

Pottery finds spark possible revision of Australian history

Pottery found on the NSW South Coast could see a University of Wollongong (UOW) scientist re-write the course of Australian history.

Mr David Price, of the School of Geosciences, hopes to prove whether Portuguese explorers visited NSW more than 200 years before Captain James Cook, the first explorer to claim Australia as a British colony.

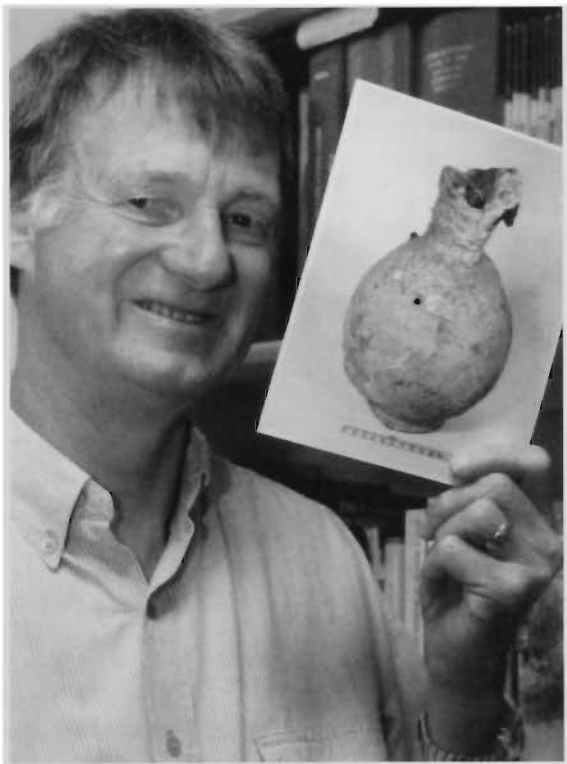
Mr Price said although it was no secret the Portuguese were in East Timor as early as 1509, the question of whether they ventured as far as the NSW South Coast had until now remained a matter of speculation.

In 1981, an Eden fisherman delivered a fragment of pottery to Mr Price for testing. The piece was found more than 40 years ago by fishermen trawling water 75m deep near Gabo Island, off the NSW-Victorian border.

The style of the pot, or ewer, was typical of those used historically by the

Portuguese for storing wine and oil.

However, thermoluminescence (TL) tests performed by Mr Price yielded ambiguous results: one test put the age of the pottery at 500 years; another proved inconclusive.



The issue lay dormant for 18 years until a strikingly similar artefact, discovered on a Darwin beach, was delivered recently to the Darwin Museum's Curator of South Eastern Asian Arts, James Bennett.

The find has rekindled Mr Price's interest in the matter. He is now working with Mr Bennett to determine if, and when, the

Portuguese might have visited the South Coast.

They hope the owner of the Darwin pottery will permit them to test the relic at a UOW laboratory to determine its age. They believe the piece to be ideally suited to TL testing.

"The results of tests performed on the Gabo Island piece may well have been confused by long-term immersion in sea water," Mr Price said.

"It is hoped, therefore, that the ewer discovered near Darwin may prove better suited to TL testing as it was found buried in sand.

"More interestingly, if further pieces of pottery are uncovered around the South Coast, this may well provide a valuable clue as to when Portuguese sailors sailed around our southern shores."

Mr Price appealed for people to come forward with such items: "They could hold another piece of this elusive jigsaw puzzle".

Note: People with such items should contact Mr Price on (02) 4221 3632 between the hours of 8.30am and 5.30pm, Monday to Friday.

David Price with a photo of a Portuguese wine ewer

Researchers in major international discovery

A University of Wollongong research team is one of several international scientific teams to be credited with a startling new breakthrough — the discovery of a phenomenon that may lead to the creation of artificial muscle.

The find, published in the 21 May issue of the prestigious United States journal *Science*, was reported by hundreds of journalists throughout the world. The discovery is the subject of a pending patent application.

The Intelligent Polymer Research Institute (IPRI), is working with scientists from the United States, Italy and Germany on a three-year project funded by the US Department of Defense Advanced Research Projects Agency.

The potential benefits in the future for physiotherapy and prostheses development are enormous, according to the Director of the IPRI, Professor Gordon Wallace.

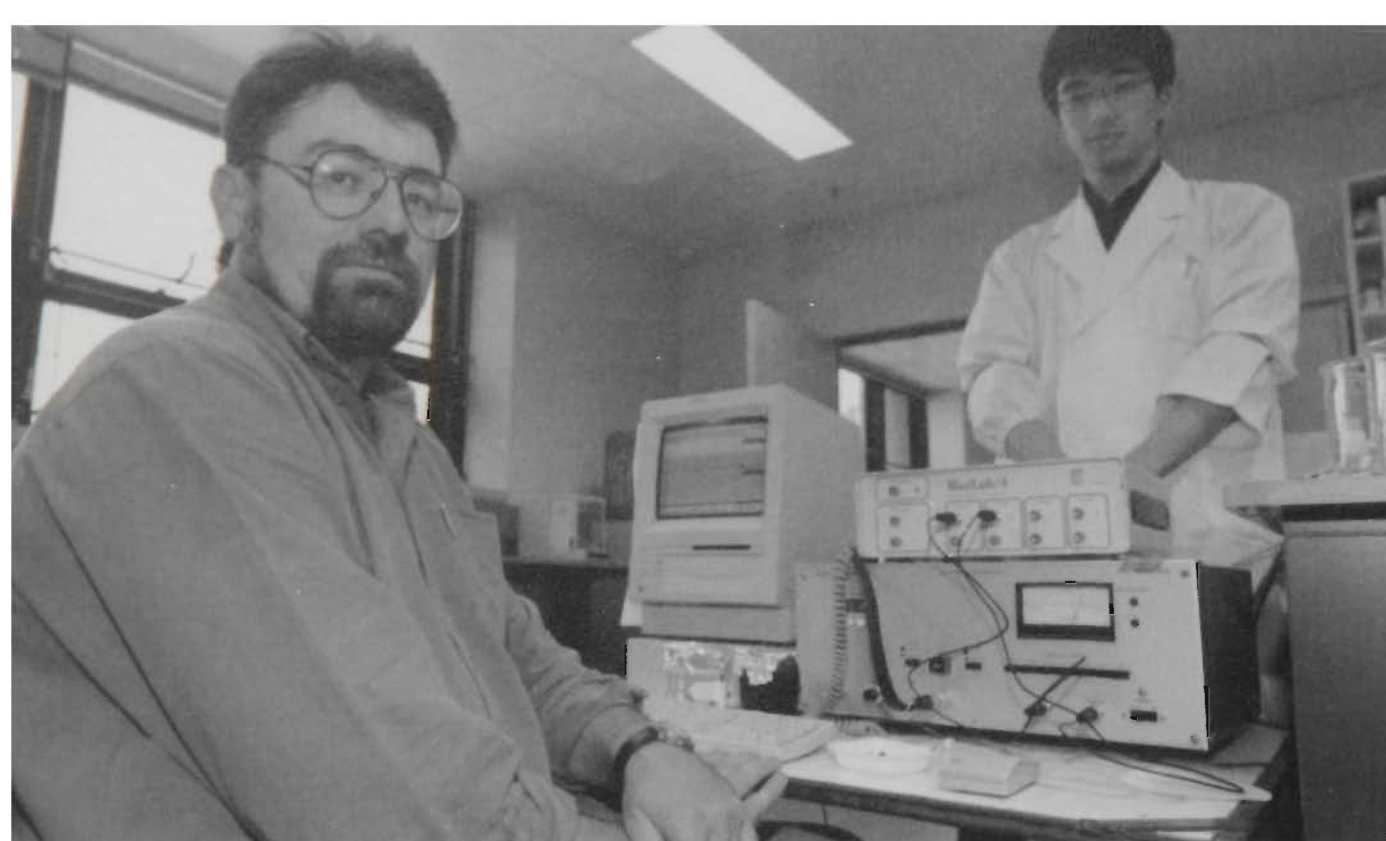
Applied to physiotherapy and prostheses, it could be used to create a fabric or material that could support limbs and amplify the body's own muscle movement.

• *Continued Page 2*



Autumn Graduations

PHOTO SPECIAL pages 6-9



• Professor Gordon Wallace with Tetsu Narita a Visiting Scientist from Japan's Hokkaido University where a Research Group under Professor Osada are world leaders on the use of gels for artificial muscles

UOW research team in major international discovery

• From Page 1

This breakthrough may lead to the ability to implant artificial muscle. Crucial to the breakthrough was the team's discovery that carbon

nanotubes, an organised structure of carbon atoms in the shape of a very small tube, could be "actuated" to imitate the functions of human muscle.

Professor Wallace's team, who have for years worked to develop artificial muscle using polymer actuators, was given the task to find ways to efficiently stimulate the material with low voltage electricity.

Millivolts of charge were applied to the material causing it to expand and contract like naturally occurring muscle.

Professor Wallace said scientists had been working to create artificial muscle since the idea was first floated more than 10 years ago. The materials used to generate it had been known to science for only 20 years.

While it would have taken a single organisation or laboratory between three to five years to demonstrate such a concept, the four laboratories involved in the discovery achieved the result in less than two years.

The scientists' research is also expected to revolutionise the high-tech spheres of nano technology and robotics.

Professor Wallace said the newly-discovered function would see the development of tiny parts for tiny engines in the new field of nano technology.

Premier's Literary Award

A doctoral candidate from UOW's Faculty of Creative Arts has won a prestigious NSW Premier's Literary Award. George Alexander's novel *Mortal Divide* won the Ethnic Affairs Commission category of the awards. He received \$15,000 in prize money.

The novel, published by Brandl and Schlesinger, was penned as the creative component of Mr Alexander's PhD.

"It's an omelette of styles," he said of the work, described as a self-denying autobiography and study of masculinity in crisis.

"There's a notional murder plot that is interrupted by a ghostly inquisitor called Yiorgos, which is Greek for George.

"He forces the narrator George to confront the truth about his relationships with women".

Mr Alexander described himself as "half-Greek, half-Italian, via Egypt", where he was conceived. However, it is the content of his novel, rather than his Mediterranean heritage, that qualified him for the Ethnic Affairs Commission category of the awards.

The Perth-born author, who works as Co-ordinator of Contemporary Art Programs at the Art Gallery of NSW, Sydney, expects to complete his PhD next year.

Along with his doctoral dissertation on the nature of literary genres, he has a non-fiction work and another novel in the pipeline.

Competitions in line with Millennium Solar Project

Scientists won't be the only ones taking centre stage at the Millennium Solar Project (MSP) launch on New Year's Day, 2000.

Backyard inventors and school children also will be given the chance to shine.

Organisers from the University of Wollongong and Massey University, New Zealand, have arranged a series of competitions to publicise the event.

Scientists from UOW's Intelligent Polymer Research Institute and Massey's Institute of Fundamental Sciences plan to harvest the first rays of sun of the new millennium.

The event is set to attract sponsorship dollars and grants to a three-year solar cell technology project.

Three competitions have been arranged in conjunction with the event with more than \$7,000 in prize money up for grabs:

* Visionaries and would-be inventors are invited to design and submit prototype devices capable of capturing or converting the sun's rays. The winner will receive \$5,000.

* High school students are asked to submit an essay of no more than 500 words to say how they would capture or convert the first rays of the new millennium. The winner will receive two solar education kits and \$1,500 prize money (\$500 for the student and \$1,000 for the school).

* Primary school students can enter the MSP poster contest by submitting an original A4-size poster depicting how they would capture or convert the first rays of the new millennium. First prize will be two solar education packages and \$1,000 prize money (\$300 for the student and \$700 for the school).

The competitions are open to all Australia and New Zealand citizens. Entries are to be submitted by 30 August. The winners will be announced in October. Winning entries will be displayed at the MSP event in New Zealand on 1 January 2000.

For further details, contact Professor Gordon Wallace at the University of Wollongong on (02) 4221 3127.

University of Wollongong researchers have pinpointed a critical link in cataract development, bringing preventative drug treatment a step closer.

A clearer look at cataract

Cataract, the clouding of the lens common in elderly people, is the leading cause of world blindness.

Associate Professor Roger Truscott (pictured) and researcher Matthew Sweeney have found evidence of a barrier to the body's natural defence against cataract.

They have shown, even in old age, our body makes sufficient antioxidants to ward off cataract. However, as we age, a barrier develops, preventing them reaching where they are needed.

The research findings are a major breakthrough in efforts to prevent cataract. If the barrier which disables our own cataract defences can be identified, preventative drug therapy becomes a possibility.

The normal lens is a colourless, transparent tissue, which acts to focus light on to the retina.

When nuclear cataract begins, the lens becomes yellow and, as the cataract worsens, it becomes brown and, in advanced cases, even black!

This is termed nigrescent cataract. The colouration is accompanied by precipitation of lens proteins and is localised in the centre or nucleus of the lens, hence the name nuclear cataract.

Our understanding of this disease has been poor. Until recently all we knew was that progressive colouration was accompanied by major changes to the proteins which make up the vast bulk of the lens. For example, the proteins become cross-linked and oxidised.

Why should this occur and why only in the lenses of old people?

It appears the answer lies in the antioxidant defence system of the lens.

In order to understand this, the peculiar growth pattern of the lens needs to be taken into account. The lens grows throughout life. Layers of long clear fibre cells are added to the lens present at birth. These fibre cells are packed with protein and since no turnover of protein takes place in the

lens nucleus, the proteins in the centre of the lens are as old as you are.

In order to maintain the structure of these proteins and thus the integrity of the lens, it is essential that they are protected from modifications which can occur over time. Antioxidants such as

glutathione are crucial.

Glutathione is made by the metabolically active outer layers of the lens. After biosynthesis, the glutathione then diffuses through hundreds of cells to reach the interior of the lens. For proper maintenance of the lens, two factors need to operate efficiently: synthesis and transport. Without adequate supplies of glutathione, the centre of the lens becomes susceptible to oxidative damage and therefore cataract. It is now clear that it is the transport that lets us down. As the normal lens ages, a barrier to the movement of glutathione develops.

If a young human lens is incubated in a radio-labelled precursor for glutathione and then sliced and examined after 48 hours, the label (and therefore the glutathione) is found distributed throughout the lens.

By contrast in an older lens the label has not penetrated to the centre. Even though the old lens is able to make glutathione, the antioxidant cannot reach the centre when it is required.

In the absence of an adequate flux of glutathione, the lens proteins become prone to damage by agents such as the hydroxyl radical -- a particularly damaging oxidant.

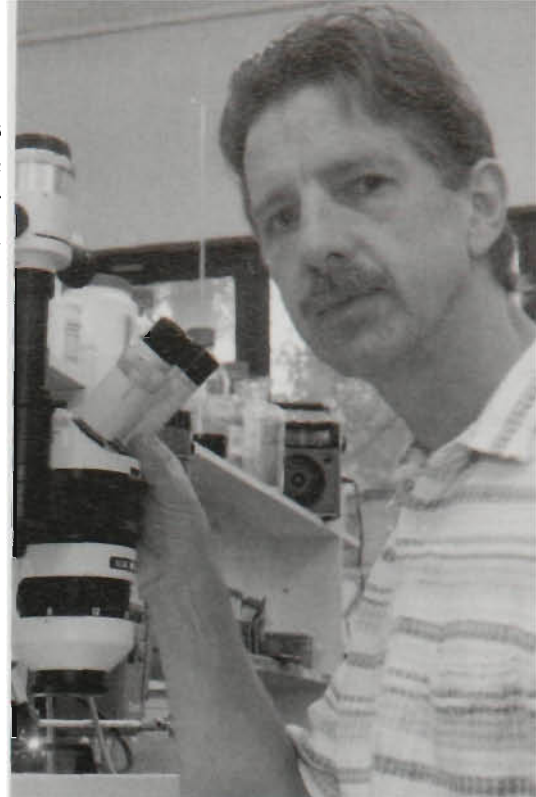
The cost burden to the health systems of developed nations due to cataract is enormous. In the USA for example, more than 1 million cataract operations cost \$3 billion annually. In less developed nations, such as India, surgery simply cannot keep pace with the incidence of cataract.

It is becoming clear that in order to prevent cataract we need to understand the reason for the barrier's development. Drugs which prevent or delay the barrier may also prevent cataract. University of Wollongong researchers are continuing their efforts to isolate what the barrier is and how it develops.

A team in Wollongong's Biomolecular Research Centre (BRC) is working with Professor Truscott on several fronts to unlock the secrets of cataract. The BRC brings scientists from different fields together.

Professor Truscott is collaborating with molecular biologist Dr Osamu

Takikawa, a visiting fellow from Japan is studying an enzyme that triggers formation of damaging compounds while chemist Dr Joanne Jamie is trying to design drugs to inhibit that enzyme.



Don't blame your genes for everything

The old dietary adage "You are what you eat" will be demonstrated as never before at the University of Wollongong's inaugural Smart Foods Forum.

Delegates to the 12 July conference will hear how diet and lifestyle can help overcome genetic predisposition to disease in humans.

An international expert in the field of genetics and nutrition, Dr Artemis P. Simopoulos, will be the keynote speaker at the forum hosted by the University's new Smart Foods Centre.

Dr Simopoulos is President of the US Center for Genetics, Nutrition and Health in Washington, DC.

She will be joined by guest speakers including: Professor Len Storlien, of the University of Wollongong; Dr Louise Burke, Australian Institute of Sport; Ms Manny Noakes, CSIRO; Professor Andrew Sinclair, RMIT; and Professor Paul Nestel, Baker Medical Institute.

Eminent nutritionist Rosemary Stanton, dieticians, researchers and food industry experts from Kellogg Australia and Goodman Fielder are among those expected to attend.

Education Co-ordinator for the Smart Foods Centre, Anne McMahon, said the conference would showcase the facility's expertise and ability to provide cutting edge news and research to the wider community.

The centre is one of eight new Commonwealth Key Centres of Teaching and Research established by the Australian Research Council.

An alliance between the University, governments and the food industry, the centre will specialise in nutrition-related research and education that will benefit all Australians.

It will provide Australia's food industry with a unique set of resources to aid in the development of food supply in terms of health, consumer acceptance and value-adding to exports.

UOW Environmental Science students scoop the awards pool

A Bachelor of Environmental Science (Hons) student Ainsley Atkinson recently won the University Medal at the May graduation ceremony as the highest achieving science student. Ainsley was the first Environmental Science student to win a University medal which was the climax to several awards throughout her degree. For Ainsley's outstanding efforts in the fourth year of her degree, when she completed a thesis on the landuse and fire history of five connected freshwater lakes at Thirlmere, she won the Allen Sefton Memorial Prize. During the second year of her degree, she was awarded the Howard Worner Prize for the best Environmental Science student for that year. Ainsley is now continuing her studies with ANSTO and the University of Wollongong on the PhD topic of distinguishing environmental signatures for human impact and climate variability. She was recently awarded an Australian Institute for Nuclear Science and Engineering (AINSE) Postgraduate Award. This award will provide additional assistance to the Australian Postgraduate Scholarship for the completion of her PhD studies.

Six other students from the Bachelor of Environmental Science (Hons) degree have also made special achievements recently:

- Larissa Brisbane and Karin Rutten, fourth year students, were successful in gaining '98/'99 University of Wollongong Foundation Vacation Scholarships. These highly-competitive scholarships were sponsored by the Illawarra Waste Management Board. Both the students worked on a special project. Karin worked on wood waste reuse and Larissa, on a waste exchange database. These scholarships usually run over the summer vacation but as the sponsor found Larissa's and Karin's contributions so valuable, the period of both the scholarships was extended.
- Melinda Pickup and Bhawana KC, also fourth year students, were successful in gaining competitive summer studentships with CSIRO and ANSTO. Melinda worked with the CSIRO Division of Plant Industry on factors limiting reproduction within small fragmented populations of an endangered grassland daisy. Bhawana worked in ANSTO's Environment Division on methods of extracting metal from waste water using hollow fibre contained liquid membrane technique.
- Ruth Connor, who completed the Bachelor of Environmental Science (Honours) degree last year, won a three-month competitive scholarship with CSIRO Division of Land and Water working in the area of remote sensing.
- Victoria Wilkinson, who also graduated this year, won the Best Undergraduate Student Poster Award at the 1998 Coastal Conference organised by the Coastal Council of NSW and held in Batemans Bay.

An Environmental Science PhD student, Martine Jones, won the Best Student Poster Award in the postgraduate category at the NSW 1998 Coastal Conference. Martine continued on from her Bachelor of Environmental Science (Hons) to a PhD researching the biodiversity of shallow water fish communities and the variability in recruitment of many economically important fish species in the NSW south coast region. This project is funded by the Fisheries Research and Development Corporation.

Chin -Lu Mo who graduated with a PhD in Environmental Science in 1998 has been given the inaugural Best Paper Award for a paper entitled "Admixing Urea in Raw mix to reduce NO_x and SO_x Emissions in the Iron Ore Sintering Process", presented at the Industry Pollution Prevention and Technical Engineering Symposium, in Taiwan. This symposium was organised by the Department of Industrial Administration of Economic Affairs in Taiwan. Mo's PhD thesis researched methods to remove nitrogen and sulphur emissions from the iron ore sintering process and was completed with assistance from BHP Research (Newcastle), BHP Minerals, and China Steel Corporation.

Vice-Chancellor

appointed new

Director of Dubai campus

A former Australian High Commissioner and university Vice-Chancellor has been appointed Director of the University of Wollongong's Dubai campus in the United Arab Emirates (UAE).

Dr Rodney Hills resigned as Vice-Chancellor of the University of Papua New Guinea to take up the Dubai posting in July.

He replaces Mr Martin Van Run who has held the post since 1993 and is returning to Australia.

UOW's Vice-Principal (International) and Managing Director of ITC, Mr James Langridge, said he was thrilled to have somebody of Dr Hills' stature directing the future operations of the Dubai campus.

Dr Hills was Australian High Commissioner to the Kingdom of Tonga from 1986 to 1990 and also worked as Head of Mission for the Australian Diplomatic Service.

In 1990 he was appointed Deputy Director of the Australian National University's (ANU) National Centre for Development Studies; and in 1991 became Executive Director of the AIDAB Centre for Pacific Development and Training.

Dr Hills established the Australian Centre for International Agricultural Research while working as Director of the Australian Development Assistance Bureau in the 1980s.

He holds a PhD from the University of Bristol and has worked as a lecturer at Britain's Strathclyde University and an agricultural meteorologist in Kenya, Africa.

UOW's Dubai campus was launched in 1993 to provide quality western-style tertiary education for UAE nationals and non-nationals.

Previously, students in some undergraduate and postgraduate courses had to finish their degrees abroad or transfer to distance education programs.

Feedback from some of the large number of students who re-enrolled this year in UOW courses via the World Wide Web is being used to improve the new system.

With a participation rate of 47%, the program developed by a final-year computing science class is being hailed as the most successful of its kind in Australia.

About 20% of the 3,727 students who re-enrolled this way offered constructive criticism that has been used by the Academic Registrar's Division to streamline the service.

As a result, a technical glitch that cut-off many students mid-way through the re-enrolment process has been corrected. This was achieved by extending the "time out" setting from 10 minutes to 30 minutes.

Students asked for more detailed subject information, tutorial enrolment, payment facilities and waiver applications over the web, which also is being addressed.

Some of the concerns expressed by students related to:

Specialisations; that the list of options was incomplete — "It's very efficient; it's a good idea

but they should have been more thorough with the specialisations listed on the specialisation page because my particular combination wasn't listed".

Subject availability - "After all the kinks had been worked out (i.e., not being able to enrol earlier in PSYC347) I think the system is the best way for ease reasons".

Contradictory advice on when subjects were offered - "I think it is great ENGL374 is listed in the timetable for Spring but the system advised me that it is not available".

Of those students who did not re-enrol via the web service, 43% said this was because they did not

Robert Hood — acclaimed writer of horror and crime fiction

How does one of Australia's leading writers of horror fiction earn his daily bread?

By working in the unlikely position of Publications Officer in the University of Wollongong's Department of Economics.

A black leather jacket and loud t-shirt are the first indications that there's more to Robert Hood than meets the eye. The former high school English teacher has worked as a drummer in a rock band and comedian on breakfast radio.

But it is as a writer of horror and crime fiction that he has won major acclaim.

Several novels and more than 70 published short stories — one of which was deemed by censors to be gruesome for Queensland readers — are just some of the works to his credit.

Three unpublished novels also lurk about the desk of his home.

Robert's latest novel, *Backstreets*, a first foray into young adult fiction, was launched in May at the University of Wollongong's UniCentre Bookshop.

The book was written as Robert fought to come to terms with the accidental death of his teenage stepson. It felt like opening wounds but proved a cathartic release from pain.

"I became a writer because I could not help myself — that's the only reason to become one," Robert said.

"But in Australia you end up being broke all your life unless you have another job. Writing can be very isolating so working is good because it keeps you in contact with people."

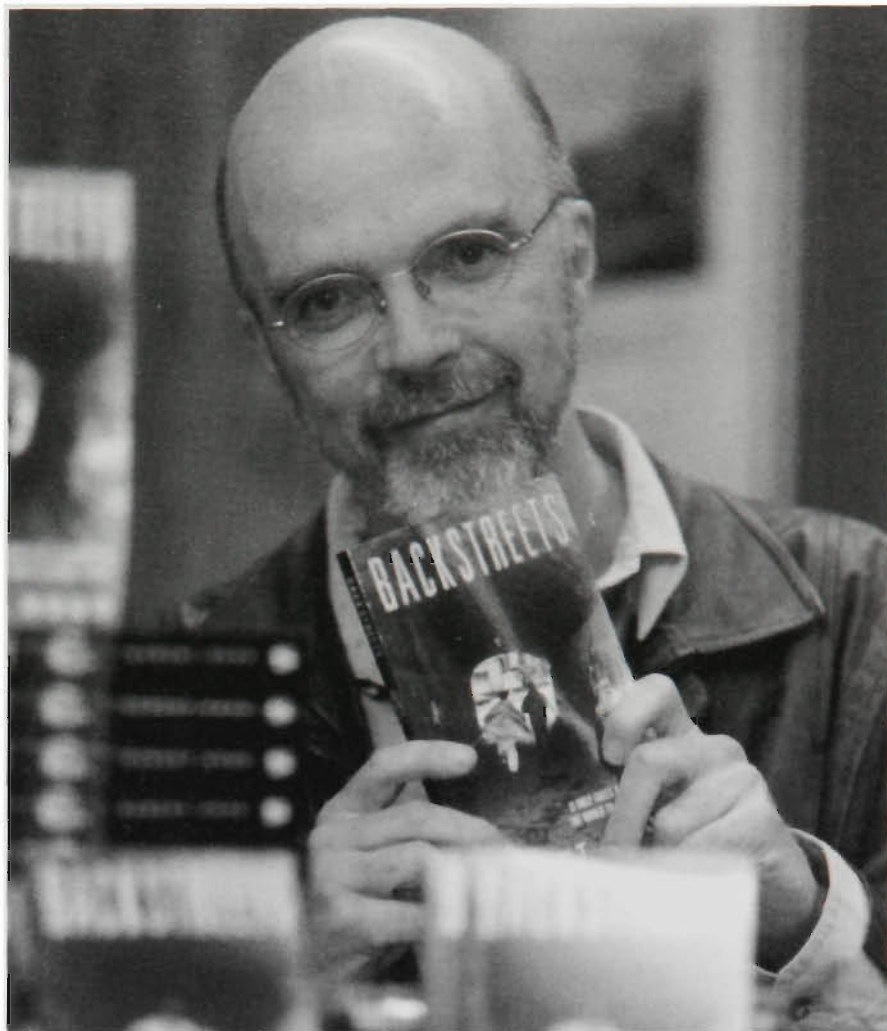
Robert's horror-writing ambition was born of a childhood gift of books from his mother. Mary Shelley's *Frankenstein* and Bram Stoker's *Dracula* would have scared the pants off lesser children, but not Robert.

"I was fascinated," he said.

"I was the sort of child who when asked to write English stories of half-a-page, would turn up with 10 pages. The Vocational Studies teachers did not quite know what to do with me. They said, 'Become a teacher', and that's what I did".

Robert graduated from Macquarie University with a BA Dip Ed and an MA (Hons) in Literature. The monstrous imagery of poet William Blake inspired his thesis on objective form, themes that continue to influence his writing.

He was an English/History teacher at Elderslie High School for eight years before leaving to work as a comedy writer at Sydney radio station 2SM in the early 1980s.



With announcer Ian Grace and co-writer Bruce Stalder, Robert pioneered the new genre of breakfast radio comedy.

He was an announcer on Wollongong's Radio 200 and worked as a print journalist at *The Liverpool Leader* before accepting a job as a research assistant at UOW, where he has remained ever since.

An Australian Golden Dagger Award for Best Short Mystery Story and *The Canberra Times* National

Short Story Competition are some of the big wins to his credit.

His work has been selected to appear in the recent Harper Collins anthology *Dreaming Down Under*, which is likely to win an award at the World Science Fiction Convention in Melbourne later this year.

By Tina Sorenson ■

• Robert Hood at the launch of his book, *Backstreets*

have access; 16% said for convenience and their preference for forms.

A further 14% of those sampled tried to use the service but failed.

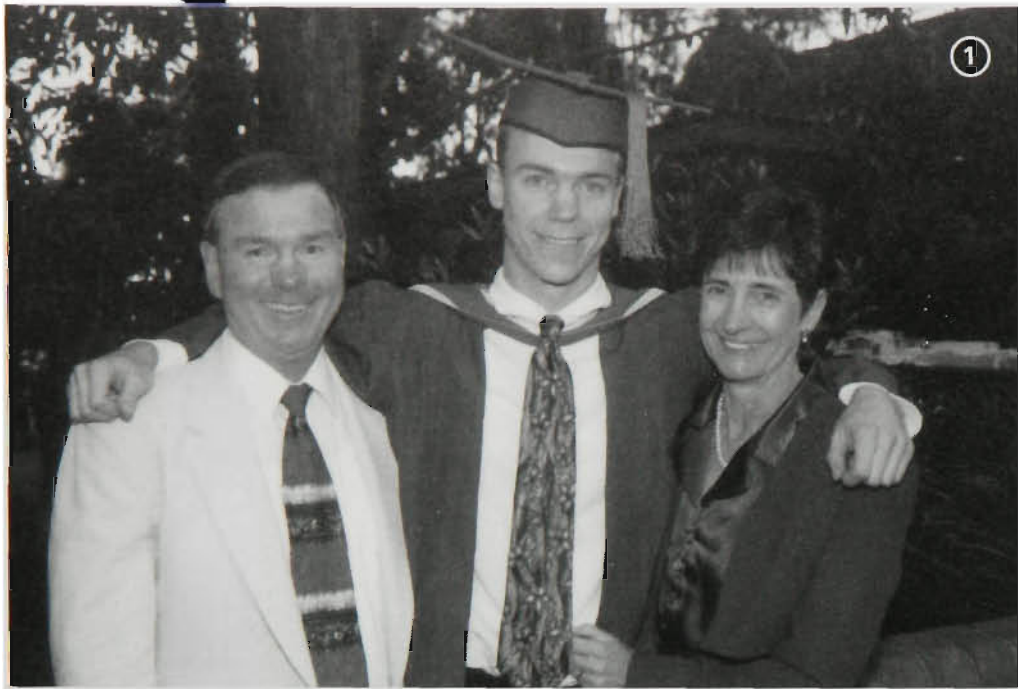
The Academic Registrar's Division hopes to streamline next year's re-enrolments by allowing students to make subject choices while still on campus.

All students who participated in this year's web re-enrolment were entered into a prize draw. The winners were: Katarzyna Sliwa, who won an NEC PC; and Alexandra Burns and Ralph Blake who each won a Gold Pass to the Recreation and Aquatic Centre.

Tips for successful web re-enrolment

- Use a common browser: UOW tests its pages against Netscape version 2.0 and above, and Internet Explorer 3.0 and above
- Have a good idea of what you are planning to do before you start — time limits are placed on connection for security purposes
- Close down your browser when you have completed your form. If you don't and are working from a public lab, other users could change your enrolment and records
- Make sure you complete your form — some are multi-page forms where information isn't updated until all pages are complete
- Print out the final page of your form as proof of completion
- If you are experiencing difficulties, try a different machine, browser or internet service provider

Autumn Graduates



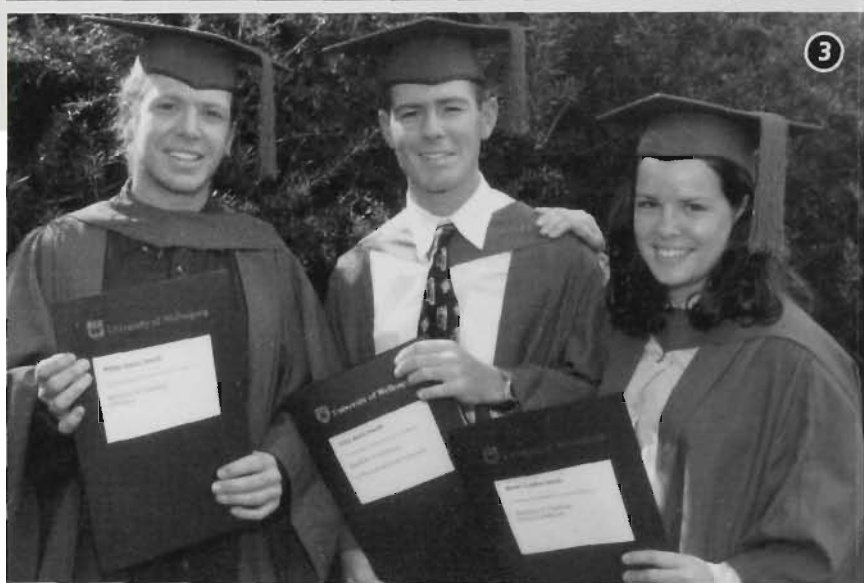
1. Honours engineering graduate and University Medal winner, Mark Hughes, with his parents Ron and Wendy. Mark received 100 per cent for his final year thesis — the highest mark the faculty has ever awarded.

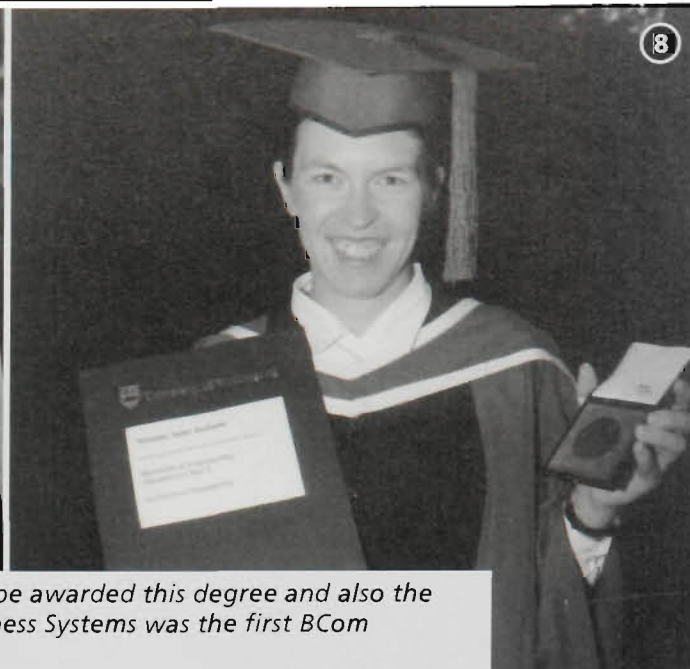
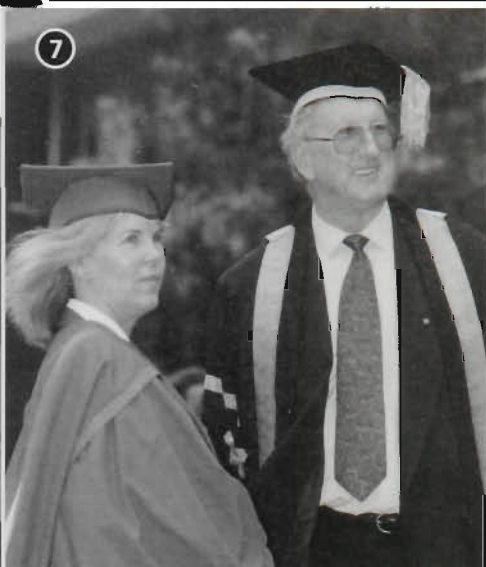
2. Professor Peter Arnold (right) with one of his earliest tutors and oldest friends, Emeritus Professor Alan Roberts, who received an honorary Doctor of Science degree.

3. Two brothers and a sister all graduated on the same day at the Faculty of Education ceremony and all are embarked on teaching careers. Pictured (from left) are Philip, Glen and Renee Smede.

4. Robyn Hyslop, an Administrative Officer in the Faculty of Education, graduated with a Bachelor of Arts. Robyn wore a special bracelet her father bought her for graduation day as he knew he was dying and would not be there to present it on the day. She is pictured with her children Craig, Jacqueline and Lauren.

5. Camtu Nguyen, of Information Technology Services (ITS) received a Master of Commerce degree.





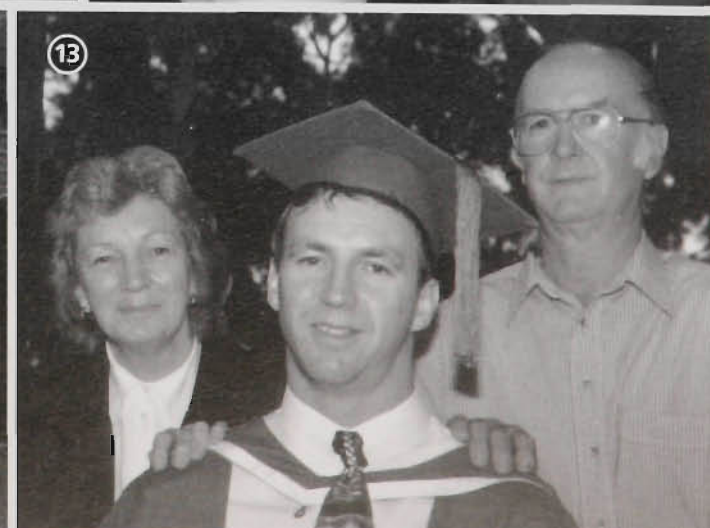
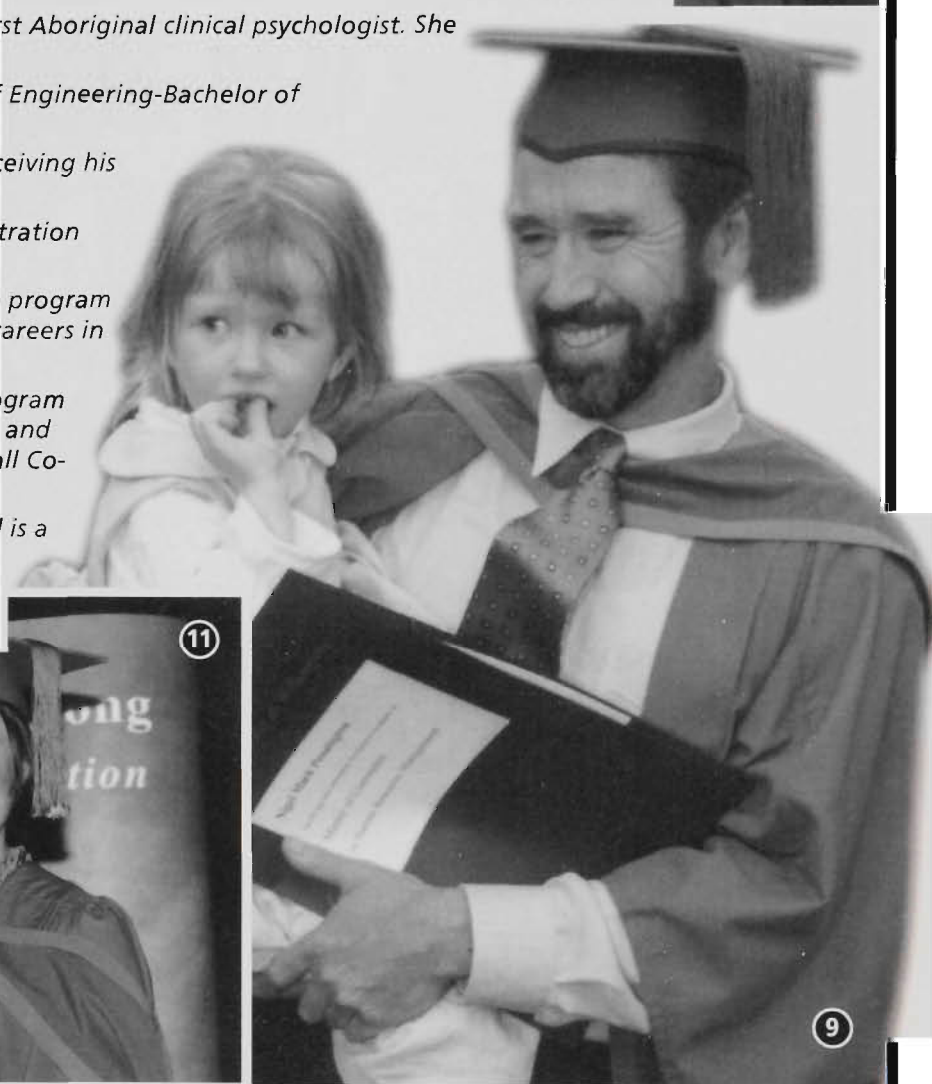
7. Robyn Craigie received a Master of Clinical Psychology making her Australia's first Aboriginal clinical psychologist. She is pictured with the Chancellor, Mr Mike Codd.

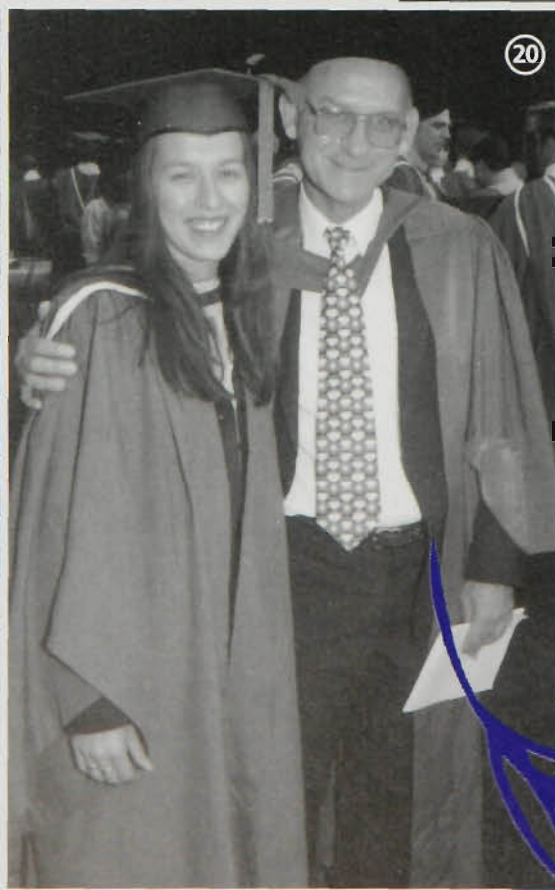
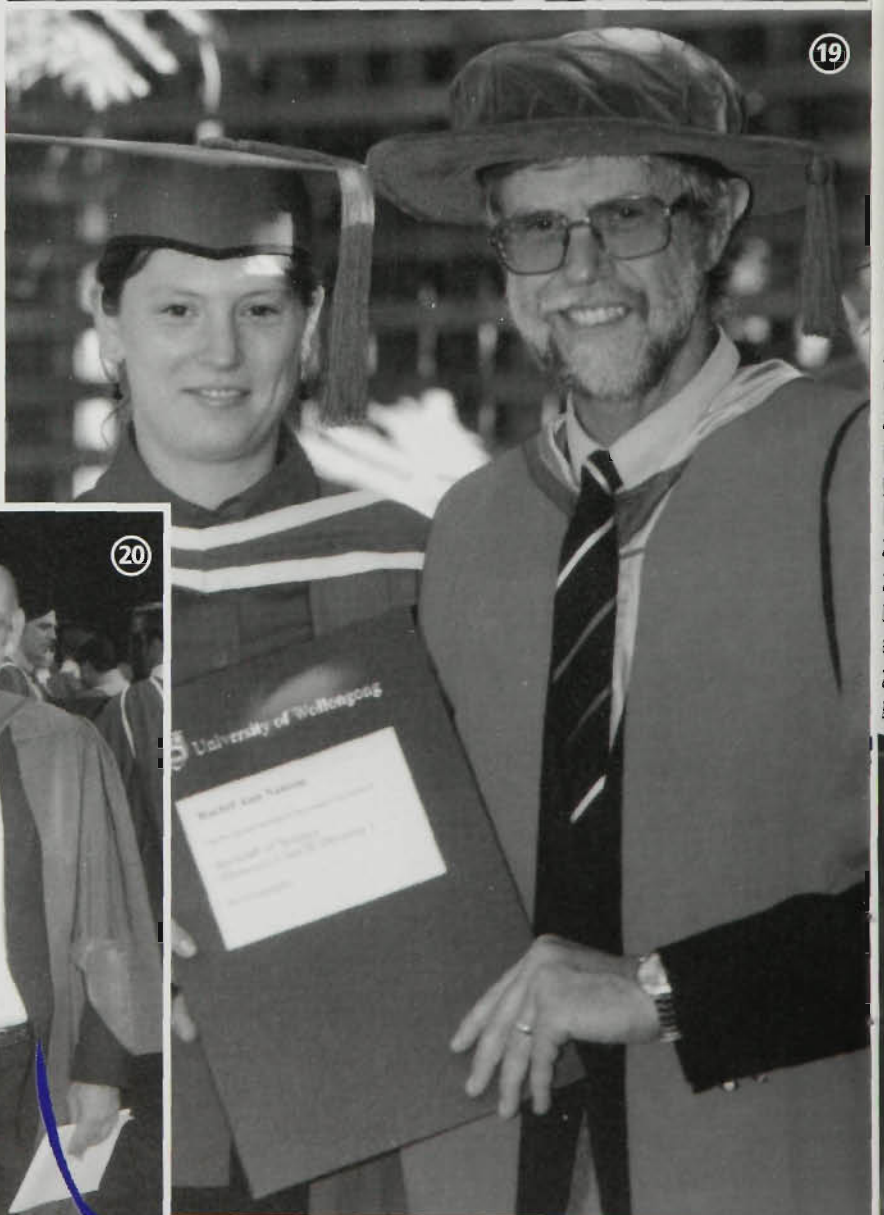
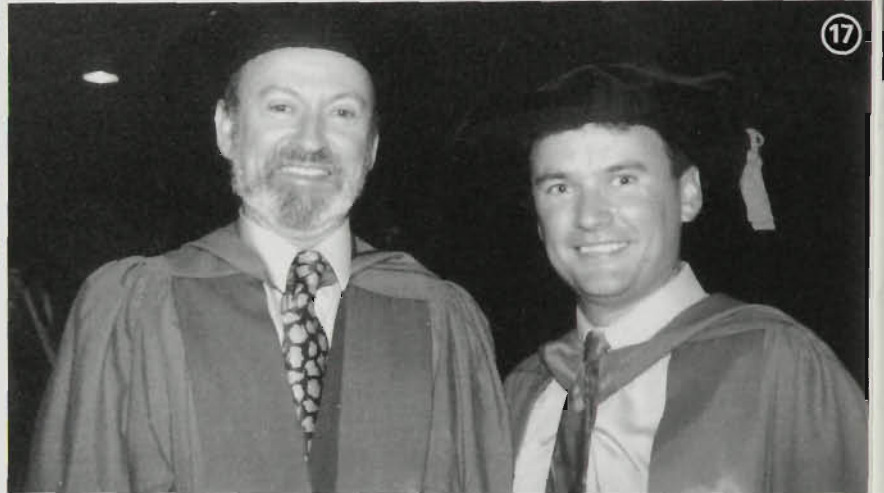
9. UniCentre general manager, Nigel Pennington, with daughter, Isabella, after receiving his Master of Commerce degree.

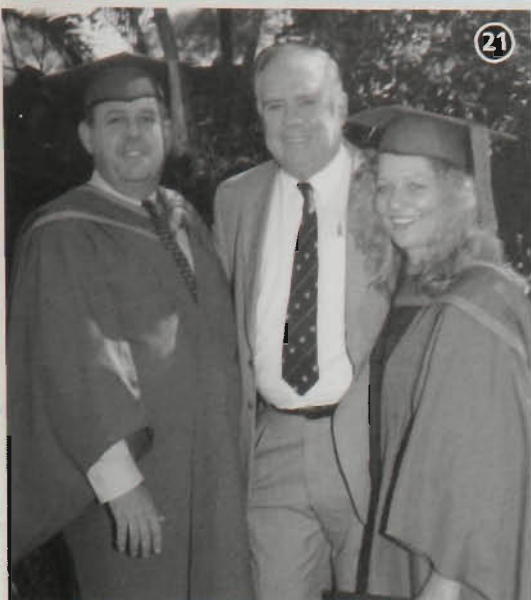
11. Janelle Barnard and Vanessa Brenninger graduated from the Master of Science program (nutrition and dietetics) course. Graduates this year are now also beginning their careers in research (as opposed to straight professional practice).

12. The University of Wollongong Foundation has fostered a major scholarship program supported by various sponsors. Engineering graduates Melanie Sykes (civil, mining and environmental), Aidan Donaghy (mechanical) and Nicole Stanford (materials) are all Co-Op Scholarship holders.

13. Brendan Dowler is one of Australia's leading wheelchair basketball players and is a hopeful for the 2000 Paralympics. He is pictured with his parents Mary and Peter Dowler after receiving Honours in a Bachelor of Information and Communications Technology degree.







14. SOCOG Chief Executive, Mr Sandy Hollway, presented the Occasional Address at the Faculty of Commerce graduation ceremony. He is greeted by the Chancellor, Mr Mike Codd.

15. Dr Sue Murray-Jones received a PhD from the Department of Biological Sciences for her thesis centred on the ecology and genetics of pipis while Dr Jack Baker (right) received his PhD for his thesis on the endangered Eastern Bristlebird. They are pictured with the Head of the Department of Biological Sciences, Professor Rob Whelan.

16. Senator Sue West, Deputy President of the Senate and a registered nurse, delivered the Occasional Address at the Faculty of Health and Behavioural Sciences ceremony. She is pictured after the ceremony with the Vice-Chancellor, Professor Gerard Sutton (left) and the Dean of Health and Behavioural Sciences, Professor Len Storlien.

17. Dr Neil Harper received his PhD from the School of Information Technology and Computer Science. He is pictured with his father, Associate Professor Barry Harper, of the Faculty of Education. His three sons all have degrees from UOW.

18. WIN newsreader, Mary Franks, received her Master of Commerce degree. Sharing the occasion were the Dean of the Faculty of Commerce, Professor Gill Palmer and the Vice-Chancellor, Professor Gerard Sutton.

19. Rachel Nanson with her Bachelor of Science (Hons) degree and her father, Professor Gerald Nanson, Head of the School of Geosciences.

20. Michelle Ferry graduated with an honours degree in materials engineering and is now working at the Ford Motor Company's iron casting foundry in Geelong. Her proud father, Dr Brian Ferry, of the Faculty of Education, helped share the big occasion.

21. Sam Bateman of the Centre for Maritime Policy (centre) with Steve Kennedy and Annette Lambert who received Master of Arts degrees. Annette is a Lieutenant in the RAN and Steve is a Squadron Leader in the RAAF. Both completed their studies as distance education students.

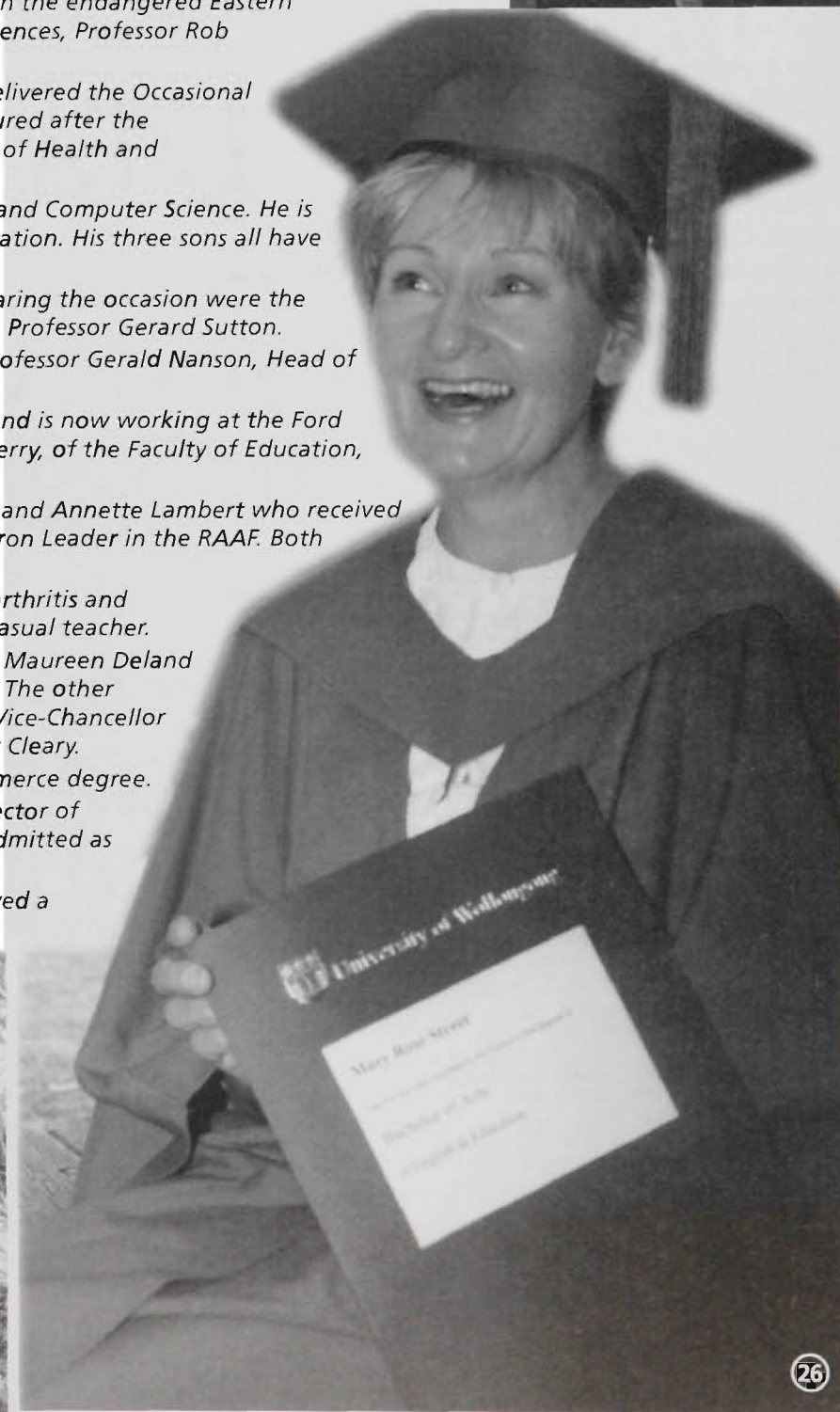
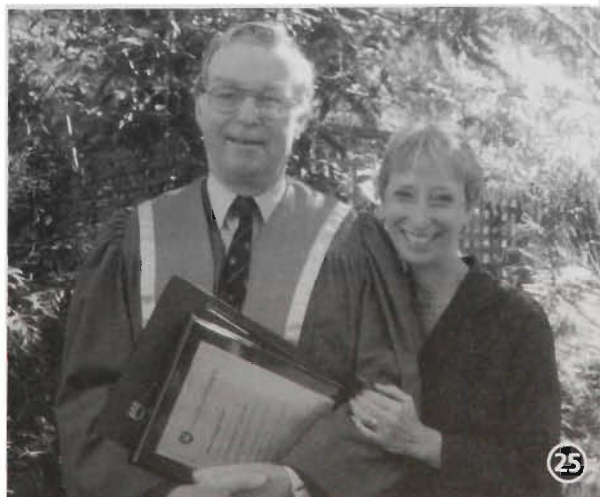
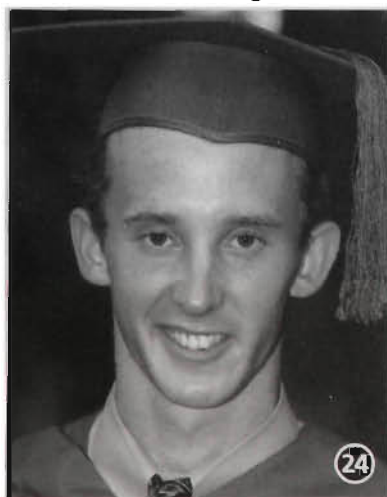
22. Ruth Robertson was a high distinction student despite battling rheumatoid arthritis and osteoporosis to gain her Bachelor of Teaching degree. She is now working as a casual teacher.

23. Three students from UOW's Graham Park campus at Berry graduated in Arts. Maureen Deland (foreground) retired as a primary school teacher just before starting her studies. The other graduates were Melissa Boxall and Nicole Lowe. They are pictured with the Pro Vice-Chancellor (Academic), Professor Christine Ewan; and Head of Graham Park campus, Mr Ray Cleary.

24. Marc Levingston, a Personnel Officer with UOW, received a Bachelor of Commerce degree.

25. Peter Wood, the former Academic Registrar at UOW and now Managing Director of Deakin Software Services in Victoria, is pictured with his wife, Sue, after being admitted as a Fellow of the University of Wollongong.

26. The Administrative Assistant to the Dean of Creative Arts, Mary Street, received a Bachelor of Arts degree.



New careers head seeks closer industry ties

University careers advisers must form closer ties with their counterparts in industry for the long-term benefit of students, according to the newly-appointed President of the National Association of Graduate Careers Advisory Services (NAGCAS), Mr Martin Smith.

In line with current moves in the United Kingdom following the release of the Dearing Report, Mr Smith, from Student Services at the University of Wollongong believes Australia should establish a national body to bring under one umbrella careers professionals from schools, universities, the private sector and employers.

He has already met the Federal Minister for Education, Senator David Kemp, expressing his views.

Mr Smith also believes that closer alignment with graduate employers could have an important spin-off for senior university staff formulating course development subjects for students.

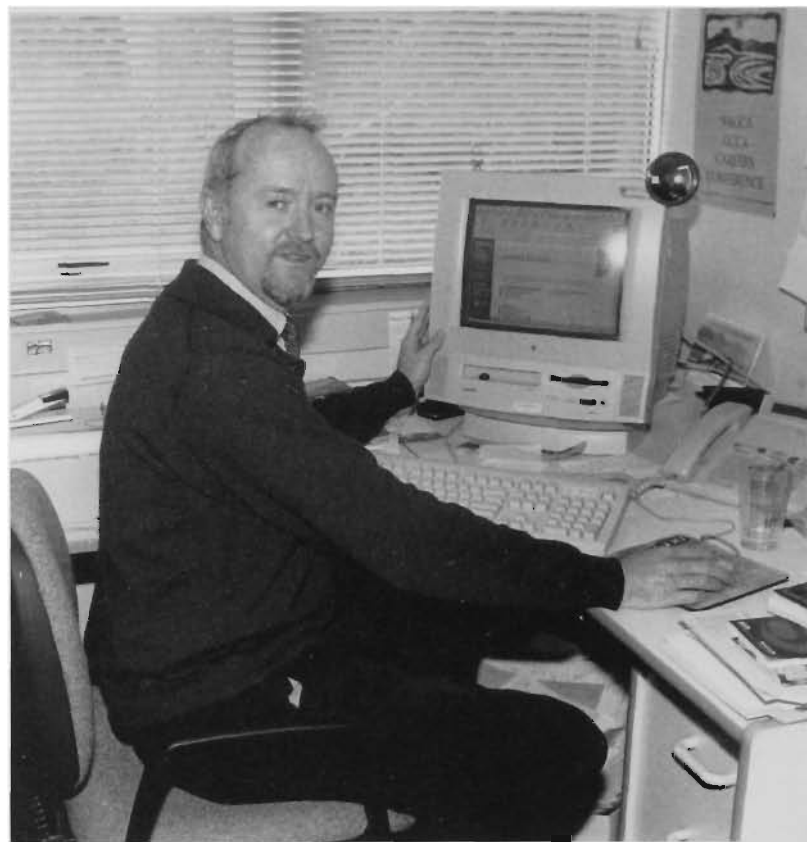
"Students are our number one priority and being in closer touch with employers in an ever-changing labour market will prove a long-term

benefit for our graduating students," Mr Smith said.

A new initiative this year for NAGCAS will be to hold its annual conference in unison with the Australian Association of Graduate Employers and the Graduate Careers Council of Australia.

"We are in the same industry so it makes sense to join forces for our annual conferences," Mr Smith said.

NAGCAS is the professional association for staff working in every university careers service. Mr Smith's two-year appointment automatically establishes him as one of 10 directors on the board of the Graduate Careers Council. Mr Smith, a Careers Service Co-ordinator at the University of Wollongong, had been Vice-President of NAGCAS for the past two years.



The newly-appointed President of the National Association of Graduate Careers Advisory Services (NAGCAS), Mr Martin Smith.

New Pro V-C starts at UOW Neutralising acid sulphate soils

The new Pro Vice-Chancellor (Research), Professor Chris Brink, began duties with UOW on 3 May.

Professor Brink was Professor of Mathematics and Head of the Department of Mathematics and Applied Mathematics at the University of Cape Town. He also served as Co-ordinator of Strategic Planning during the University's restructuring.

He is an applied logician with a Cambridge PhD, an interdisciplinary Doctor of Philosophy, a Masters degree in philosophy and a Bachelor's degree in computer science. At the international level, he co-founded the RelMiCS Group (Relational Methods in Computer Science) which has already had four international conferences.

Professor Brink is a Fellow of the Royal Society of South Africa, a former President of the South African Mathematical Society and a Founder Member of the Academy of Science of South Africa.

The official rating system of the Foundation for Research Development ranks Professor Brink as one of South Africa's leading scientists.

He has extensive experience in research, teaching and administrative-related matters. He was intimately involved in the



rating and funding structures of the Foundation for Research Development, the South African equivalent of the ARC.

Professor Brink has joined the University of Wollongong following the departure of Professor Bill Lovegrove who moved to Griffith University as its Deputy Vice-Chancellor.

AUOW research project into the problem of acid sulphate soils on the NSW South Coast will enter a three-year practical phase after a substantial new injection of Federal Government funds.

Cash and in-kind investment in Associate Professor Buddhima Indraratna's project now totals more than \$1million, making it the most significant Civil-Environmental Engineering project currently undertaken by the Department of Civil, Mining and Environmental Engineering.

The project, conducted on a 120ha site at Berry, aims to find lasting engineering solutions to the environmental problem that is thought to cost millions of dollars a year to the NSW economy.

Using a series of weirs and potential high-tech automated floodgates, the team hope to raise the water table in the area, submerging pyrite soil that when dry, reacts with oxygen to form mild sulphuric acid.

The latest funding came from the Natural Heritage Trust. Other project sponsors include:

the NSW Environmental Protection Authority (Wollongong), the NSW Department of Agriculture, NSW Fisheries, Shoalhaven City Council and the Berry dairy farming community.

Department of Education, Training and Youth Affairs (DEETYA) funding has allowed UOW to support several research students.

Take a microwave oven, a sheep, and a supermodel . . .

The Australian wool industry has been given a major boost with the sale of the first microwave bale warmer to the Europeans.

Manufacturers across Europe are showing keen interest in the latest Australian technology which makes the transition from sheep's back to the catwalks of Milan much easier.

A University of Wollongong (UOW) team has designed a microwave oven to heat-treat wool bales in just six minutes, rather than the several days it takes if they are left to expand on their own. The result is a finer product, millions of dollars saved, and more export earnings for Australia.

The first sale, to the Schneider Group's Italian operation Pettinatura Lane Di Rieta, marks the beginning of an important export industry. Wool

bales destined for export are compressed under very high pressure to get the most cargo into the smallest space. After several weeks at sea they have turned into solid blocks of congealed lanolin and fibre. Before processors can use the material, it has traditionally been left for several days in a heat room to soften.

A faster method of wool bale treatment has been to spike and steam them, but this discolours the wool while the uneven heat compromises fibre quality.

The UOW system uses microwaves to evenly warm the bales. This method increases fibre length by more than three millimetres compared to the steam process, translating into enormous savings for wool processors.

Research team leader, Mr Luke Nadj, of the University of Wollongong's Illawarra Technology Corporation, said the sale to the Schneider Group represented the next crucial step for the technology.

"We spent two weeks in Italy trialling the technology. It has triggered widespread interest across Europe," Mr Nadj said.

The team hopes initially to sell several warmers a year, allowing them to develop their next product, which takes wool bale preparation a step further.

External Relations head leaves for Melbourne

The Director of External Relations, Mr Eric Meadows, has left Wollongong after 10 years to take up the position as Deputy Principal (International Programs) at the University of Melbourne.

A graduate of the University of Sydney, Mr Meadows worked with the Australian Foreign Service for 15

years — as a diplomat in India and Israel, and in the Department of Foreign Affairs in Canberra in the Japan section, policy planning and disarmament, and as head of the Cabinet Liaison Section.

He joined the then Commonwealth Department of education as Deputy Secretary of the UNESCO Secretariat, where he was responsible for the development of social sciences programs, including a series of seminars on the rights of indigenous peoples in international law.

In 1986, he became Head of the Policy and Information Section of the Overseas Policy branch of the then Department of Employment, Education and Training where he played a leading role in the development of Australian international education marketing initiatives including the establishment of Australian Education Centres.

Joining UOW in 1989 as Director of the then International Office, Mr Meadows took on responsibility for international relations, the development of international programs and international student marketing and recruitment.



December graduation trial

The University is to trial the introduction of December graduation ceremonies in 1999 in response to feedback from students — including international students — who either have to wait for months or have little opportunity at all to participate in a ceremony under the current arrangements.

If successful, the University plans to phase out the Autumn and Spring pattern of ceremonies next year and replace it with a July and December schedule. This year's December ceremonies will be held from 13 to 17 December.

"A review of examination procedures, held before the graduation rescheduling, has proved a bonus in that the revised marking arrangements will support the December initiative," according to the Academic Registrar, Ms Gillian Luck.

"Wherever possible, examinations with the least amount of marking (e.g. scannable, multi-choice exams) will be scheduled at the end of the exam session and the longer essay-style exams will be placed at the beginning, thus allowing academic and administrative staff sufficient time to meet the graduation deadlines.

"The actual dates for Spring Session exam committee meetings have not been set as these are somewhat dependent on the extra flexibility that may be provided by new technology introduced to process results," Ms Luck said.

She said the introduction of an electronic grades transmission system would allow shorter time allocation to data entry and checking processes.

"It should be noted that the same amount of 'marking time' scheduled for autumn session exams will be available for spring session exams. It is recognised that, with the strict cut-off dates required, students whose assessment requires external examiners or who need to undertake professional experience or who have unresolved grades (e.g. withheld due to medical reasons) will not be able to participate in the December graduation, but will need to attend the following one," Ms Luck said.

New shuttle service to railway station

Students will be ferried between the University campus and the University of Wollongong Railway Station at North Wollongong by an all-day shuttle service to begin on 19 July.

Passengers will pay just 50 cents a trip on the 55-seat bus that will run every 20 minutes.

The University's Planning Services Manager, Mr David MacPherson, said the joint venture with the John J. Hill bus company would improve student safety and encourage train travel.

"The safety of students is something we've been concerned about for some time," Mr MacPherson said.

"With the new shuttle service, students will no longer have to walk to the station in the dark or in inclement weather."

The shuttle will pick up and set down passengers at five stops on the university campus: Kids Uni; the new Science building; Creative Arts; the Hope Theatre; and the Northfields

Avenue bus interchange.

The first bus will leave the University of Wollongong station at 7.30am; the last bus will leave the interchange at 9.03pm. The service will operate on week days only.

Mr MacPherson said posters of the shuttle service timetable would be distributed throughout the campus and installed under glass at bus stops along the route. Pocket-sized timetables also would be made available.

Oxley wins inaugural UOW Rugby Union Club Annual Shield

Oxley College in Bowral were clear winners of the inaugural University of Wollongong Rugby Union Club Annual Shield conducted at Oxley College, Bowral, on 26 May.

Oxley won the Years 9 and 10 match by 19-0; and the Years 7 and 8 match by 19 to 7 against The Illawarra Grammar School (TIGS). The winning school team is decided by a points system if one team from each school wins a game.

President of the UOW Rugby Union Club and Sports Association, Dr Paul Webb, said the club had sponsored the shield because it believed in the importance of having university/school links which would benefit the rugby club and the University as a whole.

UOW national recruitment manager, Mr Canio Fierravanti, said the University was delighted to be supporting activities within schools which were part of its primary drawing area.

Both school principals thanked UOW for its sponsorship of the competition. Oxley College



Pictured after the matches are (from left) TIGS principal, John Weeks; TIGS senior captain, Mark Tarasenko; UOW national recruitment manager, Canio Fierravanti; Oxley senior captain, Byron Woolfrey; President of the the UOW Rugby Union Club and Sports Association, Dr Paul Webb and Oxley College principal, Chris Welsh.

principal, Chris Welsh, said his Highlands school still felt part of the Illawarra "despite the presence of the mountain between schools such as TIGS and Oxley".

The match between TIGS and Oxley next year will be played at the University of Wollongong.

International Studies: UOW's new academic stream

The University of Wollongong has strengthened its overseas profile with the commencement of a new academic stream in International Studies.

Approved by the Academic Senate, the move allows domestic and international undergraduates to undertake an international program of their choice. The program is effective immediately.

It means students enrolled in various faculties such as Engineering, Arts or Science are encouraged to consider adding an international focus to their degree by including subjects which have a strong international dimension to them. This may be done by including subjects which introduce them to the language, society, culture and commercial practices of regions other than their own. For international students studying at Wollongong it may mean including subjects which introduce them to aspects of the Australian and Asia-Pacific region.

Professor James Wieland, International

Studies (Academic), said that students over the course of their degree must complete a minimum of 18 credit points of study in subjects with a strong international focus.

Professor Wieland said a new subject had been created to help students study or work for credit overseas.

The new International Studies Abroad program carries six, eight or 12-point weightings dependent on the extent of the student project or study program undertaken overseas.

Students on conventional Exchange or Study Abroad programs will receive recognition for their work but will not be eligible to receive double credit points, Professor Wieland said.

Successful completion of the International Studies stream or involvement in Study Abroad or Exchange will be noted on future student transcripts.

Further enquiries about this new academic stream should be addressed to Professor James Wieland, Room G039, Building 19.



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