

## Black hole research boosted by new telescope

FOR fifty years, gantries, tracking dishes and other bits of apparatus from the space age have towered above the flat Woomera horizon.

Now, in a project worth millions of dollars, Adelaide and Tokyo Universities have built a new 10-metre gamma ray telescope that adds its own distinctive outline.

The Woomera rocket range came into existence in 1947. From then on, Australia's involvement in international space science proceeded in waves. The first missile was launched at Woomera in 1949, to be followed by Skylark rockets, then others in the Black Knight and Europa series. In 1967 a Redstone rocket carried Australia's first satellite, constructed by Adelaide University's Physics Department and the Defence Science & Technology Organisation.

Woomera also was the site of the first deep-space station to be established outside the United States by NASA. It took part in many projects, including the Venus flyby and the Ranger and Lunar Orbiter missions, which provided important information for the Apollo missions to the moon. Later, the Nurrungar ground station was to play a significant role in the Gulf War.

Nurrungar is now closed, and the

tracking station ceased operations in 1972, with the antenna broken up for scrap. Many regretted it, seeing the decline of Woomera operations as signalling Australia's withdrawal from a significant role in space science. But the game is not over yet. Recently, two companies have announced plans to re-use Woomera for space launches, and a significant chapter in international astrophysics research is just beginning with the opening this week of the new Cangaroo II telescope.

Cangaroo (the Collaboration of Australia and Nippon for a Gamma Ray Observatory in the Outback) has provided \$4 million to build the Cangaroo II telescope, including \$200,000 from the Australian Research Council and the National Committee for Astronomy.

From its site near the rocket range, the telescope will detect wavelengths that lie outside the visible spectrum, emitted from supernovas, pulsars and black holes.

Black holes get their name from their enormous gravitational forces, so strong that no light can escape from their interiors. But the electric and magnetic fields that surround black holes are a different matter; they emit various forms of radiation. Giant jets of material ejected by the fields give off gamma rays, and it is these emissions that the scientists will

study with the new telescope.

"We will look for huge black holes at the centres of galaxies," said Dr John Patterson, Associate Professor at Adelaide University's Physics & Mathematical Physics Department and Australian Coordinator of the Cangaroo project.

"These black holes have an enormous effect on the energy of a galaxy, and how it evolves," he said. "We want to study what happens to their energy."

From its centre, a black hole can shoot out a jet called a blazar, like the axle from a wheel, and at huge velocities. Although we now have some theories about how they work, nobody really knows. At present, theorists from Adelaide University and the ANU are working on this problem.

"We think that there are black holes that may contribute up to 10% of a galaxy's mass. These can be more than 100 million times larger than the mass of our sun," Dr Patterson said.

"We have also made significant contributions to the study of pulsars and supernova remnants in our own galaxy which emit gamma radiation."

Those studies were made with Cangaroo I, a 3.8-metre gamma ray telescope which has now been replaced by the 10-metre Cangaroo II.



The Cangaroo II gamma ray telescope at Woomera. Photo courtesy of Dr John Patterson.

A further \$13 million is expected to be supplied by the University of Tokyo to fund three more telescopes like Cangaroo II. The first will be completed in 2002, after which a review will decide the future development of the project.

Linking the instruments means

greater sensitivity. Spaced about 100 metres apart, the four telescopes will be combined to form Cangaroo III. It will enable researchers to study the last gap in the spectrum of electromagnetic radiation from the cosmos.

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## Science: key to our economic future

SCIENTIFIC research will play a key role in determining South Australia's economic future, according to Adelaide University's Vice-Chancellor Professor Mary O'Kane.

Welcoming the launch of National Science Week (3-19 May), Professor O'Kane said science and its related disciplines had played a crucial part in the State's development and would be even more significant in shaping its future.

"We need to encourage students, employers and the community at large to think more deeply about research and development," Professor O'Kane said.

"Our future as a State will depend on the decisions we make today about investing in knowledge. We need to develop stronger linkages between government, business and the universities to ensure that higher education acts as a driver for economic and social development.

"As an engineer/scientist myself, I may be accused of bias, but we need only look at the development in South Australia of our high-tech defence industries, our leading-edge wine industry, and our pioneering work in plant and medical biotechnology to see the value of science to our community.

"Adelaide University has a long and distinguished record of scientific achievement.



"Our two Nobel Prize winning graduates—Howard Florey and Lawrence Bragg—made lasting contributions to science and humanity, and one of our more recent graduates, Dr Andy Thomas, has achieved distinction for his space mission research.

"Scientific endeavour takes place across many faculties of the University. This

research—in the physical, chemical, earth, biological and agricultural sciences, in medicine, engineering and elsewhere—is expanding our knowledge of the world and helping to shape our futures. It is vital that it is supported by industry, government and the community at large."

—John Drislane

## Environmental hero receives his reward

THE River Murray may be suffering from decades of neglect and abuse, but it is not without its champions. Some of them were fighting for Australia's largest river long before that fight became a fashionable or a political cause.

For more than 20 years, Dr Keith Walker, Associate Professor in Zoology at Adelaide University, has been actively involved with environmental issues in the Murray Darling Basin.

On Friday 5 May, in a ceremony that is an annual highlight of National Science Week, Dr Walker received the 'Unsung Hero of South Australian Science' award, offered each year by the Australian Science Communicators SA.

It is the fifth year that the award has been presented, each time to a scientist who has made outstanding contributions to scientific research but has been insufficiently recognised for their effort. Some have even had to deal with hostility to their discoveries or the recommendations that flow from them, and all have valued the importance of communicating science to a general audience.

Mr Robert Perrin, the regional coordinator of Australian Science Communicators SA, said Dr Walker had been chosen from a very strong field of candidates.

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COMMENTARY

RE-THINKING FEDERALISM

**Allan Patience**  
*Visiting Professor, Department of Social Inquiry / Professor of Political Science, Victoria University of Technology*

The approaching centenary of the Australian Constitution should be sufficient reason for comprehensively re-thinking the federal system underpinning Australian democracy. But there are other compelling reasons too.

It is now widely acknowledged that Australian federalism has been turned on its head. The original proposal was for the States to be the pre-eminent players in the federation. The Commonwealth was conceived of as a kind of factotum coordinating the common interests of the States, always playing second fiddle. As sovereign entities, the States would focus on their local communities; they eschewed a national perspective. Perhaps for this very reason nearly 100 years of federation have seen the Commonwealth inexorably taking charge; its dominance is now all but complete.

Generally, since 1901, State politics have remained parochial and populist. Some States even managed to conjure up the worst levels of political corruption in Australian history (e.g., the Bjelke-Petersen era in Queensland; WA Inc.). And some have been breathtakingly incompetent. There are a few noble exceptions to this: in South Australia, the Playford Government's industrialisation programs and the Dunstan Decade. And with some rare exceptions, State politicians seem incapable of meshing local needs and the national interest.

The laws of some States and Territories are dangerously undermining Australia's international standing—such as the Northern Territory's mandatory sentencing procedures. As a lonely country in global politics, Australia cannot afford isolation from the international community.

The Nixon Report into the Tasmanian economy questions the economic viability of that State. (Maybe Tasmania is not unique in this regard.) Yet despite its small and declining population, Tasmania sends the same number of senators to the federal parliament as each of the more populous States, thereby seriously distorting the Australian democratic system.

Per capita Australian taxpayers probably fund the salaries, allowances, staff, junkets, and superannuation schemes of more politicians than any other modern democracy. We need to understand that is the quality of political representation that ensures good democracy, not quantity. Australia is simply over-politicianed.

The rationale for maintaining federalism in Australia is evaporating. Originally the "tyranny of distance" might have justified the federal choice. But in an age of air travel and the internet (and maybe, soon, very fast trains), that sort of tyranny is no longer with us.

In a globalising world, the Australian federal system is a constraint on national prosperity; even as it fails to protect the long-term interests of local communities. This alone justifies pruning and rationalising the plethora of State and Federal laws relating to financial, communications, education, transport, health, environmental and other institutions, to boost productivity and economic growth.

Ending federalism is probably far too radical a proposal for most Australians, at least for the moment. It will have to be faced up to eventually.

Three initial steps could be taken to address the problems of contemporary federalism.

“Adelaide has the intellectual capacity and democratic traditions to offer the whole country vital leadership in this area...”

- (1) *Rethinking State Boundaries.*
- We have to invent a way to re-evaluate existing State boundaries. The perverted idea of State nationalisms—based on colonial settlement patterns!—is just too silly for words. Stubbornly believing that old boundaries should be maintained without question will foster the growth of inequalities and the decline of Australian democracy.
- (2) *Merging the Northern Territory and South Australia into a new State.*
- A new State urgently needs to be configured—“Centralia”?—returning the NT to the political culture and economy of South Australia. This would have spin-offs for both the NT and SA—eg, the proposal for a major rail development linking Adelaide and Darwin may become an economic proposition rather than the crude pork-barrelling it represents at present.
- To push the Northern Territory into Statehood in its own right would create another Tasmania—a small, uneconomic, undemocratic semi-sovereign entity forever dependent on the other States (SA beware!) and the Commonwealth for its basic services, yet thumbing its nose at the national interest whenever it chooses. Imagine Denis Burke as the Senator Harradine of the Northern Territory!

- (3) *Abolishing State Upper Houses.*
- Arguably State Upper Houses (Legislative Councils) entrench much of the parochialism and pig-headedness in our federal system. State Upper Houses were all originally meant to be the bastions of the land-owning classes in the Australian colonies, curbing democratic representation in the Lower Houses. In more enlightened times they have failed to evolve as genuine Houses of review. They are nearly always servile to party whips and thus habitually hostile to governments in Lower Houses. They are increasingly prey to political rumps holding the balance of power. Or they are cravenly obedient to their political masters in Lower Houses.
- If reforms were handled intelligently, democracy could be enhanced by the removal of State Upper Houses. This would simultaneously simplify State elections and significantly reduce the parliamentary budget.
- What is to be done?
- A re-thinking of federalism will not blossom by itself. Some States (Tasmania, Western Australia, perhaps Queensland) fear they have too much to lose (though their citizens have everything to gain). The Commonwealth does not want to rock the boat it is now comfortably piloting. NSW and Victoria realise the constitutional odds are stacked against any initiatives coming from them.
- As the “central” Australian city, which in the past has nurtured a “paradise of dissent,” Adelaide has the intellectual capacity and democratic traditions to offer the whole country vital leadership in this area. The South Australian Government should encourage local academics and commentators to lead a national debate about federalism and constitutional reform—probably through a joint university research centre for constitutional change.

Letters to the Editor

Please send your letters to the editor, David Ellis, at the address below or email to: <david.ellis@adelaide.edu.au>.

CORRECTION

The article on National Science Week in the last issue of the *Adelaidean* (24 April) mistakenly referred to Ian Gilfillan as a “former Democrat MP”. Mr Gilfillan is in fact a current Member of the Legislative Council.

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National Science Week 3-19 May 2000



AGRICULTURAL science leaders at Adelaide University are opening their lab doors to school students during National Science Week.

Insects, plant biotechnology and wine will be key subjects of “Science for the Senses”, a program for secondary school students organised as part of the National Science Week events.

Between 9-11 May, more than 300 secondary students from all over South Australia will converge on the Waite Campus for a series of hands-on activities showcasing the Waite's staff and facilities.

The experiences gained by participating students will build on their interests in science and encourage them to consider science as a career.

Students participating in the event will get the opportunity to work not only in Adelaide University's laboratories, but also in the labs of the South Australian Research &



Development Institute (SARDI) and the Cooperative Research Centres for Molecular Plant Breeding and Weed Management Systems.

Approximately 50 scientists and technical staff will participate in the event, some of whom are world leaders in their fields.

The remote area students' program is once again an important element of the event and acknowledges that participation of regional students is integral to the success of Waite's National Science Week activities.

This year, students from the State's far north will take part in activities at the University's North Terrace, Roseworthy and Waite Campuses.

Sponsorship has been generously received to provide meals, accommodation and transport for the 30 students making the trip.

Sponsors include the Rural Industries Research & Development Corporation (RIRDC), Greyhound Pioneer, the State



Government and Flinders Power.

For more information about National Science Week events at the Waite and Roseworthy campuses, call 8303 7337.

For details of other Adelaide University events during National Science Week, see the 24 April issue of the *Adelaidean*, page 2.

—Sharon Behen  
Peter Fuller & Associates

# Building stronger ties with Iran

UP to 100 PhD students from Iran may study at Adelaide University thanks to a new agreement signed between the University and the Iranian Government.

Iran's Ministry of Culture & Higher Education has signed a Memorandum of Understanding with Adelaide University for the education and research training of Iranian Government scholarship holders.

Under the agreement, the Ministry will pay tuition fees for students who meet Adelaide University's academic criteria. Most of these will be PhD students undertaking their degrees in the Faculty of Agricultural & Natural Resource Sciences (ANRS), but also in the faculties of Health Sciences and Engineering, Computer & Mathematical Sciences.

Adelaide University has been accepting students from Iran for the past 15 years. The University's links with Iran have grown stronger over the last year following a concerted effort by the University and the Iranian Government. Currently five ANRS graduates are Chancellors of Iranian universities.

In December, the Executive Dean of ANRS, Professor Malcolm Oades, and the Manager, International of the Faculty, Mr Hugh McClelland, visited Iran. They met with the Minister of Agriculture, Dr Issa Kalantari, visited three Iranian universities, and had discussions with the Ministry of Culture & Higher Education.

In April, the Eighth Iran Australia Joint Ministerial Commission meeting was held at Parliament House, Canberra. The meeting involved 10 senior officials from Iran, including Dr Kalantari, who chaired the meeting with the Hon. Mark Vaile, Australian Minister for Trade. Sixty delegates from various sectors in Australia attended.

"Dryland agriculture, which is one of the University's main areas of international research

strength, is a key common interest for Iran and Adelaide," said Mr McClelland.

"Iran has stressed the importance of Australia helping to improve its food production and capability, in particular the need for drought-resistant crops.

"This new agreement with Iran is an opportunity for Adelaide University to provide world-class education and training in agricultural research. It is recognition that Adelaide has an excellent reputation in agronomy, dryland agriculture, plant biotechnology and plant breeding," he said.

Professor Oades said he was certain the ties with Iran would result in benefits for that country and the University.

"I am heartened by the development of a new relationship with the Iranian authorities, which is part of a concerted program in Agricultural & Natural Resource Sciences to develop our international linkages," he said.

"The further intake of students from Iran will showcase our excellence in agricultural science and provide vital expertise to Iranian researchers."

To facilitate the agreement, it is proposed that staff from Adelaide's Advisory Centre for University Education (ACUE), led by Ms Margaret Cargill, will travel to Iran to provide intensive English language courses for potential PhD candidates.

The University already has a long history of teaching English to Iranian students, enabling them to meet the University's standards for academic programs.

Other links with Iran are currently being discussed, and the faculties of ANRS and Engineering may make a joint visit to Iran later in the year. Split-degree programs and professional doctorates are also being considered.

—David Ellis



YEGANEH ATRI is one of seven Iranian students currently studying at Adelaide.

She's undertaking a Master of Architecture, and chose Adelaide because it offered "a strong program in postgraduate studies".

There are other, more personal reasons: "Our best family friends have lived in Adelaide for 14 years and I've been familiar with Adelaide University," she says.

"I like Adelaide because it's a multicultural university and studying in a multicultural institution is important and useful for anyone who likes to expand their world.

"It's possible to find many students like yourself from different nationalities, who are eager to study and have common interests."

Other Iranian students at Adelaide are spread across the faculties of ANRS, Health Sciences, PALACE and Science.



## Research education

"Say research education," said my colleague. "You know that's what the Deputy Vice-Chancellor (Research) says we should call it." OK, sure!

And she's right! For too long we've talked about research training. Primarily we use the term when referring to research higher degrees, particularly the PhD. But we use it also when referring to the education/training that is the core of most honours degrees as well as the experience of being a postdoctoral fellow.

This set of activities, whatever it is called, is a distinguishing feature of Australian universities. In Australia, effectively only universities are allowed to offer higher degrees by research. We are fortunate that many related and affiliated organisations such as the CSIRO, the DSTO, the teaching hospitals, the Cooperative Research Centres, the Zoo, the Botanic Gardens and the Museum all help us with this task. But the degree is awarded by the University.

Many more people are doing higher degrees by research than ever before. In 1989, 8268 people were enrolled for research doctorates in Australia. By 1999, the number had more than tripled to 26,857. This increase raises questions. How many people should we be educating at this level? Is the quality of what is offered appropriate? Certainly most of those doing higher degrees by research seem to find employment: 88% were in jobs shortly after graduation, according to the 1998 Graduate Careers Council of Australia survey. But it's worth noting that about 47% are employed in the higher education sector.

# Politics graduates make uni history

SIX postgraduates from the Politics Department have written their names into Adelaide University's record books.

All six received their PhDs at the same graduation ceremony last month—a unique achievement for a single department at the University.

For the Head of the Department, Professor Doug McEachern, it was a proud occasion.

"We once had three PhD students receive their doctorates in the same year but never anything like this," he said.

"The Politics Department has had a large postgraduate school for several years and a spirit of cohortism has built up.

"This group interacted and supported one another very well.

"I think they had a 'submission frenzy'," he joked.

Areas of research ranged from the role of women in the Zimbabwean national liberation struggle to Australian refugee policy.

A total of 50 doctorates have now been



awarded to Politics students since the first PhD. in 1973.

The latest to receive their doctorates were Priyambudi Sulistiyanto, Tanya Lyons, Michael Howes, Tom Conley, Carol Baines and Don McMaster (pictured with Professor McEachern).

—John Drislane

# International friends gather in Adelaide



A GROUP of Adelaide University's international friends gathered recently at the Hyatt Hotel, Adelaide for informal discussions.

Pictured are the Vice-Chancellor of Universiti Putra Malaysia, Professor Dato' Dr Syed Jalaludin Bin Syed Salim, the Chief Executive Officer of Camtech, Mr Bruce Linn, the Associate Director of the International Office at Albert-Ludwigs-Universität Freiburg, Mr Reinhardt Flessner, the Rektor (Vice-Chancellor) of Albert-Ludwigs-Universität Freiburg, Professor Dr Wolfgang Jäger, and the Vice-Chancellor of Adelaide University, Professor Mary O'Kane.

Adelaide University has a number of academic links with Freiburg University and has a close association with the Universiti Putra Malaysia.

At about the time this column appears, our Academic Board will be discussing possible new organisational arrangements for our research education offerings. Given the White Paper emphasis on this issue, the competition we now face in offering higher degrees by research and our record as pioneers of PhD education in the CRC context, it is timely that we rethink research education in our University—and think of it as education and not just training.

Cyril Brown from the Research Branch suggested to me an excellent possible positioning line for the University: "Lighting the way to the future". In the area of research education I can think of no university in Australia more suited to light the way to the future than Adelaide University.

MARY O'KANE

# Why don't we breathe ourselves to death?

AS we breathe, lung movements could be killing the very cells we need for gas exchange.

But researcher Dr Yasmin Edwards and her colleagues have discovered that macrophages, best known for their role in scavenging dead cells, may actually prevent living cells from dying by producing a protective gas of their own.

As people breathe, the cells lining the air sacs of the lungs are repeatedly stretched as the lungs inflate and deflate. This stretching triggers the release of pulmonary surfactant, a detergent-like substance that adjusts surface tension and prevents both over-inflation and collapse of the air sacs.

"This surfactant system is crucial for normal lung function and its failure is responsible for thousands of deaths a year in adult and newborn babies," said Dr Edwards, from Adelaide and Flinders universities.

Dr Edwards and her co-workers have discovered that the stretching not only triggers the release of surfactant from lung cells but also causes them to die.

"This is a major anomaly since it suggests that the very process necessary to life—breathing—kills the cells that are essential for normal lung function," she said.


To understand how this could happen, Dr Edwards has developed an in-vitro (test-tube) lung model to study the interactions between different lung cells. She has found that macrophages, noted for their roles in scavenging and digesting bacteria, viruses and dead cells, in fact protect surfactant-secreting cells from dying after they have been stretched.

"What's more, they appear to do this by producing the gas nitric oxide. At high concentrations, nitric oxide contributes to smog and atmospheric pollution but, in the body, it plays some very important physiological roles," she said.

"This discovery furthers our understanding of how the lung functions. It suggests that macrophages may play a previously unknown role in preventing the cells in our lungs from dying before their time."

Dr Edwards has been in Melbourne from 4-7 May to discuss her work at the National Science Week forum 'Science Now'. The core of the forum is 'Fresh Science,' in which 16 young researchers from around Australia present their work in science and engineering.

Now in its third year, Fresh Science plays an important role in enhancing the reporting of Australian science. Workshops and interviews help researchers to develop the skills of presenting their work to the media and general audiences, while media coverage of the event itself is extensive.



—Rob Morrison Dr Yasmin Edwards. Photo: Rob Morrison.

# Student interest in aerospace is rocketing ahead

AEROSPACE Engineering has been gaining in popularity at Adelaide University, particularly following the successes of NASA astronaut and graduate Dr Andrew Thomas.

Since 1998 the Department of Mechanical Engineering, with support from the Sir Ross and Sir Keith Smith Fund, has been offering aerospace engineering electives, initiated by lecturer Dr Gerald Schneider, and ever-growing numbers of final-year projects have dealt with this field.

In 2000 the subjects Aeronautical Engineering and Space Vehicle Design have been introduced as final-year electives, while Aeronautical Engineering will become a core subject offered to third-year Mechanical Engineering students in 2001.

Supported with great enthusiasm, a Student Branch of the American Institute of Aeronautics and Astronautics (AIAA) was last year established at Adelaide University under Dr Schneider's guidance. The University's student branch is the AIAA's 15th international student branch and only the second to be established in Australia.

In September, the AIAA Student Branch entered the Royal Aeronautical Society's (Australian Division) National Aerospace Design & Build Competition.

The competition was held in conjunction with the International Aerospace Congress '99 at the Adelaide Convention Centre and attracted competitors from RMIT, the University of Sydney, and ADFA.

The Adelaide University team took out first prize and was featured in a full-page article published in the AIAA Student Journal, an internationally

circulated publication.

Meanwhile, two final-year Mechanical Engineering students and AIAA members, Stuart Keynes and Daniel Handley, undertook a project on the design of the Kistler K-2 Reusable Satellite Launch Vehicle for the Kistler Aerospace Corporation.

At the Department's project exhibition they were awarded both the Society of Automotive Engineers (Australasia) Prize for Vehicle Transport and the MechTest prize for the final year project judged to have greatest commercial potential.

Their study also formed an entry for an international design competition run by Kistler Aerospace, and they were awarded third prize (\$4000) for their work.

This year during World Space Week, a national student forum entitled SpaceFutures 2000 will be held in Canberra from 5-7 October.

Kimberley Clayfield, the AIAA student branch inaugural Chairperson and a postgraduate student in Mechanical Engineering, has been appointed as a director of SpaceFutures 2000.

With the theme "Education and Collaboration: Building A Sustainable Australian Space Industry", the aim of the forum is to bring together Australian youth with a keen interest in the space industry with representatives from industry, government and academia.

This forum will not only promote the Australian space industry but also discuss the future of Australian space-related endeavour.

SpaceFutures 2000 is being run by the Australian Students Space Association (ASSA) as one of the major events of the inaugural World Space Week, a United Nations initiative.



Postgraduate engineering student Kimberley Clayfield with Dr Andy Thomas.

## Andy helps launch torch into space

Adelaide University's Olympic torch efforts may soon take a "giant leap" thanks to NASA astronaut Dr Andy Thomas.

Dr Thomas has arranged for the torch to be taken aboard the Space Shuttle *Atlantis* when it launches later this month. *Atlantis* has suffered numerous launch delays because of bad weather and is now due to blast off on 18 May.

Dr Thomas is a graduate of the Mechanical Engineering department at Adelaide University—the same department where key research into the Sydney 2000 Olympic torch's fuel and combustion system was carried out.

—David Ellis

# Black hole research boosted by new telescope

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Woomera's clear air and lack of cloud cover make it an excellent site for such an observatory.

A group of 30 scientists from Japan and Australia will use the Cangaroo telescopes for their own research and to train the next generation of astrophysicists.

This week, Adelaide University staff and Japanese visitors are in Woomera for a ceremony on May 9 to officially open Cangaroo II and launch Cangaroo III. The ceremony, performed by His Excellency, Mr Masaji Takahashi, Ambassador for Japan, is an official event of National Science Week.

On 24 May, at an official reception to be held at the Australian Embassy in Tokyo, a video of

the launch will be shown to about 60 guests invited to celebrate the commissioning of the telescope.

Cangaroo III will be the first such telescope system in the southern hemisphere, and it is expected to provide important new findings.

Ground-based telescopes in the northern hemisphere have already located and studied a few black holes, but NASA's orbiting gamma ray observatory has detected more than 250 blazars, suggesting that many more black holes await observation.

"This southern telescope will be able to provide new data on southern-sky black holes, which have never been studied," said Dr Patterson. "We hope it will be an important addition to the satellite work."

—Rob Morrison

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# Lasers shine new light on gravity waves

WHEN Galileo trained his hand-made telescope on the night sky in 1604, he was the first to see lunar craters, Jupiter's moons and the phases of Venus, all with equipment more primitive than modern binoculars.

But Galileo, and countless astronomers who followed him, laboured under restrictions imposed by more than just primitive equipment. Their telescopes improved with time but, until quite recently, they could only observe visible light.

Visible light forms a tiny slice of the electromagnetic spectrum. Below it are infra red, and radio waves; beyond it, and equally invisible to our eyes, are ultraviolet, X-rays, gamma rays and more.

In the past 50 years, scientists have added immensely to their understanding of the universe by exploring it through these forms of radiation. But limitations still remain. Much of the universe is "dark matter", which emits virtually no electromagnetic radiation.

Gravitational waves seem to offer astrophysicists the best hope of studying objects composed of dark matter, but the problems are considerable. Static objects, even those that are large, will not emit gravitational waves. These, Einstein predicted, are produced when objects are accelerated, or when strong gravitational fields interact dynamically. Likely sources include supernovae and the merging or collision of entities like neutrino stars and black holes. These phenomena should produce extremely intense gravitational waves.

But even these gravitational waves produce only weak forces by common standards. Passing through the Earth, they could move objects, but only by 1/10,000 the width of a proton, and for less than ten milliseconds. How does one search for such forces?

There are two approaches. One involves cooling a metal bar of niobium or aluminium to very low temperatures and listening for the ringing set up in it by the distortion due to gravitational waves. It's an approach being explored in several places, with the University of Western Australia so far having the most sensitive detector of this type. The other approach involves using a laser-based detector.

A laser beam is split into two halves, and bounced back and forth between widely spaced mirrors many times to increase the sensitivity of the

detector. The beams can then be brought together and compared. Minute movements caused by the stretching and squeezing of space by gravitational waves should affect them differently, and be detectable as an interference pattern created by the recombined laser beams.

The technique requires pioneering technology: 100 Watts in a laser beam that is almost perfect and very stable. Even here, the methodology divides. Two research teams are working on the problem, one at Stanford University, the other at Adelaide University, funded by large ARC grants.

"The Stanford approach uses a relatively conventional strategy that is lower risk but compromises the quality of the output," said Dr Peter Veitch of Adelaide's Department of Physics & Mathematical Physics.

"The Adelaide approach, on the other hand, will produce a much better quality output but is somewhat more risky. It uses techniques that are commonly used with high-power lasers but have never been tried for this type of neodymium laser for various reasons.

"Nobody else has thought of trying to do what we now consider to be an obvious way to produce such a laser. The competition between the two approaches is evenly poised at the moment but we are confident that our design will be chosen."

The assumed peculiarities of gravitational waves mean that a single detector can not tell where a signal comes from. A minimum of two detectors is needed, but even then they will struggle to filter background noise from the weak signals they seek.

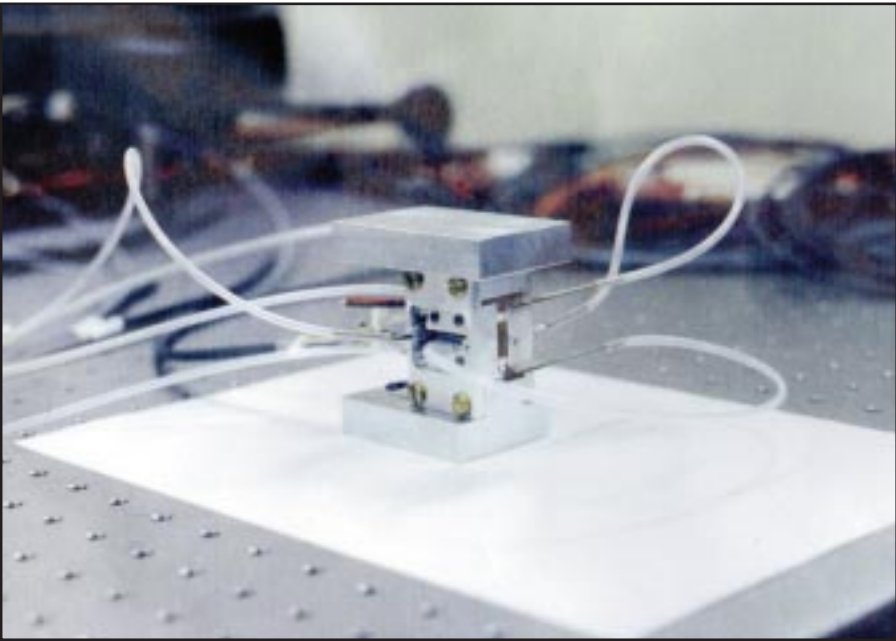
At least four detectors, as widely spaced as possible, are required to get full directional information about the source of gravitational waves. All the northern hemisphere detectors are at similar latitudes, so an Australian instrument will eventually be necessary; but the costs involved mean that there is likely to be only one, and that international collaboration will be required to fund its construction.

The costs may be great, but the benefits could be immense, not only in commercial spinoffs from the technology being developed, but in a better understanding of some of the most elusive mysteries of the universe; how it works and, ultimately, even how it came to be.

—Rob Morrison



Dr Martin Ostermeyer, a Feodor Lynen Fellow from Germany and a member of the research team, installs infra-red diode-lasers to provide the energy source for the stable laser. Photo: Rob Morrison.



A prototype infra-red neodymium laser head. A garnet crystal doped with the rare earth neodymium emits infra-red light of the required wavelength. Photo courtesy of Dr Veitch.

## Environmental hero receives his reward

From Page 1

"We are proud to be able to honour a South Australian scientist in this way," Mr Perrin said.

"This year the choice was not easy, such is the quality of this State's science effort, but Dr Walker's commitment to the philosophy that science should be communicated simply, but not simplistically, won him the day."

Dr Walker has published extensively, and he was the inaugural winner of Adelaide University's Stephen Cole the Elder Prize for Teaching. He has been an active participant in field days and community projects, including some at Bookmark Biosphere Reserve, and holds many advisory posts to wetland and environment bodies.

Dr Walker said he was delighted to receive the award.

"As a scientist, I have often thought that I may be too lacking in focus to make a real impact. On the other hand, there are rewards in giving free rein to your fascination with the natural world. I hope that the award is a reassurance for those who think likewise. We do need people who cross boundaries," he said.

Dr Walker joined Adelaide University in 1975. He began research on freshwater mussels found in still and flowing water along the Murray, and noticed that their distributions had been changed by flow regulation. This became a theme for later work that embraced other invertebrates,



Dr Keith Walker.

fish, waterbirds, floodplain vegetation, and aquatic plants. Recent work has suggested that the scale of extinction of snails in the lower Murray signals profound ecological changes.

"Regulation has stabilised the pulse of a river that evolved through erratic droughts and floods," said Dr Walker.

"In the more stable modern river, many native species find themselves in a hostile environment. The ecological changes are becoming more apparent, and the pace is quickening. It is

attracting attention on an unprecedented scale."

Dr Walker is a zoologist by training, but his wide perspectives have led him to work with professionals from a variety of disciplines: "Ecology is a discipline shaped by interactions of this kind," he said. He is especially proud of developing contacts with colleagues in engineering.

Dr Walker's findings were not always popular, clarifying as they did the real and potential conflicts between flow regulation in the Murray and the needs of its ecosystem, which depends so much on variability.

As a result of the work done by pioneering researchers such as Dr Walker, there is now a far better understanding of how the Murray has changed in the past 50-100 years. That, in turn, has led to recent resolves to repair some of the damage and manage the river sustainably.

"The solutions to many of the Murray's problems are often obvious," he said, "but they are politically or economically unacceptable in the short term. Our political leaders have failed us; rather it is they who need leadership. They need to look beyond the next election, and to be accountable on that basis, while, as academics, perhaps the best service that we can provide to the community is to foster a reconciliation between ecology and economics."

—Rob Morrison

## Algal outbreak was "a timely event"



THE timing of an algal outbreak on Yorke Peninsula could hardly have been better for the Second Australian Algal Workshop held at Adelaide University from 17-19 April.

The outbreak disrupted water supplies to a number of towns in the week before Easter, but also drew attention to the conference.

Conference convener Dr Peter Gell (Geographical & Environmental Studies) said one of the main aims of the conference was to begin redressing a shortage of algal expertise in Australia. This shortage was highlighted by the previously unknown production of toxins by the alga which caused the Yorke Peninsula outbreak.

"The conference went really well, but the Yorke Peninsula outbreak just further highlighted the need for more support for algal monitoring throughout Australia. There could be more outbreaks like this happening all over Australia but there just aren't the resources available to check all the waterways we need to," he said.

Pictured above at the conference (from left) are Gustaaf Hallegraeff (University of Tasmania), Executive Dean of Humanities & Social Sciences Malcolm Gillies (Adelaide Uni), State Minister for Water Resources Mark Brindal and Peter Gell (Adelaide Uni).

# Q&A: Professor Graeme Dandy, Civil Engineering

CIVIL & Environmental Engineering at Adelaide University has a new Professor—Graeme Dandy.

Professor Dandy was appointed following the retirement last year of Professor Bob Warner.

He holds a First Class Honours degree and a Masters from the University of Melbourne, and a PhD from the Massachusetts Institute of Technology. A member of academic staff at Adelaide University for over 20 years, his new role will see him providing academic leadership in the department, as well as strengthening ties with industry and overseas universities. He is currently on a trip to Japan and Korea, visiting Kyoto, Kyushu and Yeungnam Universities in the hopes of formalising links between those institutions and Adelaide.

The *Adelaidean* spoke with Professor Dandy before he left for Japan.

*Q: What does your appointment mean for the department?*

A: I've been a member of the department for 20 years and have a good understanding of its strengths and weaknesses.

We are currently one of the best departments of civil and environmental engineering in Australia. What I would like to see us do is aim to become a world-class civil and environmental engineering department within the next five to 10 years.

We already have a number of links with international organisations and universities, thanks mainly to the efforts of individual members of the academic staff. What we now need to do is strengthen and formalise these links, particularly with leading research centres and departments that share our common research interests.

*Q: What are some of those common research interests?*

A: Our department's strengths are mainly focused in areas such as water resources engineering, infrastructure management and earthquake engineering—these are all areas of strength that match up incredibly well with, say, Kyoto University, which is ranked number two in Asia and which has an excellent research group called the Disaster Prevention Research Institute.

What we need to do is identify up to a dozen departments or centres around the world that we want to establish strong ties with—in Asia, Europe and North America—and put some resources into supporting exchange visits between staff and postgraduate students with these international centres.

*Q: What about industry links?*

We need to strengthen our links with industry. Our recent Memorandum of Understanding with United Water was a good step in the right

direction. United is committed to collaboration with us on research, and it also gives us links to their international partners in the UK and France who have very strong research groups themselves. United has also been a strong employer of graduates from our department in recent years.

I have close links with the water industry in Australia and have conducted research that has had an impact on the industry in South Australia and interstate.

*Q: You mentioned that Adelaide's Civil & Environmental Engineering Department is one of the best in Australia. What do you base that on?*

We've had the top cut-off score in civil engineering for the last four years, so we're getting the best students of any university in Australia. In terms of research measures we rank in the top three or four in Australia. The number of publications, research grants and postgraduate students per academic staff member is high.

Employment prospects for our graduates are excellent. At the moment we're seeing about 95% employment of graduates within the first four months of completing their degree. They are employed in a wide range of areas including consulting, construction and management. With double degrees becoming more and more popular, that diversity of employment is likely to increase. I believe that is a healthy thing.



The two main areas where I'd like to see the department improve are the number of research centres we're involved in and the number of research grants that we receive. We certainly hope to improve both of these over the next few years. It would be my ultimate goal to see us involved in the creation of a new Cooperative Research Centre dealing with the optimal planning and management of urban water infrastructure. There are currently about four or five water CRCs in Australia, but none of them deal with infrastructure, which is a very important and costly issue.

## Golden Key Society

AROUND 600 people are expected to fill Bonython Hall on 18 May for the new member induction ceremony of the Adelaide University Chapter of the Golden Key Society.

A number of scholarships will be awarded at the ceremony to outstanding new members. The keynote address will be delivered by Justice Perry, who will be inducted as an honorary member, along with the Hon. Greg Crafter, Chair of the Alumni Association, Dr Norman Ashton, Pro Vice-Chancellor (Internationalisation & Development), Dr Paul Gratiaen, Director of Dental Care to Share, and Mr David Knight, Lecturer in Computer Science.

The Golden Key National Honour Society is a non-profit organisation which recognises and encourages academic achievement and excellence, provides scholarships and promotes altruistic conduct through voluntary service.

Each year the Adelaide University Chapter invites the top 15% of undergraduate students to join the society. Since the founding of the Chapter in 1998, more than 1300 have accepted the invitation and some 800 of these are currently enrolled students.

The Chapter is now within the portfolio of the Pro Vice-Chancellor (Internationalisation & Development). Andrew Starcevic is the Chapter Adviser.

Apart from new member scholarships the Society awards prizes in literary, visual arts and performing arts as well as the Asia-Pacific Golden Key scholarship of \$14,000.

Originally founded at Georgia State University in 1977, the Society has chapters in Australia, New Zealand, Canada and Malaysia.

Further information can be obtained at: <http://www.adelaide.edu.au/gknh/>

## George Maxwell 1924-2000

*"No age can be thought more fortunate in the chance of its birth than our own age, for whose instruction men of earlier generations have laboured."*

George Maxwell (MD (Edin), FRCP, FRACP) delighted in the foregoing quote from Quintilian, a first century Roman, and was keenly aware both of his own good fortune in receiving a strong education and his responsibility to stamp this into his students.

Appointed at the age of 34 to the McGregor Reid Chair of Child Health at Adelaide University in 1959, he became the founding professor of what was then a new specialist area of medicine, later known as Paediatrics. In this position from 1959 to 1988, he contributed to the education of thousands of Adelaide doctors. Few of them have forgotten his insistence on high standards and self-discipline.

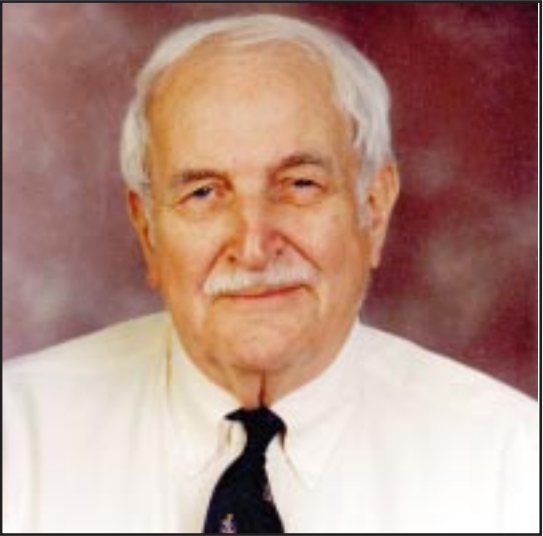
George's introduction to intellectual life began at the age of four when his father bought him Arthur Mee's *Children's Encyclopaedia*. Richly illustrated, it stimulated a life-long interest in history and a fascination with science. At Falkirk High School, in Scotland, he began studying Classics, and was dux in languages, but then switched to Science. He went on to study medicine at the University of Edinburgh, graduating in 1947. In this year too he married his first wife Sheena, and they raised three daughters, Ailsa, Rowena and Moira.

Following service in the Royal Army Medical Corps and a period of general practice, he entered paediatric training at the Royal Hospital for Sick Children in Edinburgh. A Fulbright Fellow in 1951, George worked on the pioneering cardiac catheterization project at the University of Wisconsin, including having his own heart experimented on. He was appointed Associate Professor of Paediatrics there in 1954. His colleague, Professor of Cardiology George Rowe, recently wrote in a letter of condolence:

*"...how fine a person George was, and how many lives he made easier and longer. His extraordinary judgment, coupled with his compassion for others and his never failing humor, were towers of strength to me as we sought our way through the beginnings of cardiac catheterization and cardiac surgery. How he was missed when he left!!"*

That university's loss was Australia's gain in 1959. Adelaide University and families throughout South Australia benefited from 'Prof's' work at the Children's Hospital. George was particularly proud of the fact that five persons who were his registrars became professors of Paediatrics in other universities.

While 'administration' is seen as drudgery by many academics, George considered it a normal part of the duty of a scholar. Besides being Associate Dean of the Medical School (1967-69) and Dean (1970-72), he served on many university-wide committees, notably the Education Committee for 29 years, and the Equipment Committee, of which he was chairman. He also held a position on the University Executive from 1984-



George Morrison Maxwell. Photo: Festival Studios.

88, with responsibility for research and scholarships.

George wrote two Paediatric text books and published an average of one scientific paper every other month. Yet his intellectual interests went far outside of Medicine. As he remarked in his retirement speech in May '88: "I have been privileged to have friends in the departments of English, History, Philosophy, Classics, Education, Mathematics, Computing, Engineering, Biochemistry, Physiology, Physics – and of course, I am related to the Department of Politics by marriage" (referring to his wife Mary, whom he married in 1980). With Mary he spent many a happy evening in the Barr Smith Library. "We considered that a 'date'," Mary says.

Shortly after gaining his 'Emeritus' from Adelaide University, George became, again, a founding professor of Paediatrics, this time at the University of the United Arab Emirates. He recruited staff from around the world to create a strong department, was physician to the Al Jimi and Tawam Hospitals, and Associate Dean of the Medical School from 1989-92. Invited by the Chancellor, Sheik Nahayan, to write the history of that school, George was described in the book's preface as "one of the pioneer professors who laid the foundation of the Faculty of Medical & Health Sciences", and further, "Although on this day we miss the late Professor George Maxwell, we still feel his presence among us through his work and achievements."

George Morrison Maxwell, who died on 17 February 2000, is survived by his wife and daughters, and three grandchildren, Helena, Shiva and Angus.

It can fairly be said that he was a dedicated university man, and an ever grateful one. As he said in concluding his retirement speech: "If my life has been given to the faculty and the University of Adelaide, it has been enriched by the experience."

—Rowena Maxwell-Clark

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GRADUATIONS 2000

Qualifications make a difference

ADELAIDE University student Sonja Kurtzer has gone from cleaning up dirt at universities to cleaning up prizes.

She graduated with her Honours degree in Women's Studies on 20 April, and was awarded the Business and Professional Women Prize for the best Honours student in Women's Studies. Ms Kurtzer is believed to be the first indigenous person to receive this award.

It follows Ms Kurtzer winning the Soroptimist International Prize in Women's Studies for the best third-year Women's Studies student in 1997.

All the prizes and graduation certificates are a far cry from 10 years ago, when Ms Kurtzer ran her own cleaning business, as well as being employed as a cleaner at the University of South Australia.

"I guess I'd always wanted to study at university, but it was all a bit scary when you're supposedly just a cleaner—I didn't think I was smart enough to be able to do it," she said.

"I started off at the South Australian Institute of Technology in 1990, and I came to Wilto Yerlo and Adelaide University one year after that.

"I was originally interested in doing Psychology, but I changed to Gender Studies because I felt it would give me a better chance to examine not only the issues of gender inequality, but also racial inequality."

Ms Kurtzer's Honours thesis, titled *Questions of identity in Roberta Sykes'*



Honours graduate Sonja Kurtzer with daughter Nikita Jeffrey on Ms Kurtzer's graduation day on 20 April. Photo: Ben Osborne.

*autobiographical narratives*, looked at issues of identity, particularly in understanding Aboriginal identity. It did this specifically by examining two texts by well-known activist for Aboriginal rights Dr Roberta Sykes, *Snake Cradle* and *Snake Dancing*.

Ms Kurtzer has been working part-time at Wilto Yerlo for the duration of her Women's Studies degree, but says it has still been a tough, often financially demanding process—especially with a young family to support.

"The university's been very good to me in that respect—last year I basically worked on my thesis from home, and I

also had an Equity scholarship, which helped enormously.

"I also wish to pay tribute to my supervisor, Dr Kay Schaffer, who was always keeping in touch with me to make sure I was going OK, and offering continuing support and inspiration.

"Having these qualifications makes such an incredible difference to the quality of my life—they will really help me get the type of work where I feel I can make a difference in terms of assisting other indigenous people."

—Ben Osborne

Ready for graduation celebration in KL



NOW that the latest graduations in Adelaide are over students in Malaysia are getting ready for the biggest Adelaide University graduation celebration ever to be held in that country.

On Sunday 21 May, around 200 new graduates will attend the celebration in the Grand Ballroom of the Hotel Nikko, Kuala Lumpur. They will be joined by 1000 family members, VIPs, guests, friends and University staff.

The event will be the seventh Adelaide University graduation celebration to be held in Malaysia, and will again be generously sponsored by Clipsal Manufacturing (M) Sdn Bhd and Clipsal Malaysia Sdn Bhd. Included at the KL ceremony will be the biggest group of students graduating from the Adelaide/S-I-T twinning program.

Among the many recent Malaysian graduates in Adelaide was architecture student Renee Lee Jen Jen (pictured with her parents). Renee, from Kuala Lumpur, graduated with Honours in Architecture, following in the footsteps of both her parents who also have degrees from Adelaide.

Her father, Henry Lee, completed a degree in Architecture and is now principal of Malaysian architecture firm Arkitek Binarjaya, while her mother, Lan Mee Lee, completed a degree in science and mathematical statistics.

Help us to keep in touch

WE ARE currently working hard to update our database in the Alumni and Community Relations office so we can keep in touch with you and as many of the University's students, graduates, staff, former staff members or friends as possible.

If you are a current student, graduate, former staff member or a friend of the University we would love to hear from you.

We would also like to make sure you receive complimentary copies of *Lumen*—the feature magazine of Adelaide University for its alumni and friends. *Lumen* highlights the University's initiatives and successes and celebrates the work of its students, staff and graduates. Through *Lumen*, we hope to keep you better informed about developments within the University, those aspects of University life of particular interest to you, and to enable different groups to keep in touch with each other as well as with us.

It would be very helpful if you could spare a few moments to complete as much as possible of the attached form. Please also use this form to request information about chapters or to suggest ways which you might like to offer help to us. If you know of anyone else who is a student, graduate, former staff member or friend of the University we would love to have their details too. As a member of the alumni or a friend of Adelaide University your input and support is critical to our future success.

All information provided will be used for

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Mr/Ms/Dr, etc .....

Family Name .....

Former Family Name (if applicable) .....

Given Names .....

Date of Birth ..... Country of Birth .....

Address .....

State..... Postcode ..... Country .....

Phone Hm ( ) ..... Wk ( ) .....

Fax ( ) .....

Email .....

Adelaide University Degree(s) or Qualification(s):		
Qualification	Course	Year of Graduation
.....	.....	.....
.....	.....	.....

Other Degrees or Qualifications from other institutions:

Institution	Qualification	Year of Graduation
.....	.....	.....
.....	.....	.....

Membership of professional bodies or associations:

.....

Please tick if you are:

☐ Former    ☐ Staff Graduate    Other .....

☐ Student    ☐ Student/Staff No. (if known) .....

Career Details: Please tick if you are:

☐ Still studying    ☐ Taking time out    ☐ Self employed

☐ Unemployed    ☐ Family commitments    ☐ Retired

☐ Employed

Your position: .....

Type of employment (please tick):

☐ Professional    ☐ Managerial    ☐ Admin    ☐ Service

Your position: .....

Current and previous sporting or leisure activities and interests:

.....

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Are you currently a paid up member of the Alumni Association? (please tick):    ☐ YES    ☐ NO

Would you be interested in being a member of a particular chapter? (please tick):    ☐ YES    ☐ NO

Please indicate ways in which you may wish to offer your help and support to the University. I am interested in:

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Adelaide University Degree(s) or Qualification(s):		
Qualification	Course	Year of Graduation
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Other Degrees or Qualifications from other institutions:

Institution	Qualification	Year of Graduation
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.....	.....	.....

Please tick if your friend is:

☐ Former    ☐ Staff Graduate    Other .....

☐ Student    ☐ Student/Staff No. (if known) .....

Signature ..... Date .....

**Please send this form REPLY PAID TO: Alumni & Community Relations Office, Adelaide University, Reply Paid 498, Adelaide, SA 5001.**

# Two short plays and one quick death

ADELAIDE University's Theatre Guild has turned to the Middle Ages for its first season of the year 2000, now playing to 20 May at the Bakehouse Theatre.

"God and the Theatre"—aka two short plays and one quick death—brings together two "Mystery Plays" and one "Morality Play" in an entertaining introduction to the earliest forms of English theatre.

*Everyman*, directed by Warwick Cooper, is the first and best of the "morality plays" made popular in the 15th and 16th centuries. It explores a problem central to life—how we deal with death. It does this by examining the values of fellowship, family, goods, good deeds, knowledge, strength, beauty etc.—all personified as actors in a drama moving from the world of things to the world of the soul.

But *Everyman* is no stodgy piece of moralising. It's a play that is wise, comic and compassionate about human frailty. Warwick Cooper's fast-moving production is set to the music of the tango, and uses drag queens, flamenco dancers, the circus and vaudeville to express life's crazy waywardness, within which spiritual insight and meaning may yet be found.

Mystery Plays were cycles of short plays dealing with key stories from both the Old and New Testaments. They were designed to show the "mystery" of God's purposes working through the human world. They were normally played outdoors, and were therefore very simple and engaging in language and structure, juxtaposing serious elements and deeply religious sentiment with the broadest comedy.

In this season, the Guild has brought

together two extremes of Christ's story—his birth, in a Nativity pageant directed by June Barnes, and his Crucifixion, "one quick death", directed by Peter Goërs.

In keeping with the genre's blending of sacred and profane, there are a few surprises in store—including singing shepherds, some very silly sheep, some distinctly ocker centurions at the foot of the cross, and a generally Pythonesque style of storytelling.

You can catch these two short plays and one quick death at 8pm from Wednesday to Saturday 10-13 and 17-20 May at The Bakehouse Theatre in Angas Street. Tickets are \$15 and \$10 concession. Book through Bass (131 246), the Guild (8303 5999) or purchase at the door.

—John Edge  
Chair, Theatre Guild

## As Many Lives as a Cat?



Kerrie Round's entertaining history of the Theatre Guild was launched late last year by State Theatre's Rosalba Clemente. It's a revealing insight into the ups and downs of an organisation that has been part of Adelaide theatre and the University's own story for more than 60 years.

The book is available from the Theatre Guild for \$29.95, and also from selected bookstores, including Unibooks, Dymocks and Imprints (a higher RRP applies in stores).

*As Many Lives as a Cat?* has been short-listed for the John Tregenza Award in the National Community History Awards 2000.

## ASQ's premiere success

THE Australian String Quartet's 2000 season is already a resounding success.

The ASQ's first concert for the season, held in Elder Hall in February, included the Australian premiere of György Kurtag's "Officium breve in memoriam Andrei Szervansky".

On Sunday 30 April music lovers were taken on "A Journey Through Europe" at the Bridgewater Mill. The first of three concerts being held at the Mill this year, it featured works by Stravinsky, Debussy, Puccini and Turina, not to mention some fine food and wine.

Based at Adelaide University, the ASQ has earned a reputation for world-class performances. Their next concert in Adelaide is at 6pm, Friday 2 June at Elder Hall. The program includes Haydn's string quartet in E flat - op 64/6, Debussy's String Quartet in G minor and the fantastic 1st Rasumovsky Quartet of Beethoven. Tickets are available at BASS on 131 246.

Meanwhile, ABC TV will air a special program at 9.45pm Sunday 21 May called "ASQ—Strings on the Strzelecki". A unique five-day, 2500 km tour of outback South Australia, "Strings on the Strzelecki" saw five events performed in townships and other outback settings along the Strzelecki and Birdsville tracks, including a performance at the Hard Rock Cafe, 300 metres underground at WMC's Olympic Dam mine—not to be missed!

## Federation book brings our historic miracle-makers to life, warts and all

IT may surprise many people to know that the so-called "founding fathers" of Australia's Federation in 1901 were more than just old men with beards.

One had previously been challenged by a political opponent to a duel with pistols in Victoria Square... another was fat and ugly but married one of the most beautiful women in Tasmania... and another dabbled in mysticism, receiving a prophecy of his future involvement in the Federation process through a spiritualist medium.

A new book, co-edited by Adelaide University Law School senior lecturer Dr John Williams, looks at the lives of some of these colourful history makers, who were responsible for the birth of Australia as a nation.

The three men mentioned above were South Australian Premier Charles Cameron Kingston, and future Prime Ministers George Reid and Alfred Deakin respectively.

Dr Williams has a long-standing research interest in the Australian Constitution and Federation, and has been commissioned by the National Council for the Centenary of Federation to produce an in-depth publication on the source documents of the Constitution.

But his new book takes a different approach, aimed solely at bringing to life the people behind the Federation.

*Makers of Miracles: The Cast of the Federation Story* details the diversity in backgrounds of those who framed Australia's first Constitution, which was enacted on 1 January, 1901.

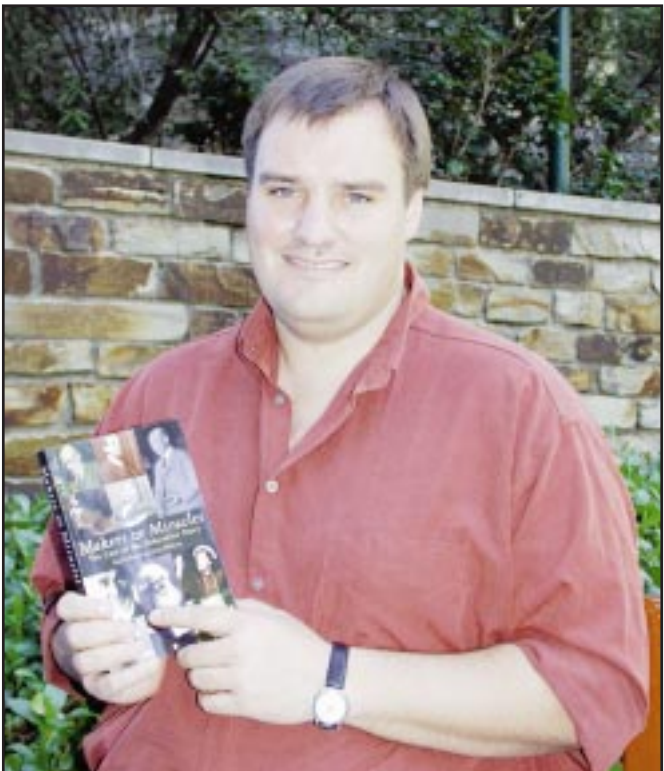
Such a diversity meant that while most agreed Federation was necessary, reaching agreement on what form it took was a little more difficult—a predicament with eerie similarities to the Republican debate some 100 years later.

"Republicans should take heart—the path to Federation was a long one and it almost fell over a couple of times along the way, but it was achieved in the end," Dr Williams said.

"The book looks at the lives of some of the main players, as well as the not-so-well-known involved in the Federation process.

"Outside of the people who live in the Canberra suburbs named after these men and women, unfortunately not many people know about them.

"Federation perhaps hasn't captured the public's imagination as much as it should, primarily because it didn't involve any blood being spilt, like say Gallipoli, even though the main characters



Dr John Williams is the co-editor of a new book about Australia's Federation entitled *Makers of Miracles: The Cast of the Federation Story*. Photo: Ben Osborne.


engaged in some pretty robust political debate.

"Hopefully with this book and the centenary of Federation next year, people will be able to see just how important it was that these people were able to sit down and come up with the Constitution."

Dr Williams said he was appreciative of the support he had received from Adelaide University's Law School in completing and publishing the book.

*Makers of Miracles: The Cast of the Federation Story* is edited by John Williams and David Headon, and is published by Melbourne University Press. It has a RRP of \$34.95.

—Ben Osborne



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**PEUGEOT:** 405 MI16 sedan,

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**PIANO:** Yamaha Eterna EP 15 Ivory. Only 3 years old, 7 year warranty. \$3,200 neg. Ph 0417 864 608.

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toploader, good condition, 3.5 years old. \$250. Ph 8370 2169 or email: <casmith@medicine.adelaide.edu.au>.

DEPARTMENTAL

**DRAFTING TABLE:** With drawing machine mounted on tilting light table 1100 x 900mm. All offers considered. 44 gal tilting drum rack, all offers considered. Ph Steve Tupper 8303 3055.

MISCELLANEOUS

**CHILD CARE:** Refs avail. Ph Rebecca 8262 5134.

# Bulletin Board

MAY 8, 2000

ADELAIDE UNIVERSITY

PAGE 1

## MONDAY 8 MAY

**11.00am Politics Seminar:** The Seesaw Effect: Down goes Affirmative Action, Up Goes Workplace Diversity by Carol Bacchi. Common Room, 4th Floor, Napier Building.

**12noon Plant Science Seminar:** IRRI's 40th Birthday Bash: The Novartis & IRRC Conferences by Professor Robin Graham (Plant Science). Charles Hawker Conference Centre, Waite Campus.

**1.00pm Microbiology & Immunology Seminar:** Petechial rashes and penicillin: a laboratory perspective of meningococcal disease by Mr Andy Lawrence (Microbiology & Infectious Diseases, Women's & Children's Hospital). Library, 5th Floor, Medical School South.

**1.00pm Clinical & Experimental Pharmacology Seminar:** The role of the brain in psychiatry by Dr Les Koopowitz (Psychiatry). Seminar Room, 6th Floor, Medical School, North Wing.

**1.10pm History Seminar:** Alcohol and the clergy by Dr Lynn Martin (History). Common Room 420, 4th Floor, Napier Building.

**1.10pm Student Workshop:** Learn Deep Relaxation by Mark O'Donoghue. Counselling Centre, Ground Floor, Horace Lamb Building.

**1.10pm Law Seminar:** Teaching Clinical Law: development of the CLE program at Adelaide Law School by Margaret Castles. Room 216, Ligertwood.

## TUESDAY 9 MAY

**12noon Child Health Research Institute Seminar:** The Endothelium: Insights into Novel Mechanisms of Control by Dr Jenny Gamble (Hanson Centre for Cancer Research). Seminar Room, 7th Floor, Rieger Building, WCH. Light refreshments provided by Jomar Diagnostics.

**1.10pm Student Workshop:** Balancing family relationship commitments with study by Mark O'Donoghue. Counselling Centre, Ground Floor, Horace Lamb Building.

**3.15pm Anthropology Seminar:** Thinking through Architecture in Anglo-Indian Fiction by Peter Scriver (Architecture). Room 722, 7th Floor, Napier.

## WEDNESDAY 10 MAY

**10.10am Electrical & Electronic Engineering Seminar:** The Method of Reference Probability and M-ary Detection by Dr W Paul Malcolm (SSD, Tracking & Sensor Fusion Group, Defence Science & Technology Organization). Room EM212, New Engineering and Mathematics Building.

**12.10pm Recitals Australia 2000 Autumn Series:** Deborah Baldock - cello; Paul Todd - clarinet. Adults \$3/Concession \$1. Pilgrim Church, 12 Flinders Street, Adelaide.

**1.10pm Genetics Seminar:** CreC in flies and fungi by Dr Robin Lockington. Seminar Room, Ground Floor, Fisher Building (southern entrance).

**1.10pm Horticulture, Viticulture & Oenology Seminar:** Glucosyltransferases and the biosynthesis of cyanogenic glucosides by Mr Patrik Jones (Horticulture, Viticulture & Oenology). Plant Research Centre Auditorium, Waite Campus.

**1.10pm Geology & Geophysiscs Seminar:** Tracking the evolution of heat producing elements in the crust: an

## COMING EVENTS

May 8th — May 21st

example from the South Australian Proterozoic by Narelle Neumann; Long term thermal consequences of tectonic activity by Sandra McLaren. Mawson Lecture Theatre, Mawson Laboratories.

**1.10pm Physics & Mathematical Physics Seminar:** Recent Results on the Determination of Newton's Gravitational Constant G by Professor H Meyer (University of Wuppertal, Germany). Kerr Grant Lecture Theatre, Physics Building.

**4.00pm Physiology Seminar:** Cell Therapy via lineage specific differentiation of embryonic stem cells: from basic science to IPO by Professor Peter Rathjen (Biochemistry). Seminar Room N416-417, Medical School South. Light refreshments served afterwards.

**4.00pm Environmental Biology Seminar:** Breathing: Good or bad for the lung? by Dr Y Edwards (Environmental Biology). Seminar Rm, 4th Floor, Fisher .

**8.00pm Theatre Guild:** God and the Theatre: an evening of medieval one-act plays. *The Shepherd's Pageant, Everyman and A Crucifixion*. Tickets \$15/\$10 on 8303 5999 or at the door. Bake House Theatre, Angas St, Adelaide.

## THURSDAY 11 MAY

**12noon Hanson Centre for Cancer Research Seminar:** The use of immunomodulatory cytokines in grant-versus-host disease prophylaxis by Dr G Hill (Mater Hospital, Brisbane). Robson Theatre, Eleanor Harrald Bldg, RAH.

**12.05pm Psychology Seminar:** The relationship between IQ and academic achievements for Australian school children from Chinese, Vietnamese and Anglo-celtic backgrounds by Dr Justine Dandy (Psychology, Flinders University). Room 527, Hughes Building.

**6.30pm Australian Institute of International Affairs Talk:** Recent Developments in German Domestic Politics and the Future of the EU by Professor Günter Minnerup (German Studies, University of Birmingham). The Upper Refectory, Level 4, Union House.

**7.45pm Field Geology Club of SA Lecture:** Mean sea level and world-wide deforestation by Professor John Holmes. Mawson Lecture Theatre, Mawson Labs.

**8.00pm Theatre Guild:** God and the Theatre: an evening of medieval one-act plays. *The Shepherd's Pageant, Everyman and A Crucifixion*. Tickets \$15/\$10 on 8303 5999 or at the door. Bake House Theatre, Angas St, Adelaide.

## FRIDAY 12 MAY

**10.00am Social Inquiry Seminar:** Labour Studies - Management and Type A behaviour trait; creating the time-conscious worker by Eileen Willis. 11.00am Gender Studies - Ethics of/(be)for(e) the Other: Critical response to narratives of genocide by Shannon Dowling. Seminar Room, Level 3, 10 Pulteney St, Adelaide.

**10.00am Animal Science Seminar:** Prenatal restriction and adult metabolic homeostasis by Dr Julie Owens (Physiology). Conference Room, Davies Building, Roseworthy Campus.

**12.45pm Dentistry Seminar:** Dental amalgam and mercury in dentistry by John Spencer. Lecture Theatre 1, 6th Floor, Adelaide Dental Hospital.

**1.00pm Asian Studies Seminar:** The Zen of Anti-Semitism (The Anti-Semitic Thought of Zen Master Haku'un Yasutani) by Dr Brian Victoria. Room 518, Level 5, Ligertwood Building.

**1.10pm Elder Conservatorium Lunch Hour Concert:** Australian String Quartet. Works by Hadyn and Debussy. Admission \$3 at the door. Elder Hall.

**4.00pm Obstetrics & Gynaecology Seminar:** Molecular basis of the oocyte contribution to embryonic development by Dr F Gandolfi (Obstetrics & Gynaecology, TQEH). Seminar Room, 6th Floor, Medical School, North.

**8.00pm Theatre Guild:** God and the Theatre: an evening of medieval one-act plays. *The Shepherd's Pageant, Everyman and A Crucifixion*. Tickets \$15/\$10 on 8303 5999 or at the door. Bake House Theatre, Angas St, Adelaide.

## SATURDAY 13 MAY

**8.00pm Theatre Guild:** God and the Theatre: an evening of medieval one-act plays. *The Shepherd's Pageant, Everyman and A Crucifixion*. Tickets \$15/\$10 on 8303 5999 or at the door. Bake House Theatre, Angas St, Adelaide.

## TUESDAY 16 MAY

**3.15pm Anthropology Seminar:** Ruminations in Eating: Negotiating Fieldwork Relationships around Food by Megan Warin (Anthropology). Room 722, 7th Floor, Napier Building.

## WEDNESDAY 17 MAY

**12.10pm Recitals Australia 2000 Autumn Series:** David Barnard - piano; Carolyn Lam - violin. Adults \$3/Concession \$1. Pilgrim Church, 12 Flinders Street, Adelaide.

**12.30pm Clinical Nursing Seminar:** Nurses, Clinical Pathway Guidelines and Political Technology by Dr Lynne Barnes (University of SA). Rm 36, Level 3, Eleanor Harrald Building, RAH.

**1.10pm Genetics Seminar:** PhD updates by Kieran Short and Greg Somers. Seminar Room, Ground Floor, Fisher Building (southern entrance).

**1.10pm Geology & Geophysics Seminar:** Palaeochannels and their significance for mineral exploration in the Gawler Craton region, SA by Dr Hou Baohong (Geology & Geophysics). Mawson Lecture Theatre, Mawson Labs.

**4.00pm Physiology Seminar:** Stages of plasticity in the sensory cortex after partial deafferentation by Dr Mike Calford (ANU). Seminar Room 416-417, Medical School Nth.

**4.30pm Environmental Biology Seminar:** Thoughts of a retiring biologist on philosophy, ecology and abalone by Dr S Shepherd (SARDI Aquatic Sciences). Seminar Room, 4th Floor, Fisher Building.

**5.30pm Law Week 2000:** Law - A Career for Life: An informal information and discussion session covering entry to, life during and life after law school. Lecture Theatre 2, Law School. Further details tel Corinne McNamara, 8303 4020.

**8.00pm Theatre Guild:** God and the Theatre: an evening of medieval one-act plays. *The Shepherd's Pageant,*

*Everyman and A Crucifixion*. Tickets \$15/\$10 on 8303 5999 or at the door. Bake House Theatre, Angas St, Adelaide.

## THURSDAY 18 MAY

**12noon Hanson Centre for Cancer Research Seminar:** Cloning of a novel homeobox gene expressed in haemopoietic progenitor cells by Mr Paul Moretti (HCCR). Robson Theatre, RAH.

**12.05pm Psychology Seminar:** To kill or not to kill: competitive aggression in adolescent video-game players by Alex Ask (Psychology). Room 527, Hughes.

**8.00pm Theatre Guild:** God and the Theatre: an evening of medieval one-act plays. *The Shepherd's Pageant, Everyman and A Crucifixion*. Tickets \$15/\$10 on 8303 5999 or at the door. Bake House Theatre, Angas St, Adelaide.

## FRIDAY 19 MAY

**10.00am Social Inquiry Seminar:** Labour Studies - Industrial relations in the port of Durban by Simon Stratton.

11.00am Gender Studies - Fundamental contradictions in conservation and development: where to from here by Ali Ben Kahn. Seminar Room, Level 3, 10 Pulteney Street, Adelaide.

**12.45pm Dentistry Seminar:** The mouse - not just a small furry rodent with big teeth that eats cheese! by Toby Hughes. Lecture Theatre 1, 6th Floor, Adelaide Dental Hospital.

**1.00pm HCCR - Division of Haematology Seminar:** Highly efficient gene transfer into cord blood NOD/SCID repopulating cells by oncoretroviral vector particles pseudotypes with the feline endogenous retrovirus (RD114) envelope protein by Dr Elio F Vanin (St Jude Children's Research Hospital, Memphis, Tennessee, USA). Verco Theatre, IMVS.

**1.10pm Elder Conservatorium Lunch Hour Concert:** Elder Conservatorium Wind Ensemble, Robert Hower - conductor. Works by Ives, Copland, Grainger and Dello Joio. Admission \$3 at the door. Elder Hall.

**1.15pm Inaugural Lecture Series:** Drug addiction: what do treatments treat? by Professor Jason White (Addiction Studies). Lecture Theatre G04, Napier.

**4.00pm Obstetrics & Gynaecology Seminar:** Dysfunctional Uterine Bleeding by Dr Judy Searle (Obstetrics & Gynaecology, Flinders Medical Centre). Seminar Room, 6th Floor, Medical School, North Wing.

**8.00pm Theatre Guild:** God and the Theatre: an evening of medieval one-act plays. *The Shepherd's Pageant, Everyman and A Crucifixion*. Tickets \$15/\$10 on 8303 5999 or at the door. Bake House Theatre, Angas St, Adelaide.

## SATURDAY 20 MAY

**8.00pm Theatre Guild:** God and the Theatre: an evening of medieval one-act plays. *The Shepherd's Pageant, Everyman and A Crucifixion*. Tickets \$15/\$10 on 8303 5999 or at the door. Bake House Theatre, Angas St, Adelaide.

## SUNDAY 21 MAY

**7.30pm Jazz Series 2000:** Viva Lá Bass! led by Bass on Top plus John Aué and David Phillips with others. \$12/\$8 Conc. Governor Hindmarsh Hotel, 59 Port Road, Hindmarsh. Enquiries: Margaret Reines 8303 4339.

SITUATIONS  
VACANT

For further information about the following vacancies please refer to the Human Resources' Web page at <<http://www.adelaide.edu.au/HR/advpos.htm>> or the contact person named in the advertisement.

**Please note that applications, in duplicate,** addressing the selection criteria and quoting the relevant reference number should include names and full addresses of three referees. The address for applications is C/- the Department or Officer named in the advertisement. **Selection criteria and applicable duty statements may be obtained from the contact officer named in the advertisement.**

Applications for the following vacancies are not restricted to members of the University.

STUDENT RECRUITMENT OFFICER

(Ref: 10350)

Student Recruitment Branch  
Salary: HEO7 \$43,478 - \$48,779

This continuing appointment is available immediately. Further information including the duty statement and selection criteria may be obtained from Ms Vicki Brougham, telephone 8303 4071, facsimile 8303 3988 or email [vicki.brougham@adelaide.edu.au](mailto:vicki.brougham@adelaide.edu.au)

Applications close 10 May 2000.

TRAINING OFFICER

(Ref: 10355) (Fixed-Term)

Information Technology Services  
Salary: HEO7 \$43,478 - \$48,779

This fixed-term position is available immediately for a period of one year. Further information including the duty statement and selection criteria may be obtained from Ms Adrienne Eccles, Acting Human Resources Advisor, Division of Student and Staff Services, telephone 8303 5235 or email [adrienne.eccles@adelaide.edu.au](mailto:adrienne.eccles@adelaide.edu.au)

Applications close 12 May 2000.

ASSISTANT MAINTENANCE ENGINEER

(Ref: 10308) (Fixed-Term)

Department of Plant Science, Waite Campus  
Salary: HEO3 \$27,174 - \$30,979

This fixed-term position is available immediately for a period of five years. Further information including duty statement and selection criteria may be obtained from Mr David Harris, telephone 8303 7455, facsimile 8303 7109, or email [david.harris@adelaide.edu.au](mailto:david.harris@adelaide.edu.au)

Applications close 19 May 2000.

RECORDS MANAGEMENT OFFICE ASSISTANT

(Ref: 10351)

Office of the Vice-Chancellor  
Full-Time salary: HEO2 \$25,815 - \$27,445\*

\*Junior rates apply to those persons 20 years of age and under.

This continuing position is available immediately, on a 18.38 per week basis. Further information including the duty statement and selection criteria may be obtained from Mr Geoff Radford, telephone 8303 5249 or email [geoff.radford@adelaide.edu.au](mailto:geoff.radford@adelaide.edu.au)

Applications close 19 May 2000.

**HUMAN RESOURCES DEADLINES FOR ADELAIDEAN**

For the *Adelaidean* of 22 May 2000, advertising paper work must be received in Human Resources by 5 May 2000.

For the *Adelaidean* of 5 June 2000, advertising paper work must be received in Human Resources by 19 May 2000.

GENERAL  
NOTICES

Special Studies Program

Special Studies commencing in the period January-June 2001.

Applications are now invited for Special Studies commencing in the first half of 2001. Applica-tion forms may be obtained from Human Resources (ext 35666 or 35177) or through our Web page on <[http://www.adelaide.edu.au/HR/services/f\\_sspapp.htm](http://www.adelaide.edu.au/HR/services/f_sspapp.htm)> and should be returned to Human Resources through the Head of the Department no later than 12 May 2000.

Following a recent review of the SSP, the University has revised the rates of financial support for staff undertaking SSP activities from 2001 as follows:

1. Calculation of airfare assistance will be simplified and related more closely to the actual cost for the staff member and dependents, to provide reim-bursement of the economy-class, advance-purchase return airfares up to a maximum figure as set out below for the staff member and each dependent charged an adult fare, with an appropriate fraction for dependent minors based on actual fares charged.
  - \* for travel to UK, Europe or North America up to \$2,800;
  - \* for travel to Asia, Africa or South America up to \$2,000;
  - \* for travel in Australia and the Pacific up to \$1,000.
2. The travel grant may be awarded once for each three years of employment and the present complexity under which a staff member elects to use a certain number of "fare days" will be eliminated.
3. The allowance as a cost of living subsidy will be doubled, i.e. based on 14.4% of the daily salary of a Level C at step 6 for travel in Australia or the Pacific.

The revised policy and associated documentation are available on the HR web page. The payment procedures with regard to taxation arrangements are currently under review and will be finalised shortly.

The supporting statement on page 6 of the application must be completed by the Head of the Department and Heads are re-minded that in accordance with Paragraph 2.1.6 of the Special Studies Program Policy they are asked to comment specifically on both the academic justification for the program and itinerary, and the implications in terms of the teaching, examining and administrative needs of the Department. All applications should be considered by the Departmental Committee before submission.

Under the terms of Paragraph 2.1 of the Policy all applicants will be required to justify the period of Special Studies sought, irrespective of the length of the period involved. Details from Julie Raeck, ext 35177.

STEVE DAYSH  
General Manager  
Human Resources

The Stephen Cole the Elder Prize for Excellence in Teaching 2000

The Stephen Cole the Elder Prizes for Excellence in Teaching recognise and reward outstand-ing teaching. The prizes are awarded annually to academic staff whose teaching is regarded by students and academic colleagues as being of excellent quality.

Applications are invited for the 2000 Stephen Cole the Elder Prizes for Excellence in Teaching at the University of Adelaide. Three prizes will be awarded for undergraduate teaching, one of which will be awarded to an applicant in the first five years of their teaching career, and one award will be made for postgrad-uate teaching. Each prize will consist of a monetary award of \$5,000 and a certificate presented at the appropriate commemora-tion ceremony. The prize money is to be used by the winners to help them with the further development of their teaching activities.

Each winner will be required to agree with the Deputy Vice-Chancellor (Education) on appropriate form of dissemina-tion of their achievements in teaching (which might include a seminar, an article for the *Adelaidean* and/or a web-page article). Candidates with at least two years' service to the Univer-sity in a teaching position are eligible for nomination by their students and academic colleagues. Teaching groups may also be nominated.

Nominations will be considered by a selection committee convened by the Deputy Vice-Chancellor (Education) and consisting of student and academic staff representatives.

Nominations are now sought for The Stephen Cole the Elder Prizes for Excellence in Teaching for 2000. Guidelines and nom-ination forms can be obtained from Marie Reitano, Office of the Deputy Vice-Chancellor (Education), Rm G04, Mitchell Building, ext 35511, fax: 35150, email: <[marie.reitano@adelaide.edu.au](mailto:marie.reitano@adelaide.edu.au)> or downloaded from the Deputy Vice-Chancellor's web-site: < [http://www.adelaide.edu.au/DVC/quality/stephen\\_cole\\_prize.html](http://www.adelaide.edu.au/DVC/quality/stephen_cole_prize.html)>.

Nominations must reach the Office of the Deputy Vice-Chancellor (Education) by Monday 5 June 2000.

PENNY BOUMELHA  
Deputy Vice-Chancellor  
(Education)

**Missed the deadline?**

For all the latest news see the online bulletin boards at <<http://online.adelaide.edu.au>> available to staff and students of the University.

Matching Funds for Information Technology Development 2000

The aim of the University Matching Funds for Information Technology Development is to encourage the development and use of student-centred and flexible learning through information technology at the University of Adelaide. (Learn-ing and Teaching Plan 2000-2002)

Applications are invited for the 2000 round of the Adelaide Univer-sity Matching Funds for Informa-tion Technology Development. The Matching Funds for Information Technology Development are inten-ded to encourage the development and use of student-centred and flexible learning and the introduc-tion of innovative modes of teach-ing through information technol-ogy and telecommunications at the Adelaide University.

A total of \$200,000 will generally be available and is to be used by the successful individual(s), team, department or centre to effect practical improvements in learning and teaching by developing information technology facilities, online programs, modules and curriculum materials at the University. The Matching Funds for Information Technology Development will vary in size according to the scale and nature of the projects funded Funds will be provided for small and medium scale initiatives on a matching funds basis. The matching component may be contributed either on a cash or an in-kind basis.

Each grant recipient will be required to agree with the Deputy Vice-Chancellor (Education) an appropriate form of dissemination of their achievements in learning and teaching (which might include a seminar, an article for the *Adelaidean* and/or a web-page article).

Eligibility for the Matching Funds for Information Technology Development:

- All full-time and part-time members of academic staff in a teaching position at the University are eligible;
- Teaching groups which include full-time and part-time members of the academic staff which may include members of the general staff are eligible; and
- All teaching faculties, depart-ments, centres and interdiscip-linary groups in the University of Adelaide are eligible.

Applications will be considered by a selection committee convened by the Deputy Vice-Chancellor (Education) and consisting of student and staff representatives.

Applications are now sought for the 2000 Adelaide University Matching Funds for Information Technology Development. Guidelines and application forms from Marie Reitano, Office of the Deputy Vice-Chancellor (Education), Room G04, Mitchell Building, telephone: 35511, fax: 34873, email: <[marie.reitano@adelaide.edu.au](mailto:marie.reitano@adelaide.edu.au)> or downloaded from the Deputy Vice-Chancellor's web-site: <[http://www.adelaide.edu.au/DVC/quality/matching\\_funds\\_it\\_development.html](http://www.adelaide.edu.au/DVC/quality/matching_funds_it_development.html)>

Nominations must reach the Office of the Deputy Vice-Chancellor (Education) by Friday 7 July 2000.

# Car Parking Update

## Commercial Service Providers on Campus

All Commercial Service Provides are required to have a parking permit if they are to park on campus for reasons other than loading. Generally it is the responsibility of the host to ensure that a visitor, including service providers, have an appropriate parking permit. Commercial permits are available, subject to review, for service providers who are regular visitors to the campus for a cost of \$370 per annum. Contact Property Services on 8303 4673 to make an application. Service providers need to consider that visiting the University is no different to visiting any other central business district and that includes being responsible for making appropriate parking arrangements. The University is not able to provide free parking.

## Loading

It is acceptable for delivery vehicles to be parked about the campus, including on yellow lines, provided they are actively involved in the process of delivery or pick up, the process will not take longer than 20 minutes, and that they are not blocking access for other vehicles or pedestrian ways. The Parking Officers are aware of these requirements and have the authority to organise delivery vehicles to relocate where they are blocking access ways accordingly. Failure to comply with a request to relocate or blocking access ways will result in the issue of an expiation notice.

## Changes to Parking Web Page

The parking web pages has been altered with specific buttons for:

- Staff Parking Permit Renewal - all renewals should be completed but there will be staff returning from leave and the like who will need to use this.
- Staff Parking Permit New Application - currently there are no spaces available and new applications are being placed on the waiting list.
- Staff Parking Permit Alteration - for the submission of any alteration to permit information such as new vehicle details. This button submits the information direct to Chubb Traffic Management.
- Student Parking Permit - for applications by students of Adelaide University for after hours parking. We are working to provide an over the counter service for students permits for 2001.
- Temporary Parking Permits - for obtaining temporary parking permits. Intended for guests on University business where the Departmental Permit will not suffice. We do require a days notice for issue of temporary permits.

C BRADNEY, Manger, Car Parking

# Project Odyssey

Staff members who attended the first Project Odyssey roadshow were given a full briefing on the planned upgrade of Adelaide University's high-speed data communication network.

The information session, held in the Napier Building, was the first in a series to be held at all campuses in coming months.

Project Odyssey aims to achieve a tenfold improvement in the speed of network communications within and between campuses and the three teaching hospitals by replacing most cabling and other networking equipment across the University.

Cabling sub-contractor Data & Voice will undertake most of the cabling work over the next 18 months.

Because the project is replacing a "live" communication network, network outages or down times will occur. These are likely to cause some disruptions to the work environment as new parts of the network are changed over and buildings re-cabled. The project team would like to apologise in advance for any inconveniences experienced.

All departments and schools will be informed of any work due to be carried out some weeks beforehand as the team works through, building by building.

**Details of further road shows - and a proposed work schedule - will be published in future issues of the Adelaidean. Information on the project is available at: <<http://www.adelaide.edu.au/ITS/Odyssey>>. Enquiries regarding Project Odyssey can be directed to: <[project.odyssey@adelaide.edu.au](mailto:project.odyssey@adelaide.edu.au)>.**

# Kathleen Lumley College

Is the postgraduate residential college of the University.

The College has 2 small flats and 2 single study bedrooms (with bathroom) available for short and medium term visitors to the University.

Contact Allyson Sandham, tel 8267 3270, fax 8239 1705 or email: <[klc@adelaide.edu.au](mailto:klc@adelaide.edu.au)>.

# Intellectual Property Seminar

The Enterprise Education Group presents Dr Malcolm Campbell, Managing Director of Abcon Management Services, speaking on intellectual property issues and related matters.

**9.30am, Wednesday 31 May, Lecture Theatre, Building 16, Thebarton Campus.**

Bookings/enquiries: Tania Johnson, 8303 3098.

# Dental care specials!

## Dental treatment for University staff and students

The Colgate Australian Clinical Dental Research Centre (CACDRC) is a state-of-the-art clinical research facility located in the Adelaide Dental Hospital building (adjacent to the Royal Adelaide Hospital) and is a unit of Adelaide University and the Dental School.

Emergency dental treatment and routine dental care is available at the CACDRC. In addition, specialist orthodontic and implant services are now available.

**For further information contact Lisa 8303 3437.**

# Workshops for Staff new to Postgraduate Supervision

In conjunction with the Board of Graduate Studies and the PGSA, the Advisory Centre for University Education is hosting a series of three workshops for staff new to postgraduate supevision.

**Aims:** To provide staff new to supervision with: an opportunity to understand some of the main issues related to effective supervision; examples of good practice.

The workshops are being presented by a range of experienced supervisors drawn from several Faculties. Participants will be expected to enrol for the three consecutive sessions.

**Wednesday 10 May, 17 May and 24 May 2000, 3.00 - 5.00pm**

Staff members who are required to complete Teaching at University of tenture or promotion purposes can claim exemption from some parts of that course by attending the three postgraduate workshops. Staff are asked to contact Christine Ingleton, 8303 4721 to discuss possible exemption.

For copies of the program and enrolments, contact Meredith Ireland, 8303 5771, email: <[meredith.ireland@adelaide.edu.au](mailto:meredith.ireland@adelaide.edu.au)>. For more information regarding the workshops contact Margaret Kiley, 8303 3130, email: <[margaret.kiley@adelaide.edu.au](mailto:margaret.kiley@adelaide.edu.au)>.

# Public Seminars

*The Enterprise Education Group invites you to attend the first in its series of free public seminars at the Thebarton Commerce & Research Precinct on 10 May at 9.30am in the Lecture Theatre, Building 16.*

The first presentation will be by Andrew Rodgers, Principal and founder of Andrew Rodgers Industrial Design. Andrew will share his thoughts and experiences of being in and running a successful industrial design business for the past twelve years. His presentation will also include a discussion of the role that good design plays in many areas of all businesses, namely in the way a business promotes itself to the marketplace via all of its communication tools—web sites, advertising, letterheads, logos, physical and the appearance of the business inside and out. Lastly, Andrew will give consideration of the design of the actual products or services the business offers the customer.

The second public seminar will be held on 31 May at 9.30am, same venue. Dr Malcolm Campbell, Managing Director and founder of Abcon Management Services, will discuss issues related to the area of intellectual and industrial property. A member of the Advisory Council on Industrial Property, Dr Campbell's business, founded in 1992, focuses on offering consultancy services for business start-ups, and the management and commercialisation of intellectual property.

**For registration/inquiries please contact Tania Johnson at the Enterprise Education Group on 8303 3098.**

# Work in the USA

**Find out how you can work in the USA for up to four months from December - April. Work in a US ski resort or build your career in the job of your choice anywhere in the USA.**

**Come along to our free information meeting on Tuesday 16 May from 5.00pm - 7.00pm in Room LG23, Napier Building.**

# Research Branch Update

## AUSTRALIAN RESEARCH COUNCIL (ARC) GRANTS FOR 2001

### Research Infrastructure Equipment and Facilities Scheme

The main objective of this program is to fund relatively large scale initiatives (in excess of \$100,000) to develop research infrastructure on a collaborative basis among groups of institutions, across the higher education system as a whole, and with organisations outside the system. Approximately \$20 million will be available through the program in 2001. Funding is for one year only.

Draft applications were due on 28 April and final applications are due in the Research Branch by no later than Friday 26 May. Application forms and guidelines are on the Research Branch website and further information is available from Sondra Gould on extension 33387.

### Indigenous Researchers Development Scheme

The key objective of this scheme is to develop the research expertise of Indigenous Australian researchers to a level at which they can compete in open competition for mainstream research funding. Applications are accepted only from Indigenous Australian researchers and all Chief Investigators must meet this criterion. However, as the scheme aims to develop the research expertise of successful applicants, it is strongly recommended that a mentor (who does not need to be an Indigenous Australian) is associated with the proposal to provide specific expert advice on the subject of the research.

Application forms and guidelines are available on the Research Branch website and further information can be obtained from Sondra Gould on extension 33387. Applications close with the Research Branch on Friday 16 June.

Research Branch web site: [www.adelaide.edu.au/RB/](http://www.adelaide.edu.au/RB/)



# Barr Smith Library tours

Join a free 30 minute guided tour on the first Thursday of every month. Ideal for staff, postgraduates or honours students unfamiliar with the layout, collections, resources and services of the Barr Smith Library.

RSVP to Jennifer Osborn (Reference Services). Maximum of 12 per group. Tel: 8303 3706 Email: <[jennifer.osborn@adelaide.edu.au](mailto:jennifer.osborn@adelaide.edu.au)>.

RESEARCH GRANTS AND SCHOLARSHIPS  
AND OTHER FUNDING SCHEMES

<p><b>Research Grants and Fellowships</b></p> <p>The following is a list of grant, fellowship and other research funding schemes currently available for application. A more detailed electronic version of this listing (Update: Research), together with guidelines and application forms for some of the major schemes, are available at: &lt;<a href="http://www.adelaide.edu.au/RB/">http://www.adelaide.edu.au/RB/</a>&gt;. For hard copy application forms and guidelines for the funding schemes listed below, contact the Research Branch, ext 35137; or email &lt;<a href="mailto:renae.minerds@adelaide.edu.au">renae.minerds@adelaide.edu.au</a>&gt;.</p> <p><b>Sponsored Programs Information Network (SPIN):</b> SPIN Australia - A database containing current and comprehensive information on over 2,600 government and private funding opportunities. The SPIN web site is accessible via the Research Branch web site.</p> <p><b>Earthwatch Australia: Centre for Field Research (CFR) - Research Grants:</b> For details on the level of support available, the application process and lead time necessary, please visit the Centre for Field Research (CFR) homepage at &lt;<a href="http://www.earthwatch.org/cfr/cfr.html">http://www.earthwatch.org/cfr/cfr.html</a>&gt;.</p> <p><b>International Union Against Cancer (UICC) - International Cancer Fellowship: International Cancer Technology Transfer Fellowships (ICRETT):</b> No closing date, selection results within 60 days.</p> <p><b>National Heritage Trust, Coasts and Clean Seas - Funding for Environmental Projects 2000-2001:</b> Internal closing date: 11 May 2000. Web site: &lt;<a href="http://www.environment.gov.au/net/ccs.html">http://www.environment.gov.au/net/ccs.html</a>&gt;.</p> <p><b>Australian Coal Association Research Program - 2000 Research Priorities:</b> Internal closing date: 12 May 2000. Web site: &lt;<a href="http://www.acarp.com.au">http://www.acarp.com.au</a>&gt;.</p> <p><b>Emergency Management Australia - 2000-2001 Australian Disaster Research Grants:</b> Internal closing date: 12 May 2000. Web site: &lt;<a href="http://www.ema.gov.au/ausgrants.htm">http://www.ema.gov.au/ausgrants.htm</a>&gt;.</p> <p><b>National Cancer Institute, USA - Genetic Regulation of Susceptibility to Tobacco-Related Carcinogenesis:</b> Internal closing dates: 15 May &amp; 15 September 2000. Web site: &lt;<a href="http://www.nih.gov/grants/guide/pa-files/PA-98-095.html">http://www.nih.gov/grants/guide/pa-files/PA-98-095.html</a>&gt;.</p> <p><b>National Centre for Research Resources (NCRR), USA</b></p> <ul style="list-style-type: none"><li>• <b>Novel Approaches to Enhance Stem Cell Research</b> Internal closing dates: 15 May &amp; 15 September 2000. Web site: &lt;<a href="http://www.nih.gov/grants/guide/pa-files/PA-99-086.html">http://www.nih.gov/grants/guide/pa-files/PA-99-086.html</a>&gt;.</li><li>• <b>Comparative Medicine - Various Awards and Programmes (Visit website for further details)</b> &lt;<a href="http://www.ncrr.nih.gov">http://www.ncrr.nih.gov</a>&gt;.</li></ul> <p><b>National Institute of Arthritis and Musculoskeletal and Skin Diseases, USA - Grants for Research on the effects of Microgravity on the Musculoskeletal System:</b> Internal closing dates: 15 May &amp; 15 September 2000</p> <p><b>National Institute of Arthritis and Musculoskeletal and Skin Diseases, USA / National Institute for Child Health and Human Development, USA / National Institute of Dental Research, USA / National Institute of Diabetes, Digestive, and Kidney Diseases, USA - Research Grants for Research on Skeletal Growth and Development:</b> Internal closing dates: 15 May &amp; 15 September 2000. Web site:</p>	<p>&lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PA-98-105.html">http://www.grants.nih.gov/grants/guide/pa-files/PA-98-105.html</a>&gt;.</p> <p><b>National Institute of Diabetes and Digestive and Kidney Diseases, USA / National Eye Institute, USA / National Institute for Dental and Craniofacial Research, USA / National Institute of Neurological Disorders and Stroke, USA / National Heart, Lung, and Blood Institute, USA - Research Grants - The Role of Growth Factors in the Development of Diabetes Complications:</b> Internal closing dates: 15 May &amp; 15 September 2000. Web site: &lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PA-99-159.html">http://www.grants.nih.gov/grants/guide/pa-files/PA-99-159.html</a>&gt;.</p> <p><b>National Institute of Neurological Disorders &amp; Stroke / National Institute of Arthritis and Musculoskeletal and Skin Diseases, USA - Research Grants - Gene Therapy in Duchenne Muscular Dystrophy:</b> Internal closing date: 15 May &amp; 15 September 2000. Web site: &lt;<a href="http://www.grants.nih.gov/grants/guide/1994/94.02.18/pa-gene-therapy-in-d008.html">http://www.grants.nih.gov/grants/guide/1994/94.02.18/pa-gene-therapy-in-d008.html</a>&gt;.</p> <p><b>National Institute on Deafness and Other Communication Disorders, USA / National Institute on Aging, USA: Research Grants - Olfactory Neurogenesis:</b> Internal closing dates: 15 May &amp; 15 September 2000. Web site: &lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PA-95-090.html">http://www.grants.nih.gov/grants/guide/pa-files/PA-95-090.html</a>&gt;.</p> <p><b>National Institute on Drug Abuse, USA - Research Grants on the Origins and Pathways to Drug Abuse:</b> Internal closing dates: 15 May &amp; 15 September 2000. Web site: &lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PAR-99-168.html">http://www.grants.nih.gov/grants/guide/pa-files/PAR-99-168.html</a>&gt;.</p> <p><b>National Heart, Lung and Blood Institute, USA - Cellular and Molecular Mechanisms of Primary Pulmonary Hypertension:</b> Internal closing dates: 18 May &amp; 15 September 2000. Web site: &lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PA-00-043.html">http://www.grants.nih.gov/grants/guide/pa-files/PA-00-043.html</a>&gt;.</p> <p><b>National Institute of Child Health &amp; Human Development, USA - Vulvodynia - Systematic Epidemiologic or Therapeutic Studies:</b> Internal closing dates: 18 May &amp; 15 September 2000. Web site: &lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PA-98-112.html">http://www.grants.nih.gov/grants/guide/pa-files/PA-98-112.html</a>&gt;.</p> <p><b>National Institute of Dental and Craniofacial Research, USA - International Collaborative Oral Health Research Planning Grant:</b> Internal closing dates: 18 May &amp; 15 September 2000. Web site: &lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PR-00-012.html">http://www.grants.nih.gov/grants/guide/pa-files/PR-00-012.html</a>&gt;.</p> <p><b>National Institute of Diabetes and Digestive and Kidney Diseases, USA - The Role of Endothelial Dysfunction in Diabetic Complications:</b> Internal closing dates: 18 May &amp; 16 September 2000. Web site: &lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PA-00-026.html">http://www.grants.nih.gov/grants/guide/pa-files/PA-00-026.html</a>&gt;.</p> <p><b>National Institute on Aging, USA / National Institute of Arthritis and Musculoskeletal and Skin Diseases, USA / National Institute of Diabetes and Digestive and Kidney Diseases, USA - Skeletal Muscle Perfusion, Aging and Cardiovascular Disease:</b> Internal closing dates: 18 May, 15 September 2000 &amp; 17 January 2001. Web site: &lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PA-00-056.html">http://www.grants.nih.gov/grants/guide/pa-files/PA-00-056.html</a>&gt;.</p> <p><b>National Institute on Drug Abuse, USA - Neurobiological &amp; Behavioural Research on Nicotine and Tobacco Components:</b> Internal closing dates: 18 May &amp; 15 September 2000. Web site:</p>	<p>&lt;<a href="http://www.grants.nih.gov/grants/guide/pa-files/PA-00-045.html">http://www.grants.nih.gov/grants/guide/pa-files/PA-00-045.html</a>&gt;.</p> <p><b>British Academy/Association of Commonwealth Universities - Grants for Collaboration:</b> Internal closing date: 19 May 2000. Web site: &lt;<a href="http://www.acu.ac.uk">http://www.acu.ac.uk</a>&gt;.</p> <p><b>National Health and Medical Research Council - Radiofrequency (RF) Electromagnetic Energy (EME) Research - Call for Expressions of Interest:</b> Internal closing date: 19 May 2000. Web site: &lt;<a href="http://www.nhmrc.health.gov.au/research/srdc/eme-ad/htm">http://www.nhmrc.health.gov.au/research/srdc/eme-ad/htm</a>&gt;.</p> <p><b>MS Australia - Grants and Postdoctoral Fellowships for 2000:</b> Internal Closing dates: 19 May 2000 (Project Grants and Fellowships). 24 August 2000 (Seeding Grants &amp; Ethics Approval). Web site: &lt;<a href="http://www.mssociety.com.au">http://www.mssociety.com.au</a>&gt;.</p> <p><b>Heart Foundation - Fellowships</b></p> <ul style="list-style-type: none"><li>• <b>Career Research Fellowship</b></li><li>• <b>Overseas &amp; Clinical Research Fellowship</b></li><li>• <b>Postdoctoral Research Fellowship</b></li><li>• <b>Senior Research Fellowship in Nutrition</b></li><li>• <b>The Warren McDonald International Fellowship</b> Internal closing date: 24 May 2000. Web: &lt;<a href="http://www.heartfoundation.com.au">http://www.heartfoundation.com.au</a>&gt;.</li></ul> <p><b>Australian Football League - Research and Development Grants:</b> Internal closing date: 25 May 2000</p> <p><b>Australian Spinal Research Foundation - Research Grants Concerning Chiropractic:</b> Internal closing date: 24 May 2000</p> <p><b>Japan Foundation - Grants:</b> Internal closing date: 25 May 2000. Web site: &lt;<a href="http://www.ozemail.com.au/~jcclib">http://www.ozemail.com.au/~jcclib</a>&gt;.</p> <p><b>Department of Energy, Office of Science, USA - Energy Biosciences Grants:</b> Internal closing date: 29 May 2000 (Formal Applications). Web site: &lt;<a href="http://www.sc.doe.gov/production/grants/grants.html">http://www.sc.doe.gov/production/grants/grants.html</a>&gt;.</p> <p><b>The Charles A. and Anne Morrow Lindbergh Foundation - Grants:</b> Internal closing date: 6 June 2000. Web site: &lt;<a href="http://www.lindberghfoundation.org/grantsummary.html">http://www.lindberghfoundation.org/grantsummary.html</a>&gt;.</p> <p><b>National Heritage Trust - Coastcare Funding for Environmental Projects:</b> Internal closing date: 9 June 2000. Web site: &lt;<a href="http://www.environment.gov.au/marine/coastcare/guide.html">http://www.environment.gov.au/marine/coastcare/guide.html</a>&gt;.</p> <p><b>Pig Research and Development Corporation (PRDC)</b></p> <ul style="list-style-type: none"><li>• <b>Training and Development Awards</b> Internal closing dates: 21 June &amp; 22 September 2000</li><li>• <b>Travel/Conference and Distinguished Visitor Awards</b> Internal closing dates: 21 June &amp; 22 September 2000</li><li>• <b>Partnership Projects, Industry Placement Awards, &amp; Regional and Special Projects</b> Internal closing date: Applications may be submitted at any time. Web site: <a href="http://www.dpie.gov.au/prdc">http://www.dpie.gov.au/prdc</a></li></ul> <p><b>Australian Academy of the Humanities: Travelling Fellowships:</b> Internal closing date: 23 June 2000</p> <p><b>Australian Academy of the Humanities/Royal Academy of Letter, History and Antiquities - Overseas Program - Sweden:</b> Internal closing date: 23 June 2000. Web site: &lt;<a href="http://www.asap.unimelb.edu.au/aah">http://www.asap.unimelb.edu.au/aah</a>&gt;.</p> <p><b>Australian Kidney Foundation - Medical Research Project Grants, Medical Research Equipment Grants, Medical Research Seeding Grants:</b> Internal closing date: 23 June 2000. Web site: &lt;<a href="http://www.kidney.org">http://www.kidney.org</a>&gt;.</p>	<p><b>Scholarships</b></p> <p>Unless otherwise indicated, information and application forms are available from the Student Centre, Level 4, Wills Building. Please lodge all applications with the Student Centre unless otherwise stated.</p> <p><b>Apex Foundation for Research into Intellectual Disabilities Ltd Undergraduate Studentships:</b> Open to undergraduates preparing a thesis as part of their studies. The thesis must be related to intellectual disability. Value: \$1000. Details available on request. Closing: 31 May 2000 (Vic)</p> <p><b>British Federation of University Women:</b>A booklet providing details of awards provided by the Federation is available on request to the Student Centre.</p> <p><b>Hebrew University of Jerusalem: Graduate Fellowships 2000-2001:</b> Tenable at Rothberg International School and available to any candidate for an MA or the full-year Graduate Programme. However, priority will be given to those candidates applying for an MA, these will be eligible for a two-year fellowship of \$US15,000pa. Applicants must have completed their undergraduate degree and have a minimum distinction average. Undergraduate Merit Scholarships: Value: \$US10,000. Applicants must have completed at least three semesters of university study, have a minimum distinction average and must enrol at the Rothberg International School for a full academic year. Details from Gillian Suss (03) 9272 5511 or &lt;<a href="mailto:vfhuvic@netspace.net.au">vfhuvic@netspace.net.au</a>&gt;. Closing: 15 May (Vic)</p> <p><b>Memorial Fellowship in Honour of WW2 Spitfire Squadrons:</b> Dedicated to the memory of those whose efforts during WW2 centred on the Spitfire, considered the war's greatest fighter plane. Tenable at the University of New South Wales, or the Australian Defence Force Academy in Canberra. This fellowship will be awarded to support a postgraduate program of study or research into improving Australia's national defence. Details Christine Draper, ADFA, (02) 6268 8701; Mr Edward Sly (02) 9972 9360; Phil Grose UNSW, (02) 9385 2783 Closing: 19 May (NSW)</p> <p><b>National Heart Foundation Postgraduate Research Scholarships 2000 (Medical and Non-medical):</b> Open to Australian citizens or permanent residents for full-time postgraduate research studies leading to a PhD at an Australian university. Research should be concerned with cardiovascular function, disease or related problems. Closing: 26 May (Medical)/25 October (non-medical) (Student Centre)</p> <p><b>Taiwan Economic and Cultural Office - Scholarship for Mandarin Chinese Training:</b> Open to Australian citizens wishing to further their studies in Mandarin and/or carry out research in Taiwan between September 2000 and August 2001 for one year. Value: tuition fees and NT \$15000 per month. Students will need to pay their own airfare, lodging/accommodation fees, food, health insurance, and other expenses during their stay. Application forms available from Taipei Economic and Cultural Office, tel: (03) 9650 8611. Closing: 25 May (Melbourne)</p> <p><b>Turkish Government Scholarships 2000/2001:</b> Language and Culture Summer Courses: value: 51 million Turkish lira. Tenable for two months commencing 1 July 2000. Applicants must be graduate students and in good health. Closing: 10 May 2000. Higher Education Scholarship: Open to Year 12 graduates who wish to study or are currently studying at universities in Turkey. Value: 47.5 million Turkish lira per month. Closing: 10 July 2000.</p>
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