, in September. While we have not yet seen the final report, the verbal feedback suggests that the panel have accredited all of the BE degrees within the School.

Massey Albany

Computer Science Group, Institute of Information and Mathematical Sciences.

The annual IIMS Postgraduate Conference was held on 21 Oct 2009 at the Albany Campus. The conference is an established forum for presenting the work of postgraduate students of all levels within the institute. The talks include topics in

computer science, mathematics, statistics and information technology.

Stephen Marsland

Auckland

Honours and Awards

Gill Dobbie was one of the four recent promotions to professor in the Faculty of Science. A very welcome promotion in the department, Gill breaks a few records as the only woman professor in our department; and only the second woman professor in Computer Science in New Zealand.

Paul Denny gained one of the ten national Tertiary Teaching Excellence Awards for 2009. The award was presented in Wellington on 21 Jul, and photos of the occasion can be found on the Ako Aotearoa website.

More info: <http://ako.aotearoa.ac.nz>

Beryl Plimmer and **Patrice Delmas** gained second and third prizes respectively in the annual BuildIT Research Publicity Prizes. Beryl gained her prize for an article entitled *Software turns hand-drawn designs into PC files* in Computer World. Patrice gained his prize for an article entitled *Creara la UNAM software tridimensional economico* in UNAM radio and revista.

In September, **Reinhard Klette** presented a keynote talk on the .enpeda. project (Environment Perception and Driver Assistance) at the 2009 International Conference on Pattern Recognition (DAGM), at Jena University in Germany.

More info: www.cs.auckland.ac.nz/~rklette

Clark Thomborson has been invited to be a member of the Chair Professor Group in software theory at Tsinghua University.

Tobi Vaudrey was a runner-up in the Future Science and Technologies section at the MacDiarmid Young Scientist of the Year awards for his work on *Dynamic Vision for Driver Assistance*.

Tobi was also the winner of the SPARK Ideas Challenge for Social Entrepreneurship for “*BlindVision*” using stereo-vision for the visually impaired.

PhD student **Jonathan Rubin's** entry into the Annual Computer Poker Competition held at IJCAI'09 in Pasadena was placed sixth.

More info: www.cs.ualberta.ca/~pokert

Research Grants

Paul Denny gained a NSF grant for a project based on PeerWise.



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Andrew Luxton-Reilly was awarded a 2009 Teaching Improvement Grant for his project *on Development of an online peer assessment and learning tool*.

Gerald Weber, Christof Lutteroth and **Burkhard Wuensche** were all recipients of ISAT funding.

The following staff were awarded Faculty of Science research grants:

Georgy Gimelfarb, Online robust image analysis for more accurate and timely computer assisted medical diagnostics.

Burkhard Wuensche, Direct volume rendering and visual analysis of multi-field cardiac data sets for the diagnosis of heart diseases.

Jim Warren, Chronic disease management quality audit from general practice electronic medical records: validation and applying on hypertension.

Christof Lutteroth, Empirical evaluation of the Auckland layout model.

Bakh Khoussainov, Applications of Automata in computer science and mathematics.

Patrice Delmas, Illumination and motion invariant 3D TV for realistic indoor and outdoor performance.

Gerald Weber, Deductive query language for semantic data

Ian Watson, Non player character learning in an online virtual world.

Cris Calude and **John Hosking**, Accessible software framework for multidimensional criteria decision making

Andre Nies, Finite state complexity.

Koray Atalag, Open standards based clinical knowledge modelling and development of an endoscopic information system.

Staff Changes

May Dijkgraaf started as the secretarial replacement for **YeoJin Jo** while on maternity leave.

Karen Li has taken the BuildIT postdoc.

James Skene has won a FRST postdoc.

John Grundy is departing the University of Auckland in December to take up a new position at the CS3 Research Centre at the Swinburne University of Technology in Melbourne, after 10 years with the Department of Computer Science at the University of Auckland.

Conferences

The Australian Software Engineering Conference (ASWEC) will be held in Auckland 6-9 Apr 2010. The General Chairs are Ewan Tempero and Ian Warren.

More info: <http://aswec2010.massey.ac.nz/>

A Computer Vision Symposium will be held on 8 Dec. This symposium is part of the planning of ACCV 2010 (www.accv2010.org), the first time for New Zealand to host one of the "big three" computer vision conferences (ICCV, ECCV and ACCV). The symposium will also inform

potential sponsors of ACCV 2010, who should contact **Brendan McCane** at the University of Otago.

Participation at the symposium is free, and space is available to display posters or demonstrate solutions in computer vision. Anyone interested should contact **Reinhard Klette**.

More info: www.mi.auckland.ac.nz/events/trends09

IEEE/ACM Automated Software Engineering Conference (ASE'2009) will be held 16-20th Nov. The General Chair is **John Grundy**.

More info: <https://www.se.auckland.ac.nz/conferences/ase09/>

Visitors

Andreas Rausch, Clausthal, Germany

Andreas von Arb, University of Koblenz-Landau, Germany

Brendan O'Fallon, University of Utah, USA

Christine Mueller, Jacobs University, Bremen, Germany

Danling Wang, Communication University of China, Beijing, China

Helen Purchase, University of Glasgow, UK

Holger Klus, Clausthal, Germany

Hongwei Xie

Imgeun Lee, Dongeui University, Busan, China

Jiaju Liu, Shandong University, Jinan, China

Juergen Wiest

Kai Salomaa, Queen's University, Ontario, Canada

Kanika Gupta, New Delhi, India

Kohtaro Tadaki, Chuo University, Tokyo, Japan

Kyung Shik Jang, Dongeui University, Busan, China

Michael Kohlhase, Jacobs University Bremen, Germany

Sebastian Herold, Clausthal, Germany

Stephen Brewster, University of Glasgow, UK

Timothy De Vries, University of Pennsylvania, USA

Tony Gorschek, Blekinge Inst. Of Tech., Ronneby, Sweden

Yanyan Xu, Shandong University, Jinan, China

PhD Theses

Alex Woodward—*3D Human Face Reconstruction and Expression Modelling*

DongJin Lee—*Toward Empirical IP Host Traffic Measurement in the Passive Network Measurement*

Scott Uk-Jin Lee—*Foundations of semistructured data*

(The first of the Software Engineering programme to gain a PhD)

John Hamer

AUT

News

Jiling Cao has been promoted to Associate Professor. His main interests are Analytic Topology, Set-Valued Analysis, Mathematical Economics and Financial Modelling.



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Tony Clear has secured a BuildIT travel fund to attend the IEEE International Conference on Global Software Engineering and also the Workshop on Empirical Experiences, Metrics and Tools for Project Management in Globally Distributed Software Development Projects, in Ireland.

Tony Clear was invited to attend Microsoft Research Mobile Computing in Education Workshop in Beijing.

Jacqueline Whalley was invited to attend Microsoft Research E-Heritage Workshop in Dun Huang, China.

Philip Sallis has been awarded Faculty project funding: *Enometrica: a micro environmental monitoring, modelling and data visualisation system.*

Wai (Albert) Yeap has been awarded Faculty project funding: *Mobile Robots in Outdoor Environments.*

Book

Sergiy Klymchuk—*Using counter-examples in Calculus*
Imperial College Press, London.

Awards

Jacqui Finlay has been awarded a BuildIT PhD Scholarship and a School PhD fees scholarship.

Zulfikar Hossain has been awarded a BuildIT PhD Scholarship and a School PhD fees scholarship.

Diana Kirk has been awarded a BuildIT travel fund to attend conferences in Spain & Greece.

Stephen MacDonell has been awarded a BuildIT – Emerging Research Mentor.

Judith Symonds has been awarded a RFID AUT/TEC summer scholarship and has been nominated to BuildIT Emerging Researcher Talent Camp. This requires her to attend a one day workshop, on the process of assigning you a mentor for the next 12 months.

YunSing Koh and **Subana Shanmuganathan** have been nominated to BuildIT Emerging Researcher Talent Camp. This requires them to attend a one day workshop with a mentor for the next 12 months.

Visitors

Professor **John Ayoade** from American University of Nigeria visited from 25 Jun - 28 Aug.

Dr **Gerald Cheang** from University of South Australia visited from 21–25 Sep.

Professor **KaiLi** visited and gave a talk: *De-duplication.*
17 Aug.

Appointments and Departure

Choon-Tuck Kwan departed in Jun 2009.

Robert Wellington has been appointed as Human Computer Interaction Lab Director.

Brian Cusack has been appointed as Digital Forensic and Network Security Lab Director.

Dave Parry has been appointed as AURA (RFID) Lab Director.

Masters Theses

Ikapote Tavalea—*The factors influencing ICT Governance implementation: A Case study*

PhD Theses

Tommi Opas—*An Investigation into the Development of a Creativity Support Tool for Advertising*

Tony Clear—*The Functioning of Virtual Groups: The Role of Collaborative Computing Technologies and Technology-Use Mediation in Support Their Work*

Stuart Young—*Business Fitness of Small Enterprises*

Laurie McLeod—*Stakeholder interaction in the information systems development process*

Saide Lo