FROM THE PRESIDENT...

It was a great privilege to visit the campus on Open Day in August, and be part of the activity which was happening in a creative, enthusiastic spring atmosphere.

Those alumni who graduated in 1984/85 were the special guests this year and it was rewarding to welcome them back and catch up with their experiences over a very pleasant barbecue lunch. Both the Chancellor and Vice-Chancellor and other senior executives enjoyed the opportunity to talk to alumni at this function and at the various activities around the campus.

It has been our pleasure to award grants to some of our alumni peers. You can read about some of the successful applicants and their interesting projects in this issue. We deem this an important part of our service to fellow alumni.

In September we sponsored a seminar on resume writing and preparing for job interviews. Three alumni, all human resources personnel with local companies, generously gave their time to conduct this well-received program. These personal and social networks are one of our major benefits.

Juliet Richardson, the Alumni Executive Officer, and I attended the 29th Annual Meeting and Conference of the Australian University Alumni Council in Adelaide in October. The theme this year was 'Fostering Overseas Alumni Relationships'. The University is looking to increase its interaction with our numerous overseas alumni. There are so many business, political and cultural implications for us all.

We're delighted that three of our students have won scholarships to further their studies in Japan. We have many alumni in Hong Kong, Malaysia, Indonesia and Taiwan and we are keen to foster much closer ties with them.

Read about the very happy reunion we had with our alumni who now live in Adelaide.

Incidentally, you may still have time to enrol in one of the many wonderful postgraduate courses on offer at your University. Come back and be part of one of Australia's finest places of learning.

Enjoy the articles in this outstanding edition of Outlook.

Ruth Procter
President, Alumni Association

From The Editor...

Some of our graduates have recently asked us to explain the structure of the Alumni Association more clearly, particularly regarding membership. You'll see that we have given an explanation on page 31 - should you have a query, please don't hesitate to contact the Alumni Office.

The Association is keen to find out what sort of benefits might interest you. We would like to extend the range of services available to financial members, and we welcome your suggestions. For example, would retail or car rental discounts, or attractive theatre rates interest you? Or different types of discounts, or other benefits altogether?

The Internet is another area where the Association would like to assist its financial members. Increasingly our alumni have access to the Internet and this offers possibilities of electronic communication both between the University and alumni, and also between alumni.

Some of you might also like to gain access to the Internet, and the Association is looking at ways to offer this as service to financial members. Please let us know if this would interest you, as it will help our negotiations.

Your feedback is always welcome. This is your Alumni Association and it should be serving your needs. 'Letters to the Editor' are invited on any topic, particularly concerning the magazine or the Alumni Association in general.

Meanwhile, enjoy the Christmas break and we hope to see you at the AGM on 9 March - come along and hear a talk by fellow graduates Dale and Lynne Spender.

Juliet Richardson
Alumni Executive Officer & Editor

Outlook Magazine Paper

The Alumni Association has enquired as to the type and production of the paper stock used in the printing of the Outlook magazine. The Paper is Media Gloss 90 gsm from CPI Papers. Though the stock is not a recycled stock, it is an environmentally friendly paper that has been awarded the main European standard (the Nordic Swan Environment Label) that is awarded to paper mills and their grades where all processes involved with the manufacture are environmentally friendly. Media Gloss is totally chlorine free, meaning all pulp has been produced without using bleaching chemicals containing chlorine, and is produced from plantation timbers.
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**ATTENTION COMMERCIAL ALUMNI!**

A networking / fund-raising night will be held on campus Friday, 16 February, 1996

Guest speakers will be members of the alumni and you will have an opportunity to meet the new Dean of the Faculty, Professor Gill Palmer

All Commerce Alumni and Friends are welcome

For details contact
Belinda Schuster
Faculty of Commerce
Tel (042) 21 4478

This issue of The Outlook is sponsored by
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At the time of Bert Flugelman's recent exhibition at Wollongong City Gallery, spanning 25 years of his career, Gina Woodward spoke with this prominent sculptor and artist about his life, his teaching and the future.

As we drove through the rainforest towards the home Bert Flugelman spent ten years building on the Jambaroo escarpment, I knew that in hearing the artist's fascinating stories I would be taking home a piece of Australian history, along with some inspirational words about life itself.

The environment where Bert and his wife Rosemary live is an artists' haven, filled with the sounds of nature and a serenity that one would be hard put to find anywhere else. It is to this place that Bert Flugelman has come to spend the rest of his life.

To enjoy what he has earned throughout his fascinating life, to continue to be inspired by what he sees around him, and to share his wry humour with those who come to visit.

This Austrian born artist arrived in Australia in 1938, aged 15. Despite having no early intentions to become an artist, he has gone on to become known throughout the world for his work, in particular his public sculpture.

Before studying art, Bert joined the army and went to war. Upon his return he trained at the National Art School as part of the Commonwealth Reconstruction Training Scheme. This five-year full-time diploma in painting and sculpture 'was worth much more than a degree is now,' he says.

Three years later Bert went overseas. He explains, 'It is important to travel, important to see museums and galleries, particularly in Europe because we are such a young country and have hardly any history at all, certainly hardly a history of painting.' After living in London and New York he ultimately wanted to come back home to Australia. 'I've been back overseas many times but this is where I live really. I came from Vienna when I was 15, and that was about 102 years ago!'

After making a living as a painter overseas, Bert thought, 'If I can make it in London and New York, I can kill it in Sydney. That was a big mistake.' He returned in 1956 with ten pounds, a wife and a baby, and after a couple of months he was working in a factory, which he continued to do for three years. Eventually he bought five acres of land in the greenbelt that is now Sylvania, and started to build a house. 'I think the building activity as much as anything, working three dimensionally, building a stone house - I started to fiddle around and make things,' he says, and this is where the personal interest in sculpture developed.

Bert spent ten years as a painter before working in sculpture, and gradually he became involved in teaching. 'It was much better than working in advertising, or as a press artist - I gave it all a try - and someone suggested I should teach.' He gained a part-time position at Kogarah (part of the National Art School) and then went on to positions at East Sydney Tech, the University of Sydney and the University of New South Wales.

He was then offered a job in Adelaide. 'It was an offer that I couldn't refuse so I went to Adelaide for ten years - and had a great time - before art schools became part of universities.'

After amalgamation the South Australian Art School became part of a big university, but is still independent. When asked if this deal went through to improve funding and resources, Bert says, 'No, it's an illusion. It's also the...
prestige of having a degree rather than a diploma. When people go to art school, say at Wollongong, what you get is a far more general education, a far better education in art history and art theory, but far less practical work and the expectations aren't the same.

'The point is that if you are serious about wanting to be an artist, there's nothing that can stop you, nobody can stop you, and if you're not - what the hell. And so a lot more people are being educated in the general sense. That's not a bad thing because you (as an artist) need an audience too, and if you have an educated audience, that's even better.'

Bert decided to leave Adelaide in 1983. 'I had been there for ten years and I turned 60. I thought if I don't get out of it now, I'll be here for the rest of my life, and I didn't want to do that. So I took a punt and quit, and built this house.

'When I moved to Jamberoo I had retired in my mind, but then I discovered I was running out of money so fast that I had better do something about it.' At that time, the then Chair of Creative Arts at the University of Wollongong, Edward Cowie, asked Bert to write a paper about starting a sculpture department, which he did. 'Then they offered me the job to start it, and, well, I stayed there nearly ten years.

'I like teaching, I really like being with people... and I like young people. I suffer from having seen a great deal and having all that I see and do modified by my experience. When somebody innocent comes up with no experience, they see the world differently. The only way I can learn what the world is like in the eyes of a young person is by being with them, and this is great and it keeps you alive. It keeps you young because you continue to be interested.

(1988-89) at the foot of Mount Keira. He was recognised by the University for his contribution to and enthusiasm for art and teaching when he was awarded a Doctor of Creative Arts (honoris causa) during the May graduations earlier this year.

Bert is probably best known for his public sculptures in Wollongong, Adelaide, Canberra and Sydney. They are made of stainless steel, which he says is very different to work with, enormously hard, and 'once it's there, it's there for good'.

He was one of the first sculptors to attempt to use stainless steel. 'I don't know why, but it seemed an obvious thing to me. I've always had a great attraction for the things you don't do, and why don't you do it? It's a perception and it bothers me, so that's partly why I do it. And then making something out of totally incongruous material is a surreal act.' Some of his creations, often provoking controversial reactions, include his public sculpture, replicas of his grandmother's furniture and a self portrait bust (pictured on the front cover of this magazine).

The public sculptures are often recognised as big, bold geometric designs, reflecting the environment around them. 'For a long time a polished mirror finish was very important to me because of the reflections,' Bert explains. 'Stainless steel, once polished, will hold its polish indefinitely, whereas aluminium will oxidise and deteriorate. Plastic, paint, anything else, just doesn't have much of a lifetime, whereas stainless steel does,' he says.

'When I made the big one for the National Gallery in Canberra (Cones, 1982) I was asked what kind of material I was using, because they were concerned it should last. I went to BHP and the reply from the metallurgical laboratory was that the steel I used, under normal conditions, had a life expectancy of about 70,000 years... They said it would do.

'I have an idea that we have a need for landmarks, things that are there, always have been there or will be. It's a stable thing in an everchanging civilization, and I like that idea too. The idea of something lasting - I like that rather than the disposal of anything.'
For public sculpture I have a notion that it's a good idea to have something that will stay there and become a landmark. That winged figure, the Hargrave Memorial, it's made out of heavy grade steel, the cone is filled with concrete and reinforcing rods and it stands on a solid block. There is no way it will move - you would have to blast it. So unless they gellignite the damn thing, if I be there for the next 10,000 years. I think it's partly that sort of vanity (about leaving something behind when you've gone) that I like about doing sculpture.

Of Wollongong Bert says, 'It's been very important for me to be here and that's why I bought the land. I like it here, I wanted to be here and that's why I came up after ten years in Adelaide. Not because Adelaide was no good for me, on the contrary - it was a big punt, a big risk to just quit a job and leave. But it was well worth it, and now I'm here.

'Becouse I live in a rainforest my work has changed also. I've started working with timber and doing all sorts of things I didn't do before.' Bert decided to do the 20 paintings in the recent exhibition to account for the ten years it took him to build his Jambaroo home, as he didn't do as much artwork as he would normally have in this time. 'Going back to painting all the time is just practising the thing I started off with,' he says.

Bert now intends to have a rest after the exhibition, but he has a few things in mind about what to make next. 'I can only make the stuff I can afford to make. I can work in wood, stuff that doesn't cost anything. To make a stainless steel sculpture now, I can't do it. I don't have the power, money, or equipment. I would need to be commissioned to work in stainless steel now.'

Bert says he does most of this work for his own satisfaction, but if it makes some people stop and think, reflect on their lives, then that's a bonus. But for now he is content to keep sculpting and painting in his mountain paradise. His wife Rosemary, who ironically he met in his sculpting class at the University, is a silversmith, a gardener and 'a wonderful cook'. Bert adds, 'I had set a direction for my life and it is wonderful that I am able to enjoy it with her.'

Bert Flugelman, artist and sculptor, will not only be remembered by the landmarks he has created that will remain for the next 70,000 years, but for his wonderful and inspiring nature that so many people, such as myself, have been fortunate to experience.

Cina Woodward is currently studying towards a Master of Arts in journalism.

The University Council recently approved a Capital Development Program for 1995-98 involving expenditure of over $40 million. These developments will greatly enhance the University's facilities and bring the long-term vision for the campus closer to fruition.

The building projects include:
- An extension to the child minding facility.
- A general academic building on the site of the old eastern tennis courts.
- The first stage of development of Campus East.

Improved facilities for the disabled will also be provided in the form of ramps and lifts.

The new buildings will improve the quality of research space available to the increasing number of postgraduate students. The University has doubled its research funding to $10 million in the five years to 1994, and this is expected to double again in the next five years, resulting in a corresponding rise in the number of postgraduate enrollments.

The University of Wollongong campus is now recognised as one of the most attractive in the country and these new developments will be designed to enhance that reputation.
**SUPERCONDUCTIVITY SUCCESS**

A consortium headed by the leading industrial company Metal Manufactures (MM) Limited recently announced the launch of a $6 million research and development project, aimed at transferring laboratory-scale research on superconductive tape at the University to a commercial-scale pilot plant.

The project team includes world class researchers in the field of high temperature superconductivity. Principally this is Professor Shi Xue Dou and his group in the Department of Materials Engineering at the University, and researchers from CSIRO’s Division of Applied Physics.

Whilst MM will provide the largest slice of funding for the three-year project and other major projects, funding is also being provided by the Energy Research and Development Corporation (ERDC), which manages the federal government’s direct investment in energy innovation, and the Department of Industry, Science and Technology, together with a smaller contribution from the Australian Electricity Supply Research Board.

MM Cables Technology Development Manager, Guy Secrett, said that this project will enable Australia to remain in the forefront of developments in this important new technology. ‘By the year 2020 the market for equipment using superconductivity technology is forecast to be $150 billion per annum worldwide, and we could be a significant supplier into that market,’ he said.

The project being undertaken by the consortium will develop commercial-scale manufacture of superconductive tape. This material, unlike conventional conductors, offers no resistance to the flow of electricity and therefore eliminates the generation of waste heat in electric cables, machines and equipment.

High-temperature conductivity is potentially the greatest new technology in the field of power and communications since the development of optical fibre. This innovation will impact on many aspects of our lives, including electricity supply, medicine, industry and transportation.

Researchers test superconductive tape at the University’s Institute of Materials Technology and Manufacturing.
Talking up nuclear technology

Professor Helen Garnett, Executive Director of ANSTO. Photo courtesy of ACP.

you say nuclear, the shutters come down,' she says. 'They don't want to listen to you.'

Garnett, at 48, took on possibly Australian science's most politically sensitive job earlier this year. She is responsible for running the country's largest scientific device, which is fast approaching its use-by date. Yet those who are prepared to lobby openly for $250 million of taxpayers' money to be spent on replacing it with a modern reactor, with triple the base flux of neutrons, are relatively few.

So primitive is the fear that nuclear technology engenders in the community that those involved in Australia's small nuclear science endeavour, directly or indirectly, have in the past chosen to bunker down rather than be heckled by those who want the nuclear genie crammed back in its bottle.

But Garnett is playing a different game. She has been out on the hustings, talking to small business, service organisations, schools and community groups. She is confident that the Canberra bureaucracy is beginning to recognise the benefits of Australian scientists having access to an indigenous supply of neutrons - something she believes is essential to this country's ability to compete in smart manufactures.

Most people uninformed

Garnett believes that most Australians are uninformed about, rather than hostile towards, nuclear science. 'We have not been anywhere near as effective as we should have been in getting the message to the public,' she says.

At the most basic level, she has been spreading the word that one in two Australians will be diagnosed or treated in their lifetime with radioisotopes - produced either by HIFAR or by

Professor Helen Garnett was Head of the Department of Biology between 1987 and 1992, and was made an Emeritus Professor of the University of Wollongong in August 1995. In her current role as 'the reactor's friend', she now has the difficult task of talking up nuclear technology.

This is a bad moment to be barracking for updated nuclear capacity. Not that any moment is perfect, notwithstanding the French presence in the Pacific. But when nuclear is news, the news is invariably horrid. Helen Garnett, the new Executive Director of the Australian Nuclear Science and Technology Organisation (ANSTO) is becoming adept at playing defence.

No matter that Australia's first and only effective research reactor, the High Flux Australian Reactor (HIFAR) at Lucas Heights, in southern Sydney, has a clear safety record and absolutely no involvement in weaponry. It is tainted by association. 'As soon as

Preacher to the Unconverted

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Talking up nuclear technology

the cyclotron that ANSTO runs at Sydney's Royal Prince Alfred Hospital.

She talks about how sewage from ocean outfalls can be traced using radioactive tags to study its dispersion. Or how radio tracers measure flow rates of gases in pipelines or the extent of termite infestation in a structure. About how nuclear techniques are used to study the cumulative effects of erosion and sediment movement or in analysis of how fine particles affect the lung function of asthmatic children.

'We'll never get to everybody,' she admits, 'but as soon as I say that we can determine where the grease on their beaches comes from with radio tracers, then people sit up and listen.'

Heavyweight academic record

Garnett is a shrewd choice to steer ANSTO through the debate over a new reactor - one which a commentator says, like Mabo, is 'a litmus test of the nation's approach to the future'. A slightly built woman with a brisk breeziness about her, she has a heavyweight academic record. She is approachable, fluent in plain English and politically astute. Insiders describe her management style as open and constructive.

Garnett is not, however, a seasoned nuclear protagonist. She is a microbiologist and biochemist by training. From 1979 till 1987 she was the foundation professor of microbiology at the University of Witwatersrand in Johannesburg. In 1987 she returned to Australia (she first went overseas in 1969) to take up a chair in biology at the University of Wollongong.

Her first encounter with nuclear science was in the early 1970s when she went to Brookhaven National Laboratory in the United States as part of her research into a virus that interfered with bone marrow. 'The only labs in the world that were doing work on bone marrow were the radiation labs,' she says. (She was a guest research collaborator with Brookhaven from 1981 until last month.) 'I became very aware of the positive features of nuclear science and technology. But it was also very clear to me that it was a technology which was emotive.'

She joined ANSTO in March 1992 as its deputy executive director and general manager, scientific, attracted by a brief to get the best scientific team on the field. The field was broadly nuclear, although ANSTO's reach has extended to include environmental science, development of new materials and medicine.

Reviews

For the past three years, however, Garnett has been bracing herself against political turbulence as ANSTO has fought for its right to life. In August 1992, the government announced a review of the research reactor, chaired by Professor Ken McKInnon. In July 1993 the review found that a decision could be put off for another five years. Moreover, before any decision about a new reactor was made, it said there needed to be a strategy for spent fuel and public assurance about the safety of the reactor.

Garnett describes the review as 'politically expedient'. Its conclusion that a decision could be deferred was reached without asking ANSTO what the costs would be, she says. She compares maintaining the circa 1958 reactor with keeping an FJ Holden on the road. 'It isn't that the reactor isn't safe. (Just as) you can fix a car up, give it automatic indicators instead of flippity arms, you can make sure the reactor has the right emissions. But with 21st century technology you have smart equipment and machines that tell you automatically about things we now do manually.'

As for a spent fuel strategy, the sooner the government produces one the better, she says. Most other countries store spent fuel the way we do, she claims ('it is perfectly safe'), but are working on long-term strategies.

A second external review of ANSTO was released last December, commissioned by the board of ANSTO and carried out by management consultants Bain International and a Seattle-based scientific research centre, Battelle Memorial Institute. It recommended replacement of HiFAR 'at the earliest possible date', on the basis that a research reactor is needed to sustain Australia's nuclear policies (which give it a seat at the international table) and that the only option over the long term is a new reactor.

The Bain-Battelle report, however, was highly critical of the management of ANSTO, an organisation born out of the Australian Atomic Energy Commission in 1987 ANSTO's mission had become increasingly complex, it said, and activities had proliferated with 'no clear sense of focus or priority'.

The way forward, the report suggested, lay in transferring some activities (notably radiopharmaceuticals) and concentrating on a number of well-defined research areas. Garnett agrees that ANSTO should focus its activities and 'determine where we can be world class in addition to ensuring that our responsibilities to government are met'.

Future direction

One area ANSTO is likely to hang on to is radioactive waste management. Last December President Bill Clinton announced that the US would start dismantling its nuclear weapons and irretrievably immobilising the plutonium in them. SYNROC, the Australian-designed ceramic which is being piloted by ANSTO, is one of three technologies chosen to be tested for their potential as a waste disposal form for high-level waste.

If SYNROC fulfils expectations, it may hasten the day when Garnett does not have to justify the need for Australia to have local access to nuclear technology. But it is a way off yet.

This is an abbreviated version of an article by Diana Bagnall, first published in The Bulletin on 27 June 1995.
The Japanese Government Monbusho scholarships are offered annually throughout the world, following student nominations by universities based on performance and results, then through a proficiency test and difficult selection process.

Applications were made by three of our best students, and they were all successful from the 28 applicants Australia-wide.

The scholarship is for 12 months' study at a Japanese National University (much more prestigious than a private university) and is valued at around $50,000. This includes rent, a stipend, airfares, university fees and book allowance.

The students, Lyniey Aldridge, Ilsu Dou and Zoe Stirling are all in their third year of the Bachelor of Arts degree. Lyniey and Ilsu are honours students.

Zoe is undertaking a double degree in Arts/Commerce and is attending Hokkaido University for one year. Originally from Cowra, she studied Japanese throughout high school and has in fact already been on exchange to Japan for one year.

Korean-born Ilsu studied some Japanese at Sydney Tech High before coming to Wollongong. Not only does he now excel in Japanese, but he also speaks Korean and Spanish. Ilsu is attending Osaka University of Foreign Studies and hopes to continue learning Spanish there. Specialising in sociology, he is also looking into undertaking research on the immigration of Koreans to Japan, especially in the Kansai area which is near to where he is studying.

Formerly from New Zealand, Lyniey came to Wollongong in her final years of high school. She took French and German for the HSC at Bulli High School and developed a love of languages from there. She started at the University of Wollongong as a complete beginner in the Japanese program, because she 'thought it might be interesting'. Lyniey is at Hiroshima University after leaving with Ilsu and Zoe in October.

The success of these students in gaining the prestigious scholarships is a credit to the teaching staff and the quality of the course. The Japanese program offered through the Department of Modern Languages is the most intensive Japanese program of all Australian universities.

The students undertake a large number of face-to-face contact hours and compulsory summer session classes, including one summer in Japan at Wollongong's sister city, Kawasaki. Double degree and honours students must spend the fourth year at a Japanese university. These programs, which are part of the University's student exchange program, assist in boosting the students' level and confidence of both spoken and written Japanese.

The University of Wollongong has formal exchange agreements with six universities in Japan: University of Tsukuba, Sophia University, Otaru University of Commerce, Obirin University, Kobe University and Hiroshima Shudo University. The first group of nine exchange students from Otaru and Hiroshima Shudo have spent Autumn and Spring sessions in Wollongong, undergoing English language and university courses. Both incoming and outgoing exchange programs are coordinated by the International Office at the University of Wollongong. Information about exchange programs to Japan or other countries is available from the International Office.
Chapter Activities

Campus Alumni and books

The main focus of the Campus Alumni continues to be the running of the secondhand bookshop located at Campus East (opposite the Science Centre). This is open on the second and fourth weekend afternoons of each month and carries a wide range of textbooks, fiction and magazines, as well as a selection of collectors' items.

The bookshop will be closed during December and January, but donations of books are welcome any time. These can be delivered to the Science Centre or to the Alumni Office on Level 3 of the Union Building on campus.

On Open Day in late August the Campus Alumni held their now-traditional annual book fair as part of the day's activities. This year's fair, held for the first time in the Keira Cafe at the western end of campus, raised more funds than on any previous Open Day. The increased revenue will enable the chapter to offer more financial support to students in the future.

Commerce Alumni and SIN

In late September the Commerce Alumni held a highly successful evening they called SIN or 'Superhighway Information Night'. This was organised with the assistance of staff from Educational Media Services and aimed to demonstrate to alumni and other guests the benefits to business of being linked to the Internet.

As well as learning about the history of the Net and how it operates, the 40 guests were able to 'surf the Net' themselves and experience first-hand the wonders of this information technology.

All Commerce alumni are invited to attend a 'networking' night on Friday, 16 February 1996. This will be held on campus and will be an informal evening for alumni to catch up with each other and perhaps make some new business contacts.

Some Commerce graduates will speak briefly, and you will also have a chance to meet the new Dean of Commerce, Professor Gill Palmer, who took up her new position in late October. Professor Palmer was previously Head of the Department of Management.

Education Chapter hosts Canadian educators

Don Lacey, Director of Human Resources at Lethbridge School District, Alberta, in Canada, recently addressed an Education Chapter seminar.

Don Lacey, with fellow travellers from Calgary, accepted an invitation from the Education Chapter of the Alumni Association to describe the education system in the Alberta context. He provided a lively exposition that even his Canadian colleagues found informative.

The seminar was held at the Department of School Education facility at West Wollongong, with both the Dean of Education, Associate Professor John Patterson, and the South Coast Assistant Director-General of Education, Steve Buckley, in attendance. Such collaboration between the University and the state education system has strengthened ties between the major providers of education in this region, and has forged valuable links with their Canadian counterparts.

These educational exchanges occur each year. In 1996 the University of Lethbridge will combine with its school district boards to host educators from the University of Wollongong and south coast schools.

The Education Chapter is active in procuring speakers and providing activities for its members and interested educators. Promotional brochures are circulated to schools and within the University, and the executive is currently updating the address list of education alumni.

If you are a graduate in education from this University and not yet active in the Chapter, then look out for advertisements of events, or contact the Alumni Executive Officer, Juliet Richardson, for more information about the Chapter. Business meetings are held on the third Wednesday of each public school term at 4.30pm in Room 203 on Level 3 of the Union Building.

Engineering Chapter dinner

Over 80 people, many of them alumni from the seventies, attended a very successful dinner/dance held at Carringtons in Wollongong during July. The Engineering Chapter also arranged
Association activities

Association activities

funds for a scholarship in the modern languages (Italian) area.

Other Association News

Reunion on Open Day

As in previous years a 'class' reunion, this time for graduates from '84 and '85, was held on Open Day at the end of August. A tour of the campus in the morning was followed by a welcome by the Lord Mayor, Councillor David Campbell, and Vice-Chancellor, Professor Gerard Sutton. The recently-updated alumni video was also shown to much acclaim.

Although the attendance was disappointingly low, those alumni who came enjoyed themselves. The day's highlight was a barbeque lunch held in the McKinnon Building private dining room, which proved again to be a great venue for such an occasion.

Honorary Chapter AGM & dinner

The Honorary Chapter held its annual general meeting in early October, just prior to the graduations, with the current executive being re-elected for another term:

Convenor - Brian Gillett
Deputy Convenors - Laurie Kelly and Ted Tobin

Secretary/Treasurer - John Bell
Co-opted member (new) - Walter Jervis

This was followed by a dinner held in the University Union Function Centre, attended by about 35 people. The Chapter would like to initiate such a function as an annual Alumni Dinner, to which members of all chapters and other financial members of the Association would be invited.

The Honorary Chapter's next major project, to be undertaken for next year, is likely to be raising

During the afternoon the alumni were able to enjoy the many activities organised by departments all over the campus. The attendance at this year's Open Day was estimated to be more than 10,000 people, a much higher figure than in most previous years.
Next year it will be the turn of alumni who graduated in 1986 to be targeted for a reunion. If you have any thoughts or suggestions as to the type of function which would attract you to attend, please contact the Alumni Office. We would appreciate your input, no matter when you graduated.

Social in Adelaide

Alumni at the recent social evening in Adelaide, from left: Ray Newell (BSc(Tech) 1969, MSc(Hons) 1972); Lorraine Carey (BA 1995); Cenz Lancione (MA(Hons) 1989); Geoffrey Ewin (BCom(Hons) 1977); Hui-Qi Liang (ADPh 1992); Ching-Fu Yu (PhD 1990); Philip Hazell (BSc(Hons) 1983); Association President Ruth Procter (BA 1984); and Anthony Critchley (BSc 1995).

Career development seminar

For the second time a highly successful seminar entitled 'Résumé Preparation and Interview Techniques' was held at the end of September. This career development seminar for students is seen as a most important activity by the Association.

As well as offering a worthwhile and much-appreciated service to students, the half-day seminar presents an opportunity for alumni to become involved in the University and to share their expertise.

The three presenters were Wendy Amesbury (BCom 1987) and Andrew Whitfield (BA 1990) from BHP, and Jacqueline Forst (GDipCom 1991) from Wollongong City Council. They all work in the human resources area and were able to give much invaluable advice to the 50 students who attended. In fact the students had so many questions, they would probably have continued into the afternoon.

Association President, Ruth Procter, and Alumni Executive Officer, Juliet Richardson visited Adelaide in mid-October to attend the annual conference of the Australian University Alumni Council.

At the same time we held a small reunion of alumni living in or near Adelaide. This was a very pleasant evening in the company of an interesting cross-section of our alumni. Several are still involved in academia, either as postgraduates or professors, whilst others are employed in education, commerce or government, or act as consultants.

Keith Phipps, OAM and others honoured

Congratulations to the former and founding President of the Alumni Association, Keith Phipps, who was awarded the Order of Australia Medal in June. Those who know Keith will appreciate how very much he deserves this honour. His support for the University and the Alumni Association, as for other organisations in the community, is unfailing and his enthusiasm boundless.

Also in June former Vice-Chancellor, Professor Ken McKinnon became an Officer in the General Division (AO) for his services to education, the community and the arts.

Another strong supporter of the University, Ted Tobin, who is a Fellow of the University and thus a member of the Honorary Chapter of the Alumni Association (in fact he is one of its deputy convenors), received the Order of Australia Medal for his service to sports administration in the Illawarra. Ted is also Deputy Chairman of
the University Foundation's Board of Management.

Jaako Laajoki, an electrician on campus for the past eight years, also received the Order of Australia Medal for his services to the local Finnish community. Congratulations to all these people on their fine achievements.

International Alumni

Hong Kong

When he visited Hong Kong recently for a short holiday, former Association President, Keith Phipps and his wife Joan were able to meet up with a few Wollongong alumni for dinner one evening (see photo on page 13).

This fortuitous contact has prompted a considerable amount of traffic on the international e-mail between the Alumni Office and Hon Sun Tai (MCom 1993), who is keen to help establish a chapter of our Alumni Association in Hong Kong. The plan is to form a steering committee who will then work out what projects are to be undertaken.

As soon as more details are finalised, graduates living in Hong Kong can expect to hear from the University. We would ask you to pass the information you receive on to any friends from Wollongong whose current address we may no longer have. If they don't receive this magazine, then we don't have their address.

Indonesia

The Alumni Association would like to formally establish a chapter in Indonesia, and this will be a priority for 1996. Discussions about the best way of achieving this have been held with some of the recent PhD graduates, particularly from the Department of Accountancy, as well as with other alumni.

Any graduates living in Indonesia who would be interested in assisting with this initiative are invited to contact the Alumni Office at the University.

Following two dinners held about three years ago in Jakarta and Bandung, which were hosted by Bill McGaw, some progress was made towards formalising an alumni chapter. It is not known (in Wollongong anyway!) what eventuated, and whether this is still active - perhaps some of you can enlighten us?

Taiwan

Small reunions are being held in three Taiwanese cities during November: Taipei, Taichung and Kaohsiung. These functions are being hosted by Lily Soh from the University's International Office, who is visiting Taiwan on other University business.

Although at the moment there are only about 70 Wollongong alumni living in Taiwan, this number is increasing annually, and the Association is keen to offer some assistance in the development of a chapter for this country.

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Women's art on the Net

World's Women Online

World's Women Online is an Internet web site created in Wollongong for the United Nations Fourth World Conference on Women held in Beijing earlier this year.

The site is a graphical exhibit which is intended to display the work of Australian women from many disciplines, and to encourage women to use and consider new technologies.

Australia's display has been created in Wollongong and goes beyond the art brief to bring together the work of women in Australia from all walks of life. This electronic art networking project, which originated in Arizona, not only showcases women's creativity but is also putting more women's voices on to the Internet, arguably a rather male-dominated arena.

Wollongong's World's Women Online is one of the largest web sites yet created in Australia, bringing together the work of artists, craftspeople, writers, researchers and theorists working in fields ranging from the performing arts, literature, craft, design and visual arts, to sociology, anthropology, information technology and education.

Four local women are curating the Australian display, which is located on an Internet site at the University. They are Sandy Indlekofer-O'Sullivan, Melinda Rackham, Ali Smith and Louise Manner. Sandy and Ali both recently graduated with a Bachelor of Creative Arts (Hons), and Louise is currently completing her honours year. Melinda is enrolled in a master of creative arts degree and Sandy is also completing her masters with honours. Louise was awarded an Honours Year Book Prize earlier this year by the Campus Alumni.

The exhibition includes the work of about 30 participants from all over the country, the curators purposely attracting women whose work was not originally created for computer, but was later scanned in. This encouraged women without prior computer experience to participate. 'The Internet is important for artists for a lot of reasons,' says Sandy. 'It is not just for people working in computers.'

With worldwide web users now numbering around 120 million, the potential exposure for any artist is huge. Australian artists can use the Net to improve their profile overseas or to target particular groups of Net users. For women wishing but unable to attend the Beijing conference, the World's Women Online project offers an alternative opportunity to network.

The pieces of work are displayed in a magazine-style format, encouraging users to browse through them. From displays on the place of children in the family or a discussion of Korean feminism, to a journey through the virtual digestive system of artist Louise Manner, this exhibit is one of the most extensive and most innovative web sites produced in Australia. It is also one of the most accessible and diverse.

Ali Smith's contributions to the site include some creative writing and some photographs of her mother. She decided to include the photos because she 'wanted to add something personal to the exhibition'. She comments, 'A lot of people on the Net have very personal sites. I find that a really interesting phenomenon.'

Speaking about the variety of works in the World's Women Online project, Sandy explains that it offers an opportunity for women to speak in a way they feel comfortable. 'People have said, 'How do you want us to represent ourselves?', but it's really a question of, 'How do you want to represent yourself to the world?'

Internationally, the project is enormous. Hundreds of exhibitors are now online, and the final tally could be several thousand. The Australian site was opened officially in mid-September by Dr Frances Dyson at the the University's Faculty of Creative Arts, and it will remain active until the end of the year. Internet browsers are welcome to visit at http://www.uow.edu.au/wwwo/
A TASTE OF THE FUTURE

Graham Phillips, computer journalist and presenter of the ABC's computer program, 'Hot Chips', set a stimulating tone for the 1995 Australian Information Technology Spring School held at the University over three days during October. This unique Spring School aims to introduce school students from all over NSW to a wide range of information technology applications.

Graham presented a scenario for the future, outlining the amazing potential that information technology has to change our lives.

Following his address, the audience of 80 students from Year 11 moved on to workshops and tours which gave them the opportunity to experience some of this emerging technology first-hand. They were able to talk via e-mail with students in Obninsk in Russia and through video conferencing with students in Oregon in the USA. They also undertook site tours of technology in the workplace and participated in sessions using the Internet.

About 75 per cent of the participants came from schools located outside the Illawarra. Schools represented included Baulkham Hills, Macquarie Fields, Merewether, Hurstville Agricultural, Trinity (Lismore), Abbotsleigh, Santa Sabina, Loreto Normanhurst, Merici, Wauchope, Wallsend, All Saint's College (Bathurst), St Patrick's College (Goulburn), Newcastle High and several schools from Canberra.

The 1995 Australian Information Technology Spring School, organised by the Department of Information and Communication Technology (ICT), is believed to be the only school of its kind in Australia. The coordinator, Sonia Jennings, commented that the Spring School would not have been possible without generous sponsorship from Nortel, State Bank and Apple Computers (through Campus Personal Computing), as well as a challenge grant from the University.

A planned enrolment of 50 was stretched to 80 in view of the excellent response. The students were generous in their praise of the Spring School and enthusiastic about what they had learned during the three days. The Department of IACT hopes that through their exposure to information technology at the University, the students are now in a position to make more informed career choices.
New technology affects us all

SMART CARDS ARE HERE!

In 1995 worldwide smart card sales have soared to over 580 million. Yet most Australians are still unaware of this new technology that now looms as one of the most significant agents for social change since the PC. Robyn Lindley from the Department of Information & Communication Technology explains.

In its most elementary form, a smart card is simply a plastic card with a microprocessor on board. In fact it looks much like a standard credit card. The most important and distinguishing feature of smart card technology is the potential it offers for incorporating multiple functions and applications. This means that it provides the opportunity to combine historically incompatible services all on the one card.

Smart card technology also has the potential to incorporate an arsenal of disabling technologies to prevent fraudulent use. For example, cards reported stolen can be denied access to services instantly. Smart card’s prime claim is its ability to prevent crime through the use of an inbuilt electronic secret signature code, making every card unique and impossible to duplicate easily. Because of the great difficulty and costs involved in reverse engineering the technology at the present time, it is unlikely that counterfeit cards will pose a real threat in the foreseeable future.

The development of smart cards has brought together the historical advances and expertise of five industries: the microchip manufacturing industry, the read/write device hardware manufacturers, the software developers, the card printing industry, and the security industry. If you combine the potential of smart cards with the intelligent networks now emerging, then you have a small piece of plastic that has the potential to bring dramatic changes to the way we live, work and think.

As a result of the wide choice of technical, security and service options available, a large range of smart card applications is now being used in over 52 countries.

Smart card applications

P&O Holidays use smart cards as prepaid debit cards on board cruise liners. In the telecommunications industry, smart cards are used as pre-paid token cards. Digital mobile (GSM) telephone networks are using smart card technology to personalise the phones and enable the user to activate the telephone.

Smart cards have also been readily adopted by many public transit authorities throughout the world. Some transit authorities are now introducing reloadable contactless smart cards that simply require the user to place the card within ten centimetres of a card reader. This greatly improves the boarding efficiency.

In several European countries, including France, Germany, Italy and Belgium, smart card systems have been introduced to improve the administrative efficiency of the public health system. The cards can be used to provide more secure patient identification and medical information, as well as to store prescription data so as to avoid over-prescribing.

Many banks, including the Commonwealth Bank of Australia, are using smart cards for security purposes. The Mexican Department of Social Security has introduced a smart card system to help manage more secure welfare payments in the form of tortilla and milk. Before smart cards were introduced, fraud was rife due the ease with which barcoded coupons could be copied. Visa and MasterCard have announced their intention to introduce global smart card systems to combat the escalating costs of fraud associated with magnetic stripe technology.

In Sweden, police will soon be able to use smart cards to stop drivers, by remotely controlling motor vehicle engines under a new licensing system. The new smart card licence will be inserted into a small onboard computer to prevent unlicensed drivers starting the car and so prevent theft. Computer networks will enable police to stop the engines of drivers with unpaid fines or
registration. The new system will also incorporate a timing device to prevent people from driving more hours than stipulated. Stolen cars will be easier to trace, and an alcohol test could be incorporated into the system, as well as emergency medical information.

**Big Brother**

Associated with the many applications now in place, however, is the potential for a surveillance society which even George Orwell didn’t foresee. In the case of vehicle transport systems, it will be possible not only to instantly determine the whereabouts of an individual, but also to actively control the ignition of private vehicles, check on their private pay TV requests, log online news articles selected, or record personal expenditure details and the results of your last pathology tests. These could all potentially be linked.

It is also a fact that, despite the many promises of the technology itself and the large range of applications now in use around the world, about 80% of all trials conducted since 1990 have failed to continue further. It has been the emphasis on technological factors rather than social considerations that has been cited for the lack of success of many of these systems. Privacy has also been identified as a critical factor in establishing the acceptance of what Roland Moreno has called ‘Big Brother’s Little Helper’. Then there are all the associated social questions: should your employer have the right to know your HIV status? Is this an invasion of privacy? You would probably say ‘yes’. However, the answers to many such questions remain a matter of conjecture.

Research currently being conducted by staff and research students at the University of Wollongong has provided some of the first formal analyses of these important issues. At present several members of the Centre for Computer Security Research and the Centre for Informatics Research are involved in smart card research.

In addition there are concerns that this rapidly developing technology is emerging in a legislative and regulatory vacuum. Also of concern is the fact that smart card’s potential for surveillance will not evade the attention of authorities like the Tax Office and the Department of Social Security. Under existing legislation, it will be possible for them to seek access to information relating to card use.

**Erosion of privacy**

The personal surveillance capacity associated with smart card use will introduce further potential to erode our personal privacy. Change of this magnitude is coming very rapidly and so far there has been little opportunity for public discussion of its impact, and without any enforceable real protection of users’ rights and concerns. Smart card’s potential as a personal medium for document storage and secure access is not in doubt. What is in doubt is the willingness of the legislators and regulators to address the users’ concerns for privacy.

The cost of providing secure and personal freedom through absolute user anonymity, is to be weighed against the social cost of escalating electronic fraud and abuses of the taxation and social security system. So this situation, where the public’s right to privacy and convenience has to compete with the government’s right to be able to reduce fraudulent expenditure or misuse of public resources, has come to be known as the smart card ‘convenience vs. control’ conundrum. In fact, this is the most critical factor that is likely to influence the shape and form of future smart card systems.

In the meantime it is likely that we will continue to witness a rapid growth in smart card use worldwide, whilst regulatory, social and academic debate continues. One thing is certain - smart card has the capacity to fundamentally alter our daily lives in ways that no other new information technology has so far challenged.

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**How did it all start?**

The first smart card was developed by Roland Moreno when he placed an electronic memory chip in a plastic card and conducted transactions in the early 1970s. Roland Moreno patented his Electronic Bank Manager in 1974.

Soon after this, it was realised that smart card microchip technology could incorporate the latest advances in cryptography. Transactions employing cryptographic techniques can avoid the possibility of fraud, while maintaining the privacy of the individual using the card. The starting point had been the development of the digital signature first proposed by Whitfield Diffie in 1976.

The memory can contain either a read only memory (ROM), electronically programmable read only memory (EPROM), erasable electronically programmable read only memory (EEPROM), or a combination of these. A maths co processor can also be installed. The smart card chip(s) can store, retrieve and process information through read/write terminals or self-contained power supplies, keyboard and display arrangements.
MATTHEW ROBINSON
BCompSc 1994

Matthew Robinson has recently been doing contract computer programming for the Macquarie Bank in Sydney. 'The job is good, the money is good,' he says. He is also planning a trip to Europe and the United States.

Matthew really appreciates the University of Wollongong's good name and says his degree is highly respected. 'I found all my courses to be useful,' he says, 'and my third year project even got me my job!' 

DOUGLAS JOHNSTON
BE 1991

After completing his degree in civil and mining engineering, Douglas worked for two years at Newman in Western Australia where he was employed by BHP Iron Ore.

During 1993 Douglas backpacked around the USA and Canada for six months, a trip which he describes as 'fantastic'.

After returning to Australia, Douglas worked at Boral's Montrose Quarry in Victoria for a year and a half. He is currently in Queensland where he is employed in the coal industry by BHP as a Long Term Planning Engineer.

JAMIE CADA
Exchange student to Wollongong in 1991

An exchange student from the United States in 1991, Jamie Cada studied geography and environmental science during her time at Wollongong. In 1992 she conducted a study in Costa Rica based on sustainable development, with case studies focusing on reforestation and ecotourism. This was the basis for the thesis Jamie completed prior to graduating with a degree in environmental studies from the University of California, Santa Cruz, in 1993.

After saving for some months, Jamie drove from California through Mexico and Central America back to Costa Rica. In fact she spent six months travelling through Mexico, Guatemala, El Salvador, Honduras and Nicaragua. More recently Jamie has bought a small lot in southern Costa Rica and has been building a small house.

She says she enjoys the beauty and friendliness of Costa Rica, and tries to live in a manner sustainable with the environment. 'I grow many of my own fruits, vegetables and herbs,' says Jamie. 'Water comes from a spring and the power is solar. When I'm not working on the house and land, I enjoy surfing and painting. My watercolours have been my main source of income for the last year, and I recently had a series of cards printed.'

Once her home is completed, Jamie plans to look for a job in the environmental field in Costa Rica. One possibility would be for her to work as a naturalist and rainforest guide at a nearby ecotourism lodge.

Jamie says she really enjoyed her experience as an exchange student at the University of Wollongong. 'I saw so many great places, met so many wonderful people and learned an incredible amount,' she says. 'I particularly liked the hands-on approach and the many field trips offered as part of the geography and environmental science courses. I found this type of learning very valuable and interesting.'

Jamie sends her best wishes to all her friends in the 'Gong. 'I always have thoughts and memories of you!' she says.

KONGSAK SAMMACHAIYANONE
BCA 1994

Kongsak Sammachaiyanone has returned to his home country of Thailand since graduating last year. Earlier this year he told us he was hoping to travel to the United States for 'education and experience' during 1995.

Kongsak says he is enjoying
seeing his family and old friends, but he remembers his life in Wollongong with affection, 'friends, teachers and city mall'.

ROBERT GALLAGHER  
BSc(Tech) 1975, BA 1980, MStEd 1982

After spending over 20 years working in Wollongong, as a teacher at Edmund Rice College, a materials engineer at John Lysaght and a minister for the Lighthouse Christian Centre, Robert moved to California for further graduate studies in 1990.

For the past five years he and his wife Dolores (BCom 1975), and their two daughters Sarta (18) and Luisa (15), have lived in Pasadena while Robert studies at Fuller Theological Seminary.

After completing an MA in Theology and Missiology, Robert is currently studying towards a doctorate in intercultural studies, as well as lecturing at Fuller and Azusa Pacific University.

S
ince graduating Jo Graydon has been employed at The Illawarra Grammar School (TIGS), teaching English and drama at both junior and senior levels.

Jo thoroughly enjoys her work, and comments that one of the most rewarding professional development aspects has been her appointment as an examiner for the 2 Unit English Related paper over the past three years. She says this has been a great opportunity for her to work closely with other English teachers from the region.

Whilst she has always enjoyed teaching English, Jo also enthuses about teaching drama, particularly, she says, since the introduction of the challenging 2 Unit HSC course. 'What a fantastic experience and opportunity for students! It's exciting knowing that some of our former students have enjoyed pursuing their love of drama as university students throughout the state.'

As well as teaching drama in the classroom, Jo has been involved with a variety of annual school productions, performing the roles of director, choreographer and stage manager. These events provide students with practical performance experience which cannot be learned from a textbook.

In her spare time, Jo has also been involved in performing herself. She was a member of Wollongong's Theatresports team 'Fan Forced and Radiant', and she was involved on a regular basis in playing Theatresports at Belvoir Street Theatre. She has also performed in theatre restaurants on the south coast, and recently completed a master's degree in performance studies at Sydney University.

The most exciting event to occur recently in Jo's life is her engagement to former Wollongong student, Mark Ferrington. She says that some people may remember 'Ferro' for his involvement with the SRC and the Recreation and Sports Association (in particular the Surfing Club). 'The surfers will be pleased to know that we're still in search of the ultimate wave,' says Jo, 'and we like to embark on surfing expeditions as often as possible!'

In retrospect Jo thinks her life has been reasonably hectic since leaving uni. 'Working with high school students has been both challenging and rewarding, particularly in the area of drama.' Last year Jo directed a group-devised movement piece called 'Gathering the Bones' at the University’s Performance Space. She was grateful to have the talents of some of the University's past and present Creative Arts students, who assisted in the technical production. Jo says this was a challenging piece that considered the role of the body and the relationship that exists between the audience, the performer and the space itself.

'To my mind the experience epitomised what teaching drama is all about,' explains Jo. 'In an article in the TIGS school magazine a senior member of the cast wrote:

'Every person lucky enough to be associated with 'Gathering the Bones' will have taken away with them an experience that will have a lasting effect. Not only will they have learnt a great deal about how theatre can be both intellectually and emotionally satisfying, but they will also have learnt a great deal about themselves.'

'What more can a teacher ask for?'
Growing up in a time when it was an impossible dream for many people to go to university did not stop Bryce Fraser from being successful in his chosen career. In fact when he was able to complete university study he did not need it for his work and so instead he undertook a degree purely for his own interest.

Bryce Fraser, General Manager of the Government Employees Health Fund, is a Wollongong graduate who completed his Bachelor of Arts majoring in history in 1984. Having always enjoyed reading, with particular interests in history and literature, he completed his degree as a part-time student while working.

When he decided to study, Bryce says he was already successful with a settled career. 'I wanted to do something I liked, not a useful degree career-wise. Uni was fun in that way because a career was not imperative at the end of the course.'

Raised in Manly, Bryce spent five years at St Patrick's, Manly as a student of the priesthood. He was undertaking what is now equivalent to a degree in theology. He started there when he left school, and in his fifth and final year he had no clear focus of what he wanted to do in life, so he left. He was 21 years old.

With a minor depression in the 1960s, like many other people at the time, Bryce came to Wollongong to find employment. He began work in the computer systems area at Lysaghts, eventually moving on to work at Wollongong City Council.

He raised his family of four children in the 1970s and worked at the Council for eight years as a senior administrator. He says he was doing very well, but was getting frustrated by the relationship the Council must have with the politicians. 'Organisational efficiency must serve political goals, which is what democracy is all about,' he explains. 'It's the nature of the public service and you've got to be cut out for it.'

In 1986, when the former General Manager of the Government Employees Health Fund retired, Bryce Fraser stepped into his role. Founded in Wollongong, this non-profit organisation now has more than 120,000 members throughout Australia. It is the eighth largest health fund in the country with a restricted membership of government employees and their dependents.

Located in Lyn House, Wollongong, the Health Fund is dedicated to Lyn Johnson, a teenager in the early seventies who died of leukemia. Her father, Roy Johnson, was the paymaster at the Council and was unhappy with the health fund support he received over his daughter's death. He formed a committee and gained support from the local government sector, eventually forming the Government Employees Health Fund over 20 years ago.

Bryce says the organisation still has the culture of its founding origins and serves as a monument to Lyn Johnson. Although they have members from all over Australia and overseas, they still remember that they started off as 'a caring family'. More than 15 employees of the Health Fund are Wollongong graduates, mostly from the commerce and arts areas. Bryce says he values graduates and obviously believes in the training they receive at Wollongong: 'It is essential to undertake further study nowadays. When I was at school it was an era when brains could work their way to the top, there were limited places at university and it was also very expensive. It was also a different work climate.'

He believes that since the 1970s there has no longer been any financial impediment for a bright student to get to university. 'Background doesn't matter essentially and social obstacles have been removed.' He is also enthusiastic about women stepping out of 'traditional roles' and encourages them to study.

Of his four children, Rebecca graduated from Wollongong with a commerce degree a few years ago and his youngest son, Dominic, will graduate in creative arts next year.

When he has some more time on his hands, Bryce says he would love to study again and undertake research in twentieth century military and political history.
Graduate researches space resources

MINING THE ASTEROIDS

After a career as a corporate safety manager in the mining industry, Wollongong graduate Mark Sonter (BSc 1968, DipEd 1969) is back on campus researching for his masters degree on the mining of asteroids.

Mark Sonter attended Wollongong University College from 1964 to 1968, obtaining a BSc and DipEd. After a year teaching at Monaro High School in Cooma, he took up a tutorship in physics at the University of Papua New Guinea (UPNG), following one of his Wollongong lecturers, Bruce Mainsbridge, who had gone to UPNG as the first physics professor.

Mark spent six years at UPNG, teaching almost all the undergraduate physics courses on offer. He also taught weather observers for the Met Bureau, developed innovative self-paced courses, ran the first year common core course, and learned about micrometeorology and soil physics.

‘Roxby was fascinating. When I first visited it, it was a dusty camp of about 150 men in single quarters, doing exploration core drilling.’

He returned to Australia in 1976 with his PNG bride, Wendy (from Manus Island and another high school science teacher), to study for a masters degree in medical physics at Queensland University of Technology and moved to Mary Kathleen near Mt Isa in northwest Queensland. There he became Australia’s first professional uranium mine radiation safety officer.

After 18 months at Mary Kathleen, where he completed his medical physics course with a thesis on ‘Radiation doses to internal organs from inhaled ore dust’, Mark, Wendy and baby daughter moved to ‘Croc Dundee country’ in the Northern Territory. At that time baseline environmental radiation monitoring and mine planning for the Jabiluka Project were in progress.

Mark Sonter (BSc 1968, DipEd 1969) is back on campus researching for his masters degree on the mining of asteroids.

In early 1981, Mark was headhunted by Western Mining Corporation (WMC) to join their Roxby Downs Project in South Australia as radiation and safety superintendent.

‘We had helped create a town and an industry in the desert.’

Roxby was fascinating,’ Mark says. ‘When I first visited it, it was a dusty camp of about 150 men in single quarters, doing exploration core drilling. They didn’t know how much ore there was, just that the deposit was huge. How to treat it metallurgically, the political traumas that lay ahead, how to mine it safely, all that was yet to be determined. When we left, in mid 1990, there was a town of 2,200 people in the midst of a baby boom, an underground mine with 50 kilometres of drives, and one of the most complex metallurgical plants in the world, producing 70,000 tonnes of copper, 1,500 tonnes of uranium oxide, and 20,000 ounces of gold per year.’

Mark adds, ‘We had been suffocated by flies, enveloped by duststorms, blockaded by greenies, alternately treated as lepers and savours by politicians, and been the butt of idiotic ‘glow-in-the-dark’ jokes. We had helped create a town and an industry in the desert. And, boy, had we had some fun!’

In 1990 Mark was appointed as Western Mining’s first corporate safety manager. In this role he set up various corporate safety systems, reporting and auditing procedures, and worked to improve the professional level of the site safety officers. There were lots of visits to WMC’s gold and nickel mines, and some very interesting occupational hygiene situations on which Mark was expected to advise.

‘But the administrative demands were heavy and a lot less interesting than hands-on science,’ he explains. He had been promising himself a change, so when he found himself contending with a whole new team of ‘technically ignorant human resources managers’, he resigned to set up as a consultant and ‘go back to school’.

Mark had been interested in the industrialisation and colonisation of space since the late seventies and had actually presented a paper on mining asteroids in 1986. So he decided to see if he could turn his obsession with space resources into a master’s research degree topic.

After drawing a few blanks, he says his mum reminded him of Glen Moore’s championing of astronomy and interest in meteorites. ‘A few ‘phone calls later, we had Associate Professor Bill Zealey and Professor Ragu Singh signed up as my supervisors!’ Both the Department
Graduate researches space resources

Mark is now halfway through the research for his master’s degree, having spent two months as a visiting scholar at the Lunar and Planetary Laboratory at the University of Arizona.

The basic premise of his thesis is that increasing space activities will call for supply of raw materials in orbit. The present ‘airfreight’ cost of lifting anything into orbit is about $10,000 per kilogram. Even when fully reusable rocketships or spaceplanes become available, the launch cost will still remain at about $1,000 per kilo. Under these circumstances, there may be a commercial opportunity in retrieval of nickel-iron metal (for construction) and water (for fuel) from the ‘near-earth asteroids’, some of which are easier to get to and return from than the moon.

Recent astronomical advances have dramatically increased the rate of discovery of these bodies, and spectroscopic studies, together with meteorite studies, indicate that many of these bodies do indeed have plentiful easily extractable metals and volatiles. Mark’s thesis is intended to define the selection criteria for identifying which near-earth asteroids will be on the shortlist as potential economic orebodies of space mining ventures in 15 or 20 years’ time.

According to the required trajectories, and is clarifying the implications of the various target, trajectory and technology choices in terms of their impact on the Net Present Value for various ‘example’ mission plans.

Mark reckons he’s got the requirements mapped out. ‘The technology is in principle pretty easy: it will be there in five or so years. The question is when will the market develop? But when that day comes, I hope that the textbook the planners go to will be ‘Mining the Near-Earth Asteroids’, by MJ Sonter, 1996!’

In addition to accessing astronomical databases via the Internet, Mark is reviewing meteorite mineralogies, inferred asteroid ‘geologies’, and identifying possible applicable mining and processing approaches. He is classifying the various different mission types according to the required trajectories, and is clarifying the implications of the various target, trajectory and technology choices in terms of their impact on the Net Present Value for various ‘example’ mission plans.

Reconnaissance of an Apollo asteroid. A future exploration vessel ‘park’ beside a small earth-approaching asteroid, and astronauts float across to conduct close-up studies. During this first contact with a world beyond the moon, the distorted shadow makes a ghostly afterimage of the Apollo landing module that first brought humans to the moon. In the far distance, lower right, earth and the moon make a bright double star.

(Painting by William K Hartmann, Planetary Sciences Institute, Tucson, Arizona)
ALUMNI GRANTS

This year for the first time the Alumni Association has offered some financial assistance to four alumni (or groups of alumni) under a new grants scheme.

The Alumni Association Grants are offered annually to alumni or students of the University of Wollongong for educational or self-development purposes, or for worthy causes linked to the University community. Such grants enable the Association to offer support where appropriate to individuals or groups who are striving to achieve their goals with limited funds.

Four applications were successful in the inaugural awards earlier this year, and these grant recipients have been invited to share their experiences below.

Martin Parmenter completed a BE (Civil) in 1992 and is currently studying for his honours master's degree in environmental science. He describes his recent visit to the Solomon Islands as part of a youth development project.

Every so often we experience a need to escape from the familiar and explore some of the vastness that lies just beyond our reach. In May this year I set off for the Solomon Islands for the experience of a lifetime.

I was one of 30 specially selected ‘Challengers’ between the ages of 18 and 25 from Australia, who joined challengers from Canada and the Solomon Islands to undertake development work in the Islands under the banner of Youth Challenge Australia (YCA).

YCA is a subsidiary branch of Youth Challenge International (YCI) and was founded in 1991. Their head office is based at the University of Technology in Sydney and their mission is ‘to promote young people’s active, responsible and continued participation in local and global development’.

Prior to leaving for the Solomons there were two challenges to be faced. The first was to be selected from a wide range of applicants from all over Australia. The selection process included a two-day field test, during which each candidate's ability to analyse problems and implement solutions in a cooperative and commonsense manner was evaluated, along with group skills.

The second challenge was the preparation. All challengers were required to participate actively in the project preparation by assisting in the procurement of the necessary equipment and supplies, and by personally fundraising $4,200. The project itself presented the third challenge. Upon arriving in the capital Honiara, we were introduced to the Solomon culture, briefed on the projects that were to follow and given a crash course in pidgin, a very crude form of English which was to be our basic form of communication for the coming three months.

The 80 or so challengers were split up into five groups of about 15, each with a cultural and gender mix and making optimum use of the various skills and knowledge of all those involved. Before being sent out to the various project sites we attended an opening ceremony, where we were given an official welcome on behalf of the Solomon Island Government and had an opportunity to meet and thank the major sponsors of the program.

After an horrendous 36-hour boat trip across the open ocean, we arrived at the Island of Makira. Our first project was to undertake a malaria education campaign in the villages around Star Harbour at the easternmost tip of the island. For this we devised a short play and song about how to prevent malaria. We also worked with local representatives from the Ministry of Health in taking blood slides to ascertain the malaria incidence rate.

Ten villages altogether were covered by our education campaign and if past trends are continued, there should be a dramatic reduction in malaria cases into next year.

Our second project involved the construction of a kindergarten at a vocational training centre for boys, run by the Roman Catholic Church at a place called Styvernberg. The majority of the materials for this project, mostly timber, were gathered from the forests surrounding the school.

We were assisted in the construction of the kindergarten by the second and fourth year carpentry classes. The kindergarten was 10m by 6m with a tin roof and gravel floor,
The villages we visited during these two projects were typical of those one pictures when dreaming of the Pacific Islands - white sandy beaches lined with an endless string of coconut palms, and coral reefs with crystal clear water and an abundance of life and colour.

The Solomon people always seemed to be smiling, living up to the title of 'The Happy Isles'. Their lifestyle is simple - they grow their own food in communal gardens and everything is shared between all members of the village. As a visitor to many of these villages I was regularly overwhelmed by their generosity.

'Araui' (white people) in the Solomons are viewed as being superior in some way, due to a perceived wealth and abundance of knowledge. However, I feel that I have come away from the Solomons having learned just as much as I could have taught and shared with them.

Western ways are already beginning to have a dramatic impact on the Solomon lifestyle and culture. Batteries used to power radios, as well as many other types of waste, are simply thrown onto the beaches and into the oceans, because as yet the people are uneducated about the effects of such practices. I believe there is a responsibility, through education, to ensure that the people are encouraged to make their own decisions about the impacts of development.

I would like to extend my thanks to those who have helped me with my participation in this project, especially Bushcraft Equipment and the Dapto branch of the Country Women's Association. I now face my fourth and final challenge: transforming my personal experiences into positive civic and social action by undertaking 130 hours of community service work in my local community.

Through my involvement with this program I have made many lifelong friendships, and feel confident that I have learned a great deal from my experiences. I would highly recommend the Youth Challenge experience to anyone who can find the time in pursuit of youth development and cultural exchange. Those interested can contact me on (042) 61 2249, or YCA Head Office on (02) 330 5512.

Bridget Munro graduated in May with a BSc(Hons) majoring in Human Movement Science, and is now enrolled in a PhD in the field of biomechanics. She was recently selected to represent Australia as a member of the tennis team at the World University Games held in Japan.

The World University Games are the second largest international athletic event in the world, twice as large as the Winter Olympics, bigger than the Commonwealth Games and smaller only than the Summer Olympics. Over 7000 athletes from 150 countries attended the Fukuoka World University Games held in Japan in late August.

This year the Australian team sent more than 150 athletes, medical staff and officials to compete in diving, fencing, gymnastics, judo, soccer, swimming, tennis, track and field, volleyball and water polo. Support for this large group was arranged and Sumo wrestling.

The Opening Ceremony was an amazing event, with high technology special effects, power singing and movies. The crowd did not stop waving their flags for an hour and a half whilst the athletes were arriving - their arms must have been very tired! All the stunts at the ceremony such as bungy jumping and stilt walking, were performed by Australians. In fact Australia rated as the seventh largest nation at the games, with over 150 athletes. The largest contingent was from America, with 464 members, followed by Japan with 390.

The spectacular tennis venue was brand new, with 17 outdoor courts and an indoor centre comprising four courts. The surface was synthetic grass, which is easy to maintain and did not get too hot in the extraordinary weather. Unfortunately the Australian tennis team came up against strong opposition and we were all defeated in the early rounds of the tournament. I got through the first round, but was beaten in the second by a German girl who is ranked 380 in the world.
Projects of grant recipients

The Australian team came home with one gold medal (heptathlon), two silver medals (swimming) and three bronze medals (swimming and water polo). Many athletes recorded personal bests, and I myself was happy with my performance considering my relative lack of practice beforehand and the hot conditions.

The World University Games was a magnificent event which I shall never forget. I thoroughly enjoyed my time in Japan and would love to go back and visit. I would like to thank all my sponsors, in particular Mr Phillip Dutton, Head of Weerona College, who organised much of the sponsorship while I was overseas presenting my honours thesis. I very much appreciate the opportunity to experience playing tennis for my country in June this year with a seed grant from Wollongong City Council. Further funding has now been secured from BHP Australia for administrative costs and ongoing exhibition development.

Once a kitchen warehouse, PROJECT still maintains the industrial remnants of the building's former life, with a large expanse of concrete floors and a high metal roof. Physically it is made up of two gallery/performance areas with a total floor space of 300 square metres. The capital work on the building was done in conjunction with Dion Developments, who recently received a civic design award for their redevelopment of the buildings in Keira Street.

PROJECT has been established by graduates from the University's Faculty of Creative Arts program (Lisa Havilah, Nathan Clark and Glenn Barkley) and has strong links with the faculty. As a team we aim to facilitate the development of national arts practice at a regional location. By doing this, PROJECT enables Wollongong to further develop a contemporary arts focus on all activities.

PROJECT draws from street culture events with an installation piece of local skateboard design scheduled in December. An international perspective will also be evident in December with an exhibition by Taiwanese artist Jun T Lai. PROJECT's inaugural show, 'Just a Memento', was an exhibition of souvenir design curated by Laurens Tan. A large number of artists participated, reinventing the idea of the souvenir as a representation of local iconography.

PROJECT aims to appeal to all facets of society, seeing itself as a go-between bringing all levels of the community together through art. We would like to thank the Alumni Association for its support. PROJECT is open 11 am-5pm Tuesday to Sunday - telephone (042) 26 6546.

Carrie Sonnebom completed a Master of Management in 1986 and a Bachelor of Arts in 1988. She has recently enrolled in a PhD in science and technology studies, undertaking a comparative study (Australia/USA) of the energy education of engineers.

Energy education of engineers is important for several reasons: energy use and consumption by modern society is one of the major causes of environmental damage, including acid rain, global warming and oil spills. Access to energy resources is seen as a prerequisite of economic prosperity by developing countries.

Engineers are key decision makers in the choice of energy technology. Energy education is thus central to the development of a global ecologically sustainable energy system for the planet.

Australia has one of the highest per capita energy consumption of any OECD country. The USA is similar in this regard, but has made big reductions in energy use in recent years. My research aims to learn from this US experience and develop a model for sustainable energy education for Australian engineers.

Editor's note: Carrie aims to present the findings of her research in 1998. We shall stay in touch with her and hope to share the results of her endeavours in due course.
In June the University Union celebrated its 30th anniversary with a party, complete with balloons, a huge cake and of course many people who remember those early days on campus.

Stage One of the Union was officially opened in 1965 by Sir Ian McLellan. (For those not aware, this is roughly where the Tavern is now located.) At that time there were about 600 student members of the Union and they paid an annual membership fee of six pounds.

The building was promoted as an excellent example of modern architecture at a time when students were asking for additional facilities for sporting and leisure needs.

The official program from the opening states that this building represents the first stage in the construction of the Union. It features a light steel portal frame, brickwork and roof which have been designed to harmonise with the adjacent buildings.

There is a large common room, two smaller common rooms, offices for general business and sports activities, a shop, change rooms and tea facilities in the building, which is conveniently located near the present University College buildings, and is logically placed for the planned future expansion.

The building was completed for a cost of 42,000 pounds, with 25,000 pounds from government funding and the remaining 17,000 pounds being provided by the Wollongong University College Appeal Fund.

It is difficult now to imagine that this relatively small building catered for both sporting and leisure activities on campus. In fact it was only two years before the expansion of the Union began, and this has continued right up until the present with several extensions.

The Union Building is now a large complex with a new hall that can seat 1,000 people, a retail centre incorporating a comprehensive bookshop, and a function centre which caters for conferences, weddings or anything else. Plus there are a number of food outlets, banking facilities and a wide range of other services such as the travel agency, the Tavern and a hairdresser and medical centre.

Union facilities are now also located elsewhere on campus, and include the child care centre, Kids' Uni, the Food for Thought restaurant in the McKinnon Building and the University Lodge, which offers accommodation for guests of the University.

While this is a far cry from the original collection of services, the Union's role remains the same: to provide services and facilities which complement the academic activities on campus and enrich campus life. The Union's growth over the last 30 years is a reflection of the expansion of the University and its steady increase in student numbers.
Forthcoming events

Guest speakers:

DALE SPENDER
Researcher, writer, editor, broadcaster and teacher

LYNNE SPENDER
Executive Director, Australian Society of Authors

Sisters Dale and Lynne Spender both graduated from the University of Wollongong with MA(Hons) in 1972 and were the University's first female masters graduates. Each has since carved out a highly successful career and we look forward to welcoming them back to campus.

ALUMNI AND GUESTS ARE CORDIALLY INVITED TO ATTEND

Light refreshments will be served after the formalities. Parking is available on campus.

THE ANNUAL GENERAL MEETING of the UNIVERSITY OF WOLLONGONG ALUMNI ASSOCIATION INC will be held on Saturday, 9 March 1996 6.00-7.30pm in the McKinnon Building at the University of Wollongong (western end of campus, Building 67 - Lecture Theatre 104 on Level 1)

Please note that only Financial Members of the Alumni Association are eligible to vote at the AGM.

ALUMNI ASSOCIATION CHAPTERS' AGMs will be held immediately prior to the main AGM at 5.30pm, also in the McKinnon Building.

Campus:
Room 102, Level 1

Commerce:
Room 101, Level 1

Education:
Staff Room, Level 3

Engineering:
Room 343, Level 3

Details will be sent to Financial Members of the Association.

REUNION OF BIOLOGY GRADUATES & STAFF
Saturday, 17 February 1996

Biology was first taught at Wollongong in 1965. Until 1975 any student wishing to major in the biological sciences was required to transfer to the Kensington campus of the University of NSW. When the University of Wollongong gained its independence in 1975, the first professor of biology was appointed and a science degree, majoring in biological sciences, was offered for the first time.

Twenty-one years after that event the Department of Biological Sciences, together with the Alumni Association, is hosting a reunion on Saturday, 17 February 1996. This will be a dinner function in the new Union Hall and will be an opportunity for many friends to renew their acquaintance.

All of our past graduates (in science, environmental science and biotechnology), present students, and past and present staff are warmly invited. If you are interested in attending please fill in the coupon and return it to the address below. If you know any past associates of the Department who should also be invited, could you please inform us of their names and addresses (with their permission).

YES I am interested in the reunion of biology graduates and staff

Name: ________________________________________
Address: ________________________________________
Phone: ________________________________________
Degree(s): ________________________________________
Year(s) of graduation _____________________________

These people should also be invited:

Name: ________________________________________
Address: ________________________________________
Phone: ________________________________________
Degree(s): ________________________________________
Year(s) of graduation _____________________________

Complete and mail to

REUNION
Department of Biological Sciences
University of Wollongong WOLLONGONG NSW 2522 and we will send you out more information.
**GRADUATION PLAQUES**

Members of the University’s alumni may purchase a personalised testamur plaque, in gold metal and mounted on a polished rosewood base, or framed in matching gold or silver. This superb plaque provides a unique representation of your achievement. By special arrangement with the supplier, the plaque has been made available to alumni at an extremely low price. The cost per plaque, either framed or mounted on timber, is $61.00 to Financial Members of the Alumni Association, and $66.00 to other alumni. These costs include postage and handling, but please add $25.00 to overseas orders.

To place your order, just complete the form below and return it with your payment or credit card details, and a clear photocopy of your testamur, to the Alumni Office at the University. Please allow 28 days for delivery in Australia. (Overseas orders may possibly take longer.)

Name ____________________________
Name at graduation (if different) ____________________________
Postal address ____________________________
Postcode ____________________________
Country (if outside Australia) ____________________________
Tel: Home Business ____________________________

I wish to order
☐ Gold plaque on polished rosewood timber
☐ Framed gold plaque
☐ Framed silver plaque

NB: The cost per plaque is $61.00 to Financial Members of the Alumni Association and $66.00 to other alumni. For overseas orders please add $25.00.

My cheque (or postal money order), payable to the University of Wollongong, for $_______ is enclosed, together with a photocopy of my degree testamur.

Alternatively, please charge $_______ to my Bankcard / MasterCard / Visa (delete as applicable)

Card no: __________ / ________ / ________ / ________
Expiry date: _______ / _______

Name on card ____________________________
Signature ____________________________ Date _______ ____________

Please complete and return this form, with your payment and photocopy of your degree to:
Alumni Office, University of Wollongong, Northfields Ave, Wollongong NSW 2522. Orders by credit card may be faxed on (042) 21 4299. Enquiries may be made by telephone to the Alumni Office on (042) 21 3249 or 21 3169.

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**HILTON SURVEY**

Earlier this year a market research project was undertaken to determine what sort of accommodation packages might suit alumni living outside the metropolitan area. The project was conducted in conjunction with the Hilton International in Sydney and was organised with the assistance of a work experience student from Wollongong.

A survey was sent to Wollongong alumni living in New South Wales in a wide band around (but not including) Sydney. The chance of winning a weekend package for two at the Sydney Hilton was offered to all participants who returned their questionnaires quickly.

The Alumni Office would like to apologise for the delay in mailing the surveys, which meant that in many cases the material arrived either on or after the suggested return date for alumni to be eligible in the draw. Because of this problem the Hilton agreed to delay drawing the prize.

Although 2 June was the date specified in the letter by which surveys should be returned, the draw in fact took place on 1 August at the Sydney Hilton in front of representatives of the University. The names on all questionnaires returned by this date were included. The winner was Susie Brown (BA(Hons) 1991, GDipEd 1992) of Mount Pleasant.

Analysis of the questionnaires has shown that the majority of alumni surveyed (nearly 80%) travel to Sydney more than four times a year and more than half spend at least one night there. Popular attractions such as theatres, restaurants and markets are the main reasons for alumni to visit Sydney, and the majority are seeking reasonably-priced accommodation which includes family packages.
Record number of ceremonies

**Graduations '95**

Three of the eight new PhD graduates in accountancy with their supervisor and Head of Department, Professor Michael Gaffikin (second from right). From left, the graduates are Dr Sudhir Lodh, Dr Warwick Funnell and Dr Kathie Cooper. The Department of Accounting and Finance is one of the largest in the country and has an increasingly high reputation.

Eleven graduation ceremonies (eight in May and three in October) marked the culmination of years of work for nearly 3,000 graduates.

As has always been his custom, the University's Chancellor, The Hon Dr Robert Hope, personally congratulated all the graduands as they came up on the stage and talked with them about their hopes and plans.

There were several new groups of graduates this year, including 70 senior officers from the NSW Police Service who each received a Graduate Certificate in Management. This course was specially developed for senior members of the police force and was organised in conjunction with the Goulburn Police Academy. The Police Band created a festive atmosphere in the Union Hall foyer at these graduations.

The first graduates from Wollongong's Master of Science in Mental Health and Graduate Certificate in Health Policy and Management courses, undertaken through the Professional and Graduate Education (PAGE) consortium, made one of their few visits to the campus to attend their ceremony.

PAGE, a consortium of 12 universities in Australia and New Zealand, offers postgraduate and professional courses through distance education, using SBS television to broadcast lectures. The four graduates, who were from Sydney and the Southern Highlands, expressed their appreciation at being able to undertake these courses without having to attend lectures on campus.

Other courses which produced their first graduates were the Bachelor of Teaching (Early Childhood), the Master of Science (Midwifery) and the Graduate Diploma in Engineering (Maintenance Management). This Department of Mechanical Engineering course has been specially tailored for CityRail and is delivered in Sydney.

One of the nation's leading artists, also Australian of the Year and resident of Shoalhaven, Arthur Boyd, was awarded the degree of Doctor of Creative Arts (honoris causa) in October. He is pictured with Mavis Miller, Life Member of the Friends and member of the Campus Alumni, who was admitted as a Fellow of the University in recognition of her active and dedicated interest in community affairs and contribution to projects at the University.

The Police Band adds a welcome note to some of the graduation ceremonies in May and October which included 70 senior police officers.
RISE OF FORMER WOLLONGONG STAFF

Several former senior staff of the University of Wollongong have continued to pursue their careers in tertiary education with great success.

Professor Ian Chubb, who was Deputy Vice-Chancellor from 1986-89, left Wollongong to become chair of the Higher Education Council in Canberra. He later moved to Monash University as Deputy Vice-Chancellor, and earlier this year he was appointed as Vice-Chancellor of Flinders University of South Australia.

Professor Barry Conyngham, who was Dean of Creative Arts at Wollongong from 1990-94, is now the foundation Vice-Chancellor of the new Southern Cross University in northern New South Wales, formerly part of the University of New England.

The third former Wollongong staff member who has now risen to Vice-Chancellor is Professor Barry Leal, who was Head of the (then) Department of European Languages from 1975-86. Professor Leal is Vice-Chancellor of the University of Southern Queensland at Toowoomba.

After four years as Pro Vice-Chancellor (Academic) and nearly twenty years at the University, Professor Lauchlan Chipman left Wollongong in 1993. He first became Pro Vice-Chancellor and Director of Monash University’s Gippsland Campus, and earlier this year he was appointed Deputy Vice-Chancellor at Monash.

FVALE RUSSELL LINKE
Former Dean of Education at Wollongong from 1989-93, Professor Russell Linke died suddenly whilst on an overseas trip in late September. Professor Linke moved first to Flinders University of South Australia, where he became Deputy Vice-Chancellor, and earlier this year he took up a new appointment at the Centre for the Study of Higher Education at the University of Melbourne. Russell is greatly missed both by his former colleagues at Wollongong and by many others.

MEMBERSHIP OF THE ALUMNI ASSOCIATION

‘Alumni’ is a term which broadly means former students, but for the University of Wollongong the following categories of people are included:

- graduates and diplomates of the University (and its antecedent institutions);
- former staff of the University; and
- students who have completed at least one semester of successful study under the Study Abroad or Exchange Programs.

All alumni are considered to be members of the Alumni Association and should receive this magazine twice a year free of charge. If your address changes, please remember to let us know so that we may remain in touch with you.

Financial Membership

This is an optional membership category which gives you certain rights and benefits within the Association. The benefits are currently:

- competitive travel rates through Muirhead Travel on campus;
- special accommodation rates;
- discount at the Retail Centre and Bookshop on campus;
- reduced rates on graduation plaques;
- reduced rates at some alumni functions.

Financial Membership also gives you voting rights within the Association, as well as the right to participate in any of the chapters and their activities. The current Wollongong-based chapters are Campus, Commerce, Education and Engineering, with some further afield in various stages of development, such as Victoria, Shoalhaven, Malaysia, Indonesia, Hong Kong, Taiwan and Singapore.

Becoming a financial member costs $25.00 a year, or $95.00 for five years (which offers a saving of $30.00). An application form is inserted in this magazine. Membership also offers you the opportunity to stay in touch with old friends and make new ones. Why not join up?
An exciting world awaits from the comfort of your home, with a computer you can:
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Communicate with friends,
Budget your finances,
Get up to date news,
Travel the world,
Produce reports,
and much much more.

Being an Alumni member entitles you to the same discounts from us as staff and students. This could mean a saving of up to $500 off RRP on your next Apple or Compaq computer.

Come in and see our friendly staff for more advice. The world is awaiting your exploration.

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