From the president...

Welcome to this edition of Outlook. I am very excited to be part of the 98/99 Board of the Alumni Association, and I am confident that we will be implementing a number of initiatives that will increase the value of the Alumni organisation to our members, to our graduates and to our supporters.

Future editions of Outlook will see enhancements in content and style. We will be keen to get your feedback.

As we enter the next millennium many of our graduates are becoming increasingly committed to the Internet. We will be enhancing the Alumni Homepage (which can also be found through the University's Homepage Menu) and the links to Career Assistance and current news should be of interest and value to all.

On campus our availability will be improved by way of better, more available office accommodation. The support we are getting from the Vice-Chancellor is greatly appreciated.

Our support for the Chapters remains a high priority. These groups are the powerhouses for our Association. Look out for new Chapters.

Finally, I am very pleased to announce the appointment of Lea Sublett, our new Executive Officer. Lea will bring a new addition of skills, experience and enthusiasm to our Association. Welcome aboard Lea!

Bob Frizell
President, Alumni Association

From the executive officer

As a newcomer I would like to take the time in this edition of Outlook to officially introduce myself to graduates and friends of the University of Wollongong as the Alumni Association's Executive Officer. My professional background is in higher education management, marketing and international education. Prior to moving south, I managed the Alumni Association at the University of Southern Queensland. I am also a graduate of that university.

This year will be a very exciting time for the University’s Alumni. The management board features some new faces, in particular the President, Bob Frizell, and Vice-President, Kathleen Iacurto.

Our graduates will be pleased to know that our previous President, Ruth Proctor, has remained on the Board and will assist the new management team in various issues relating to Alumni’s future growth and vision.

I would like to encourage our graduates and friends to drop into the alumni office, level 2, the Illawarra Technology Centre. I would personally like to assist you in the organisation of reunions and other activities to ensure your commitment to your alma mater is lifelong.

Henry Ford summed up the role of alumni organisations when he said, "Education is not something to prepare you for life; it is a continuous part of life." Being a member of your Alumni Association, too, is a life-time commitment in watching the growth of your alma mater, ever increasing the value of your University of Wollongong degree.

Lea Sublett
Alumni Executive Officer

From the editor


The Alumni Association is an increasingly important part of the University community, as it is the only way the University can stay in touch with the growing body of graduates out there in the real world.

For many graduates, their only contact with the University of Wollongong remains Outlook, so it has an important part to play in the maintenance of the University's relationship with past students.

The Alumni Association has undergone some change this year, and Outlook has not escaped this.

As the new Editor, I hope you will notice a slightly different look to the magazine, and a content which reflects all aspects of life at the University of Wollongong in 1998. More changes will be made for the end of year issue.

The University has, over the past decade, undergone an enormous expansion in terms of building at the main campus. In 1998 this is drawing to a close, but new horizons are opening in Sydney, with the development of the Sydney Centre.

The University of Wollongong is also expanding its overseas operations, and I hope this magazine will continue to reflect this trend.

The push into Sydney, and further afield is evidence of the dynamic nature of the University, and is an example of why it pays graduates to stay in touch. How else will you follow the continuing development of your alma mater.

I hope you enjoy your magazine, and look forward to your feedback.

Stuart Waters
Editor Outlook
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University of Wollongong
Building Links with Taiwan...

The Director-General of the Taipei Economic and Cultural Office in Sydney opened a major exhibition of art at the University of Wollongong on 7 May.

Ms Maggie Tien is the most senior representative of Taiwan's Government in NSW.

She opened the exhibition of her compatriot, Professor Zao, Kuo-Tzong, artist in residence at the Faculty of Creative Arts. Professor Zao, Kuo-Tzong is part of an international exchange program between Australia and Taiwan which has been operating for some time.

Early in 1992 planning started at the University of Wollongong to set up the first major exchange of artworks between Australia and Taiwan. The project was developed by Dr Peter Shepherd, then Associate Artist in Residence, Professor Zao, Kuo-Tzong, at the opening of his exhibition.

Head of the School of Creative Arts, at the suggestion of David Chen, the first student from Taiwan to undertake work in Creative Arts at Wollongong.

Dr Shepherd is now the University of Wollongong's representative in Taiwan, and he says the program has developed into a vibrant series of exchanges with the National Institute of Arts in Taipei.

"Taiwan has one of the liveliest art scenes in the world," Dr Shepherd said. "The Taipei Fine Arts Museum has one of the biggest collections of Australian works in East Asia."

The first exhibition Peter put together in Taiwan, 'IDENTITIES: Art from Australia' was opened in the Taipei Fine Arts Museum in December 1993 by Colin Heseltine, Australia's Senior Representative to Taiwan at the time.

A large party of Australian artists, gallery owners and arts journalists attended the opening ceremony. Professor Sutton, at that time Deputy Vice-Chancellor and Mrs Sylvia Sutton represented the University at the opening.

According to Peter Shepherd, the exhibition had a profound effect on the contemporary art scene of Taiwan and created great interest in Australia and Australian art. For most artists in Taiwan this was their first contact with art from Australia. Their usual ties had been with the USA and Europe, where many had undertaken their own postgraduate studies.

The Taipei Fine Arts Museum purchased 13 of the works for their permanent collection.

Since that first exchange venture, the University and the Faculty of Creative Arts have continued to develop strong ties with Taiwan. Many students have enrolled to undertake both undergraduate and postgraduate degrees. Some now hold important posts in academic and arts institutions in Taiwan.

Doctoral graduate Tricia Pey-Chwen Lin is the Head of Commercial Design at Chung Yuan Christian University and David Yin-Wei Chen is Associate Professor in the Fine Arts Department of Huafan University. For the past three years Dr Shepherd has been working with the Australia Council and the Bureau of International Cultural and Educational Relationships in Taipei to develop a program allowing artists from Australia and Taiwan to receive funding for periods of residency.

The partner institutions who have agreed to be the hosts for the visiting artists are the University of Wollongong and the National Institute of the Arts in Taiwan. The artists are supported by their respective arts funding bodies. Professor Zao is currently enjoying the fruits of this program.
Stephen Ingham: atomising sound.

Mathematics and music; chemistry and composition: Stephen Ingham has juggled them for most of his life.

He is working at a time when computers make us jugglers of sound, able to dissect sounds into 'atomic' parts — spawning altogether different creatures in the process.

So it is not so surprising to find a chemist-composer working the ground where fine-art music meets technology.

Associate Professor Ingham, now Associate Dean of Creative Arts, once did what headmasters and parents expected: he let music play second fiddle to an honours degree in chemistry.

Somewhere along the way, Ingham won a degree in hand, Stephen realised he was a chemist without a cause and dived into a second degree in music.

Now he sits in an office with both kinds of keyboard on the desk, creating music with numbers and sound.

"Once a sound — say a note from a flute — is stored in the computer's memory, it can be analysed, broken down into its 'atomic' parts," he said.

The information is stored as a series of numbers; get creative with the numbers and the original sound becomes more than the sum of its parts.

"For a long time we've been able to "reverse" sounds and change their pitch using tape recorders -- now we can make completely new sounds by re-assembling their components in sophisticated ways," he said.

"You cannot create these sounds without a computer.

"It's exciting. You have the sense you are dealing with sounds that have never ever been heard in the history of the world."

Should some of them stay that way?

"Some of them are grotesque, freak sounds," he said.

"To succeed in this you not only have to be on top of it technically. "You must have in equal measure the technical skill and the creative aesthetic talent in composing. It's not often you get both."

"It is easy to make a catalogue of new, but ultimately boring sounds."

"Novelty for its own sake is gimmicky."

"We can use the technology to expand the expressive capability of traditional instruments."

It's possible to create a 'virtual instrument' — a computerised hybrid of guitar, voice and flute for instance — and possible to make sounds 'fly around the room'.

All of which has application for the overwhelming majority of graduates who cannot expect to make their living composing traditional chamber music or for symphony orchestras.

"Maybe one or two composers in a country can do that," Stephen said.

If he has his way, the best of the rest will be in demand as film score or multimedia composers, aesthetic adepts in computer music.

"It's a need that has not been identified by many institutions," he said.

"We really have a chance here to set up some pioneering work."

"We need to make music technology a central part of our training, not just an add on."

"In five or 10 years time perhaps students will need well-developed music computer skills just to start a course such as the BCA degree in music composition."

"They will need to demonstrate they can do a lot more than just switch on a computer."

But Stephen is still juggling: his latest work is an opera "Transfigured Night", to be premiered in Melbourne later this year by the ChamberMade opera company — without a whisper of the digital.
Engineering solution found for national environmental problem

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

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

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

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

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

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

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

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

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

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

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

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

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

He said the problems of high acid sulphate soils existed right along the coastline and were exacerbated in floodplain areas such as the Shoalhaven.

He said over the past two or three decades local governments have unwittingly contributed by digging excessively deep flood mitigation drains in dairy farming country.

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

Dr Indraratna said rain flushed sulphuric acid and poisonous aluminium into rivers and creeks, killing marine fauna.

Government authorities and farmers alike have recognised the value of the team’s work. Dr Indraratna and his team had no trouble “borrowing” the Berry experimental site from four farmers and a total of $270,000 in funding has been approved.

The NSW Acid Sulphate Soils Management Advisory Committee (ASSMAC) has confirmed a $92,500 cash grant, in addition to $40,000 from the Department of Employment, Education, Training and Youth Affairs (DEETYA) has provided $63,000 for the work of key researcher Bruce Blunden, who is undertaking his PhD on the project.

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

Dr Indraratna is keen to receive additional funding of about $80,000 so as to set up devices such as electronic or laser sensors, to allow full automation of weirs and floodgates during dry and wet periods. He said there was no doubt the weirs would be successful.

“We have been using sophisticated computer models to simulate the way in which acidity is generated in relation to groundwater table fluctuation over a five-year period," Dr Indraratna said.

He said his team has carried out a detailed geohydraulic model of rainfall data, patterns of drains, soil properties and topography.

“This way, we can make accurate predictions of the levels of acidity discharged to the drains and rivers," Dr Indraratna said.

When the project is completed, it will enable Shoalhaven City Council and the EPA to establish comprehensive guidelines for acid sulphate soil remediation in the Shoalhaven floodplain and similar areas.
Let me repeat what the University of Wollongong has set as the touchstone against which to judge its performance - the attributes to be found in its graduates:

- a commitment to continued and independent learning, intellectual development, critical analysis and creativity;
- coherent and extensive knowledge in a discipline, appropriate ethical standards and, where appropriate, defined professional skills;
- self-confidence combined with oral and written communication skills of a high level;
- a capacity for, and understanding of, teamwork;
- an ability to logically analyse issues, consider different options and viewpoints and implement decisions;
- an appreciation and valuing of cultural and intellectual diversity and ability to function in a multi-cultural or global environment;
- a basic understanding of information literacy and specific skills in acquiring, organising and presenting information, particularly through computer-based activity;
- a desire to continually seek improved solutions and to initiate, and participate in organisation and social change;
- an acknowledgment and acceptance of individual responsibilities and obligations and of the assertion of the rights of the individual and the community.

Indeed Wollongong has been a pace-setter in ensuring that all graduates have a basic understanding of information literacy. This is of fundamental importance for those of you who will be teaching in school, work and community settings using rapidly developing technologies. The University aims to have all postgraduate education courses available online by the end of next year.

Wollongong has considerable strengths in research, performing in the top 10 in at least 10 fields of study. The Faculty of Education is one of Australia's leading performers both in terms of research output and consultancy contracts won.

While having a genuine commitment to the Illawarra region, the University is also highly regarded internationally. Its graduates find employment readily both in Australia and overseas. Its staff and programs have sound international reputation.

In the field of education Wollongong is regarded as providing best practice in early childhood, primary and physical education. It draws students from Canada, the Maldives and Sri Lanka, China, Japan, Korea and Iran. And it offers teaching practice in China, Fiji and Malaysia.

I should note for the record that Wollongong is one of the best-managed universities in the country. It manages well not only its finances and physical assets but also its support services such as student admissions processes, records and information technology. Much of this is unseen by students but is fundamental to the smooth running of a complex organisation.
As we approach the new millennium we hear that a global culture is emerging that is redefining the world as we know it. This convention will explore the implications of a global culture and the role of Australian universities and, in particular, their graduates in the shaping of this new era.

Alumni of all Australian universities are invited to Adelaide in October 1998 to share their ideas, their knowledge and their wisdom.

Expressions of Interest

Name ___________________________________________
Address _________________________________________
Telephone _______________________________________
Fax _____________________________________________
email ___________________________________________
Employer/Position _______________________________
University _______________________________________
Year of Graduation _______________________________

Attendance □ Yes, I would be interested in attending. Please send me more information.

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NSW Premier officially opens University's Sydney Centre

Speaking at the launch of the centre are (from left): the Vice-Chancellor, Professor Gerard Sutton; the NSW Premier, Mr Bob Carr and the Member for Kira, Mr Colin Markham.

**What does a university do when it has graduates wanting to come to its university but they are in Sydney and the university in question is in Wollongong?**

The NSW Premier, Mr Bob Carr, answered that question when he officially opened the University of Wollongong's Sydney Centre on 16 March.

A six-months market research study has clearly shown that graduates, particularly those from the University of Wollongong, wish to continue postgraduate studies through Wollongong but are now ensconced in jobs in Sydney.

And to ensure it continued to respond well to market forces, the University of Wollongong extensively surveyed employers, graduates and international students with the result it will be delivering tailor-made full and part-time courses nowhere else on offer.

"We have to offer tailored courses for a more highly-educated population if the graduates are to meet the needs of industry," the Vice-Chancellor, Professor Gerard Sutton said.

"Some of the courses, for example, can be undertaken on a modular basis so that students can study what they want and at the time that suits them," he said.

Most of the postgraduate programs at the centre are on offer now from second semester of this year. In line with all other Australian universities, the post graduate courses will normally be full fee-paying.

The centre, located at 55 Regent Street, is easily accessible for students via Central Railway Station. The University of Wollongong has acquired the building from the Sydney Interlink College and has had it refurbished to include extensive classrooms, computer laboratories and language laboratories.

In liaison with its private college, Wollongong University College, the University is leasing and operating the centre to offer postgraduate, diploma and bridging courses.

On offer at the centre are postgraduate courses through the University's Business School, and Faculties of Education, Engineering and Informatics.

There are also, through the College, fee-paying English language courses and a University Entrance Diploma to allow students from Year 11 and Year 12 to undertake studies which could lead to direct entry into undergraduate studies at the University.
Wollongong’s strategic move into the Sydney marketplace appears to be paying dividends judging on the success of the first Sydney Business School Information Evening.

More than 100 people, including many potential students, attended the event which was held in the University of Wollongong’s Sydney Centre at 55 Regent Street on 1 July. The Sydney Business School operates from an entire floor of the Sydney Centre.

The Executive General Manager of Corporate Services with Qantas, Mr David Burden, was the guest speaker at the information evening. He discussed what it was like to manage a large airline business and he highlighted some future technologies which airlines might adopt.

Though a part of the Faculty of Commerce, the Sydney Business School is closely affiliated with various other Faculties which allows it to offer a diverse range of courses. The School offers flexible specialisations in Business Administration, International Business, Information and Communication Technology, Quality Management, Logistics and Operations Management, Health Management, and Marketing.

Other Faculties currently involved include Engineering, Informatics, and Health.

"In effect, the Business School gives potential graduate students an opportunity to study at the University of Wollongong without leaving Sydney," according to the School’s Director, Professor John Glynn.

"To branch out like this into the highly competitive market of Sydney was a fairly bold move. But it is where the market is and we’re confident that we can aim for the top.

"Our competitors were somewhat a bit taken aback by our move, especially at us calling it the Sydney Business School. However, it is important to emphasise the fact that the University of Wollongong has the serious intent to develop a Sydney-based market," Professor Glynn said.

According to Professor Glynn, the courses have been designed particularly to appeal to a broad cross-section of students, giving the Business School the opportunity to run more courses more often.

"Subjects have been designed to appeal to a cross section of programs. This matrix design of the courses and subjects gives our students greater flexibility to plan their studies," he said.

Professor Glynn pointed out that another feature of its approach was the emphasis on modular studies.

"We are aware that many part-time students often drop out half way through a session because of the many demands on their time," he said.

"So what we have done is to move away from the traditional university session and offer instead our courses in blocks of eight to 10 weeks.

"Students can take from one or two subjects at a time, each commits them to 40 hours face-to-face tuition in five days over that eight-week period for each subject. And if they can’t do a subject at one time, they only have to wait a matter of weeks before they can enrol in another.

"It is a very good design which will suit working students perfectly," Professor Glynn said.

Targeted at mainly domestic part-time students aiming to further their career opportunities, the Business School intends to compete with the established management schools by offering a quality product built on the reputation of the University together with an innovative course design and customer focus.

Professor Glynn said one of our major strengths was that we can accommodate a number of mixed groups, be they business people or specialist groups such as doctors.

"We have expertise in this and it is a great advantage to us.

But it is not only the graduate student who will benefit from the services provided by the Sydney Business School.

"We are about forging links with business and industry as well," Professor Glynn said.

"We plan to develop our in-house work so that we run short courses or hold seminars at various locations around the city.

Professor Glynn also believes the presence of the School in Sydney will act as a "front door" for the University as a whole, encouraging Sydney people to make the trip to Wollongong.

"This will have benefits not just for the Faculty of Commerce, but for the whole campus," Professor Glynn said.

In five years time, the Business School’s Director believes it will have a solid base in Sydney and be looking to expand.

"It will have maximised the synergies between the Sydney presence and the Wollongong campus," Professor Glynn said.
The efforts made by Campus East staff and students to turn the residence "green" have been recognised with an award from Wollongong City Council. Head of Halls, Non-Collegiate Residences, Robyn Wilkes, was presented with a Rise and Shine award at a ceremony at the Council Chambers on 11 December. This has been followed by the National Union of Students' inaugural sustainable universities award.

For two years, Robyn, program co-ordinator Avalynne Wilby, and staff have been introducing a range of measures designed to minimise waste, and to reuse and recycle whenever possible.

These award are in recognition of these efforts, which have seen a dramatic change in the way things are done at the residence. The program involves permaculture, on-site sorting and treating of kitchen wastes, an ethical buying policy and maximum material reuse and recycling.

Initially, Ms Wilkes said, the objective of the exercise was to save money on garbage costs, but gradually the focus has changed to reusing and recycling as much as possible, as well as providing jobs for the previously unemployed.

"Originally, all we wanted to do was reduce the amount of plastic bottles going into our Theiss bin from the kitchen. The policy now encompasses purchasing, packaging and end product waste reduction," Ms Wilkes said.

"For example, I swapped to the Original Juice Co. for our orange juice supplies because they have a full recycle program. When they deliver this week's juice, they pick up last week's bottles. They also re-use their orange-washing water and feed their orange pulp to cattle", she said. From buying carefully, the Campus East program extends to how food is prepared. This includes better menu planning and portion control to minimise the amount of food waste. As waste is created in the kitchen it is placed in marked bins, ready for the next stage in the process. Meat scraps are divided among the staff who have dogs, thereby providing the kitchen with all the food it requires, the gardens are able to supplement supply, thereby reducing food costs.

"Currently we provide the kitchen with a fair bit of produce every day in the form of spinach, celery, lettuce, beetroot, and many varieties of herbs, Chinese vegetables, and bits and pieces," she said.

"For instance, we have saved about $1,000 in 1997 in parsley alone, just by growing our own."

"This organically grown produce is usually used in the vegetarian choices. Veggies are picked in the afternoon and served that evening, so it is fresher and higher in food value. Fruit trees and vines have also been planted on site, and where weeds used to thrive along walls, parsley has been planted and grows in abundance."

Kitchen waste is not the only waste produced by a hall of residence. Newspapers and office paper, cardboard, and all sorts of packaging materials present their own problems, but the system at Campus East has been designed to minimise, re-use and recycle almost everything.

"Styrofoam boxes are either used in the greenhouse or returned to the supplier. Cardboard is baled on site and sent off to the recycler. Steel tins are repainted and re-used, or sent to Whytes Gully. Ice-cream tins are turned into bins or small worm farms. Aluminium is recycled, glass is recycled, plastic detergent drums return to the supplier, oil..."
drums are sent to the oil recycling centre, and plastic bags are re-used in the kitchen,” Ms Wilkes said.

Almost everything at Campus East is a target for re-use, including white goods which are repaired or broken down and sent to metal recyclers. Fridges can also be used as worm farms, carpet can be used on the gardens, old furniture is pulled down and re-assembled, while wire, clothes lines, fence posts, pavers, bricks and garden mulch have all been re-used. And beyond re-use, the kitchen has started to make things such as yoghurt on-site instead of buying it and working out what to do with the packaging. It is just one more way to reduce the amount of material which the college throws out.

Energy and water are also targeted as a source of waste. Australian Water Technologies, a research arm of Sydney Water, is engaged in a water audit at Campus East. Projected results indicate a 30 per cent decrease in water consumption with a payback over three years. Continued refurbishing at all four halls means that energy efficient shower roses/dual flush toilets are being installed and all light bulbs and fittings are being converted to low energy.

For the future, Ms Wilkes hopes to encourage the families that live at Campus East to grow their own produce. This will enable them to produce less packaging and recycle more, and hopefully they will then take these ideas back to their countries of origin.

Program Co-ordinator, Avalynne Wilby, says that now Campus East is fairly well settled into the routine, the program can extend to the other halls, including Gundi, Kooloobong, and Graduate House.

Ms Wilby says to start, this involves setting up recycling facilities for glass and paper in carefully planned positions at the Halls.

“People won’t walk far to recycle,” Ms Wilby says. “I need to be very careful where I put these bins, or else there will be problems.”

“Because we’re totally self-funding we don’t have the resources to remodel or refit the various units. We have to work within the limits of what we have.”

Ms Wilby says that such problems are just another challenge to overcome on the way to making the environment for students something they can be happy with.

“To the staff and students of our Halls the main thing is not the money, it’s the fact that we are doing something to address a problem. We have a simple system which seems to work and encourages all those participating because the results are immediately apparent to all involved.”

University signs agreement to reduce greenhouse gas emissions

In a bid to reduce spiralling energy costs and simultaneously reduce its greenhouse gas emissions, the University of Wollongong has signed a five-year Memorandum of Understanding with the Sustainable Energy Development Authority (SEDA) on 9 June.

SEDA is a NSW authority formed in 1996 with the specific mission to reduce the level of greenhouse gas emissions. The burning of fossil fuels releases carbon dioxide and other greenhouse gases into the atmosphere which, in large quantities, can increase the Earth’s average temperature and cause the global climate to change. Part of SEDA’s strategy is to encourage businesses to invest in energy efficiency.

The Director of Buildings and Grounds Division at the University of Wollongong, Mr Andrew Frowd, expects that through energy efficiency programs the University will reduce its running costs over the next two years between $200,000 and $300,000.

“At the same time, we will be doing something for the community at large by reducing greenhouse gas emissions,” Mr Frowd said.

For businesses which join the Energy Smart Business Program, SEDA provides technical assistance and advice from commercial energy service consultants.

The specific improvements to be undertaken are to be worked out in conjunction with SEDA and its recommended contractors, but are expected to include:

Installing digital controls on the airconditioning plant to introduce a range of measures to promote more efficient operation, use of more efficient light fittings with greater use of motion detectors to switch off lighting when not required, and various water saving improvements.

Speaking at the launch of the program in December last year, the Minister for Energy, Mr Bob Debus, said NSW was one of the least energy efficient states in the group of industrialised countries, known as the OECD.

Mr Debus said that with the implementation of the program, the potential savings from energy efficiency in the NSW business sector was at least $500 million and a reduction of five million tonnes of greenhouse gases every year.

“That is the equivalent to taking 800,000 cars off our roads permanently,” he said.
1. After 12 years co-ordinating the University's graduation ceremonies and 24 years at the University itself, the Academic Registrar, Mr Peter Wood, has decided to move on. He will be taking up a new post as Software Services general manager with Deakin University in Victoria.

2. When Nicole Gerrand was a sickly little girl in a Tasmanian home for crippled children, most observers would have written off her future. But adversity made a philosopher of her. Nicole was awarded her PhD in Philosophy at the 1 May Arts and Law graduation ceremony. Proudly watching on were Dr Joe Muntoff, the Philosophy Department at the University of Newcastle (the couple were married the day after she graduated) and Nicole’s teacher from St Giles School for Crippled Children, Shirley O’Byrne.

3. Dr Tu’ipulotu Katoanga is the first Tongan to graduate from an Australian university with a PhD in mathematics. He is pictured at the 27 April Informatics graduation ceremony with his wife, Atiola, and their two-year-old son, Winston.

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.)

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Alumni Office, University of Wollongong, NSW 2522. Orders by credit card may be faxed on (02) 4221 3233.
Enquiries may be made by telephone to the Alumni Office on (02) 4221 3169.
4. The leader of the Australian Chamber Orchestra, Richard Tognetti, received an honorary doctor of creative arts while his father, Dr Keith Tognetti, was admitted as a Fellow of the University of Wollongong on 27 April. Richard is the youngest recipient of an honorary doctorate from the University of Wollongong and, at the age of 32, is believed to be the youngest recipient ever to receive such an award in Australia. At the end of last year Richard was selected as one of the nation's 100 Living National Treasures. Keith has had a diversified academic career. He was one of the prime forces in the creation of the University's acclaimed physical landscape and he has played a key role in many community activities throughout the Wollongong region.

5. Dr Peter Ritchie received a Doctor of Education on 29 April at the Education graduation ceremony for his thesis which examined a specialised upper body exercise system for injury risk reduction in adolescent rugby league players. Dr Ritchie shared the big occasion with his mother, Una.

6. Stuart Gray, recipient of first class honours and the University Medal for his Bachelor of Engineering degree on 1 May. Stuart's medal win followed in the footsteps of his mother, Marlyn, and his sister, Natalie, who are also previous medal recipients. Natalie was a practising solicitor but is now studying medicine at the University of Sydney while Marlyn will soon be joining her son in their different PhD studies at the University of Wollongong.

7. Female engineering graduates have been outstandingly successful with the internationally renowned Ove Arup international consulting engineers. The successful graduates (from left) were Natalie Rosenbaum, Louise Unicomb, Lara Sossi, Caroline Raleigh and Allan Tran. Lara, Louise, Allan and Natalie were Cooperative Scholarship recipients.

In 1991, the Antarctic Treaty Nations signed a document which became known as the Madrid Protocol. This document banned mining and commercial activity on the continent for 50 years, and committed signatories to comprehensive protection of the Antarctic environment and associated ecosystems.

A major aim of the Madrid Protocol was to minimise the impact of any activity on and around Antarctica, and since the signing in Madrid, treaty nations such as Australia are obliged to look carefully at the impact their bases are having on this otherwise pristine environment.

Australia maintains four bases on the continent, and conducts year-round research under the auspices of the Antarctic National Research Expedition (ANARE). Concentrated as they are on the limited ice-free areas, the bases magnify the human population and human impacts so that the effects of people on the local environment may be substantial.

According to Dr Morris, human waste is "probably the most common pollutant resulting from the brief human involvement in Antarctica".

"This waste has commonly been discharged into the ocean or into glacial ice with little or no treatment," he said.

"But in these days of large base populations, the impact may be significant."

To conduct their research, Dr Morris and Joanne George, also from Civil, Mining and Environmental Engineering, departed aboard ship from Hobart in late November and headed south for the long trip across the Southern Ocean.

Casey Station is the eastern-most of Australia's four bases, and lies on the coast of Antarctica, southwest of Perth. During summer there may be as many as 60 to 70 people at the base, although, said Dr Morris, many are out in the field at any given time so the numbers fluctuate.

The waste produced by all these people, including everything that goes down the sinks, drains and toilets, is discharged into the water with only minimal treatment.

Dr Morris's job was to determine what happened to the plume of...
effluent after it entered the water, and then to
develop a numerical model to help predict the
dispersal and degradation of wastes at Casey and other
Australian bases.

The number crunching happens back in the lab at
Wollongong, but the measurement took place over
summer in the waters off Casey Station.

Data was collected by sampling water at various
depths from a small boat at a range of distances from
the outfall.

"We took a whole lot of samples over the month we
were in Casey," Dr Morris said.

"We then looked at each sample for two things —
nutrient levels and bacterial levels."

Nutrient levels, Dr Morris explained, are an indication
of the concentration of human waste at that point.
Bacterial levels are also useful in this regard, but the
presence of certain bacteria is telling for other reasons.

"Recently, somebody tested the nearby penguin
population and many of them came up positive to the
poultry virus that chickens get," Dr Morris said.

"One way these birds may have come into contact
with the poultry virus is for the virus to be washed off
frozen chicken during preparation in the kitchen, and
for that virus to go down the drain and into the
ocean."

Dr Morris was looking at bacterial levels in the water
to see what else may be entering the pristine Antarctic
environment via the sewerage system.

"Since the poultry virus finding, it seems that they may
be disinfecting the waste water a bit more thoroughly
than they have in the past," he said.

Many people dream of seeing the Antarctic just once
in their lives. Ric Morris has made many trips to the
continent, including one stretch overwintering at the
South Pole for 14 months. As a member of the US
Antarctic program for 10 years, Dr Morris has been to
many bases and field camps across the continent.

"It's a great place to do science because of the
extremes encountered there," Dr Morris explained.

"It has the cleanest air, the cleanest water found any­
where on the planet. This means that human effects
such as the destruction of the ozone layer, or the build
up of atmospheric carbon dioxide can be easily
measured," he said. But apart from the science, the
special environment of the Antarctic region offers
many other inducements to return.

"It's unique in that it is so pristine," said Dr Morris.
"It's hardly affected by humans at all and I guess I like
that."

"It is so vast, so awe-inspiring and desolate that it puts
you in your place, and gives you a real sense of
adventure."
It starts at the Antarctic Division Headquarters in Hobart. Expeditions meet to get kitted out and briefed. The Aurora Australis is Australia's link with the Antarctic in that it takes all our supplies and personnel down to Antarctica. (And brings them back too!)

We set sail just after 5pm on Sunday 30 November and sailed due south. On board we were kept busy with training, tying anchors on the helicopter deck at the back of the ship, practicing navigation techniques and learning knots. We also had a boat safety drill, letting off flares and fire extinguishers on the deck.

The ship entered the pack ice on Friday 6 December at 1400h local time and that evening we celebrated with a barbecue on the trawl deck. (See accompanying story)

On Monday Nigel, Mike, Cath and Sharon checked out the moss sites around the red shed and in the site of special scientific interest 16 (SSSI16). In the evening we went out for our first cross country ski and the wind got up to 50 knots while we were out. Luckily it was blowing back to station and we got blown home very fast!

On Tuesday Sharon and Cath went out field training with John Burgess the field training officer. We learned to walk across snow slopes safely, how to self arrest if you fall, safe sea ice travel and rescue methods, and finally abseiling and prussiking back up snow/ice slopes. In the evening there was a trip to one of the field huts (Jacks) to demonstrate how to use them properly. The drive over was eventful because the new Chief Expeditionary mechanic, Peter Sprunk, is an experienced Hagglund driver so we all got a taste of where you can take a Hagglund (pretty steep snow slopes) and how fast they really go.

Hagglunds are the main people movers at the Australian bases. They have caterpillar tracks and radar so that even in white out or the dark of Antarctic winter you can find your way back to the base.

On Thursday Cath and I set up the red shed site with help from Brendan the station carpenter. Brendan helped to secure the screens to rocks so that they will stay in place for the next year. We will need to check them to see how they cope with strong (50-100 knot) winds over the next few weeks.

The aim of my project is to see how Antarctic moss copes with variations in light levels, both changes in the UV and visible light. There has been a dramatic increase in springtime UV radiation levels over the Antarctic as a result of the hole in the ozone layer and we are hoping to find out what protective strategies the moss has to deal with this change.

We will analyse the moss to see how its surface properties change and extract the pigments which are responsible for absorbing the various wavelengths. We also look at the photosynthetic rate as an indicator of plant growth.

Friday night drinks are always held somewhere around station and this week we all went down to the old carpenters (chippies) workshop. Gerbil and Meredith the chefs provided the barbecue and the brew masters (the station home brew team) provided barrels of beer. The party lasted late into the evening.

On Saturday 14th there was more work in the lab for myself and Cath measuring the photosynthetic rates for the various samples from the red shed site. This took almost all day but was interrupted by Saturday duties (mass clean up of the station). Cath cleaned the wallow (the main relaxing/bar area) while Sharon went to pick up 44 gallon oil drums and wire from the SSSI16.

**WEEK 3**

The drive out to Robinson's Ridge (Robbos) was great, glorious weather and stunning views down to the Vanderford glacier. Robbos hut is a field hut built by expeditioners out of an old shipping container. It has a great veranda where you can sit and eat while listening to the nearby penguin colony on Odbert Island. As with all the huts, water comes from melted snow and all human waste and rubbish is taken back to the stations for incineration. The huts are used as research field sites and also to provide expeditioners with the chance for weekends away from station.

Inside it has 4 bunks, a gas stove, a sink, table and benches and is the only one of the Casey huts to have an en suite toilet. Luxury!

After lunch it was so warm we decided we had to have a swim so we jumped into the sea and mostly straight out again, having decided that -1.8 C was a little cold.

Saturday duties involved peeling enough potatoes for 60 people for a week. That took a few hours, meanwhile other people put up the Christmas decorations.

Cath and I started an experiment in the lab which ran from 8am Monday until 11o'clock that night, with the final samples collected on Tuesday. As part of our radiation screening experiment we are trying to see what mechanisms the moss have to deal with excess light. The experiments will help us distinguish...
between the various possibilities.

Spent Christmas Eve morning in SSSI 17 looking for moss samples. This SSSI is much bigger than the one at Casey and has large penguin colonies along its seaward side plus valleys of moss and an extensive lichen community. Unfortunately the weather was getting a bit doubtful so we had to head back to Casey early to avoid being marooned at Wilkes for Christmas.

Christmas Day was a windy snowy day at Casey, festivities started at 11am with a late breakfast and then we all waited for Santa to arrive. The weather was too cold and windy for the traditional Christmas day swim.

Dinner was a scrumptious feast cooked by Gerbil and Meredith with seafood, the traditional turkey and ham for the main course, and of course Christmas pudding. There was also a selection of wines which had been hidden away for Christmas because the station has almost run out of alcohol and there isn’t any more until the boat gets back (except for home-brew of course).

NEW YEAR’S DAY 1988

We worked solidly until 4pm when we were able to stop for some food and a few hours rest. Most of the station missed the good weather, sleeping off the party. In the afternoon a small group managed to get organised and the summer swim finally happened.

In the evening the first iceberg cruise went out. Trips in the station boats to visit the closest icebergs are a real treat. They happen on fine days with hopefully beautiful sunsets and this was a lovely evening.

Sunday was a suitably restful day looking at the moss around Robbos and eating and chatting. That all changed when we went over to Wilkes to pick up a skidoo that had broken down. We managed to sink the Tray Hagg into two different melt streams, one on the way in and another on the way home. Melt streams have to be crossed somewhere. You aim for the highest point upstream, often with rocks to ensure some grip but it’s not always possible. In both cases we pulled them out using the winch on the front attached to deadmen anchors in the ice. The trip took 6.5 hours instead of one but we got a lot of experience in Haggland rescue techniques! Got to bed at 2:30 am.

GOODBYE

The Aurora Australis arrived at about 7 am on Wednesday with six new Casey winterers on board. The boat moored in the middle of the bay and refuelling started almost immediately.

The fuel is pumped through tubes which float on the surface of the water and then along the ground to the fuel farm (big fuel containers) at the wharf. While refuelling is taking place all these fuel farms have to be monitored 24 hours a day and the fuel line has to be patrolled to ensure that small icebergs (growlers) don’t run into it.

Meanwhile all this was taking place at the wharf and around station, Cath and I went to the SSSI 17 Clark for our last samples. The trip to the SSSI was eventful. We followed the moraine so that we could cross the melt streams at the highest points where they are relatively shallow. Getting vehicles bogged during resupply is not a good idea because all of the deisos and the vehicles are too busy for rescue attempts.

Once we got level with the area we wanted to visit we drove down off the moraine and found that there were a couple of crevasses (slots) blocking our path. Time to park the skidoos on safe snow and rope up to cross the slots. It made a fairly ordinary trip into something quite exciting and gave us a chance to revise our field skills one last time.

There are some large melt streams running through this SSSI and we saw a lot of examples of moss dispersal via water. The moss in Antarctica does not have a long enough growing season for sexual reproduction to occur so colonisation of new sites can only occur if small fragments of moss are dislodged and blown or carried on water to new areas.

On Friday we finished our experiment and packed all the equipment away. Then we packed our clothes and personal gear. In the evening there were drinks in the mess building and then a last night party in the red shed.

As predicted the weather was bad on changeover day which was Saturday 10th. The morning was windy, gusts up to 50 knots which is not what you want when you are trying to load people onto the ship via a rope ladder.

The changeover ceremony started about 12 am with speeches from the Assistant Director of the Division, and the outgoing station leader, with medals to all the wintering expeditioners, in this case, Bruce the deiso. Then the old station leader handed the key to Casey Station over to the new Station leader.

Finally we were ready to leave and Casey Station put on a show firing off flares and red smoke as we started to steam away.

Sunday dawned bright and sunny. We got out of the pack ice early in the morning but all through the night we could hear the sound of ice crunching against the side of the ship.

One of the things that changes as you go north is that nights start to get dark again, the second night was dark for a few hours and from then on the nights got progressively longer.

We awoke at 5am Thursday morning (22nd Jan) to find we were already in the Derwent River with Hobart up ahead. The strong smell of Eucalyptus oil is amazing after months in Antarctica.

Well that is the end of another great adventure. I am heading back to Wollongong to start preparing for next semester’s teaching at the Uni. It was a very successful summer and we achieved a lot in a short space of time, in the next few months we will be writing our results up for publication.
Ringing in the Changes

This year has been a year of transformation for the Alumni Association, starting with the election of a new board at the AGM.

Bob Frizell is the new Association President, having had a long involvement with the University, since graduating with a BComm in 1975.

Bob also has a BSc from UNSW, and has attended innumerable courses throughout his professional career.

Since 1968 Bob has been a company man with BHP and is now Manager of Springhill Works.

With his wife Peggy, Bob has three children, Michael, Greg and Lucinda.

Another change at the top for the Alumni Association is the arrival of Ms Lea Sublett in the position of Executive Officer of the Alumni.

Lea comes to us from the University of Southern Queensland and has a well-developed vision of where the Alumni fits into the broader campus community.

Race warning for all Australians

The year 1998 could be an important one for Australia, particularly if we have a Federal Election in which race becomes a major issue.

This was the message presented by Angela Chan in her speech at the Alumni AGM dinner, on 14 March.

Ms Chan, immediate Past Chairman of the Ethnic Communities Council of NSW, said in her address that tolerance will be required in order to avoid serious social repercussions.

"The only way to avoid pernicious divisions and long-term harm to the Australian community is to mobilise all the forces of tolerance, justice and understanding to make the potential damage to Australia's social condition understood," she said.

Entitled Multiculturalism, Aboriginal Reconciliation and Combating Racism, Ms Chan's speech reflected her experiences with the Ethnic Communities Council. It also drew on her knowledge of the law, gained since becoming the first Australian of Chinese background to be admitted to the Bar.

Born in Sydney, Angela Chan has been involved in business, the law, and migrant programmes for many years. Ms Chan was Honorary Secretary of the Australia-China Chamber of Commerce and Industry from 1990-1995, was past State President of the Migration Institute of Australia (MIA), and a member of the National Executive of the MIA from 1993 to 1995.

According to Ms Chan, this year could be a make or break one for the nation. Reconciliation is "obviously a priority to heal old wounds and to set the agenda for the new century".

"To combat racism, long-term strategies are necessary particularly in the educational areas, not only at schools, colleges and universities, but in the community generally," she said.

"The present Federal government came to power with the promise of making $10 million available to promote community harmony. As we go into the final period of this government, no money has been distributed on projects."

"This surely is the time for action."

A graduate of the University of Wollongong in 1979 with a Bachelor of Arts majoring in Italian language and South-East Asian history, Ms Chan has recently been appointed as the national anti-racism convener for the Federation of Ethnic Communities Councils of Australia.

Her long experience in the field of race relations gives her a unique viewpoint from which to judge the state of multicultural affairs across the country.

According to Ms Chan, multiculturalism in Australia has been under attack from various quarters despite its success in 25 years as a policy of promoting a "fair go" for all Australians.

"Without policies promoting multiculturalism, Australia will retreat to a divided past," Ms Chan said.

"A litmus test for all political parties at the next election is to divert preferences away from any party which attempts to divide Australia on racist grounds."
Meet the new President

I took a moment to meet Bob Frizell, and ask him a few questions...

What is your connection to the University of Wollongong?

I started as a BHP Trainee, doing Metallurgy part time at the University in 1968. I graduated in 1973.

What do you hope to achieve as Alumni President?

I feel very positive about the opportunities for the Alumni to lift its support for members and other graduates, by way of providing more benefits.

What do you think is in it for the Graduates?

I hope the graduates will feel that their degree is only the start of the benefits they gain from time at the University of Wollongong. The connections they make and maintain as Alumni of the University of Wollongong will serve them throughout their life.

What do you think students get out of this institution?

The University of Wollongong has grown to be a prestigious educational body. But its more than that. It’s the start of a career, the change to a new career, the opportunity to learn and test new ideas. It’s an opportunity to participate in a diverse society, and it’s a chance to enjoy Wollongong. What more could you want?

• Stuart Waters

OBITUARY

Bev Lawson
1940-1998

Associate Diploma in Administration 1988
Fellow of the University 1997

Bev Lawson devoted her time to a demanding career in the NSW Police Service before resuming her studies to complete an Associate Diploma in Administration at the University of Wollongong in 1988.

Having worked for eight years with BHP Steel, Port Kembla, Bev Lawson joined the Police Force in 1964. After six years in the training ground of general duties and traffic, she was appointed to the position of Detective Constable in the Criminal Investigations Branch in Wollongong.

At a time when women in traditional male professions were still a novelty, Bev Lawson became the first female licensing Sergeant in New South Wales. She was promoted to Senior Sergeant in 1987, and then to the rank of Inspector and Patrol Commander at Engadine, again a first for women in a command position. In 1988 she became Patrol Commander of Wollongong and achieved the rank of Superintendent in 1990.

In 1996 she reached a pinnacle in her extraordinary career when she became the highest ranking woman in the New South Wales Police Service and the first female Deputy Commissioner.

In May 1997 the University of Wollongong recognised her achievements by admitting her as a Fellow of the University.

The management of the University of Wollongong benefited from a long association with Bev Lawson. Deputy Commissioner Lawson was a member of the University's Governing Council for over three years. She served on the liaison committee between the police and the campus, and was the chair of the Management Advisory Committee at Campus East.

Bev Lawson also played a crucial role in forging an important link between the University and the police force by assisting with the development of the University's educational programs with the Goulburn Police Academy.

Bev Lawson was a remarkable role model for all those who aspire to public office. She demonstrated courage, a strong code of community service and a true belief in the value of education. The staff and students of the University of Wollongong are proud to have counted her as one of their own.

Campus Chapter

The Bookshop at Campus East continues to do a steady trade and donations are continuing to arrive which helps with regular restocking of the shelves.

Nominations for the $300 book prizes for honours students have been received from all faculties except Arts, and some presentations have already been made.

Recipients this year are:

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<tr>
<th>Commerce</th>
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<td>Creative Arts</td>
<td>William Pitt</td>
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<td>Law</td>
<td>Alison Gooley</td>
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<td>Engineering</td>
<td>Mark Hughes</td>
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<td>Health and Behavioural Sciences</td>
<td>Toby Thomas</td>
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<td>Education</td>
<td>Amy McKinnon</td>
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<td>Science</td>
<td>Vanessa MacFarlane</td>
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<td>Informatics</td>
<td>Daniel Pavlik</td>
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The students have been invited to provide short presentations of their projects to future meetings of the Campus Chapter.

A letter has been received from the Vice-Chancellor advising us that the Bookshop is to be included in the Campus Plan so that if the current site is subsumed in future development at Campus East a replacement site will be found.

Outlook 19

Commerce Awards Night

Commerce Graduates Fabio Tosti and Deborah Napper receive their awards at the Commerce Faculty Dean’s Award Night, on 23 April.

Fabio won the Sir Richard Kirby Prize and Deborah topped the Dean’s Merit list.

Both winners received free membership to the Commerce Chapter of the Alumni.
Education Chapter Report

At the beginning of the year the new Executive of the Chapter reviewed its purpose, directions and future vision with the aim of:

Extending its visibility with education faculty members and future Alumni,
Strengthening the involvement of members at the Chapter organising level, providing activities to encourage participation of eligible and current members, promoting the concept of ongoing involvement in the University after graduation.

The Chapter will plan opportunities to achieve these goals through the conducting and promotion of:

The Chapter Prize to assist with research — $500 to a BEd. Hons. student, seminars, discussions and feedback sessions, fostering potential membership at the core organising level, social activity.

Calendar of Events 1998

This year we are placing an emphasis on increasing the number of eligible alumni in the committee work of the Chapter. As well as our special functions we are encouraging members to attend ordinary meetings as guests. If, after socialising and meeting the committee, you are inclined to stay for the commencement of business you are welcome to sit in on the meeting.

March 14 Annual General Meeting
March 31 Committee meeting
April 20 Sub-committee meeting
April 28 Committee meeting
May 13 Alumni Prize Selection
May 26 Committee meeting
June 23 Address by 1997 prize recipient and presentation of the 1998 prize.

August 4 Committee meeting, Faculty of Ed. Staff room. Guests welcome.
August 25 Committee meeting, Faculty of Ed. Staff room. Guests welcome.
September 8 Chapter forum. Alumni and Education Faculty members welcome. Unicentre Function Room 4:15.
November 3 Committee meeting, Faculty of Ed. Staff room. Guests welcome.
December 8 Christmas Function 1998 Education Graduates, Alumni and Faculty members welcome. Unicentre Function Room 4:15.

Engineering Chapter

The Engineering Chapter of the Alumni will hold its annual dinner on 4 September at the Wollongong Art Gallery to coincide with the Chapter's AGM. For further details call the Alumni Office.

A subcommittee from the Illawarra groups of the Institution of Engineers has, with the Wollongong City Gallery, organised an exhibition of the drawings of Renaissance intellect, Leonardo da Vinci, entitled Models of Genius.

The exhibition will run from Sunday, 26 July to 13 September. All are welcome to attend the opening.

International Alumni

The Alumni Executive Officer is keen to assist international graduates of the University of Wollongong in establishing chapters. Please contact Lea Sublett via email: lea_sublett@uow.edu.au, or telephone on 61 2 4221 3169.
An educated life

Dr Owen Davies is, first and foremost, a teacher.

Throughout his distinguished career which took him from the classroom to the Principal's office to the senior bureaucracy, he has remained committed to quality education.

No stranger to this campus, having both studied and taught at the University of Wollongong, he is a past co-ordinator of the joint Masters degree in Education, a program run by the University and the Department of Employment, Education and Training.

Dr Davies is a member of the Education Chapter of the Alumni, having completed his Master of Studies in education in 1981, and his Masters of Education Honours in 1983. After three years of study towards his PhD he moved to the United States as the recipient of the Chancellor's Fellowship, an international award issued by the University of Nebraska, where he completed his doctorate in educational administration.

On his return to Australia, Owen resumed his career as a Cluster Director of Schools in the Bulli area with the NSW Department of School Education.

Now a senior bureaucrat with the Department of Employment, Education and Training, Owen has recently had responsibility for the development of NSW Higher School Certificate Online, a joint project between the Department of Employment, Education and Training and Charles Sturt University.

In a career filled with high points, Dr Davies nominates his time at Fairy Meadow Demonstration School as a major highlight. At a time in the 1970s when such things were radical, he proved Glasser's theory that we learn 95% of what we teach others. Structuring a program that enabled slow-reading 12-year-olds to teach reading to seven-year-olds, he was able to give these struggling students their first taste of literacy success.

These experiences in the classroom led to his involvement in the Reading K to 12 syllabus and the early literacy and evaluation programs of the late 1980s. Now Dr Davies embarks on the new area of evaluating Log on to Literacy. While the protocols for evaluation of this medium are still being developed, Owen is excited about the enormous potential of the internet to empower children to learn.

We hope Owen keeps his fellow Chapter members informed of his progress.

• Lenore Armour

Dr Andrea Bollino

MCom 1991

Born and educated in Italy, Andrea had been working in the manufacturing automation field for six years when he decided to broaden his professional skills and move into management.

But where to get the necessary qualifications?

A scholarship from the Australian government allowed him to come to Wollongong, where he completed his Masters of Commerce in 1991.

After gaining his MCom he returned to Italy and has been working as a senior consultant for leading Italian industrial and service companies.

He is currently living in Milan and has continued his training, which included three months at the Harvard Business School.

Andrea says his decision to study in Wollongong was a good one.

"Being a student at Wollongong was a great experience, not only for me but also for my family," he said.

"Grazia, my wife, taught Italian at the Faculty of Languages and at the Italian Social Welfare Association. Meanwhile, our daughter started kindergarten here."

Andrea would like to say "ciao" to all the friends he made while in Australia. Anyone wishing to know about Italy or the Italian market can contact him via the Alumni office.

Kerry Dent

BArts 1985 DipEd 1986

I attended the University of Wollongong from 1982 to 1986, during which time I was fortunate enough to be awarded the YMCA Gus Parish Scholarship, and the Illawara Credit Union Employment Scholarship.

After graduating I taught secondary school for a number of years before returning to studies and establishing my own business.

I have had two educational books published and am at present working on a third. I also contribute weekly to international magazines.

I am currently involved in research into the impact of human activity on tidal wetlands, having bas ed my Masters of Science degree, obtained in 1995, in this field. I also intend to pursue a PhD in the field in the near future.

Another of my interests is poetry, and I have just been published in the International Library of Poetry's Anthology, The Liquid Mirror. My poem, 'Oh Sweet Little Birds' was awarded the editor's prize.

It is my interest in wetlands, and nature in general, which inspires my poetry. I get a great deal of joy from nature, but at the same time, am constantly saddened by the gross disrespect and abuse that some willfully show the environment.

It is through my work that I hope to foster a greater understanding and respect for our natural world.

I have the fondest memories of my time at the University of Wollongong, and sincerely believe it was instrumental in preparing me for my success.

Best Wishes,
Kerry Dent.
Afshad says he isn’t really sure how the entry in Who’s Who came about, but that they must have come across his name somewhere.

“I don’t know how they chose me. I just got a letter from Who’s Who that they had selected me because of my unusual achievements in science and technology,” Dr Talaie said.

“I believe I gained their attention through my published papers.”

Describing himself as “a very hard-working scholar”, Afshad has indeed achieved some unusual things in his short scientific career.

His PhD was completed in 2 years and 8 months — well short of the three to three-and-a-half years it commonly takes. And during this time Afshad published a remarkable 22 papers.

But even before he started on his thesis, Dr Talaie was singled out by the University and the government which together awarded him $30,000 a year in scholarships to complete his PhD.

When Afshad left Iran in the early nineties, he possessed qualifications from Amir Kabir University, Tehran, an institution he describes as “one of the top engineering universities in Iran”. With a Bachelors and Masters degree from here, Afshad says he could have gone almost anywhere in the world to continue his studies, but came to Wollongong because “it is a peaceful place to study, it offered good scholarships, and has a great Head of Chemistry in Professor Bremner”.

While studying at Wollongong, Dr Talaie worked with Professors John Bremner and Gordon Wallace from the Intelligent Polymer Research Institute, investigating conducting polymer sensors.

Professor Bremner describes Afshad’s work as a student as “a range of interesting initiatives in the important materials science area”.

“He was a very active researcher with a lot of drive and determination. He always had a strong international focus.”

Afshad’s remarkable career has continued since leaving Wollongong, from where he went to the University of Sydney for another Masters degree. But at the beginning of 1997 he was selected for a fellowship by the Australian Academy of Science to go to the Osaka National Research Institute in Japan. Afshad says this is one of that nation’s biggest research institutes.

During his time in Japan Dr Talaie has created a triangular collaboration between Japan, Sydney, and the USA, and frequently travels between all three. He was also invited to speak at 10 conferences last year, and has so far received 10 invitations for 1998 from the USA, Korea, Japan, Europe, India and Australia.

According to Afshad, his world-wide recognition began while he was at Wollongong, after publishing work he did for his Doctorate.


Having gained all this experience, Dr Talaie is now working in an area which combines intelligent polymer technology and artificial intelligence to produce the next generation of sensors.

“My research will lead to new computerised devices which are able to detect different chemical species simultaneously,” he said.

“Sensitivity, selectivity, ease of production and low manufacturing costs are the main advantages of this technology.”

When asked if the University of Wollongong was, in hindsight, a good place to do his Masters and Doctorate, Afshad says “Sure it was! Although I’m a very hard-working scholar, without Professor Bremner’s support and the facilities here I would not be the same person I am now.”

“I would also like to express my great appreciation to all the staff at the Recreation and Sports Centre”, says Afshad, who played soccer for the University during his time here.

And as if we might still have cause to doubt his remarkable talents, he adds “I was a professional player in Iran.”

The Who’s Who in America list now contains at least one graduate from the University of Wollongong, after Dr Afshad Talaie was included in the prestigious publication for 1998.

Afshad, who was born and raised in Tehran, Iran, graduated from the University of Wollongong in May 1995 with a PhD in conducting polymers. This degree followed a Bachelor of Engineering, and a Master of Engineering gained in Iran, and a Master of Science in Information Technology from Wollongong. Since leaving Wollongong he has also obtained a Masters in Artificial Intelligence and Chemical Sensors from the University of Sydney.
UNIVERSITY OF WOLLONGONG
ALUMNI ASSOCIATION INC.
Invites you to stay in touch

APPLICATION FOR FINANCIAL MEMBERSHIP OF THE
UNIVERSITY OF WOLLONGONG
ALUMNI ASSOCIATION INC.

Who are the alumni?
The alumni are comprised of three main groups:

- Graduates and diplomates of the University of Wollongong and its antecedent institutions (ie Wollongong University College, Wollongong Teachers' College and Wollongong Institute of Education)
- Former staff of the University and its antecedent institutions
- University of Wollongong Study Abroad and Exchange Students

Current students and staff of the University are also welcome to join the Alumni Association as Associate Members.

What is the Alumni Association?
The Alumni Association offers excellent professional and other networking opportunities, as well as a way to stay in touch with old friends. It also enables you to remain involved with your University. The Alumni Office organises reunions and assists in the formation of alumni chapter groups. The alumni magazine, the 'Outlook', is mailed twice a year to all alumni free of charge.

University memorabilia may be purchased from the Alumni Office (see overleaf).

Remember, as the University's reputation grows both in Australia and overseas, the value of your own qualification also increases.

How can I join and why should I want to?
As a graduate or former staff member of the University you are automatically a member of the Association and, provided you tell us whenever you change your address, you should receive the 'Outlook' twice a year free of charge.

An optional membership category - Financial Membership - entitles you to voting rights within the Association and enables you to participate in the chapter groups. As a Financial Member you will also be eligible to benefit from a range of special rates which have been negotiated on your behalf. These include:

- Internet access at low rates (available in all capital cities and most metropolitan areas in Australia, but you must visit the IT Shop on campus to register initially)
- Access to computer training courses on campus at low rates
- Competitive pricing on computer equipment purchased through the IT Shop on campus
- Competitive travel rates through Muirhead (STA) 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

What does it cost to become a Financial Member?
Subscription rates are $25 per annum or $95 for a five-year period. You may choose to join the umbrella Alumni Association or to be a member of one of the chapters which are mostly faculty or regional based (see form on this page). Just complete the form and return it, with your payment or credit card details, to the Alumni Office at the University.

Alumni Office, University of Wollongong
NSW 2522 Australia
Tel: (02) 4221 3169 or 4221 3249;
Fax: (02) 4221 3233
International: 61+ the number
Email: alumni@uow.edu.au

APPLICATION FOR FINANCIAL MEMBERSHIP OF THE
UNIVERSITY OF WOLLONGONG
ALUMNI ASSOCIATION INC.

Surname: .................................................................
Title (Mr, Ms, Dr, etc): .............................................
Given name(s): ..........................................................
Gender: M or F? ......................................................
Full name at graduation (if different from above): ....
Current mailing address: .........................................
Postcode: ...............................................................
Country (if outside Australia): ...............................
Telephone: ( ) ......................................................
Email: .................................................................
Date of birth: .........................................................
Degree(s) awarded: ................................................
Date course(s) completed: ......................................
Graduation date(s): ................................................
Current occupation: ............................................... 
Job title: ..............................................................
Employer's name and address: ..............................
Postcode: ............................................................... 
Telephone: ( ) Facsimile: ( )

CHAPTER GROUPS
Please indicate below which chapter you wish to join.
These are currently Commerce, Engineering, Education, Campus Chapter, Shoalhaven and Science, or if you would be interested in others as they form:

My cheque (or postal money order) payable to the University of Wollongong Alumni Association Inc is enclosed:

- $25.00 annual membership (valid to 31 December 1997) OR
- $95.00 for five years' membership (valid to 31 December 2001)

Alternatively, please charge this amount to my:

- Bankcard
- MasterCard
- Visa (delete as applicable)

Name on card ..........................................................
Card No: .............................................................
Expiry date: .........................................................
Signature .............................................................
Date: .................................................................

NB: Former staff wishing to join the Association as Financial Members may use this form and are asked to supply additional information as follows: dates of employment, departments/units in which employed and job title(s).

ALUMNI RESPONSE FORM
Tell us where you are and what you've been doing since leaving the University - and please send a good photo too.

Just complete your name and address, as well as your degree and other details on the form on this page, and outline your news below

Signed .......................... Date: _________________________

I am happy for you to publish these details in a future issue of the 'Outlook' magazine.

Signed .......................... Date: _________________________

(please use extra paper as necessary)

Alumni Office, University of Wollongong
NSW 2522 Australia
Tel: (02) 4221 3169 or 4221 3249;
Fax: (02) 4221 3233
International: 61+ the number
Email: alumni@uow.edu.au
**UNIVERSITY OF WOLLONGONG MEMORABILIA ORDER FORM**

The following items may be ordered by completing the form below and returning it with your cheque or postal money order to:

Alumni Office, University of Wollongong  
NSW 2522 AUSTRALIA  
Tel: (02) 4221 3249 or 4221 3169; Fax: (02) 4221 3233

Note: There are two prices associated with each item. Mail order prices are shown on the right, but you can also buy and collect items direct from the Alumni Office which is located on the ground floor of the Administration Building, behind the International Office. For any items over $15.00 to be sent overseas, please add $5.00 for postage.

<table>
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<tr>
<th>Item</th>
<th>Direct Price AS</th>
<th>Mail Price AS</th>
<th>Quantity requested</th>
<th>Cost AS</th>
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<td>Post-it note pad holder*</td>
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<td>Car Badge</td>
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<tr>
<td>Key Ring (brown or blue leather / brass)*</td>
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<td>University Crest Sticker</td>
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* Delete as appropriate  
* Handcrafted in Australian timber and gift boxed  
* Full name of Degree/Diploma (for correct academic dress): .....

My cheque (or postal money order) for $................. payable to the 'University of Wollongong' is enclosed,  
OR please charge this amount to my: Bankcard / MasterCard / Visa  
(Delete as applicable)

Card Number: ____________________________

Name on card: __________________________

Expiry date:   /   Signed:   Date:   

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Name on card: __________________________

Expiry date:   /   Signed:   Date:   

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