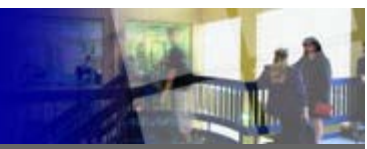


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UniSA News

September 2006

A newspaper of the University of South Australia



Graduations honour local leaders

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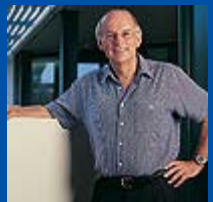
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Graduations honour local leaders

by Michèle Nardelli

August saw more than 1000 UniSA graduates cross the stage at the Festival Theatre in two days of ceremonies that also celebrated the contribution of high profile Australians to education and society. SA Premier Mike Rann and former Senator in the Hawke Government, Susan Ryan AO, were both made Honorary Doctors of the University of South Australia.



Premier Rann addressed the 360 business graduates who received their awards at the same ceremony, speaking on the invaluable role of universities in society.

In delivering the Premier's citation, Laureate Professor John Ralston acknowledged the Premier's strong support for the evolution of Adelaide as an education city and recalled his strong connection with UniSA.

"It was Mike Rann who just 15 years ago, as Minister of Employment and Further Education, introduced the legislation that established the University of South Australia," Prof Ralston said.

"He was also an SA Institute of Technology Council member from 1987 to 1989 and a member of the Techsearch Management Committee from 1986 to 1990. After the formation of UniSA in 1991 he showed great interest in the institution and served on its Council from 1994 to 1996."

Dr Rann told the graduates he was delighted that diversity and equality remained core values at UniSA.

"I believed then as I do now, that the advancement of this state depended at least as much on the confidence and talents of the many, as on the brilliance of a few," he said.

"The new University [UniSA] created a curriculum that sought to 'invite rather than impede, include rather than exclude'."

Dr Rann said that what excited him most about UniSA today was its positive future, including its new campus facilities and art gallery at City West, its links to programs such as the Thinkers in Residence initiative and its significant involvement in the manufacturing and defence technology sectors.

"I am very proud to say that I was 'present at the birth' of this University," he said. "My work with the University has been one of the most rewarding experiences of my professional life."

Dr Rann also paid tribute to Vice Chancellor Professor Denise Bradley for her leadership.

"It is fitting that her vision and determination have been recognised not just locally but nationally and internationally as well."

More modern political and social history greeted arts, education and the social sciences graduates when former Federal Minister for Education in the Hawke Government, Susan Ryan, AO, was awarded an honorary doctorate and presented the graduation speech at their ceremony. Ryan's tireless commitment to equity and access in education, and improved opportunities for women was a key theme in her citation.

A founding member of the Women's Electoral Lobby in 1972, Ryan worked to advance the status of women and improve access to education. During her time as education minister, school retention rates doubled, university and TAFE places grew significantly, R&D tax incentives and Cooperative Research Centres were introduced, and university education remained free despite the Labor Party's increasing

shift towards a user pays model.

As Minister Assisting the Prime Minister on the Status of Women, Ryan pioneered extensive anti-discrimination and equal opportunity legislation including the landmark Sex Discrimination Act 1984 and the Affirmative Action (Equal Opportunities in Employment) Act 1986. She also led the government's work to have Australia ratify the UN Convention on the Elimination of all Forms of Discrimination Against Women.

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From the Chancellery

The newly formed Australian Mineral Science Research Institute (AMSRI) will be launched by the Hon Nick Minchin, Senator for South Australia, at a ceremony on Friday September 8 at the Art Gallery of South Australia.

Professor Peter Hoj, Chief Executive Officer of the Australian Research Council (ARC), and senior industry and university representatives, will attend to highlight the significance and importance of AMSRI from their perspective.

AMSRI has been established to strengthen Australian technological and scientific leadership in particle science and engineering, and has its headquarters at UniSA's Ian Wark Research Institute located at our Mawson Lakes campus. AMSRI comprises three ARC Special Research Centres, located at UniSA (Particle and Material Interfaces), the University of Melbourne (Particulate Fluids Processing) and the University of Newcastle (Multiphase Processes), together with one of the world's best engineering centres, the Julius Kruttschnitt Mineral Research Centre at the University of Queensland.

AMSRI boasts a large range of industry partners including giants such as BHP Billiton, Rio Tinto, Anglo Platinum, Phelps Dodge, Xstrata Technology, and Orica Mining. Together, these companies have committed \$7.5 million through AMIRA International, the industry association which manages collaborative research for its global minerals industry members.

Through its Linkage program, the ARC has provided \$8.6 million to the five-year \$22.6 million research program to enable the creation of cross-disciplinary and cross-industry teams to conduct basic fundamental scientific research that will deliver economic, educational and environmental benefits to Australia. The four universities are contributing \$4 million, and the South Australian State Government has provided \$2.5 million for the Ian Wark Research Institute to establish the headquarters.

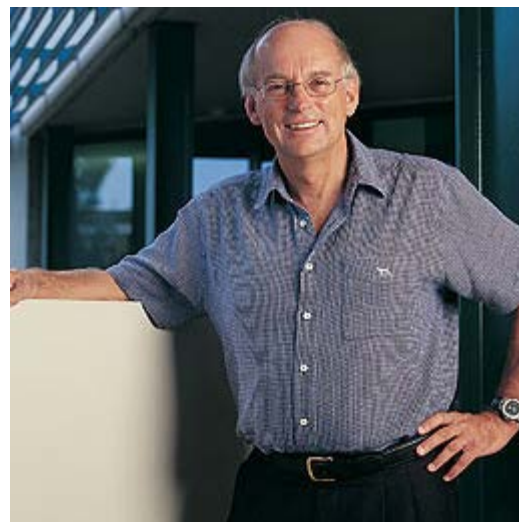
As Director of AMSRI, I will be working with a dedicated team of national and international researchers to conduct research into the major technical challenges facing the global mining industry over the next 25 years. This research will transform the mineral industry and extend to other industries concerned with particle science and engineering.

AMSRI is a unique multi-disciplinary activity, bringing together minerals companies, specialty chemical manufacturing, bio-pharmaceutical, environmental and electronic industries into a special research interaction, critically important to Australia. It is unequalled worldwide.

Ralston honoured

Laureate Professor John Ralston last month was named winner of the 2006 Premier's Science Excellence Award for research leadership and, with it, \$15,000 in prize money. ([Media release](#))

The Director of UniSA's Ian Wark Research Institute and Laureate Professor of Physical Chemistry and Minerals Processing, Ralston was selected for displaying strong leadership within his research team and for his significant success in collaborating across disciplines and sectors in developing the physical chemistry of the mineral flotation process, the surface chemistry of metal sulphides and the static and dynamic wetting behaviour of simple and structured solid surfaces.



UniSA's Vice Chancellor, Professor Denise Bradley congratulated Prof Ralston on winning the award.

"Laureate Professor Ralston has brought honour to the University of South Australia in activities which lie at the very core of our mission – working with industry partners to find innovative solutions. We celebrate his achievements and acknowledge our pride in all he has done for Australian science. This additional recognition, winning the Premier's Science Excellence Awards for Research Leadership, is very well deserved," Prof Bradley said.

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In brief

Vital role in environmental and social sustainability

UniSA's Professor of Business Law, Jennifer McKay has been appointed a member of the Natural Resources Management (NRM) Council in South Australia. The Council is the state's peak advisory body for NRM and is the first to be established nationally. It has the country's most comprehensive and integrated approach to managing the state's natural assets – soils, water, plants, animals and the diversity of landscapes and ecosystems.

Prof McKay, who is also director of UniSA's Centre for Comparative Water Policies and Laws, was chosen for her national and international experience in water policy and research, as well as business law and corporate governance.

"The focus of the Council is to review and promote integrated management of the state's natural resources, and provide advice to the Minister for Environment and Conservation about achieving a healthy, resilient and productive landscape that is ecologically sustainable through effective natural resources management," Prof McKay said.

Australian history now online

Everyone with an interest in Australian history, from school children to academic historians, will be able to search, free, for information on 11,000 people who have played a significant role in Australia's history thanks to a national treasure of more than 10,000 articles now available online. UniSA's Emeritus Professor Alison Mackinnon was one of the chief investigators who worked on the three year project, which presents concise, accurate details about the lives of important people in Australia's history in an easily accessible format.

The Australian Dictionary of Biography (ADB) Online is based on the printed volumes of the Australian Dictionary of Biography, which have been published on the Internet as a database with links to other resources. The ADB Online has a range of search options from a simple text search to more sophisticated searches by categories such as occupation, cultural heritage and religious influences. The project was funded by the Australian Research Council, with support from nine universities including UniSA, and the National Library, Museum and Archives of Australia.

Australian history now really is at everyone's fingertips and could not have come at a better time, according to Prof Mackinnon, who is also President of the History Council of South Australia. "As there is now considerable national debate about the place of history in the school curriculum, ADB online provides a user-friendly entry into a rich world of historical figures". To access ADB Online, go to <http://www.adb.online.anu.edu.au/adbonline.htm>

Strong Hong Kong links

UniSA took out the Judges Award for its work in expanding educational services for Hong Kong students in last month's Hong Kong-Australia Business Association Awards.

Mike Rowse, director-general of Invest Hong Kong and visiting keynote speaker, said two-way trade was growing, particularly with Hong Kong acting as a gateway to China. "The world has gasped at the speed at which China has developed," he said.

UniSA has developed strong links with Hong Kong and continually increased student numbers.

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Classifieds

For sale

Bunk Bed, with desk, hutch, set of drawers and cupboard underneath. Near perfect condition. New price over \$1400, sell \$800. Contact Peter on 0419 941 175 or peter.lee@unisa.edu.au

Drum Kit, bass drum, 10", 14", 16" side drums, 20" snare drum (Tempo by Dixon), 20" ride cymbal, 14" medium high hat cymbal (Schalloch), stool, 1 set of drum sticks, educational books and tape. Ex condition. \$600 neg. Contact Mary on 0407 852 144.

Accommodation

Brahma Lodge, 3 bdrms available for rent, \$80-\$100 per week. Fully furnished. To share with working professional couple, 20 min bus ride from Mawson Lakes. Bills for utilities will be shared. Contact Liz (0402 262 503) or Eugene (0402 262 502) or email lizeugene@internode.on.net

Forest Range, private bush retreat, self-contained cottage for up to four people, set on 17 acres at Forest Range in the Adelaide Hills. Children welcome. \$70/night, two night minimum. Weekly rate available. Contact Nerilee on 8302 5266 or nerilee.flint@unisa.edu.au

Services

Yoga/relaxation/meditation, every Tuesday at the Mawson Lakes Campus Sports Centre from 5.30pm to 6.45pm. Casual rates \$15 per class, special rate for block of six classes \$78 (a saving of \$2 per class). Contact Anne Endersbee on (08) 8341 5523.

Got something to sell?

Notices in the UniSANEWS classifieds are free to UniSA staff and students (space is allocated on a first-come first-served basis). Email your notices (keeping them shorter than 30 words) to unisa.news@unisa.edu.au

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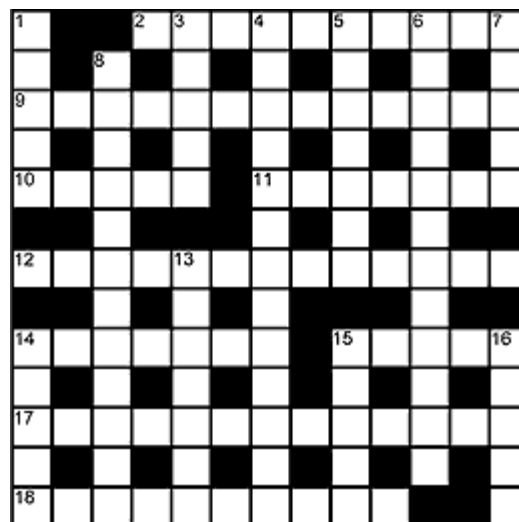
Colgan's cryptic crossword

Across

2. Alert as listening device's pointed out (5-5)
9. Possibly part of picnic hamper for cool county trips (7,6)
10. Hurt and, ignoring cold, stowed away (5)
11. Correct and true, but of little esteem (7)
12. Dawdler's nightmare is a cat! (13)
14. Rape had falsely been claimed by her (7)
15. Tramps are waiting for him to return to trail (5)
17. Like requesting darkness inside for romance (6,2,5)
18. Mark's sent with directions (10)

Down

1. Little time for tea and coffee! (5)
3. Even old lawn bowler contributes, beginning to end (5)
4. High flyers included old tennis champ and a group of old soldiers (13)
5. Charges past with pants-top missing (7)
6. Spooner's 8, like a southpaw (5,7)
7. Party spends unevenly, having dispensed with accountability (5)
8. Spooner's 6, like a magazine (5,7)
13. Time-worn crack affected address of Englishman (3,4)
14. Drags pants (5)
15. Lighting coordinator nearly makes a boo-boo (5)
16. Mint-like favourite of you and me? (5)



Wine to win

For your chance to win a bottle of fine wine, fax your completed crossword to (08) 8302 5785 by Friday, Sept 22.

Solutions published online at www.unisa.edu.au/unisanews/2006/September/colgan.asp on Sept 29.

Solution



Explanations

(C = cryptic part of clue + S = straight part of clue;
or S + S = clue holding answer twice with two different straight meanings;
or POW = play on words.)

Note that joining words may or may not be an integral part of the clue.

Punctuation and capital letters are irrelevant.

The art of the setter is to make it non-obvious how and where to split the clue,
and to mislead the solver along an irrelevant path.

Across

2. C: listening device (ear) pointed out (pricked, outside)
S: alert = prick-eared
- 9 C: cool (chic) county (Kent) trips (highs)
S: possibly part of picnic hamper = chicken thighs
10. C: ignoring cold, stowed away (cached, without 'c')
S: hurt = ached
11. C: correct and true (anagram of 'and true')
S: of little esteem = unrated
12. C: dawdler's nightmare (tortoise's hell)
S: cat = tortoiseshell
14. C: rape had falsely (anagram of 'rape had')
S: rape had falsely been claimed by her = Phaedra
15. C: return to trail (reverse 'to dog')
S: tramps are waiting for him = Godot
17. C: like (fancy) requesting darkness inside ('light off', inside)
S: romance = flight of fancy
18. C: mark (sign) sent (posted)
S: with directions = signposted

Down

1. C: little time (mo) tea (cha)
S: coffee = mocha
3. C: old lawn bowler, beginning to end (Drake, with 'd' moved to the end)
S: even = raked
4. C: high flyers (condors) included old tennis champ and a ('Quist' and 'a', inside)
S: group of old soldiers = conquistadors
5. C: past (ex) pants-top missing (shorts, missing first 's')
S: charges = exhorts
6. C: Spooner's 8 (spoonerism of 'light reading')
S: like a southpaw = right leading
7. C: party (do) spends unevenly (s,e,d)
S: dispensed with accountability = dosed
8. C: Spooner's 6 (spoonerism of 'right leading')
S: like a magazine = light reading

13. C: time-worn (old) crack (chap)
S: affected address of Englishman = old chap
14. S: drags = puffs
S: pants = puffs
15. C: lighting coordinator nearly (gaffer, but not quite)
S: boo-boo = gaffe
16. C: of you (thy) me (me)
S: mint-like favourite = thyme

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Our People - Stephen Boyle

Born and bred in Adelaide, I studied music at the Elder Conservatorium, majoring on trombone and then worked as a freelance musician for a number of years. During this time I had the privilege of working with some of the greatest names in music and entertainment, ranging from international stars like Shirley Bassey, Sammy Davis Jr, Jerry Lewis and Liberace to the St Petersburg and Sadlers' Wells Royal Ballet companies. I did freelance work with orchestras such as the Adelaide Symphony, Melbourne Philharmonic and the State Opera Company of SA. I also worked in musical theatre, playing in the pit for many shows and even did a stint with the circus.



The life of a freelance musician, while varied and exciting, is also somewhat sporadic, so I took a full-time position with the South Australia Police band. This 35-piece professional band works as the state band of SA and performs across the state, nationally and internationally to communities of all shapes and sizes. A highlight of my time with the band was our invitation to perform at the Edinburgh Military Tattoo in 1990.

I was eventually promoted to Band Master and it was at this point that my interest in management studies began. I completed a Graduate Diploma in Management (Arts) and an MBA at UniSA and soon after was appointed as a lecturer in arts management at the Western Australian Academy of Performing Arts (WAAPA). My time at this internationally recognised training institution for the performing arts was exciting and gave me a great introduction to the world of academia.

In 2000 I accepted a position here at UniSA as a lecturer in the arts and cultural management program. This program is the oldest and largest postgraduate program of its type in Australia. The program has a great reputation and has produced many fine graduates holding significant positions in the cultural sector in Australia and overseas. As Program Director of this program I hope to continue this fine work and help to produce the future leaders of our arts and cultural institutions.

Stephen Boyle is Director of the Master of Management (Arts and Cultural Management) Program.

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A 3500km journey of discovery

Gerry Clarke, Human Resources Manager, Flexible Learning Centre, recently participated in a field trip to the Pitjantjatjara Lands as part of his professional development program. The field trip is conducted by the Spencer Gulf Rural Health School, a joint initiative of the University of South Australia and the University of Adelaide.

Joy, sadness, delight, fear and hope were but some of the emotions experienced by the 11 participants – a doctor, two social workers, an academic, a professional developer, five clinical psychology masters students and me – on the Seventh Bringing Cultures Together Field Trip to the Pitjantjatjara Lands.

Our first stop was Coober Pedy, the Umoona Tjutagku Aboriginal Health Service – where healthcare workers play a key role in delivering both patient care and preventative measures – and the Umoona Aged Care Home. The aged care facility is run by an elected community board of Aboriginal elders, who place great importance on ensuring tradition and culture are respected. They lament that their generation may be the last raised traditionally and that they are not able to pass on their knowledge to future generations – thousands of years of knowledge lost forever.

Next, a detour via Breakaways Reserve, home to the Muntuntjara and Antakirinja people, to the opal mining town of Mintabie. The scenic beauty of this place is breathtaking.

Dirt roads led us the next day to Fregon to visit the Kaltjiti Aboriginal community, which is usually closed to outsiders.

We were privileged to experience an INMA (Pitjantjatjara word for Corroboree) performed by traditional dancers, other elders and three young boys.

One of the highlights of the trip for me was a simple game of kick-to-kick with some young boys, including the boys who had danced for us the previous night. Many barriers had been broken down through our engagement with the community the night before.

It was then back onto the bumpy and dusty roads as we headed for Uluru. The spiritual beliefs surrounding Uluru form an integral part of the Unangu people's Mutitjulu culture and impacts on them today as it has done for thousands of years. But, in the shadows of the grandeur and extravagance of the Yulara resort, the Mutitjulu community battles for survival, with financial, health, education and social problems to overcome.

During the return journey, I reflected on the future of these communities. Two factors gave me cause for hope. First, the spirit and achievements of Aboriginal people over more than 50,000 years. Second, inspired by the passion and attitudes of the students on the trip, I was convinced that our young people have the opportunity and capacity to work with the communities to find solutions to their very real problems.

If you would like to join one of the three field trips planned for 2007, contact Pat Sketchley, Spencer Gulf Rural Health School at pat.sketchley@unisa.edu.au or (08) 8647 8098.



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Academic board

July 2006
by Peter Cardwell

Corporate Performance Report 2005

The Pro Vice Chancellor (Organisational Strategy and Change), Prof Hilary Winchester, gave a special presentation on the Corporate Performance Report 2005.

In relation to its Key Performance Indicator targets for 2005, the University had performed well. The University maintained its proportionate share of first preferences for undergraduate places in the state at 44 per cent, and was well ahead of the other South Australian universities.

There were 3,033 international onshore students in 2005, which represented an increase of 20 per cent on the previous year and was well above target. Over the same period, trans-national student numbers declined by 25 per cent to 3,180.

The percentage agreement on the good teaching scale increased to 44 per cent in 2005. The University also improved its position on students' overall satisfaction with their programs, with an increase of 3 per cent on the previous year to 65 per cent.

Graduate employment outcomes remained steady at 75 per cent, and improvements had been made to the Careers Service.

Equity indicators were good, with a continued increase in the percentage of students from designated equity groups.

During 2005 the University increased its research degree target load to 699, and there were 144 research degree completions. Total research income rose by 14 per cent and research income per capita reached \$39,501.

The University's proportion of gross income from non Department of Education, Science and Training (DEST) sources in 2005 was 62.5 per cent. Commercialisation revenue rose to \$7.3 million, and international student revenue rose to \$57.7 million.

The University achieved a total of 43 per cent female academic staff for 2005, which was well above the national average. Staff holding a doctorate degree rose to 46 per cent from 41 per cent in 2003.

Senior Management Group identified a number of major issues arising from the 2005 review. The main characteristic of today's environment in relation to staff was the competition for high performing research staff, particularly as universities prepared for the implementation of the Research Quality Framework, and for younger staff in response to the changing demographic profile.

In this context, research workforce planning was seen as particularly important. The University already had around 300 supported researchers, which would expand. A decision needed to be made on what would be a reasonable number of supported researchers in five years time, and what it would take to get there. It was clear that recruitment at the local level was vital to support research activity.

Relationship management was another imperative, and the University needed a clear strategy on how it managed major external relationships such as that with the South Australian State Government.

In addition, there was the need for building capacity for process improvement in a multi-campus institution. The question was whether the University needed a team to manage this process.

The review process had identified some areas for immediate action in 2006. Service teaching was one

such area, which had not been addressed for a number of years.

There was a need to achieve the most effective use of resources in student administration.

Indigenous student support for commencing students in the University Foundation program needed to be looked at closely.

Teaching and learning governance structures, and more effective library structures were other important areas needing attention. The Pro Vice Chancellor (Academic) would look at these matters.

The Pro Vice Chancellor (Research and Innovation) would investigate the teaching and research nexus, the level of support provided to research students, professional development for research leaders, and progress with the University's approach to E-research.

The Executive Director: International and Development would concentrate her efforts on extending the focus of the International Strategy Group from teaching and learning into research, looking at the role of marketing and alumni coordinators, and developing a more holistic approach to scholarships management.

The Pro Vice Chancellor (Organisational Strategy and Change) would look at the pattern of employment of Indigenous staff, patterns of professional development uptake, lost time through injury targets, and how business intelligence might be used more effectively at the local level.

The Executive Director: Finance and Resources had security arrangements in University buildings, and the role of the Student and Academic Services and Finance units in dealing with student debtors as part of his brief.

UniSA response to SACE review

Academic Board unanimously endorsed a response to the report Success for All: South Australian Certificate of Education (SACE) Review released earlier in 2006.

This followed an extensive consultation process with the University community, and consideration of the Review Report at three successive meetings of the Board. The process included a special presentation by Prof Alan Reid, a member of the SACE Review Panel, at the May Board meeting, which all University staff were invited to attend.

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Greener solutions for acid mine waste

by Geraldine Hinter

Current technologies used to treat acid generating mine wastes have been shown to be effective in the short term but acid reaction and treatment mechanisms are not fully understood, limiting the effectiveness of assessment and long-term control.

Researchers at UniSA's Applied Centre for Structural and Synchrotron Studies (ACeSSS) have been awarded an Australian Research Council (ARC) Linkage grant in collaboration with industry partner AMIRA International Ltd worth almost \$1 million over four years to critically evaluate reaction mechanisms and products in mining waste treatments.

The research is being undertaken by ACeSSS chief investigators Professor Roger Smart and Dr Jun Li, with industry partners, AMIRA (company sponsors Rio Tinto, Zinifex, PT Freeport Indonesia, Teck Cominco Canada), Environmental Geochemistry International Pty Ltd (site consultants), Levay & Co Environmental Services, and Boojum Research in Canada.

Having a fundamental understanding of reactions in acid rock drainage (ARD) treatments will enable us to more accurately predict when acid will be produced, improve waste management over the long-term, and reduce uncertainties, according to Prof Smart.

"In Australia alone, the cost of managing wastes from operating mines exceeds \$80 million annually, with more than \$600 million in inherited liability at abandoned sites.

"If the outcomes of this research can make a few per cent difference to these huge mining costs, then savings of many millions of dollars for industry can be achieved."

ACeSSS will undertake five main programs of fundamental and applied research with its industry partners and sponsors.

"Program one is about improving our understanding of reactions with limestone, the main additive used to treat sulphide wastes," Prof Smart said.

"The secondary minerals formed by waste treatment processes are being examined in program two. We are developing methods to identify these minerals and to determine if they store acidity.

"Program three looks at minerals within wastes that neutralise but are not assessed in processing because they neutralise at a slow rate. These minerals help to control acid mine drainage (AMD) without any additives. They neutralise continually over the life of a waste dump. We are developing methods to assess their neutralisation value," Prof Smart said.

In program four researchers will work closely with company sponsors, taking samples from their operating sites to study the different developmental stages of reaction mechanisms in the waste and treatments using neutralising products such as limestone, cement kiln dust, fly ash waste and red mud.



"In program five we are collaborating with Margarete Kalin at Boojum Research in Canada, who has been following sequences of reactions on site samples collected over 20 years. Valuable information from these long-term studies will help us to determine which secondary minerals take up toxic metals such as copper and nickel, as well as acid," Prof Smart said.

Kalin uses sophisticated ecological wetlands to treat AMD runoff by raising the pH and removing toxic metals using natural microbiological processes that continue to clean the waste dump beyond management.

"If we work out how to treat waste early, we can substantially reduce the remediation costs associated with leaving cleanup to the end of mining operations. That is now well recognised by the companies."

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The deep end of language learning

by Michèle Nardelli

If UniSA languages and applied linguistics expert Angela Scarino has anything to say about it, learning languages in Australia will soon become a deeper experience than just that struggle with vocabulary.

At the crest of a major educational initiative, which has attracted more than \$2 million in Australian Government funding support and will involve teachers in every state in Australia, Scarino is aiming to make languages education a tipping point for real intercultural engagement.

The Intercultural Languages Teaching and Learning in Practice (ILTLP) project held its first national planning meeting at the end of August.

Scarino says beyond all the 1980s multicultural rhetoric about "celebrating diversity", intercultural engagement is a key to success in the new era of globalisation.

"We are all shaped by our culture. We bring views and understandings to all of our interactions that are a product of our cultural experiences," Scarino said.

"If you consider the nature of the world today – an environment of constant movement of people and ideas, all in an increasingly global community – the ability to engage in interactions at a genuine level with different cultures must be highly prized."

The advantages of using language education as a starting point for developing these 21st century skills, is that it is an education platform that always necessarily brings together at least two languages and cultures.

With planning for the first phase of the research set, 20 highly experienced teachers of languages from across the country will be researching and developing new models of teaching in their classrooms with students. The results from these case studies will inform the development of resources for teaching professional learning.

"When this research is done we hope to have developed teaching models and exemplars that can be fed into a professional learning program for a further 400 language teachers," Scarino said. "And here we want to have regular feedback from all these teachers about what is happening and yielding the best results in the classroom."

Scarino says this regular dialogue and feedback will be one of the most significant aspects of the project in building intercultural teaching and learning skills.

The Intercultural Language Teaching and Learning in Practice project has been commissioned and funded by the Department of Education, Science and Training under the Australian Government Quality Teacher Programme. Project leaders are Angela Scarino and Tony Liddicoat from UniSA's Research Centre for Languages and Cultures Education.



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Architectural history on the page

In the daily bustle through the city streets, in our dash to get from suburb A to suburb B, it is not often that we stop and become really conscious of our surroundings – but they do tell a story.

Every major building, from the modern multistorey office towers to the old facades of banks and department stores and even those strangely eccentric Adelaide homes that leap out amid the mainstream sandstone and red brick – is a tale of architectural proportions.

This year UniSA's Louis Laybourne Smith School of Architecture and Design celebrates 100 years of education and endeavour. Marking the anniversary, the School will mount a major exhibition, *Architectural Preludes – One hundred Years of Student Drawings*, September 26-October 6, featuring some of the early work of architects who went on to shape our city and make their mark nationally and internationally.

The exhibition provides an insight into the educational experience of young architects from the school's earliest days as part of the School of Mines and also the history of the school as it moved through different philosophies of architectural design and education.

The Architectural Department was founded in 1906 by Louis Laybourne Smith, a young South Australian engineering graduate of the School of Mines and University of Adelaide, whose yearning for formal academic study in architecture led him to initiate his own course. It began as a group of colleagues who instructed one another in subjects including the history of architecture, building construction, and drawing. But, with assistance from his private practice partner Walter Hervev Bagot, Laybourne Smith's vision of a dedicated architecture course was realised. Despite returning to private practice in 1914, Laybourne Smith remained Head of the School until 1951 when Gavin Walkley took over. He, in turn, remained Head until 1975.

The school was created very much in the British mould. This meant education revolved around architecture in the classical style and drawings focused on the aesthetics of proportion, with detailing and fully rendered images in three dimensions.

Accreditation for graduates from the school was a key issue in the early days as the industry sought to gain professional status and by 1910 the satisfactory completion of the Testimonies of Study became a requirement for SA architects to be admitted into the Royal Institute of British Architects (RIBA), then the only industry body operating in Australia.

By 1929 the Federal Council of Australian Architects established the Australian version of RIBA in the Royal Australian Institute of Architects – a first step in the move away from colonial sensibilities and a sign of the waning of British influence over architectural education. This was quickly followed by a romance with the American Beaux-Arts (Fine Arts) system of design education. Based firmly on the French Ecole des Beaux-Arts model, this system of teaching had the architect as artist firmly at its core.

This is reflected in student work of the period with designs of grand monuments, Renaissance in flavour, with a clear emphasis on the role of architect as well-to-do professional providing services to the wealthy.

But as they say, war changes everything and WWII and its aftermath brought a new sense of the



practical to architectural education – designs for military training centres and day care centres for children of mothers working in wartime manu-facturing were the order of the day. But despite the advent of modernism the Beaux-Arts influence did not fully recede until the 1960s and 1970s.

Postmodernism promulgated populist architecture from the 1980s and by the 1990s the Institute had become the University and computer aided design had made a powerful impact on student work. Feared as a threat to hand drawing it has found its place as an augmentation, rather than replacement to important fundamental drawing skills.

The exhibition offers a unique unfolding of the history of architecture education in the state – in drawings, plans and designs on display and in the impact that some of these students were to make to architecture in Australia.

Adelaide architect Keith Neighbour, who was principal architect on the Hilton International Hotel in Victoria Square, will open the exhibition. Some of his own student work will be on display.

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This little product went to market

by Vincent Ciccarello

Long before high-speed telecommunications and laissez faire economics, getting a product to market literally meant that: loading the fruits of one's labour onto a cart and transporting them to a marketplace for sale.

It is a far cry from the modern-day challenges of transforming sophisticated, highly-technical university research into viable products that can compete in a global economy.

But for more than five years, Itek, the commercialisation business of UniSA, has met those challenges. And the company seems poised to build on its already impressive track record of getting UniSA research from the laboratory into the community at large.

Greg Macpherson (pictured above), Itek's commercialisation manager, said some 16 technologies ranging from anti-cancer and wound healing therapies to plasma nanocoatings are at an advanced stage of development. They promise to provide a significant boost to Itek's \$7 million annual turnover from its numerous "spin out" businesses, product licensing arrangements and investments, which include telco business Cohda Wireless, skin cancer drug business PharmaQuest, accreditation software company GTA, and pollutant remover CleansAll.



"A couple of the new products under development could be available on the market within 18 months," Macpherson said.

Trials are also about to commence on a revolutionary nanocoating, developed by UniSA's Ian Wark Research Institute, to improve the success of orthopaedic and dental implants.

"This has the potential to significantly reduce the revision rate for orthopaedic reconstruction and trauma," Macpherson said. "Today about 17 per cent of implants require replacement due to loosening or infection, because of poor integration between metal and bone. The Wark™ Nanocoating offers a breakthrough in bone to metal bonding that will improve the success rate of surgical implantation."

The project team is currently in discussions with major orthopaedic companies about adopting the nanocoating, which will give companies significant competitive advantage and offer patients improved surgical outcomes.

An augmented reality system, developed by the School of Computer and Information Science's Wearable Computer Lab, integrates computer-generated graphics and sound into the real world. Courtesy of A-Rage (Augmented Reality Active Game Engine), an Itek "spin out" business, a prototype head visor, backpack and video game have already grabbed the attention of major businesses in the video game industry.

Itek recently showcased nine of its current technology projects – and UniSA's research capabilities – at the Commercialisation Expo 2006 in Melbourne. The event, which brings research organisations and industry together, was the second of its kind in Australia.

"The intention is to develop the Expo into a major place where businesses would go to find university technology," Macpherson said. "It's still relatively new but it will grow into a place where, as a commercialisation business, we can go and present technology and UniSA's research capability and we'll find companies coming to us."

For further information about Itek, visit www.itek.com.au or contact Greg Macpherson on +61 (0)8 8302 5317.

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New trends in data warehousing

by **Andrea Matulick**

UniSA recently hosted the first meeting of the Data Warehousing and Business Intelligence Special Interest Group of the Australasian Association of Institutional Research (AAIR).

AAIR members Graeme Poole (Student and Academic Services) and Andrea Matulick (Planning and Assurance Services) coordinated the two-day event at City West campus, which included speakers from five Australian universities and major software vendors COGNOS and Microsoft. The event was attended by representatives from 18 Australian and two New Zealand universities.

A data warehouse acts as a centralised repository of an organisation's data and is used to support forecasting and decision-making processes across the enterprise. Many organisations are data rich and information poor, a problem that can be addressed by designing and developing an information management system based on a data warehouse.

More Australian universities are choosing to develop state of the art data warehouses using best practice methods already in use in Australian private industry and the United States. The presentations at the meeting included case studies and demonstrations of architecture, design, performance, software selection and reporting from five Australian universities already involved in data warehousing.

Ken Diefenbach (Central Queensland University) spoke about the huge benefits to corporate reporting, fast analysis and decision making that a carefully planned Data Warehouse can produce. Wayne McCullough (Queensland University of Technology) explained the ability of a warehouse to track changes in data to enable accurate "point of time", "same time last year" and time series reporting.

A survey carried out by the Special Interest Group earlier this year indicated that while private industry warehousing projects typically had budgets of millions of dollars and teams of 25 to 50 people, Australian universities tended to take a longer term approach with budgets of up to \$500,000 per year and teams of four to six people.

UniSA is currently engaged in an Enterprise Data Warehouse project to integrate, standardise and document data from its major source systems (student, finance, human resources and research master) plus national benchmarking data and other external data sources. The business and technical managers of the project are Tara Hemingway (Planning and Assurance Services) and Tony Dalwood (Information Strategy and Technology Services).

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Drawn to win

by Michèle Nardelli

A pensive bully, a rascally rat, two very flexible zebras and a snow peak with a distinct personality – all of these characters are alive on the page at the Storylines exhibition at Gallery M, Marion Cultural Centre.

And they are the creation of budding illustrators from UniSA – a group of current students and recent graduates who were invited to display their work alongside published children's book illustrators for the exhibition which runs until September 10.

Included in the group is work from the winner of the 2005 Scholastic National Illustrators Award, Josh Lee and runners up in the same competition, Sarah Bettany (pictured) and Denes Nagy. Lee's purloining rat, Ratty, a creation from childhood, is featured in the display along with other characters from the story including hippos and flamingoes, all inspired by trips to the Adelaide Zoo. Lee was awarded the chance to illustrate a 24-page picture book with an advance fee as part of the competition.



Also on display is work from Gabriel Cunnet who, following the competition was commissioned to complete the illustrations for Calico Camel, the children's story set for the competition entrants to illustrate.

Course coordinator for the Bachelor of Visual Communication, illustration design, David Blaiklock says the student success is extremely rewarding.

"The course has a strong emphasis on design theory and illustration techniques and we also focus on illustration as a narrative tool and a means of character development," he said. "So the learning environment is there but we also have some extremely talented illustrators in our program. It is clear from the results we get in competitions, and the fact that they are invited to exhibit, that their skills are top notch – and can only get better."

More information about the course is available from David Blaiklock on (08) 8302 0676.

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Architectural treasure-trove

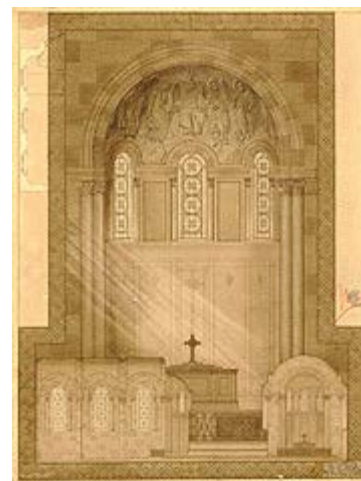
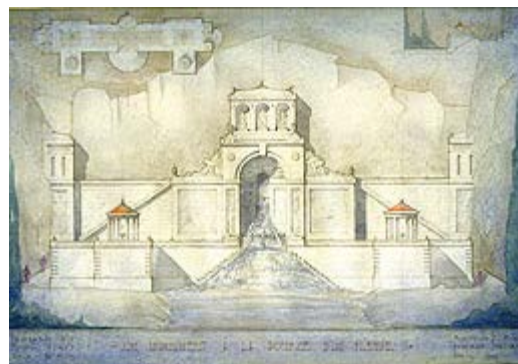
Every item on display in the Architectural Preludes exhibition (see opposite page) comes from the collection of UniSA's Architecture Museum.

The museum, located in a purpose-built facility in the Kaurna building with the Louis Laybourne Smith School of Architecture and Design and the South Australian School of Art, holds more than 200,000 catalogued items and is the only repository of its kind in Australia.

A substantial portion of the collection was donated to the School of the Built Environment (predecessor of the current School of Architecture and Design) in 1990 by architectural historian Donald Leslie Johnson, who in the 1970s started his own private collection of documents relating the history and practice of architecture in South Australia.

Thanks to Johnson's generosity, the museum holds drawings, specifications, correspondence, photographs, notebooks, diaries and an extensive library of books, periodicals and catalogues that provide a unique overview of South Australian architecture and its social history.

The Architecture Museum is open to UniSA students and staff and the wider community for research. For more information about the Museum and its holdings, visit www.unisa.edu.au/arc/Archarchive or contact Museum Director Dr Christine Garnaut at christine.garnaut@unisa.edu.au or +61 (0)8 8302 0204.



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Systems engineering expertise

by Vincent Ciccarello

UniSA's Systems Engineering and Evaluation Centre (SEEC) has been recognised as a world-class centre of systems engineering by notching up an impressive list of achievements at this year's symposium of the International Council on Systems Engineering (INCOSE) in Orlando, Florida, the premier world gathering of systems engineers and academics.

Systems engineering deals with the business and technical needs of customers with the goal of providing a quality product that meets the users needs.

Associate Professor Joseph Kasser was acknowledged as one of the world's top systems engineering academics by being made a Fellow of INCOSE for his contribution to systems engineering as both practitioner and educator.

He and Associate Professor Amihud Hari also received the "Best Paper Award", the second year in a row SEEC's academic staff have won the honour.

SEEC research staff wrote and presented six of the symposium's 44 papers, second only to the Massachusetts Institute of Technology (seven papers).

The INCOSE Australia Chapter, hosted by SEEC, received the prestigious Gold Circle Chapter Award for the second year in a row.

In addition, UniSA and Stevens Institute of Technology, New Jersey, negotiated an agreement to cooperate in research and education and which has already produced a joint application to the US National Science Foundation's graduate traineeship program.

"These programs give graduates the edge needed to become leaders in their chosen fields," Prof Kasser said.

The agreement will also allow UniSA to offer courses to Stevens postgraduates, increasing the number of non-residential overseas full-fee paying students at UniSA.

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Recent Hawke Centre events

Peak Oil

In the wake of major community concern in Australia over the price of petrol and its implications for social and economic stability, the Hawke Centre presented an August public forum on Peak Oil or Oil Shock? Energy security and pathways to a sustainable future, addressed by international speakers David Holmgren and Richard Heinberg.

Both gave a thorough briefing on the world situation, and addressed these critical questions. Why do we have sustained high petrol prices? Is this a brief blip on our economic horizon or have we hit Peak Oil, the halfway point in the availability of oil? What are the alternatives to fossil fuel and how can we adapt our cities and the way we live to cope?

Both also highlighted how Peak Oil could provide an important opportunity to implement a wide range of positive, environmentally-benign, economic and social alternatives that will help us bridge the energy gap, including rebuilding personal and household self-reliance, re-localising communities and economies, and regaining greater control over our future.

Quality and equity in education – Australia's scorecard

When Australians engage in debate about educational quality or equity, they often seem to accept that a country cannot achieve both at the same time. Prof Barry McGaw AO, Director of the Melbourne Education Research Institute, recently presented compelling international evidence that there are countries which do, although Australia is not among them.

Prof McGaw's lecture was hosted by the Hawke Centre at UniSA in association with the Committee for Economic Development of Australia and Delfin Lend lease, to 180 attendees, including distinguished leaders and educators from a number of institutions and agencies. His lecture explored ways in which education systems can provide choice, as Australia's does, while also increasing social capital and helping to increase social cohesion. A response from Dr Tom Karmel, MD of the National Centre for Vocational Education Research reinforced the view that a quality outcome is an elusive goal for a range of students based on current statistical evidence. In her vote of thanks, the VC Prof Denise Bradley reflected on the critical need to be vigilant about quality, particularly in the context of the current SACE review, and the significance of Prof McGaw's insightful findings for all Australians.



Prof McGaw's paper is available at www.hawkecentre.unisa.edu

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A new spin on sleep loss

by Michèle Nardelli

*To sleep! perchance to dream: – ay, there's the rub.
(Hamlet III, 1, 65-68)*

And for Melbourne DJ, Matt Solo, who has just captured a Guinness World Record for continuous music mixing, "the rub" came as waking dreamlike hallucinations during the five day sleepless challenge.

UniSA sleep researcher Dr Jill Dorrian witnessed the onset of hallucinations as she monitored Solo.

"Most reports show that hallucinations start at around 50 to 60 hours of being awake," Dr Dorrian said. "Solo's experience ran true to form."

Dr Dorrian said while there are laboratory studies on the effects of sleep deprivation there are very few studies of sleep deprivation in a real world context. Her observations supported the idea that while the frontal lobe will suffer under the stress of sleeplessness, the brain seems to be able to harness other resources to maintain practised tasks for some time.

"While Solo was reporting that he thought the turntables were houses and the mixer was a cobbled street, he was still mixing music and not making errors."

But it was late on day three that he experienced his most frightening hallucination, completely forgetting how to DJ and mix.

"At this point he really needed support to continue functioning – it was clear that his body was demanding sleep."

While Dr Dorrian says she is still to analyse a full video of Solo's experience, certain aspects of his responses are quite significant.

"It is clear that sleep deprivation has a huge impact on the ability to perform tasks," Dr Dorrian said. "The brain makes its best effort to keep a person functional but there comes a point where it cannot counter the effects of sleep loss."

"We also know that beyond world record attempts, people can accumulate sleep debt just in the course of their work or everyday life. People with newborn babies who wake regularly, people working shifts or in emergency services, or even those who tend to burn the candle at both ends, will carry a sleep debt that can impair capacity to function at safe levels."



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