

Accelaidean NEWS FROM THE UNIVERSITY OF ADELAIDE

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Our \$250 million research investment

Story on page 5

Life Impact | The University of Adelaide

www.adelaide.edu.au

Climate of change

The last five years have seen the emergence of near-universal consensus that climate change is real, even if there is still some dispute as to its significance and the extent to which climate change is human induced.

I could devote this column to persuading you that climate change is real, or to discussing the impacts it will have on climate in terms of temperature, rainfall redistribution, sea levels and the probable inundation of land (including cities), crop failure and the need to reassess cropping patterns, plant breeding, species extinction, population migration and a raft of social, economic and national security issues.

However, the reality of climate change has been well described, and is detailed at length in the scientific literature such that the vast majority of scientists now accept it. Debate has now, in the main, moved to issues of magnitude, speed, impacts, and the measures we might take in mitigation.

Issues that are intimately, indeed inextricably, linked with climate change include: world population, food preferences, energy demand and water security. These issues alone demonstrate that the consequences of failing to act will be great; the problems for humanity will be massive.

Are we prepared for this? Does the public understand the issues? Do we understand how to reverse, minimise, or even live with the changes that are upon us? Do governments have the policy tools and options needed to make informed judgments? The answer clearly is no.

Universities are uniquely placed among the world's centres of learning and research when it comes to informing public debate. Whatever the problem, universities can, and have, come up with the solutions.

As far as I see it, universities have a dual role in the global response to climate change.



First, through education and research into the nature, extent and causes of climate change, they provide policy makers with the evidence required to institute meaningful mitigation policy and to provide a basis for gauging available adaptation options. Universities, through their education and research into climate change, are making an impact on the world, especially in respect of energy production, food production, and water security.

Secondly, universities must increase their direct community involvement in the promotion of societal change towards long-term sustainability. In their popular book Degrees that Matter. Climate Change and the University, Dr Ann Rappaport and Sarah Hammond Creighton write: "As communities, [universities] can strategize and organize effective action. As laboratories for learning and centers of research, they can reduce their own emissions of greenhouse gases, educate students about global warming, and direct scholarly attention to issues related to climate change and energy."

I agree with their approach, but would extend it by inviting universities to get out into the community and offer their assistance and support, without having to be asked for it. There is an undeniable elitism in many universities that expects the community to come to us, not the other way around.

It is true that there are good reasons to act with caution: few would disagree that an academic culture that demands quick results hampers innovative and long-term research efforts. But a long-term commitment to knowledge is not necessarily inconsistent with a shortterm engagement with society, no more than the preservation of tradition is inconsistent with the consideration of new approaches. Universities should not discount the benefits of an active approach.

We cannot be aloof and uncommitted commentators. Are we providing viable solutions and policy options, or simply doing research to confirm we have a problem that current policies will not fix?

Universities pioneered education and research into the science of climate change, and they should be at the forefront of communicating that knowledge to government, industry and the community.

This has been edited from the Vice-Chancellor's plenary address delivered to the 17th Conference of Commonwealth Education Ministers Vice-Chancellors' Forum, Kuala Lumpur, Malaysia, in June.

have A Mrs.

JAMES A. McWHA Vice-Chancellor and President

Adelaidean

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ROSEWORTHY **OPENDAY** THE UNIVERSITY OF ADELAIDE

SUNDAY 13 SEPTEMBER 11AM-3PM

WHAT'S HAPPENING AT ROSEWORTHY? WHAT ARE WE DOING THAT'S EXCITING AND NEW? HOW DO WE MAKE AN IMPACT ON YOUR EVERYDAY LIFE?

The Roseworthy Campus Open Day is your opportunity to find out the answers to these questions, and more.

Nationally renowned as Australia's first agricultural college, Roseworthy Campus is this month opening its doors to potential new students, their families, friends and other members of the community.

Open Day is the all-important annual event that provides information about study in Veterinary Science, Animal Science and Agricultural Science, as well as life on campus.

The event puts you in touch with current students and staff who will answer your questions about studying at Roseworthy and the career opportunities those programs can lead to.

University staff will also be on hand to discuss any academic program offered by the University of Adelaide, not just those taught at Roseworthy. Tours of the campus will include visits to the residential college, library, computing facilities, farm, and lecture theatres.

There will also be a large number of activities and displays, including:

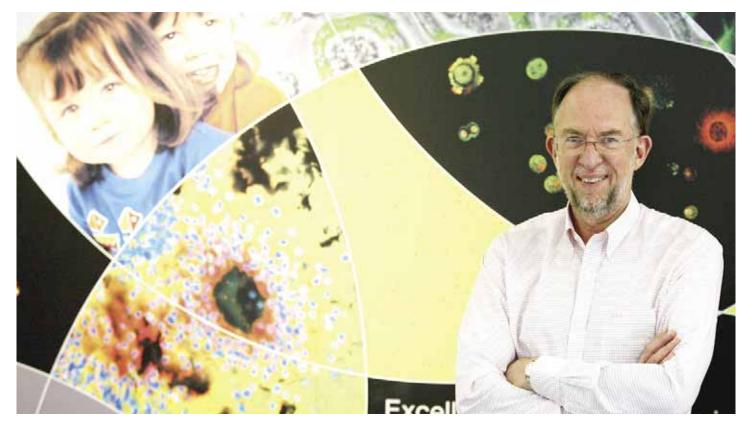
- a virtual tour of the new facilities being built for the School of Veterinary Science;
- demonstrations of learning tools, such as Betsy, the (dummy) baby cow, which helps to train vet students in pregnancy diagnosis and staging;
- how science can unlock the secrets to what is happening in an animal, and how research and teaching link to real production solutions.

For more information about the Roseworthy Campus Open Day, contact Judy Tucker on +618 8303 7812 or email: judy.tucker@adelaide.edu.au

www.whatsyourpreference.com/openday

Contents

4	Adelaide researchers dominate science awards
5	COVER STORY Our \$250 million research investment
6	One choir just isn't enough
7	Swine flu efforts have student support
8	Coorong's future helped by new science New cancer study looks at impacts on families
9	How we're listening for the Big Bang
10	OPENDAY
12	Hunt is on for proteins that cause MS Flute festival for all generations
13	Adelaide research among nation's best
14	Want a head start?
15	Celebrating our graduates' success
16	Alumni awards
17	Strong response to library appeal
18	Quartet to inspire students
19	Is Middle East reconciliation possible?
20	Coming Events



Adelaide researchers dominate science awards

University of Adelaide staff have dominated this year's South Australian Science Excellence Awards, winning the top award of SA Scientist of the Year plus another four awards.

Professor Rob Norman, Director of the University's Robinson Institute, is the 2009 SA Scientist of the Year. Professor Norman is a leader in reproductive health and has been involved in many of the pioneering developments in IVF in Australia.

South Australia's Science and Information Economy Minister, the Hon. Michael O'Brien, said Professor Norman was an outstanding South Australian and a worldclass scientist who promoted internationally competitive research in reproduction.

"Professor Norman leads an elite group of over 350 researchers at the Robinson Institute at the University of Adelaide in the areas of reproductive health and regenerative medicine," Mr O'Brien said.

"Last year, he was named one of Australia's 10 great minds in research by the Australian National Health and Medical Research Council."

Mr O'Brien presented six other leading scientists and educators with Science Excellence Awards, each receiving \$10,000 to advance their research and education initiatives.

The other University of Adelaide winners were:

- **Professor Alastair MacLennan**, Head of the University's Discipline of Obstetrics and Gynaecology and also a member of the Robinson Institute, won the Excellence in Research for Public Good Award. His department is internationally known as the largest and most productive research unit into women's and children's health. Professor MacLennan's research has included safer births, causes of cerebral palsy, better contraception, and management of menopause.
- Healthy Development Adelaide (HDA), which won the Excellence in Research Collaboration Award. HDA addresses high priority research issues into the physical, psychological and social health of Australian infants, children and adolescents. HDA was established in 2004 as an initiative of the University of Adelaide in collaboration with the University of South Australia, the Women's and Children's Health Research Institute, Channel 7 Children's Research Foundation and the Department of Education and Children's Services and other supporting partners. Professor Norman is one of the leaders of HDA.
- Professor Holger Maier, Professor of Integrated Water Systems Engineering in the School of Civil, Environmental & Mining Engineering won the Tertiary Science Educator of the Year. Professor Maier teaches in the areas of water and environmental engineering and is the co-developer of the multi-award winning Mekong e-Sim – a computer-supported simulation project for environmental engineering students.
- Dr Alice Rumbold, Senior Research Fellow in the Discipline of Obstetrics and Gynaecology and Robinson Institute, was also announced as the South Australian Young Tall Poppy of the Year. Dr Rumbold won the award for her research into women's reproductive health problems, particularly among Aboriginal women.

Mr O'Brien said these winners "are true leaders in their field and we commend them for their excellence in science".

Above: Professor Rob Norman Photo by Kelly Barnes, courtesy of *The Australian*

Our \$250 million research investment

The University of Adelaide's investment in research activities exceeded a quarter of a billion dollars last year, according to a new review.

"This is a massive commitment and it reaffirms the University of Adelaide's position as a major contributor to the national research effort," said Professor Mike Brooks, Deputy Vice-Chancellor (Research).

"Our research operations represent a major investment in work that is of great benefit to society, government and industry in areas of key strategic need.

"The strong research performance for 2008 comes on top of the University's \$50 million commitment to new research institutes over the next five years," he said.

"We have already established iconic research institutes in areas of excellence spanning environment, reproductive health, mineral and energy resources, agriculture, and photonics, with others soon to be announced.

"Additionally, new research centres are being funded in fields as diverse as defence, nutrition, visual technologies and economics."

The University has conducted a review of its research expenditure for 2008, partly because of reporting requirements for the Federal Government but more broadly to gain a better understanding of the University's total research commitment.

The review found that the component of the University's research income that is reportable to the Federal Government grew by 25% to more than \$145 million last year.

As part of this, the University's top tier competitive research income grew by 15% to just short of \$70 million, while support from industry exceeded \$17 million.

The review also found that when the \$145 million is added to other federal government grants, infrastructure funding, research student scholarships and a conservative estimate of staff time allocated to research, total research spend exceeded \$250 million.

In 2008 the University ranked second in Australia in terms of competitive research income per capita, which is a key measure of research productivity. Adding to this, the number of journal papers to which University researchers contributed increased by 13% last year.

Professor Brooks attributed much of the University's research success to intensive preparations for the former national Research Quality Framework (RQF) scheme, and now the current Excellence in Research for Australia (ERA) scheme. "The RQF forced us to audit our research quality in more detail than we'd ever done before. It enabled us to refine our internal investment strategies and priorities and help in our decision-making.

"That scheme has been dead now for a couple of years. Our positive results in 2008 are due in part to our response to RQF and partly also because of the new ERA.

"If we've done well thanks to the influence of ROF, we will be on an even better footing with ERA. ERA is a metric-based system that has generally been well received by universities. It's a more objective system, and we believe it will be more cost-effective for universities overall. If it continues to drive researchers towards quality research, that will be an excellent result."

For more information about research at the University of Adelaide, visit: www.adelaide.edu.au/research

Below: Professor Mike Brooks, Deputy Vice-Chancellor (Research), whose own research interests are in computer vision and surveillance

Photo by James Knowler, courtesy of The Australian



One choir just isn't enough

An evening concert at St Peter's Cathedral this month features all three choirs from the University of Adelaide's Elder Conservatorium of Music.

The Three Choirs at 6.30pm Saturday 12 September is a joint production between the Elder Conservatorium and St Peter's Cathedral, and sees all three choirs performing a program of largely sacred works.

The concert features the Elder Conservatorium Chorale (conducted by Carl Crossin), Adelaide Voices (conducted by Christie Anderson) and Bella Voce (conducted by Emma Horwood), plus Cathedral organist Mark Joyner.

Performances will include Britten's Hymn to St Cecilia, Purcell's Funeral Sentences and Poulenc's Litanies a la Vierge Noire,



as well as modern compositions by three Elder Conservatorium students, David Lang, Steven Tanoto and Ian Andrew.

The concert is the second of two joint performances between the Cathedral and the Elder Conservatorium this year, following on from the Good Friday performance of Fauré's *Requiem* in front of an estimated audience of more than 1000 people.

"This concert features all three choirs – about about 100 singers in total – combining to provide an outstanding musical experience," said Edward Joyner, Manager of Concerts at St Peter's Cathedral.

THE THREE CHOIRS

6.30pm Saturday 12 September

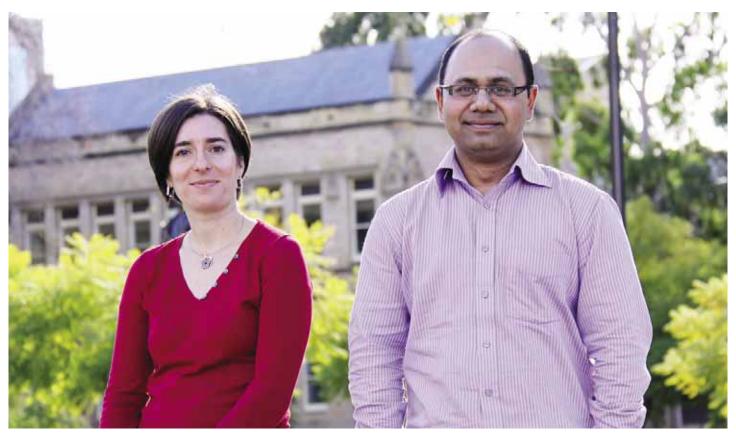
St Peter's Cathedral, North Adelaide Tickets: adult: \$25; concession: \$20; student: \$15.

Please ring the Concert Manager for ticket bookings on +61 8 8303 5925 or email: claire.oremland@adelaide.edu.au

Above: The Good Friday concert at St Peter's Cathedral attracted more than 1000 people

Photo courtesy of St Peter's Cathedral





Swine flu efforts have student support

The University of Adelaide has been commissioned to help the SA Health Department in documenting the spread of swine flu in South Australia.

Three postgraduate students in the Discipline of Public Health have spent one day a week monitoring data supplied by local medical practitioners about suspected and confirmed swine flu patients.

Dr Muhammad Aziz Rahman, Dr Nathanaelle Theriault and Mr George Mnatzaganian all have a background in public health and welcomed the opportunity to learn more about the spread of the H1N1 influenza pandemic.

The qualified doctors are not involved in a clinical sense, but provide assistance to SA Health by cross checking data with doctors, patients, clinics and hospitals and tracking the progress of individual cases.

Dr Rahman, a medical graduate from Bangladesh who has a Masters degree in Public Health, started his PhD at the University of Adelaide in February under Professor Konrad Jamrozik, Head of the School of Population Health and Clinical Practice. "After completing my Masters I worked in the public health field in Afghanistan for eight months before returning to Bangladesh to work for an international research organisation, monitoring various outbreaks including the avian flu," Dr Rahman said.

"This opportunity to learn more about the spread of swine flu and also the South Australian public health system has been invaluable. Hopefully it will stand me in good stead, job-wise, when I finish my PhD," he said.

Dr Theriault is a public health physician from Quebec who secured a 12-month research position at the University of Adelaide in October 2008, working on an HIV project supervised by Dr Peng Bi and Professor Janet Hiller.

"This kind of pandemic (swine flu) does not happen every day and for a public health practitioner it presents a great learning opportunity," Dr Theriault said. "When I return to Canada in November we will be going into our winter so my experience here should be invaluable.

"So far, this infection has not been too severe in South Australia, but the surveillance is very important. We have to check with infected people to see whether they recover quickly or if they develop complications, and if the pattern of illness changes over time. This gives us a better understanding of the pandemic," Dr Theriault said.

Mr Mnatzaganian, an Armenian Israeli, is a PhD candidate in the Discipline of Public Health under the supervision of Professor Jamrozik and Professor Philip Ryan.

For many years he has worked as a research coordinator, assessing data among hospitalised patients.

Mr Mnatzaganian said it was important to learn more about the epidemiology of the H1N1 virus in vulnerable populations.

"Policy makers and health professionals need to concentrate on pregnant women, people with chronic respiratory illnesses and others with immune-deficiencies. These are the people who are more likely to develop serious complications from the swine flu," he said.

Dr Rahman said it was too early to predict the end of this pandemic. "It is evolving on a daily basis but if we can be useful we are happy to keep helping out."

Story by Candy Gibson

Above (from left): Public Health students Dr Nathanaelle Theriault and Dr Muhammad Aziz Rahman are among those providing much-needed support by tracking the spread of swine flu

Photo by Candy Gibson



New cancer study looks at impacts on families

Survivors of cancer and their family members are being sought for a new study into the difficult decisions patients and their families need to make in dealing with cancer.

The study, by the University of Adelaide, Cancer Council Australia and Cancer Voices Australia, hopes to provide information to enable better support of families and patients in the decisionmaking process.

"Following a diagnosis of cancer, both the patient and their family experience considerable stress," said Dr Jaklin Eliott, Visiting Research Fellow at the University's School of Psychology and Social Scientist with Cancer Council Australia.

"There are significant responsibilities and burdens upon the family who are called on to physically, financially and emotionally care for the patient, to negotiate with hospital staff and participate in decisions about treatment options and a range of other issues.

"There are big decisions to be made about the best care for patients but these decisions also affect the families, and families take an important role in making those decisions."

Dr Eliott said that conflict can arise between the patient's needs and the potential consequences on their family's financial circumstances, quality of life and other circumstances.

"There have been many calls for healthcare teams to address the role of family in cancer care but there has been little research to date which seeks to identify and explore the issues and decisions families find difficult," she said.

"The aim of this interview study is to identify and explore those decisions identified as being difficult. The focus of the interview will be upon what factors contributed to, or countered, the difficulties faced."

People who have successfully completed treatment for cancer and their families interested in participating in the study should contact Dr Jaklin Eliott during office hours on +618 8303 3855 or email jaklin.eliott@cancer.org.au

Further information about the study can be found at: www.psychology.adelaide.edu.au/ familyperceptions/

Story by Robyn Mills



Coorong's future helped by new science

Planning the best possible future for the Coorong has been made easier following the completion of the most comprehensive ecological study of the region by University of Adelaide and other Australian scientists.

Scientists have delivered a suite of modelling tools and a framework to help land and water managers make the most of environmental flows and management interventions to help restore the ecology of South Australia's Coorong and Murray Mouth region.

The three-year research collaboration is the first comprehensive research program of the ecology of the internationally recognised region.

Based on this knowledge, the \$5.3 million Coorong, Lower Lakes and Murray Mouth (CLLAMMecology) Research Cluster has developed management tools to help maximise environmental outcomes for the Coorong and Murray Mouth.

The Cluster was supported through CSIRO's Water for a Healthy Country National Research Flagship.

It involved CSIRO, University of Adelaide, Flinders University, and SARDI Aquatic Sciences. Geoscience Australia, Fisheries Research and Development Corporation, Land & Water Australia, and the SA Murray-Darling Basin Natural Resources Management Board were additional research and funding partners.

The building blocks for the management framework were:

 The development of a hydrological model of the Coorong and Murray Mouth suitable for 30-100 year forecasting of changes in water level and salinity regimes;

- A field program to study the ecology of key species of invertebrates, fish and water birds and to study key ecological processes, such as nutrient cycling; and
- The development of ecological models to predict the distribution of key species and of alternative ecosystems states. These can be used to explore how changes in salinity, water levels and other environmental drivers will influence the distribution of key Coorong species.

Cluster Leader, University of Adelaide Associate Professor Justin Brookes, said the tools developed during the study would allow land and water managers to maximise the environmental outcomes from available management levers, such as environmental flows and dredging the Murray Mouth.

"Our work provides a whole-of-system approach for planning environmental flow initiatives for the region," Professor Brookes said.

To view slidecasts and podcasts from a technical briefing given by the CLLAMMecology Research Cluster, visit: www.adelaide.edu.au/environment/wrc/ cllammecology

Further information and the Cluster's Final Report can be found at: www.csiro.au/ partnerships/CLLAMMecologyCluster.html

Story by Helen Beringen Above: Low water levels in Lake Alexandrina Photo by Kane Aldridge

How we're listening for the Big Bang

University of Adelaide researchers are among a large international team of physicists taking part in one of the most challenging scientific endeavours ever undertaken: the attempt to directly detect vibrations in space called gravitational waves.

The international team's latest research findings, published recently in the journal *Nature*, are considered to be a small but significant step forward in the quest to better understand the nature of the universe after the Big Bang.

Gravitational waves, which previously have only indirectly been shown to exist, are believed to be emitted whenever mass is accelerated. Physicists expect these waves to provide a whole new method for observing and understanding the universe, including gathering information about the Big Bang.

Current detectors operate in the audio frequency range, which in simple terms means that scientists are trying to detect gravitational waves by "listening" to the universe.

"One of the goals of the team's research is the direct detection of black holes – to listen to their births and the 'ring-tones' produced by their vibrations," said Professor Jesper Munch, Chairman of the Australian Consortium for Gravitational Astronomy (ACIGA) and Professor of Experimental Physics at the University of Adelaide.

"Another goal is to listen to the birth of the universe itself, called the 'stochastic background', which should sound a bit like wind in the treetops."

ACIGA includes research groups at the University of Adelaide, ANU, Melbourne, Monash, UWA and Charles Sturt University. Researchers from these six Australian universities are working with a large international team from more than 70 universities in the United States, Europe, Australia and Asia, using the huge detectors of the Laser Interferometer Gravitational Observatory (LIGO) and the Italian-French VIRGO.

The detectors use powerful lasers, and mirrors suspended at the ends of multi-kilometre scale vacuum pipes, to sense the tiny vibrations of gravity waves. The LIGO observatories are located in Washington State and Louisiana in the US and VIRGO close to Pisa in Italy.

In its *Nature* paper, the international team announced its first significant observations relating to waves from the Big Bang.

"Although the team reports that the stochastic background has not yet been discovered, this result itself is significant, because it sets new limits on the strength of the waves we're trying to detect," said Dr David Ottaway, Lecturer in the University of Adelaide's School of Chemistry & Physics.

"The measurements taken so far rule out some possible theories for the early universe. This result will help the team to fine tune what we're looking for, which in turn will help us to pin down the details of the Big Bang in which the universe was born."

In trying to detect gravitational waves, the international team of physicists kept

three ultra-sensitive detectors in operation for two years, from 2005 to 2007.

Australian physicists contributed to the design of the instruments and were among a number of teams who operated the supersensitive instruments around the clock to gather the data.

"The measurements obtained over the two years pave the way for new measurements with improved detectors over the next few years," said David Hosken, Research Associate in the School of Chemistry & Physics, who was involved in observation runs in Louisiana, and is among those currently working on highpower lasers for this purpose.

"The improved detectors are almost certain to be able to detect gravitational waves from colliding stars and black holes," he said.

Physicists from the University of Adelaide working on this project also include Associate Professor Peter Veitch. Together with physicists from ANU, they are in a partnership with LIGO and the international community to develop the next generation of detectors.

Image by NASA

Above: Supernovas, such as the one which created the Crab Nebula, are believed to send out bursts of gravity waves

THE UNIVERSITY OF ADELAIDE

AN ESTIMATED 12,000 PEOPLE GOT A TASTE OF LIFE ON CAMPUS AT THE UNIVERSITY OF ADELAIDE'S OPEN DAY ON SUNDAY 16 AUGUST.

As well as providing information about the many study opportunities available at the University and the careers they can lead to, Open Day had something for everyone, including tours, a short film festival, live music performances, public talks and more.

Here are just some of the images from Open Day 09.







Flute festival for all generations

One of the biggest events in Adelaide's history dedicated to flute music and education is coming to the University of Adelaide.

The Australian Flute Festival will be held at the University's Elder Conservatorium of Music from 3–5 October.

Featuring international guests from around the world as well as Australia, the event will combine performances with competitions, masterclasses, workshops and a junior program.

Among the performers converging on Adelaide for the event are French flutist Jean Ferrandis, New Zealand-based German flutist Uwe Grodd, and Tara Helen O'Connor from New York.

Australian flautists will feature prominently alongside their international peers, such as the Flute section from the Adelaide Symphony Orchestra and many others known for both their performance and their teaching in music.

"This event will be the biggest festival for flute in Adelaide for well over 20 years," said the Artistic Director of the Australian Flute Festival, Associate Professor of Flute, Head of Performance and Head of Woodwind at the University of Adelaide, Elizabeth Koch.

"The festival is aimed at catering to all aspects of flute performance and education. In addition to the concerts, we are running five competitions with more than \$56,000 in prizes, a Professional Learning Day for music teachers, and many other events," Associate Professor Koch said.

"One of the most important aspects of this festival is our junior program, which encourages participation from young flute players aged 10–16 years. These represent the next generation of flute players.

"It's important for professional players and academics alike to help the younger players to develop and grow. The junior players will also take part in both the opening and closing concerts, which I'm sure will be a memorable experience for them."

Details of all the activities – including five public concerts – can be found at: www.australianflutefestival.com

Story by David Ellis

Above: French flutist Jean Ferrandis will be one of the major drawcards for the Australian Flute Festival Photo by Cyril Bailleul



Hunt is on for proteins that cause MS

Australian researchers will aim to discover the proteins that cause multiple sclerosis (MS), thanks to a new nationwide research effort.

The national research project – the first of its kind in Australia and one of the first of its kind in the world – was recently launched at the University of Adelaide by the Hon. Mark Butler MP, Parliamentary Secretary for Health.

"This collaborative research project has the potential to find crucial answers about a debilitating disease that affects millions of people worldwide," Mr Butler said.

Multiple sclerosis is an autoimmune disease in which the body's own immune cells attack a person's central nervous system.

More than 2.5 million people worldwide have MS, with the disease costing the Australian community alone an estimated \$2 billion each year. Despite considerable research efforts so far, there are few effective treatments for MS.

The new research project will receive funding of \$1 million over four years, starting this year, under the Australian Research Council's Linkage Projects funding scheme and from MS Research Australia (MSRA), the research arm of MS Australia.

The research is a major national collaboration between the University of Adelaide, University of Queensland, Monash University and the Sir Charles Gairdner Hospital, with the University of Adelaide as lead institution. "With MS, there are a number of major stages that occur in the disease, including activation and remission," said lead investigator Professor Shaun McColl, Deputy Head of the School of Molecular & Biomedical Science.

"At each of these major stages, certain genes are activated. Those genes express proteins, and we believe these could have the effect of switching the disease on and off. If we can discover the key proteins and their roles in the development of MS, we could go a long way towards finding potential treatments or cures for the condition," he said.

The area of research involved in discovering such proteins is known as proteomics.

Mr Jeremy Wright, Executive Director of MS Research Australia, said: "This is a natural step for MSRA to help researchers make important new discoveries that will translate into real outcomes for people with MS. Together with the ARC, we are investing \$1 million into this promising new area for MS research."

For more information visit: www.msra.org.au

Story by David Ellis

Above (from left): Research leader Professor Shaun McColl, Deputy Head of the School of Molecular & Biomedical Science, with Dr Peter Hoffman, Director of the Adelaide Proteomics Centre

Adelaide research among nation's best

University of Adelaide research linking cognitive outcomes in children born pre-term with impaired motor development has been named among the top 10 health and medical research projects in Australia.

Neurophysiologist Dr Julia Pitcher and her team from the University's Robinson Institute in the School of Paediatrics and Reproductive Health are featured in a book launched in Canberra last month by the Federal Parliamentary Secretary for Health, the Hon. Mark Butler.

The National Health and Medical Research Council (NHMRC) launched *10 of the Best* as part of CSIRO's National Science Week activities to inspire the next generation of researchers.

Dr Pitcher's four-year NHMRC-funded research project found evidence that even mild prematurity alters normal development of the motor cortex area of the brain which controls movement.

In a study of 28-year-olds, Dr Pitcher's team found that those who had low birth weights also had altered motor cortex function as adults, and that this predicted their educational achievement.

"What most surprised us was that, unexpectedly in these individuals who were



not technically pre-term, or born earlier than 37 weeks gestation, we still saw an additional effect of shorter gestation on their motor cortex development," Dr Pitcher said.

An ongoing follow-up study has confirmed this, examining motor and cognitive development in children aged 11-13 years and showing that every week of gestation lost results in altered motor cortex development.

"These alterations in motor cortex development due to pre-term birth are much stronger predictors of cognitive outcome, particularly language and processing of speech, than gestation length itself," Dr Pitcher said.

"Babies from socio-economically disadvantaged homes tend to do the worst. The good news is that it appears a stimulating post-natal environment can ameliorate many of the negative consequences of pre-term birth on both motor and cognitive development. "This is the first physiological evidence that the motor and cognitive dysfunction commonly experienced by pre-term children when they reach school age probably has a common underlying origin in the brain," Dr Pitcher said.

One of the main impacts of her team's research relates to these late or mildly preterm children, born between 33-37 weeks of gestation.

"Many of these babies present as normal at birth, but there is increasing evidence that these children experience significant motor, cognitive and behavioural difficulties at school age. It seems every week of gestation is important."

Dr Pitcher's team hopes to develop early diagnostic markers and intervention strategies to minimise the impact of preterm birth on a child's future development.

The NHMRC awarded Dr Pitcher a \$266,500 Peter Doherty Fellowship in 2004 to undertake postdoctoral research in this area. In late 2008 her team was awarded another \$460,000 to fund the ongoing study.

Since March 2009 Dr Pitcher has held an M.S. McLeod Research Fellowship in Paediatric Medicine at the Women's and Children's Hospital.

Story by Candy Gibson

Above: Dr Julia Pitcher Below: Photo by iStock

Want a head start?

Have you ever thought it would be handy to know what university is like before you actually start your degree?

The University of Adelaide's Headstart Scholarship gives students a taste of university study while they're still completing high school.

The Headstart program, now in its eighth year, has been developed in consultation with schools to meet the needs of gifted and exceptionally motivated secondary school students who require a challenge beyond the Year 12 curriculum.

Students who take up the offer of a Headstart Scholarship are able to attend classes at university, offering them new challenges, new learning, and giving them the chance to "dip their toe in the water".

The scholarship pays for students' university tuition fees for up to one semester's workload.

Although participation in Headstart doesn't guarantee a student will be accepted into their chosen degree once they complete Year 12, if they are accepted they can count their Headstart study towards their degree.

Two students who benefited from Headstart Scholarships last year are Annie Conway and Minh Bui.



Annie, 19, originally from Woodville High School, spent her Year 12 at University Senior College. As a Headstart Scholar, she was able to study subjects in Maths, Finance and Economics for one semester at the University of Adelaide. She is now in her first year of a double degree in Maths and Finance.

"The Headstart program gave me a new direction for my studies," Annie said. "Like a lot of students I was unsure about what I wanted to do at uni, and when I studied Finance as a Headstart student I really enjoyed it.

"Doing that study with Headstart made me more confident when I enrolled at uni that I was doing the right thing."

Minh, 17, also a former Woodville High student, is now studying for a double degree in Law and Commerce. Having studied Maths as a Headstart Scholar, he found that combining university study with Year 12 enabled him to develop new skills.

"It really improved my time management skills, because I had to travel from high school to university a lot," Minh said. "I would say that the Headstart program helped me in a number of ways. For example, the way of studying and the assessment at university is very different to high school, so it helped me to get used to that.

"Also, knowing my way around the campus a year earlier made a big difference when I started my degree."

Both students highly recommend the Headstart program for any other potential students currently studying at high school.

"Even if you do a subject that you decide you don't like, the experience alone will be important. It will make things so much easier for you when you actually start your university degree," Minh said.

For more information about the Headstart Program, email: angela.ballantyne@adelaide.edu.au, call +61 8 8303 8381 or visit: www.adelaide.edu.au/headstart

Story by David Ellis

Above: Former Headstart Scholars – and now University of Adelaide students – Minh Bui and Annie Conway Photo by David Ellis



Our commitment to the environmen

Lane Print & Post is committed to the care and protection of the environment. We have long been certified to world's best practice standards ISO9001:2000 and are in the process of conforming to ISO14001:2004 Environmental Management Systems Certification.

- \checkmark sustainable offset paper products
- ✓ ctp water saving technology
 ✓ 55% less energy use through
- perfecting printing
- ✓ vegetable based inks
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- ✓ 100% degradable food grade mailing plastic
- ✓ full plant recycling
- ✓ personal ownership and staff commitment to the environment

Celebrating our graduates' success

Graduation ceremonies are an annual highlight of the University of Adelaide's events calendar.

More than 1500 students graduated in five ceremonies held in Bonython Hall last month, watched on by thousands of family members, friends, colleagues and university staff. Right: Graduating with a PhD in Art History at last month's ceremonies was 80-year-old Avis Smith, who says there's nothing like doing a PhD, especially under a supervisor like Associate Professor Cathy Speck, to keep your mind active. Mrs Smith's PhD thesis is called 'Changing fortunes: the history of china painting in South Australia'.

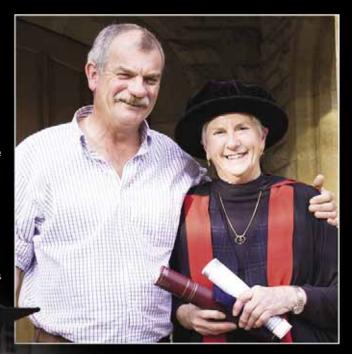
"China painting has been a form of art in South Australia since the 1890s but it has not been documented," says Mrs Smith.

She says there have been important social rituals around getting out your best china and china painting is part of this.

"Unfortunately women's culture has largely been overlooked by historians," she says.

Mrs Smith – pictured here with son David – first graduated from the University of Adelaide with a diploma in Pharmacy in the early 1950s. For 20 years she was the Chief Pharmacist at Broken Hill Base Hospital.

Photo by Robyn Mills



Left: Mace-bearer John McLaughlin (left) and Vince Grande became the first two graduates of the specialist defence Masters degree, the Master of Marine Engineering.

Delivered by the University of Adelaide's School of Mechanical Engineering and Australian defence company ASC, the Masters program is the only degree of its kind in Australia, filling an education gap for naval defence engineers.

The program consists of core courses in either submarines or naval ships, together with a general system engineering course. Students are then able to select from a range of electives that provide breadth and depth in

of electives that provide breadth and depth in Marine Engineering to complement their existing engineering degrees.

John and Vince became the first of 27 ASC employees to complete the Masters program. Places are also available to other students, including Commonwealth-funded places.

The Master of Marine Engineering has been made possible through funding from Defence Materiel Organisation's Skilling Australia's Defence Industry (SADI) initiative. Photo by David Ellis



Alumni awards

The achievements of graduates past and present have been recognised in the latest round of awards from Development and Alumni at the University of Adelaide.



Distinguished Alumni Awards

Awarded annually, the Distinguished Alumni Awards recognise alumni who have enhanced the reputation of the University of Adelaide and have given outstanding service to the community or made an outstanding contribution in their chosen fields.

The 2009 Distinguished Alumni Award recipients are:

Dr Barbara Rosemary Hardy AO

(BSc 1947) – in recognition of her lifelong commitment and significant contribution to the advancement of Science Education, Science Awareness and Environmental Conservation.

Dr Hardy has worked tirelessly to highlight the need for focus on the environment and science education. She has served in various capacities in support of conservation and environmental education, including: Commissioner of the Australian Heritage Commission; President of the National Parks Foundation of South Australia (now the Nature Foundation SA); and Chairman of the South Australian Landcare Committee. She has been a vocal advocate for solar and sustainable energy and is a Companion of the Institution of Engineers Australia, and a Fellow of the Australian Institute of Energy.

Mr John Laurence Menadue AO

(BEc (Hons) 1957, BEc 1956) – in recognition of his significant and lifelong contribution to Australian Society as a Public Servant, Diplomat, Critical Thinker, Board Director, Advisor and Public Commentator. Mr Menadue has had a distinguished career both in the private sector and in the Public Service. His past positions include: General Manager, News Limited, publisher of *The Australian*; Head of the Department of Prime Minister and Cabinet, working for Prime Ministers Whitlam and Fraser; Australian Ambassador to Japan; Head, Department of Immigration and Ethnic Affairs; Head, Department of Trade; CEO of Qantas; a Director of Telstra; and a Director of the NSW State Rail Authority.

His awards include the Japanese Imperial Award, The Grand Cordon of the Order of the Sacred Treasure.

Mr Menadue has maintained his connection with the University of Adelaide through being a lifelong supporter of Lincoln College.

Dr Rex John Lipman AO

(BDS 1951) – in recognition of his significant contribution and leadership over many years in the area of Dentistry, Business, Diplomacy and Education and his lifelong commitment to the Adelaide University Regiment.

The awards were presented at the August graduation ceremonies in Bonython Hall, with the exception of Dr Lipman, who was due to receive his award at the Alumni Gala Dinner on Friday 4 September.

Honours Alumni Medal

George Forrest Young

(BE (Mechatronic) 2007, BMa & CompSc 2007, BMaSc (Hons) 2008)

George graduated with an Honours degree of Bachelor of Mathematical Sciences. He achieved

High Distinctions in all his courses with only one exception. His ability was further evidenced in his Honours year where he topped the year, his lowest mark being 95 out of a maximum of 100.

George produced an exceptional Honours project entitled *Random Fibonacci Sequences* supervised by Dr Alison Wolff. This project was considered outstanding by the two expert examiners, awarding it a mark of 95 and 96 respectively out of a maximum of 100.

Postgraduate Alumni University Medal

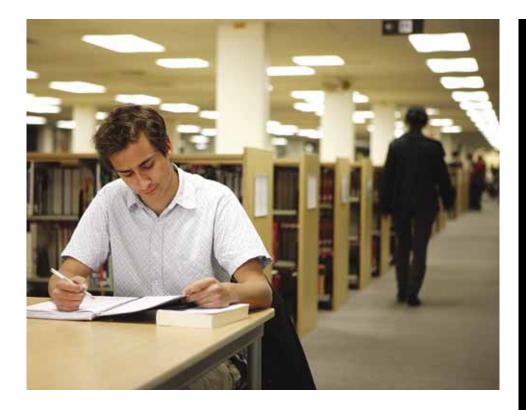
Dr Nam Q Nguyen (MBBS 1997, PhD 2008)

Having previously graduated with a Bachelor of Medicine and Surgery with First Class Honours in 1997 (he was Dux of the Year), Dr Nguyen graduated again in December last year with a PhD in Medicine.

His PhD was entitled: *The inter-relationship between disordered gastric motility and enteral nutrition in critically ill patients.* He was supervised by Professor Michael Horowitz, Associate Professor Richard Holloway and Professor Robert Fraser.

Dr Nguyen won a total of 12 awards during this time, including an NHMRC Postgraduate Medical Research Scholarship and the 2008 Clinical and Research Cancer Institute Fellowship Award at the Garvan Medical Research Institute in Sydney.

Above (clockwise from top left): Dr Barbara Hardy AO and family, Mr John Menadue AO with family and friends, Dr Nam Nguyen and family



Strong response to library appeal

Since its launch in April, more than 475 donors have given to the 2009 Barr Smith Library Appeal, raising more than \$79,000 to support the University of Adelaide's Barr Smith Library.

For over 75 years, the Barr Smith Library has served the University of Adelaide and wider community. In that time, thousands of students, staff and members of the general public have worked and studied within its walls.

University Librarian Ray Choate said he was pleased with the generous response to the 2009 Appeal so far.

"In the current economic downturn, meeting the costs of maintaining the Barr Smith Library is more challenging than ever," he said.

The average donation to the 2009 Appeal is \$165, an increase on last year's average, which he said was remarkable given the current financial climate.

"It is especially gratifying that our appeal donors understand that there is increased pressure on the Library's capacity to purchase books and journals and that more dollars are needed to provide a similar level of library resources for research and students.

"It is clear that the global financial crisis has not lessened the value placed on education," Mr Choate said.

Now in its eighth year, the Appeal has provided a vital source of funds for the

Library and its diverse collection of over 2.3 million items, and has raised a valuable total of more than \$500,000 in that time.

"This support plays a critical role in ensuring that the University's iconic Library continues to make an important qualitative difference to the resources the Library can offer to our students, staff and the members of the wider community who come through our doors, or visit us online, every day.

"The Library is delighted to be able to continue to provide up-to-date and relevant information for the University's students and staff as well as the general public, who are welcome to join the Library," Mr Choate said.

A popular feature in this year's appeal has been the Barr Smith Library Memory Book. Alumni have enjoyed sharing a varied collection of memories, photographs and even poetry in an online setting.

For more information about the Barr Smith Library Appeal, or to make a donation, please contact Paul Finn, via email at: paul.finn@adelaide.edu.au, phone +61 8 8303 4275 or visit: www.alumni.adelaide.edu.au/bsl

Story by Connie Dutton

Alumni

Adelaide alumni have access to a range of exclusive benefits, services and discounts – and each month we bring you the pick of the bunch for a featured special.

Apple on Campus.



Special offer of the month: Apple on Campus launch!

Apple on Campus is a new and exciting partnership between the University of Adelaide and Apple.

Current staff and students are entitled to get up to 12% off the RRP of a Mac computer, around the clock, through an exclusive online store!

This discount is only available to current University of Adelaide staff and students, for the duration of the agreement, along with additional promotions and discounts on Apple accessories and software.

Once you have made your purchase, you can then configure the Mac of your dreams by phoning one of Apple's Mac specialists.

For details on how to access the Apple on Campus online store, and check out the full alumni Privileges Package, logon to: www.alumni. adelaide.edu.au/privileges





Quartet to inspire students

A string quartet touring Australia for Musica Viva will this month inspire University of Adelaide Music and Creative Writing students alike.

The Elias String Quartet, consisting of French, Scottish and Swedish members, is resident at the universities of Sheffield and York in northern England.

The quartet recently spent a year studying with the Alban Berg Quartet in Cologne and has received many honours at major international competitions, including multiple awards at the 2003 London International String Quartet Competition.

Members of the quartet will visit the University of Adelaide for a masterclass as part of the Elder Conservatorium of Music's new masterclass series for 2009.

The masterclass is open to the public for the cost of only \$10, offering a rare insight into the workings of a string quartet.

"Our visiting artists are on very tight schedules, but they always like to give masterclasses and meet young musicians whenever they can," said Musica Viva's South Australian Manager, Edward Joyner.

"The Elias String Quartet are particularly committed to education and have a fantastic reputation for their work with young people."

"A masterclass can open the door to new techniques, new approaches and new ideas," said Claire Oremland, Elder Hall Concert Manager at the Conservatorium. "In just a couple of hours, for both performers and audience alike, the way one listens to and understands music can be completely changed. I know this masterclass with the young, vibrant Elias Quartet will be a wonderful inspiration for students," she said.

In addition to holding a masterclass at the Conservatorium, students from the University's Discipline of English will attend the Elias Quartet's concert in the Adelaide Town Hall as part of their Creative Writing program.

"Some of Australia's best novelists and poets, like David Malouf and Dorothy Porter, have also written libretti," said the University's chair of Creative Writing, Professor Brian Castro.

"Music is essential in the use of language, and Creative Writing students will find much inspiring material from listening to this worldclass quartet."

Ms Jill Jones, Senior Lecturer with the Creative Writing program, said: "Already my Creative Writing students have picked up on the tremendous possibilities of thinking about rhythm and sound in their writing, as all great poets and prose stylists have done, and they are looking forward to the prospect of responding to live music as part of their course."

THE ELIAS STRING QUARTET:

The Elias String Quartet will perform at the Adelaide Town Hall at 8.00pm Thursday 10 September. Tickets from \$33-\$61. Book at BASS: phone 131 246 or visit www.bass.net.au

For more information visit: www.musicaviva.com.au

Members of the Elias String Quartet will give a masterclass at Elder Hall at 4.00pm Wednesday 9 September.

Tickets are \$10 and bookings can be made by contacting:

Claire Oremland Phone +61 8 8303 5925 or email: claire.oremland@adelaide.edu.au

GIVEAWAY:

To claim your free Musica Viva CD featuring the international artists visiting Adelaide in 2010, email Edward Joyner at: ejoyner@mva.org.au or write to Musica Viva at GPO Box 2121, Adelaide, SA 5001 with your name and postal address.

Is Middle East reconciliation possible?

Palestinian-American author and academic Professor Saree Makdisi will deliver the annual Edward Said Memorial Lecture at the University of Adelaide on Saturday 19 September.

Professor Makdisi comes from a distinguished academic family and is also the nephew of the late Edward Said, considered one of the most famous Palestinian intellectuals in the world until his death in 2003.

The Washington-born academic is Professor of English and Comparative Literature at the University of California in Los Angeles. He is also a regular commentator on contemporary Arab politics and culture and is widely published in the *Los Angeles Times, Chicago Tribune, Houston Chronicle, London Review of Books* and the *San Francisco Chronicle.*

Professor Makdisi will address many of the issues raised in his 2008 book *Palestine Inside Out: An Everyday Occupation* when he delivers the fifth annual lecture this month, titled "From Occupation to Reconciliation".

"We have a current impasse in the conflict between Israel and the Palestinians because the notion of a two-state solution has broken down beyond repair," he said. "A one-state solution, in which Israeli Jews and Palestinians would share and live as equals in a single, democratic and secular state is the way to go, I believe. This solution was also championed by Edward Said.

"It's an act of futility trying to separate people according to religion or ethnicity. Israelis and Palestinians are already bound together historically and geographically and we should find ways to turn that into a positive future," Professor Makdisi said.

"The two-state solution would preclude the possibility of finding justice for those Palestinians and their descendants who were ethnically cleansed from their homes during the creation of Israel in 1948," he added.

"By contrast, a one-state solution would allow those Palestinians who were expelled in 1948 to exercise their moral and legal right to return. It would also grant full and equal citizenship to Palestinians living inside what is today Israel; and it would end the misery of life under military occupation."

Professor Makdisi is the fifth guest speaker to deliver the Edward Said Memorial Lecture since its inception in 2005. Previous lectures – delivered by Middle East correspondent Robert Fisk, the late Professor Tanya Reinhart, Palestinian-British author Dr Ghada Karmi and Harvard scholar Dr Sara Roy – have all sold out.

The lecture will be held in Napier 102 at 5pm on Saturday 19 September.

Tickets are \$15 if pre-purchased online at www.friendsofpalestine.org.au or at Digimob Australia, 246 Pulteney Street, Adelaide (cash only), or \$20 at the door.

For more information visit: www.adelaide.edu.au/esml

Photo by iStock

Inset: Professor Saree Makdisi

Story by Candy Gibson

Above: Soldiers of the Israeli Defense Force stand watch along the Security Barrier during a demonstration in the West Bank village of Bil'in

The University of Adelaide COMING EVENTS





Ethics for Everyone

The ethical requirements that apply to groups, and what they mean for us as individuals

Whoever we are, many of the ethical decisions we face apply to the actions we take as part of a group.

For example, we must consider the nature of our responsibilities to the environment, the underprivileged and groups previously wronged. There are even ethical components to the choice of products we buy.

So what determines whether our actions are right or wrong? Which groups, ethically speaking, do we actually belong to? And if a group is neglecting its responsibilities, how should we respond as individuals?

In this provocative presentation, the University of Adelaide's Professor Garrett Cullity tackles these challenging questions, examines the complex puzzles they give rise to and offers some answers.

WHEN: 5.30-6.30pm Tuesday 8 September WHERE: Lecture Theatre G04, Napier Building, North Terrace Campus

ADMISSION FREE, RSVP ESSENTIAL email: research.tuesdays@adelaide.edu.au phone: +61 8 8303 3692

FOR MORE INFORMATION: www.adelaide.edu.au/researchtuesdays

Garrett Cullity is Hughes Professor of Philosophy at the University of Adelaide. He is the author of The Moral Demands of Affluence, for which he was awarded the 2008 Australian Museum ACU Eureka Prize in Ethics.

Exhibition: Impressions

	· · · · · · · · · · · · · · · · · · ·
A showcase by University of Adelaide artists and photographers Peter Murdoch and Gilbert Roe	
When:	10.00am–6.00pm Monday to Friday, on until 20 September
Where:	Rumours Café, Level 6, Union House, North Terrace Campus
Cost:	Free – all welcome

Music: Masterclass series

Masterclass 4: Chamber music with the Elias String Quartet

www.elderhall.adelaide.edu.au

When:	4.00pm–6.00pm Wednesday 9 September
Where:	Elder Hall, North Terrace Campus
Cost:	\$10
Contact:	Email claire.oremland@adelaide.edu.au
	or call +61 8 8303 5925

Young Investigator Awards - Semi-Finals

Scientific Presentations by the eight semi-finalists. The Young Investigator Award, now in its 10th year, rewards excellence in South Australia's young researchers in both science and their ability to communicate and 'sell' that science

www.cywhs.sa.gov.au/yia

When:	11.00am–3.00pm Friday 11 September
Where:	Queen Victoria Lecture Theatre, Women's & Children's Hospital, North Adelaide
Cost:	Free – all welcome

Music: Evening concert series

The Three Choirs at St Peter's Cathedral www.elderhall.adelaide.edu.au

www.cidcifiali.ddciaidc.cdd.dd		
When:	6.30pm Saturday 12 September	
Where:	St Peter's Cathedral, cnr King William Road and Pennington Terrace, North Adelaide	
Cost:	\$25 adult, \$20 concession, \$15 student	
Contac	t: Email claire.oremland@adelaide.edu.au	
	or call +61 8 8303 5925	

Roseworthy Campus Open Day

	tive commun s, demonstra			a range of tudy/career tall	k
When:	11.00am to	3.00pm	Sunday ?	13 September	
Where:	Roseworthy Campus (50				
Cost:	Free – all we	lcome			
Contact:	Email judy.tu or call +61 8			edu.au	
Healthy Development Adelaide (HDA)					

Keeping our Genes Healthy – epigenetics, nutrigenomics and pharmacogenomics, by Professor Lynne Cobiac (Flinders University), Professor Stefan Hiendleder (University of Adelaide), Dr Michael Fenech (CSIRO) and Dr Michael Sorich (University of South Australia) www.adelaide.edu.au/hda/events 4.15pm-7.00pm Thursday 17 September When: Where: Equinox Room, Level 4, Union House, North Terrace Campus Cost: Free – all welcome

RSVP: by Monday 14 September to anne.jurisevic@adelaide.edu.au or call +61 8 8303 8222

Fridays Uncorked '09

www.wineaustralia.com.au

- When: 4.30pm Friday 18 September National Wine Centre of Australia, cnr Hackney Where: and Botanic Roads, Adelaide
- free entry including cocktail food. Cost: Wine from \$4.50 per glass

2009 Edward Said Memorial Lecture

From Occupation to Reconciliation by Professor Saree Makdisi (Professor of English Literature, UCLA) www.adelaide.edu.au/esml When: 5.00pm Saturday 19 September

- Where: Lecture Theatre 102, Napier Building, North Terrace Campus
- Pre-purchased tickets \$15. At the door \$20. Cost: Bookings: Email esml@adelaide.edu.au or call +61 8 8303 5397

2009 Florey Lecture

Climate Change and Health, Present and Future Risks: A Core Issue for 'Sustainability' by Professor Anthony J McMichael MBBS PhD		
When:	5.30pm Monday 21 September	
Where:	Florey Lecture Theatre, Medical School North, Frome Road, Adelaide	
Cost:	Free – all welcome	
Contact:	Email kerry.house@adelaide.edu.au or call +61 8 8303 3995	

Friends of the University of Adelaide Library

	annon on themes of Federation and his recent	
political biography of Sir John Downer		
When:	6.00pm for 6.30pm Thursday 24 September	
Where:	Ira Raymond Room, Barr Smith Library,	
	North Terrace Campus	
Cost:	Free – all welcome.	
	Gold coin donation invited.	
Bookings: Email robina.weir@adelaide.edu.au		
	or call +61 8 8303 4064	



School of Mathematical **Sciences Colloquium** series - Professor **Terence Tao**

Adelaide-born Professor Terence Tao (UCLA), 2009 Clay-Mahler Lecturer and winner of the Fields Medal in mathematics, will discuss one of the most famous open problems in mathematics in a free public talk: The proof of the Poincare conjecture W

www.maths.adelaide.edu.au/news/events		
When:	3.10pm Friday 25 September	
Where:	Napier Lecture Theatre 102, Napier Building, North Terrace Campus	
Cost:	Free – all welcome	
Contact:	Email mathai.varghese@adelaide.edu.au	