Campus News
UNIVERSITY OF WOLLONGONG

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Warning of the dangers of quick-fix surgery

Quick-fix surgery is big business but are the growing number of "nip, tuck and zap shops" safe?

That's the question posed by University of Wollongong researchers Ms Margaret Wallace and Dr Glenn Mitchell (above).

Ms Wallace, from the Department of Nursing and Dr Mitchell, from Science and Technology Studies, fear some street-side surgery may not be safe.

They include clinics offering cosmetic surgery, impotence treatments and laser eye treatments.

As faster surgery becomes a marketable commodity, the pair are concerned consumer rights may be compromised.

The traditional "gatekeeper" — the family GP — has been by-passed in the rush to take advantage of technology: "the brave new world of the new surgery".

In the past, most surgical procedures required a referral to a specialist, with all the attendant delays.

Now it is possible to have surgery in your lunch hour at a range of city and suburban clinics.

While recognising advantages to consumers, Ms Wallace and Dr Mitchell say impotence clinics, in particular, raise serious questions.

The NSW Health Department and prominent plastic surgeons support their views, also expressing concerns about safety.

The NSW Health Care Complaints Commission found clients of some impotence clinics were not assessed properly, informed consent was not always given, follow-up was poor, there were problems with medication and inadequate instructions on administering medication were given.

"If I tell you many treatments rely upon the man injecting his own penis with a medication in order to obtain an erection you will understand why good teaching and careful follow-up are important," Dr Mitchell said.

Ms Wallace and Dr Mitchell presented their fears in a paper called Sex, Lies and Surgical Tape...at the inaugural conference of the Institute of Social Change and Critical Inquiry in February, at the University of Wollongong.

The conference posed the question: what does Barbie have to do with beef? Medicine with Marx? Shopping with just about anything?

The improbable blonde rubbed plastic shoulders with the politics of beef — and even Balinese art — while 60 delegates pondered commodities in all possible incarnations.

• Continued page 16

Wollongong's impressive ARC successes

How we split 'Gang of Eight'

The University of Wollongong has achieved remarkable results in the highly competitive Australian Research Council (ARC) grants, surpassing a number of the so-called 'Gang of Eight' research universities.

"We have scored an impressive achievement. It is something we have been edging towards over the past few years," the Vice-Chancellor, Professor Gerard Sutton, told *Campus News*.

In combining the competitive peer-reviewed 1998 ARC pure and applied research grants to Wollongong, the University can now claim to have overtaken some of the 'Gang of Eight' universities in overall national allocations.

This comparison considers the relative sizes of institutions competing.

The operating budget is the base funding for day-to-day research and teaching activities and according to Professor Sutton, is the most appropriate comparative base indicator to judge the performance of a university with respect to these competitive funding sources.

For example, examining the University's research performance based on an operating budget percentage:

- The University of Wollongong ranked fifth nationally for ARC Large and Strategic Partnership in Industry Research (SPIRT) grants and;
- ranked sixth for the number of higher degree research completions.

See pages six to 15 for the names of our grants recipients and graphs showing how we have split the 'Gang of Eight'.

The Eastern Triangle vs Everyone Else:

How the Convention highlighted a divided nation

The Constitutional Convention has confirmed fundamental fault lines within the Australian electorate that emerged during the 1996 Federal election.

It is a point that may have been missed amid the shouting, but is crucial to our understanding of Australian politics, according to Dr Greg Melleuish, Senior Lecturer in History and Politics at the University of Wollongong.

In fact, these divisions may be more important than the disagreements between monarchists and republicans, Dr Melleuish believes.

"During the 1996 election a gap opened up between the 'triangle' of Sydney, Canberra and Melbourne, which largely voted Labor, and the rest of the country who voted for the Coalition," Dr Melleuish said.

"One of the crucial lines of division in the Convention has been between those who wish to push through a minimal change that keeps power firmly in the hands of the existing order, and those who, speaking largely in the name of the 'people', see little of value in such a change if its only effect is to consolidate the power of that order.

"In the latter camp can be placed both 'elect the president' republicans and Constitutional Monarchists," Dr Melleuish said.

"It is not surprising the outlying states are suspicious of the minimalist model as it appears to consolidate power in the hands of the eastern political establishment. An elected president would return some of that power to the people regardless of where they lived. The Convention has not brought together the Australian people in a celebration of unity," he said.

"Rather it has confirmed fundamental divisions within Australia. It will help to fuel the sort of populism that thrust first Pauline Hanson and then Cheryl Kernot forward as figures who purport to stand above politics."

Malaria thrives in 'subsistence' Vietnam

Poverty in South-East Asia hampers attempts to control malaria, according to a University of Wollongong academic. Dr Andrew Cornish worked for the past two years in Vietnam on an Australian-funded project to prevent the disease.

The AusAid project is worth about $15 million, with $12 million coming from Australia and the rest from the Vietnamese government. Dr Cornish was deputy team leader and community development adviser.

Dr Andrew Cornish

According to Dr Cornish, the program was the largest single malaria prevention program to date. But he said economic realities meant many Vietnamese could not implement anti-malarial measures.

"The AusAid program was initiated to fill the gap left by the withdrawal of Soviet funding," Dr Cornish said.

"This left the area vulnerable to massive epidemics of malaria that killed thousands in the country during 1991/92.

Dr Cornish said he spent the past two years conducting social surveys of what rural Vietnamese in high risk areas knew about malaria, and what preventive measures they took.

"I then used this information with the Vietnamese Ministry of Health to set up community education programs and establish networks of village health workers to promote malaria prevention," he said.

"We also set up literacy programs for women in remote areas so that health education programs would be more effective."

Gross incidence of malaria has fallen since 1991/92, according to Dr Cornish, but over-use of antibiotics, and the failure to follow full drug regimens means that resistance is likely to increase.

"The main problem is in remote rural areas where communications are poor," he said.

"The economy is still at subsistence level and many inhabitants belong to ethnic minorities. The malaria detection system is also poor, and the project has been setting up a computerised system to overcome this."

The success or failure of malaria control programs in high-risk areas can have implications around the world, according to Dr Cornish.

"The main problem with malaria in Australia is likely to come from infected travellers," he said.

"If local types of mosquitoes bite an infected person, this might allow the parasites to continue their lifecycle in Australia, which not only applies to malaria but to other mosquito-borne diseases such as Japanese encephalitis and dengue fever."

Strong demand for places at Wollongong

Strong demand to study at the University of Wollongong has permitted the University of Wollongong to meet its enrolment targets.

Despite the 10 per cent overall reduction in students wishing to study in NSW, the University of Wollongong has met its enrolment targets retaining its already high Tertiary Education Ranking (TER).

"We have gone gone against the trend of universities in this state and nationally," the Vice-Chancellor, Professor Gerard Sutton said.

"Personal" education

He said the enrolment figures reflected the University's strong reputation as a first-class institution.

Students appreciate the "personal" education offered at Wollongong.

A smaller campus meant students "did not become numbers", a risk in much larger universities.

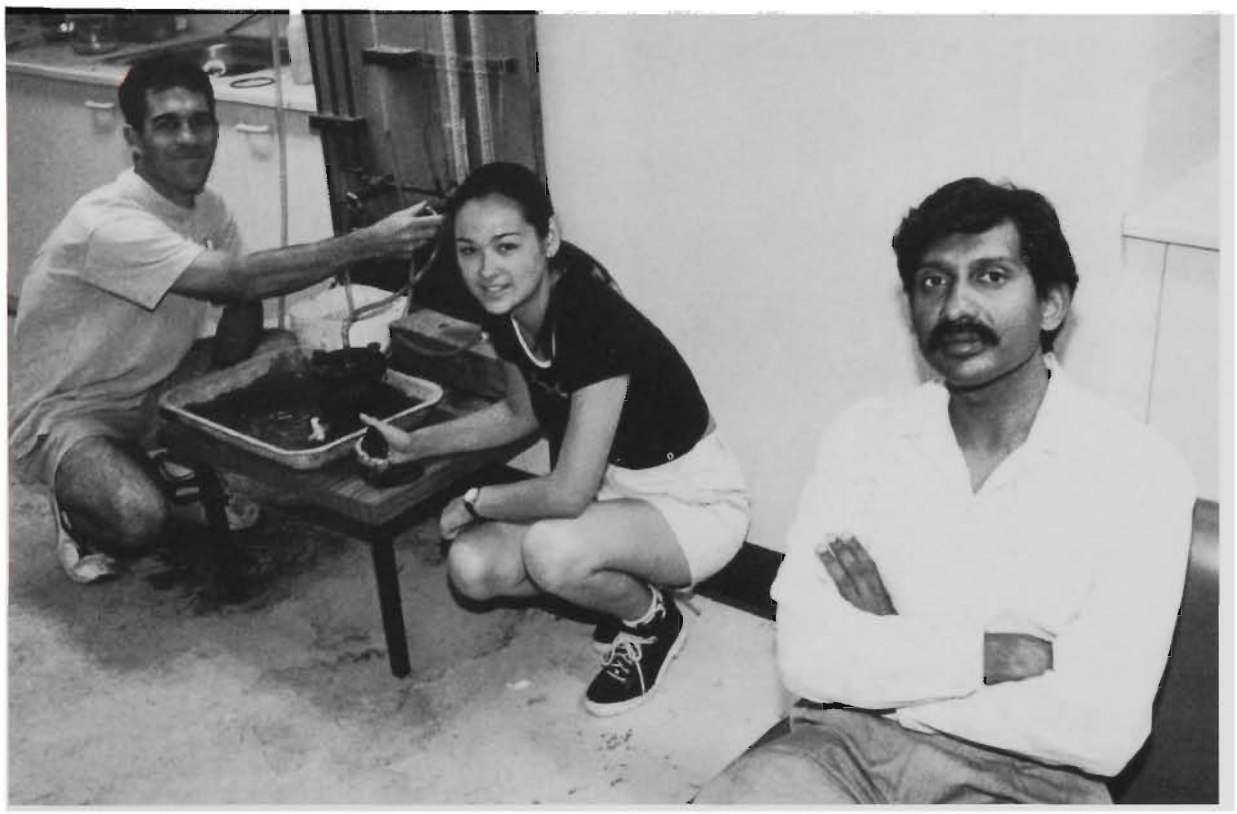
The Asian currency crisis is expected to reduce overseas enrolments, the Vice-Chancellor said.

Engineering solution found for national environmental problem

Acid sulphate soils devastate plant and marine life, undermine flood-works and cost Australia millions of dollars.

Now, after five years of work, a University of Wollongong team has engineered a solution.

Working on a 120-hectare Berry site, Dr Buddhima Indraratna and his team use adjustable weirs in flood mitigation drains to control the problem.



Dr Buddhima Indraratna (pictured in foreground) with Bruce Blunden, who is undertaking his PhD on the project, assisted by undergraduate student, Linda Thong.

This project has support from Shoalhaven City Council, the Environment Protection Authority (EPA) and NSW Agriculture.

Dr Andrew Nethery, EPA Head of Operations, Wollongong, has secured industry participation.

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

A variety of soil minerals react to the acid and release free aluminium, toxic to crops and marine life.

The weirs ensure the water table remains high enough to cover the acid sulphate soil so that it does not dry out and become exposed to the atmosphere.

Farmers who install weirs will save on costly alternatives: treating soils with lime mixtures and soil replacements.

Dr Indraratna, a Senior Lecturer in the Department of Civil and Mining Engineering said the weirs helped control acidic run-off into areas where aquatic life is threatened.

The acid also corrodes underground structures like steel-reinforced concrete culverts and bridge footings built to prevent floods.

Dr Indraratna said an efficient weir cost about $3,000. A farmer working 100 hectares would need two weirs and could probably build them without much outside help.

"Farmers will soon recoup this initial outlay as lime treatment is very expensive. For example, it may cost a farmer about $500 per hectare in lime treatment for effective acidity control, and this procedure may need to be repeated regularly in most affected areas," Dr Indraratna said.

He said high acid sulphate soils existed along the coastline and were exacerbated in floodplain areas like the Shoalhaven.

He said local governments have unwittingly contributed, digging deep flood mitigation drains in dairy farming country.

Deep drains — instead of flat, wide ones — drastically lower the water table. After the water subsides, acid sulphate soils are exposed to the air and the cycle is repeated.

Government authorities and farmers recognise the team's work. Dr Indraratna and his team had no trouble "borrowing" the Berry experimental site from four farmers and securing $270,000 in funding.

The NSW Acid Sulphate Soils Management Advisory Committee (ASSMAC) has given $92,500, with $40,000 from Shoalhaven City Council.

An in-kind commitment of $75,000 has also been made by the Council, the Environment Protection Authority and NSW Agriculture.

The Department of Employment, Education, Training and Youth Affairs (DEETYA) has provided $63,000 for the work of key researcher Bruce Blunden, who is undertaking his PhD on the project.

Mr Blunden, a former scientist at CSIRO and the EPA, has undertaken PhD studies on leave of absence from the EPA (Grafton) because of the importance of this research.

Dr Indraratna is keen to receive additional funding of about $80,000 to set up devices like electronic or laser sensors, to allow full automation of weirs and floodgates during dry and wet periods.

Welcome to the year ahead

With the bulk of our students now about to embark on another academic year, I would like to take this opportunity, through the pages of *Campus News*, to welcome everybody — newcomers and our 'old hands'.

The newcomers will quickly learn that we are a leading Australian university noted for our internationalism, world-class research strengths and excellent teaching.

You only have to read the story on page one of *Campus News* about our incredible achievements in the latest round of highly competitive Australian Research Council (ARC) grants to see how strongly this university is placed.

Based in Wollongong we draw the majority of our students from the Illawarra region but we are continuing to attract many students from southern Sydney where we currently draw almost a third of our intake.

While many universities have been struggling to meet their enrolment targets this year, the majority of faculties at the University of Wollongong not only attracted more than their targeted number of students but as well either maintained or increased the TER level they required.

You will notice that building developments are in full swing across the campus, some of which will soon be ready for occupancy. None of these developments has in any way detracted from the sheer natural beauty of our campus.

For those of you who are joining us for the first time, welcome aboard to one of Australia's leading universities.

Gerard Sutton
Vice-Chancellor

Profile

Fairness and justice still hold centre court for Jane

When Jane Innes stops trying to change the Constitution and wonders why she became a lawyer in the first place, she isn't coy about a childhood fascination for fairness and justice.

Fairness and justice?

"Key concepts," says Jane, "and powerful motivations."

"I remember my first encounter with injustice was in pre-school. Watching other children bully and torment a deaf child left a lasting impression.

"I just wanted to be his friend."

Five years with Legal Aid "mixing it in the police cells, jails, and courts in Sydney and Melbourne" didn't kill the motivation for fairness and justice.

Five years in the Human Rights Commission didn't strangle it

Corporate law? Well, too much of it probably would.

Luckily, the little girl with childhood dreams has much else to occupy her.

On her way to a job as a Senior Lecturer in Law at the University of Wollongong, Ms Innes had the "privilege" to work with three telling women.

They were Pamela O'Neil, Australia's first Sex Discrimination Commissioner; Elizabeth Evatt, a former Chief Justice of the Family Court and former head of the Australian Law Reform Commission; and Quentin Bryce, Australia's second Sex Discrimination Commissioner and current Principal of Women's College, the University of Sydney.

"Serendipity, fortuitous -- I was lucky," Jane said.

Her work with these women set the tone for much of Jane's career.

"Working with these women made me realise how possible and crucial it is for women to contribute to legal and policy issues," she said.

Now she is trying to narrow the gap between the Constitution and the people who have to live with it, whether they understand it or not.

She and her team have produced a timely video series: *Millennium Dilemma*.

Not satisfied with simply analysing history, some of the nation's most prominent thinkers ponder and discuss the constitutional past, present and future.

Their thoughts are recorded on video and in a book of the same title to be released next month.

The video has already been picked up by the Commonwealth Parliamentary Library, universities, schools and community groups. Ms Innes wants to see it used in schools everywhere.

"This is a very rich research resource. From 1995 on we have a very interesting archive, a unique archive, on the thinking of leading Australians on this critical question of constitutional change.

"The debate will continue to evolve and I hope this has been an important starting point to draw out some of the seminal concepts and viewpoints from which constitutional change will be derived."

Jane watched the recent Constitutional Convention with interest -- and a degree of scepticism:

"We need to move past the republic/monarchy divide and the adversarial mode," she said.

"The convention to some extent achieved this.

"But it was very disappointing they couldn't appoint a female co-chair.

"That was a real indication, early on, we still have a long way to go.

"For example Dame Roma Mitchell, Australia's first woman Supreme Court judge, former Governor of South Australia and one of the most experienced conference chairs in the country was an obvious choice.

"Another obvious choice was Lois O'Donaghue.

"I have no doubt the convention raised public awareness of the Constitution and that's a positive outcome, but we still have a long way to go."

Of her *Millennium Dilemma*, Jane is proudest of the methodology used to produce it. She calls it Delphic Oracle Technique.

"This type of research moves past traditional academic methods, which are usually concerned with the past or the present: the situation ex post facto -- this method explores the future," she said.

"While it looks at the past, more importantly it explores the future challenges.

"It is designed to assist the community to come to terms with change and to understand our constitutional arrangements.

"All Australians need to confidently be able to participate and decide on the issues.

"It certainly doesn't displace traditional scholarship but there is a need to support this with new research techniques and ways to deliver quality educational content. "

The program took more than three years to produce.

"It's been a painstaking process, but it has been worth it.

"Some people have the notion that something like this is as easy as picking up a camera and pointing it.

"At first glance the years of research that go into it may be invisible. But solid research underpins the whole project and, of course, the generosity and dedication of the various contributors.

"From 1995 to 1997 their expert views were recorded on camera and fed back for assessment and amendment."

Jane has two children and says she would be unable to sustain her workload without a flexible work timetable.

"Employers are finally beginning to understand they gain huge productivity outcomes by realistically accounting for the needs of parents with responsibilities at home."

Which doesn't mean she doesn't feel like throwing in the towel some days when "I see a woman colleague undervalued for instance.

"We still have to confront these issues -- they remain unresolved, even though things are improving for women in the workplace, if slowly."

And in the end, it's not the corporate lawyer talking when she thinks about the most important message for her two children, aged 10 and 12.

The child seduced by fairness and justice still holds centre court:

"Make a contribution and go with your heart."

• By Kerrie O'Connor

Award for careers adviser

University of Wollongong staff member Martin Smith has been awarded the national Ross Turner Memorial Award for his outstanding contribution to career services.

Mr Smith received nominations for three projects.

He organised a national forum on curriculum development in Sydney, video-linked around the country.

He made a submission to the West Review of higher education, and produced a video on preparing job applications, now found on many campuses around Australia.

Receiving his award, Mr Smith said he was pleased to be recognised for work he believed was important.

"It's good for the University and raises our profile on the national stage," he said.

Will the next graduate be a robot?

"If you believe only people learn at universities then think again", says Koren Ward, a PhD student in the School of Information Technology and Computer Science at the University of Wollongong.

Koren (right) has developed an entirely new way to program computers which allows robots to learn for themselves.

Her research work on mobile robot learning has won her an award nomination at a recent robotics conference held in Canberra. The key to this success has come from the development of a new robot learning technique called Trajectory Velocity Learning (TVL).

Instead of using traditional methods to instruct robots how they should react to information entering their sensors, Koren has found that robot behaviours can be automatically acquired by getting robots to learn to perceive their environment in a different way.

"For example, if a mobile robot learns to see its world according to how fast it can move in different directions, it can easily avoid colliding with objects by always choosing to move in the direction of fastest motion," she said.

According to Ms Ward, although simple in principal, TVL is a significant breakthrough because it can enable robots automatically to acquire multiple behaviours simultaneously eliminating much of the need for robots to be programmed.

"Robots that acquire behaviours in this way appear to develop their own characteristics depending on their experiences much as humans learn behaviours and skills."

Although robots still have a long way to go before they will be washing our dishes, Koren believes that once TVL robots start to perform useful work their abilities will develop very rapidly.

Each robot's learnt experiences can easily be transferred to all other robots via the Internet, giving new meaning to the term skill sharing.

Wollongong chosen as only Australian university for major industry grant

The University of Wollongong's pre-eminence in the information technology and telecommunications field has again been recognised with the announcement that it has been chosen as the only Australian university to receive a major industry grant from Sun Microsystems, the maker of Sun Computers.

Wollongong defeated all other competing universities in the country to be awarded a Sun Java Laboratory worth $145,000 to the School of Information Technology and Computer Science. Java is a language for empowering the Internet.

The Sun Java Lab includes 20 high powered Sun computers, as well as Java computer language software development kits.

Xylan Corporation has also donated a network switch worth $15,000 to connect the new laboratory to the University's network.

The Dean of the Faculty of Informatics at the University of Wollongong, Professor Ah Chung Tsoi, said the award clearly indicated that the University is the frontrunner in computer sciences and information technology.

He said it was obvious that Sun Microsystems believes the University will lead Australia in the field of Internet research and development and its applications, for example, electronic commerce.

Closing holes in the Net

The Internet's capacity to revolutionise how we do business is being hampered by unfounded fears about transaction security, experts believe.

Secure electronic commerce was the focus of a national Information Technology conference at the University of Wollongong on 13 February targeting small to medium businesses.

The Head of the University's School of Information Technology and Computer Sciences, Professor Joan Cooper, said confidence in Internet commerce depends on reliable Secure Electronic Commerce (SEC) systems.

Professor Cooper said contrary to popular fears, it was possible to conduct business on the Net and be confident of transaction security. But she said many business people are unfamiliar with tools to guarantee security.

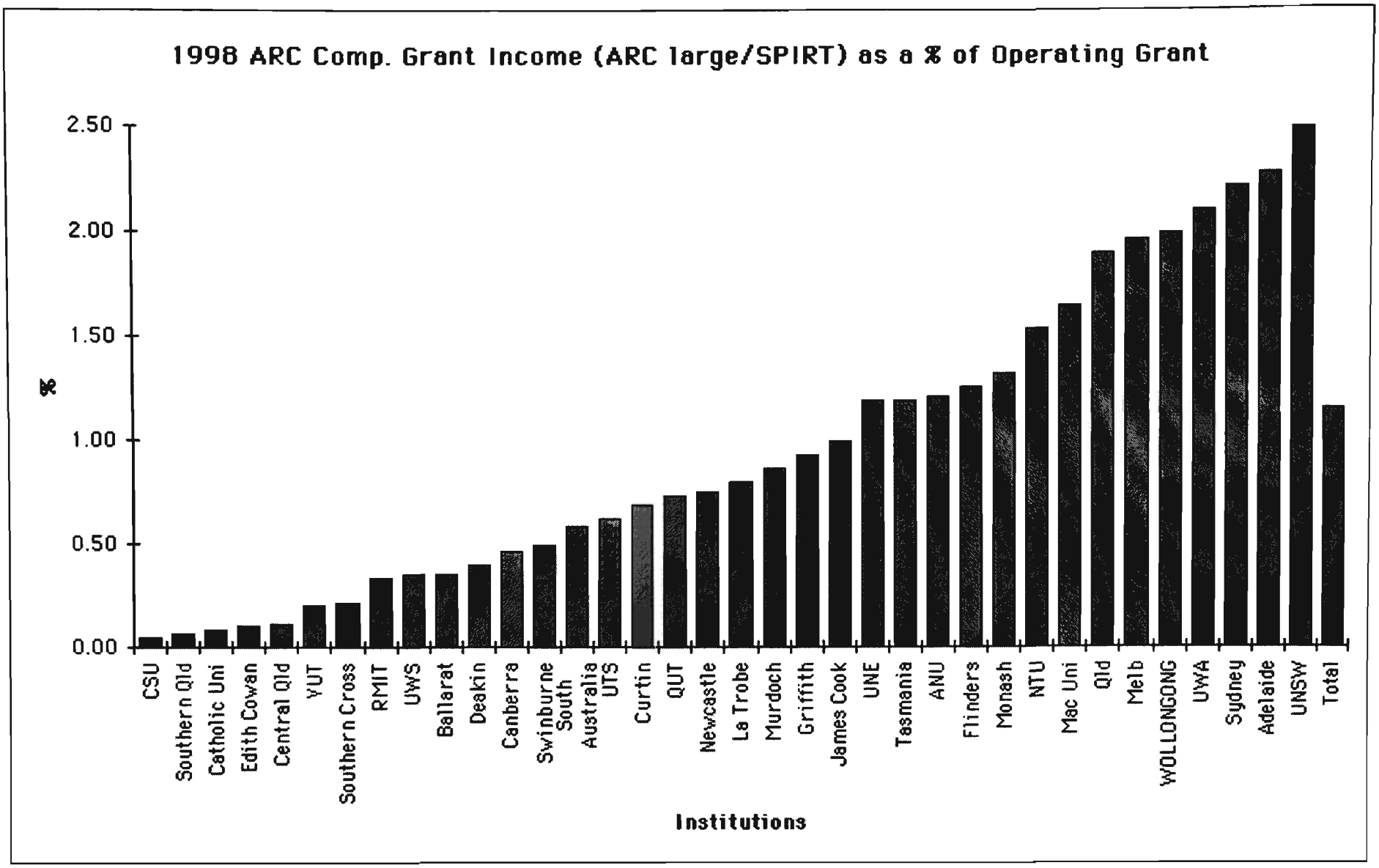
The conference was attended by representatives from around Australia of the private and public sectors, consultants, managers and academics.

"Many people believe that moving from city centres will cause a reduction in sales, but this need not be the case, particularly for manufacturing firms," Professor Cooper said.

"With the growth of such technologies as the Internet and SEC it is possible to maintain contact with potential customers while substantially reducing costs.

"By harnessing technology like the Internet, electronic commerce will change the way businesses operate and secure their position into the next millennium," Professor Cooper said.

Presenters included Karl Rommel of BHP Electronic Commerce, Greg Storey of Visacard, Margaret Pemberton, a Tradegate consultant, Michael Harker of Online Sales Limited, Alleyne from NEIS, Leon Vanderberg from Newcom, and Professor Rei Safavi-naini, from the University of Wollongong's School of Information Technology and Computer Sciences.

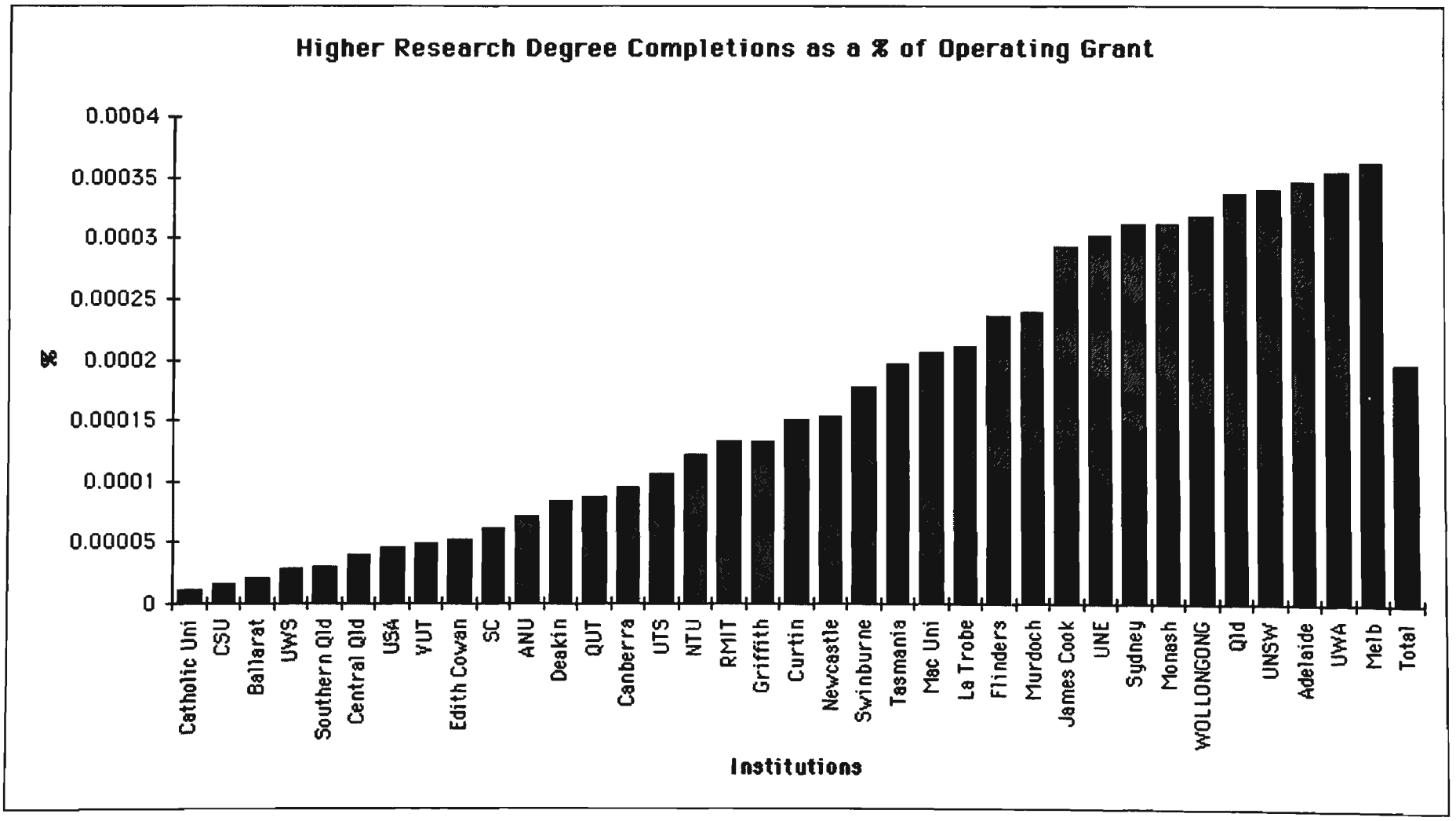


ARC LARGE

Chief Investigator	Funding 1998-2000	Project Title	Project Summary
Prof H Brown	$174,200	Dynamics and Interactions of Polymer Surfaces and Interfaces.	The proposed research is concerned with understanding two related aspects of polymer surfaces, (i) the local dynamics of a polymer surface and (ii) the strength of the interactions of some specific groups on a polymer chain to a substrate. Both these issues are very important in understanding adhesion. The time dependence of the strength of specific group interactions will be measured using a recently developed contact mechanics technique that can measure the thermodynamic interfacial energy and adhesion hysteresis. The local dynamics will be probed using near edge x-ray absorption fine structure (NEXAFS) to examine the time dependence of the orientation of specific groups near a surface.
Prof H Brown	$152,200	Relations between toughness and molecular coupling of polymer interfaces and adhesive joints.	The proposed research is concerned with understanding the basic process of adhesion in polymers with particular interest in structural adhesives, paints and polymer blends. The relation between chemical bonding at the interface and joint strength will be studied with the aim of developing improved adhesion promoter and blend compatibilisers. We will also study the effects of surface roughness on adhesion with the aim of predicting the optimum surface topography.
Dr S Dodds Ms R Albury	$60,106	Citizenship and reproductive control — The ambiguous status of women in ethical and political debate.	The project: i) analyses the conceptual tensions concerning women's status as citizens and as potential mothers, as revealed in debates about assisted reproductive technology (ART) regulation. ii) investigates the extent to which the abstract notions of citizen and person found in liberal democratic theory are consistent when applied to women. iii)provides a critique of the ways in which regulative proposals approach the ethical and political issues raised by specific reproductive technologies. iv)uses this analysis to allow the parameters for policy debate to be framed in less contradictory terms.

ARC LARGE

Chief Investigator	Funding 1998-2000	Project Title	Project Summary
Dr G Melleuish	$44,000	From Cultural Liberalism to Fascism? The cases of Randolph Hughes, Alan Chisholm and Carl Kaeppel	This project seeks to examine the intellectual processes whereby three liberally educated Australian intellectuals of the early twentieth century became ardent advocates of far Right politics in Europe during the 1930's. It examines the various traditions of ideas that influenced them and seeks to establish the relationship between their political positions and their religious and aesthetic ideas. In this way it will demonstrate that Australian intellectual history is much more complex, pluralistic and sophisticated than previously believed and that it possess a significant international dimension.
A/Prof GC Nanson	$418,200	Anabranching rivers, their causes, characteristics and management	Anabranching rivers represent the last major category of river systems to be thoroughly described and explained. Relatively uncommon elsewhere, anabranching rivers are prolific in arid and semiarid regions of Australia. Most previous studies of them have been qualitative, providing limited information either for contemporary river management or for palaeo-environmental estimation of flow regime and climate change. This study will expand our recent research into flow efficiency as the self-adjustment mechanism that results in anabranching river systems, and will identify best management practices for this characteristically Australian type of river.
A/Prof S Pyne	$180,000	Asymmetric Synthesis via Palladium(0) Catalysed Reactions of Allylic Sulfoximines.	The aim of this project is to develop new methods for the asymmetric synthesis of chiral molecules using our recently discovered palladium(0) catalysed chemistry of chiral allylic sulfoximines. The products from the proposed palladium(0) catalysed rearrangement reactions would appear to be ideal precursors for the asymmetric synthesis of important pharmaceutical drugs, especially novel glucosidase inhibitors, that could be developed in conjunction with the CSIRO and DuPont and their joint company Dunlena. This project also offers the opportunity to develop international collaborations with scientists in the UK (Bath) and Germany (Mulheim).



ARC LARGE

Chief Investigator	Funding 1998-2000	Project Title	Project Summary
Dr S Roodenrys	$105,000	Trace Reconstruction in Verbal Short-term Memory.	This research investigates processes by which verbal short-term memory traces which have become degraded may be reconstructed, using knowledge of words and the way they sound, drawn from long-term memory. This form of short-term memory is closely related to normal language processes and is thought to underlie spoken language acquisition, and to be involved in reading. It is expected that this research will show effects of long-term memory representations of the sound of words on short-term memory performance. The results will allow the development of a theory of how this process works and its relation to models of language skills.
Prof L Schmidt	$170,700	Ultimate Load Capacity of Shaped Space Trusses.	The project continues work justifying the feasibility and practicability of the shape formation of lightweight space structures from an initially flat position. The shaping procedure enables such structures to be constructed at ground level and, by a post-tensioning process, to be shaped and erected into their final forms as domes or other shell-like structures. Space structures are used for spanning public spaces such as sports stadia. With increased safety and speed construction, there are considerable benefits to be derived from development of the concept.
Prof J Seberry	$150,000	Cyclotomic Methods Applied to Problems in Communicationsand Security.	Sequences of 0, 1 and -1 with suitable properties are used in error correction, information compression and crypto algorithms for communications reliability and security. They are also used by engineers concerned with finding the exact distance from their Earth base to the Moon, Venus and the other planets, or even to a moving aircraft, as radar signals. Unfortunately optimal sequences are difficult to find. This project uses powerful number theory in a world wide distributed system to search for new sequences. The new results will be used in security applications such as electronic commerce and society oriented cryptography.
Dr MM Sheil	$196,000	Probing the interaction of antitumour agents with DNA by mass spectrometry.	This project is based on powerful chemical instrumentation, namely electrospray ionisation mass spectrometry which is capable of measuring very accurately the masses of important biological molecules such as segments of DNA. The aim of the project is to develop novel methods for studying the interaction of antitumour agents with DNA that will allow information on drug_DNA binding to be obtained rapidly using very small amounts of material.
Prof AC Tsoi A/Prof M Gori A/Prof A Sperduti	$172,000	Constrained recurrent neural networks and their applications to processing structural information.	Many information processing problems, eg software verification, theorem proving, characterisation of chemical structures, are more appropriately represented in a structured domain modelled by lists, trees, graphs. Theoretical properties of a recently introduced weight-constrained recurrent neural network, eg structural properties: cyclicity, symmetry; convergence of training algorithms; relationship between backprop through structure and real time recurrent learning training algorithms will be investigated. Rules, in terms, of finite state automata and frontier-to-root tree automata will be extracted from a trained network. Practical applications to software verification and theorem proving will be studied.
Prof GG Wallace Dr AK Burrell Dr DL Officer	$186,000	Synthesis and characterisation of novel polythiphenes	This project will produce a range of novel thiophenemon-omers. These will be produced using a simple synthetic route that enablesfunctional groups to be attached to the monomer at the three position via aconjugated linker. This conjugated linker should facilitate electroniccommu-nication between the functional group and the conducting polymer backbone.Such communication will enable use as novel crosslinkers or the activecomponents of sensors, membranes and photo-voltaic devices.

ARC LARGE

Chief Investigator	Funding 1998-2000	Project Title	Project Summary
A/Prof CD Woodroffe A/Prof BG Jones	$185,000	Island and Reef Evolution in the Tasman Sea	The post-eruptive of Balls Pyramid, Lord Howe Island, and Elizabeth and Middleton Reefs needs to be documented to provide an understanding of the palaeoclimatic factors affecting reef initiation in this world Heritage area at the extreme limit to reef growth. Coral reefs and associated microfaunal-bearing shelfal sediments contain a vast amount of scientific and environmental information that are critically important for unravelling past climatic, sea level and environmental changes. Such changes strongly influence the marine and sub aerial erosion of oceanic islands and allow testing of the Darwinian theory of reef development.
Dr W Xu A/Prof M Gal Dr C Jagadish	$150,000	Far-infrared laser generation from optically and electrically pumped semiconductor quantum well systems	Laser and laser technologies have been one of the major driving forces of the advancement of science and technology. In this project, we will work on the generation and detection of lasers in far-infrared (FIR) bandwidth which is very useful for scientific research and for device applications. We have proposed some novel schemes to generate optically and electrically FIR continuous-wave lasers and laser pulses from semiconductor quantum well structures.

SMALL GRANTS

Chief Investigator	Title	Academic Unit	$ Received
Robin Handley	Investigating small business needs: Access to and provision of qulaity legal services	Centre for Law and Policy	$8,000.00
David Griffith	Regional scale surface - atmosphere exchange of important atmosphere trace gases	Chemistry	$8,000.00
Andrez Calka	Structure, property and processing relationships for sintered nanostructured nitrides, carbides and carbonitrides produced by mechano-synthesis using controlled ball milling	Materials Engineering	$12,000.00
David Steel	Maximum likelihood inference for aggregate data	School of Mathematics and Applied Statistics	$10,000.00
Kiet Tieu	Effects of thermal mixing at supply pockets in high performance journal bearings	Mechanical Engineering	$10,000.00
Paul Else	Investigating intracellular sodium and potassium lowering induced by chlorpromazine	Biomedical Sciences	$7,000.00
Craig Gonsalvez	The efficacy of eye-movement desensitization and reprocessing - a psychophysiological investigation	Psychology	$8,404.00
Brin Grenyer	Psychosocial iterventions for adults with poorly controlled type 2 diabetes: stage 1: a multi-site pilot study of biopsychosocial characteristics	Nursing	$9,990.00
Geoff Brooks	Sodification behaviour of mould fluxes	Materials Engineering	$5,000.00
Zhixin Chen	Structural characterisation of titanium aluminide coatings produced by a filtered Arc deposition system	Materials Engineering	$7,000.00
David Martin	Optical properties of magnetoresistive materials	Science and Technology	$5,000.00
Carl E Morris	Measuring the influence of geotextiles on moisture movement	Civil, Mining and Environmental Engineering	$7,000.00
P Mikheenko	Two-dimensional basement for high temperature superconductivity	Materials Engineering	$4,000.00
Anatoly Rozenfeld	Development of semicoductor sensors for microbeam radiation therapy	Physics	$7,500.00
Devi Saini	Development and characterisation of new generation of coated cutting tools	Mechanical Engineering	$7,000.00
ST Yau	SPM-based fabrication and characterisation of nanostructures	Materials Engineering	$4,000.00
Bryan Chenhall	Illawarra coastal floodplain sediment records: a chronological and environmental perspective	Geosciences	$5,000.00
Andy Davis	Assessing the potential utility of airborne scanning for detecting an invasive green alga, Caulerpa filiformis	Biological Sciences	$7,000.00
PR England	Modelling the consequences of habitat fragmentation in Grevillea populations	Biological Sciences	$5,000.00

SMALL GRANTS

Chief Investigator	Title	Academic Unit	$ Received
Joanne Jamie	ISO activators - design and role in heart disease	Chemistry	$5,000.00
Stephen Pyne	Enhanced drug delivery systems using fullenes: strategies towards synthetic 'fat-viruses'	Chemistry	$13,400.00
Ross Lilley	Phytoremediation of arsenic-contaminated soil: a pilot project	Biological Sciences	$5,000.00
Stephen Ralph	Terbium complexes for nuclear medicine	Chemistry	$7,000.00
Sharon Robinson	The structure and function of the photosynthetic apparatus during leaf development in slow growing Australian native trees	Biological Sciences	$9,000.00
Louise Rodgerson	Patterns of biodiversity along a latitudinal gradient	Biological Sciences	$5,000.00
Margaret Sheil	Development of new methods for the characterisation of membrane receptors and transporter proteins	Chemistry	$15,000.00
Gerry Swiegers	(1.) Ferrocenophanes immbilised on conducting polymers as hydrogen gas generators	Chemistry	$13,400.00
Gordon Waitt	A social impact assessment of the Sydney 2000 Olympics	Geosciences	$5,000.00
Mark Walker	Genetic molecular analysis of Bordetella bronchiseptica unrease	Biological Sciences	$10,000.00
Stephen Wilson	Isotopic analysis of greenhouse gases by quantitative high resolution FTIR spectroscopy	Chemistry	$5,000.00
Bobby Banerjee	Learning to be green: measuring managerial perceptions of corporate environmentalism an dexamining its antecedents among Australian business firms	Management	$7,700.00
Aditya Ghose	Formal specification languages for intelligent agents	Business Systems	$10,000.00
Ann Hodgkinson	Internationalisation of the Australian Steel Industry and regional employment	Economics	$5,000.00
Rajendren Pandian	Usefulness of the concept of relatedness to diversification decisions: An empirical examination of the Australian Manufacturing Industries	Management	$5,000.00
Li-Yen Shue	The application of constraint-based reasoning to project scheduling with resource constraints	Business Systems	$5,000.00
Ed Wilson	Australian investment, productivity and economic growth: an analysis of long run relationships and short run policy effects at the three digit industry sub-sector level: 1949-1995	Economics	$5,000.00
Graham Barwell	Conceptual problems in marking-up His Natural Life for electronic publication	English	$10,000.00
David Mercer	The co-production of law/science knowledges in the debate over the alleged health hazards of electric and magnetic fields	Science and Technology	$5,000.00
Ben Maddison	Commodification in Australia, 1914-1945	History and Politics	$9,000.00
Paul Sharrad	Fabric(ations) of empire	English	$5,000.00
Lorraine White	Imperialism and state development: Spain and the struggle for Portuguese independence, 1621-40	History and Politics	$5,000.00
Gianni Zappala	Ethnicity and representation in Local Government: a view from ethnic councillors in 1982	Centre for Multicultural Studies	$5,000.00
Brian Ferry	Use of computer-based visual mapping tools of effectively link curriculum content knowledge to pedagogical practice	Faculty of Education	$9,880.00
Pauline Harris	Mediation between texts and beginning readers: a comparative study of home and school discourses in the construction of intertextual meanings	Faculty of Education	$5,000.00
Ian Burnett	Wideband speece/audio compression for enhanced quality of service in current and future cellular systems	School of Electrical, Computer and Telecommunications Engineering	$8,621.00
Chris Charnes	Equivalencclasses of Hadamard matrice, binary self-dual error correcting codes and sphere packings	School of Information Technology and Computer Science	$9,000.00
John Fulcher	Exhaustive key search attack of the data encryption standard using gate arrays	School of Information Technology and Computer Science	$6,000.00
Zheng Li	Stocastic adaptive control of time-varying systems	School of Electrical, Computer and Telecommunications Engineering	$16,705.00
Yan-Xia Lin	Cointegration and its applications	School of Mathematics and Applied Statistics	$7,745.00

SMALL GRANTS

Chief Investigator	Title	Academic Unit	$ Received
Xiao Ping Lu	Elastodynamic analysis of crack problems using boundary element method	School of Mathematics and Applied Statistics	$9,000.00
Timothy Marchant	Higher-order solitary wave interactions	School of Mathematics and Applied Statistics	$8,500.00
Graham Williams	Solutions of degenerate nonlinear parabolic patial differential equations	School of Mathematics and Applied Statistics	$6,800.00
Anthony Eyers	The provision of internet services over ATM networks using ABR and UBR	School of Electrical, Computer and Telecommunications Engineering	$6,000.00
Chao Zhang	Electron pairing in superconductors based on strong correlation effects	Physics	$3,000.00
Jim Hill	A mathematical model for surface corrugation on unsealed roads	School of Mathematics and Applied Statistics	$12,000.00
Jimmy Tran Van Hoa	Vietnam and Australia: projecting the demand for trade, investment and business to 2010	Economics	$12,000.00
Rei Safavi-Naini	Analysis and design of micropayment systems	School of Information Technology and Computer Science	$8,000.00
Anthony Hodgson	Health by stealth: is the selective induction of apoptosis in adipocytes a useful strategy to treat obesity?	Biomedical Sciences	$7,000.00
Linda Tapsell	Improving communication in the assessment of dietary intake for research purposes	Biomedical Sciences	$12,000.00
Hagare Dharmappa	Use of artificial neural network for operation of water treatment plants	Civil, Mining and Environmental Engineering	$5,000.00
Michael Ferry	The evolution of ultrafine ferrite grains in low carbon steel	Materials Engineering	$7,000.00
Muhammad Hadi	Ductility of high strength concrete reinforced with high strength steel	Civil, Mining and Environmental Engineering	$7,000.00
Geoff Spinks	Electric field microscopy of conducting polymer	Materials Engineering	$4,750.00
Brian Uy	Rehabilitation of degrading composite steel-concrete road bridges for increased fatigue life by external post-tensioning with high strength steel tendons	Civil, Mining and Environmental Engineering	$5,000.00
Suchandra Balachandran	In-vivo imaging of chloroplast function and virus accumulation in Nicotiana benthamiana infected with tobacco mosaic virus expressing the green fluorescent protein	Biological Sciences	$8,000.00
Joseph Barisci	Electric field microscopy of conducting polymers	Chemistry	$4,750.00
Edward Bryant	Operation optically stimulated luminescence laboratory	Geosciences	$16,000.00
Mark Wilson	Testing models of apoptotic cell execution	Biological Sciences	$13,400.00
Ren Zhang	Characterisation of two protein kinase genes in maize	Biological Sciences	$5,000.00
Diana Wood-Conroy	Documenting paphos theatre expedition: parallels in theory and practice between classical archaeology and contemporary art	Faculty of Creative Arts	$8,335.00

ARC FELLOWSHIP

Applicant	Project Title	Project Summary	Funding	Pay Level
Dr K Webb	Implications of Teachers' Knowledge for CollaborativeSchool-Focused Approaches to Teacher Development.	In the context of national and state educational reforms directed toward improving the quality of teaching, the proposed research examines collaborative school-focused approaches to teacher development. The study seeks to generate knowledge about teachers' learning and why collaborative inquiry into practice is an educative process for teachers. Framed on a teacher-as-co-researcher model, the study employs theorising from Canadian research on teacher knowledge to report on the complex ways teachers construct and reconstruct their professional knowledge. The broad objective sare to extend existing theory on teacher knowledge and to better understand the relationship between collaborative teacher research, teacher knowledge and student learning.	$156,576 (over 3 years)	APDA1

SPIRT

Chief Investigators	Funding 1998-2000	Project Title	Project Summary	Industry Partner
A/Prof A Basu Dr AG Mclean Dr FG Deboer	$41,512	Design and development of orthopaedic screw for joining bones	When evaluating the design of any load bearing implant in bone it is important to understand the mechanics of the interface stress transfer as well as the biological actions of the interfacial bone as a result of the same. This study aims to develop improved orthopaedic screw designs with increased initial fixture. This development will result by experimental evaluation of fixation strength and fatigue using simulated (animal bone) joints. In addition comparative FEA to quantify the interfacial stresses and strains, macro deformation or dislodgment characteristics under realistic cyclic 3D loading conditions will be effected. The FEA analysis so presented and more particularly the generated library of data files will be applicable convenient modification for specific patient surgery procedure design. From the comparison of the FEA results and the experimental joint fixture characteristics it may be possible to accurately predict the merits of the improved screw and fixture characteristics in actual applications. The same will be proved or otherwise by conduction of a subsequent actual clinical trial.	ASDM Pty Ltd
Prof HR Brown Dr G Spinks Dr DP Buxton	$144,546	Adhesion of Paint Films	This project will improve the understanding of the mechanisms of adhesion relevant to the production and application of pre-painted alloy coated steel sheet. The understanding will be based on improved adhesion testing and greater knowledge of the chemistry and structure of the interfaces. The information obtained will help in BHPs development of new, environmentally friendly pre-treatments and new single layer paint systems for the Pacific Rim markets.	Broken Hill Proprietary Co Ltd
Prof HR Brown	$62,268	Surface Toughening of Polymers	Ophthalmic lenses are normally made of a clear polymer covered with a set of anti reflection and anti abrasion coatings. This project will explore techniques to surface treat the plastic to counteract the decrease in impact toughness caused by these coatings.	SOLA International Holdings Ltd
Dr IS Burnett Dr JF Chicharo Dr MM Thomson	$150,978	Multi-Prototype Waveform Coding for High-Quality, Scalable Speech Compression in Mobile Tele-communications	Speech compression (or coding) is an essential part of telecommunications; in particular, limited data-rate digital mobile systems. This project will research and design speech coders based on the emerging Waveform Interpolation paradigm. Coding algorithms using this technique are uniquely scalable to various bit-rates, and levels of perceived speech quality. The outcome of the project will be versatile speech coding solutions that meet the wide-ranging Quality of Service requirements of future telecommunications networks. This is of particular relevance in Australia, where cellular systems are legislated to be fully digital (in the form of the GSM system) by the year 2000.	Motorola Australia Pty Ltd (Motorola Australian Research Centre)
A/Prof RN Chowdhury	$223,743	Risk Assessment for Slope Stability and Landslides	Slope instability is a major geohazard which often leads to economic loss, environmental damage and adverse social impacts. It is proposed to develop an innovative approach for the assessment of hazard and risk of landsliding incorporating relevant observational data in addition to key geotechnical parameters and associated uncertainties. Quantitiative risk will also reflect the vulnerability of elements at risk and performance-based requirements for particular structures or facilities. Updating of risk in the light of new information and performance criteria will also be facilitated. Case studies will facilitate the validation of the developed hazard and risk assessment system.	Railway Services Authority; Wollongong City Council; Australian Geological Survey Organisation (AGSO)
A/Prof J Davis Dr A Ghose Dr L Shue	$100,652	Robust, Real-Time, Constraint-Based Scheduling	This project seeks to investigate, develop and deploy, in collaboration with the industry partner BHP-Information Technology, a new scheduling framework that can be broadly classified as belonging to the class of intelligent scheduling techniques. We propose to conduct this research in the context of developing an industrial-scale scheduling system for BHP House Framing, a client of BHP-IT, to support their relatively complex decision making processes involved in scheduling the fabrication and delivery of steel house frames. We also aim to define a general methodology for developing similar solutions for scheduling applications that can be used in a wide range of settings.	BHP Information Technology Division
Prof RJ Dippenaar Dr GR Belton	$261,109	Microstructural Development of Steel Cast by High-Speed Continuous Casting Techniques	Novel experimental techniques will be used to observe, identify and elucidate those events occurring during the early stages of solidification, which determine cast structure and consequently, the quality of steel produced by high-speed continuous casting techniques. A fundamental understanding of the principles underpinning microstructural development will allow the development of quantitative models which will contribute to industrys ability to produce quality steel by the new casting techniques currently under development	Broken Hill Proprietary Co Ltd

SPIRT

Chief Investigators	Funding 1998-2000	Project Title	Project Summary	Industry Partner
A/Prof VJ Gosbell Prof CD Cook Mr S Lette Dr BS Perera Dr D Platt	$144,252	Distortion for the Electricity Supply	Analysis, Planning and Control of Harmonic A vital infrastructure in any country is the electricity grid, and a considerable and increasing threat to the Quality of the Electricity Power supply is harmonic distortion. Such distortion causes substantial economic costs to both customers and suppliers. Current state of the art solutions tend to fix symptoms rather than root causes. This project will attempt to provide general solutions by developing a better theoretical understanding and description of harmonic distortion and to provide rigorous quantitative and practically useable design procedures and methodologies which will have been verified on real grids and with actual customer loads.	Integral Energy
Dr LM Head	$41,512	Biodiversity conservation and Aboriginal land in NSW: theory and practice	Aboriginal people's interests in land are integral to Australia's biodiversity conservation strategies because of the large area and ecological diversity of Aboriginal lands, the contribution of indigenous ecological knowledge, and the limitations of the existing conservation reserve system. Focusing on NSW, we compare Western scientific and Aboriginal conceptualisatons of biodiversity and conservation; use case studies to identify commonality and difference in attitudes to biodiversity conservation in various socio-legal and ecological situations; and suggest strategies to maximise ecological integrity and social justice for application elsewhere in Australia	New South Wales Aboriginal Land Council
Dr BN Indraratna Dr GS Adikari	$62,268	Universal Design Methodology for Granular Filters	The erosion of fine particles from earthdams can be minimised by the design of effective filters lining the core. Current empirical methods of filter design are often too conservative or unreliable for highly erodible core soils. Preliminary studies conducted by the chief investigator indicate that the mechanics of particle migration through granular media could be the basis of a rational methodology for dam filter design. The primary goal of this project is to establish a universal predictive tool with comprehensive guidelines, supported by laboratory verifications and case history analyses. The outcome shall enchance Australia's industrial competitiveness and the technological profile in dam engineering, within the world community.	Snowy Mountains Engineering Corporation Group, SMEC (Victoria) Pty Ltd
Dr R Jayasuriya Mr P Caputi Prof J Cooper	$165,000	Patient Care Information Systems: Evaluation of technology adoption and impact	Hospitals overseas and locally are increasing productivity of its workforce using information technology. The acceptance and use of IT by staff is especially important, however there is a lack of empirical studies that have used validated methods to measure its impact. An automated Patient Care Information System is to be introduced in hospitals of two Area Health Services in New South Wales (covering staff around 2500) in 1998. The unique opportunity allows research to be carried out in collaboration with industry to compare and evaluate theories of IT adoption, to test protocols for IT implementation and measure the impact of the system on performance and productivty of the staff.	Illawarra Area Health Service; Wentworth Area Health Service
Prof R Lilley	$62,268	Identification of factors determining the pigment productivity of Dunaliella in commercial scale open pond cultivation	The productivity of b-carotene from the open pond Dunaliella culture system near Whyalla is subject to undesirable fluctuations due to seasonal and climatic factors. It may become possible to ameliorate these fluctuations if the algal population can be better characterised. This project will utilise fluorescence-activated cell sorting and DNA fingerprinting to develop new methods for analysing algal populations. The effect of environmental conditions on the population will be compared with pigment productivity as a basis for developing new pond management systems.	Betatene Ltd (71-73 Taunton Drive, Cheltenham VIC 3192
Prof BA Parker Dr M Ferry Dr K Mukunthan	$295,000	Microstructural evolution of steel during deformation in the semi-solid state - A physical simulation of near-net-shape casting	Strip casting of steel is a revolutionary near-net-shape casting process with the potential for transforming the steel industry on a global scale. If difficulties involved with casting are to be overcome, which is a crucial step in the process, detailed information of factors affecting microstructural evolution during solidification is required. An advanced thermomechanical testing facility will be used to generate novel information concerning the structural development of steel in both the semi-solid and solid state. This information may then be used to develop microstructural models, and to fine-tune the critical process parameters necessary to produce strip cast steel products.	BHP Research

SPIRT

Chief Investigators	Funding 1998-2000	Project Title	Project Summary	Industry Partner
Dr WE Price Dr IA Maxwell Prof GG Wallace	$62,268	Novel Reverse Osmosis and Nanofiltration Membrane Systems based on Thin-film Conducting Electroactive Polymers	Reverse Osmosis/Nanofiltration Membrane Systems are widely used to effect separations and purification in applications from potable water filtration to food processing. Membrane technology is rapidly expanding -membrane materials alone are worth in excess of US$2 billion annually. Current membrane materials have limitations either salt rejection/water flux or in material stability. Conducting electroactive polymers (CEP) are attractive materials for use in membranes, chiefly because of the diverse and versatile chemistry that can be incorporated into them. This project will develop a new generation of membrane materials using CEP as the active thin-layer, utilising a range of new, easily processble CEPs developed at Wollongong.	Memtec Ltd
Dr W Rifkin Prof R Badham Dr L Fulop	$62,268	Workers' Perspectives on Rapid Organisational Change at BHP Refractories: Implications for Organisational Development, Organisational Learning, and Communication Strategies.	This study focuses on workers perspectives at BHP Refractories of management strategies undertaken in a time of rapid organisational change. The research is meant to reveal which strategies used by management for organisational development, organisational learning, and communication seem to be effective or ineffective in helping workers to cope with rapid change in an industrial enterprise. The study involves participant observation, facilitation of focus groups, and repeated interviewing of workers and managers over 18 months. Insights developed during this period will be validated by checking with workers and managers. Relevance to other industrial settings will be taken into account.	BHP Refractories, Port Kembla NSW
A/Prof R Safavi-Naini	$62,268	Copyright Protection for Digital Images	The proliferation of digitally stored information in the form of audio, image and video, together with the ease of copying and modifying these media has created an urgent need for enforcement of copyright and protection of ownership in electronic media. The aim of this project is to develop the knowledge, techniques and tools required for the modelling, analysis and design of copyright protection system for digital images. We will use labelling, watermarking and fingerprinting to design and develop efficient copyright protection systems for digital images. This research addresses the urgent need to provide security in the rapidly growing area of electronic commerce and is highly important for the acceptance of modern technology.	Motorola Australian Research Centre
Dr MM Sheil	$62,268	The development of novel chemical techniques for the assessment of the durability and performance of steel surface coatings	This project aims to develop new chemical techniques for the structural characterisation of surface coatings used in COLORBOND pre-pained steel. The project will utilise sophisticated new instrumentation with the capacity to measure small changes in the components of surface coatings that occur, either on altering the formulation, or as a result of weathering (by UV light or moisture). Currently, surface coating durability is assessed by long-term (typically 5 year) empirical weathering studies. Hence new, rapid techniques which enable performance to be correlated with chemical composition, will greatly facilitate the ongoing improvement of this important domestic and export product	BHP Research
Dr WK Soh Dr WY Yuen	$153,000	Heat transfer in the cooling of hot steel strip by water jets	The project is aimed at gaining a fundamental understanding on the cooling of a moving hot steel strip by water jets. The complicated mechanisms of heat transfer between the steel strip and layers of liquid water and steam will be investigated so that the local cooling efficiency can be related to the hydrodynamics of the water jets. The results will be used to control the cooling of the steel strip at a desirable rate, which varies with time. This will improve the efficiency of hot strip mills in steel strip production and the cost saving will be significant	BHP Research
Dr GM Spinks Prof HR Brown	$144,546	Achieving improved product performance of prepainted steel through the optimisation of the paint baking process	This project aims to develop a fundamental understanding of the relationship between the paint baking process and the properties of the paint film, such as adhesion to the steel substrate, flexibility and colour-fastness. This understanding should allow the company to achieve a better product by adjusting the baking process to achieve optimum properties. The project will constitute a PhD study into the effect of baking on the molecular structure of paint films and a number of advanced analytical techniques will be used for that purpose. The relationship of the structure to properties will be investigated	BHP Research

SPIRT

Chief Investigators	Funding 1998-2000	Project Title	Project Summary	Industry Partner
A/Prof AK Tieu Dr EN Li	$202,466	An Experimental Determination of Friction Variation at Strip/Roll Interface in Rolling	A quality problem of hot and cold rolled steel strip is often caused by operators not being able to identify and determine the friction at the strip-roll interface. The friction not only influences rolling force and torque, but also affects the wear of work rolls which in turn, has a direct bearing on strip gauge, profile and shape. A proper set up of the roll gap and roll speed for accurate strip thickness is dependent on an accurate prediction of the roll force, and the slip between the strip and the roll. In this project the variation of slip throughout the roll bite, and friction will be determined for the first time by the laser speckle method. This technique of slip measurements by the laser devices can also be used to detect impending self-excited vibration caused by friction changes. The correct friction variation will improve the accuracy of various roll gap models and consequently result in a better gauge accuracy. Significant economic benefits will be gained by the steel manufactuers as well as the downstream users such as automotive industry, whitegoods industry and can manufacturers.	BHP Research
Prof AC Tsoi Dr S Hawkins	$210,000	Post Payment Risk Assessment System for Diagnostic Imaging	This project aims to investigate a post payment risk assessment system for diagnostic imaging using simple statistical methods, self organisimg map, multilayer perceptron, rule-based methods, and Bayesian belief network. The main task is to investigate the sensitivities of the total benefits paid with respect to Medical Benefits Schedule (MBS) items or groups of items (each item carried an agreed payable benefit). Modifying the MBS subsequently, will reduce the benefits paid towards inappropriate services rendered by service providers. The MBS will be modified during the lifetime of this project and hence this will allow us to investigate the shelf-life of such a post payment risk assessment system.	Health Insurance Commission
Prof GG Wallace Dr N Barisci Mr AR Bath	$64,268	Elucidatation of Factors Controlling Electrochemical Responses Obtained from Metal Electrodes in Cervical Mucus	The Cervix Polarprobe is an optoelectrochemical device used to detect cervical cancer and precancers. The aim of this project is to carry out electrochemical investigations to provide information that will be used to enhance performance of this product. This project will investigate the effect of several parameters (pH, DO, ionic strength, presence of selected proteins) known to vary in cervical mucus on the electrochemical characteristics of metal electrodes. Conventional electrochemical methods as well as in-situ electrochemical atomic force microscopy will be utilised. Initial studies will be carried out on solid electrodes. Finally, studies will be carried out on metallic electrodes deposited on a polymer support. This will form the basis for development of disposable sheath electrodes for the Polarprobe.	Polartechnics

RIEF GRANTS

Chief Investigator	Title	Academic Unit	$ Received
SX Dou	X-Ray Diffraction Unit with Low and High Temperature Measurement Capability	Materials Engineering	$360,000.00
Kiet Tieu	Upgrade of Portable Laser Measuring Facilities for Velocity Field Measurements	Mechanical Engineering	$190,000.00

NHMRC GRANTS

Chief Investigator	Title	Academic Unit	$ Received
Anatoly Rosenfeld	High resolution photon detection system for positron emission tomography	Physics	$124,364.80
Roger Truscott	A comprehensive strategy to understand and prevent age-related cataract	Chemistry	$321,666.47
John Bremner	Development of small molecule adrenergic ligands for single effector pathway activation	Chemistry	$158,593.50
Peter McLennan	Relationship of myocardial fatty acids to heart function in cardiac hypertrophy	Biomedical Sciences	$130,541.13
Arthur Jenkins	Leptin and dietary carbohydrate in humans and relationships with appetite and adiposity	Biomedical Sciences	$92,714.32
Mr Shu Lin	Understanding the basis of leptin resistance		
John Carver	Probing the chaperone function of small heat-shock proteins: implications for disease states	Chemistry	$196,000.00

A new look at youth suicide prevention

"I was 14, sitting at the bus stop waiting to go home, cutting my arms up with bits of broken glass because, just because of things that had happened, you know."

This is the comment of one young person involved in a new study of youth suicide prevention undertaken at the University of Wollongong.

Entitled *Youth Suicide Prevention: Guidelines on Education and Training*, the report shows the rising incidence of youth suicide in Australia must be confronted by better training and education programs.

According to the report, youth suicide presents a "major challenge to health authorities keen to curb recent rising rates", and that "the escalation in youth suicide rates has been accompanied by a multiplicity of adverse social factors affecting young people".

These social factors include economic crisis, unemployment, and suicide contagion which, the report says, may play a part in Aboriginal and Torres Strait Islander deaths in custody.

But according to the report, programs for the education and training of professionals can achieve increased awareness and empathy for young people in distress as well as political support for responsible social policy concerning youth.

The report was prepared by Principle Research Fellow, Dr Kate Blackmore, of the Department of Public Health and Nutrition at the University of Wollongong, along with a consortium including other Wollongong academics, Illawarra Area Health Service representatives, and Professor Charles Watson of Curtin University.

The report aims to develop good practice guidelines on education and training in youth suicide prevention, and involved various focus groups with young people in Sydney, Wollongong and Nowra.

Comments made by youths at these sessions include:

"I got abused when I was 11 and I didn't tell no one for ten years, 'cos I thought it was me. But it's wrong, you know? Someone needs to be there to say something, you know? (To say) it isn't your fault".

"They say go see a counsellor . . . And they leave you and don't get back to you and so you just keep going from one person to the next person to the next person . . ."

"You're told even though it sucks and it's bad at the moment, it's going to be all right, you know? Someone is going to listen; Someone is always going to be there when you need them."

Dr Kate Blackmore: professionals need better training to prevent youth suicide.

Recommendations made by the youths regarding education programs included:

"Don't go overboard on information on suicide, or say 'don't kill yourself'.

"You don't want to know too much about it, you know what I mean?"

"You need something like 'talk to a friend' rather than 'don't kill yourself'. You don't want people to keep saying 'don't kill yourself' 'cos it might give the idea."

The report concludes that "the broad weight of evidence suggests that training for youth suicide prevention must be sensitive to the needs of youth".

It indicates the need for an integrated public health approach.

Publication dates for Campus News

Campus News will be published about every six weeks during the year.

However, it should be noted that the Media Services Unit will be running an on-line news version of events on campus (such as important conferences, seminars, book launches, openings and the new media monitoring service) on a weekly basis. Media releases can also be located on the net.

Publishing dates for *Campus News* will normally be on Mondays except where public holidays may fall: Tuesday 14 April (13 April is a holiday); Monday 25 May; Monday 6 July; Monday 17 August; Monday 28 September; Monday 2 November and Monday 14 December.

Campus East bookshop offers

Considering further study? Or just some recreational reading . . .

Keep in mind that the University of Wollongong Alumni Association Campus Chapter runs a bookshop and gallery at Campus East in Fairy Meadow.

The stock of used books covers all study areas together with many fiction and non-fiction texts. There is also a selection of modern and classic stories for young readers.

The bookshop and gallery is open every second and fourth Saturday and Sunday of each month from February to November. It is open from 1 to 5pm.

The bookshop is staffed by alumni volunteers and all proceeds for towards campus projects.

Enquiries can be directed to the Alumni Office on (02) 4221 3249 (weekdays) or (02) 4229 1951 (anytime).

Quick-fix surgery

•Continued from page 1

Commodification: theories, practices, histories and representations attracted delegates from the University of Chicago, the State University of New York, Albany, USA; the Australian National University, the universities of Sydney, La Trobe, New England and others.

Susie O'Brien, from the University of Queensland, looked at Barbie as fetish. Cannibalism engrossed Chris Wilson, from the University of Western Sydney, in her study of the marketing of the human pituitary gland. Peter Corrigan, from the University of New England, preferred to go shopping in rural Pakistan, while Wendy Varney, from the University of Wollongong, explored the culture of female gymnasts.

Keynote speakers were Depesh Chakrabarty, Chicago, and Rosemary Hennessy, Albany, USA.

Organisers were Institute of Social Change and Critical Inquiry Director Andrew Wells and Ben Maddison.

Management research continues to grow

How to make better managers is the subject of a growing body of research in Australia.

Such research is poised to play an increasingly significant role in Australia's economic and social development, according to Professor Vicki Sara, Chair of the Australian Research Council.

Her views are confirmed in a report: *Management Research in Australia.*

The Centre for Research Policy and the International Business Research Institute, of the University of Wollongong, produced the report.

It shows interest in management research has grown significantly in Australia in the past decade — 22 per cent of university students are now in this field — and there is an increasing recognition of the need for better understanding of management processes.

It says demand for management research is expected to grow and identifies various areas of importance for the next decade, including international management and the nature of Australia's competitiveness.

The Dean of Commerce at the University of Wollongong, Professor Gill Palmer, chaired the review.

"University degrees in the subject, especially undergraduate and research degrees, are a recent phenomenon and this fresh growth is requiring policy adjustments," she said.

The report concludes Australia needs strategies to respond to the demand for management research. In particular the review recommends that mechanisms be put in place to improve research training, further strengthen linkages between industry and academia, and develop a coherent plan for research performance across the system.

These strategies require the support of stakeholders and will ensure that management research makes a significant contribution to Australia's socio-economic and organisational future.

As part of its ongoing evaluation program the Australian Research Council has published eight research strategies across a range of fields.

Ancient skeletons haunt the Science Centre

Most Australians have never been to the Gobi desert in Mongolia, but now, for the first time, they will be able to see fossils from this inaccessible part of the world.

The Science Centre at Campus East, Fairy Meadow, is hosting a new exhibition called "Ghosts of the Great Russian Dinosaurs" which contains startling fossils uncovered in the remote Gobi desert by Russian scientists.

Not only is *Jurassic Park*'s Velociraptor present, but it includes the "Russian T. Rex", Tarbosaurus, as well as fossilised nests of dinosaur eggs which look as though they are about to hatch.

And almost reaching the ceiling are a pair of arms which belong to an unknown giant that must have made T. Rex look small.

"These arms are one for the imagination," said Centre Director, Mr Glen Moore.

"They haven't discovered the rest of this one yet, but when you compare it to a T. Rex skeleton it must have been very impressive."

According to Mr Moore, a great deal of thought went into making sure the exhibits appear very lifelike.

Large skeletons look as though they are running across the room, balanced only on one toe.

The current exhibition follows the success of a recent tour of Gobi Desert fossils called Great Russian Dinosaurs, which travelled the country and drew large crowds wherever it went.

"Ghosts" is a smaller show but one which takes an exciting new look at the Gobi dinosaurs.

Produced and first shown in Launceston, Tasmania, where the fossils were cast, it has come straight to Wollongong, giving people in Sydney and the Illawarra the chance to see these unique fossils.

One of the great Russian "ghosts" at the Science Centre

Mr Moore said he was very happy to be the first with such a quality exhibit.

"This is, to my knowledge, the first time dinosaurs have come to Wollongong", he said. "Ghosts of the Great Russian Dinosaurs is a terrific exhibit which should draw crowds from Sydney and right down the coast."

The exhibition runs until the end of March and will include the launch of the Science Centre's "buy a bone" campaign to acquire a complete Tarbosaurus skeleton for permanent display in the new Science Centre.

New role for Canadian specialist

Dr Gerry Turcotte, of the English Studies Program, has recently been elected to the Executive Committee of the International Council for Canadian Studies (ICCS).

Dr Turcotte was elected to the position of Secretary during the ICCS annual general meeting of Canadian Studies Association Presidents held in Nova Scotia, Canada, last May.

This is the first time in the 16 year history of the ICCS that the Australia and New Zealand branch (ACSANZ), of which Dr Turcotte is President, has been represented on the Executive Committee.

Dr Turcotte said the ICCS incorporates over 20 member associations and nearly 8,000 scholars in 30 countries.

"The objective of ICCS is the promotion of scholarly activities, the creation of an international community of Canadianists, and the dissemination of information about Canada," he said.

Dr Turcotte has promoted this theme at conferences and meetings in Moscow, France, Barcelona, the US, Ottawa, Vancouver and Montreal.

He is about to launch a new book, co-edited with Lois Foster and Kate Burridge.

Canada-Australia: Towards a Second Century of Partnership , includes critical essays on Canada and Australia by academics and political dignitaries, including the former Canadian High Commissioner to Australia Michael Berry.

Girls in Engineering workshops

The University of Wollongong is encouraging year 10 and 11 female students from around the State to take a closer look at engineering.

The Faculty of Engineering ran workshops for 41 students recently, with laboratory sessions and visits to BHP and the Science Centre.

The three-day Girls In Engineering Summer School (GIESS) gave students a hands-on look at civil, electrical, materials, mechanical and mining engineering.

In its seventh year, GIESS co-ordinator Julie Romanowski said students travelled from Cowra, Batemans Bay, Orange and elsewhere to participate.

What about the judges?

A NSW Government report that the closed shop method of selecting QCs may be in breach of the Trade Practices Act has put the spotlight on how the judiciary is appointed.

Sociologist Dr Richard Mohr studies the culture of lawyers and the law. He is Research director of the Centre for Court Policy and Administration at the University of Wollongong.

He said that while justice should "be seen to be done", much of what influences the outcome of court cases is decided without public scrutiny:

- deciding which judges are appointed to particular cases
- delays and responsibility for reserved judgments
- the appointment of new judges.

Dr Mohr said while judicial appointments don't carry the same Trade Practices Act implications as the election of QCs, they are another example of how the law remains, in many ways, a law unto itself.

He said the barriers between the profession and the public are reflected even in the architecture and design of legal buildings.

As a sociologist, rather than a lawyer, Dr Mohr brings different tools to his analysis of the law.

He said the public in many cases felt sidelined in the legal process.

He said attempts to break down the divide between barristers and solicitors for instance, have not worked.

Dr Mohr said barristers continued to keep their distance from solicitors — literally.

He said barristers were reluctant to even share the same suite of offices with solicitors, entrenching outmoded attitudes within the profession.

The US-Wollongong connection via Frameworks

Thousands of US teachers have built a solid framework on the work of two University of Wollongong academics — Dr Jan Turbill and Associate Professor Brian Cambourne, of the Faculty of Education. The pair began research in local schools in 1990 and the result is a series of staff development modules: "Frameworks". The US connection is via a consortium of more than 30 school districts — the Wayne Fingerlakes Board of Co-operative Education Services (BOCES). A unique non-profit joint venture between BOCES and the University of Wollongong successfully markets "Frameworks" in US schools, despite stiff competition from multinational educational publishers. BOCES Assistant Superintendent Jack McCabe and BOCES Frameworks Business Manager Pat Keaveny visited the University in early February for the Frameworks Project Annual General Meeting.

Pictured (from left, back row) are the Dean of Education, Associate Professor John Patterson, Associate Professor Cambourne, Jack McCabe and Pat Keaveny; (front row from left), Dr Turbill and Frameworks Australian Marketing Manager, Wendy Bean.

Sports administrator heads Australia's World Uni Games team

The Australian team at the 1999 World University Games in Spain will be under the watchful eye of Paul Manning, from the University of Wollongong.

The Australian Universities Sports Federation has announced that Mr Manning (right), Executive Director of the University Recreation and Aquatic Centre at the University, will be Chef de Mission for the competition.

Held every two years, the World University Games are, according to Mr Manning, second in prestige and sporting standard only to the Olympic games.

"A total of 6,000 athletes from 160 countries will take part in the Games which has a pedigree of many time the number of world records set than do the Commonwealth Games," Mr Manning said.

"It attracts the best in the world because places like the USA have over 80 per cent of their Olympic level athletes at university, and even the old Eastern Bloc nations have a very high percentage."

Mr Manning said, unfortunately, Australia suffered as fewer than 50 per cent of our top athletes attend university.

"But with 18 months of planning and with the contacts we are starting to get, I think we can make sure all the best Australian students go, whether they are here or elsewhere".

"Certainly the standard of athlete will be outstanding, with world pole vault record holder Emma George, and recent world champion swimming gold medallist, Chris Fydler (both winners from the 1997 World Universities Games team) likely to be back again."

Mr Manning said his job for the next 18 months was to get sponsorship, the best people, have them perform at their best and represent their country as true ambassadors.

"The timing of the event —12 months from the Sydney 2000 Olympics — and the increasing standards of our athletes, mean the team is likely to be the best ever to leave Australia," Mr Manning said.

Visit from Brawijaya for signing ceremony

Brawijaya University, Indonesia, has signed a Memorandum of Understanding with the University of Wollongong.

Brawijaya representatives visited the University recently, including the Rector, Professor Baisoeni, the Director for Postgraduate Studies, Dr Semaoen, and the Co-ordinator for International Relations, Dr Purnomo.

Vice-Chancellor Professor Gerard Sutton and Professor Baisoeni signed the Memorandum formalising previous discussions between the institutions.

Possible collaboration in Civil and Environmental engineering, Total Quality Management, Computer Science and Engineering, and Information Technology were discussed.

Professor Baisoeni and his colleagues met representatives of the faculties of Engineering, Commerce, and Informatics during their stay.

New Chancellor highlights strengths of the University

The Chancellor meets SRC students (left to right): Ann Butler, Erin Cahill, Stuart Hatter and Julia Murray.

Staff and students have welcomed Mr Mike Codd as Chancellor of the University.

The Vice-Chancellor, Professor Gerard Sutton, spoke on behalf of the University at a formal gathering, and the Lord Mayor, David Campbell, spoke on behalf of the City of Wollongong.

Speaking before the reception the Chancellor said three things had become obvious since taking up the post.

Firstly, the success the University has built up was due to the fact it had concentrated on developing excellence in particular areas.

He said the university did not try to be everything to everybody and it was a strategy that obviously worked well.

Secondly, he referred to the strength of the University's relationship with the surrounding region.

And thirdly, he said the reputation of the University of Wollongong is already well-established, both around Australia and around the globe.

Mr Codd said in regard to the day-to-day running of the University, he did not wish to interfere with the management's practices.

"My job is to ensure Council operates effectively and provide advice where it is sought," he said.

In 1986 Mr Codd became Secretary to the Department of the Prime Minister and Cabinet and Secretary to Cabinet, holding that post until he retired in 1992.

He is a director of several companies including Qantas, Telstra, MLC, ANSTO and the Menzies Foundation.

Since 1992 Mr Codd has provided consulting services to public and private sector organisations and has conducted several advisory reviews for government.

Nursing graduates join national indigenous support group

Aboriginal and Torres Strait Islander nursing graduates have joined a national support group.

They have joined the Council for Aboriginal and Torres Strait Islander Nurses (CATSIN), a national body formed last August.

Indigenous student Ms Kerrie Doyle represented the University of Wollongong at the Council's inaugural meeting.

She gave a report at a meeting in Wollongong in December.

Marian Martin, from the Department of Nursing at the University, said the meeting at Wollongong had been very pleasing and another one had been planned.

"We have had quite a few indigenous nurses graduate from Wollongong and I think it's very important that we offer this sort of support locally and nationally," she said.

CATSIN was set up with funding from ATSIC and the Australian Nurses Association as a chance for nurses to network.

According to Ms Martin, there is no record of how many Aboriginal or Torres Strait Islander nurses work in Australia.

"Hopefully the formation of CATSIN will change this, and encourage more of our indigenous graduates to take up nursing as a career," Ms Martin said.

Report shows immigration creates jobs

A new report on immigration and jobs has prompted University of Wollongong academics to call for an overhhaul of national policy.

The report, *Australia and Immigration - A Partnership*, was written by Professor Stephen Castles, from the Department of Migration and Multicultural Studies, and Associate Professor Robyn Iredale from the Centre for Research Policy, together with ANU academic Professor Glen Withers, and consultant Will Foster.

The Housing Industry Association (HIA) commissioned the report.

Its authors say it shows that much of the negative community concern about immigration is based on myths and misinformation.

The study demonstrates that immigration, on balance, has had a mildly positive influence on employment opportunities for the non-migrant population, even during periods of high and rising unemployment. Migrants not only fill jobs, but also create them through spending. They pay taxes as well as use government services, and they bring funds from overseas and contribute to higher exports as well as imports.

HIA's managing director, Dr Ron Silberberg, said that immigration policy needed to be more flexible and forward-looking to provide Australia with a national advantage in an increasingly global marketplace.

"We still think of immigration in terms of people in ships, rather than a diverse range of people including business visitors, tourists, students, and mobile professionals," Dr Silberberg said.

"Immigration policy needs to be in harmony with internationalisation and the global movement of people."

While the report contends that Australia has sufficient resources to sustain a larger population, environmental concerns should be addressed by policies aimed at all residents, rather than by simply excluding new residents.

Dr Silberberg said the immigration debate had suffered because of "selective" and "bigoted" assertions.

Overseas skills and the doctors' hunger strike

The recent hunger strike of overseas-trained doctors seeking work in Australia highlights the complexities of the global labour market.

Skilled migrants arriving in many countries face a barrage of conflicting government polices.

For their part, governments absorbing the flow of immigration struggle with crucial decisions:

Should they attempt to control entry and exit?

Should there be internal labour market barriers to occupations?

Should it be left to employers to choose the most suitable employees?

These and other issues are tackled in a new book published by the University of Wollongong Press: *Skills Transfer: International migration and accreditation processes* (1997), by Associate Professor Robyn Iredale, of the School of Geosciences and International Business Research Institute.

It is a comparative study of the processes and policies on skilled migration in five countries: Australia, Britain, Canada, New Zealand and the United States.

The study found an "array of policies, often conflicting, are currently being implemented by governments . . . Most are trying to achieve internationalisation of their economies, opening up of their labour markets and integration of new settlers".

They were all keen to gain the benefits perceived to accrue from incorporating skilled migrants into their economies — on either a permanent, temporary or short-term basis.

All five countries promoted principles of anti-racism, equal opportunity and access and equity, while at the same time tried to protect the jobs of their own residents and maintain their constituencies.

Associate Professor Iredale: participated for the overseas doctors

According to Professor Iredale, as a result of these apparently conflicting goals, nations may implement policies and practices, often in the name of containing costs, that have the effect of being discriminatory.

The recent hunger strike of overseas-trained doctors highlighted this.

In November 1997, overseas doctors took the drastic action of going on a hunger strike outside NSW Parliament House to highlight what they saw as overt and covert attempts to stop them practising medicine in Australia.

There are over 1,200 unemployed doctors who are permanently resident here, yet in 1996-97, Australia imported 1,258 temporary doctors to fill rural vacancies, Professor Iredale said.

Temporary doctors were brought, without assessment, from the same countries as migrant doctors.

Some were even students together in the same institutions and yet migrant general practitioners were required to pass the Australian Medical Council (AMC) exams to gain registration.

The situation for specialists was even more difficult, she said, as entry to the Specialist Colleges was almost impossible.

Since 1978, exams and processes have been seen by overseas doctors as a means of limiting the number of entrants to medicine and have been a constant source of anxiety.

Many problems existed in relation to lack of adequate communication, the nature of the exams and perceptions of bias among examiners, Professor Iredale said.

Some candidates made six or seven attempts before they passed all parts at one 'sitting'.

Candidates paid almost the full cost of the exams, up to $1,250 for the clinicals, yet many overseas doctors had little faith in the exams' ability to properly assess their skills.

From 1998, in order to 'line up' with the process that is allegedly available to Australian medical students, only two attempts per person will be permissible at each part of the AMC exam, Professor Iredale said.

The whole process must be completed within five years. This latest move by the AMC, in spite of its rejection by the Senate, was the final straw that led to the hunger strike.

The hunger strike lasted for 19 days and was temporarily suspended after the NSW Health Department brokered an agreement to facilitate negotiations between the Australian Overseas Trained Doctors' Association (ADTOA), the Federal Health Minister, Dr Michael Wooldridge, the Australian Medical Council (AMC), the NSW Department of Health and the Australian Medical Association (AMA).

Professor Iredale was invited by the Australian Overseas Trained Doctors' Association to participate in these negotiations.

Qualities of today's new engineer

The image and status of the engineering profession is declining as the public increasingly identifies engineers with controversial and environmentally damaging technologies.

This is one of the claims in a new book by Associate Professor Sharon Beder, a Senior Lecturer in Science and Technology Studies, at the University of Wollongong.

In her book, *The New Engineer: Management and Professional Responsibility in a Changing World*, Professor Beder said engineering appeared to be at a turning point.

"Engineering is evolving from an occupation that provides employers and clients with competent technical advice, to a profession that serves the community in a socially and environmentally responsible manner," Professor Beder said.

"There is an increasing need for engineers to choose technological solutions that are appropriate and give consideration to their long-term impacts.

"Today's technologies can have an impact on the whole globe and on future generations. Never before has there been such a moral imperative to consider unintended consequences of engineering technology," she said.

According to Professor Beder, her book sets out to provide a resource to help people understand the social dimensions and context of engineering work, as well as the social role and responsibilities of the new engineer.

"It also seeks to stimulate discussion within the profession about the qualities of the new engineer and to provide insights to non-engineers who have an interest in the implementation of technology in our society," Professor Beder said.

The New Engineer: Management and Professional Responsibility in a Changing World; by Associate Professor Sharon Beder, published by Macmillan, Melbourne, 347pp.

Future of the coal industry under the microscope

Federal Resources and Energy Minister Senator Warwick Parer visited the University of Wollongong on 18 February to open an international conference on the future of the Australasian coal industry.

In a separate program, State Regional Development and Rural Affairs Minister Harry Woods attended the University on 18 February as part of a two-day tour of the Illawarra (see story below).

What does the Asian currency crisis mean for Australian coal and the people who depend on it? How well equipped is the industry for the demands of a new century and what changes must be made?

COAL98 - 1st Australasian Coal Operators Conference attracted 150 delegates from Australia and around the world. Its theme was: *Improving Fundamental Practices.*

The Illawarra Branch of the Australasian Institute of Mining and Metallurgy, the NSW Coal Mine Managers Association and the University of Wollongong jointly staged *COAL98*. The Chair and Convener was Associate Professor of Mining Engineering Ernest Baafi. Keynote addresses were from management and unions. Incoming President of Cyprus Australia Coal Company, Kevin Crutchfield, spoke along with National General President of the United Mine Workers Division, CFMEU, John Maitland.

Senator Parer and Associate Professor Ernest Baafi.

Minister promises high tech benefits soon for Wollongong

The University of Wollongong will soon be playing a pivotal role through the development of telecommunications industries in the Illawarra region, according to the NSW Regional Development Minister, Mr Harry Woods.

During a tour of the Wollongong campus, Mr Woods promised that several projects were in the offing and would occur during this term of the Carr government.

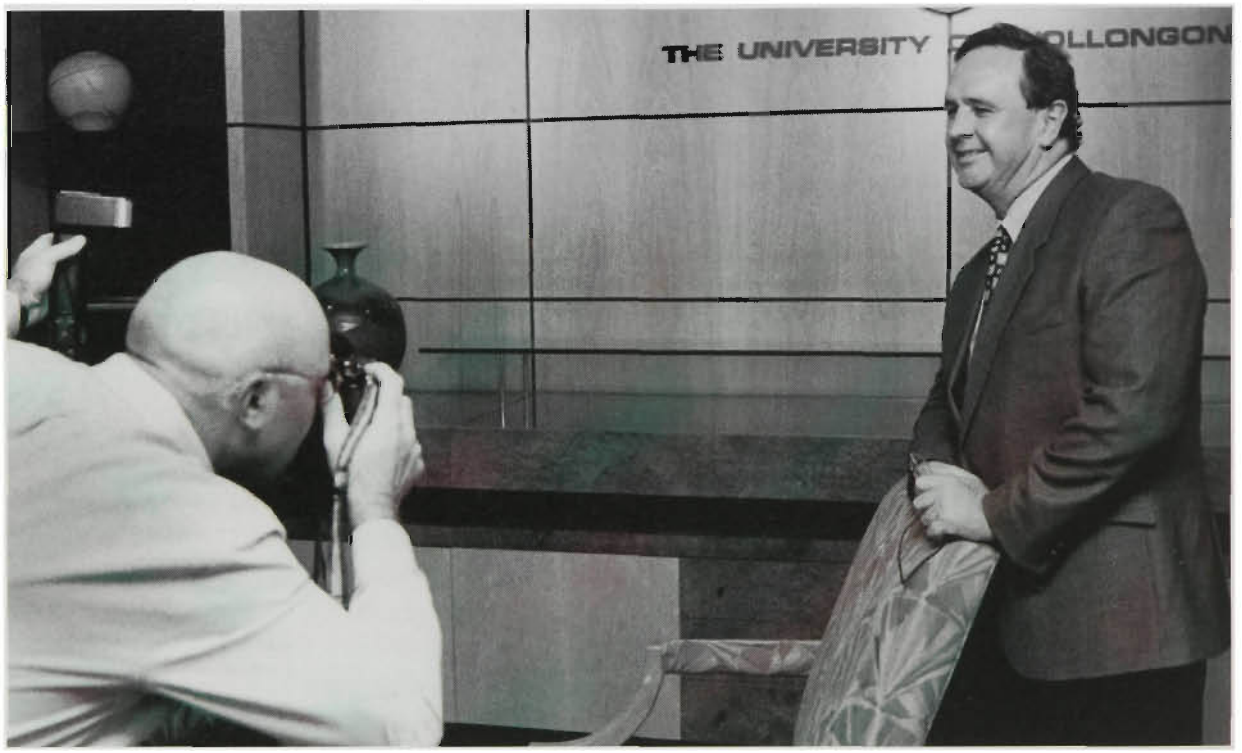
"There are significant opportunities on the horizon and the University of Wollongong is ideally situated to capitalise on these opportunities as you have the large skills and resource base here," Mr Woods said.

He said the government was now actively working to assist some telecommunications industries to relocate to the Illawarra.

The NSW Treasurer, Mr Michael Egan, last year declared Wollongong to be the NSW Centre of Excellence in Telecommunications.

The State Government has also funded a preliminary study into the establishment of a Computer Network Design and Education Centre at the University of Wollongong.

It was the first visit to the region for the Minister since he assumed the Regional Development portfolio.



Regional Development Minister Harry Woods attracts media attention at the University of Wollongong.

During his two-day visit on 18 and 19 February, Mr Woods visited various sites on the University campus including the Illawarra Technology Corporation (ITC) and the Institute for Telecommunications Research. In addition he toured various industrial and business outlets in Wollongong and met members of the Illawarra Regional Development Board.

Top TER students offered $3,000 scholarship

Top students from the Illawarra and southern Sydney have enrolled at the University of Wollongong after receiving $3000 scholarships.

The new University of Wollongong Academic Excellence Regional Scholarships were announced by Vice-Chancellor Professor Gerard Sutton at the inaugural function to honour the top 200 TER (Tertiary Education Rank) students, on 7 January.

The 200 high-achieving students invited to the University were those who indicated a University of Wollongong preference. The students all scored TERs of 92 or above.

Outstanding academic excellence

Professor Sutton said the special scholarships recognised students' outstanding academic excellence.

The Vice-Chancellor told the students and their families that the University of Wollongong was a regional-based university with an international outreach.

"We have a strong international reputation and as we have many alliances with overseas universities we can assist students who might want to do part of their studies in another country," he said.

Can landslide disasters be averted?

Landslides in urban communities were on the agenda in the lead up to the Second International Conference on Environmental Management (ICEM2) at the University of Wollongong in February.

A workshop on Landslide Hazard Assessment was held with the major international conference which featured the presentation of 170 papers from authors in 25 countries.

ICEM2 was officially opened by Senator Ian Macdonald, Parliamentery Secretary for the Environment, representing Federal Minister for the Environment, Senator Robert Hill. Senator Hill was attending the Constitutional Convention.

Conference chair Associate Professor Robin Chowdhury, from the Department of Civil, Mining and Environmental Engineering at the University of Wollongong, said world-wide experience showed intensive development of hilly areas accelerated the processes that led to landslides.

"Hong Kong is a well-known example, Thredbo is a stark reminder, the most recent one, of what can happen even in a country which has been relatively less landslide prone," Professor Chowdhury said.

Professor Chowdhury said the main aim of the ICEM2 conference was to facilitate interaction and dialogue not only between different engineering specialisations such as civil, mining and environmental but also between scientists, engineers, planners and administrators.

There were eight keynote addresses presented by prominent engineers and academics including international experts from the USA, Canada, Japan and Switzerland.

The keynote speakers covered such topics as the role of government in sustainable development, recent urban landslide disasters in Japan, and environmental risk management.

Wollongong Lord Mayor David Campbell, left, Professor Chowdhury, Senator Macdonald and Vice-Chancellor Gerard Sutton.

High level overseas trade delegation visit

A high-level trade delegation of Vietnamese, Thai and Chinese officials visited Wollongong — including the University of Wollongong — on 23 February.

The delegation met senior officials of the University of Wollongong. The University is already involved in an Australian Research Council funded collaboration agreement with Vietnam and will be seeking further collaborative arrangements.

The delegation left the University to visit the Illawarra Investment and Export Promotion Centre, Australian Business Chamber, Wollongong. They saw an exhibition of local business developments and met the Lord Mayor of Wollongong, David Campbell.

The delegation arrived at BHP for a guided tour and later visited Wollongong's Buddhist Temple.

The Vice-Chancellor, University of Wollongong, Professor Gerard Sutton, (pictured front row third from right) with members of the trade delegation and University officials

The delegation included Vietnam's Ambassador to Australia, H.E.Tran Van Tung; the President of the NSW-Vietnam Chamber of Commerce, Mr Laurence Strano; Vice Minister of Trade in Vietnam, H.E. Mai Van Dau; the Director General of Vietrade, Ministry of Trade, Mr Pham Ngoc San; the Senior Adviser to the Prime Minister and the Trade Minister, Professor Luu Van Dat; the Vice-Minister of Planning and Investment in Vietnam, H.E.Vu Huy Hoagn; the Senior Adviser in the Ministry of Planning and Investment, Mr Nguyen Ngoc Hai; Professor Yanyun Zhao of the People's University of China; the Director General of the Vietnam Institute for Trade, Professor Le Nhat Thuc. The delegation also included Professor Tran Van Hoa, of the Department of Economics, University of Wollongong; and the Chair of the Academic Senate at the University of Wollongong, Professor Rob Castle.

In Sydney the following day, Professor Tran Van Hoa and Mr Laurence Strano organised a one-day international conference entitled Vietnam's Development, International Trade and Investment. It included key members of the visiting delegation.

Part of the conference centred on the current Asian economic crisis as well as overall trade and investment opportunities available.

Wollongong wins some watery ambassadors

The US world champion ships swimming team trained at the University of Wollongong's aquatic centre over the new year.

The squad prepared at the University from 28 December to 8 January for the Perth world championships in mid January.

Aquatic centre manager Bruce Power said the team chose the University of Wollongong over rival pools in Sydney, Melbourne, Brisbane and the Sunshine Coast primarily because of the outstanding facilities provided.

"It also broke the trip up, giving them some time to adjust to the time changes and seasonal differences and also kept them fairly well out of the media spotlight in Perth and of course the facilities were first rate. The Novatel also came up with a very competitive and attractive package for them so it really was a regional approach that sealed the deal," Mr Power said.

Aquatic Centre Manager, Bruce Power (left), and the Lord Mayor, David Campbell (centre), greet the US World Championship swim team.

For most of their stay the US swimmers trained in privacy with the pool closed to the public. According to Mr Power, they had a very busy training schedule and could not fit in too many other activities.

"They did get to do a bit of local sightseeing up to Symbio and Bald Hill and for a night out at the Woolshed at Yallah. The local Wisemans Park Bowling Club also invited the whole team over for dinner one night and a lesson on how to play lawn bowls. They all enjoyed themselves and it was good to see the community welcoming the visiting team."

On Sunday 5 January the pool gates were opened to an appreciative 200-strong crowd of autograph seekers, and the Lord Mayor David Campbell participated in an exchange of gifts with the team.

The team also spent one day training at the Sydney International Aquatic Centre at Homebush — the Olympic venue — and a short time in Sydney sightseeing.

"They were very happy with the camp, with the reception they received from the local community, the facilities, the accommodation and the weather," Mr Power said. "If we had a roof over the pool they would be booking tomorrow for the Olympics. We have had inquiries already for future bookings from one of the coaches for his college team in the summer of '99-2000."

According to Mr Power, the most common comment from the swimmers was on the beauty of the region and what a great time they had during their stay in Wollongong.

"Probably the best compliment we got was that many of the team said that if they didn't live in the United States, Wollongong was somewhere they would also be happy to live. I think we sent 60 very happy ambassadors for our region back to the States," Mr Power said.

Low income students gain childcare fee subsidy

The University of Wollongong has introduced subsidised child care fees for students at the University for the 1998 academic year.

The Vice-Chancellor, Professor Gerard Sutton, and the 1997 President of the Students' Representative Council (SRC), Ms Carol Berry, announced the proposal.

"Various changes to the way child care programs are supported have had the effect of making child care significantly more expensive for parents," Professor Sutton said.

"We are concerned to ensure that these increases, which can have a severe impact on low-income parents, do not prevent capable students from enrolling or pursuing their studies," he said.

Ms Berry said the SRC fully supported the subsidy which amounted to $10 a week for full-time users.

"It may not seem like much but if you are a struggling student it can make all the difference," Ms Berry said.

The Children's Services Program received quality accreditation at the highest possible level for its long day care centre, Kids' Uni North.

Enquiries about the subsidy can be directed to the UniCentre, Ms Debbie Delaney, on 4221 8037.

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