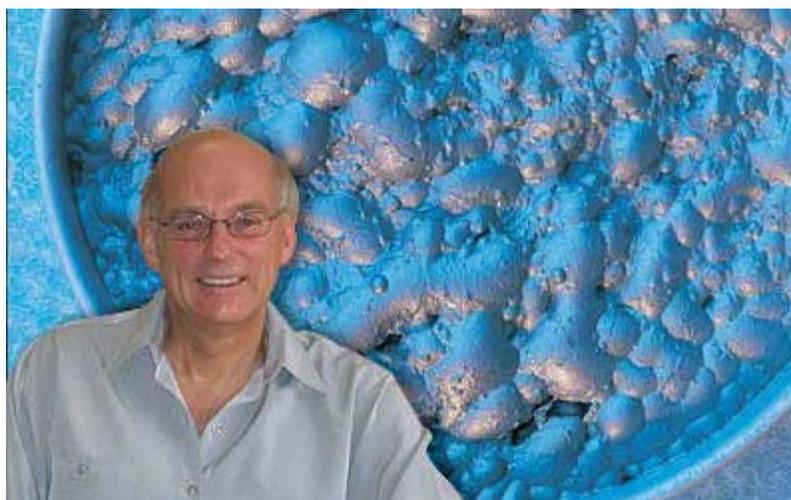


# UniSA News

November/December 2005

A newspaper of the University of South Australia



## UniSA leads mineral research boom

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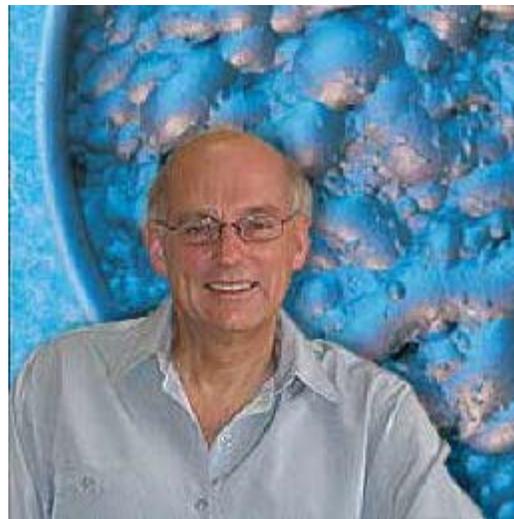
## UniSA leads mineral research boom

by Michèle Nardelli

UniSA's Ian Wark Research Institute has been named the lead institute for a new multi-million dollar Australian research group comprising a consortium of world-class Australian university research centres and a global network of 24 collaborators.

To be known as the Australian Mineral Science Research Institute (AMSRI), it will focus on science that will promote minerals and related industry efficiency locally and worldwide.

AMSRI will be supported by the largest Australian Research Council (ARC) Linkage grant ever awarded – with a cash value of more than \$22 million, comprising ARC, industry, university and State Government of South Australia contributions.



The Australian partners are UniSA's Ian Wark Research Institute, the Australian Research Council Special Research Centre for Particle and Material Interfaces, led by Laureate Professor John Ralston (pictured); the University of Queensland's Julius Kruttschnitt Mineral Research Centre; the ARC Special Research Centre for Multiphase Processes at the University of Newcastle; and the ARC Special Research Centre for Particulate Fluids Processing at the University of Melbourne.

Delighted with the announcement, Prof Ralston said the foundation of AMSRI would underpin broad and significant benefits for the Australian community.

"This new Institute will strengthen Australian technological and scientific leadership in particle science and engineering and support the kinds of innovations that improve energy efficiency, enhance frugal water use and waste management, devise improved minerals processing, and develop new and better materials," Prof Ralston said.

As Director and founder of the Ian Wark Research Institute, Prof Ralston said the support of the South Australian Government in promoting the proposal for the new Institute and UniSA's lead role had been invaluable.

"Strong support from State Ministers Karlene Maywald and Paul Holloway shows they have understood not only the excellence in research that already exists in South Australia, but also the importance of a powerful national research alliance in these fields, for both our state and the nation," he said.

AMSRI has been coordinated by AMIRA International, which secured industry support and collaboration from BHP-Billiton, Rio Tinto, Anglo Platinum, Phelps Dodge, Orica and Xstrata Technology.

"I believe AMSRI will be a core institute internationally in particle science and engineering research with the world's best researchers on board. From that base our aim is to contribute to the Federal Government's Mining Technology Services Action Agenda to achieve \$6 billion in minerals technology services exports by 2010. The Institute will also bring together research disciplines from other industry sectors with those of the minerals sector and apply research outcomes to industries beyond minerals," Prof Ralston said.

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### From the Vice Chancellor

2005 has been a rollercoaster year. While years of hard work have been rewarded, major developments have been completed and the quality of the work of our staff has been acknowledged, the volatility of the federal policy environment has had a serious impact at times on the University.

But there have been some real advances.

We have three new University-funded Research Institutes: The Hawke Research Institute for Sustainable Societies, The Sansom Institute for Pharmaceutical and Biomedical Science and The Ehrenberg-Bass Institute for Marketing Science – the reward for more than a decade of discipline and hard work by all.

We gained outstanding results in the 2005 round of Australian Research Council Linkage Grants.

More than \$6.5 million in research funding was awarded for 14 projects. The result places UniSA first in the Australian Technology Network and first among South Australian universities.

The appointment of Professor Ravi Naidu to UniSA has strengthened our research success with the Cooperative Research Centre (CRC) for Contamination Assessment and Remediation of the Environment (CARE) being awarded a \$30 million grant under the Australian Government's 2004 CRC Selection Round.

This will provide a much-needed national focus for research on effective solutions to environmental contamination.

In teaching and learning, Associate Professor Brenton Dansie was named Science Educator of the Year at the Inaugural Premier's Science Excellence Awards for his work in leading the Robotics Peer Mentoring program, yet another acknowledgment of his great work with South Australian schools.

Internationally, there have been several major initiatives, announcements and achievements.

The Cheung Kong Scholarships, created under the Australian Government's Endeavour Program, provide a unique opportunity to experience the culture of other countries. This year, UniSA won \$165,000 of funding through this program including six Endeavour Australia Cheung Kong Awards and three Australian Cheung Kong Student Exchange Subsidies, placing UniSA first among South Australian universities.

More recently, the International Strategic Technology Alliance (ISTA) has invited the Australian Technology Network, of which UniSA is a member, to join its group.

Nineteen of the 22 members of ISTA are major Chinese Universities and ATN's collaboration with ISTA promises to foster international relationships in applied research and development between Australia and China.

UniSA also celebrated a new decade of collaboration with the Hong Kong Baptist University (HKBU) this year.

We began working with HKBU's School of Continuing Education in 1994, delivering a single program –



the Bachelor of Business Administration Management to a small cohort of about 30 people. In the past 11 years we have graduated more than 2000 students and now offer 12 programs with HKBU across three Divisions.

Back at home, the first stage of the University's \$100 million capital development program was completed at the beginning of the year. Five new buildings (the Kaurna, the Dorritt Black, the Garth Boomer, the Basil Hetzel and the Mawson Centre) and two major building extensions at the City West and Mawson Lakes libraries were launched in a series of celebratory events from April to May.

The \$35 million second stage of the project began in June and is expected to be completed in 2007.

We were delighted when UniSA, in partnership with the Department of Education and Children's Services and the City of Salisbury won the State and National Premier Commercial Property Awards in the Delfin Lend Lease Grand Masters Awards 2005, for the Mawson Centre.

2005 saw the retirement of a well known and dearly loved University character – Professor Ian Davey.

Some 300 staff and external friends of the University attended his farewell in October. In December we will welcome Professor Caroline McMillen as the new PVC: Research and Innovation.

Finally, we were pleased to reappoint our Chancellor, Mr David Klingberg AM, for a further four-year term.

David has been carrying out this honorary role with grace and distinction and we are delighted that he has agreed to continue to work with us.

While 2005 has been a rollercoaster year for the University, it has been a time of uncertainty, devastation and heartbreak for many of our international students.

The recent global natural disasters, particularly the Asian tsunami in December 2004 and the Pakistan earthquake in October have had an enormous impact on our international students, who make up some 33 per cent of our student population.

Our thoughts remain with affected students and their families as they begin or continue their mourning and recovery from these life-changing events.

My thanks and best wishes extend to all members of the UniSA community for supporting our continued growth.

I hope you enjoy the holiday and look forward, as I do, to another productive and rewarding year in 2006.

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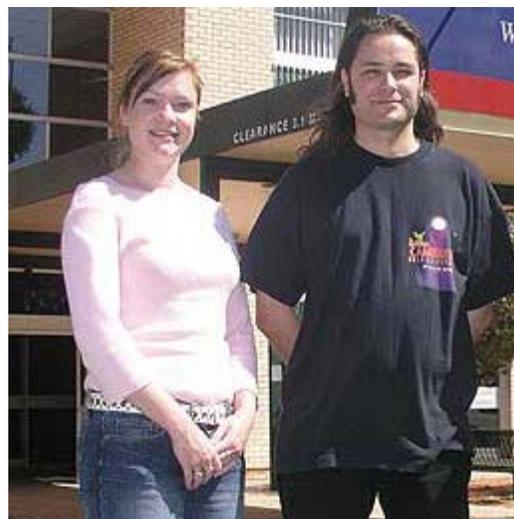
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### In brief

#### Closing the distance between England and the outback

Wanting to experience nursing in rural Australia, third year nursing students Karl Jones and Katy Darby, from the University of Worcester, England, spent five weeks in Australia doing their nursing practicum. At first amazed at the amount of space and distance between towns and cities, they quickly adapted to life in outback Australia. Jones and Darby spent five weeks at Royal Adelaide Hospital and then did two weeks' work experience at the Whyalla Community Health Centre, local aged care facility and hospital with trips to the smaller regional health care facilities around Whyalla.

Expanding upon the existing service agreement between the two universities, the rural and Aboriginal health option was presented to the students by the University of Worcester's, International Coordinator of the Institute of Health and Social Care, in coordination with Whyalla campus nursing lecturer, Joy Penman.



#### Ethics first for UniSA and the state

SA's first multi-institutional ethics centre will be launched on November 24. The Ethics Centre of SA (ECSA) is a major collaborative project between Adelaide's three universities and the State Government. Associate Professor Ian Richards, who has been involved with the project since its inception, said ECSA would foster national and international collaborative research and scholarship in the field of ethics.

Prof Richards said the launch was the culmination of an extended effort by a small group of academics with an interest in ethics. Others involved from UniSA were Associate Professor Chris Provis from the Division of Business and Jenny Baker from the Unaipon School.

#### Mawson Centre recognised as state's best

UniSA's Mawson Centre has taken out the title of Australia's Premier Commercial Property in the recent Delfin Lendlease Grand Master Awards. In addition to the remarkable accolade from Delfin, The Mawson Centre received the Award of Merit (New Building Category) from the Royal Australian Institute of Architects and Award of Merit from DesignShare, an international forum for innovative schools. PLACE architects said the building is "... an exemplar of the effective use of community resources and social capital ...". In addition to this, the Garth Boomer building, also at Mawson Lakes, won a Commendation (New Building Category) from the Royal Australian Institute of Architects. PLACE Architecture said "the Garth Boomer building employs innovative space planning concepts to enrich both teaching and working environments", and "the design



of mechanical systems demonstrates the highest level of environmental engineering". The buildings were both designed by Russell Yelland Architects in association with Guida Moseley Brown Architects.

### **Jerzy Filar honoured with award**

Professor Jerzy Filar, foundation professor of mathematics and statistics at UniSA has been awarded the Ren Potts Medal for his contribution to the advancement of operations research at the 18th National Australian Society for Operations Research Conference in Perth. Operations Research is the term given to the field of mathematics that uses existing data and process modelling to find optimal solutions to practical problems. Prof Filar has made a sustained and outstanding contribution to research since taking up a position at UniSA in 1992 and has authored and co-authored over 70 refereed research papers. He has gained international recognition in a number of branches of operations research.

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## Classifieds

### For sale

Hyundai Excel 2000, hatchback, 53,000 km, 3 doors, dark blue, 1.5 litre fuel injected twin cam 4 cylinder, immobiliser with alarm system, air condition, power steering, excellent condition, full service history, \$8900.

Call (08) 8302 2190 or email on [angela.liu@unisa.edu.au](mailto:angela.liu@unisa.edu.au)

### Accommodation

Wanted Housesit, from mid or late February for UniSA academic and partner.  
Call John on (08) 8302 9234.

For rent, Prospect, female only, open-minded, to share with two other girls. Three bedroom house, close to city and transport, available now. \$166.65 a fortnight.

Call (08) 8269 4287 or email [cmkl003@students.unisa.edu.au](mailto:cmkl003@students.unisa.edu.au)

Cudlee Creek, three bedrooms, study, unfurnished, set in the hills, beautiful shaded gardens, seclusion, and only 32 minutes to Mawson Lakes. Available now, \$220 a week.

Call (08) 8302 3874 or email [cobbler@bigpond.net.au](mailto:cobbler@bigpond.net.au)

### 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](mailto:unisa.news@unisa.edu.au)

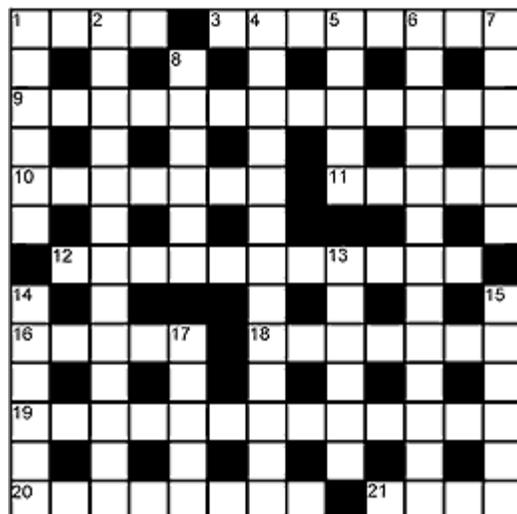
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## Colgan's Cryptic Crossword



### Across

1. Time to get behind president! (4)
- 3 Birds circled mount, as Hellen related to the Hellenes (8)
9. Affliction on bird is a corollary of age (13)
10. United to hide away one Croatian group (7)
11. Acted against English Leather (5)
12. Taken from the carriage for drinking again (3,3,5)
16. Only a fair chance. Nevertheless, lost nothing (5)
18. An itinerant person on drugs (7)
19. Traditional appeal for mano cornuto (3-5,5)
20. Look-out makes fun of cut (8)
21. Tear off at a cracking speed (4)

### Down

1. Fills a location (4,2)
2. The one leading out is superior to the one finishing. He lacks conviction (5,8)
4. Well-prepared staff in a friendly society (9,4)
5. Upbeat comments (5)
6. Jewellery component for Dorothy Joplin (6-2-5)
7. Female wearing blue, like a beauty contest winner (6)
8. Pet lamb (6)
13. A part for each and everyone (6)
14. Free-fire (3,3)
15. Distasteful, like old toast (6)
17. Clean fine-tooth-comb (5)

### Wine to win

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

Tuesday, December 13, 2006.

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## Our people

### Steve Hammett

I studied geography at Oxford University, mainly because I'd been good at it at high school. I took an elective in my second year on urban sociology – probably because it fitted in well with football training – and discovered an interest in cities which I've never lost .

It led me to a PhD in urban and regional planning and to academic positions in England, Holland, the USA and Brisbane.

I came to Adelaide some 20 or so years ago and now feel thoroughly South Australian (although I'll never see the point of Aussie Rules).

I've been fortunate since then in enjoying an extraordinarily varied career in teaching, research and international aid.

I've worked for AusAID and the University in China, the Philippines, Fiji, Malaysia and most parts of Indonesia and I've enjoyed every minute.

In South Australia I've been employed regularly on government and community projects and, recently, as a Commissioner of the Environment, Resources and Development Court.

Life at the University of South Australia has been occasionally turbulent but seldom dull. Teaching planning students and watching them embark on rewarding professional careers has always been a great job to have.

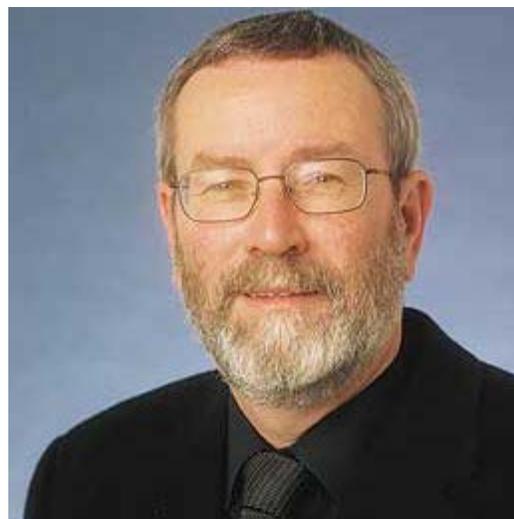
I have had – and have – some wonderful and committed colleagues and it has been a particular pleasure to observe our student body becoming more culturally and internationally diverse in recent years.

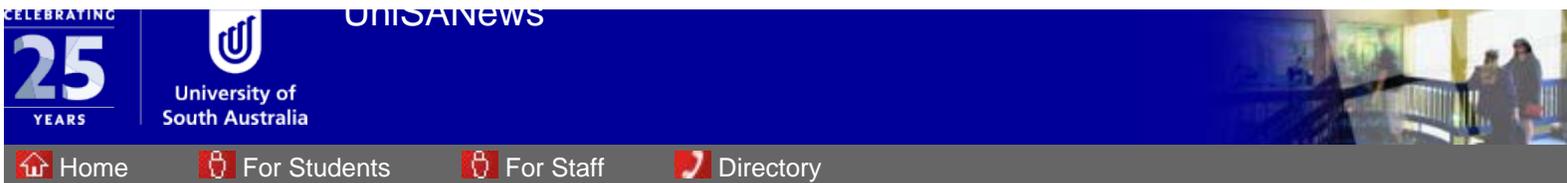
Less pleasing have been those changes in higher education funding policies which, for many students, have made their time at university more challenging and economically stressful than it ought to be.

The University of South Australia is home to Australia's oldest planning program – the first students enrolled in 1949 (the year I was born as it happens). I think it's still one of the best and I hope to be a part of it for a little while longer, encouraging students to reflect critically on ways of making our cities more ecologically and socially sustainable.

*Steve Hammett is the Professor of Regional and Urban Planning in the School of Natural and Built Environments.*

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## Academic board

**September 2005**  
by Peter Cardwell

### Developments and priorities in the Division of Business

The Pro Vice Chancellor: Business, Professor Gerry Griffin, gave a special presentation on developments and priorities for the division.

The division has 5500 domestic students, 1400 international onshore students and 4300 transnational students studying in a number of countries. Approximately 7150 students are enrolled in undergraduate programs, 3750 students in postgraduate awards and 300 in research degrees.

There are 140 academic staff members and 125 general staff. Staff from the division comprise some 20 nationalities.

The division's total revenue is \$43 million, which is up from \$38.7 million in 2002. A breakdown of revenue reveals that \$9.4 million comes from international offshore sources, \$13.2 million from international onshore fee-paying student income, \$5.4 million came from domestic fee-paying postgraduate student income, and \$9.7 million from the Department of Education, Science and Training (DEST) Teaching Allocation.

The division has a strong international focus, and operates in seven countries from Taiwan to Switzerland.

The Master of Business Administration (MBA) is offered in Mandarin in four countries. The international focus brings with it many opportunities, but also threats and there is a need for strong risk management strategies.

The division's research performance has improved markedly in recent years. Research income is about \$26,000 per academic staff member at level B and above, and publications are around 1.2 per academic staff member. Doctor of Philosophy (PhD) completions are estimated to be 42 in 2005.

Almost 50 per cent of staff now have PhDs, which is from a low base of 19 per cent in 2000.

The division's first research institute, the Ehrenberg Bass Institute for Marketing Science, has recently been established, and divisional staff are also involved in the Hawke Research Institute for Sustainable Societies.

CRC involvement is concentrated in the areas of Sustainable Tourism, Integrated Asset Management, Irrigation Futures and Water Quality and Treatment.

Currently there is one University-recognised Research Centre and it is planned to expand this to three by 2006, with one being a Centre for Law and the other being a Centre for Comparative Water Policies.

Other developments include the offering of the MBA in Malaysia from 2005, a new Master of International Business, a new Graduate Certificate in Entrepreneurship, a new Master of Human Resource Management and a new Master of Professional Accountancy all due to commence in 2006.

A new Master of Management and new double degree programs are also planned for introduction in 2007.

### Fee-paying programs for movement to CGS in 2006

Academic Board approved a proposal to shift a number of the University's postgraduate coursework

programs from domestic fee paying (FPPS) to Commonwealth Government Supported load (CGS) from 2006.

CGS load targets will continue to increase over the next three years, placing further pressure on the University's demand and intake profile.

In response for this year, the University increased the mid-year intake which will contribute to increased load in 2005.

The Pro Vice Chancellor: Organisational Strategy and Change, Professor Hilary Winchester, reported that as a longer term strategy, Senior Management Group (SMG) has also identified programs that will move from FPPS to CGS in 2006.

Load in these programs will contribute to the University's CGS target, and students will pay HECS rather than the current program fee.

The Division of Education, Arts and Social Sciences has identified nine programs, Information Technology, Engineering and the Environment has identified 17 programs, and Health Sciences has identified three programs.

No programs have been identified in the Division of Business.

The reasons for shifting these programs to become Commonwealth-supported include improved equity access, increased capability to meet increasing DEST CGS targets through transferring these places to CGS, increased capability to grow load in these programs through replacement of the program fee with HECS, and an increase of revenue to the University.

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## Designs on eco-living

by **Emma Masters**

At first glance, UniSA industrial design lecturer Martin Freney's house looks like any family home.

But looking closer, you will find not only a place with charm and character but one with environmental principles underpinning its design and construction.

For Freney and his partner Zoe, the path to owner-building an environmentally friendly eco-house began after attending a permaculture course in the late 90s.

"After the course, Zoe and I were really inspired to try to live a more sustainable, healthy life," Freney said.

"We wanted to grow our own herbs, fruit and vegetables, and when we bought a block of land it all snowballed from there."

Their Cherry Gardens home, which was three years in the making, has earth-rendered straw-bale walls and passive solar design, which Freney says keep the house cool in summer and warm in winter.

"We started with builders and architects, but moved into owner-building so we could have more control of the process," Freney said.

"My drafting skills were really useful in the design stage.

"All our family and friends got involved – you can even see their finger and hand prints in the rendered plaster on the walls."

One of the stand-out environmental features is a reed-bed that filters the home's grey water. The cleaned water is then used on a fruit orchard they have established on the 1.5 hectare property.

The home also has solar electricity and water, rainwater tanks, a composting toilet and the entire floor is heated through water pipes connected to the wood-fire stove. Construction of a cool room for food storage is underway.

"In keeping with our sustainable focus, we reused building materials wherever we could," Freney said.

"The floor boards are all recycled. Zoe also scouted around salvage and second-hand furniture places to furnish the home.

"She had some amazing finds and had fun restoring them.

"We just love it up here. The air is fresh, our little boy Zephyr is so happy – and so are our alpacas."

The owner-built, eco-house has been a feature for national Solar House Day over the last two years where more than 350 people have visited the Freney home.

Many UniSA architecture students have also visited the house as part of their studies.

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## From wine to water

by Emma Masters

If you live in Bangladesh and drink water from one of the many ground wells, you're lucky if the naturally occurring arsenic in the water gives you nasty skin lesions. For the unlucky, death is the result of prolonged exposure to the poisoned water.

Seventy-five per cent of Bangladesh's population is affected by drinking arsenic-contaminated groundwater, a situation the World Health Organisation describes as "the largest mass poisoning of a population in history".

When UniSA social science student Janine Tuffery met Bangladeshi Professor Profulla Sarker during his visit to Adelaide in October last year, the stories she heard about arsenic-filled water in Bangladesh moved her to action.



"The stories are shocking. We're talking about 85 million people affected or killed by arsenic that leaches from rocks into the ground water," Tuffery said.

"Those who can afford it drink bottled water. But Bangladesh is one of the poorest countries in the world, so many people don't have that option."

Tuffery is spearheading an aid project between UniSA and Bangladesh's Rajshahi University to deliver to Bangladesh 500 large containers that store fresh rainwater.

"We've found a suitable low-cost water container," Tuffery said.

"They're large 200-litre bladders used to store bulk wine. They're sterile and light-weight, they can easily be transported and they're relatively cheap and reusable.

"We forwarded one to Professor Sarker, he ran tests and contacted us to say it was a success. He immediately drew up a proposal.

"We now need money to purchase and distribute the bladders."

Dubbed Bladders for Bangladesh, the project is supported by social science lecturer Peter Lumb and a committee of fellow students. The group is working to deliver the bladders and implement a pilot project before the monsoon season in June 2006.

"Bangladesh has high rainfall, so it has a resource just waiting to be harnessed," Tuffery said.

"But collecting rain is not a traditional practice in Bangladesh, so education and training is also a crucial part of the project."

A field placement exchange with Rajshahi University, where UniSA students will travel to Bangladesh to help distribute bladders and conduct community education programs, is being drawn up.

The Bladders for Bangladesh campaign to raise \$12,000 has just begun – and it's already attracting some attention.

ARIA award-winning musician Ben Lee got behind the cause at his recent Adelaide concert with Missy Higgins. He spoke about the project and urged the audience to dig deep and show how music, and people, can change the world.

And a recent article in the Independent Weekly resulted in a generous reader, who wishes to remain anonymous, donating \$5500.

Tuffery said she was “absolutely over the moon” and is now able to purchase and order the bladders, which take six weeks to process.

The group can now focus on raising funds for distribution and community education.

For more information, contact Janine Tuffery [tufjg001@students.unisa.edu.au](mailto:tufjg001@students.unisa.edu.au)

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## Head of research and innovation

by **Geraldine Hinter**

UniSA's newly appointed Pro Vice Chancellor and Vice President: Research and Innovation, Professor Caroline McMillen, will be working to ensure that targets for the long-term health of research are met through strategies that support research and innovation.

A science and medical graduate of Oxford and Cambridge Universities, Prof McMillen will be leaving her position as Head and Professor of Physiology at the University of Adelaide to take on her new role in early December 2005.

"One of the key drivers for the University in the current climate is the foreshadowed research quality framework and the shift from the traditional focus on research inputs, to the importance of the quality and impact of our research outputs.



"As we learn more about the final shape of the framework, it is likely that we will have to realign some of our support, funding and strategic processes to meet the challenges of the framework," Prof McMillen said.

While she sees this as a real challenge for the University, Prof McMillen believes it is important to keep the culture and values of the institution and to be very clear about what distinguishes UniSA's research efforts from those of other institutions.

"I am committed to ensuring that the strong culture and ethos of this institution and its important partnerships with industry are maintained.

"The research quality framework is going to be a major focus for the University in 2007 and my goal is to work very hard towards that, but to recognise that 2010 is the time when we will realise the important outcomes from strategies implemented from next year," she said.

As well as leading the research portfolio, Prof McMillen has established an international reputation as a health researcher, attracting more than \$11 million in research grants over the past 15 years.

A major research program undertaken by Prof McMillen focused on how babies respond to nutrition from their mothers before birth and how the nutritional environment before birth impacts on health after birth.

Babies born with a high birth weight have an increased risk in later life of obesity and associated health risks including diabetes.

"More women are entering pregnancy with a high body mass index and a range of studies worldwide have shown that heavier mothers generally have heavier babies who grow up to be heavier adults with resultant health risks," Prof McMillen said.

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## Biodiesel ahead in fuel race

By Rodney Magazinovic

The recent hike in petrol prices has reinforced just how precarious our fuel reserves are becoming. With future prices only likely to increase, governments worldwide are encouraging the development of alternative fuels that are both cheaper and more environmentally friendly..

Since joining UniSA in 2002, senior lecturer Dr Saiful Bari from the School of Advanced Manufacturing and Mechanical Engineering, has led a research team developing alternative fuels such as biodiesel.

The project is supported by the South Australian Department of Transport and is investigating the efficiency of using biodiesel blends as a replacement for petroleum diesel in vehicles. Two-thirds of Adelaide buses run on biodiesel. Dr Bari says modern diesel engines require a clean-burning, stable fuel that performs well under a variety of operating conditions.



“Biodiesel is the only alternative fuel that can be used directly in any existing, unmodified diesel engine. As it has similar properties to petroleum diesel, biodiesel can be blended in any ratio with petroleum diesel,” Dr Bari said.

Biodiesel can be created from raw vegetable oils such as canola, animal fats and waste cooking oil. The most common manufacturing technique is to react the raw oil with methanol in the presence of a catalyst. The resultant product is biodiesel and glycerine, with the latter being removed. This process has many advantages, including the fact that both the methanol and catalyst can be recovered and reused.

With most diesel engine manufacturers permitting the use of B20 (a 20 per cent biodiesel to 80 per cent petroleum diesel blend) only before engine warranties are voided, maximising the efficiency of existing diesel engines running on B20 biodiesel has been a priority.

“Biodiesel is the perfect fuel for engines. Previous studies have shown that the more biodiesel used in the blend, the greater the reduction in engine power. The key has been to make some modifications to current diesel engines so that its use is optimised. We have been able to show that when changes are made to the ignition timing in the engine there is no power loss with B20,” Dr Bari said.

While producing biodiesel from domestic crops has such economic benefits as reducing Australia’s dependence on foreign petroleum, increasing agricultural revenue, and creating jobs, Dr Bari says that there are also significant positives for the environment.

“With waste cooking oil not being easily disposed of, any process in which it can be re-used is obviously going to be beneficial to the environment,” he said.

“Canola is a renewable source. The plants are harvested and converted to biodiesel. Any carbon dioxide emissions from the burning of the fuel in the engine are then absorbed by the next generation canola crop – there is no net carbon dioxide contribution to the environment.”

Emissions from biodiesel are much less than petroleum diesel. Particulate matter is reduced by about 60

per cent with hydrocarbon and sulphur dioxide emissions also significantly lower. The only downside is that nitrous oxides emissions are higher. A future project to be supported by South Australian Farmers Fuel will investigate the effectiveness of a nitrous oxides inhibitor that is added to biodiesel.

While Dr Bari concedes that biodiesel is not the only solution to future fuel shortages, he believes it will be a combination of alternative fuels that will power our transportation needs.

“Biodiesel has the potential to fuel 10 to 15 per cent of the demand of powered vehicles on the road so there is still a need to develop other complementary alternative fuel sources for the remainder.”

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## Everyone's a winner

by **Andrew Lees**

What's your preferred way to unwind at the end of the day?

Some read books, some make scale models of trains, others prefer a hot cuppa, a comfy couch and a soothing hour of British mystery. But Associate Professor David Cropley, Director: Systems Engineering and Evaluation Centre ditched that in favour of rapturous crowds, Australian record times and no fewer than three gold medals in the emerging sport of indoor rowing.

The 10th Australian Masters Games have just wound up in Adelaide, with more than 10,000 competitors going toe-to-toe in sports including athletics, weight-lifting and dragon boat racing.

But Cropley prefers his boats fixed to the floor. The experienced river rower says indoor rowing uses the rowing machines he uses for training, and says a background in physics may have given him the academic's edge.

"Having a background in physics gave me a better appreciation of some of what's going on in a rowing machine," he said.

"That makes things a bit more interesting – there's a lot of technique involved in rowing related to most efficiently getting the power of your muscles in use to get the machine going."

Cropley has been rowing for 18 months, and only decided to compete in indoor rowing once he saw it listed in the Masters Games schedule.

And he's glad he did, with one time at fourth best, and one time the best in Australia this year in his age group of 36-42.

"I'm happy my times were competitive, it's really fired up my enthusiasm to take it more seriously now and I'll definitely be entering again next year," he said.

In other successes, Document Services printer Cathy Wood was part of SAWSA United, a soccer team that absolutely pummelled the only other Adelaide team 5-0 in the final to take home the gold.

Wood says her gold medal is sitting on her kitchen bench.

"It's not in the sock drawer," she laughed. "I'm not sure what I'll do with it – probably get it engraved."

Senior Research Fellow at the Systems Engineering and Evaluation Centre and runner Michael Harris snared a bronze medal in the 5000m – what sets his success apart is the fact this medal is his first ever.

"I ran a marathon early last year and I've done quite a few half marathons but most of them get medals just for finishing," he said.

"My usual place is fourth, so this is my first real athletics medal."



Harris finished with a time of 23:18 minutes, and says he will definitely be back next year to give it another go.

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