

campus news

University of Wollongong



Community support 'the clincher'



Above: An artist's impression of UOW's new indoor sports facility. Below: Senator Concetta Fierravanti-Wells and Vice-Chancellor Professor Gerard Sutton combine to turn the first sod for the indoor sports facility.

VSU funding paves way for \$6.6m indoor sports centre

Strong interaction between the University of Wollongong and the region's community sporting bodies was the linchpin in the Federal Government's decision to fund a 3,000 seat multi-purpose indoor sports facility.

Illawarra-based Liberal Senator Concetta Fierravanti-Wells, speaking at a ground-breaking ceremony on 8 March, highlighted the interaction with the community as "being the strongest point in the University's bid" for Federal Government funds.

UOW Vice-Chancellor Professor Gerard Sutton agreed that the community support from sporting bodies "tipped it over the line". The facility will be used for a wide range of sports including basketball, indoor soccer and badminton, as well as being an ideal training venue for outdoor sports like rugby league and rugby union. It will be available for UOW students and community sporting bodies.

Education, Science and Training Minister Julie Bishop had earlier announced funding of \$4.6 million to UOW for the indoor sports facility. The University will contribute \$2 million from its own capital funds bringing the overall project cost to \$6.6 million.



In all, the Federal Government announced \$58 million in funding for 37 new projects across Australia under the Voluntary Student Unionism Transition Fund and the Support for Small Businesses on Regional University Campuses Program.

Under the small businesses program, UOW received \$405,000 for a medical services hub for its main Wollongong campus and \$95,000 towards a restaurant/café at its Shoalhaven Campus in Nowra.

The Minister said that both programs would help universities adjust to the introduction of Voluntary Student Unionism.

Senator Fierravanti-Wells said the indoor sports facility would be a state-of-the-art development for all of the Illawarra, emphasising that UOW was the second highest service provider of sporting facilities in Wollongong behind Wollongong City Council.

Professor Sutton said the University asked for \$4.6 million from the Federal Government and received what it requested.

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Campus News is produced for community, industry, government and other educational institutions as well as staff, students and graduates of the University of Wollongong. It provides an overview of University news and achievements on a quarterly basis.

Submissions for publication can be made to the Media Unit. Phone (02) 4221 5942 or email media@uow.edu.au

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Future doctors carry the ‘dutiful burden of an ancient heritage’

On 29 January, the University of Wollongong welcomed its first cohort of 80 Medical students in an historic Welcome Ceremony that featured the NSW Governor Professor Marie Bashir AC, CVO, who received an Honorary Doctorate of Science from the University. This is a transcript of the Welcome Address delivered by the Graduate School of Medicine’s Foundation Dean PROFESSOR JOHN HOGG:

We have had the privilege to be present at the conferral of a much deserved honour on our Governor, who is also a loved and respected member of our great profession of medicine, and an example to us all.

Now it is my privilege to welcome the first cohort of students to the Graduate School of Medicine and it is with a great sense of occasion that I do so.

Ladies and gentlemen of our student body, the course that you start today, the opportunity it gives you, is the result of the vision, commitment, generosity and extraordinary hard work of many people both within and outside this University.

For the opportunity they have given you I would like to thank our Vice-Chancellor Professor Gerard Sutton and the leader of our planning team Professor Don Iverson, whose vision and passion largely define this school you are entering. I would like to thank our honorary staff for their critical contribution, and the people throughout the University who have been so helpful to us.

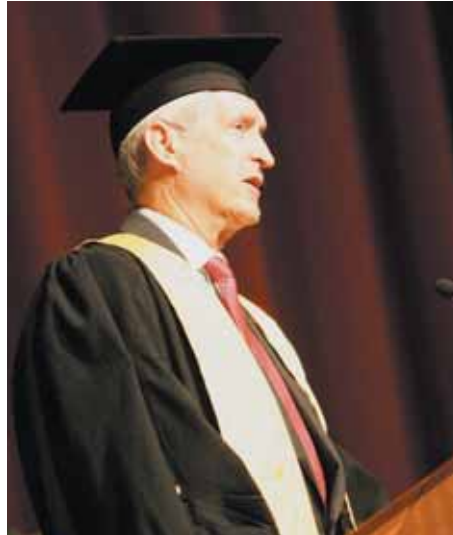
I would particularly like to thank the people you will be most working with, the general and academic staff of our school. You are very fortunate to have such a fine group of people to support and teach you.

We are enormously grateful to those other universities and their people, in Australia and internationally, who have advised and assisted us, and particularly the medical schools of Sheffield, Peninsula and Flinders.

I want you to be aware of the generosity of organisations and individuals who have become benefactors of our school, and particularly Mr Mick Williams for his \$3 million gift. Their generosity will allow your education to be deeply enriched. I thank them all.

Today is your first day in a journey that we hope will see you all graduating in this hall in four years time and joining our great profession.

You will be the recipients of a carefully crafted medical course that will give you the knowledge and skills to be excellent doctors. These will be learnt in an ethical context that steers your work for the good of others, for possessing knowledge and skills without morality is like placing a weapon into the hands of a murderous fanatic.



Graduate School of Medicine Foundation Dean Professor John Hogg delivers his Welcome Address to UOW's first cohort of medical students.

The ethics that from now on must inform your lives come to us from the mists of Greek mythology, from the cult of Asclepius, the great healer and teacher, believed by the ancients to be the son of Athena, goddess of intelligence and enlightenment, by means of whom, in their thinking, wisdom is born and made manifest in the world. The symbol of Asclepius, the

rod entwined with a serpent, still to this day symbolises the medical profession, and to me symbolises that marriage of intelligence and enlightenment which creates the wisdom needed to be a healer and a teacher - to be a good doctor.

The Greek physician Hippocrates belonged to the healing cult of Asclepius, and it was Hippocrates who set medicine in the ethical framework which guides our thinking and behaviour to this day. The ancient Greeks expressed this in the Hippocratic Oath.

This heritage may have been lost to us but for it being passed on to the great Arab civilisation whose brilliant and wise physicians and scientists built on it and passed it on to Europe in the Renaissance.

This is the heritage that has survived the scrutiny of the age of reason in the 17th and 18th centuries, and the scientific revolution of the 19th and 20th centuries.

This is the heritage on which this school is founded, and which will be passed on to you to further build on.

It is a heritage which you will wear as a badge of honour, but also as a dutiful burden.

I congratulate you on being chosen to enter this medical school. It opens a door for you to a world of tremendous responsibility and tremendous opportunity.

You have the opportunity to make a difference, and I want to say today that the greatest opportunity you have is to make a difference to the state of health of our indigenous people.

Indigenous Australians are the traditional owners of the lands in which your learning will occur, and yet these fine people have an average life span 20 years less than the rest of us. This is an horrific symptom of indigenous disadvantage which diminishes us all.

The North Americans and New Zealanders have reduced the premature mortality in their indigenous populations from 20 years to less than five years in just the last 30 years. If they can do it then so can we. You have the opportunity to lead this.

I am delighted to have you as the torch bearers of our pioneering school. We have a wonderful faculty of teachers, both within the University and within the community, who are dedicated to helping you. We have a curriculum that incorporates the best in modern medical education.

We believe our selection process has given us a cohort of students second to none, and our expectation is that each and every one of you will make us proud.

You now have the opportunity to put your mark on this school, to shape the sort of school it will become.

You have been awaited with great expectation by our communities. You are our future.

We wish you all good fortune in your studies and your careers.

You are very, very welcome. **CN**

Key points about the GSM:

- The GSM has selected students who have indicated their commitment to working as GPs or specialists in regional, rural or remote Australia, and so will have a long-term impact on the health of Australians living in those areas
- Specially-designed GSM buildings have been completed and are operational at the Wollongong and Shoalhaven Campuses
- The GSM has 80 students per year, with 56 based in Wollongong and 24 in the Shoalhaven
- The GSM has been established with generous financial support from the Federal and NSW Governments
- It is a community-based school, strongly supported by the medical fraternity of the Illawarra and Shoalhaven
- The GSM will develop a strong research focus, building on the key research strengths of the University which include medical radiation physics, nanotechnology, molecular biology, cancer drug research, nutrition and exercise science.

Governor welcomes UOW's first medical students

The NSW Governor Professor Marie Bashir AC, CVO welcomed the first medical students to the University of Wollongong's new Graduate School of Medicine (GSM) in a special ceremony at the University on 29 January.

The GSM, described as "a medical school for the 21st century", with its innovative curriculum and extensive use of medical education technology, will train 80 medical students per year at purpose-built medical training facilities at its Wollongong and Shoalhaven campuses.

It has been established primarily to address the chronic shortage of doctors practising outside capital cities by training doctors to work in regional, rural and remote areas of Australia.

Professor Bashir said the opening of the GSM, was an "auspicious and historic occasion in the University's history" and congratulated the medical students on the beginning of a great journey.

"The foundation of the Graduate School of Medicine is testimony to the vision that has flourished under the University's excellent Vice-Chancellor (Professor Gerard Sutton) and his predecessor (Professor Ken McKinnon). I have no doubt it will produce medical graduates who will

serve the nation with distinction."

The students joined the Governor and her husband Sir Nicholas Shehadie, official guests and academics in a procession to the University Hall for the welcome ceremony, where the inaugural GSM Lecture was presented to an audience of more than 600 people by University of Sheffield Medical School Director of Teaching Professor Nigel Bax.

Professor Bax, who has been a key consultant to the GSM as it established its curriculum, said the establishment of a medical school in three years had represented "an epic commitment by the University of Wollongong", and now it was up to the students to make a personal contribution to its development.

Professor Bax said UOW had worked closely with local and regional medical agencies and many individuals to focus the curriculum on developing graduates who will serve regional, rural and remote communities.

"Your model will be emulated, as many others will want to follow your lead so it is vital that you remain committed to working with and in your community," he said.

UOW Vice-Chancellor Professor Gerard Sutton said the welcome to the students was an historic occasion for the University, and for the region.



"This new Medical School will make an extremely important contribution to the communities of the Illawarra and Shoalhaven and other regional and rural areas by training doctors who are committed to practising medicine outside the capital cities," Professor Sutton said.

"The University is honoured that such an eminent Australian as Professor Bashir, with her outstanding record in medical education, agreed to welcome our first medical students."

During the ceremony the University's Chancellor Michael Codd, AC conferred an Honorary Doctorate of Science on Professor Bashir in recognition of her distinguished career in medicine and medical education.

Other official guests included NSW Minister for Regional Development, Water Utilities, Small Business and the Illawarra David Campbell, Liberal Senator Concetta Fierravanti-Wells, South Eastern Sydney and Illawarra Area Health Service CEO Professor Debora Picone, AM, former UOW

Vice-Chancellor Professor Ken McKinnon, Faculty of Health and Behavioural Sciences Executive Dean Professor Don Iverson and GSM Foundation Dean Professor John Hogg.

Professor Iverson said UOW had created a medical school for the 21st century. UOW had been determined to establish a medical school that would be innovative, and not replicated anywhere else in Australia, with extensive use of existing and emerging medical education and information technologies.

He said the University had recruited outstanding medical educators, one-third of whom had extensive international teaching experience. **CN**

Above: Chancellor Michael Codd AC confers an Honorary Doctorate of Science on NSW Governor Professor Marie Bashir AC, CVO.

Below: Staff and students of the Graduate School of Medicine assemble with the official party for a group photograph on the school's first day.





Pictured (from left) are Professor Stephen Dinham from UOW's Faculty of Education, Australian Centre for Educational Leadership Director Associate Professor Narottam Bhindi, Department of Education and Training NSW Director-General Andrew Cappie-Wood, Faculty of Education Acting Dean Associate Professor Brian Ferry and UOW Vice-Chancellor Professor Gerard Sutton.

Educational Leadership Conference now the largest in Australia

More than 300 delegates from around the world attended the sixth annual International Conference on Educational Leadership at the University of Wollongong in February.

The conference has grown to be the biggest of its kind in Australia, reinforcing UOW's position at the forefront of educational leadership training and strategies.

Titled *Leading Learning Communities: Strategy, Action and Reflection*, the conference was led by a number of eminent and emerging educational leaders and practitioners. It focused on the theme of leadership challenges in creating and sustaining vibrant, versatile and smarter educational organisations in the context of rapid change, demanding professional expectations and the diverse and shifting needs of students.

Drawing on exemplary and innovative practice, research and experience, presenters and participants considered how educational leaders can guide schools to become learning communities and why they must continuously learn, develop, renew, innovate and improvise.

Sub-themes included re-culturing and re-inventing the school community, evidence-based leadership, team building and professional learning, integrating teaching, learning and school management, infusing values based leadership and how adults learn.

Opening the conference, UOW Vice-Chancellor Professor Gerard Sutton highlighted the importance and value of education.

"Nothing is more important than education," Professor Sutton said. "It is at the heart of our community. I want to highlight that we are all colleagues in the business of education and that each of you is playing a vital role in your field."

Director of UOW's Australian Centre for Educational Leadership, Associate Professor Narottam Bhindi, said the annual conference serves as an important forum for sharing research, practice, ideas and experience.

The opening address was presented by Department of Education and Training NSW Director-General and TAFE NSW Managing Director Andrew Cappie-Wood who emphasised the major issues shaping and changing education today. **CN**

Sheil appointed to research body

Education, Science and Training Minister Julie Bishop has appointed UOW's Deputy Vice-Chancellor (Research) Professor Margaret Sheil to the Federal Government's Research Quality Framework (RQF) Reference Committee.

The Minister said that the RQF was an important Australian Government initiative which aims to

ensure that public money is being invested in research of the highest quality and relevance.

The committee includes representatives from industry, government and the research sector.

The Minister announced last year that the Australian Government will provide \$87.3 million to implement the RQF, \$42 million of which will be provided directly to universities for data gathering and pre-implementation trials.

UOW Vice-Chancellor Professor Gerard Sutton congratulated Professor Sheil on her appointment, which he said was recognition for her contribution to research policy development at the national level. **CN**

Horizon, UOW form aged care partnership

Seniors living and aged care provider Horizon Living has entered into a partnership with UOW's Faculty of Health and Behavioural Sciences that will provide significant benefits for Horizon Living residents, UOW students and aged care research in general.

UOW's partnership agreement with Horizon Living is believed to be the first of its kind between two such institutions.

Under the agreement, Horizon Living will provide clinical placements at its facilities for students in the areas of nursing, dietetics and nutritional science, exercise science and clinical psychology, and the new Graduate School of Medicine.



Horizon Living Managing Director Fred Ferreira (right) and UOW Vice-Chancellor Professor Gerard Sutton sign their Memorandum of Understanding.

"These clinical placements will provide students with quality training opportunities in a practical setting," Faculty of Health and Behavioural Sciences Executive Dean Professor Don Iverson said.

He said that residents of Horizon Living facilities would also benefit from the company's close relationship with UOW, with direct access to the latest research and science-based health care.

Horizon Living Managing Director Fred Ferreira said the company was committed to delivering services in its facilities that were based on the latest scientific findings and evidence-based care.

"This will enable our residents to attain the highest possible health status and overall quality of life," he said. "We are particularly interested in assisting in the training of health professionals, supporting research that may enhance the health and quality of life of ageing persons." **CN**

Archaeology course planned as Hobbit scientist joins UOW



The University of Wollongong is developing a new Masters degree in archaeological science, coinciding with the arrival of one of Australia's leading archaeologists who played a key role in the discovery of the "Hobbit" – a previously unknown species of small humans – on the Indonesian island of Flores in 2003.

Professor Mike Morwood, who has just written *The Discovery of the Hobbit – The Scientific Breakthrough that Changed the Face of Human History* with science writer Penny Van Oosterzee, has joined UOW from the University of New England.

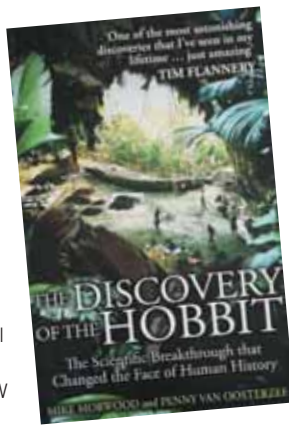
His move to UOW re-unites him with the University's GeoQuEST Research Centre scientists Professor Richard "Bert" Roberts, Dr Chris Turney and Dr Kira Westaway, the dating experts who established the age of the skeleton of a one-metre tall female and other skeletal remains found in the "Hobbit" cave, Liang Bua.

The team used the latest thermoluminescence technology to show the female's skeleton was 18,000 years old, while dating of the remains of a further 13 individuals showed they had lived in the cave between 95,000 and 12,000 years ago.

Professor Morwood, who is also a leading authority on Aboriginal rock art, said he had been attracted to UOW by the opportunity to work more closely with the dating team, as well as by new research and educational opportunities.

"I liked the idea of working more closely with Bert, Kira and Chris, and helping develop archaeology at UOW.

It is the chance to get involved in some new things, and I am really looking forward to it," Professor Morwood said.



Faculty of Science Dean Professor Rob Whelan said Professor Morwood's arrival gave the Faculty the opportunity to build on its existing expertise in the field to develop a scientific archaeology teaching program that would feed into one its significant research strengths.

"We'll be looking at archaeology from the broader perspective, from the social science to robust science," Professor Whelan said. "It's great to have Mike Morwood on board, and other staff like Bert (Roberts) are

really looking forward to the opportunity to teach in their field."

Dr Westaway, who is developing the course outline for the new Masters degree which is expected to start in 2008, said it would be a geo-archaeological course that would explore the application of scientific techniques such as radiocarbon and luminescence dating to archaeological sites.

"We think the Masters course will appeal to archaeologists who want to know more about the science, and scientists who want to know more about archaeology," she said. "We're confident that it will attract some very interesting students to the university in the years ahead."

Dr Westaway said a feature of the course would be the use of technology to allow students to undertake virtual tours of significant archeological sites around the world.

The Faculty also intends to offer archaeology subjects for third-year Bachelor of Science students.

Meanwhile, Professor Morwood will soon be returning to Indonesia to continue his work in Flores. A new chamber beneath the "Hobbit" cave has been discovered, which he says offers "exciting possibilities" for further skeletal discoveries that will throw more light on Homo floresiensis.

He welcomed new US research that confirmed his team's conviction that Homo floresiensis was a previously undiscovered species of human, and rejected criticism from a small group of dissenting scientists. The critics' views, he said, "will become quaint historical stories". **CN**

Top left: Professor Mike Morwood (centre) pictured with Professor Bert Roberts, Dr Kira Westaway and a scale model of the "Hobbit".

Left: Professor Morwood has just released this book, *The Discovery of Hobbit – The Scientific Breakthrough that Changed the Face of Human History* with science writer Penny Van Oosterzee (Random House).

New indoor sports centre

continued from page 1.

The Vice-Chancellor paid special tribute to Senator Fierravanti-Wells for her lobbying efforts to secure the funding.

He said the University received a

remarkable 10 per cent of the overall funding allocated to universities throughout Australia.

Construction on the indoor sports facility is expected to begin in June this year.

Professor Sutton also acknowledged the efforts of Member for Gilmore Joanna Gash in assisting the University to secure funding for the Shoalhaven project.. **CN**



Senator Concetta Fierravanti-Wells and Vice-Chancellor Professor Gerard Sutton (centre) are joined by UOW, sporting and community representatives including Wollongong Hawks basketballer John Phillip (rear, second from left) and Dragons' Australian rugby league representative Ben Creagh (rear, second from right).

Spinal cord researchers bring hope to paraplegics

Scientists at the University of Wollongong believe they are on the path to helping paraplegics walk again through the use of “smart plastics”.

The pioneering research is being carried out by the Australian Research Council Centre of Excellence for Electromaterials Science and involves Bionics Program Leader Professor Graeme Clark, who developed the bionic ear.

The spinal cord implant relies on the same technology that has restored hearing to more than 50,000 people around the world since its invention more than two decades ago. Research work is concurrently under way to develop a new cochlear implant that promises to vastly improve the quality of sounds received by an implant’s user.

Professor Clark said he was initially severely criticised when developing the cochlear implant with most believing it was impossible to achieve.

“There’s now more of a sense of optimism with the spinal cord project, but the problems are just as complex,” Professor Clark said.

He said a major hurdle was the scar tissue that develops in the spinal cord, which can block nerve pathways.

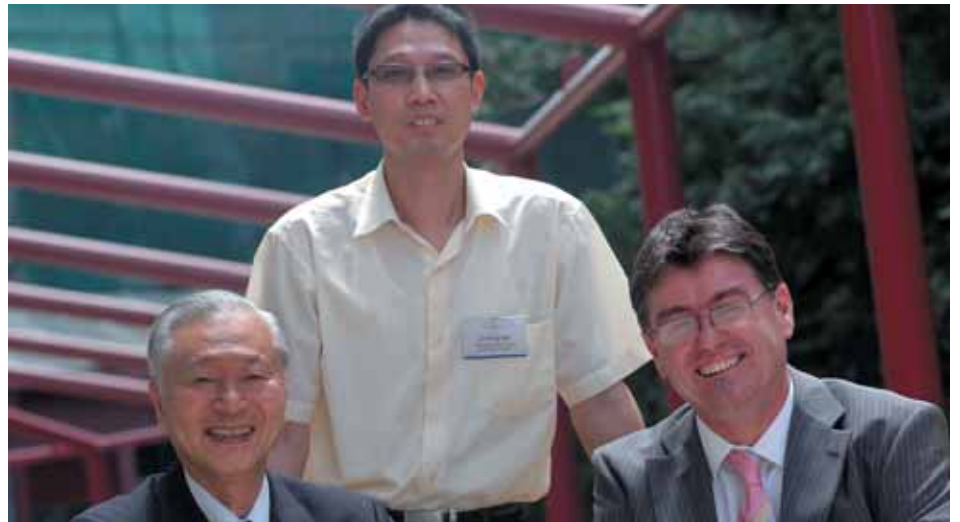
Professor Clark said the research team also needed to resolve how to encourage nerves to grow far enough along the nerve pathways to reconnect.

ARC Centre of Excellence for Electromaterials Science Executive Research Director Professor Gordon Wallace from UOW’s Intelligent Polymer Research Institute said researchers were using intelligent polymers (smart plastics) as an implant that would be surgically inserted into the damaged area of a patient’s spinal cord.

Smart plastics conduct electricity and are combined with carbon nanotubes – thousands of microscopic fibres that touch nerve endings. The implant receives radio waves through the skin from a transmitter pack worn outside the body on the patient’s back. The electrical stimulus received by the implant allows it to release nerve growth hormones that encourage damaged spinal nerves to regrow and eventually reconnect with other nerves.

“Imagine a honeycomb of intelligent plastic between the cut sections of the spinal cord and the honeycomb then filled by adult stem cells taken from the patient. We then aim to control the growth of the nerves from the top to the bottom to restore the motor nerves,” Professor Wallace said.

Researchers at UOW, St Vincent’s Hospital Melbourne and the Bionic Ear Institute are working on the implant as part of the ARC Centre of Excellence for Electromaterials Science. The centre has attracted \$12 million in research funds over five years. **CN**



ARC Centre of Excellence for Electromaterials Science Executive Research Director Professor Gordon Wallace (right) is pictured at the conference at UOW with Professor Naoya Ogata from the Ogata Research Laboratory Ltd in Japan (left) and Dr Zi Feng Ma from the Shanghai Jiao Tong University in China.

Electromaterials experts share research at UOW

The Australian Research Centre of Excellence for Electromaterials Science at UOW hosted a three-day international symposium in February addressing developments and applications in the areas of bionics and energy research.

Among the key presentations were:

- A paper delivered by Professor Zi Feng Ma of Shanghai Jiao Tong University, China, on strategies and progress on the development of fuel cell electric vehicles in China. Major advances have been made in this field using devices to power vehicles with zero emissions into the atmosphere. The University of Wollongong recently signed a collaborative research agreement with Shanghai Jiao Tong University.
- A paper delivered by Professor Mark Cook (St Vincent’s Hospital Melbourne/University of Melbourne). Professor Cook is a neurologist specialising in the treatment of epilepsy which is the commonest serious neurological disease afflicting

the population. Attention has now turned to promising new methods of polymer-based drug delivery systems to neural tissue. St Vincent’s is working in collaboration with University of Wollongong researchers.

The ARC Centre’s Executive Research Director Professor Gordon Wallace, from UOW’s Intelligent Polymer Research Institute, delivered an overview of advances in electromaterials while other features of the symposium included a session on the latest in nanostructured (extremely minute) electronic devices and papers on *An electronic polymer nanofibre composite for artificial muscles*; *Nanocomposite materials for use in lithium rechargeable batteries*; and *Artificial photosynthesis: Nanostructured materials for light harvesting*.

The symposium attracted specialists in electromaterials science from the United States, China, Japan, England, Germany, Ireland, Korea and Australia. **CN**

Consortium aims for solar solutions

A project involving the University of Wollongong aims to deliver organic solar cell devices as a sustainable energy source for Australia and the rest of the world in the battle against global warming.

A group of Australian-based researchers with world-class ability to contribute in this area has formed an international consortium which met for the first time at UOW in February.

The consortium consists of Australian researchers

from UOW’s Intelligent Polymer Research Institute (IPRI), the University of Melbourne, University of Sydney, University of Newcastle, University of Queensland and CSIRO combined with international expertise. An industrial group (Merck) will provide expertise in the possible industrial scale-up of material synthesis and prospects for commercialisation.

IPRI Director Professor Gordon Wallace said the consortium aimed to provide breakthrough results that would make Australia a world leader in the technology of large area low-cost organic photovoltaic devices.

He said a successful outcome would allow Australia to develop a new high-value export industry, attracting substantial foreign investment. **CN**

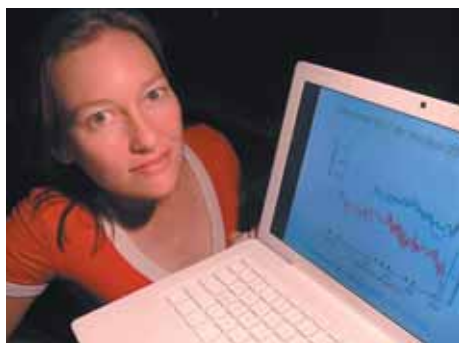
Science publishes ocean currents discovery

A research fellow in the University of Wollongong's School of Earth and Environmental Sciences has headed an international research team that has uncovered major findings regarding the impact of global warming on marine processes.

The research, published in the February edition of the authoritative international journal *Science*, shows how human-induced climate change is having a direct impact on a process known as "coastal upwelling" in northwest Africa.

This oceanographic phenomenon involves wind-driven motion of dense, cooler, and usually nutrient-rich water towards the ocean surface, replacing the warmer, usually nutrient-deplete surface water.

Dr Helen McGregor and her research team from MARUM Research Centre Ocean Margins at the University of Bremen in Germany have found that climate-induced changes in the ocean have never



been more dramatic than in the past three or so decades.

According to their analysis, sea surface temperatures in the Atlantic Ocean near northwest Africa declined by 1.2 degrees Celsius during the 20th century.

Upwelling systems like that off northwest Africa are of high economical importance, as about 20% of global fishing takes place there and they are potentially important for drawing carbon dioxide.

"Our research suggests that upwelling will continue to intensify with future greenhouse warming, potentially impacting on the sensitive ecosystems and fisheries in these regions," said Dr McGregor.

The research team obtained their findings from analysing the ratio of organic compounds in two sediment cores extending back 2500 years, which they drilled off Morocco. The marine sediments archive the region's climate history from 520 BC to the present day. **CN**

Dr Helen McGregor from UOW's School of Earth and Environmental Sciences is pictured with a graph that displays the team's research findings regarding sea surface temperatures.



Minister for Regional Development, Small Business, Water Utilities and the Illawarra David Campbell (front, centre) is pictured at the opening of the water recycling seminar with UOW and international guest speakers.

Focus on water recycling

The University of Wollongong brought water recycling into the mainstream when it hosted a seminar in February featuring a number of experts from across the globe.

The seminar addressed a range of key topics and focussed on the needs and challenges of bringing research, practice and policy together to develop innovative solutions for battling the water shortage crisis.

Sponsored by Sydney Water and featuring an address from its Managing Director Dr Kerry Schott, UOW's seminar was the culmination of a four-year international project titled AQUAREC, funded by the European Commission and the Australian Government and involving 17 institutions worldwide

(including UOW) researching integrated concepts in water recycling.

NSW Minister for Regional Development, Small Business, Water Utilities and the Illawarra David Campbell officially opened the two-day seminar.

Experts travelled from Europe, America and the Middle East to facilitate discussion on a multi-disciplinary approach to water recycling and integrating water reuse into mainstream water management.

Other speakers included Chris Davis from the Australian Water Association, Rami Messalem from Ben-Gurion University in Israel, Darko Joksimovic from the University of Exeter in the UK, Peter Dillon from the CSIRO, G. Wade Miller from the WaterReuse Association in the US, John Radcliffe from the National Water Commission, Miguel Salgot from Barcelona University in Spain, Stuart Khan from the University of NSW and Thomas Wintgens from RWTH Aachen University in Germany. **CN**

Project aims to help young drivers

The University of Wollongong's Centre for Social Marketing Research (CSMR) has launched a new research project which it hopes will help improve the safety of young drivers.

The project, led by the CSMR Director Dr Gary Noble, is investigating the role of parents in shaping young people's attitudes and driving behaviour.

Across Australia, young people in the 17-25 year-old age bracket comprise a disproportionate percentage of all road injuries and fatalities. Research in North America and Europe suggests parents may be an important – but under-used – influence in changing the underlying beliefs and values of young people that lead to unnecessary risk-taking.

The UOW research has the support of Youthsafe, Wollongong City Council and Shellharbour City Council.

The project team is seeking participation from learners and young drivers aged between 17 and 25 and their parents.

The discussion groups will gather comments from young drivers and their parents about:

- Parental influence on young people when they are learning to drive and after they gain P-plates and their licence
- communication between young people and parents about driving issues
- young driver risk behaviour
- road safety issues
- strategies to improve safety of young drivers. **CN**

Postcard from Dubai



The University of Wollongong in Dubai (UOWD) has been operating since 1993 and is now one of the most prestigious educational institutions in the United Arab Emirates. UOWD currently has an enrolment of approximately 2,200 students undertaking Bachelors and Masters degrees in Business and Computer Science at its location in Dubai's Knowledge Village.

Record graduation reflects growth

UOWD celebrated its largest-ever graduation when 610 graduates received their degrees at two colourful ceremonies at Dubai's Jumeirah Beach Hotel in late December.

UOW Chancellor Michael Codd AC conferred degrees on the 221 undergraduates at the morning ceremony and 389 postgraduates at the evening ceremony. Executive Council Chairman HH Sheikh Hamdan Bin Mohammed Bin Rashid Al Maktoum was guest of honour at the morning ceremony.

The size of the graduation reflected UOWD's dramatic growth since it was established in 1993. The first graduation ceremony held in 1997 honoured just 22 students. The following year, the number rose to 47. By 2001, the number of graduates receiving their degrees swelled to 108, reaching 279 in 2004 and 444 graduates in 2005.

In his address, UOWD Chief Executive Professor Nick van der Walt stressed that the job of a university today was to help students fulfil their dreams and aspirations by providing them with the thinking skills they will need as humanity faces some of the most fundamental challenges in its history.

"While in the traditional sense it was sufficient to ensure that the highest standards of research-informed teaching were introduced into the classroom, today the university must engage with industry and be seen by industry leaders to have staff who are valued for their contribution to the future economic success of the country. In essence, to serve the student body and society effectively, academic leaders must be at home in both the classroom and the boardroom".

Nishat Khatib, graduating with a Bachelor of Commerce, gave the Vote of Thanks at the undergraduate ceremony and fondly recalled the happy moments she enjoyed at the University. "At UOWD learning was fun, and fun was learning. The mix of cultures, the international experience of our professors and the learning on demand

transformed us into able, willing and independent individuals, ready to face the future," she said in her speech.

Johnny Karam, graduating with a Master of Business Administration, gave the Vote of Thanks at the postgraduate ceremony and expressed his gratitude to the faculty and parents for making the day a reality.



Professor Nick van der Walt.

"We all entered the temple of learning as apprentices asking for guidance and knowledge of those accomplished masters. Wollongong as an institution along with its esteemed professors stood strong as solid foundations delivering to their promise of higher education," he said.

Both graduation ceremonies concluded with receptions hosted by Professor van der Walt.

UOWD wins speaking cup

UOWD emerged as the overall winner at the second annual Wollongong Cup Public Speaking Competition which attracted 11 universities from across the United Arab Emirates.

The American University of Sharjah finished second and MAHE Manipal University was third in the competition held at the UOWD campus at Dubai's Knowledge Village in February.

UOWD won the Impromptu, Extemporaneous and Storytelling Original categories, represented by Rohini Kamath, Bushra Yakoob and Tyson Fernandes respectively.

UOWD Chief Executive Officer Professor Nick van der Walt addressed the participants at the award presentation ceremony on the importance of public speaking. Elma Zaher and Melissa Bos, Faculty member and organiser of the event, presented trophies to the winners.

Academic joins panel

UOWD's Chair of Graduate Studies Dr Cedwyn Fernandes has joined the judging panel of Dubai's forthcoming Supply Chain and Transport Awards (SCATA).

The ceremony, which takes place at the Fairmont Hotel in Dubai, is being held on 29 May to coincide with Dubai's Materials Handling Show.

"With the region now poised to become a key integrated logistics hub, the SCATA awards are timely," said Dr Fernandes, who is currently overseeing the introduction of a post-graduate degree in logistics at UOWD.

"The awards will highlight the outstanding performers in supply chain and transport in the region. Companies within the industry can then benchmark against the award winners, which will raise the overall standard of the supply chain and transport industry."

Organised by the publishers of *Logistics Middle East*, the ceremony is expected to attract 250 of the leading names from the Middle East's cargo, freight forwarding and shipping sectors.

Karan off to Australia

UOWD student Karan Pedramrazi will be studying at the Wollongong campus this year after winning the Wollongong International Coursework Scholarship (WICS) - UOWD Graduate scholarship for 2007.

This competitive, merit-based scholarship for UOWD graduates is for enrolment in a program of postgraduate study at the University of Wollongong in Australia. Last year's inaugural winner was Hajar Roudaki, who spent 2006 in Wollongong studying for a Master of Accountancy degree.

Karan, from Tehran, completed a Bachelor of Computer Science – Software Development (with Distinction) at UOWD in 2006 and will study for a Master of Computer Science while in Australia. **CN**



Karan Pedramrazi

Practical application of a brilliant mind

Professor Howard Worner

Scientist, academic.

Born August 3, 1913, Swan Hill, Victoria.

Died November 17, 2006, Wollongong, NSW, aged 93.

By Professor Geoffrey Brooks*

HOWARD Worner, a renowned figure in Australian applied science and engineering, has died at 93. His success can be credited to his strong intellect, natural leadership and charisma.

Worner's most lasting scientific legacy was in the development of continuous metal production reactors. In the 1960s he led groundbreaking work on new methods for making copper and steel at BHP and CRA, which depended on batch, rather than continuous, processing. Worner's ambition was to reduce the footprint of metallurgical plants, boost energy efficiency and lower their overall environmental effect.

Worner came to the University of Melbourne in the '30s, having won the Gold Medal at the Bendigo School of Mines. After completing his Masters degree, he was made a Doctor of Science at the astonishingly young age of 28 and became a full Professor of Metallurgy at 34. The arrival of his equally talented brother, Hill, ushered in the Worner era at Melbourne University's Department of Metallurgy, and both men served as Dean of Engineering.

Howard Worner was a brilliant lecturer, presenting his ideas as flights of imagination and delivering with great gusto and passion topics normally seen as dry. He continued to lecture well into his 80s, giving inspiring 50-minute lectures without a single visual aid or resorting to PowerPoint.

In 1955 he moved to industry, accepting the position of Director of Research at BHP, where he established the Central Research Laboratories in Newcastle in NSW; this remains one of the world's leading industrial research bodies.

It was there he carried out his 1961 experiments in continuous steelmaking. These he regarded as a turning point; he became convinced that continuous metal production refining was vital to improvement in the processes for making metal and for reducing environmental impact.

Take a simple analogy. You have to bake 1000 cakes. Which method is best? A continuous run of cakes in one long oven or batches of cakes in many small ovens, each oven having to be heated up and then allowed to cool? To Worner, the superiority of a continuous process was obvious.

But BHP had just committed itself to the then new basic oxygen steelmaking technology - a batch-style process developed in Europe - and his revolutionary approach was not welcome.

As a result, he left BHP in 1963 to pursue his dream at CRA, where Maurice Mawby strongly supported his



The late Professor Howard Worner (centre) with UOW Archivist Michael Organ and Vice Chancellor Professor Gerard Sutton in front of the Worner minerals collection.

ideas and where he carried out large-scale research into continuous copper and steel production. These processes were collectively known as the WORCRA process (WORner and CRA).

This work had a profound effect on the international metallurgical industry. His ideas on copper production have been largely accepted by industry although steel production remains a batch process, a fact Worner lamented.

Continuous production is difficult with steel because of the extreme conditions - temperatures above

ENVIRONMENT process.) This combination of waste treatment with metal production was typical of his flair for lateral thinking.

In what passed for retirement, he became a professor again - this time at the University of Wollongong - after his wife, Rilda, famously kicked him out of the kitchen where he had been experimenting with ironmaking in her microwave oven.

During this time, he received many awards and honorary doctorates, and was invited to speak across the world.

His fame did not affect his open and generous nature, and the sight of "the Prof" wandering the University grounds - slightly stooped, eagerly examining the world around him, discussing ideas with young researchers and generally spreading goodwill - made him a much loved figure at Wollongong.

After Rilda's death he lived with his daughter, Ruth, and worked closely with staff at Wollongong to catalogue his impressive mineral collection, which is on display at the University.

Worner was a giant figure in the history of Australian applied science. He worked naturally and easily across the boundary between industry and universities, inspired many with his ideas and made a lasting impression on the fields of metallurgy, materials and geology.



Howard Worner (left) with his PhD student Hari Sinha in 1954 at the University of Melbourne. Dr Sinha went onto an outstanding career, as did many of Professor Worner's students.

1600C - and the consequent problems for construction materials and process control. Even so, research into continuous steelmaking continues across the world and Worner's papers remain essential reading.

After Mawby's retirement, and a reduction in support for his research, Worner left CRA in 1975. But he continued to be active in brown coal research, in applications of microwaves and treatment of wastes.

One of his most imaginative ideas was to use sewage sludge as a binder for steelworks dust, then smelt these materials to recover iron. (He called this the

* Geoffrey Brooks is a professor in the Faculty of Engineering and Industrial Sciences at Swinburne University of Technology in Victoria. He was a lecturer and senior lecturer at UOW's Department of Materials Engineering from 1993 to 2000, where he worked closely with Professor Worner. Professor Brooks presented a eulogy at his great friend and mentor's funeral at UOW on 23 November, 2006. His obituary on Professor Worner was published in *The Australian* on 29 November, and is reproduced in *Campus News* with the newspaper's kind permission. **CN**

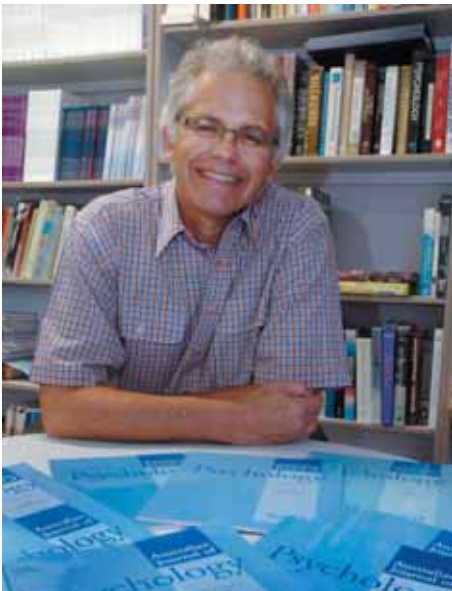
Awards, achievements and accolades

Psychology head edits national journal

The Head of UOW's School of Psychology Associate Professor Patrick Heaven has been appointed editor of the *Australian Journal of Psychology*.

Professor Heaven, who is the first UOW academic to hold this position, has taken over the prestigious role from Professor Mike Innes of the University of Adelaide. The editorship is typically a five-year appointment.

The journal, established in 1949 and published three times a year, is Australia's premier scientific psychology journal, with high quality academic reports and reviews. It is published as a magazine and in an on-line edition which is included in two international psychology databases.



School of Psychology Head Associate Professor Patrick Heaven, who has been appointed editor of the *Australian Journal of Psychology*.

Professor Heaven said he had been honoured to be invited by the Australian Psychological Society board to take on the editor's role.

"It is a very exciting appointment. The journal has a very strong reputation in Australia and overseas, and I am looking forward to building on that reputation and increasing the journal's impact in the scientific community," he said.

Professor Heaven, who took over as Head of the School of Psychology at UOW in 2001, said he hoped his appointment would further raise the school's profile among Australia's psychologists.

Professor Heaven will soon be appointed president of the Heads of Departments and Schools of Psychology, the national academic and lobbying body for psychology education. He is currently one of two Heads of Schools on the Australian Psychological Accreditation Council.

He has also been Associate Editor of the British-

based Elsevier publication, *Journal of Adolescence* since 1997, and regularly reviews papers for a range of international psychology journals including the *British Journal of Psychology* and the *European Journal of Personality*.

Biomechanics researcher 'Best New NSW Talent'

Deirdre McGhee from the University of Wollongong's Biomechanics Research Laboratory has won the highly competitive David Garlick Memorial Scholarship for Best New NSW Talent in Applied Sports Medicine.

The \$15,000 award will enable Ms McGhee to conduct further research into her work related to 'Building better bras to reduce athletes' bouncing breasts: implications for preventing musculoskeletal injuries and exercise-induced breast discomfort.'

Her project investigates the biomechanics of breast movement, brassiere design and fit to prevent musculoskeletal injuries and allowing female athletes of all breast sizes to comfortably and safely participate in sport.

The award was presented late last year at the 9th Annual NSW Sports Safety Awards Presentation Dinner, hosted by the NSW Sporting Injuries Committee at the Telstra Stadium in Sydney.

National award caps outstanding career

UOW academic Associate Professor Brian Cambourne capped off an outstanding career in education late last year when a program he developed received a national award for teaching.

Professor Cambourne and Dr Julie Kiggins received a Carrick Award from the Carrick Institute for Learning and Teaching in Higher Education, the Federal Government's peak teaching and learning body.

Professor Cambourne, 70, who worked for the University of Wollongong for 24 years – the last two based at UOW's Shoalhaven Campus – was honoured for his work in establishing the Knowledge Building Community (KBC) Program, which is based at UOW's Faculty of Education.

The KBC Program is a model for training teachers that combines problem-based learning with regular practical experience in schools. Professor Cambourne developed it in 1996, and it has been used successfully by UOW ever since.

For the past two years Professor Cambourne has been responsible for implementing KBC for student teachers at the Shoalhaven Campus. He retired from the position at the end of 2006.

Dr Kiggins, who was one of Professor Cambourne's doctoral students, has run the KBC Program at the Wollongong campus since Professor Cambourne moved to the Shoalhaven Campus.

The Carrick Institute gave the KBC Program its highest award, for Programs that Enhance Student Learning. The award encourages the development of quality teaching programs in Australian universities.



Associate Professor Brian Cambourne, whose teaching program received a Carrick Award in December.

UOW laps up water savings accolades

The University of Wollongong and the University's Maintenance and Energy Manager Chris Hewitt have been acknowledged by the State Government for helping to achieve significant water savings.

The acknowledgments were made at the annual Every Drop Counts Business Program Awards ceremony held in Sydney late last year.

Water Utilities Minister David Campbell said that since the program was launched in 2001 it has attracted more than 340 members and generated savings of about 24.1 million litres of water a day or 8.7 billion litres a year.

UOW was commended after investing in Australia's first waterless, wet-dressed artificial grass hockey field, which will save an estimated 16,000 litres of water a day.

Mr Hewitt won an individual award for significant achievements in water conservation.

He has introduced a number of water-saving initiatives on campus, including plans to harvest rainwater from roofs to irrigate sports fields and using vacuum systems that do not use water in laboratories.

UniCentre meets post-VSU challenges

The University of Wollongong's UniCentre received two prestigious awards at the 2006 Australasian Campus Union Managers' Association (ACUMA) Awards for Excellence.

The UniCentre provides UOW students with services and facilities on campus such as entertainment, skills and training, health care and retail and food outlets.

The ACUMA awards for excellence are an annual awards program designed to recognise excellence in the design, production and implementation of the marketing of services and products. They also act

as a showcase of skills, talent and innovative approaches to issues that face campus services, especially since the Federal Government introduced Voluntary Student Union (VSU) membership.

The UniCentre received the Award for Excellence in the category of Promotional Poster for the UniShop's *Need a Good Read* campaign and an Award for Excellence for the email newsletter *What's On*.

The *Need a Good Read* campaign is a rebranding initiative to build the profile of the campus bookstore UniShop in the three areas of trade – bookstore, retail and newsagency.

What's On is a weekly e-newsletter distributed to close to 20,000 students offering a definitive guide to what is happening on campus.

Water researchers win Engineering award

Two University of Wollongong researchers have won a prestigious Engineering award for their work on predicting flooding in a wide range of catchments.

Associate Professor Michael Boyd from UOW's School of Civil, Mining & Environmental Engineering and his PhD student Dr Nanayakkara Bodhinayake have been awarded the 2006 GN Alexander Medal by the Institution of Engineers Australia.

The medal honours the eminent hydrologist GN Alexander, a pioneer in statistical hydrology. It is awarded at each Hydrology & Water Resources Symposium of the Institution of Engineers for the best paper published in the field of Water Engineering since the previous symposium.

This year, more than 200 papers were eligible and eight were short-listed for the award.

Professor Boyd and Dr Bodhinayake's award was for the paper *WBNM Runoff Routing Parameters for South and Eastern Australia*, published in the *Australian Journal of Water Resources* in early 2006.

The paper analysed a large amount of flood data from the eastern states of Australia, and investigated relations between flood parameters and a range of

catchment physiographic and climatic properties. The paper also brought together information from a range of diverse sources to confirm these relations.

The results will allow computer models to be used to predict flooding in a wide range of catchments. The computer model used in the study, WBNM, was previously developed by a team led by Professor Boyd.

Grenyer appointed to two key posts

A University of Wollongong psychology academic has been appointed to two key organisations which play a pivotal role in the education and training of psychologists.

Associate Professor Brin Grenyer from the School of Psychology has been appointed President of the NSW Psychologists Registration Board.

The nine-person board comprises senior psychologists, legal and consumer representatives, and oversees all 9,000 registered psychologists in NSW. It seeks to protect the public from unqualified persons practising psychology and to provide an avenue of complaint against registered practitioners.

In addition, Professor Grenyer has been appointed to the Australian Psychology Accreditation Council, which accredits Australian university psychology courses to ensure that the courses provide suitable preparation for students to enter the psychology profession.

Academy Fellowship for social scientist

Professor Simon Ville of the School of Economics and Information Systems was recently honoured with a Fellowship into the Academy of the Social Sciences in Australia.

Professor Ville is also President of the Economic History Society of Australia and New Zealand.

Established in 1971, the Academy is an autonomous, non-governmental organisation devoted to the advancement of knowledge and research in the various social sciences. **CN**



Associate Professor Michael Boyd (right) from UOW's School of Civil, Mining & Environmental Engineering and his PhD student Dr Nanayakkara Bodhinayake, who have been awarded the 2006 GN Alexander Medal by the Institution of Engineers Australia.

OBITUARY

Nobel laureate a great friend, supporter of UOW

The University of Wollongong lost a great friend and supporter on 7 February when Nobel laureate and distinguished scientist Professor Alan MacDiarmid died. Professor MacDiarmid, who pioneered international research on electrically conductive plastics, collaborated on many projects with UOW's Intelligent Polymer Research Institute (IPRI).



The late Professor Alan MacDiarmid

He has been involved with UOW since 1988 when he first met IPRI's director and executive research director of the ARC Centre of Excellence for Electromaterials Science (ACES), Professor Gordon Wallace.

Professor MacDiarmid, who won the Nobel Prize in Chemistry in 2000, was chair of IPRI's Advisory Board from 1997 to 2002 and also served in that role for the ARC Centre for Nanostructured Electromaterials, and subsequently ACES from 2003 to 2007.

"His enthusiasm and love for scientific research was manifest and appreciated by all, including the many young researchers to whom he gave so generously of his time," Professor Wallace said. "His leadership and the inspiration that he provided were simply astounding. His support for IPRI and ACES enabled the groups to be established and to grow to what they are today." He will be sadly missed by all who knew this great man."

UOW's Deputy Vice-Chancellor (Research) Professor Margaret Sheil said Professor MacDiarmid's contribution to ACES was extraordinarily valuable. "In particular, his impact on students was profound," Professor Sheil said.

Professor MacDiarmid was born in Masterton, New Zealand on April 14, 1927. After completing his Bachelor of Science degree at Victoria University in Wellington, he went on to study for his Masters and had his first publication in 1949. In 1950 he received a Fulbright Fellowship to do a PhD at the University of Wisconsin majoring in inorganic chemistry. He then studied at the University of Cambridge before joining the University of Pennsylvania where he spent more than 45 years.

It was at the University of Pennsylvania that Professor MacDiarmid jointly won the Nobel Prize for Chemistry for the revolutionary discovery that plastic can, after certain modifications, be made electrically conductive. **CN**

URAC chief heads Australian team

University of Wollongong sports administrator Paul Manning will lead the Australian team to the 2007 World University Games in Bangkok from 8-18 August.

It will be Mr Manning's third appointment as "Chef de Mission" having been selected to lead teams to the 1999 and 2001 events which are often referred to as Universiade.

The Australian Sport Commission (ASC) has agreed to again be a major sponsor of the event to partially fund the entire team of 160 athletes and officials to Bangkok.

UOW Deputy Vice-Chancellor (Operations) Professor John Patterson said the University was excited that senior managers were recognised nationally and internationally for their expertise.

He said the World University Games was the pinnacle for university sports athletes and officials and was widely

regarded globally as second only to the Olympics in terms of the numbers and standard of athletes.

Mr Manning is Executive Director of UOW's University Recreation and Aquatic Centre (URAC).

"It is an honour to be selected again for this role, but the challenges of sending a world class team in the first year of voluntary student unionism will prove difficult to overcome," Mr Manning said.

"Assisting elite student athletes across Australia attend events like this allows me to showcase the expertise developed here at UOW and assist in forging a long-term international reputation for the University."

He said UOW athletes would certainly benefit from the Games due to Federal Government funding for regional university athletes.



"I would encourage all regional students to nominate for the Games, as they stand to receive up to \$2000 of the cost," he said. **CN**

University Recreation and Aquatic Centre Executive Director Paul Manning, who will lead the Australian team to the 2007 World University Games in Bangkok.

Composer in London for premiere

The University of Wollongong's Faculty of Creative Arts Dean Professor Andrew Schultz travelled to London in early March for the premiere of one of his classical compositions at Wigmore Hall.

Professor Schultz was one of six composers chosen to write new works for the 60th birthday celebrations of the Head of Strings at London's Guildhall School of Music and Drama, David Takeno.

Professor Schultz wrote his piece, Sonatina for solo violin, for critically acclaimed young British violinist Jennifer Pike, who became well known in 2002 for winning the BBC Young Musician of the Year competition at 12 years of age.



Professor Andrew Schultz

Having formerly been the Head of Composition and Music Studies at the Guildhall School, Professor Schultz returned to UOW in 2002 to head the Faculty of Creative Arts.

His music, which covers a broad range of chamber, orchestral, operatic and vocal works, has been performed, recorded and broadcast widely by many leading groups and musicians. He is the recipient of awards and prizes including a Fulbright Scholarship, the National Opera Award, Arts Council fellowships and APRA's Classical Composition of the Year. **CN**

Race team on track for Germany



The UOW Formula team – heading for Germany in August after another successful Australasian campaign.

The University of Wollongong's racing team, UOW Formula, has been invited to compete in Germany in August after another successful Australasian campaign in the Society of Automotive Engineers (SAE) competition between universities.

The team finished third in the seventh annual Formula SAE Australasian competition in Werribee in Victoria in December, behind RMIT and the University of Western Australia.

This result has led to an invitation to

compete in an international meeting in Germany in August. The UOW team has an impressive international reputation, having become the first non-US team to win the Formula SAE world championship in Detroit in 2003.

Engineering students will design and build a new car for this year's German campaign as well as the eighth Australasian competition in December.

The team was formed in 2001 and since then it has produced six cars and competed in 10 campaigns, six in

Australasia and four in the United States.

For the purpose of these competitions, the students assume that a manufacturing firm has engaged them to produce a prototype car for evaluation as a production item.

The intended sales market is the non-professional weekend autocross racer. Therefore, the car must have very high performance in terms of acceleration, braking and handling qualities.

The car must be low in cost, easy to maintain and reliable. In addition, the marketability of the car is enhanced by other factors such as aesthetics, comfort and use of common parts.

The challenge for the student team is to design and fabricate a prototype car that best meets these goals. Each design is compared and judged with other competing designs to determine the best overall car.

Over the course of three days the cars are judged in a series of static and dynamic events including technical inspection, cost, presentation, engineering design, solo performance trials and high performance track endurance including fuel economy. **CN**

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