

Adelaidean

NEWS FROM THE UNIVERSITY OF ADELAIDE

December 2007 | Volume 16 | Number 10

inside this issue

4



Work begins on \$100m building

11



Are men still the main breadwinners?

18



Summer can broaden your horizons

23



60 years of inspiring students



Photo by Elisa Nobe

No turning back on our fast food habits

Health Sciences

Is fast food intake so entrenched in Australians' eating habits that more should be done to promote healthier fast food options, instead of trying to prevent people from eating fast food altogether?

That is one of the questions being raised in a new study by a University of Adelaide PhD student, who has been researching the social behaviour behind fast food consumption in South Australia.

Emily Brindal is a University of Adelaide PhD student based at CSIRO Human Nutrition, and is part

of the NOBLE (Nutrition Obesity Lifestyle and Environment Studies) research group.

Ms Brindal studied 528 South Australians to gain a better understanding of the kinds of fast foods being consumed, how often, and under what circumstances.

"Fast food items are generally known to be high in fat, and previous studies have shown that fast food consumers tend to be heavier," Ms Brindal said.

"At the same time, ABS (Australian Bureau of Statistics) figures show that eating out has increased in the last 20 years, and fast foods account for a high proportion of these meals.

"Therefore, unravelling fast food consumption as part of everyday living is going to be important in better understanding how we can attack weight gain and obesity in the community," she said.

Ms Brindal found that, on average, the people surveyed visited one of the major fast food chains 3.4 times a month. They consumed almost 3700 kilojoules (885 calories) per visit (or 40% of the daily kJ intake), and most ate fast food with at least one other person, usually their partner. Almost 70% bought their fast food using a drive-thru or got takeaway.

continued on page 19

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From the Vice-Chancellor

“Our graduates make an impact on the world”. That’s what our advertising says, and without any exaggeration, we hear of many ways – daily – of how that is occurring.

This month, as we hold our December graduations (no less than 13 ceremonies from 13-21 December), I am reminded more than ever of the contributions our graduates make in industry, government, the community and academia in a myriad of fields and in countries all across the world.

Having educated some of the nation’s best and brightest students for more than 130 years, we sometimes take it for granted that some of our graduates will go on to excel in their chosen fields. But it’s worth stopping to think about Adelaide’s unique place in higher education and the quality of our graduates on a national and international level.

Bear in mind, Adelaide is not the biggest of universities on a national scale, and at times it’s easy for people to overlook the significance of Adelaide’s graduates simply because we’re not on the eastern seaboard. And yet, I hear of many success stories that demonstrate that our graduates are making their mark in Australia and overseas, over and above the size of the university they come from.

Because we are a Group of Eight (Go8) university, we attract the best students in the State. Our academic standards are higher, our expectations of students are higher, and we see many of our students rise to the challenge and commit to a high level of academic performance. This is naturally reflected in the external community as well, and our graduates go on to make unique and ongoing contributions in a range of areas. In fact, many of our current students are already committed to making an impact on the world even

before they graduate, as the comment piece by Erin Riddell in this issue of the *Adelaidean* shows.

There’s no doubt that this time of year helps to emphasise how good our graduates really are. Major scholarship announcements such as the Rhodes, and more recently the Menzies and Monash scholarships, are always strongly represented by current students and graduates from Adelaide.

Last month we held a special celebration to honour the University’s 103 (so far) Fulbright Scholars. These are all outstanding students and staff who have made distinguished contributions to their fields. When you see all of the names listed on the Honour Board, it reinforces the breadth and depth of academic talent that has existed at the University of Adelaide over the years. Each one of these people has a unique story to tell – and they are just some of the University’s many high achievers.

The recent federal election also was a reminder of just how many Adelaide graduates are making a contribution to Australian public life. Our graduates can be found in all of the major political parties in Australia, and many of them are members of parliament.

We congratulate all Adelaide graduates who have taken up the challenge of helping to run this country, which is one of the greatest contributions anyone can make.

JAMES A. McWHA
Vice-Chancellor and President

Art & Heritage Collections

More and more objects are discovered within University schools that were once used as teaching aids and have now become historical artefacts.

These objects give an insight into teaching before the computer era.

Model dinosaurs, such as the one pictured, were used by the University’s Faculty of Science. Such models were used in demonstrations for students on topics of palaeontology, geological time, climate change and evolution.

The models were made at a time when it was thought dinosaurs were giant, “dim-witted”, slow-moving reptiles – unlike the modern, Hollywood-inspired *Jurassic Park*-style dinosaurs we are used to today.

Art & Heritage Collections is collating a Heritage Teaching Tools Collection, which includes items from all disciplines.

If you have any items or information that would fit into this collection, we would be delighted to hear from you on 8303 3086.



A selection of Heritage Teaching Tools can be seen in the Barr Smith Library Foyer.

Stegosaurus plaster
23 x 18 x 10 cm

Photo by Anna Rivett

■ Anna Rivett, Collections Officer, Art & Heritage Collections



Stefanie on path to Oxford

■ Law

University of Adelaide Law and Engineering graduate Stefanie Wilkins has won a prestigious Menzies Scholarship to study Law at Oxford University in the UK.

Ms Wilkins, 25, of Burnside, was one of only two winners of a Menzies Scholarship in Law for 2008.

The scholarships, named after former Australian Prime Minister Sir Robert Menzies, provide tuition and college fees, as well as some living expenses, at some of the world's most renowned universities in the UK.

Winning the scholarship will see Ms Wilkins take another important step towards becoming a human rights lawyer – a path she chose while studying Law at the University of Adelaide.

A former student of Seymour College, Ms Wilkins studied for a double degree in Civil Engineering and Law at Adelaide, graduating with First Class Honours in Civil Engineering in 2003 and First Class Honours in Law in 2006.

In 2005, she participated in the Law School's International & Human Rights Law Internship

Programme, enabling her to work for three months as an intern at the International Criminal Tribunal for the former Yugoslavia in The Hague, the Netherlands.

She could not have hoped for a better exposure to human rights law, being involved in the trial of former Yugoslav president Slobodan Milošević.

"It definitely expanded my understanding of international human rights law and gave me an even greater interest in human rights," Ms Wilkins said.

"Meeting like-minded people and seeing how such a tribunal operates in practice, and the difficulties it faces, was a fantastic experience."

Her Honours thesis in Law dealt with a human rights issue closer to home – the issue of emerging statutory Bills of Rights in a number of Australian States, and what the Constitutional implications might be when these Bills of Rights are used by courts. She also compared what was occurring in Australia with the statutory Bills of Rights adopted in the UK and New Zealand.

Since graduating from the University of Adelaide, Ms Wilkins has been working as an Associate to the Honourable Justice Sulan in the

South Australian Supreme Court.

She said she was excited about the opportunities presented by the Menzies Scholarship, which will see her study for a Bachelor of Civil Law (BCL) from September 2008.

The one-year coursework degree is equivalent to a Masters in Australia.

"It's a great honour to receive the Menzies Scholarship," said Ms Wilkins, who is hoping to return to Australia and become a barrister focused on human rights and related law.

"I'm very much interested both in how human rights principles apply in an international setting, and how they are applied in domestic law," Ms Wilkins said.

"It's an area of law that will continue to develop in Australia."

Sir Robert Menzies Memorial Scholarships are provided in the fields of Allied Health, Engineering, Law and Medicine, as well as a scholarship to Harvard University in any field.

Ms Wilkins is the sixth University of Adelaide graduate to receive a Menzies Scholarship, and the third in Law.

"Meeting like-minded people and seeing how such a tribunal like that operates in practice, and the difficulties they face, was a fantastic experience"

Above:
Law graduate and Menzies Scholarship in Law winner Stefanie Wilkins

Photo by David Ellis

■ Story by David Ellis



Work begins on \$100m building

Facilities

December marks the end of an era – and the beginning of a new one – on the lower level of the University of Adelaide’s North Terrace Campus.

The Mathematics Building, the first stand-alone building to be added to the lower level during the post-World War II reconstruction phase, will be demolished this month to make way for a new, state-of-the-art \$100 million engineering, mathematics and computer science building.

The new eight-storey building will cater for the significant growth in students currently being experienced in the Faculty of Engineering, Computer & Mathematical Sciences, and will provide more than 11,000 square metres of space for learning, teaching, research, and other student and staff facilities.

The new building is part of the University’s most extensive building development program in its 133-year history, with \$300 million being spent on state-of-the-art research and teaching facilities

on the North Terrace, Waite and Roseworthy campuses over the next three years.

“This is a very exciting time in the University’s history, and it will confirm our position as one of the great tertiary institutions in Australia and the world,” said the Executive Dean of Engineering, Computer & Mathematical Sciences, Professor Peter Dowd.

“The new engineering, mathematics and computer science building will become a jewel in the crown of the University’s new teaching and research facilities. It will have numerous positive benefits for students, staff and visitors alike.”

The Mathematics Building, designed by architect W H Bagot, was built after World War II with funds provided through the Commonwealth Reconstruction Training Scheme and the Universities Commission. The building was completed in 1947, but the red brick facing to the reinforced concrete structure was not added until 1957.

“Our University has a very strong and proud tradition of excellence in the disciplines of Applied and Pure



Mathematics, and Statistics, and that tradition of excellence by and large has been built up within the walls of the Mathematics Building over the past 60 years,” said Associate Professor Jim Denier, Head of the School of Mathematical Sciences.

“However, that tradition of excellence is greater than any one building, and ultimately it is the major names within mathematics at the University that will be remembered rather than the building itself.

“While most agree that the Mathematics Building has not been the prettiest structure over the years, and that due care was not given to ventilation, heating, and other issues taken for granted today, there’s no denying that the building has had its place in the University’s history. It is now making way for the next step in that history.”

With demolition work beginning on the Mathematics Building this month, the School of Mathematical Sciences is temporarily moving to levels 3 and 4, 10 Pulteney Street, Adelaide, from 10 December.

Top:
An artist’s impression of what the new \$100m building will look like

Image by Tucker Creative

Above:
The original Mathematics Building circa 1960

Photo courtesy of the State Library of South Australia B 14324

■ Story by David Ellis



Small music copying device shows big potential

■ Innovation

“Each year the echallenge captures the energy of young, bright entrepreneurial enthusiasm and channels it into investment-ready early stage companies”

Above: Pyglet Enterprises' Mark Hosking, Richard Arnold and Ashby Martin with 'Pyglet'. Absent from the photo is team member Andrew Schwartz.

Photo by Mark Brake, courtesy of *The Advertiser*

A device enabling music to be copied to an MP3 player without a computer is the bright idea that won Pyglet Enterprises the top award at this year's University of Adelaide's \$50,000 echallenge.

Pyglet Enterprises is a team of four University of Adelaide students: Richard Arnold (Law and Commerce), Ashby Martin (Mechanical Engineering and Mathematical and Computer Sciences), Mark Hosking (Law and Commerce) and Andrew Schwartz (Master of Commerce). Together they took out the \$10,000 first prize plus the People's Award, voted for on the night.

The 'Pyglet' is a device that can copy music from a compact disc to an MP3 player without needing a computer. A user simply connects their MP3 to the Pyglet, inserts a CD, and presses a single button to copy the CD onto the player for immediate playback.

The echallenge is organised by the University's Entrepreneurship Commercialisation and Innovation Centre (ECIC) and each team must have at least one student member from any tertiary institution in South Australia.

Teams develop a business plan for a new, previously unfunded business concept. Semi-finalists are paired with an experienced mentor from the business community.

“As stressful as it can be having your ideas taken apart by legal

and business experts, it's just not possible to get the kind of valuable feedback provided by the echallenge anywhere else,” said team member Mark Hosking.

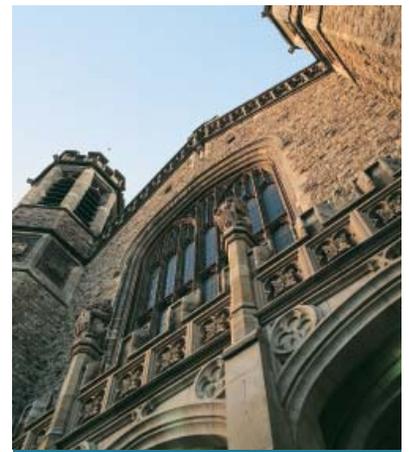
“Each year the echallenge captures the energy of young, bright entrepreneurial enthusiasm and channels it into investment-ready early stage companies,” said ECIC Director Professor Noel Lindsay. “It offers competitors unprecedented access to top South Australian business acumen. Past finalists have gone on to develop successful and thriving businesses.”

Second prize went to Giftlists Online, which aims to use existing retailers to allow customers to compile a gift registry online. They also won *The Advertiser's* Market Ready Award of \$10,000 in advertising space and \$2000 in cash.

Third prize went to Upiggyback with their system for reducing shipping and handling costs for online consumers. Upiggyback also won the Office of Industry Liaison Award.

Pyglet Enterprises also won the Piper Alderman Prize of \$5000 worth of legal consultation, and the Vroom and Associates Prize for Most Promising Technology, which was \$5000 worth of commercialisation consulting.

■ Story by Robyn Mills



Adelaide at 62 on world uni rankings

The University of Adelaide has again been listed among the world's best universities, this year at number 62 in the THES-QS World University Rankings published last month in the UK.

The THES-QS World University Rankings, previously known as The Times Higher World University Rankings, is one of the best-regarded world university rankings.

Acting Vice-Chancellor and President Professor Fred McDougall said the University of Adelaide's performance in the ranking this year “reaffirms the University of Adelaide's excellence and the global impact of our research and our graduates”.

“Moving up to number 62 is good news and will, of course, be a source of celebration for the University and its stakeholders, but the most important thing to remember is that we have consistently been listed among the world's top universities,” Professor McDougall said.

The THES-QS World University Rankings are based on data gathered in six categories: peer review, recruiter (employers) review, international staff ratio, international students ratio, student-staff ratios and research citations.

The University of Adelaide has moved up 43 places in 2007 from 105 in 2006.

This rise was reflected in a rise in the University's ranking earlier this year in the other key international ranking of universities around the world, the Shanghai Jiao Tong University's 'Academic Ranking of World Universities' into the top 200.

■ Story by Robyn Mills



High cost of losing our wetlands

Economics

University of Adelaide research has, for the first time in Australia, put a commercial value on wetlands and shown the high economic cost of their loss to the nation.

PhD graduate Dr Carmel Schmidt examined the economic value of wetlands as natural filters of our domestic water.

"Wetlands are often referred to as the 'kidneys' of our river systems because of the important job they do purifying water by trapping sediments and removing impurities," Dr Schmidt said.

"But the impact on water quality due to the loss of wetland areas is little recognised. With the ongoing drought and increased risk to our

wetlands because of the high demand for water for agriculture and other uses, this has become even more important."

It is estimated that over half of Australia's wetlands have been destroyed since European settlement.

"The Lower Murray dairy swamps were once part of a series of freshwater wetlands stretching from Mannum, along the Murray to the Coorong, but of the original 5700 hectares of wetlands only 500 hectares remain today," Dr Schmidt said.

"This destruction of the wetland area is typical of wetland losses that have occurred across the country."

Dr Schmidt's research found the value of permanent wetlands for water filtration was at least \$7100 per hectare per year and the value of constructed wetlands

ranged from \$14,100 to \$28,000 per hectare per year.

"It would have been very profitable to include wetlands as part of the domestic water filtration process in South Australia instead of constructing water filtration plants," Dr Schmidt said.

Ten filtration plants were built in 1998 to service Adelaide and rural areas.

Previous studies on wetland valuation used a "willingness to pay" approach and put values between \$82 and \$300 per hectare per year.

Dr Schmidt completed her PhD within the University's School of Economics under the supervision of Head of School Professor Christopher Findlay.

Above:
A land of contrasts:
Sunnyside wetlands on the left; on right, Paiwalla dairy swamp shortly before it was bought and restored to wetlands

Photo by Martin Philcox

■ Story by Robyn Mills

Climate Change: Catastrophic Impacts and Human Rights



A Research Tuesday joint presentation with The Hon. John von Doussa QC and Professor Barry Brook

Tuesday 11 December at 5.30pm, North Terrace Campus

A joint presentation which addresses the impacts of climate change on global communities. Professor Brook will review the most recent scientific projections which suggest we are pushing the Earth towards dangerous and irreversible 'tipping points'. Mr von Doussa will then explore how a human rights framework might be developed to cope effectively with climate change.

Venue:

Lecture Theatre 102 Napier Building, North Terrace Campus. Admission is free.

Bookings essential:

Email: research.tuesdays@adelaide.edu.au
Phone: (08) 8303 3692

Further information:

Visit the University of Adelaide's Research website: www.adelaide.edu.au/research



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Life Impact The University of Adelaide



Expo highlights research talent

Health Sciences

A breakthrough in the treatment of chronic rhinosinusitis has won University of Adelaide postgraduate student Dr Alkis Psaltis the major prize at the inaugural Health Sciences Research Expo.

Dr Psaltis was one of 63 postgraduate students from across 15 disciplines of the Faculty of Health Sciences who presented their research findings, both in oral and poster form.

The event, held in Bonython Hall in October, provided postgraduate students with an opportunity to showcase their research and discuss their findings with academic staff, senior researchers and fellow students.

Dr Psaltis, a surgical registrar from the Department of Otolaryngology at the Queen Elizabeth Hospital and a PhD candidate from the School of Medicine, has demonstrated a link between bacterial biofilms and the development of chronic rhinosinusitis (CRS), which affects up to 16% of people in the Western world.

Biofilms are structured organisations of bacteria that attach themselves to a surface and are present in many chronic rhinosinusitis cases.

Dr Psaltis and his colleagues developed a sheep as a model to study the link between biofilms and CRS and, for the first time, a state-

of-the-art Confocal Scanning Laser Microscope was used to visualise biofilms on sinus tissue.

"We have just completed a study of human patients, showing that those who have biofilms are more likely to fail both medical and surgical treatments of their chronic rhinosinusitis," Dr Psaltis said.

"This basically means that if a patient has a biofilm, no matter how good the surgery is, there is a high chance they will relapse and may require further treatment."

Dr Psaltis's team, under the supervision of Professor Peter-John Wormald, a world-leading rhinologist, is currently using the sheep model to evaluate different biofilm treatments.

Dr Psaltis's research has won nine international and national awards in the past three years, including the Maurice H. Cottle Honour Award from the American Rhinologic Society, the Sir Edward Hughes Memorial Clinical Research Award in surgery from Monash University and the RP Jepson Medal from the Royal Australian College of Surgeons.

As the overall winner, Dr Psaltis received \$1500 for best poster and best oral presentation.

■ Story by Candy Gibson

Dr Psaltis's research has won nine international and national awards in the past three years

Above:
Health Sciences Research Expo major prize winner Alkis Psaltis

Photo by Candy Gibson

News in Brief

Claire Corani Memorial Lecture

Professor Tanya Monro, Director of the DSTO Centre of Expertise in Photonics in the School of Chemistry & Physics, University of Adelaide, will give a free public lecture on "New ways of molding the flow of light with optical fibres".

The lecture is part of the 2007 AIP Women-in-Physics lecture tour and will be held in Union Hall at the University of Adelaide at 7.30pm on Wednesday 12 December.

The Claire Corani awards will also be presented.

More details at:
www.physics.adelaide.edu.au/aip-sa

Students run guitar "marathon"

The second of this year's Guitarissimo concert series, which highlights the talents of students from the Elder Conservatorium of Music, will feature a "Concerto Marathon".

The concert includes guitar concertos by Rodrigo (*Concierto de Aranjuez*), Tedesco and Brouwer, and other works.

Talented guitarists Jody Fisher, Ben Brakenridge and Andrey Lebedev will take centre stage, along with up-and-coming pianists Ann Lee and Marianna Grynychuk, and acclaimed pianist Benjamin Martin.

Guitarissimo will be held at 6.30pm on Tuesday 11 December, at Pilgrim Church, 12 Flinders Street, Adelaide.

Tickets are \$15 adult/\$10 concession, available at the door or from all BASS outlets: dial'n'charge 131 246 or www.bass.net.au

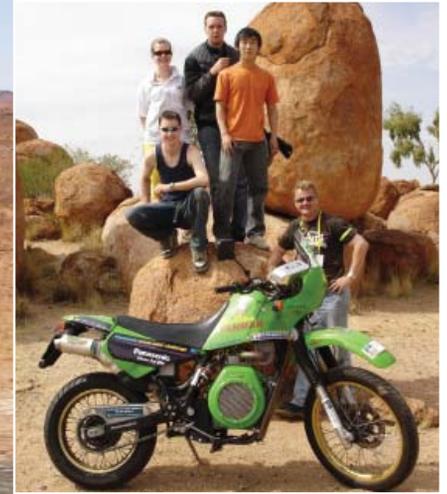
Annual meeting of the University community

Section 18 of the University of Adelaide Act 1971 requires the University Council to convene a meeting of the University community within two months of the commencement of each financial year. (The University's financial year commences on 1 January.)

The next meeting of the University community will be held from 12.00pm–1.00pm on Monday 18 February 2008 in Bonython Hall.

The Vice-Chancellor and President will preside at the meeting.

"University community" means the Council, members of the academic staff, members of the general (professional) staff, graduates and students.



Solar challenge award for biodiesel bike

■ Engineering

A University of Adelaide student-run team that designed and built a biodiesel motorcycle has won a major award in the Greenfleet Technology Class of the 2007 Panasonic World Solar Challenge.

Called "BioBike", the biodiesel motorbike won the award for Best Environmental Profile – that is, the vehicle that generated the least greenhouse gas emissions.

Releasing just 71 grams of carbon dioxide per kilometre travelled, the BioBike completed the 3000km trek between Darwin and Adelaide in seven days. Its fuel efficiency was 3.5 litres per 100km.

The BioBike was conceived by Dr Colin Kestell, Coordinator of the Automotive Engineering program at the University of Adelaide, and designed and built by students within the School of Mechanical Engineering.

Dr Kestell and his students rode the BioBike from Darwin to Adelaide, with strong support from apprentice mechanics from crane company HIAB Australia.

"We're really thrilled to have won the award for the least carbon emissions," Dr Kestell said. "It

shows that biodiesel can be used to power a commercial-type vehicle over long distances, and that it can have a significant positive impact on the environment."

Sara Gipton, CEO of Greenfleet Australia, said Greenfleet was very excited about the BioBike.

"Using a lower carbon fuel is part of the solution to reducing transport emissions," Ms Gipton said.

"This is a good first step in an iconic event to demonstrate the potential for alternative fuels and vehicle technologies to revolutionise personal transport."

The BioBike was one of two University of Adelaide entries in the Greenfleet Class of the World Solar Challenge – the other was the canola oil-powered, three-wheeled Eco Trike. This team involved students from the School of Mechanical Engineering as well as the apprentice mechanics from HIAB Australia, who also lent much-needed support to the BioBike.

Dr Kestell said the event was not without incident for the BioBike team, but that helped to enhance his students' learning experience.

"I would rather go through an event

like this with a number of incidents than for nothing to occur, because if there are no incidents then it's just another bike ride," he said.

"We had multiple breakdowns and repairs, we employed a bit of bush mechanics, we received help from other teams and from locals along the way, as well as the University itself. A great positive to come from all this is that the students had the benefit of all of that experience, which they wouldn't have had otherwise."

Dr Kestell said the BioBike has been a successful project in many different ways, and has garnered a lot of public interest.

"We're really pleased that in the last couple of years we've taken the concept of the biodiesel bike and made it a reality," he said.

"In September 2005 we came up with the idea, last year the students designed and built a working proof-of-concept bike, and this year they have designed and built a road registered version that has just been ridden 3000km across Australia. That's a great achievement, and to top it off with this award is better still."

■ Story by David Ellis

Main photo: Japanese motorsport journalist Shusei Yamada rides the BioBike during one of the stages of the 3000km trek between Darwin and Adelaide

Inset: The BioBike and part of the University of Adelaide team at the Devils Marbles Conservation Reserve south of Tennant Creek, Northern Territory. Clockwise from left: students Nathan Thompson, Heidi McNamara, Michael Shannon and Tong Zhou with Senior Lecturer Dr Colin Kestell.



An image showing the nucleus of the galaxy Centaurus A (NGC 5128), taken by NASA's Hubble Space Telescope. The centre of the galaxy harbours the closest active galactic nucleus (AGN) to Earth, at a distance of 11 million light years.

Image by E.J. Schreier (Space Telescope Science Institute) and NASA

Violent black holes linked to high-energy cosmic rays

■ Physics

“This discovery is a major step towards understanding some of the most extreme processes in the universe”

University of Adelaide scientists are among a leading international research group that has made an important discovery about the highest-energy cosmic rays that hit the Earth – and the discovery leads back to supermassive black holes.

The scientists, in the University's School of Chemistry & Physics, are among researchers from 17 countries participating in the Pierre Auger Collaboration, using the largest cosmic ray observatory in the world, the Pierre Auger Observatory in Argentina.

The team has discovered that active galactic nuclei (AGN) – thought to be powered by supermassive black holes that devour large amounts of matter – are the most likely candidate for the source of the highest-energy cosmic rays that hit Earth.

Using the Pierre Auger Observatory, the team found that the sources of the highest-energy particles are not distributed uniformly across the sky. Instead, the Auger results link the origins of these mysterious particles to the locations of nearby galaxies that have active nuclei in their centres.

Active Galactic Nuclei (AGN) have long been considered sites where high-energy particle production might take place. They swallow gas, dust and other matter from their

host galaxies and spew out particles and energy.

While most galaxies have black holes at their centre, only a fraction of all galaxies have an AGN. The exact mechanism of how AGNs can accelerate particles to energies 100 million times higher than the most powerful particle accelerator on Earth is still a mystery.

“We have taken a big step forward in solving the mystery of the nature and origin of the highest-energy cosmic rays, first revealed by French physicist Pierre Auger in 1938,” said Nobel Prize winner James Cronin, of the University of Chicago, who conceived the Pierre Auger Observatory together with Alan Watson of the University of Leeds.

“In the next few years our data will permit us to identify the exact sources of these cosmic rays and how they accelerate these particles.”

Cosmic rays are comprised of protons and atomic nuclei, which travel across the universe at close to the speed of light. When these particles smash into the upper atmosphere of our planet, they create a cascade of secondary particles called an “air shower” that can spread across 40 or more square kilometres as they

reach the Earth's surface.

“These enormously energetic particles are very rare, but they pack a real punch,” said Associate Professor Bruce Dawson from the University of Adelaide.

“This discovery is a major step towards understanding some of the most extreme processes in the universe.

“The most exciting thing is that the Observatory is only just beginning, so there is huge scope for further discoveries.”

The Adelaide research group, led by associate Professor Bruce Dawson and Professor Roger Clay in the University's School of Chemistry & Physics, was a foundation member of the Auger collaboration.

The first design workshop for the Auger Observatory was held at the University of Adelaide in January 1993. Since then, Adelaide scientists have made many key contributions to the experiment during its design and construction stages. With data now being collected, they have assumed leadership roles in data analysis and interpretation for the international group.

The team's latest results were published in a recent issue of the international journal *Science*.

National physics award to researcher

University of Adelaide physics researcher Associate Professor Derek Leinweber has won one of Australia's major physics prizes for his research contribution to physics.

The Australian Institute of Physics has awarded to Associate Professor Leinweber the 2007 Walter Boas Medal for original research making the "most important contribution to physics".

Associate Professor Leinweber is Deputy Director of the University's Special Research Centre for the Subatomic Structure of Matter within the School of Chemistry & Physics, and is also Deputy Director (Visualisation) of the South Australian Partnership for Advanced Computing (SAPAC).

His research, using supercomputer simulations, has provided new ways of determining the properties of subatomic particles.

"Associate Professor Leinweber has made world-leading contributions to quantum chromodynamics," the award citation said. Quantum chromodynamics is a complex mathematical theory describing the interactions of the subatomic particles, quarks and gluons, within the atom.

"His research has, among other achievements, led to a precise prediction of the role of strange quarks in the magnetic moment and charge distribution in particles such as the proton and neutron."

This has led to significant interest from major particle accelerator projects worldwide.

The award is judged on research papers published during the previous four years.

The Selection Panel said Associate Professor Leinweber has produced a significant and widely cited body of work.

The Panel also praised his clear explanations, innovative use of computer-generated visualisation of his research (which was featured in the 2004 physics Nobel Prize lecture) and contribution to physics through general media.

■ Story by Robyn Mills



Computer student in global challenge

■ Computer Science

"The sorts of program components I'm designing now are exactly what I'll have to be doing in a full-time professional job"

Above:
Patrick Coleman in the School of Computer Science

Photo by Robyn Mills

A University of Adelaide student – and the only Australian – made the finals of a global computer programming tournament.

Third-year Mathematical and Computer Sciences student Patrick Coleman, 20, from Aldgate, pitted his programming skills against seven other students from around the world in the finals of the software component design contest, part of the annual 2007 Topcoder Collegiate Challenge. He came sixth.

The three-day finals were held at Walt Disney World in Orlando, Florida.

"Disney World during Halloween is a very interesting place to be," said Patrick. "It was also great meeting up with all the other contestants, discussing the problems, learning about what happens in their parts of the world."

Patrick said the competition experience was extremely valuable: "The sorts of program components I'm designing now are exactly what I'll have to be doing in a full-time professional job. I'm already getting the experience in the technology used and the processes involved."

Patrick started entering programming competitions while still at school at St Peter's College in Adelaide. He was on the Australian team in both the 2003 and 2004 International Informatics Olympiads, part of the 'Olympic Games' for the world's brightest science and maths school students, and won a bronze medal in 2003.

Now, as an undergraduate student at the University of Adelaide, he spends 15-20 hours a week entering smaller programming contests to help fund his way through university. The program designs entered in the competitions are sometimes used within larger applications developed by Topcoder for their clients. Some of Patrick's programming has been used within AOL products.

"I make relatively good money compared to other part-time jobs, it's in the field I'm studying and it's flexible hours, so it works nicely around university," Patrick said. Next year Patrick plans to carry on with his studies and do Honours in Computer Science or Mathematics.

■ Story by Robyn Mills

Are men still the main breadwinners?



Labour Studies

Have changes to the labour market, the household and government policy spelt an end to the traditional male breadwinner model in Australia?

That's the question University of Adelaide researcher Ray Broomhill is hoping to answer over the next three years.

Associate Professor Broomhill, from the University's Australian Institute of Social Research, has received a \$131,000 ARC Discovery Grant to collaborate on a project looking at changes affecting the gender order.

The study's research team also includes Professor Rhonda Sharp from the University of South Australia and Professor Janine Brodie from the University of Alberta. Together they will examine Census data, interview residents from a cross-section of socio-economic households and analyse policy developments that have impacted on household gender arrangements.

"We will be looking at how changes in the labour market, changes in the household and changes in the policy level are interacting in Australia and affecting both gender equality and

the process of social reproduction in society," Associate Professor Broomhill said.

"Existing research shows a fragmentation of the male breadwinner model and great variations between households. For example, the male breadwinner model seems to be the most resilient in the lower socio-economic groups, while more affluent families are moving away from that traditional model."

Evidence of a whole range of family structures is emerging, from dual breadwinner roles to a growing number of female breadwinner models and a variety of other arrangements as well.

"There is widespread concern that we are experiencing a breakdown of the stable, if frequently unreal, social structures that once existed in Australia – a shift to a sort of gender disorder," Associate Professor Broomhill said.

The potential demise of the male breadwinner model raises the question of who is going to take care of children, the sick and the elderly in future.

"Unfortunately, governments are usually so focused on making policy based purely on economic grounds

that they don't think of the social implications until we have a crisis.

"The recent policy focus on declining fertility, the ageing of the workforce and shortages of care for the old, disabled and the young indicates that we have some serious issues to face in the near future."

The project brings together a number of different disciplines. Associate Professor Broomhill is a political economist and sociologist, Rhonda Sharp is Professor of Feminist Economics and Professor Brodie is a political scientist. The latter, a Canadian researcher with an international profile in social policy, will spend some time in Adelaide over the next three years.

Associate Professor Broomhill said he hoped their findings would be taken into consideration by Federal and State governments at the conclusion of the project.

"Having a stable and strong social fabric is economically sensible – and productive. If we can take a lead from the Scandinavian countries, which show progressive leadership on social issues, then we will go a long way towards averting a crisis in Australia's social fabric," he said.

■ Story by Candy Gibson



Left: Professor James Paton (right) discusses his research with MC Xavier Minniecon in Bonython Hall
Above: Staff and students of Woodville High School were among those to sign the Thank You card

Photos by David Ellis

Adelaide says thank you for medical research

Community

“This year alone the University of Adelaide has won more than \$30 million in new funding for medical research aimed at tackling some of the biggest issues in health”

Medical researchers at the University of Adelaide and right across the nation have been publicly thanked for their work on life-saving and life-altering medical science.

Thank You Day, a community event held right around Australia, was hosted for the first time at the University last month, bringing together medical researchers and members of the public, including school children.

The morning event saw some of the University’s best medical scientists share their knowledge with the community about groundbreaking research, and heard how medical science was making a major impact on people’s lives.

“As the State’s most research-intensive university, and one of the most research-intensive of any university in Australia, the University of Adelaide is a fitting location for this Thank You Day event,” said the University’s Pro Vice-Chancellor (Research Operations), Professor Richard Russell AM.

“This year alone the University of Adelaide has won more than \$30 million in new funding for medical research, which is aimed at tackling

some of the biggest issues in health facing Australians and people right around the globe.”

Thank You Day, held in the University’s Bonython Hall, saw a number of speakers talk about medical science in interviews with the event’s MC, Xavier Minniecon from Channel 9.

Professor of Microbiology James Paton spoke about his research into bacterial infectious diseases, which kill millions of people every year, and explained why more work was required to find effective treatments and preventions for these diseases. He pointed out that, somewhere in the world, 700 people would die from bacterial infectious diseases within the time of the Thank You Day event.

The Head of the University’s School of Medicine, Professor Gary Wittert, spoke about research efforts into obesity. Describing obesity as “the climate change of human health”, he said that research such as the Florey Adelaide Male Ageing Study was helping to inform clinicians and the community about the state of male health and what to do about it.

Cadence Minge, PhD student in the Discipline of Obstetrics & Gynaecology, spoke about the link between obesity and infertility.

An up-and-coming research talent, Ms Minge explained the importance of communicating science to the public.

A member of the community and breast cancer survivor, Gia Pyrlis, gave an inspirational talk about how her life has been changed and how medical science is helping to save the lives of many.

As well as hearing about the latest developments in medical science, members of the community and research and general staff alike added their messages of support to a large Thank You card.

The card was one of many that travelled around the nation as part of the national Thank You Day events organised by Research Australia.

Students from Prince Alfred College, Underdale High School and Woodville High School were among those who signed the Thank You card.

■ Story by David Ellis



Infertility breakthrough earns award for young scientist

Health Sciences

A University of Adelaide researcher who discovered scientific evidence that high-fat diets can cause infertility in obese women has become South Australia's 2007 Young Investigator of the Year.

Cadence Minge has won \$12,500 in prizes at the finals of the Young Investigator Award, held recently at the Adelaide Convention Centre.

The award promotes excellence in science and communication among young researchers. Ms Minge, a PhD student in Obstetrics & Gynaecology at the University of Adelaide, was named the Young Investigator of the Year by a panel of media judges.

As the winner, Ms Minge received the Hon. Carolyn Pickles award of \$10,000, plus a cheque for \$2500. Awards to all three finalists were presented by South Australia's Science Minister, the Hon. Paul Caica.

Ms Minge's research – which was featured in the September 2007 issue of the *Adelaidean* – is the first time the effects of obesity on female eggs have been discovered, using mice eggs as a substitute for human eggs.

"Consuming a diet high in fat causes damage to eggs stored in female ovaries. As a result, when fertilised, these eggs are not able to undergo normal, healthy development into embryos," Ms Minge said.

Ms Minge has also discovered a way to completely reverse the effects of obesity on mouse eggs, enabling afflicted eggs to develop into healthy embryos.

She found that a particular protein in the cells surrounding, supporting and nourishing the egg is critical for egg health. When the protein is selectively targeted with an anti-diabetes drug, rosiglitazone, the adverse effects of obesity on egg quality are completely reversed.

However, Ms Minge warns that rosiglitazone could not be considered a "quick fix" for infertile women.

"At this stage, the research findings have only been made in mice. Also, the drug itself can have possible harmful side-effects, and more research is needed to find other, safer ways of activating the protein," she said.

Ms Minge said her findings emphasised the importance of a healthy lifestyle for women interested

in conceiving children naturally.

"Despite the wide-ranging, recognised health risks associated with excessive body weight, Australia's waistline continues to expand. Currently, Australia is on par with heavyweight nations such as the US and the UK, with approximately 60% of Australian adults now overweight or obese," Ms Minge said.

"I hope that these findings encourage people to carefully consider the impact of lifestyle choices on longer-term quality of life."

The Young Investigator Award, now in its eighth year, is a highly successful event rewarding excellence in South Australia's young researchers in both science and their ability to communicate and 'sell' that science to a general audience and the media.

The award is an initiative of the Children, Youth and Women's Health Service and the Faculty of Health Sciences, University of Adelaide. This year, the University of South Australia and Flinders University were also major partners in the Award for the first time.

Above:
Young Investigator Award winner Cadence Minge (centre) with runners up Katie Tooley and Simon Wilksch

Photo by Jo-Anna Robinson

Story by David Ellis

Stress buster program wins support

A program that teaches people how to reduce stress and simplify work, life and relationship problems has been commercialised by a University of Adelaide PhD graduate.

Dr Janette Warwick is successfully marketing her program to the South Australian education sector, private businesses, health professionals and youth workers after being awarded a University Graduate Entrepreneurial Program scholarship valued at \$30,000.

"Strategies for Stress" links decision-making and stress and offers a range of training programs to help people simplify their problems by transforming their thinking, Dr Warwick says.

"One of the difficulties with stress is that people can so easily become caught up in situations where they can't see the forest for the trees. As a result, they find it difficult to solve problems because they are caught up in all the details," she said.

There are no formal indicators of the overall cost of stress to the workplace, but current estimates indicate that work absenteeism costs Australian businesses \$2.6 billion a year (Morgan and Banks 2003). A recent study also put the total cost of workplace bullying and violence – which causes enormous stress – at \$13 billion dollars a year when absenteeism, labour turnover, productivity and legal costs are taken into account.

The Graduate Entrepreneurial Program, offered by the University of Adelaide's Thebarton Research Park since 1993, includes a package of training and assistance for university and TAFE graduates who have ideas for new business ventures.

Dr Warwick, a graduate with a PhD in Psychology, is one of seven people who has been undertaking the Graduate Entrepreneurial Program in 2007.

Previous success stories from the program include highly successful outback tourism operator Drew Kluska; Smartyhost web provider Anoosh Manzoori; multimedia gaming entrepreneurs Luke Beard and Brian Doidge, of Monkey Physics; and Emily Humphries from Purely Cotton Co, an organic underwear company.

■ Story by Candy Gibson



We're a nation of entrepreneurs

■ Innovation

Business owners in the 22 to 44-year-age bracket are particularly optimistic about the growth of their business in coming years

Australians are the most entrepreneurial people in the developed world with more than 20% of adults running their own business, or planning to start one, according to a joint study produced by the University of Adelaide and Swinburne University of Technology.

The study also shows that Australians value independence above income when it comes to their working life.

These findings are part of the world's largest study of entrepreneurship and business ownership, coordinated by the Global Entrepreneurship Monitor (GEM).

Professor Noel Lindsay and Mr Gary Hancock from the University of Adelaide's Entrepreneurship Commercialisation and Innovation Centre (ECIC) and Professor Kevin Hindle from the Australian Graduate School of Entrepreneurship, Swinburne, collaborated on the study, which was based on 2006 data.

The authors found that most Australians strongly believed that working for themselves provided much greater satisfaction and opportunities than being an employee.

"Business owners in the 22 to 44-year-age bracket are particularly optimistic about the growth of their business in coming years and are

focused on the export market, which is very encouraging for the future of small business in Australia," the report's authors said.

The downside is that a large percentage of Australian business owners lack confidence in their own skills and are less innovative than their competitors in other developed nations.

"There is a distinct lack of evidence for technology-based innovation in all sectors measured by the Australian survey. This should be of major concern for policy makers.

"In Australia, start-up businesses also continue to be funded predominantly by people who are known to the business founder – friends, family and other acquaintances. There is a big gap between the amount of money that entrepreneurs would like and the amount that informal investors are willing to invest," the authors said.

The latest survey also shows that in 2006, for every 100 males there are 70 females engaged in business start-ups, although this figure has varied considerably in the past.

Australia has participated in the Global Entrepreneurship Monitor since 2000. For more information go to www.gemaustralia.com.au

■ Story by Candy Gibson



You already make a difference

University of Adelaide Politics and International Studies student Erin Riddell is no stranger to taking on a cause and helping others.

Named the 2007 South Australian Young Citizen of the Year, Ms Riddell is heavily involved with World Vision through its youth movement, Vision Generation. She has worked as a volunteer at a Vietnamese orphanage and has worked with underprivileged children in South Australia. Recently, she has been involved in the Adopt-a-Politician campaign, an initiative of the Australian Youth Climate Coalition aimed at raising awareness of politics among young people.

■ Commentary

I think people are inherently good and that when you see wrong there is an instinct to help.

But at the same time we live in a world where responding to confronting things, whether an unconscious being on the street or the destruction of a rainforest, is discouraged. This discouragement comes in a number of ways such as fear, an active erosion of individual responsibility and superficial distractions.

As educated members of a relatively wealthy and free society, I think that we as students have a responsibility to look past these distractions to see that, as music group Faithless reminded us a few years ago around the time that Iraq was “liberated”, inaction is a weapon of mass destruction (along with misinformation and fear). By not acting, by not speaking out, we are essentially allowing injustices to continue.

However, “responsibility” doesn’t exactly arouse passion or enthusiasm! So for me, I think it’s not only a responsibility that we are faced with, but an exciting opportunity to be a part of change. We are at a point where there is the knowledge and the resources to create a reality that doesn’t allow for unnecessary suffering.

This change starts at the grassroots level, with individuals realising that one person is able to make an impact. As Julia Butterfly Hill, the heroic American activist who stood up to loggers trying to clear the redwood giants in California, said:

“The question is not ‘can you make a difference? You already *do* make a

difference. It’s just a matter of what kind of difference you want to make, during your life on this planet.”

So if we are already making a difference, then the next step is to step back and take a look at what kind of impact we are currently making. As the world becomes increasingly interconnected, our global impact becomes inevitable and more significant.

Our consumption behaviours make for a great example.

Think about what you ate and drank today. Chances are most of the ingredients did not come from your backyard. A lot of ingredients are imported; so ask the question, what are the labour practices in the country of origin? What are the environmental standards? How many layers of plastic was the food wrapped in and how far did it travel before it reached your plate? Then ask, is this the kind of impact I want to make, and what can I do about it?

Making a significant positive difference in the world has never been so accessible; the internet can provide us with information on virtually every issue on the planet, and give us some sense of how we as individuals living in Adelaide fit into the picture. You can jump online and Google “Fairtrade coffee” or your local food co-operative.

As uni students, we have even greater access to information with a mammoth library and access to online journals. Knowledge really is power, so arm yourself with as much as you can. In the privileged position in which we sit there is no excuse for ignorance. Your voice is

an equally powerful medium; use it.

Over the last few years, non-government and volunteer organisations committed solely to making a difference have proliferated to incalculable numbers and provide opportunities to learn, connect with other like-minded people and effectively make changes in society, locally and globally. And volunteering with these organisations will not only ensure that you make a contribution to bettering the world, but will also expose you to more information and increase your capacity to make positive change. You are also guaranteed to be around positive and inspiring people.

It is also important to think critically about what is being presented to you on a daily basis; by the media, by marketers and by the government. At this point in Australia, being ‘green’ and globally conscious is becoming normalised among those with the most power, namely government and the business sector. But it is important to remember that just because the issues or, moreover, the language, have become more popularised, they are not necessarily being adequately addressed.

Doing nothing is not neutral. Not acting does make an impact. It is because we allow ourselves to be distracted or choose to believe that individuals cannot make an impact, that wrongs in the world still persist, such as slavery, HIV/AIDS and landmines.

If we don’t demand change it won’t come. And this starts with the power of the individual.

www.youthclimatecoalition.org
www.vgen.org



Datuk Dr Samuel C E Abraham

Paediatrician

Born: 1 March 1929, Taiping, Malaysia

Died: 2 October 2007, Kuala Lumpur, Malaysia

Obituary

Datuk Dr Sam Abraham was an icon, an idealist, and the “ideal man”, not only for his wife Dulcie and the Abraham family, but for all of his loving relatives, friends and colleagues. He was blessed with many talents and he used them to the full and to the best of his ability. At all times he remained a modest and humble man who was full of humour, mischief and great affection for humanity.

A University of Adelaide medical graduate, Dr Abraham became one of the most highly respected medical practitioners in Malaysia.

Sam came to Australia as a Colombo Plan scholar in the 1950s, first studying Science at the University of Tasmania, and then Medicine at the University of Adelaide.

In Adelaide he was a resident at Lincoln College. From his early student days in Australia he was the perfect ambassador for his home country, Malaysia. He was integral in bridging the gap between Australian and Asian students at Lincoln College, and through his good humour he gained a notorious but respected reputation that lives on at the College today.

While he was in fourth-year Medicine at Adelaide, Sam earned the distinction of becoming the first overseas Asian student to be elected president of any student representative council in an Australian university. His collegiate spirit and close ties with Australian and Asian students alike set a high standard for those to follow.

Part of the medical curriculum in Adelaide at that time included visits to homes of disabled children, such as the Spastic Centre. This made a real impact on Sam. He also travelled

across Australia thanks to his membership of the Apex Club, giving him the opportunity to see first-hand the kinds of projects Australians were doing for disabled children.

Paediatrics was Sam’s main interest because infant mortality in Malaysia was high, and he hoped to make changes for the better. When he returned to his home country in 1959 after graduating from the University of Adelaide, there were only one or two Malaysians trained in paediatrics. Dr Abraham continued his training at the University of Sheffield, where he pursued a specialisation in paediatrics in the early 1960s.

To Dr Abraham’s credit, he decided early on to remain in government medical service rather than set up a private practice. He did this for two reasons: first, he felt the need to serve the community and wanted to ensure that he gave something back to the people of Malaysia; and second, he knew that in a government practice he would come into contact with a wide variety of cases, the likes of which he would not see in private work. This added to his depth of experience, and further opened his eyes to the state of the nation’s health. He subsequently worked in the government medical service for 30 years.

Dr Abraham was a committed social activist all his life, and one of the hallmarks of his career and his life was the additional work he conducted in parallel with his paediatric duties.

His first posting with the government medical service was at Johor Baru. While at Johor between 1965 and 1975, he established the Johor Baru Spastic Centre, helping to provide

proper facilities for the disabled.

After being posted to Kuala Lumpur, he set up the Malaysian Paediatric Association to encourage and promote paediatric medicine in his country.

His commitment to providing medical services outside of his usual work continued, with many of his Saturdays and Sundays (after church) spent visiting rural communities, most of which had no electricity and no running water. He provided free medical care to those in need, and eventually his visits became so popular that he pioneered what became known as the Sentul Project, with medical students providing free care to poor, rural communities.

Even when he set up a private clinic, Dr Abraham remained committed to providing free medical care to the marginalised people of society, including the poor and the disabled. At all times he felt that community service was more important than personal profit, and actively encouraged young medical students to put the needs of society first.

In 1991, Dr Abraham helped to establish Dignity and Services, a non-governmental organisation that focuses on the rights of people with disabilities.

The quality of life for Malaysian children has dramatically improved over the course of Dr Abraham’s career. He became known in Asia, the UK and Australia for his skill and his compassion for children, particularly those who traditionally have not received a high level of care.

As one of Malaysia’s and indeed Asia’s most senior paediatricians he helped to formulate many of Malaysia’s sound medical policies on paediatrics.

continued on page 18



Radio Adelaide broadcasters at the Civic Trust Award ceremony (front row, from left): Amir Soroush, Beri Mohamed, Abraham Kon Alier, Chris Koufalis and Besmellah Rezaee; (back row, from left): Kyoko Katayama, Jane Brownrigg, Poni Tongun and Meg Abbott

Photo by Deborah Welch

Awards to broadcaster

■ Achievement

Radio Adelaide's commitment to lifelong learning and grassroots broadcasting has been rewarded with two major accolades recently.

In late October, the University's community radio station was a runaway winner in the Human Category of the Australian Civic Trust People's Choice Awards, earning high praise from both the public and the judges.

The annual awards recognise South Australian organisations that help to foster social planning and policy, community development and networks, as well as education and learning.

The judges praised Radio Adelaide for "embodying the ideals of lifelong learning as well as promoting civic spirit".

"Radio Adelaide provides a voice for a diverse range of ideas and community groups, differentiating itself from mainstream commercial stations," the judges' citation said.

"The jurors commended the level of community involvement in the station and the way this promotes engagement in public debate at a grassroots level."

Radio Adelaide's entry emphasised the station's commitment to diversity and social inclusion, as well as its mission to educate its audience at all levels.

Its multicultural focus garnered the station another prize in November, when Radio Adelaide's youth multicultural program, NEO Voices, won the national award for Multicultural/Ethnic Youth Program of the Year at the NEMBC Youth Broadcasting Awards in Brisbane.

NEO Voices is supported through a creative partnership with Lutheran Community Care, a major provider of refugee and new community support services in Adelaide. The program's current team includes young people originally from Ethiopia, Sierra Leone, Liberia and Sudan.

Radio Adelaide 101.5FM is the University of Adelaide's community radio station.



Radio Adelaide 101.5 FM

radio.adelaide.edu.au

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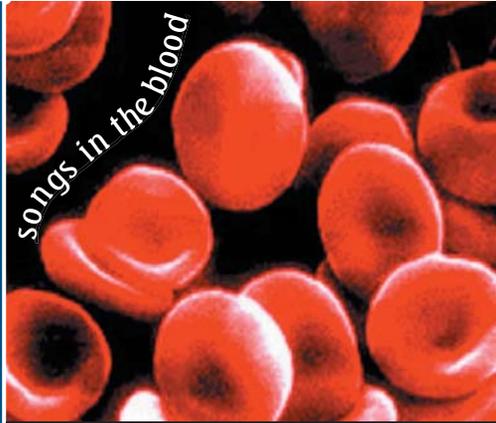
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saturday december 1, at noon



continued from page 16

His peers tell of how dedicated, committed and persistent he was in improving the paediatric services in Malaysia. This includes the establishment of the Paediatric Hospital and his campaign for breastfeeding.

He was very active in the Malaysian Medical Association (MMA) and the Academy of Medicine. He had many international medical connections in the World Health Organization (WHO) and especially in Australia, the UK in the US – and was consulted as an expert all over the world.

He received the Indian President's Award for his vast contribution to paediatrics, especially in Asia. In 1995 he received the Distinguished Alumni Award from the University of Adelaide in recognition of "profound and sustained services to the health of the children of the world".

Throughout his life and his career, Dr Abraham was a modest man – grateful for his professional achievements and opportunities – and tireless in his work. He also maintained an all-encompassing warmth and humour, and bestowed great love and affection on all who came in contact with him.

He is survived by his wife, Datin Dulcie Abraham, three loving daughters, Karen (a University of Adelaide graduate), Jacintha, and Deborah (a Flinders University graduate), and four grandchildren, Johaan, Thea, Mischa and Aidan.

Summer can broaden your horizons

Summer is a great time to study.

A wide range of short courses for personal or professional needs is available over summer from Professional & Continuing Education (PCE) at the University of Adelaide.

A number of the courses deal with business skills, people skills, project management and communication.

Among the new programs on offer is "Writing for the Web". It's estimated that 95% of customers will visit a company's website for the information that's on there – but most companies only spend 5% of their time focusing on providing well-written, clear content. In this workshop, you will learn the tricks – and traps – to developing a great website.

Another popular course on offer is "Confidently Say What You Really Want to Say!" This teaches people how to have more personal impact and become clearer and more intentional in their speaking – something that many struggle with.

PCE also has an outstanding language and cultural program, with Intensive

Language Courses for beginners and Advanced Courses.

The Intensive Language Courses are designed for those who wish to learn a language in a short period of time for business, personal interest or travel. Classes are held twice weekly, condensing a full year of study into 10 weeks. The teaching enables students to retain grammar and vocabulary and develop communication skills at a greater rate than in similar courses of longer duration. Intensive French, German, Italian, Japanese, Chinese (Mandarin) and Spanish are all available.

Secondary students feeling daunted by the prospect of a tough time ahead in Year 12 next year can also take some comfort in the following: PCE offers Year 12 Subject Preparation Courses, a course in "Coping With Year 12", and another course in effective essay writing.

For more information about PCE's Summer Program, call (08) 8303 4777 or visit: www.adelaide.edu.au/pce



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Could this sailboat become the world's fastest?

■ Engineering

University of Adelaide engineering students are building a marine vessel they hope will break the world sailboat speed record.

The revolutionary craft – known as a wing-borne hydrofoil (WBHF) – is the first of its kind in the world.

A team of final-year Mechanical Engineering students has been designing and building the first wing-borne hydrofoil sailing craft, based on the patented invention of an Adelaide mathematician and scientist, Stephen Bourn.

"The hydrofoil will literally 'fly' more like a plane than a boat," said student team leader Luke Rogers.

"There is a hull, but in place of a sail there is a wing, inclined and offset to the side, and in place of a keel there is a hydrofoil. The wing pulls the hull up to fly just above the waves smoothly, silently and incredibly fast."

Students have completed the hydrofoil's designs and have begun manufacturing the craft. Extensive use of carbon fibre composite sandwich construction, with the latest vacuum resin infusion techniques, is helping to ensure high strength and minimum weight.

Mr Rogers says when completed, the hydrofoil should sail more than twice as fast as the wind, break the

world sailing speed record (currently 48.7 knots = 90.2 kph), become the "Formula One" vehicle of sailboat racing, and create a new extreme sport.

Inventor Stephen Bourn said the design was inspired after a fresh look at the basic principles of sailing.

"An exploration of the absolute limits to performance led to a revelation of a new fundamental 'law of motion' applicable to all sail craft," Mr Bourn said.

"Paradoxically, in light to moderate winds, with the hull still in the water, the wing-borne hydrofoil will be just as fast but easier and safer to sail than the very quickest currently existing boats, because of inherent stability and self-righting properties."

Mr Rogers said: "The most amazing thing about the wing-borne hydrofoil is that after working on the design we know it will work, even though at first sight it looks impossible."

The students and the inventor have already secured a number of sponsors and are currently seeking further support to complete the project next year.

"We'd like to be able to finish the vessel next year so we can challenge the world sailing speed record," Mr Rogers said.

■ Story by David Ellis

Above:
A rendered image of what the wing-borne hydrofoil might look like

No turning back on our fast food habits

continued from page 1

The most common activity before buying fast food (27.8% of cases) was simply being on the way somewhere, such as heading home from work or driving to the city. In 16.9% of cases, fast food was bought while the consumer was out shopping or buying groceries.

The most common reason given for buying fast food (in 33.7% of cases) was general convenience – "I was in a hurry" or "I didn't have time to cook" were the most frequent responses.

Other reasons included a specific attraction to the type of food, with responses such as "I feel like KFC" and "I needed a treat", as well as incidental convenience – "I was driving past".

The most visited chains, in order, were McDonald's, followed by Hungry Jack's, KFC, Domino's and Red Rooster.

However, the energy intake reflected a different picture, with the kJs consumed being the highest at Hungry Jack's followed by KFC, Red Rooster, McDonald's and Domino's.

"It is clear that despite repeated messages about fatty foods and the risks associated with obesity, people will continue to eat fast foods," Ms Brindal said.

"Promoting 'healthy' fast food consumption might be the best option to adopt. This could be targeted at fast food consumers who have the most frequent weight-gain behaviour.

"The results so far paint an interesting picture of fast food consumption, but they also show us that there is still a lot to understand."

Ms Brindal presented some of her findings at a recent conference, "The Shape Of Things To Come", organised as part of the NOBLE research project.

www.fastfoodstudy.com.au

■ Story by David Ellis

University trains Chinese Mayors

The University of Adelaide has provided a unique executive training program to a high-level delegation of potential future leaders in China, one of the world's fastest growing economies.

In conjunction with the South Australian Government, the University's Institute for International Trade last month hosted 27 Chinese mayors and senior government officials from Beijing in an intensive seven-day course.

The delegation learned about how Adelaide and South Australia manage city planning and urban development, public transport, public tendering, waste management, and sustainable practices and planning for an ageing population.

It is the second year that the Institute has offered the training program to a Chinese delegation of senior officials.

Deputy Premier Kevin Foley said the Mayors' Program provided an opportunity to build on the strong economic and social ties between South Australia and China by connecting the delegation with key contacts in the public and private sectors.

The Institute has expertise in World Trade Organization law, implications of Free Trade Agreements, trade and economic issues for developing countries, business investment and designing courses for government management and urban planning issues.

Chinese Mayors wield considerable power and are often top-level decision makers. They are hand-picked for their economic and personal credentials and are seen as the next generation of national leaders.

The Chinese delegates spent their week in a series of lectures across the University, hearing from experts in a number of fields including architecture, urban planning and design, water and waste management, climate change and coastal management.

This was supplemented by sessions with State Government departments and site visits around Adelaide.

■ Story by Candy Gibson



Kyoto not enough to curb climate change

■ Environment

Kyoto was a valiant first attempt to tackle global carbon emissions, and support for the Kyoto Protocol is still needed in the international community, but it will not be enough to make a breakthrough with climate change.

That's according to a letter co-authored by a University of Adelaide climate change expert and published recently in the international journal *Nature*.

Professor Barry Brook, Sir Hubert Wilkins Chair (Professor) of Climate Change and Director of the University's Research Institute for Climate Change & Sustainability, has written to *Nature* with co-authors Professor Tim Flannery, Chair of the Copenhagen Climate Council, and Division of Environmental and Life Sciences, Macquarie University, and Nick Rowley, former adviser to British Prime Minister Tony Blair and now Director of Kinesis Pty Ltd, a climate change and sustainability consultancy company.

In the letter in *Nature* published last month, they address recent criticism in *Nature* of the Kyoto Protocol.

"(Kyoto) is already resulting in low-carbon investment and emissions reduction, and is a step towards an effective global treaty," they wrote.

Professor Brook said that ratification of the Kyoto Protocol by Australia would "rightly acknowledge that climate change is an international

and non-partisan crisis", but he said that "this step should not be seen as an end in itself".

The authors agreed that Kyoto in its current form "is not enough to create the low-emissions transformation in the global economy that is required to tackle the climate problem successfully".

However, they say recent criticism of Kyoto overlooks the potential of a 'Kyoto phase 2'.

"Pointing out the treaty's inadequacies is all very well, but the harder and more vital job is building on it to achieve a more effective and adequate one," they wrote.

The authors said that a call for more investment in technologies to deal with climate change was right, "but it doesn't address the important question of how to achieve it".

"It takes 20 years for new technologies to get to market – time we do not have. What we need are tools (such as a cost for carbon through market incentives and emissions trading) that facilitate rapid uptake of existing clean technologies," the letter said.

The authors warned against "another decade of delay, diplomatic wrangling and nationalistic plea bargains while the climate system moves towards catastrophic tipping points".

■ Story by David Ellis

Strong drugs without the addiction

■ Pharmacology

Two University of Adelaide pharmacologists working with one of the world's leading neuroscientists have helped pave the way for the development of new pain-killing drugs that are not addictive.

Professor of Clinical Pharmacology at the University of Adelaide Paul Rolan and postdoctoral fellow Dr Mark Hutchinson are part of a combined US and Australian research team that has made a breakthrough in revealing how opioid drugs such as morphine both relieve pain and also cause addiction.

The Adelaide scientists and senior colleagues at the University of Colorado, including world glia and pain expert Dr Linda Watkins, have isolated in animal models the effect that morphine has on the brain's immune cells, known as glia, and also on nerve cells (neurons).

Glial cells heighten nerve pain such as sciatica by exciting the neurons that transmit pain signals. While morphine deadens pain by acting at nerve synapses, it also activates glial cells, worsening the drug's side effects, such as drowsiness, tolerance and addiction.

The scientists tested a new drug called AV411 that blocks morphine's effects on glia but not on neurons, resulting in effective pain relief without the side effects of addiction. AV411 is being developed by Avigen Inc., a

Californian biopharmaceutical company.

Vice President of Research & Development at Avigen Dr Kirk Johnson said the company was working in collaboration with Dr Hutchinson, Dr Watkins and Professor Rolan.

"Currently, AV411 is in clinical trials at the Royal Adelaide Hospital for neuropathic pain and we look forward to exploring this molecule in opioid withdrawal," Dr Johnson said.

"Doctors prescribe morphine for pain relief but opioids come with the potential for addiction or abuse," Dr Hutchinson said.

"Our tests show that by blocking morphine's effects on glial cells, it stops cravings for the drug."

These pre-clinical findings were reported last month at the annual meeting of the Society for Neuroscience, the world's largest organisation of scientists devoted to the study of the brain. The prestigious international journal *Science* also published the findings last month.

The Director of the National Institute on Drug Abuse in the United States, Dr Nora Volkow, said the research helped to "pave the way toward developing new, potent, non-addictive medications".

Dr Hutchinson graduated with a Bachelor of Science degree with First Class Honours from the University of Adelaide in 1999, majoring in

microbiology, immunology and pharmacology. In 2005 he was awarded an American-Australian Association Fellowship and has been working with Dr Watkins in Colorado for the past three years.

He is now a NHMRC CJ Martin Postdoctoral Fellow, which will enable him to return to the University of Adelaide to continue working with his colleagues in the Discipline of Pharmacology.

In November, Professor Rolan addressed the 10th International Conference on the Mechanisms and Treatment of Neuropathic Pain held in Salt Lake City, Utah. He told delegates that summary data showed that AV411 was "a promising non-opioid clinical candidate for chronic neuropathic pain".

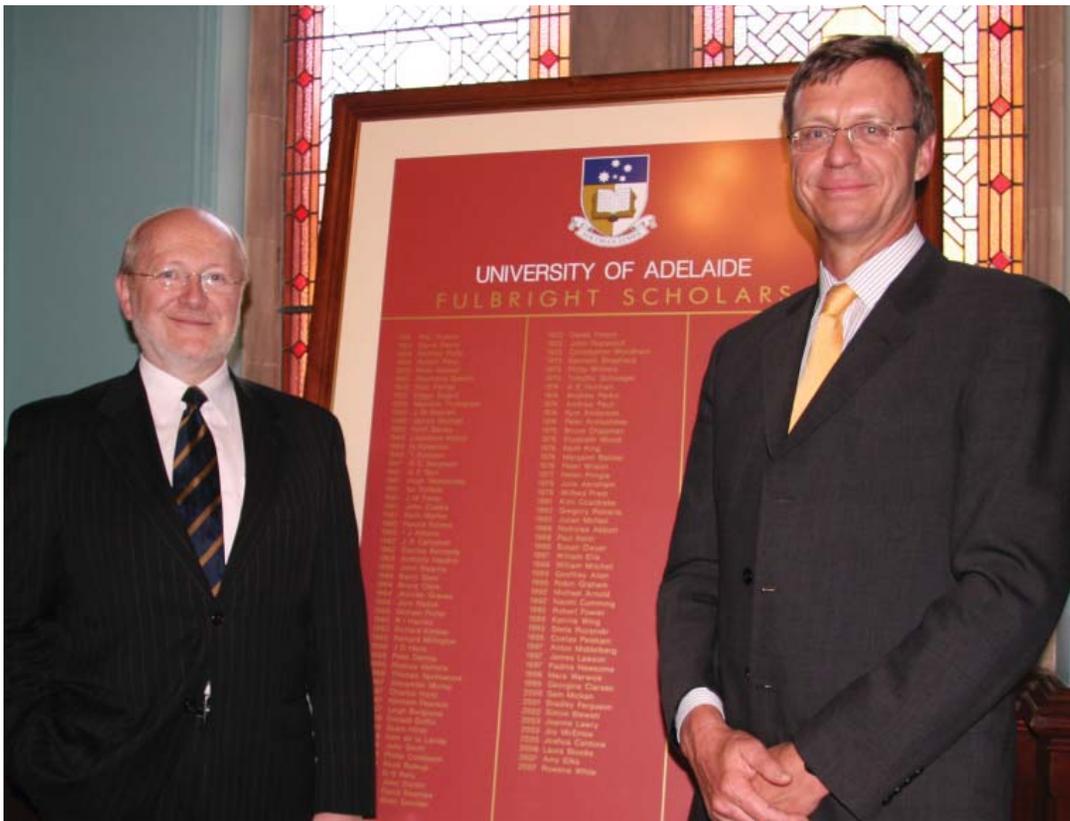
The other US scientists involved in the research include Dr Steven Maier from the Department of Psychology and Centre for Neuroscience at the University of Colorado and postdoctoral fellow Sondra Blond.

■ Story by Candy Gibson



Above (left): Professor Paul Rolan, from the University's Discipline of Clinical & Experimental Pharmacology, at the Royal Adelaide Hospital

Photo by Candy Gibson



Fulbright scholars brought together

Alumni

Above (from left): University of Adelaide Vice-Chancellor and President Professor James McWha and Mark Darby, Executive Director of the Australian-American Fulbright Commission, with the new Fulbright Scholars Honour Board

Photo by David Ellis

The University of Adelaide has celebrated its success in the Fulbright Scholarship program by unveiling an Honour Board listing the University's 103 Fulbright Scholars.

Past Fulbright Scholars, representatives of the Australian-American Fulbright Commission and University staff attended a special celebration to witness the unveiling by University Vice-Chancellor and President Professor James McWha.

The Fulbright Program was established in Australia in 1949 and since then 103 University of Adelaide graduates and staff have been awarded Fulbright Scholarships, enabling them to study and undertake research at some of the best universities in the United States.

"The Fulbright Program is one of the largest and most prestigious educational scholarship programs in the world and it is a testament to the quality of our graduates and staff that we number 103 scholarships in less than 60 years," Professor McWha said.

"Fulbright Scholarships are awarded to people who have been singled out as outstanding scholars and many go on to make tremendous contributions in their field. The University of Adelaide is extremely

proud of their achievements."

Among the earliest Fulbright Scholars was the late Professor Renfrey Potts, Professor of Applied Mathematics at the University of Adelaide from 1959 until his retirement in 1990. Professor Potts was one of Australia's most respected mathematicians who helped establish the University's strong reputation for excellence in mathematics. His Fulbright Senior Scholarship in 1954 enabled him to visit the University of Maryland.

The current last two names on the Honour Board will be the two 2007 Fulbright Scholars, Music graduate Amy Ellks, undertaking studies in musical performance at New School University in New York, and Commerce and Law Honours graduate Rowena White, undertaking postgraduate study at Harvard University.

The Fulbright Program operates between the US and more than 150 countries worldwide, and was established after World War II through an initiative of US Senator J. William Fulbright to promote international goodwill through educational and cultural exchange.

■ Story by Robyn Mills

Development & Alumni Events

ECIC Network

Event: Annual General Meeting
Date: Monday 3 December
Time: 5.30pm for a 5.45pm start, ends 6.30pm

Venue: Entrepreneurship, Commercialisation & Innovation Centre, Yarrabee House, (corner Botanic and Hackney Roads), National Wine Centre, University of Adelaide

RSVP: by Friday 30 November 2007 at (08) 8303 6356 or gaynor.tyerman@adelaide.edu.au

Friends of the University of Adelaide Library and the Adelaide University Choral Society

Event: Christmas in the Barr Smith Library

Date: Sunday 2 December

Time: 3.30pm for 4.00pm start

Venue: Barr Smith Library Reading Room (entry via Eastern doors), North Terrace Campus, University of Adelaide

Cost: \$15 (adults), \$10 (students/concession). Tickets from Venue Tix (08) 8225 8888 or Gaynor Tyerman at the Development and Alumni office (08) 8303 6356.

For more events or to check for updates, visit: www.adelaide.edu.au/alumni/

Development & Alumni News

December Graduations – Merchandise

Development and Alumni offers a range of official merchandise to keep your memories of the University of Adelaide alive.

For more information visit Development and Alumni's merchandise website, or visit us at Level 1, 230 North Terrace, Adelaide, between 10.00am–4.00pm.

www.adelaide.edu.au/alumni/merchandise/

Parking Permits

Alumni After Hours Parking Permits for 2008 will be available soon. The permit allows you the convenience of parking on campus before 9.15am and after 4.30pm Monday to Friday as well as all day Saturday, Sunday and public holidays. Alumni who purchased a permit in 2007 will automatically receive a renewal letter in December. Those who didn't take up the opportunity in 2007 but would like to register their interest for 2008 can contact Development & Alumni on +61 8 8303 5800.

To find out about other alumni benefits, visit: www.adelaide.edu.au/alumni/benefits/



60 years of inspiring students

■ Accommodation

Because of the growing numbers of students from overseas, you might be forgiven for thinking that accommodation for university students has become a major issue only in recent years.

In fact, accommodation for students has been an important issue in Adelaide since the University of Adelaide was established in 1874.

In the University's early years, it was an even bigger issue for female students.

Sixty years ago this year, St Ann's College in North Adelaide opened its doors, providing residential and academic support to female university students.

Now in its diamond jubilee year, St Ann's has been celebrating a long history of excellence in inspiring and supporting students irrespective of gender, race and creed.

In 1881, the University of Adelaide was the first Australian university to admit women to academic courses, but accommodation was extremely hard to come by for many women who travelled from the country or interstate to study.

In the 1930s, a group of like-minded women, including Dr Helen Mayo, Dr Violet Plummer, Dr Constance Finlayson, and Lady Pauline Grenfell Price, hoped to find a solution to the accommodation problem.

"If you were a female student coming from the country, unless you came from a family of means or had relatives in the city, your accommodation options were extremely limited," said Dr Rosemary Brooks, Principal of St Ann's College.

"So there was a clear need, and those strong, visionary women thought: 'This is no good, we've got to give them a hand'."

Dr Violet Plummer approached Sidney Wilcox for help. Mr Wilcox had no wife or children and had built a house on Brougham Place, North Adelaide. He bequeathed his house so that a residential college for women could be formed.

Originally established in 1939, St Ann's College did not officially open until 1947 because of the intervening war years. There were 16 residents in total in 1947, including women returned from war service, some of them having lost husbands or boyfriends in the war.

Today, St Ann's College accommodates 185 student residents, has 56 academic tutors and 10 residential tutors. Since the 1970s it has been co-residential, accepting students from all three South Australian universities.

St Ann's is an entirely independent and private, not-for-profit college, with no church, university or government backing. More than half of the residents are

from rural South Australia, with more than a third from interstate and the remainder from overseas.

Dr Brooks, who herself is a former resident of St Ann's, said the college has built up a strong reputation over the years. It has a zero drop-out record and an exceptionally high pass rate among its residents.

"We have a lot of repeat business," she said. "This year, 36 of our students have had a relative at St Ann's. We also have a third-generation student this year."

Many great names have been residents at St Ann's. For Dr Brooks, one stand-out name is University of Adelaide graduate and anti-nuclear campaigner Dr Helen Caldicott, who was awarded the inaugural Australian Peace Prize last year.

"Helen Caldicott is a stand-out for me because she's so courageous. She's had an extraordinary career," Dr Brooks said.

"Individuals can make a difference, and St Ann's has a world-wide, big-picture view. We constantly strive for an ethical underpinning for our students. 'Consideration for others' is our mantra. Our students go into the community with a strong sense of the need to contribute."

For more information about St Ann's College, visit: www.stannscollge.edu.au

Above:
St Ann's College
Principal Dr Rosemary
Brooks (centre, front)
with the college's 2007
tutor group – representing
rural and regional South
Australia, interstate and
the world – at a cocktail
party at the Adelaide
Town Hall in celebration
of the St Ann's College
diamond jubilee

■ Story by David Ellis

Cellist ends year on a high note

■ Music

Talented cellist Louise McKay has capped off her final year at the University's Elder Conservatorium of Music with a \$1200 prize-winning performance of Tchaikovsky's *Pezzo Capriccioso* at the Allans Classical Music Awards in November.

The 21-year-old soloist held off stiff competition from flautist Anouvong Liensavanh, guitarist Jody Fisher and clarinet player Amanda Lovelock to take out the annual competition finale for the Friday Lunch Hour Concert Series.

The performance rounds off another outstanding year for Louise, who has won a string of awards in 2007. She was awarded a Fellowship with the Melbourne Symphony Orchestra this year and also named an Emerging Artist with the world-class Australian Chamber Orchestra (ACO).

Under the ACO Fellowship, Louise has been mentored by core players over the past year and performed in a number of tours and concerts within Australia.

"It's an incredible orchestra with an outstanding reputation," Louise said.

"The energy they create in a performance is really special and it's been a privilege to be part of the ACO, even for a relatively short period."

In July, Louise was invited to attend the summer school "Ferme de Villefavard" in France where she studied intensively with Michel Strauss, cello professor at the Conservatoire National Supérieur de Musique et de Danse de Paris. On the same trip, she had masterclasses with Tamas Varga (Vienna Philharmonic) and Robert Nagy (Principal Solo Cellist of the Vienna Philharmonic) in Salzburg.

This followed on from a 2006 visit to Europe as one of 50 cellists worldwide selected to compete in the Prague Spring International Music Competition.

In August 2007 Louise won the \$10,000 first prize in the prestigious *Geelong Advertiser* Costa Scholarship, a national music competition open to solo instrumental performers between 16 and 23 years of age.

Shortly after she followed up with a Helpmann Academy Award

for her performance at a Roaring '20s night at the Colonel Light Hotel in Adelaide.

Last month, Louise was also named a 2007 Minter Ellison Rising Star, awarded each year by the Asia Pacific law firm's South Australian office to a female emerging artist in the State. One award is presented annually to each arts stream – visual art, dance, drama and music – and Louise took out the latter prize.

The next 12 months holds the promise of more travel and exposure to international artists. Louise has been accepted into the National Academy of Music in Melbourne for the first half of 2008, beyond which she hopes to secure a European or US scholarship.

"The tuition I have received overseas has really brought home to me the importance of learning from the best cellists in the world, most of who are based in Europe. That's my dream – to travel the world and keep learning from the masters," she said.

Outstanding student cellist Louise McKay

Photo by Brenton Edwards



■ Story by Candy Gibson