

# UOW Campus news

Issue Two 2001

University of Wollongong



50th Anniversary Festival/Dinner pictures on pages 6 and 7

## Wollongong racing team sets its sights on victory

A team of University of Wollongong engineering students are fine-tuning their much-talked about Steel City Racer in the lead up to its race debut in December, following its official unveiling last month. Designed by 32 final year students, the vehicle will contest the 2001 Australian Formula SAE competition against 13 Australian and three overseas universities at Lang Lang, Victoria, in December. With acceleration of 0-100km/h 3.8 seconds, the car is two seconds quicker than hot Commodores and Falcons, and will outrun all but a handful of exotic cars in the initial sprint.

The car was officially launched by the Dean of the Faculty of Engineering, Professor Brendon Parker, UOW Racing team manager Derek Powell, and BHP Coated Steel Australia president Col Weatherstone in Wollongong Mall.

The team has worked since January to design, develop and build its racer, with backing from the University and sponsorship from several Illawarra

companies, with BHP Steel as its major sponsor. Team manager Derek Powell said the team had been plotting success since attending the inaugural Australian competition last year. "We have every intention of taking victory," Mr Powell said. "We have a great uni behind us - the engineering faculty has some awesomely talented people," he said. Mr Powell thanked the sponsors who he said played a vital role, contributing in both cash and kind, and in many cases providing crucial expertise.

BHP Coated Steel Australia president Col Weatherstone congratulated the team and wished them competition success on behalf of the sponsors.



*Pictured, clockwise from top left, at the Sydney Motor Show are Kyle Wilson, Andrew Van Kooten, Dalibor Nikodijevic, Chris Blyton, Clinton Wilson and Derek Powell.*

## Intelligent polymers to assist the hearing-impaired



The University of Wollongong's Intelligent Polymer Research Institute (IPRI) has become a collaborative partner with the Co-operative Research Centre for Cochlear Implant and Hearing Aid Innovation.

The CRC's mission is to improve communication for the millions of adults and children with hearing loss in Australia and world-wide.

The CRC brings together four core and 14 support parties to conduct innovative interdisciplinary research leading to new hearing technology devices and clinical procedures.

"What we'll be bringing to the CRC are our specially-developed intelligent polymers which will have a direct benefit in improved devices for people with hearing impairment", according to IPRI Director Professor Gordon Wallace.

*Left: Dezhi Zhon, Lu Lui and Professor Gordon Wallace*

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# Intelligent polymers to assist the hearing-impaired

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"The use of intelligent polymers raises the potential for enhanced interfacing of cochlear implants with a hearing-impaired person's own neural system, greatly increasing communication benefits."

"IPRI's unique world-leading knowledge in polymer research will significantly strengthen the CRC's electrode development programs," according to CRC Director Dr Robert Cowan, in welcoming IPRI.

He further noted that "advanced polymer coatings may improve the cochlear implant's mechanical properties and allow sensory feedback to assist surgeons with optimum placement of devices during the implant process."

New devices incorporating IPRI's advanced polymer materials will be developed and trialled within the CRC, leading directly to commercial application by the CRC's corporate partners in a short two-year timeframe.

## ADHD study suggests 'naughtiness' is not to blame



*Dr Adam Clarke (left) and Professor Robert Barry.*

**Diagnostic techniques and subsequent treatment for Attention Deficit Hyper-Activity Disorder (ADHD) might soon be more accurate, thanks to a groundbreaking University of Wollongong study.**

The study, by Psychology Professor Robert Barry and Dr Adam Clarke, from the Brain and Behaviour Research Institute and Department of Psychology, suggests independent, non-invasive tools such as electroencephalography (EEG) would enable more accurate diagnosis and appropriate treatment. Strong psycho-active drugs like Ritalin and Dexamphetamine are commonly used to treat ADHD, however Dr Adam Clarke, the study's senior researcher, said not everyone with ADHD responded to medication. Also, the study found three main types of brain dysfunction in the most common form of ADHD, which needed different treatment. The determination of these three sub-groups could have serious implications on how the disorder was assessed in the future, Dr Clarke said. "Generally, we are just treating the behaviour when we should be concentrating on brain function," Dr Clarke said.

Professor Barry said it was worrying that doctors have had to rely on subjective reports of a child's behaviour, mostly from parents or school teachers. "From our perspective, ADHD is a neuro-physiological disorder where there is some level of malfunction of brain activity – it's not just naughtiness or bad behaviour," Professor Barry said. "We would like to see a more objective approach to confirming diagnosis, to make sure we are not putting the wrong kids on such powerful medication," he said.

Study researchers recorded the electrical activity of the brains of children with ADHD and a control group without the condition. By combining previously collected data from a study of 378 children with data from the 220 children who took part in the study, this was one of the largest studies of ADHD using EEG technology. The study will be published in the *Clinical Neurophysiology* journal.

## Centre aims for improved cancer treatment

**Improved diagnostic procedures and radiation treatment for cancer are the aim of the University of Wollongong's newly established Centre for Medical Radiation Physics.**

Vice-Chancellor, Professor Gerard Sutton, officially launched the centre and presented certificates of recognition to industry partners in September.

The elite centre offers one of the few academic programs for medical physicists at undergraduate and postgraduate levels (including PhD) in Australia. The centre has strong international links with key institutions in the United States, Europe and Asia.

Centre director, Professor Anatoly Rosenfeld, said state-of-the-art instrumentation was used in research and development for use in nuclear medicine, radiation dosimetry and other health-related areas.

The centre has already been involved in the development of a new generation surgical probe that finds and labels lymphatic cancer cells and helps limit the spread of cancer cells.

The probe ensures only cancerous lymph nodes are removed, reducing the need to remove surrounding tissue.

Industry partners are ANSTO, the Australian Institute of Nuclear Science and Engineering, Gammasonics Institute for Medical Research, GE Medical Systems, Hitachi Australia Ltd, Insight Oceania Pty Ltd Australia, Illawarra Cancer Care Centre (Wollongong Hospital), Department of Nuclear Medicine (Royal Prince Alfred Hospital), Radiation Oncology (Royal Prince Alfred Hospital), Radio-Therapy Division (St George Cancer Care Centre of St George Hospital) and the Department of Nuclear Medicine, St George Hospital.



*At the launch of the Medical Radiation Physics Centre are (from left): John Von Voorst, GE Medical Systems; Andrew Nunemaker, GE Medical Systems' Managing Director (Australia and New Zealand); Associate Professor Bill Zealey, Physics, UOW; and Centre Director, Professor Anatoly Rosenfeld.*



# University wins employer of choice for women award

The University of Wollongong has been judged one of Australia's best workplaces for women by the federal Equal Opportunity for Women in the Workplace Agency (EOWA). The Agency gave the University the Employer of Choice for Women award and selected it as a finalist in the Women's Employer of the Year award.

UOW was the only NSW employer finalist, in either the public or private sector, in the recent EOWA award for a leading organisation for the advancement of women in the category of 500 or more employees. It was also the only university in the country to reach this stage.

Director of Equal Employment Opportunity at UOW Christine Hayward said it was an honour to be named one of the top five organisations in the country along with such companies as IBM and Southcorp Wines.

Ms Hayward said the EEO team at the University was productive, cooperative and quality focused with the

deans, senior management and the unions all having input into improving the situation of women employees.

One of the University's standout factors was its rates of promotion among female academics, according to Ms Hayward. The judging panel for the awards comprised Associate Professor Graeme Russell, an expert on work and family strategies at Macquarie University, Professor Amanda Sinclair, foundation chair of management at the Melbourne Business School and Margot Cairnes, recently named one of the world's outstanding intellectuals of the 21st Century. UOW's Pro Vice-Chancellor (Operations), Professor John Patterson, accepted the award from Federal Employment Minister, Mr Tony Abbott at the ceremony held at Darling Harbour on October 10.



*Pictured at the EOWA awards presentation are, from left, director of EOWA, Fiona Krautil, UOW director of EEO, Christine Hayward and the University's Pro Vice-Chancellor (Operations) Professor John Patterson.*

## Wollongong ahead of national percentage success rate for 2002 ARC grants

**Researchers at the University of Wollongong topped the national percentage success rate following the allocation of Australian Research Council (ARC) Discovery-Projects.**

The national success rate was 23.2 per cent for Discovery-Projects (previously known as Large Grants) and researchers at UOW scored 25 per cent.

Seventeen individuals received funding for 2002 – a total of \$1.6 million to UOW for new grants in 2002, with a total of \$6.6 million over five years.

UOW was also awarded three Australian Postdoctoral Fellowships, one Australian Research Fellowship and two Australian Professorial Fellowships.

"Overall, it has been an outstanding result for Wollongong," the Pro Vice-Chancellor (Research), Professor Chris Brink said.

The national success rate for both Linkage Projects and Australian Postgraduate Awards – Industry (APAI) applications was 50.8 per cent. UOW researchers topped this at 57.6 per cent.

Nineteen individuals received funding for 2002 – a total of \$1 million and \$2.8 million over a three-year period.

UOW was awarded 20 APAI places to begin in 2002.

In the Linkage Infrastructure grants (previously known as RIEF grants), the national success rate was 47.3 per cent and UOW topped this at 50 per cent, with three applications successful to a total value of \$549,000. All three applications were awarded the total funding requested. An additional four of the joint applications UOW submitted with collaborators were also successful.

In the Linkage-International Fellowships and Awards (previously IREX), one international fellowship was awarded and two individuals received international award funding.

### ISEM's outstanding achievement

The Institute for Superconducting and Electronic Materials (ISEM) has again performed exceptionally well.

In the overall ARC funding for 2002, ISEM had nine various ARC grants successful, totalling \$2.236 million.

ISEM has two ARC Discovery Projects, two ARC Fellowships, four Linkage Projects, two ARC International Linkage Projects and one International Fellowship. [See also ISEM's Systemic Infrastructure Initiative success].

### NH&MRC grant successes

The NH&MRC has announced the 2002 Project Grants and Research Fellowship Grants in which University of Wollongong researchers have succeeded well.

The NH&MRC allocated \$143 million nationally in total to new project grants and \$45.5 million to new Fellowship grants starting in 2002. UOW researchers were awarded four Project Grants and one Research Fellowship, a total of \$540,000 to UOW for new grants in 2002, with a total of \$1.6 million over the next five years. UOW researchers have also been successful on several collaborative applications with other institutions.

### Systemic Infrastructure Initiative

The Department of Education, Training and Youth Affairs (DETYA) has recently announced the outcomes of their Systemic Infrastructure Initiative.

This has the objective of providing funding for innovative approaches that link or expand access to shared facilities or high priority investments that will bring sector-wide strategic benefits.

The University of Wollongong submitted two applications and received funding for one - Professor Shie Xue Dou's of ISEM's proposal to establish a Nanofabrication for Processing of Novel

Multiplayer Materials facility. This initiative is to receive \$440,000 in 2002, \$550,000 in 2003 and \$487,500 in 2004. innovative approaches that link or expand access to shared facilities or high priority investments that will bring sector-wide strategic benefits.

## AMEP's growth continues

**Wollongong University College's Adult Migrant English Program (AMEP) continues to go from strength to strength.**

More than 700 clients have successfully participated in AMEP over the past three years, with 120 clients currently involved. The internationally acclaimed program was developed in Australia and is specifically tailored to meet the needs of immigrants.

The program includes community outreach programs in other parts of the city, with graduating clients finding employment or progressing to further study at university or TAFE. A new Department of Immigration-funded citizenship program was trialled during October and allowed AMEP students to meet some citizenship requirements within the context of an English language course.

More than 20 students expressed interest in enrolling in the Wollongong University College Adult Migrant Education Program (AMEP) 20 hour citizenship course, held at the University mid-October.

The program's new co-ordinator, Heather Thomas, has 20 years of experience in community organisations.

# ITC's major role in East Timor's rebuilding



*Program Manager for the Australian Government's Interim Capacity Building Program for East Timor (CAPET), Sara Webb.*

University of Wollongong company, ITC, has been playing an important developmental role in East Timor since May 2000, under contract to the Australian Government's aid agency, AusAID.

Program Manager for the Australian Government's Interim Capacity Building Program for East Timor (CAPET), Sara Webb, said ITC is playing a role in water supply, governance, agriculture, education, health, gender and more.

Ms Webb has worked on the project both here and in East Timor since ITC signed its contract with AusAID in May 2000. She recalls her longest stay, from July to November of last year, was an eye opener in many ways. "Flying into Dili was extraordinary. Nearly every building was

destroyed. But I was surprised to see that, beyond the images of destruction on TV, East Timor is a beautiful country," Ms Webb said.

The objective of CAPET is to build the capacity of the East Timorese for self government next year. It is providing everything from taxation experts to carpentry trainers to help with school furniture production; training for the members and staff of the interim parliament to assistance to build a Geographic Information System for agricultural planning.

The current contract expires in January 2002. Sara hopes ITC has a good chance of winning another contract because of its current involvement and on going commitment to East Timor.

## High Court Judge presents 22nd Kirby Lecture

High Court judge, Justice Michael Kirby, presented the 22nd Sir Richard Kirby Lecture on 16 October at the University of Wollongong.

The title of the public lecture, held in the Hope Theatre, was "A Century of Industrial Relations and of Sir Richard Kirby".

The Kirby Lectures, first delivered in 1979 by Sir Richard Kirby, are sponsored by the Department of Economics. Past lecturers have included Simon Crean, Bill Kelty, John Hewson, Bob Hawke, Jennie George and Meg Lees.

Sir Richard, who was awarded an Honorary Doctor of Letters from the University of Wollongong in 1984, has had a long association in the industrial relations sphere including his position as Chief Judge with the Commonwealth Court of Conciliation and Arbitration from 1956 to 1973.

Sir Richard died not long after the address by Michael Kirby. He was a tireless supporter of the University from its inception and a Foundation member of the University Council, awarded a DLitt in 1984. A memorial service for Sir Richard was held at the University.



*Justice Michael Kirby, Professor Rob Castle, Associate Professor Di Kelly and Professor Simon Ville pictured at the 22nd Sir Richard Kirby Lecture.*

## Educator wins major United States-based award

Former teacher, Brian Cambourne, has become the first non-American to be awarded the 2001 Outstanding Educator in the English Language Arts by the United States-based National Council of Teachers of English (NCTE).

Associate Professor Cambourne, of the UOW's Faculty of Education, was awarded the honour for his lifetime work with children's learning capabilities.

He received his award at the NCTE Annual Convention on November 15 in Baltimore, Maryland. The NCTE is the largest professional organisation for English teachers, kindergarten to university level, in the United States.

Professor Cambourne has published extensively about how children learn, particularly how they learn to control oral and written language.

Award recipients boast a dramatic impact on classroom practice, make ongoing contributions to the field of language arts and obtain national and/or international influence.

## Wollongong again tops key student rankings

The University of Wollongong was recently recognised as Australia's most successful university for the second year running for its overall educational experience for students and employment outcomes.

The Good Universities Guide to Universities, TAFE's and Private Colleges for 2002 uses star ratings (maximum of five stars per category) to rate Australia's universities and is regarded nationally and internationally as a truly independent analysis of university performance.

UOW scored the highest number of stars against all other universities (27 out

of a possible 30) for the key areas of educational experience and graduate outcomes.

The area of educational experience included graduate rating, staff-student ratios and staff qualifications.

The area of graduate outcomes included getting a job, positive graduate outcomes and graduate starting salary.

University of Wollongong Vice-Chancellor, Professor Gerard Sutton, said it was extremely pleasing to see the University maintain its leading edge in the star rankings.



# \$1 million grants for Wollongong team's bid to find cause of cataract blindness

**A University of Wollongong research team has received a \$525,000 grant from the National Health and Medical Research Council towards age related cataract research.**

The grant, over five years, comes only days after the Director of the Australian Cataract Research Foundation at the University of Wollongong, Associate Professor Roger Truscott, was awarded a major grant from the National Institutes of Health (USA) to investigate the formation of human cataract.

The Aus\$460,000 grant, over 3 years, will enable researchers in his team to study the fundamental mechanism that leads to clouding of the lens and is responsible for the majority of blindness in the world.

At present, the cause of cataract is not known.

"The award of the US grant recognises the pre-eminent world standing of the Wollongong team. Only a handful of grants are given to scientists outside of the USA," Professor Truscott said.

"These combined grants are an exceptional result for my group, and for the University as a whole.

"Our long-term goal is to find a drug treatment that will eliminate the need for surgery. At present this is the only treatment available for cataract, but surgery is traumatic for elderly patients and represents a large cost to the health system," he said.

## University wins 160 new government-funded university places



***Pictured from left are the Director of TAFE NSW Illawarra Institute, Mr Barry Peddle, Member for Gilmore, Ms Joanna Gash and Vice-Chancellor of the University of Wollongong, Professor Gerard Sutton***

**One hundred and sixty federally-funded university places will lead to the creation of an Education Access Centre in Moss Vale, offer maths and science training in Sydney's south, and cater for the demand in nursing training in Bega.**

The University of Wollongong received 35 places for Moss Vale and 25 additional places for Bega, while funding for 100 places for Southern Sydney.

The first intake of students at Moss Vale is earmarked for 2002 and for 2003 in Bega and Southern Sydney. Vice-Chancellor, Professor Gerard Sutton, is particularly thrilled the funding will provide opportunities for rural communities. "Bega has a district hospital and this will allow the University to respond to community demand for nursing," Professor Sutton said. Professor Sutton and the Director of TAFE NSW Illawarra Institute, Mr Barry Peddle, jointly officially launched the Moss Vale Education Access Centre on 29 October.

Professor Truscott has instigated numerous international collaborations with top groups overseas. For example, this year a medical graduate from the University of Sydney, Dr Richard McNulty, learned about the research at Wollongong and was so impressed that he enrolled to do a PhD at the University of Wollongong. At present, he is working with a co-supervisor, Professor Steven Bassnett, at Washington University in St Louis.

One of the major achievements in cataract research in the past decade has come from Professor Truscott's team. As part of his PhD studies a student, Matthew Sweeney, demonstrated that a barrier to the movement of small molecules in the normal lens develops in middle age.

This barrier allows oxidation of proteins in the centre of the lens and thus cataract. This finding, together with another innovation from the Wollongong team that showed the important role of UV filters in the lens, has spawned a whole new area of eye research. "We clearly need to understand the impact of ageing on the normal human lens in order to chart the detailed mechanism of cataract that develops subsequently. Once we understand these ageing changes, we can hopefully develop strategies to prevent them," he said.

Some of this exciting research has been performed in collaboration with other scientists Professor Margaret Sheil, Associate Professor John Carver and Associate Professor Mark Walker (all from UOW) and Dr Joanne Jamie (formerly of UOW and now at Macquarie).

"Without access to sophisticated analytical instrumentation at UOW, that was purchased as a result of grants to these collaborators, the world-class research that led to the award of these grants would not have been possible," Professor Truscott said.

"I must also thank the many exceptional PhD students and postdoctoral fellows in my group who really do the work! These grants are a recognition of their quality and dedication."

The centre will operate on the site of the current Illawarra Institute of Technology (TAFE) in Kirkham Street, Moss Vale. Programs to be initially offered at Moss Vale will be bachelor degree programs in Arts, Business Administration and Commerce. Programs in Information Technology will begin in 2003.

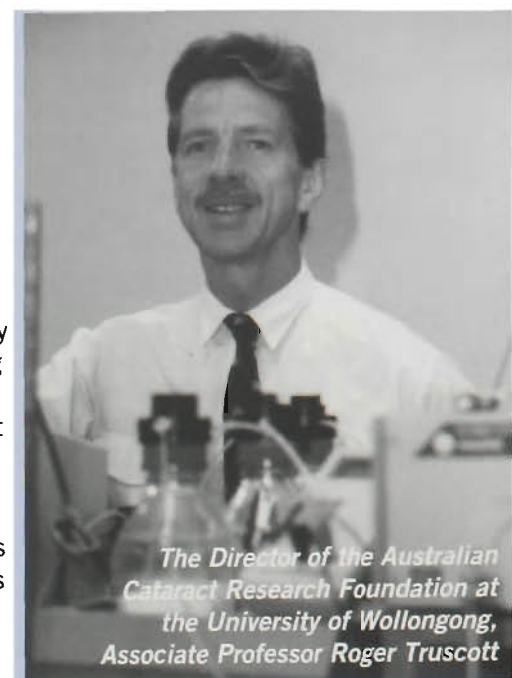
About \$2 million has been allocated from the Federal Government to allow for future building development on the site to meet expected student growth needs. Technology works are now being undertaken to allow the current TAFE site to cope with operating as a 24-hour access centre for students requiring to use computer facilities and for such activities as teleconferencing.

The Federal Member for Gillmore, Ms Joanna Gash, was among the official party at the opening.

UOW plans to start an innovative new program in Southern Sydney, focused on secondary teaching in the areas of mathematics, science and IT - both are recognised as areas of national shortage in the education system.

The University had sought funding for places at Moss Vale, Batemans Bay and Bega under a regional allocation fund. Funding for its Sydney enterprise was through the federal government's Innovation Action Plan, Backing Australia's Ability.

Professor Sutton said the additional growth places would provide flexibility, allowing the University to meet any additional demand at its Batemans Bay Education Access Centre.





# Celebrating 50 years of excellence in education

## Community Festival

The University of Wollongong opened its gates to the community to celebrate 50 years of educational excellence in the Illawarra during the Community Festival held on Sunday 14 October. Several thousand people attended the festival held on campus and were entertained by local bands and entertainers, young circus performers, mock medieval jousts, roaming minstrels, clowns and fairies. Market stalls, displays, campus tours, library tours and demonstrations ensured an enjoyable day for all.



*Left: The Cook Island Dancers put on a spectacular display of music and dance*

*Below: The Medieval Society*



*Above: Students from International House set up a mini residence at the Community Festival*

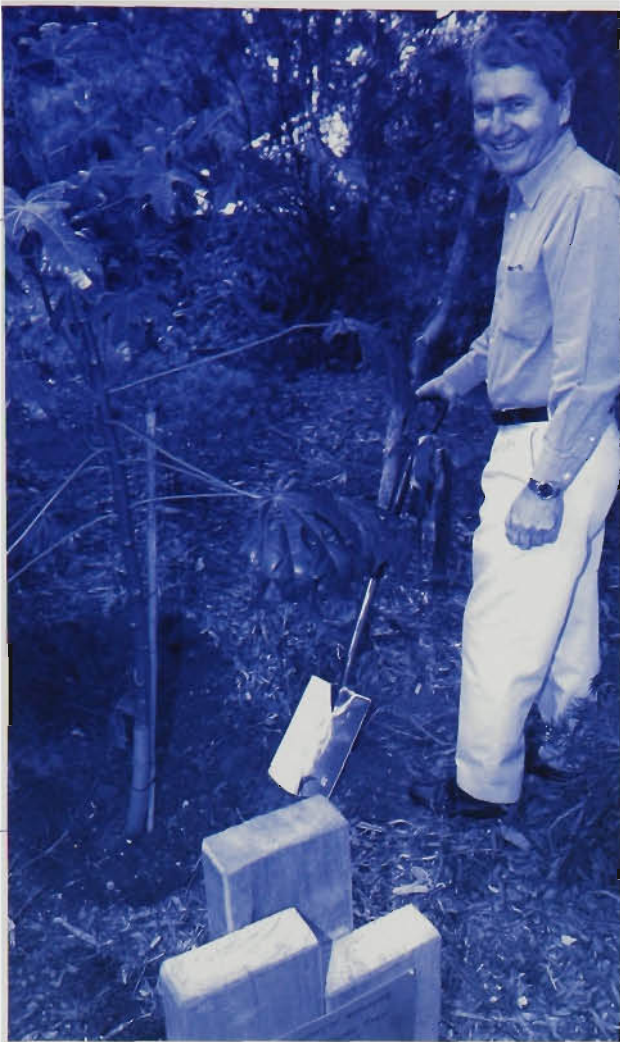


*Above: Clowns and face painters kept the children happy at the Community Festival*

*Right: The NSW Police Band played a mix of traditional and contemporary big band music*







*Above: Professor Gerard Sutton, UOW Vice-Chancellor planted an Illawarra Flame Tree in the garden near Creative Arts during an official ceremony to commemorate the occasion*

*Right: Third-year Engineering students showed off their race car, the "Steel City Racer", which had just returned from being displayed at the Sydney Motor Show*



*Below: Free Flow played in the UniBar*



## University Annual Dinner

The UniCentre Annual Dinner was held on Saturday 13 October in the University Hall. More than 300 people attended the formal anniversary dinner at which Australian Medical Association president Dr Kerry Phelps was guest speaker.

*ty stirred up some fun with their mock battles*



*Above: Theatre students from the University's Faculty of Creative Arts performed their play "Birth of a Nation"*



*Guest speaker, Dr Kerry Phelps*



*UniCentre General Manager Chris Patton and Pro Vice-Chancellor (Operations) Professor John Patterson cut the University cake before toasting the University on achieving 50 years of educational excellence in the Illawarra*



# World record high in superconductor quest

**Researchers at the Institute for Superconducting and Electronic Materials (ISEM), University of Wollongong, have achieved a world record in the ultimate quest for materials (superconductors) that have no resistance to the flow of electricity.**

Superconductors have generated great interest for many applications including loss-free electric transmission cables, motors, generators, transformers, energy storages, levitation trains and ultra-fast computers.

UOW researchers have made a breakthrough in the fabrication of wires from the newly-discovered superconductor magnesium diboride (MgB<sub>2</sub>).

They have achieved a world record high critical current density in iron-clad MgB<sub>2</sub> wires.

Superconductors are materials that lose their resistance to electrical current flow below a certain critical temperature (T<sub>c</sub>) and a certain critical current density (J<sub>c</sub>).

Many materials become superconducting when they are cooled to near absolute zero temperature (-273°C).

However, in the past 15 years there have been several discoveries of new so-called 'high temperature superconductors (HTS)' that can be made superconducting by immersing in liquid nitrogen with a temperature of -196°C. Liquid nitrogen is readily available and used in many medical, industrial and scientific areas. Another key aspect of superconductors is the amount of electrical current they can transmit - above a certain limit (the critical current density) the superconductivity effect disappears.

Until now, the critical current density has been relatively low, limiting many potential applications.

Many superconductors are useless in practice because the critical current density is too low, meaning the superconductivity fails as soon as a technologically useful current is passed through them.

Director of Wollongong's ISEM, Professor Shi Xue Dou, said superconductors had the potential to create a multi-billion dollar market in the areas of electric utilities, medical instrumentation and transport industries.

The Wollongong team that has achieved this world superconductor record comprises Professor Dou, Dr Xiaolin Wang and PhD student, Mr Saied Soltanian.

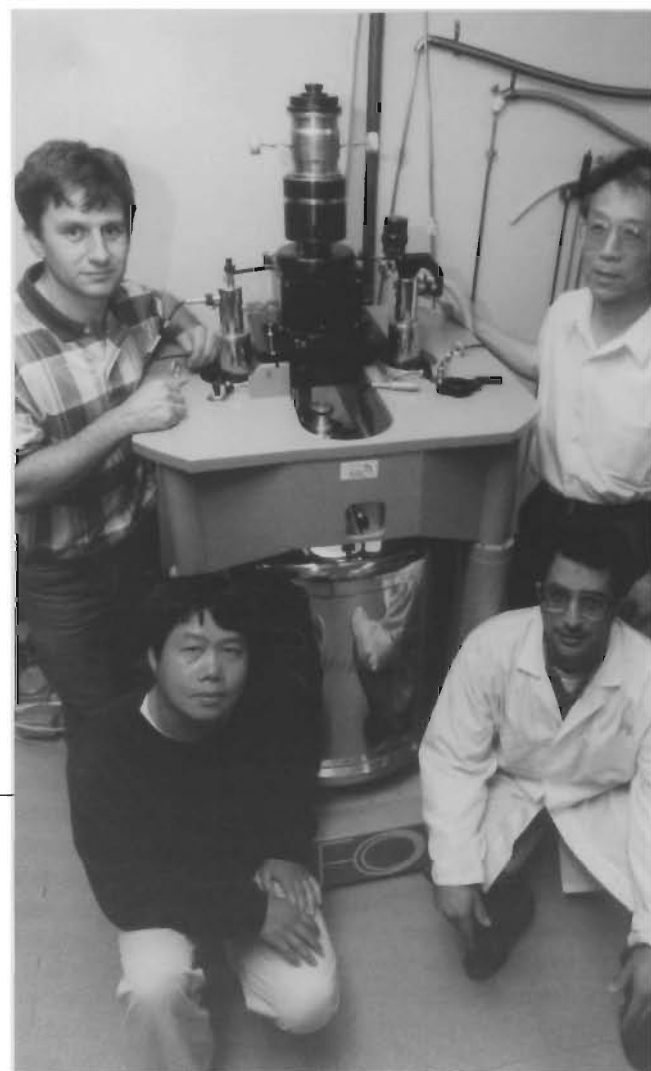
Dr Ivica Kusevic and Professor Emil Babic at the University of Zagreb, Croatia, have verified the results.

ISEM is one of the leading research institutions in superconductivity research, with 14 years experience in the processing and characterisation of superconductors. "We are in an excellent position to compete internationally at the forefront of this race," Professor Dou said.

## Mental health developments under the microscope

**The Illawarra Institute for Mental Health's 2nd Annual Conference was held on 23 November in affiliation with the Australian and New Zealand College of Mental Health Nurses Incorporated (Illawarra Sub Branch), Illawarra Area Health Service, and the University of Wollongong.**

More than 30 presentations on collaborative service delivery, partnerships to promote evidence-based practice and quality outcomes in mental health and drug and alcohol, will take place. Keynote presenters include Professor Harvey



***Pictured (clockwise from front left): Dr Xiaolin Wang, Dr Josip Horvat, Professor Shi Xue Dou and PhD student, Saied Soltanian***

Whiteford, University of Queensland and Dr Debra Rickwood, University of Canberra.

A pre-conference workshop was held on 22 November. The guest speaker was Professor Kevin Gournay, CBE, Deputy Head of Health Services at the Institute of Psychiatry, Maudsley Hospital, London. Professor Gournay has published extensively in the area of schizophrenia.

## Tilting weir at Berry a national first



***Professor Buddhima Indraratna, of Civil and Environmental Engineering at UOW.***

**University of Wollongong engineers have successfully constructed Australia's first tilting weir, which is hoped will combat the environmental problem of acid sulphate soils.**

The tilting weir is located in one of the largest flood mitigation drains on a Berry farm site (near Nowra) in the Broughton Creek area on the NSW south coast – an area described by Premier Bob Carr as one of the state's seven acid sulphate soils "hot spots".

Research team leader, Professor Buddhima Indraratna, of Civil and Environmental Engineering, said the tilting mechanism ensured the weir was more sensitive to tidal flows.

Acid sulphate soils form when pyritic estuarine sediments in the sub-soil are exposed to air and oxidise, forming sulphuric acid.

A variety of soil minerals react to the acid and release free aluminium that is toxic to crops and marine life, causing widespread and expensive devastation.

A tilted weir ensures the water table remains high enough to cover the acid sulphate soil so it does not

dry out and become exposed to the atmosphere. Farmers who install weirs will save on costly alternatives.

The research team's work has been recognised by government authorities and farmers.

Significant federal funding for the project came via the Heritage Trust's Coasts and Clean Seas competitive grant scheme, with further funding from Shoalhaven City Council, and state and federal government organisations including NSW Agriculture and NSW Fisheries.

The project was also supported by Shoalhaven River Watch.

The on-ground work, under the Coasts and Clean Seas project, was managed by Dr Anand Tularam, assisted by postgraduate students William Glamore and Marcus Morgan.

Professor Indraratna said the next challenge was to design infrastructure systems to be used in low-lying areas. The team was seeking further funding support, he said.



# Robert Hope scholarship launched

Aboriginal and Torres Straight Island students from Tranby College are eligible for a new University of Wollongong scholarship that pays HECS and provides an annual book allowance of \$2000 for the duration of the degree, subject to satisfactory academic progress.

The scholarship was named in honour of UOW's foundation Chancellor, the late Justice Robert Hope, the longest serving university Chancellor in Australian history.

The scholarship was proposed by Member for Wollongong and Parliamentary Secretary for Aboriginal Affairs and the Illawarra, Colin Markham, and recognises Justice Hope's links to Tranby College and his commitment to indigenous advancement.

Justice Hope's wife, June Hope, executive director of Tranby College Jack Beatson, representative of Wodi Wodi Elder's Corporation Rita Timbery-Bennett, and Colin Markham attended the launch.

Justice Hope served at the University for a record 22 years and was regarded as one of its greatest assets.

He was made a Companion of the Order of St Michael and St George in 1977 and admitted to the select company of Companions of the Order of Australia in 1989.

He was admitted to the honorary degree of Doctor of Laws in 1991 before his retirement as Chancellor of the University of Wollongong in 1997.

Justice Hope died on 12 October 1999.



*Pictured at the launch of the Robert Hope Scholarship are Professor Gerard Sutton, Vice-Chancellor University of Wollongong, Mrs June Hope, Miss Sarah Neish and Mrs Elizabeth Hope.*

## Internationally acclaimed composer joins Wollongong's ranks

**A composer of international standing, Andrew Schultz, has been appointed the Professor of Composition and Dean of Creative Arts at the University of Wollongong.**

The Vice-Chancellor of the University of Wollongong, Professor Gerard Sutton, said Professor Schultz's appointment was a clear example of the "brain drain" in reverse as Australia reclaimed one of its most outstanding composers. Currently the Head of Composition and Music Studies at London's Guildhall School of Music and Drama, Professor Schultz is the recipient of many awards and prizes including a Fulbright Scholarship, the National Opera Award, Arts Council Fellowships and the Australasian Performing Right Association Classical Composition of the Year.

His musical education has included study at the universities of Queensland and Pennsylvania and

at King's College London. Professor Schultz's music covers a broad range of chamber, orchestral, operatic and vocal works and has been broadcast widely by many leading groups and musicians. He has composed two operas – Black River (an investigation of Aboriginal deaths in custody and later released as a feature film) and Going Into Shadows (with a focus on international terrorism). Professor Schultz's sister, Julianne, was the librettist for Black River and Going Into Shadows. Professor Schultz is no stranger to the University of Wollongong where he previously held the post of Associate Dean and Director of a Research Centre. Professor Schultz will take up his appointment in January 2002. The former Dean of Creative Arts, Professor Sharon Bell, has been appointed UOW's Dean of Arts.

Meanwhile, other recent deanship appointments (who have taken up their posts) have been Professor Don Iverson to the Faculty of Health and Behavioural Sciences; Professor Barry Harper to Education; Professor Joan Cooper to Informatics; and Professor John Glynn to Commerce, as well as being the Dean of the Sydney Business School.



*The new Dean of Health and Behavioural Sciences, Professor Don Iverson.*

into a well-rounded institution with increasing strengths in the humanities, social sciences and commerce," Professor Sutton said.

The University bestowed upon this scientist the Honorary degree of Doctor of Letters in 1981 as a tribute to his breadth of learning and also to acknowledge him as a champion of the humanities in the University and a committed supporter of the arts in the community.

### Sir Richard Kirby

Sir Richard Kirby, an internationally recognised jurist who was a tireless supporter of the University from its inception, died on 25 October.

He was a Foundation member of the University Council, and was awarded a DLitt in 1984. The Sir Richard Kirby Lecture Series which began in 1979 has brought many nationally known persons to Wollongong. The 22nd Sir Richard Kirby Lecture was presented by Justice Michael Kirby (no relation) only a week before Sir Richard's death. A University memorial service was held for Sir Richard.

### Marie Lewis

The Senate Standing committee has approved the Marie Lewis award which is a prize of \$500 awarded in recognition of a member of the general staff of the University who is completing an undergraduate degree.

It is in honour of the late Marie Lewis who was a graduate of the University and who worked in Student Administration from 1983 to 1997.

She is remembered by staff and students for her commitment to student welfare and the provision of better services to students and academic staff.



*The new Professor of Composition and Dean of Creative Arts, Professor Andrew Schultz*

## Vale

### **Emeritus Professor (Lindsay) Michael Birt**

A celebration of the life of the first Vice-Chancellor of the University of Wollongong, Emeritus Professor (Lindsay) Michael Birt, was held at the University on 8 November. Professor Birt died on 28 October at the age of 69. UOW Vice-Chancellor, Professor Gerard Sutton, described Professor Birt as an outstanding scholar and researcher who gave the fledgling University of Wollongong a unifying structure and vision.

Professor Birt was appointed as the Vice-Chancellor designate at the then Wollongong University College in 1973 and was responsible for preparing the way for the establishment of the independent University of Wollongong on 1 January 1975.

Professor Sutton said Professor Birt came to an institution which still had a prevailing engineering and technology emphasis.

"When he left in 1981, the University had diversified



## Is emotional intelligence the key to success in life?

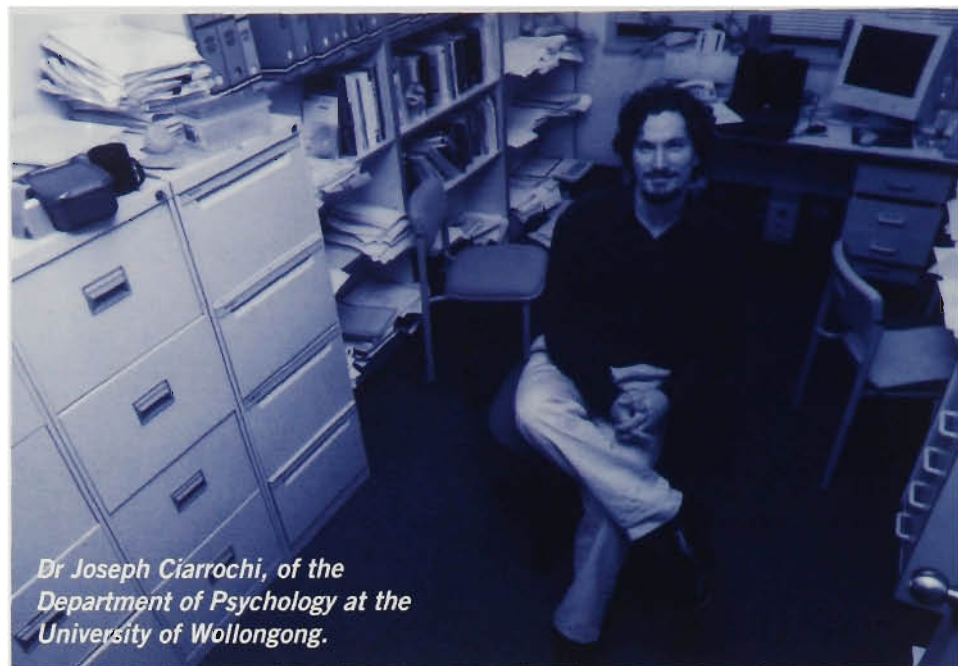
While people have shown they can produce great scientific advances and generally possess high levels of cognitive intelligence, many of us lack emotional intelligence – we simply don't know how to perceive, understand, express, or manage our emotions effectively.

There are adverse consequences to having low emotional intelligence. These include relationship problems, rage in the workplace, alcoholism, bad investment decisions, failure to advance in a career, and poor physical health.

This is one of the clear messages to emanate from a recently published book, *Emotional Intelligence In Everyday Life*, a major scientific inquiry compiled by an internationally renowned team of researchers.

One of the book's co-editors is Dr Joseph Ciarrochi, of the Department of Psychology at the University of Wollongong. He has been conducting cutting-edge research in how emotions influence thinking and behaviour, and how emotional intelligence can be measured. He has also been developing training programs that are designed to increase people's social and emotional intelligence.

"The book provides precisely what we need on the topic of emotional intelligence – a scientifically grounded yet widely applicable analysis of this important aspect of human functioning. It should be warmly welcomed by both scientists and practitioners in the fields of business, education, medicine and counselling," according to Professor Robert B. Cialdini, of Arizona State University.



*Dr Joseph Ciarrochi, of the Department of Psychology at the University of Wollongong.*

The book, already proving to be a top seller for its genre, is strongly based on scientific investigation and has been co-edited by Professor Joseph Forgas, Scientia Professor of Psychology at the University of New South Wales and Professor Jack Mayer, Professor of Psychology at the University of New Hampshire. It involves a range of other contributors in Australia and overseas including leading scientists from Yale, University of Texas, Rutgers University, and the University of Sydney.

## Getting back on track



Australia's over-dependence on road transport and an annual \$8 billion 'road deficit' are addressed in a new book titled *Back on Track; Rethinking Australian and New Zealand Land Transport*.

The book, co-written by University of Wollongong's Associate Professor Phillip Laird, Professor Newman, Murdoch University's Dr Kenworthy, and Dr Mark Bachels of Christchurch City Council, identifies a decade of 'policy paralysis' by the Australian federal government.

It also sets out a vision for the future, with a 10-point plan for Australian land transport, with a view to getting 'back on track'. Professor Laird said Australia was one of the most urbanised countries in the world and had the highest truck use per capita, while New Zealand's cities were also heavily car dependent.

"Far from being an old, obsolete form of transport, rail is critical to how a modern efficient city can work – this was demonstrated by the Sydney Olympics," Professor Laird said.

"There is also scope, with modest intercity track upgrades, for rail to be winning much more interstate freight," he said.

*Left: Associate Professor Phillip Laird*

## Writer's first novel short-listed as 'book of the year'

In an honour usually reserved for established writers, a University of Wollongong lecturer has had his first novel, *Flying in Silence*, shortlisted as The Melbourne Age's Book of the Year. For Associate Professor Gerry Turcotte, the book marks the end of a 10-year struggle with an intensely personal story – one that charts the life of a young boy trapped in a dysfunctional family with a father who can't speak English and a mother who can't speak French.

Set in Montreal, Canada, and in Australia, the French-Canadian author uses the book to talk about the process of living between worlds, and encourages the reader to think about migration issues.

"We may not all be bilingual, but most of us have some measure of bi-culturality – we are British-Australians, Aboriginal-Australians, Greek-Australians – and we live between worlds almost all the time," Professor Turcotte said.

*Flying in Silence* has received uniformly rave reviews, with one Book of the Year judge describing it as a "beautifully crafted novel about growing up, full of humour, warmth and a strangely comfortable melancholy".

The book, published in Australia by Brandl & Schlesinger, has already been re-printed once in less than three months.



*Associate Professor Gerry Turcotte*



## Workplace study largest of its kind

**Preconceived myths about the Illawarra's industrial relations are debunked in a University of Wollongong regional industrial relations study.**

Regional Employment Relations at Work, launched in Wollongong recently, is the largest regional study of its kind in Australia.

Authors Associate Professor Ray Markey, Dr Ann Hodgkinson, Ms Terri Mylett and Mr Simon Pomfret believe the book could help attract a larger number of investors to the Illawarra's growing hospitality and service industries.

Professor Markey, who began field-work for the book in 1997, said the study began with an idea that the traditional image of industrial relations in the Illawarra was perhaps ill-deserved.

"Being strike prone and having a high degree of industrial militancy has, over time, discouraged investment and new industries in the region," Professor Markey said.

"The findings of the publication will be of interest to residents, employers and employees in the Illawarra, as well as potential investors in the region."

## Wollongong's role in Papua New Guinea's first White Paper on higher education

**Spread across 38 institutions, including four Government and two church-run universities, located on both the mainland and outlying islands, Papua New Guinea has a remarkably fragmented – and costly – higher education system.**

With only 1.5% of each age-cohort enrolled in these institutions, the nation has the lowest participation rate per head of population in higher education in the entire Asia-Pacific, and one of the lowest in the world, well below even the 7% average for all developing countries. Women are very much more seriously disadvantaged than men.

Despite its enormous human and natural diversity, much of which still awaits adequate documentation, the national effort in research, science and technology is similarly fragmented, costly and in need of development.

The White Paper on Higher Education, Science, Research and Technology

which has been publicly launched in Port Moresby is intended to guide policy, planning and development in all of the areas it covers. It is the first such White Paper in Papua New Guinea's 25 years of independence (and in the 35 years since the first national university opened).

The team who produced it, with support from the Papua New Guinea Office of Higher Education, consisted of the late Dr Elton Brash, former Deputy Principal of the Goroka Teachers' College (now, University) and Vice-Chancellor of the University of Papua New Guinea; Mr William Dihm, former Secretary for Foreign Affairs, Personnel Management and Prime Minister's Department, and now Director of the Bougainville Peace and Restoration Office; Mr Simon Kenehe, former Director of the Administrative College (now, the Papua New Guinea Institute of Public Administration), Chairman of the Commission on Higher Education, and previous education enquiries; and Professor Ted Wolfers, Professor of Politics at the University of Wollongong, who is currently advising the Papua New Guinea Government on the Bougainville peace process.

The official launching was carried out by the Minister for National Planning and Monitoring and Bougainville Affairs, the Hon. Moi Avei. The document was officially conveyed to him from the Minister for Education, Hon. Dr John Waiko, by two student leaders.

Both Ministers and other speakers paid warm tribute to the commitment and teamwork that had gone into preparing a comprehensive and thorough, high-quality blueprint for Government policy in areas of critical importance to Papua New Guinea's future.

The audience included other Ministers and Members of Parliament, chancellors, chancellors and senior executives of other institutions in the sector, as well as diplomats, academics, senior officials and officers of non-governmental organisations, students and media.

The occasion was marked by full-page advertisements in the newspapers, a banner across the Hubert Murray Highway, the main thoroughfare through Port Moresby, and a traditional singing group to welcome guests.

The White Paper defines a generous vision for higher education, research, science and technology in Papua New Guinea in the 21st century; sets specific objectives in each area; and outlines a comprehensive reform program.

The main bases of the reforms are productivity, responsiveness and responsibility, and partnership among institutions, between the public and private sectors, and with institutions abroad.

The strategy in higher education emphasises increasing access, equity and participation; improving quality, relevance, standards and range; and sectoral co-ordination and direction, with particular regard for governance, capacity building, resource planning, institutional accountability, quality assurance and accreditation, and co-ordination.

The White Paper, which is itself a substantial document of 140 pages, forms the basis of an even bigger, more detailed, five-year National Higher Education Plan II for the years 2000-2004, the second in Papua New Guinea's history. The plan is already in its second year of implementation.

The plan is, in turn, supported by an ambitious Portfolio of Proposed Donor Assisted Projects, which lists 11 big projects for which a total of US\$124.5 million in foreign aid-funding is sought.

"When the vision is compared with current realities, including participation rates and very serious, long-term shortages of well-qualified women and men in almost every profession and skill, the challenges addressed in the White Paper seem enormous. Seen in the context of an economy undergoing major structural reforms and a wide-ranging public sector reform program, they seem almost daunting," Professor Wolfers said.

*Pictured, from left, are The Hon Peter Waieng MP, Pro Vice-Chancellor (Academic) from the University of Goroka Joseph Kata, Pro Vice-Chancellor (Administration) from the University of Goroka Dr Musawe Sinebare and Professor Ted Wolfers from the University of Wollongong. [Note: Both Pro Vice-Chancellors are graduates of the University of Wollongong as is the Hon Peter Waieng]*







# World Technology Award win

**University of Wollongong academic, Professor Sharon Beder, was surprised but delighted when named winner of the 2001 World Technology Award for Ethics.**

Not normally an area of research covered by academics – engineering ethics and the ethics of legal corporations – the award honours those who are considered to be doing likely to be of long-term significance for business and society.

“It is not normally the type of research which receives funding,” said the author of the controversial book, *Global Spin – the Corporate Assault on Environmentalism* and Head of UOW’s Science, Technology and Society Program.

Her latest book, *Selling the Work Ethic*, deals with consumption, the work ethic and employers. *Global Spin* made Professor Beder an international figure in environmental politics and earned her the admiration of British playwright Harold Pinter and veteran Australian investigative journalist John Pilger.

Professor Beder received her award during the World Technology Summit and World Technology Awards, held in association with Nasdaq, GlaxoSmithKline, Enron, Business Week, CNBC and Nature.

Awards are given in 24 categories, of which ethics is one of the categories.

World Technology Network chairman, James Clark, said Professor Beder won the award over “an absolutely legendary group of people”.

UOW Vice-Chancellor, Professor Gerard Sutton, said nomination for such an award would have been regarded as a remarkable achievement in itself.

However, for Professor Beder to have won clearly indicates her international standing in the technology world, Professor Sutton said.

Professor Beder received a trophy designed by internationally acclaimed architect, Richard Meier, at the ceremony which was held in London’s National Museum of Science and Industry.

*Associate Professor Sharon Beder.*

## Engineering students scoop prestigious awards

**Two talented University of Wollongong engineering students received prizes at a prestigious awards ceremony for young engineers, held by the Sydney Division of the Institution of Engineers Australia (IEAust) in Sydney recently.**

UOW Mechanical Engineering graduate Sandra Petersen won the Engineering Excellence Award for Senior University Bachelor of Engineering Students, while the IEAust Industrial Training Excellence Award recipient for the University of Wollongong campus was Luke Scott, final year Civil/Environmental student. Sandra’s thesis beat 27 entrants from the Universities in the Sydney division of the Institution of Engineers, Australia to win \$1500. Since this award Sandra has gone on to win a \$6000 Roger Pysden Memorial Fellowship which will allow her to continue her work in telecommunications at Massachusetts Institute of Technology (MIT) in the US and Cambridge in the UK next year.

Another engineering student to win an industry award is Chris Kornek. Chris won \$1000 and the chance to work with international engineering consultants Arup for his thesis titled “An Experimental Study of Water Jet Cooling Efficiency”. Fellow students David Jesse and Gordana Marijan were two of five students short-listed for the NSW Arup competition finals. Engineering lecturer, Paul Cooper, attributed the success of UOW engineering students to their knowledge of sustainable energy and engineering systems.

Meanwhile final year students from the School of Electrical, Computer and Telecommunications Engineering, Paul Ruskin and Tim Bourke, came first and second respectively in the inaugural IEE (Institute of Electrical Engineers) Thesis Presentation Competition at the University of NSW this month.

### Art prize

Two UOW Creative Arts Honours students were also awarded prizes for the 10th National Tertiary Art Prize for 2001.

Aaron Seeto was awarded first prize in the Photography/Digital section along with \$500 for his work ‘Still: The Killer’. Emma Rutherford was commended in the 3D section and won some computer software and a printer for her work ‘Bottomless Pots’.

### Nursing scholarship

Meanwhile UOW nursing student Debra Young was awarded a \$2000 ‘Jo Wattleworth Scholarship’ from the New South Wales College of Nursing.

Debra won the scholarship for her research paper on Cultural Sensitivity titled ‘Nursing and Traditional Birth Practices: Exploring the Need for Cultural Sensitivity’. The essay will be published in an upcoming edition of *Nursing Australia*. Debra said she would put the \$2000 towards further study in her chosen area of Midwifery at UOW following completion of her undergraduate degree.

## UOW overall fifth spot in 2001 Australian University Games

**The University of Wollongong recently came a credible fifth overall in the 2001 Australian University Games hosted by the University of Sydney.**

A team of 240 athletes represented UOW in 24 sports. After winning the Eastern University Games in Coffs Harbour in July, UOW was favoured to challenge the larger universities from around the country.

In an improved effort from last year, UOW finished 5th overall (6th last year) and 3rd in the Doug Ellis trophy (4th last year) – the per capita award that takes in account every university’s student population size.

And the winners were:

Gold - Men’s Squash  
Gold - Women’s Soccer  
Gold - Matt Kerr - Men’s 3000m Steeplechase  
Gold - Matt Kerr - Men’s 5000m  
Gold - Ben Denner - Men’s 100m Freestyle  
Gold - Ben Denner - Men’s 200m Freestyle  
Gold - Ben Denner - Men’s 400m Freestyle  
Gold - Mick Cutajar - Men’s U100kg Judo  
Gold - Justin Roberts - Men’s U-65kg Red Belt  
Silver - Men’s Tennis  
Silver - Matthew Wilson - U65 Black Belt Tae Kwon Do  
Bronze - Kendo Minh-Ji Hwang - Kyu Individuals Division  
Bronze - Mixed Touch