

Campus News

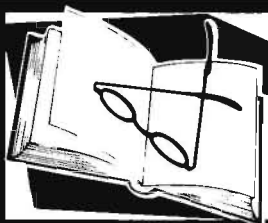
UNIVERSITY OF WOLLONGONG

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"GRADUATION" PAGE 8**



**TEACHING
SUPPLEMENT
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**PROFILE
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Sunscreen on ice...

Bowral campus considered

The University of Wollongong may look at the feasibility of a Bowral campus, following an approach by regional political and community representatives.

The Vice-Chancellor, Professor Gerard Sutton, said it was under "serious consideration".

He said, like the decision to establish a base in Nowra, initial discussions would be held with local politicians and councils.

Professor Sutton said the University would then be prepared for a feasibility study and if Bowral was a suitable site, then the Federal Government would be approached for funding.

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Biological self-defence in Antarctica

Biologists have gone to ground in Antarctica to try to understand the impact of stratospheric changes.

Those 'lowly' members of the plant community, moss and lichen, offer clues to the effects of the hole in the ozone layer.

University of Wollongong lecturer Dr Sharon Robinson is keeping a keen eye on a series of experiments she set up in Antarctica in summer.

She is part of a joint project funded by the Australian Antarctic Division, working with Dr Cath Lovelock, of the Smithsonian Environmental Research Institute, Maryland USA.

"The Antarctic continent is basically a huge frozen desert and the only plants that survive down there are various moss species which

can cope with repeated freezing and thawing events," Dr Robinson said.

"The moss is distributed around the edge of the continent, on rock that is exposed in the summer.

"Lichen species are even more hardy and can survive on nunataks further inland.

"Casey, one of the Australian stations is our chosen site because it supports the richest flora on the continent, excluding the peninsular.

"Currently, we are looking at a number of factors which influence the distribution of the moss species and trying to predict its response to global change.

"We are looking at the effects of UV radiation on the moss, using screening treatments which either transmit or block UV radiation.

"We also use screens to shade

across the whole spectrum so we can distinguish high visible light versus UV-radiation," she said.

"We want to see if moss has mechanisms to protect itself from excess UV, such as special pigments or sunscreen-type chemicals.

"In the future, we also hope to look at the extent of UV-B damage to moss DNA."

"The plants in Antarctica are particularly interesting because in the past they had extremely low levels of UV-radiation but now, because of the ozone hole, they are exposed to levels similar to the tropics in midsummer."

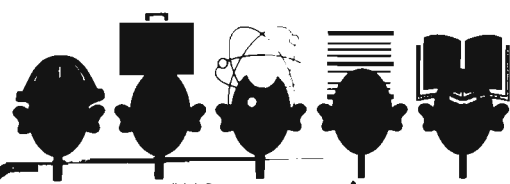
"They have therefore seen a much larger relative change than plants at more temperate latitudes," Dr Robinson said.

"So far we have preliminary results from one season but our final data will not be available until next season when we take samples that have been under the screens for a whole year.

"Currently the screens are being monitored by station staff at Casey and they send me back data on snow cover and also photos."

Other University of Wollongong researchers at Casey last summer were Nigel Andrews and Mike Dunlop (Biological Sciences), who were looking at the distribution of invertebrates within the moss and Ric Morris and Joanne George (Engineering) who were part of the human impacts programme looking at effluent discharged from the base.

Kerrie O'Connor ■



**COURSES
& CAREERS
festival**



PAGE 3

A long way from the nearest canteen



CanTeen Illawarra is richer for the efforts of a handful of Engineering students. The teenager cancer support service was the beneficiary of funds raised by the students on a bicycle trip from the Queensland border to Albury. Melanie Jackson, pictured foreground, student and Figtree Rover Crew leader, said the trip was partly inspired to achieve the Ramblers Badge, but was also a good opportunity to raise funds for CanTeen.

Moving on . . . Lovegrove, Wood, Arnold and Baker

Pro Vice-Chancellor (Research) Professor Bill Lovegrove will leave the University of Wollongong in November to be Deputy Vice-Chancellor at Griffith University.

Vice-Chancellor Professor Gerard Sutton said his departure was a tremendous loss but he would leave the University with a strong research reputation. In other departures, Mr Peter Wood has left his post as Academic Registrar after 12 years co-ordinating graduation ceremonies and 24 years at the University. Professor of Mechanical Engineering Peter Arnold retired at the end of July after 30 years at the University. He was farewelled at a cocktail party on 31 July. Associate Professor of Biological Sciences Mark Baker will be leaving to become director of the Gynaecological Cancer Research Centre at the Royal Women's Hospital, University of Melbourne.



• Professor Bill Lovegrove

Solid Silver DVC



Deputy Vice-Chancellor Professor Peter Robinson was awarded the prestigious Silver Medal of the Institute of Materials Engineering Australasia Ltd (IMEA) On 7 July. Professor Robinson was presented with the solid silver medal at the Northbeach Novotel. The presentation was part of proceedings of the Materials 98 - the Biennial Materials Conference of IMEA, held at the University of Wollongong. He was honoured for his contributions to research and industry. Materials 98 attracted engineers from around the world.

ITS opens new computer laboratories

Following a \$900,000 upgrade, students started Spring Session with more than 400 computers installed in newly-equipped laboratories.

The state-of-the-art equipment in the Student Computer Resource Centre, mean students do word processing, access the Internet, university networks and email accounts.

The \$9 million Information Technology Resource Centre was opened earlier this year but is now

fully fitted out for students.

An extra 330 computers, both Power Macintosh G3 and Pentium II systems have been installed. They include Iomega ZIP drives.

During session the laboratories open from 8.30am to 9pm and 10am to 4pm at weekends. Hours will be extended later in Spring Session.

• Wendy Myers, of ITS, who co-ordinated the computer laboratories upgrade.



Where can you see the Three Bears take revenge as Goldilocks goes on trial? Get free Internet access or watch chemists 'dice with death' in a magic show? Relax to one of Australia's top bands, sample food from around the world and decide your future?

At the University of Wollongong's 1998 Courses & Careers Festival, on Sunday 30 August.

An exciting reincarnation of the traditional university "Open Day", the Festival will entertain and inform.

University students are more attuned than ever to what a degree means for their career. The University of Wollongong Open Day reflects this concern.

Prospective students can attend information sessions such as *Which Career? Which Course?*, to understand links between qualifications, careers and industry.

Course information sessions go into more detail, explaining options for graduates - such as *It's Your Business* (Commerce), *Engineering: The Essential Career for the Future* and *Getting Scientific - 12 Different Career Paths*.

These 20 minute-sessions are usually repeated at least once.

You can also talk to lecturers and staff and inspect facilities - the best way to understand what to expect from your university.

See the practical side of university life in action, with the Faculty of Law's "Moot Court" when Goldilocks goes on trial; Creative Arts performances; hands-on Internet demonstrations in the Library and tours of university accommodation - to name just a few activities.

Postgraduate students will display internationally renowned research and answer questions. There will be information sessions on alternatives to the HSC and on enrolments of students over 21 years.

Children will enjoy hands-on science experiments, a mobile tumbletown, free Internet and computer games and a chemistry magic show (for all ages).

And just when you need a break "The Whitlams", one of Australia's top bands, and other local bands, will give a free concert from noon.

University of Wollongong

COURSES & CAREERS festival

Free lunchtime concert

Open Day Sunday 30 August 98 10am-4pm
Tel 1800 680 320 Web www.uow.edu.au/festival

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**Postgraduate Coursework & Research
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10am-4pm, Sunday 30 August
University of Wollongong

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University of Wollongong

Eritrean students fear for relatives

Ongoing 'ethnic cleansing' in Ethiopia is causing anxiety for the small contingent of Eritrean students on campus.

Tensions have been high in the Horn of Africa since a border dispute flared into war between Ethiopia and the continent's youngest nation, Eritrea, in May.

Many Eritreans live in Ethiopia and the students hold fears for the safety of relatives in the capital Addis Ababa.

Both sides are maintaining a fragile armed truce in disputed border areas after the deaths of soldiers and civilians in May and June.

However, the United Nations High Commissioner for Human Rights Mary Robinson has condemned the Ethiopian Government's mass detention and deportation of Eritreans.

More than 2,000 Eritreans have been deported from Ethiopia since hostilities flared. Others are held in jails and camps close to Addis Ababa. Others have been fired from their jobs.

Independent sources have verified that many of those arrested, deported or sacked were born in Ethiopia and hold dual passports.

The Ethiopian Government has rejected the UN concerns saying those Eritreans affected are 'security risks'.

The press agency Reuters reports many detainees were successful business people. Most of those deported after the first wave of arrests were male heads of families and their wives and children were left alone in Addis. However many of these family members have since also been deported.

Wanted: female forklift drivers, carpenters . . . Thawing out affirmative action in Antarctica

Biologist Sharon Robinson is one of a select group of women who have worked in Antarctica. Men still outnumber women at work on the frozen continent and, as Sharon explains, gender balancing may need a tradeswoman's touch.

Women have been able to winter in Antarctica for almost 20 years and the Australian Antarctic Division (AAD) wants to increase the proportion of women at its bases. Each permanent station has a 'winter' group of about 16 people, responsible for day-to-day running over the year. The majority are tradespeople, the doctor, chef, station leader and communications officers, observers and Bureau of Meteorology (BOM) technicians and often a lone physicist as resident scientist.

In summer most bases overflow as scientists descend. Large maintenance crews may be completing building programs and some bases have weather forecasters. In winter, only one or two women (12 % of the station population) live at Australian bases. That figure increases to 25-33% in summer.

Wanted: female forklift drivers

Women often form a large proportion of science programs, particularly in Human Impacts



Sharon with her blizzard-proof screens over moss.



and Biological Sciences. At Casey last year 25% of physicists and 50% of biologists and human impacts scientists were women, however there were no women glaciologists. Women are well represented on BOM, medical and catering staff and are, occasionally, Station Leaders. But women are in a minority and this is likely to continue until they are better represented in trades.

It is impossible to generalise about attitudes to women at the bases. It varies with changing personnel. Overall group size, relative proportions of professional and scientific personnel and mean age and experience all contribute. Some years see a very close community and in others there will be numbers of small groups with tradespeople and scientists hardly mixing at all. There can be a "blokey" atmosphere but most people want to work together and support the programs. The harsh environment means your survival depends on everyone else, building a strong community sense.

Some women manage their own research programs in Antarctica. Others are volunteers. A lone tradeswoman would have a different experience to mine, as a scientist working on my own project. I valued the chance to meet people with very different life experiences and to participate in new activities, including designing and building my own equipment in workshops, driving huge oversnow vehicles and learning to cross crevasses safely to remote field sites. It can also involve new recreational activities such as skiing, climbing and photography. The bases let women show exactly what they can do which

promotes equal opportunities in a practical way. A sense of humour is probably the most important attribute. The most difficult adjustment was the small community atmosphere and the extra attention this entails. It is ironic Antarctica is one place you are never alone.

Antarctica is one of the last great wildernesses and visiting it as a scientist is a rare and fantastic experience. Much of it is pristine and away, from the bases, remains much as it always has been. However, tourism is increasing and we must ensure both the bases and transient visitors by ship make as little impact as possible.

Take only pictures, leave only footsteps

Environmental awareness is relatively high, but this hasn't always been so. Nowadays station rubbish is sorted into glass, aluminium and other metals and returned to Australia (RTA). For health reasons medical and food waste are incinerated on site. Field parties obey 'the take only photos, leave only footsteps' rule and human waste is brought back and incinerated. However, in the past rubbish was left in open tips and because of the cold remains largely intact after decades. Sewage receives primary treatment but is discharged into the bay. The Human Impact program is monitoring human activities. This includes effects of vehicles and people on animals as well as the impact of the bases themselves. This is vital to understand how humans affect the animals and plants there and ensure we make as little impact as possible.

Jennifer Seberry's art of numbers

Soothing. That's how Jennifer Seberry experiences the relaxing art of mathematics.

It's reliable. Walk away, and it is always there, ready when you are.

It's creative. One step away from the solid ground of established rules, is the pioneering work of discovering new ones.

It's here the Professor of Computing Science has the most fun.

As director of the Centre for Computer Security Research she is looking for proof of "things we think are true, but we don't know are true".

She's discovering "what are the rules, how do they work, and what are their properties".

She likes working on the difficult stuff, what mathematicians call 'computationally hard' problems.

She's come a long way from 'Mr Quinn's' classroom at Parramatta High School, where the window to 'loving maths' was opened because he "liked teaching it so much".

It's also where she earned the nickname 'Panda', hence the colony in her office, some adopted, most

delivered by friends and former students.

Professor Seberry says she owes a debt to "active, engaged teachers" in the State school system.

In year four, she remembers a teacher managing 60 children with puppets, plays, science experiments, counting competitions.

Working-class Jennifer was placed in an all-girl opportunity class in year five.

"For the first time, I was exposed to music, plays, radio programs.

"I began reading six books each week.

"There were no books in our house.

"We got lots of practice at maths, mental arithmetic and lots of practice teaching other children."

Old habits die hard.

Professor Seberry, the mother of two mathematical sons, is proud of her 'female teaching line': if she traces PhD students, she is "great grandmother".

She is delighted to find PhD students who are fellow obsessives, but says she would have been a



• Jennifer 'Panda' Seberry, Professor of Computer Science.

wealthier person if industry had been more responsive to motherhood.

Professor Seberry says the "big bucks" for mathematicians were in industry, but academia was far more accommodating to parents.

She is about to present the only Australian candidate algorithm for Automatic Teller Machine (ATM) data encryption to a conference in California.

Professor Seberry's team worked with the Australian Defence Force Academy on the algorithm.

The US National Institute of Standards will select five from the 14 submitted in California for further testing.

She is also working on "smart cards", adapting mathematics to fit current technology.

Kerrie O'Connor ■

Laboratory within the laboratory

The Centre for Educational Development and Interactive Resources (CEDIR) and the Department of Biological Sciences are implementing a new program for biological science demonstrators.

They have developed a module to help laboratory demonstrators teach effectively: *Demonstrating in the Biological Science*.

Ms Maureen Bell, an Education Consultant with the Centre for Educational Development and Interactive Resources (CEDIR), said it was a first for the University — and possibly NSW.

Demonstrators may have their course accredited as a module within the University's *Introduction to Tertiary Teaching* course for academic staff.

Biological Sciences staff working with Ms Bell on the program are Lou Rodgerson, Sharon Robinson, Wendy Russell, Kris French, Linda Deitch, Joy Williams, Suzanne Middleton and the Head of the Department, Professor Rob Whelan.

The course covers explaining, listening and questioning the roles and responsibilities of

demonstrators.

Professor Whelan said his department was committed to improving student learning at all levels, undergraduate and postgraduate.

"We have developed various innovations in tutorial/practical teaching funded by the Committee for University Teaching and Staff Development (CUTSD) and other sources," he said.

"These have included computer 'pracs' for those studying Bio1103 on plant structure, cell structure and cell division.

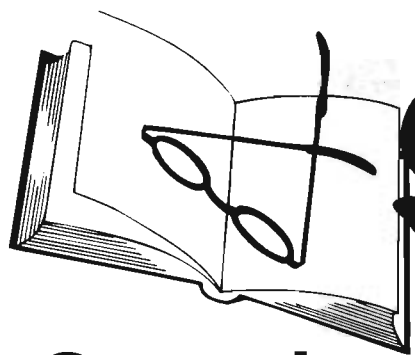
He said these programs encourage student-centred learning.



Pictured in the foreground are Professor Rob Whelan and Wendy Russell.

Background (left to right): Tom Celebreeze, Maureen Bell, Glenn Johnstone, Lou Rodgerson, Sarah Hill, Kate Rosen, Jane Wasley and Alicia Lyon. Rob, Maureen, Lou and Wendy were presenters and the rest were participants.

Ms Bell said demonstrators played a vital role in teaching and she hoped to adapt this program for other departments next year.



Spotlight on teaching...

Overview goes on the web

Overview is a peer reviewed journal of teaching and learning at the University of Wollongong.

The articles are written by teachers at the University of Wollongong making *Overview* a valuable resource for all teaching and support staff.

From the next edition, Volume 5 No.1 available mid to late August, *Overview* will be available on the world wide web at:

<http://cedir.uow.edu.au/CEDIR/overview>

The print version will still be available although the number of copies produced will be

reduced. For this reason, staff members are asked to complete a subscription (no charge) to ensure their print copy of *Overview*. Subscription forms may be found at the above url or by email request to the editor, Richard Caladine, c/- CEDIR.

"Not only will staff benefit from this change but contributing authors will gain wider exposure as the url is being distributed to centres for teaching, learning, professional and staff development in Australian and overseas universities," Mr Caladine said.

Copies of previous issues are being converted and will soon be available at the web site.

Contributions to *Overview* are welcomed. Contact the editor for guidelines.

The following extracts are samples from the many articles in the next edition:

Coming to terms with generic skills

Dr Catherine Milne, of CEDIR, targets the growing importance of students developing generic skills.

She points out that with the introduction of graduate attributes, the University of Wollongong has indicated its commitment to providing a learning environment in which students have the opportunity to develop generic skills as well as technical skills and conceptual understandings.

Generic skills can be described as skills that are not restricted to a field of study. However, the characteristics of generic skills are sometimes difficult to describe specifically.

In her *Overview* paper, Dr Milne examines various beliefs about generic skills that influence the way these skills are conceptualised.

She argues that these beliefs have implications for notions of how students learn and for the role of generic skills in curriculum and course development.

The beliefs that she examines in detail are:

- Generic skills, unlike content, are timeless and constant
- Generic skills exist as separate little entities

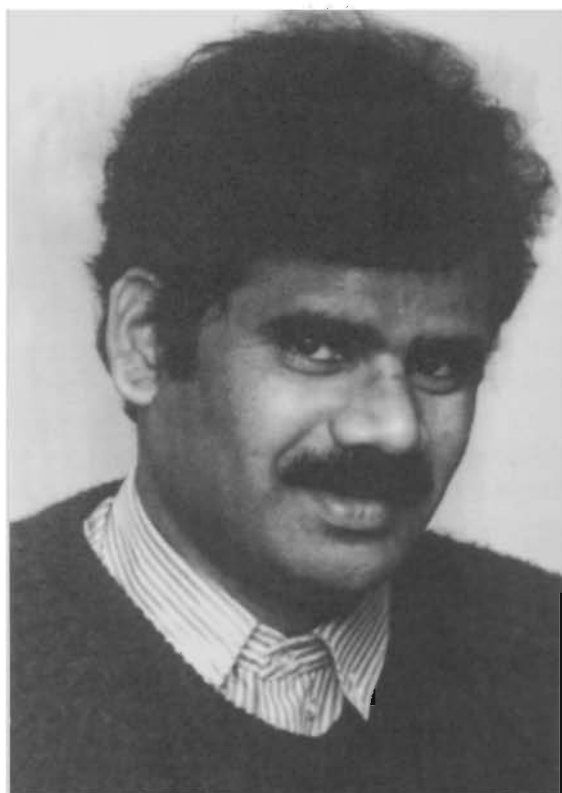


- Some generic skills can be described as intangible
- Generic skills do not need to be taught at university, students learn them at secondary school

"If, instead, generic skills are thought of as dynamic, constructed, integrated, tangible and developmental this has implications for the way that learning environments in higher education are structured for students," Dr Milne said.

The advantages of multimedia presentations

Dr H.B. (Dharma) Dharmappa, of the Department of Civil, Mining and Environmental Engineering highlights in his paper that multimedia presentations have very distinct advantages in making learning and teaching more interactive.



Using multimedia packages for teaching pollution control processes is novel.

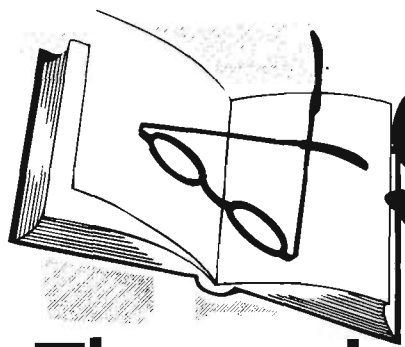
The successful preparation of a multimedia presentation on the sedimentation process is documented in his paper.

Sedimentation is a physical process which is widely used in water and wastewater treatment.

Teaching the design concepts for this process in the conventional classroom setting is hard because students have a difficulty in visualising the techniques involved.

The package has incorporated all the elements of a multimedia presentation including text, photographs, video clips and animation of particle deposition and removal in a sedimentation tank.

The paper presents the different stages of this multimedia package development.



Spotlight on teaching...

The web as a valuable learning tool

Ms Lenore Lyons-Lee, of the Sociology Program, addresses in her paper the use of the World Wide Web as a teaching and learning tool.

She has used the Web for three main purposes: as an additional library resource; as a tool for retrieving materials not generally found in libraries; and as a non-traditional teaching space.

Ms Lyons-Lee said that one of the main benefits of introducing students to the range of resources available on the Web was that it enabled remote access.

"For staff interested in using their teaching time more flexibly, the Web may offer a site for the presentation

of materials and staff-student interaction outside the traditional classroom," she said.

However, she said a question remained over the appropriate forum for teaching students to access and use the Web.

"Some may argue for example, that learning to use the Web is a technical skill that should be taught outside normal class time. Another important concern is the potential that it creates for teachers and class time to be reduced.

"In other words, as part of a push towards 'flexible delivery', the Web may render traditional face-to-face teaching obsolete." Ms Lyons-Lee discusses these concerns in light of her own teaching practice.



Use of computer programs in teaching structural analysis



Dr Muhammad Hadi, of the Department of Civil, Mining and Environmental Engineering details in Overview his students' needs and preferences for computer programs in his particular engineering course.

One of the subjects taught in the Department of Civil, Mining and Environmental Engineering is *Structures3* which is basically composed of two topics — matrix structural analysis (stiffness and flexibility methods) and the finite

element method which covers the analysis of trusses, constant strain plane elements and three dimensional elements.

Both parts include a computational component and both are numerically demanding.

In his paper, Dr Hadi said this made teaching the subject a challenge, since students are required to comprehend and apply the methods without using readily-available computer software.

The experience in teaching this subject is described in *Overview*. Traditionally, the computer program CAL was used to aid the understanding of the subject contents.

In 1996, the computing component of the subject was changed. In the first stiffness part, students were asked to use two computer programs to analyse structures: CAL and the EXCEL spreadsheet. For the finite element part, only CAL was used mainly due to time limitations.

The effectiveness of short term in-country study/work programs

Ms Noriko Dethlefs, of the Modern Languages Program, believes there is far more to gain than just learning a language more efficiently when language students experience living in the country where the target language is spoken.

January and February 1998 marked the sixth in-country summer session for second year students majoring in Japanese at the University of Wollongong.

After co-ordinating this program in Japan for five years, Ms Dethlefs has found that the benefits extend to more than language and culture acquisition.

Her paper in *Overview* outlines some ideas and directions for establishing the aims and organising connections for in-country programs.



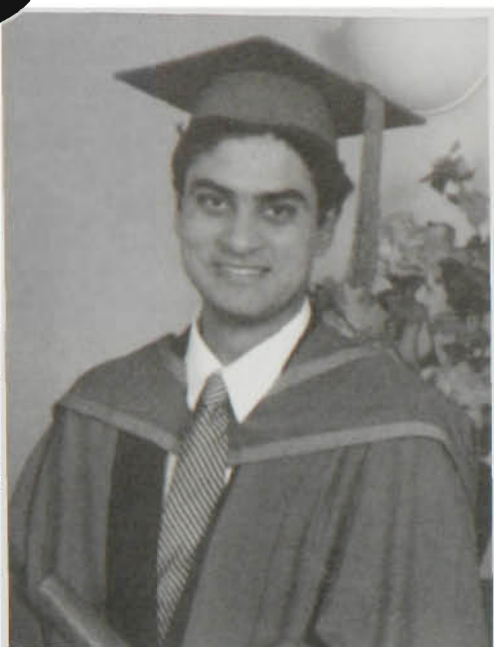
The paper also provides comments on assessing the effectiveness of the in-country program.

She points out that as Australian universities are seeking to establish strong international links and fruitful collaborative research programs to attract overseas students to their institutions there is a strong need to cultivate students with an understanding of another country.

The paper commends providing in-country training opportunities for students as a worthwhile contribution to the society in which they will be working after graduating.



International "Graduation"



Mohammad Akbar Khan, of Pakistan

Special farewell for international students

International students unable to return to Wollongong for the graduation season were farewelled in June at the UniCentre Function Rooms.

It gave the University the chance to thank students for their contribution to the campus, to wish them well and encourage them to maintain links with the University.

The first farewell for international students was held last December. Previously, such functions were held on a faculty-by-faculty basis.

The Chancellor, Mr Michael Codd, presented the students with certificates of appreciation.



Pauline Toffier, of France.



Mr Robert Williams, of the Department of Accounting and Finance, with Pui Chi Kenji Wong, of Hong Kong.



Vice-Chancellor Professor Gerard Sutton addresses "graduates" at the ceremony

No assumptions please: we're Chinese

The Chinese economy is changing so rapidly, many western business analysts are being left behind, bogged down by stereotypical assumptions of sino-commercial culture.

That's the view of the Chinese and Australian authors of a book on Chinese business culture, launched in Sydney on 23 July.

Senior Chinese officials attended the launch of *Business Culture in China* (Butterworth-Heinemann: Singapore 1998).

It is a collaboration between Chinese and Australian business analysts Dr Karen Yuan Wang, of the University of Technology, Sydney; Associate Professor Xin Sheng Zhang of the

Peoples University Beijing and Rob Goodfellow, of the University of Wollongong.

The Senior Trade Consul for the Peoples Republic of China Mr Ling Qun, Sydney Consul General Mr Ke-Ming Wu, director of the China Economic Daily Mr Gao Shan Gang and president of the SES Pacific Investment Group Mr Wang Fan Qing attended.

The NSW Minister for Energy and Tourism Bob Debus officially launched the book.

Central China Television (CCTV) filmed the launch as part of a documentary on Australia to be broadcast in China.

Co-author Dr Wang said the realities of constant change at the dawn of the 'era of globalisation'

meant previously-held stereotypical views about what constitutes a distinctive business culture must be constantly re-examined.

Professor Zhang said: "We have presented a vivid picture of modern-day commerce that does not ill-advisedly attempt to explain China's complex business culture in terms of tradition alone, but looks at business as a dynamic expression of a living, changing culture".

Mr Goodfellow said the book discussed Chinese managerial style, co-operating with government departments, negotiation, the cultural 'essence' of Chinese commerce, consumer psychology and the most effective way of promoting goods and services in the world's largest market.

Checking fine print in two languages

Journalist welcomed as first visiting fellow

Comparing western and Chinese media is high on the Graduate School of Journalism's first Visiting Fellow's agenda.

Miss Li Yanbei, a journalist from Yunnan Television in China, began her residency in June for two academic sessions.

Miss Li, and Head of School, Dr Eric Loo, are comparing and contrasting western and Chinese media — electronic and print.

She said a clear difference was the greater content in western newspapers, while Chinese newspapers contain fewer advertisements.

"In China evening newspapers are very popular, and each city has its own evening newspaper," she said.

Miss Li, who obtained a scholarship from the China State Education Commission to visit Australia, will present her television experiences to students in the international segment of Dr Loo's program.

Yunnan TV is a provincial television station in the south-western province of China. It began English programs in 1996. Miss Li, who has an English literature background from West China University of Medical Sciences, intended to teach English in one of the medical universities.

"We have to buy special newspapers for different types of information"

However, with more TV stations developing English programs, she soon found employment outside the medical field.

She said the rise in English programs in China was due to rapidly-growing foreign audiences, including business people moving into provincial areas.

"What started out as simply



English-speaking news programs have now mushroomed into tourist and other information-related programs in English," Miss Li said.

She hoped her stay in Wollongong would help her expand programming

on Yunnan Television. Miss Li said her region was a "gateway" area to Laos, Vietnam and other countries.

• Miss Li Yanbei . . . English-speaking TV programs on the rise in China

An ingenious device to straighten and centralise buckled bicycle wheels in one action has won the Faculty of Engineering's 1998 Creative Design Competition.

The competition represented 14 weeks' hard work by students enrolled in the 100 level subject *ENGG154 Introduction to Design and Innovation*.

In the last week of Autumn Session, 40 small groups, comprising 185 students across the faculty, contested the semi-finals. Six groups, involving 28 students, were selected for the grand finals.

Five different categories were judged and the winners were:

Overall winner: Group ME15, Andrew Blair, David Purvis-Smith, Simone Sullivan, Melanie Werner and Robert Yeates for their Bicycle Truing and Dishing Stand.

Judges: Mr Geoff Hancock, Mr Pat Foy and Mr Bill Burke of BHP Integrated Steel. Presented by Mr Hancock.

Winner of People's Choice Award: Group ME14, Phillip Burke (absent), Andrew Gooley, Gareth Hirst, Craig McLauchlan and Timothy Slade for their Ez Jar Opener — a device that allows bottles or jars of any size to be opened by one hand. This award was judged by the audience and presented by the Head of the Department of Civil, Mining and Environmental Engineering, Professor Robin Chowdhury.

Winner of Best Oral Presentation: Group CE1, Meryl Collard, Kathryn Earnshaw, Kylie Ford, Joanne Lackenby and Nur Aizalina Mohd Ali (absent) for their Portable Clothes Line—a self-

Reinventing the wheel . . .

explanatory compact device that can be carried in a backpack.

Judged and presented by Mr Keith Swann, Deputy Chair, Illawarra/Sutherland Regional Group Committee, The Institution of Engineers, Australia.

Winner of Best Technical Solution: Group ME19, Stephen Beeson (absent), Brian Konkoly, Christopher Kornek (absent), Gordana Marijan and Christopher Plummer for their Flammable Liquids Storage Container — a portable device made from a recycled 200 litre drum according to the Australian Standards to store paints, etc.

This award was judged by Mr Ron Nevison and Mr Steve Harvey, and presented by Mr Nevison, acting on behalf of PhD Engineering Pty Ltd.

Winner of Best Commercial Potential Award: Group CE4, Nicolas Bourgeot, Keir Christian, Joshua McKenzie and Christopher Wing for their Whipper Wheels — a simple but effective device to convert a weed eater into a small lawn mower.

Judged and presented by the Dean of the Faculty of Engineering, Professor Brendon Parker.

The major sponsors for this event were the



Illawarra/Sutherland Regional Group of the Institution of Engineers, Australia for the Best Oral Presentation; PHD Engineering Pty Ltd for the Best Technical Solution; Faculty of Engineering for the Best Commercial Potential; and BHP Integrated Steel for the Overall Winner.

Associate Professor Peter Wypych, of the Department of Mechanical Engineering, was the competition convener and master of ceremonies.

Pictured after the competition winners were announced were (from left): Peter Wypych, Geoff Hancock, Melanie Werner, Andrew Blair, Simone Sullivan and David Purvis-Smith, and Robert Yeates (crouched behind prize-winning invention).

Illawarra workers' survey lays militant image to rest

A survey of more than 1,000 Illawarra workers showed they rated management and unions highly, even during a period of major restructuring.

The Member for Keira Colin Markham released the Labour Market and Human Resource Program survey results on 15 July.

The research focussed on firms with more than 20 staff.

It was launched at the Sixth International Employment Relations Association Annual Conference.

The University of Wollongong's Departments of Management and Economics organised the conference, officially opened by the Vice-Chancellor, Professor Gerard Sutton.

Associate Professor Ray Markey co-ordinated the survey team and said its results confirmed a positive industrial relations climate in the Illawarra.

He said the region reflected national trends and although differences existed they were generally positive ones.

Even amidst extensive workplace change, employees indicated a relatively high degree of satisfaction with jobs, wages and hours and rated management and unions positively in terms of their co-operation and roles in the workplace.

Illawarra employees said management consulted them more than their peers in national surveys.

As predicted, the rate of Illawarra union membership,

although declining, remained higher than the national average.

Illawarra unionists were less likely to be subject to compulsory membership and participation in union activities was high.

Professor Markey stressed the results contradicted the popular image of the region as a hotbed of industrial militancy — an image he said was not based on hard data.

He said the high degree of co-operation between unions and management and general satisfaction with the industrial climate was a positive investment incentive.

However, Professor Markey warned there was considerable room for improvement.

Occupational injury or illness was higher in the Illawarra than nationally. Work-related stress was a major problem with 40 per cent of employees complaining of stress.

Almost half of those surveyed reported increasing stress and almost 25 percent were working longer hours.

Training was increasing, but not at the same rate as workplace change and management consultation was mainly restricted to direct on-the-job issues.

The survey is a part of a larger Illawarra project which surveyed 200 large and 154 small businesses due for release at the end of the year.

The University of Wollongong and the State Government jointly funded the project. The Illawarra Regional Information Service (IRIS) conducted fieldwork.



• Mr Houlihan interviewed by the media during the conference.

Employment relations under scrutiny in globalisation era

The eleventh-hour withdrawal of a major player in the recent acrimonious maritime dispute disappointed organisers of a recent employment relations conference in Wollongong.

The sixth International Employment Relations Association Annual Conference was held from 15 to 17 July.

Its theme was Globalisation and Regionalism: Employment Relations Issues in the Asia-Pacific.

Producers and Consumers (P&C) Stevedores director and former National Farmers Federation director Paul Houlihan attended.

However Maritime Union of Australia national secretary John Coombs withdrew shortly before he was due to speak when he was called to an urgent dispute.

Conference convener Terri Mylett, of the Department of Management, said the conference compared the experience of many countries including South Korea, Indonesia, Malaysia, New Zealand, Taiwan and Australia.

Delegates discussed the impact of globalisation on countries and regions, including the Illawarra; participation in workplace change in union and non-union sites; job satisfaction and commitment among casual staff; and strategic human resource management in Australia.

The Departments of Management and Economics at the University of Wollongong organised the conference.

Selected papers will be edited for inclusion in a forthcoming book.

After Gretley: mining the millennium Engineering a safer future under the ground

The deaths of two Hunter Valley miners in cave-ins during July has again highlighted critical safety issues facing the industry.

One of the accidents came the day before the findings of an inquiry into the nearby Gretley Colliery disaster of 1996 were announced.

Associate Professor Naj Aziz, of the University of Wollongong's Department of Civil, Mining and Environmental Engineering, said the latest tragedies showed the crucial importance of research into ground control in underground mining.



Mine safety was under scrutiny at a conference of international mining specialists at the University of Wollongong, held from 14 July. Dr Buddhima Indraratna was the convener.

NSW Mineral Resources Minister Bob Martin (pictured) opened proceedings saying the State Government would implement all recommendations of the recent independent review of mine safety.

Scientists delivered more than 100 papers and the overwhelming majority concerned ground control, directly linked to safety.

Mavis says thanks to Koories



Gifts handed on for AEC display

A University of Wollongong graduate Mavis Miller has donated her valuable collection of Aboriginal arts, crafts and artefacts to the Aboriginal Education Centre (AEC).

Mrs Miller studied French and Italian and was made a Fellow of the University for contributions to campus and community.

The Mavis Miller Collection is

on public display at the AEC.

It includes carved lizards, boomerangs, didgeridoo, sculpture and a painting.

"In my journey through time, there were many lessons to be learnt, but the most important for me is an appreciation of people," Mrs Miller said.

Mrs Miller officially handed over the collection at a morning tea in July at the AEC and she was delighted

when Koorie graduate Jeff Timbery played didgeridoo in her honour.

Pictured from left, Mavis Miller, AEC head Bill Harrison and Aboriginal Studies Resource Officer Narissa King at a morning tea to celebrate the handover in July.



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Bowral campus considered

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Meanwhile, the Prime Minister, John Howard, has been invited in September to turn the first sod of soil at the University's South Coast Educational Network, due to open in Nowra in 2000.

In 1993, the University established Graham Park Campus, Berry, to service the growing Shoalhaven area. Federal Government funding was later allocated to expand this facility as a permanent campus closer to the centre of population in Nowra.

There will also be access centres further down the coast, initially at Bateman's Bay and Bega.

A high bandwidth network link will offer quality interactive video, voice and data communications between these sites and the main campus, and will be used to deliver courses using innovative teaching and learning methods.

A model of the new campus' first stage is on display in the University's Council Chamber.

Ethel Hayton award to Max Morris



The Chancellor, Mr Michael Codd, presented staff awards on 12 June. The Ethel Hayton Award went to the Science Centre's Special Programs and Volunteers co-ordinator Max Morris. It honours notable contributions to enhancing the University's community links. Other nominees were: University Library staff; Jane Innes, a Senior Lecturer in Law; Bruce Power, University Aquatic Centre Manager; and Liz Hilton, University Course Adviser, UniAdvice. Max Morris is pictured after receiving his trophy from the Chancellor, with Vice-Principal (Administration) David Rome in the background.

Cutting out the competition



It's official: the UniCentreCutting Crew is a cut above the rest. Manager Suzi Pupovac is Hairdresser of the Year, after topping four sections at the 21 June South Coast and Illawarra Hairdressing Championships. Suzi won the men's and women's haircutting section and both awards in the men's "total look" section. Brooke Fitzsimmons won the "bridal make-up total look" trophy. Suzi told Campus News the winning styles will set trends for the rest of the year. The Cutting Crew, from left: Suzi Pupovac, Mia De Vries and Brooke Fitzsimmons.

Stressing benefits of hands-on study

Hands-on experience is crucial for engineering students before they take up positions in government or industry.

A group of Wollongong civil engineering students, under the leadership of Dr Richard Kohoutek, have been asked by Ove Arup, consulting engineers, to take a part in a major project to assess the safety of the Murrumbidgee River Rail Bridge at Wagga Wagga and explore ways to extend its life.

The State Rail Authority is monitoring the bridge, after hairline cracks were discovered in the century old structure.

Prototype beams have been included in the structure for testing.

Honours student Deanne Haddin has made the bridge her thesis topic and an original steel beam from the bridge is being tested at the University of Wollongong and at other sites.

Dr Kohoutek says it is critical for students to realise the scope of engineering challenges they will face on graduation, and to use real situations as their thesis subjects.



Right: from left back, honours students Patrick Falvey, Deanne Haddin (standing) Michael Marix-Evans. Front, left, Cameron McConville, Dr Richard Kohoutek and Ramiro Mesina. Missing are students Scott Chapman and Arthur Vasilaras.

We are on the Web

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<http://www.uow.edu.au/admin/marketing/bytes>

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Thawing out affirmative action in Antarctica

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Feral on the snow

As well as bringing back rubbish, there is also heightened awareness about the impact of introduced species on flora and fauna. This is a major issue on the sub antarctic islands, Macquarie and Heard Is. because the more benign environment means introduced pests like rats, rabbits, cats, foxes and plants are more likely to survive and potentially damage native organisms. It is less of a problem on the continent but we still must be aware that organisms may be transplanted. The most insidious are probably microorganisms which may infect animals and plants despite the cold. Poultry products are banned in the field because of concerns that poultry viruses may infect penguin or other bird communities nesting around the bases.