

New combined degrees

In April Academic Board approved the addition of three new combined degrees.

The School's Bachelor of Information Technology degree will be combined with the:

- Bachelor of Arts
- Bachelor of Medical Science
- Bachelor of Medical Science.

These new combined degrees were developed in consultation with industry and the Australian Computer Society. Our extensive discussions identified areas that were becoming increasingly dependent on graduates with an IT background.

The combined degrees provide students with a structured program of study which allows them to obtain an Information Technology degree and further enhance their education and career options by adding skills from other areas.

All students in the combined degrees undertake core units in IT and selected units in Arts, Science or Medical Science.

Dr Irena Koprinska, who steered the proposals through the Academic Board process says "Graduates from the combined degrees will have the technical expertise to shape and manage technology. But this expertise will be complemented by in-depth study from another field - expanding their horizons careers wise and giving them a fuller university experience".

The new combined degrees follow on from the success of the combined Bachelor of Information Technology / Bachelor of Commerce degree that took its first cohort this year. The degrees will commence in 2009.

If you would like further information on these degrees please email: info@it.usyd.edu.au.



Visual Connections at the School of IT

We live in a world that is rich in information. Still we collect more and more data, and to make sense of it all we embrace new technologies that help us to make useful connections between the elemental bits of our data deluge. Whether we deal in stocks, biology, medicine, sociology, politics, literature, marketing, engineering, industrial design or ecology, we all seem to be striving to find knowledge in a vast unmapped sea of data.

Information Visualisation is the science that seeks to take large data sets and render them on two or three dimensional surfaces. It makes maps and pictures of abstract data. The aim is to help people explore new information spaces for useful patterns, to make visual connections, to find knowledge.

Of course artists have had a long tradition of exploring and communicating in visual ways. The information they seek to express ranges from unspoken emotions to cold logic, from the perceptual to the cognitive. So there is a connection between these artists and these scientists who visualise information. Indeed many techniques

and tools classically used by artists are now used algorithmically by computer scientists. They include spaces of points, lines and surfaces, colours, symmetries, enclosures and connections.

This exhibit showcases some of the visual connections between art, science and information. Some works are images from the science of information visualisation while others cross the borderlines of art and science, exploring on canvas the issues of visual connection. Included are the work of both scientists and artists, all of who are connected to the School of Information Technologies at The University of Sydney.

The **Visual Connections Exhibition** will be displayed in the exhibition space on Level 2 of the School of IT Building from 10-24 June 2008. Alumni are warmly invited to visit the exhibition.

The artwork included here; 'Abstract Trains of Thought', is by School of IT alumnus Dr Keith Nesbitt. Dr Nesbitt completed his PhD 'Designing Multi-sensory Displays for Abstract Data' in the Information Visualisation group in 2003.

Professor Peter Eades
Chair of Software Technology

For more information

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forwarding service.

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The University of Sydney
Alumni



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SoIT's News

School of IT Alumni Newsletter

Issue 2

June 2008

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From the Head of School

This is a great time for our alumni. We are in the process of forming the University of Sydney IT Alumni Association (USITAA). Two meetings have been held so far and the response has been very positive. I would like to thank Associate Professor Judy Kay for moving this important initiative forward. A strong alumni association is vital for the future success of our School.

It is now well recognised that IT is playing and increasingly important role in all disciplines. To cater for this demand three new combined degrees will be introduced in 2009, teaming IT with Arts, Science and Medical Science This is following on from the successful launch of BIT/BCom in 2008.

I just returned from a very successful trip to China as part of a delegation led by the Dean of Engineering & IT, Professor Greg Hancock. It was a very productive and eye-opening trip. China clearly offers lots of exciting opportunities for research collaboration and student exchange with several of their top universities.

Finally, I invite you to come and visit us; the Visual Connections exhibition is a good opportunity to do this. Join the USITAA social networking sites, stay engaged with the School and each other.
Regards, Sanjay Chawla



The National Computer Science School

The School of IT hosted 71 senior high school students and 4 teachers for the 13th National Computer Science School (NCSS) in January, 2008. NCSS was extended to 9 days for the first time with the generous support of our major sponsors, NICTA and the Macquarie Group, with significant contributions from Atlassian, Cochlear, Google, Microsoft, Oracle, and the Apple University Consortium.

"Best experience ever, great fun and it really changed my opinion about uni and what i would like to study."

The students and teachers came from all around Australia to learn Python programming and website development. In the process, they developed search engines and websites for Father Chris Riley's Youth off the Streets charity (<http://www.youthoffthestreets.com.au/>). To get a sense of what it would be like to work in industry, participants went on site visits to Microsoft and Atlassian,

Google and Macquarie Bank.

The Apple University Consortium lent NCSS a number of MacBook Pros that some of the students used for software development.

The students got a taste of university life by staying on campus at The Women's College. The College also hosted the formal dinner, where students and sponsors were asked to estimate on the back of an envelope: "Over what distance can a bicycle courier with a backpack of DVDs transfer information faster than a typical ADSL line?"

"The tutors were able to teach me more in a week than my school teachers teach me in a year."

A highlight was the Programming Competition on the Friday evening, where our sponsors and School of IT staff, mentored small groups of students in solving challenging programming, web development and logic problems.

Afterwards, they discussed careers in IT over supper while the final scores were calculated.

NCSS concluded with each of the 5 groups presenting their search engines and websites to their families, NCSS sponsors, academic staff, and most importantly, our charity clients who were most impressed with the quality of the work.

NCSS is a very intense program of lectures, lab work and other activities.

It relies on the large number of NCSS and School of IT alumni who contribute their time and expertise to tutor the students, help raise sponsorship, and the run the program. We would like to thank everyone for their enormous contribution in 2008 and we look forward to working with even more alumni for NCSS 2009.

If you would like to help with sponsorship or mentoring for NCSS 2009, please contact: Ms Wei-ying Ho

Email: ncss@it.usyd.edu.au

Phone: 61 2 9351 4917.

James Curran, Tara Murphy and Michael Cahill

NCSS Alumni Volunteers

James Curran, BSc Adv (Hons) 1999; Tara Murphy, BSc Adv (Hons) 1999; Michael Cahill, BSc (Hons) 1997; Gary Reynolds, BCST; Enoch Lau, BSc Adv (Hons) 2007; Laura Ingram, BCST (Hons) 2007, NCSS student 2003 and 2004; Nick Cooper, BCST (Hons) 2007 and Kim Upton, BCST (Hons) 2007.

NCSS Student Volunteers

Jonathan Kummerfeld, 3rd year, BSc Adv; Sam Thorogood, honours, BCST; Sam Tardif, 4th year, BCST, NCSS student 2004 and 2005; Glen Pink, 3rd year, BSc Adv; Will Cannings, 4th year, BCST, NCSS student 2003 and 2004; James Constable, 3rd year, BIT, NCSS student 2005 and 2006; Tim Dawborn, 3rd year, BIT, NCSS student 2005 and 2006; Susan Howlett, honours, BLibStudies; Anna Dominguez, 3rd year, BIT; Ben Taylor, 2nd year, BIT, NCSS student 2006 and 2007; Gareth Robinson, 2nd year, BIT; Dominick Ng, 2nd year, BIT; Laura McKemmish, 2nd year, BSc Adv; John Jiang, 2nd year, BIT and Georgina Wilcox, 2nd year, BSc Adv/BA.

Report on the meetings to form the Alumni Association

The first meeting to form the Alumni Association was held on the 25 March with 12 people. The meeting was very productive. Anna Schubert from Alumni Relations Office gave a very helpful overview of their role and support they offer.

After discussing the needs of alumni, the following goals were set:

- Form an official Alumni Association using the University's protocols.

A President, Vice-President, Treasurer and Secretary will be appointed. The Association will be formally affiliated with the University of Sydney Alumni Council to further develop links between IT alumni, the University and the School of IT for mutual benefit. The affiliation will also assist with the branding of the Association outside the University.

- Create an online presence for Basser/SIT alumni.

This would provide a forum for communication with the School on specific issues and would facilitate a social connection between alumni. It could also help us find lost alumni.

- To establish links between the Alumni Association and the Sydney University IT Society (SUITS).

There should be a natural progression from SUITS into the Alumni Association.

- To formally set out a program of activities/engagement strategies for the Association.

Alumni have told us they are interested

in what they can give back. If we clearly set out a program, members can see the aim of each activity, what is needed from them, and the benefit to them.

The second meeting was held on the 29 April, with eight people in attendance. The majority of the meeting was spent reviewing the draft constitution. The outcomes of the meeting were:

- The association will be named 'The University of Sydney IT Alumni Association (USITAA)';
- The Annual General Meeting will be held as soon as possible;
- A website for the association will be created on the Alumni Relations website.

LinkedIn and Facebook sites have been created for the Association, I urge alumni to register for these sites, and start building our alumni network (search USITAA or visit www.it.usyd.edu.au/ alumni).

The meetings have been really positive and demonstrated to me how keen alumni are to be involved with the School and our activities. I would like to thank everyone who attended, your enthusiasm is very encouraging.

If you are interested in becoming involved please check the website for updates:

www.it.usyd.edu.au/alumni or email alumni@it.usyd.edu.au.

**Associate Professor Judy Kay
Alumni Coordinator**

Staff news

Farewell

In April the School said farewell to administrative officer Mr Michael McCabe and senior lecturer Dr Selvakennedy Selvadurai.

Michael started at the School as a finance assistant, but many alumni will remember him as the postgraduate coursework administrative officer, a role he took on in 2005. Michael has moved on to a position at the School of Languages and Cultures.

Selvakennedy joined the Network and Systems Lab in 2003. As well as his research and teaching duties,

Selvakennedy also put a lot of energy into his role as the School's Postgraduate Research coordinator.

Both Michael and Selvakennedy will be missed, we thank them for all their hard work over the years, and wish them well for the future.

Welcome back

In April the School welcomed back Marketing Officer Ms Wei-ying Ho who has been on maternity leave after the birth of her daughter Emma in January 2007.

Correction

The amount for Joseph Davis' TIES grant was incorrectly reported in the last newsletter. The correct amount is \$67,320.



Staff Profile: Dr Tara Murphy

BSc Advanced (Honours) (University Medal) 1999

ARC Australian Postdoctoral Fellow
Dr Tara Murphy took a long road via the skies to arrive at IT: "I didn't study IT formally at University – IT wasn't promoted as something you should take as part of a Science degree. It was a mistake!" Whilst completing a PhD in astronomy at the Royal Observatory Edinburgh, Dr Murphy spent a lot of time working on software development, algorithms and solving IT related problems. This has led to a career in both IT and astronomy, and has made her a passionate promoter of IT education across all science disciplines: "In 2008, if you are planning a career in science, I think IT is as essential as maths." With this in mind, in 2005 Dr Murphy, together with Dr James Curran, developed a first year advanced course in Informatics (INFO1903): "The course applies IT to solving and managing data problems – we teach IT for scientists, for economists, for engineers, for everyone. But it is also provides foundations in IT and computer science that are critical for IT majors."

Dr Murphy says having the opportunity to present a course that reflected her own vision is a career highlight: "I was involved in every aspect of the course, developing it from scratch, and it was terrifying and exciting. When we received positive student feedback at the end of semester, it was the best thing in my career so far." The success of

the course has continued with student numbers increasing each year since its launch in 2006, peaking this year with 52 students.

Following her own experience in astronomy, Dr Murphy has used INFO1903 as the basis for an IT refresher specifically aimed at astronomers; "The Australian Virtual Observatory Summer School (Aus-VO) is a 3 day program where I have condensed INFO1903 and tailored it to the needs of astronomers and astronomy applications". The school has been extremely successful with astronomers coming from all around Australia and New Zealand to update their IT skills: "Each year Aus-VO has been so popular we have had to turn people away. It shows there is a real gap in knowledge, but hopefully this will eventually be solved by students undertaking courses like INFO1903 at university".

Dr Murphy's research also straddles IT and astronomy, the focus of her cross-disciplinary research is scientific literature mining, particularly applied to the field of astronomy; "There is a lot of natural language processing technology available which can be used to improve searching for information in text". Current technology works on newspaper text, but Dr Murphy has found that when used to search scientific literature, the language is too dissimilar to directly apply the same systems: "We are trying

to develop techniques and re-train the existing techniques to apply to scientific literature so we can improve searches in journal articles, using astronomy and biology as test domains". Dr Murphy is concentrating on astronomy and School of IT PhD student Ms Tara McIntosh is tackling biology.

Whilst the aim is to create technology that will work across all scientific literature, these fields were chosen for specific reasons as Dr Murphy explains: "Biology and medical related science produce the highest volume of literature and the area has a real need for this technology, but we are limited as a lot of the scientific literature is not publicly available. Astronomy has the advantage that all scientific literature is on the web for free, and search terms like galaxy names are very well catalogued and cross referenced so they make an ideal testing set."

Dr Murphy also works with the School of Physics on large scale radio surveys, observing the sky at radio frequencies with 'next-generation' telescopes; "The new telescopes produce enormous volumes of data and we have had to develop new algorithms to be able to process that quantity of information." This has allowed new exploration in the field; "One project I am working on detects transient sources in data. This type of study could not be done before as the data could not be processed fast enough. Using new telescopes the exact same region of the sky can be observed every single night. It is a completely new area of parameter space to explore, and it is made possible because of advances in IT and data exploration."

Dr Murphy may regret not studying IT at University, but has no qualms about her career choice; "I love being in IT at the University of Sydney. Working in IT allows you to be a generalist - as well as my work in text mining and astronomy, in the last year I have helped researchers in archaeology and English literature with IT problems, and I am now collaborating with another ARC fellow in Arts on a quantitative study of Australian literature. So the biggest perk of my job is being able to work on what I want, when I want, with a great diversity of people."

Josephine Sponberg