Winter Issue 1999

Harvesting the first rays of the new millennium — page 7

Latest graduation photos — pages 14 and 15

Cover shot: Smartening up on the food we eat — see page 5
Welcome to the Winter 1999 edition of Outlook magazine. From now on, Outlook will come out in June and January - winter and summer - so any contributions should be made with this timetable in mind.

The end of the century used to sound so far away, but here it is, on us almost before we noticed. The new millennium promises its share of technological innovation, much of which will come from the University of Wollongong.

In this issue we report on a number of exciting developments, including the progress being made in the world-class Institute for Superconducting and Electronic Materials, technologies being developed by the Illawarra Technology Corporation, a radical solar power project for the dawn of 2000, and a host of other projects which may change the way we live.

The story on the University's success at winning grants proves the strength of our research. An excellent track record in research bolsters the stocks of the University around the world to the advantage of every graduate.

The Executive Officer has had the opportunity of meeting graduates at alumni receptions in Thailand, Taiwan, China, Hong Kong, Melbourne and Wollongong. Vice-Chancellor, Professor Gerard Sutton, hosted an alumni dinner in Taiwan in March and also met with graduates in Hong Kong and Shanghai. The Alumni Pages of Outlook feature further information and social snaps from these events.

We encourage you to keep in touch with the University of Wollongong through its Alumni Association, and hope you take the opportunity to participate in our graduate programs nationally and internationally.

Our very best wishes,

Bob Frizell,
President,
University of Wollongong Alumni Association

Lea Sublett,
Executive Officer,
University of Wollongong Alumni Association

Wollongong University College, the first private college established by any Australian university, continues to offer an alternative route to university studies. It has shown UOW to be a leader in educational services.

In this edition I have tried to provide something of relevance to all Alumni, whether they are Chapter members or not. As always, your contributions are welcome and allow us all to stay in touch with our fellow graduates.

Stuart Waters
Editor

The University of Wollongong Alumni Association exists to:

- Provide you with networking, social, mentoring and professional development opportunities locally, nationally and internationally
- Assist you in forming chapters and organising events and reunions
- Provide you with information on the University of Wollongong's postgraduate opportunities
- Keep you informed about the growth of the University of Wollongong

The University of Wollongong Alumni Association
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University of Wollongong
New surgical probe offers major boon for cancer patients

Cancer patients facing radical surgery will benefit from a new technology which helps distinguish breast cancer and melanoma cells from healthy tissue.

The Medical Radiation Physics Group (MRPG) within the University of Wollongong's Faculty of Engineering, has collaborated on the project with a private organisation, the Gammasonics Institute for Medical Research, to develop a new generation of surgical probe.

Surgeons will use the probe after first administering a radioactive compound which finds and labels a patient's lymphatic cancer cells. The probe finds these labelled cells, allowing accurate removal of cancerous tissue only, leaving healthy tissue in place.

The first generation of this probe technology was developed over the past three years and manufactured by Gammasonics, and now a new probe is on clinical trial for different cancer modalities at the Royal Adelaide, Princess Alexandria, Royal Brisbane, Strathfield, Wesley and John Hunter hospitals. After four months of trials, the probe has demonstrated excellent technical performance.

Gammasonics is a Sydney-based, Australian-owned organisation with a long history of collaboration with the MRPG on research and development of new radiation detector technology and teaching support.

The MRPG has been working successfully on medical radiation detectors for five years and has a strong record of international collaboration and recognition.

Gammasonics awarded scholarships to MRPG Masters students Peter Mackowiak and Armia Moussa as part of a joint effort to develop new instrumentation and foster the sort of skills among MRPG students which are required by the medical community.

Associate Professor Anatoly Rosenfeld, of the MRPG, said the development of this technology would put Australia at the cutting edge of high technology in medicine.

"The collaboration of the University, hospitals and private industry will help Australia take its place with the world leaders in the field," said Professor Rosenfeld.

International interest is high and Dr Carl Munoz-Ferrada, the managing director of Gammasonics, and Professor Rosenfeld have taken their technology to Italy, Lebanon, Malaysia, New Zealand and the Philippines to demonstrate its potential.
Smart food is a smart move for UOW

Say goodbye to the faithful burnt chop and two boiled veg. While they served us well for generations, we don't need modern science to tell us there is more we can do to get a meal.

In March, well-fed representatives of academia and industry were present at the opening of the University's new Smart Foods Centre, one of only eight new Key Centres in the Australian Research Council grant program of 1999.

Bringing delicious healthy food to Australian tables is the goal of the Smart Foods Centre, and a diverse team is involved, including biochemists, nutritionists, physiologists, psychologists, animal and agricultural scientists and plant biologists. Starting at the bottom of the food chain, the teams will work their way up, in partnership with the agriculture industry, to improve the production, nutrition, and harvesting of major foods.

For example, the Centre will work closely with the pig and poultry industries to introduce novel sources of nutrients for the enrichment of meat and eggs.

"There is a pressing need for the food industry to increase its knowledge of, and capabilities in, nutritional research to fully exploit the potential health benefits of its products," according to head of the centre and Professor of Biomedical Science, Peter Howe.

Working with Professor Howe are the Centre's associate directors Professor Len Storlien, Associate Professor Peter McLennan, and Associate Professor Linda Tapsell.

Heading the Centre's teaching program, Professor Tapsell will introduce new developments in nutrition education including nutrition management courses for food industry executives.

So scrape that cold bangers and mash off your plate, and let the Smart Foods Centre bring a little science to your table.

Note: The inaugural Smart Foods Forum will be held at UOW on 12 July. For registration phone (02) 4221 4332.
Kirsten's dual achievements: discovering an antibiotic & conserving a species

From fashion savvy ancient Romans, to the poetry of Browning and the sex life of shellfish, a casual conversation with Kirsten Benkendorff can go anywhere.

The young scientist quotes Browning with aplomb and good reason.

When Browning wrote: “for who has not heard how Tynan shells enclose the blue? That dye of dyes whereof one drop works miracles and coloured like Astarte’s eyes raw silk the merchant sells...” he was referring to a mollusc Kirsten has come to know better than most.

Diacathais orbita, or Dog Whelk, is found along the Illawarra coast. It was also valued in the Roman empire as a source of deep blue or purple dye, still known today as Tyrian purple.

Kirsten Benkendorff had two goals when she began her PhD: to discover an antibiotic and help conserve a species. In three years she has achieved both.

Kirsten’s innovative study of marine molluscs has not gone unnoticed. Her PhD supervisors Dr Andy Davis and Professor John Bremner nominated her as a Young Australian of the Year and she was named runner up of three NSW finalists in the Science and Technology division. Kirsten, 25, says she is “a conservationist above anything else”, using “bio-prospecting”, the search for pharmaceuticals in natural organisms, to promote preservation. Kirsten believes if she can identify antibiotics in an organism she can encourage its preservation.

Kirsten found antimicrobial compounds (antibiotics), more potent than penicillin and harmless to human cells, in the egg masses of marine molluscs along the Illawarra coast.

A potential new antibiotic is significant, given evolving resistance to commonly-used antibiotics. “From the research I’ve done I can say marine molluscs are a valuable source of antimicrobials,” Kirsten said.

“They have potential use for humans and I think this provides an incentive for conserving marine molluscs.” Dr Davis, who co-supervised Kirsten’s PhD research with Professor John Bremner, said her work was impressive.

She had found 154 mollusc species, more than triple the number previously recorded in the region. “It is impressive for a student with almost no background in invertebrate zoology,” Dr Davis said. “The compound Kirsten has isolated - Tyridvin - exhibits extremely potent antimicrobial activity.

“Even more exciting is that its structure is quite different to any antimicrobial in current use. “In short, this compound, or structural analogs of it, has enormous potential!”

However, as with all drugs, there will be five to 10 years of clinical trials and tests on humans before a >
product reaches the market.

Kirsten will watch developments from a distance as her search for new antibiotics continues.

"Now I'd like to look at another group of organisms and see if I can do the same for them, and say these species are chemically valuable and we should be protecting them as well," Kirsten said.

Her attitude is still uncommon in the natural-products industry.

She recently presented a paper on bio-prospecting to the NSW Natural Products Group, and many people admitted over-collecting species and saw the need for sensible prevention.

"I think the attitude is changing, definitely with a lot of the younger natural-products chemists and I hope that I can have an influence on the industry," Kirsten said.

As a PhD student, Kirsten has communicated to the community and the media on numerous occasions and prepared submissions on government policy.

This project was Kirsten's first on marine molluscs and she now has "more knowledge of the marine molluscs on the Illawarra coast than anyone else, which is fantastic for three years of work".

"I think I've been so successful with this project because I'm passionate about it.

"I'm really fascinated by what I'm researching . . . . nature is such a wonderful source of inspiration, there's a million things out there just waiting to be discovered," she said.

Robyn Ball
Robyn Ball is a student in the Postgraduate School of Journalism.

Solar energy powers into the new millennium

In the early hours of the new millennium scientists from the University of Wollongong and New Zealand's Massey University will be participating in an event which is set to capture the imagination of a global audience.

Literally at the dawn of 2000, the two universities will be harvesting and storing the first rays of solar energy in New Zealand as part of The Millennium Solar Project (MSP). The collection of the first rays of sunshine will be beamed by satellite around the world, as governments and consumers heed the growing importance of solar energy and its applications.

Professor Gordon Wallace, director of UOW's Intelligent Polymer Research Institute, said solar energy was coming of age, after years of painstaking research. It had been boosted by advanced chemistry and emerging technologies, such as conducting polymers.

He said the MSP was recognition of solar energy's global significance.

"A group of internationally renowned scientists have agreed to collaborate on this historic solar research and development project," Professor Wallace said.

An outline of the MSP's plans was conducted at the University of Wollongong on 25 January.

Swiss researcher, Professor Michael Gratzel, who developed the Gratzel solar cell, the first of its kind in the world, contributed to proceedings via a telephone hook-up from Europe.

Technology developed during the MSP will be used to make solar power accessible and affordable for everyone. This will be especially good news for developing countries where the environmentally unfriendly energy sources such as fossil fuels can be bypassed in favour of clean, green solar energy.

This compares to current solar technology where the sun's energy is harvested, turned into electricity and stored to be used through conventional electrical circuitry. These cells would be less efficient but would be very cheap to make and could be recycled.

Researchers are also working to develop solar cells that can emit light as well as gather it. This technology could replace LED, light emitting diodes, currently used in all kinds of electrical goods.
One in a trillion technology has given Australian researchers access to compounds which are hardly there at all.

In December last year the Chancellor of the University of Wollongong, Mr Michael Codd, opened the new Geochemistry laboratories which house advanced analytical equipment to be used on major Australian research projects.

Since the opening of the School of Geosciences facility researchers have been working on a number of projects including:

• Tracing the sources of natural and made-made compounds in rainfall across the Illawarra district
• Analysis of molybdenum residues in the production of stainless steel at BHP's steelworks in Wollongong
• Distinguishing between marine and lake sediments from buried sedimentary sequences in the Gulf of Carpentaria
• Tracing climatic and environmental change of the past 50,000 years in sediments recovered from peat bogs in eastern Australia

The laboratories comprise a suite of seven interconnected rooms, several of which are deemed ultra-clean by virtue of a positive-pressure filtered air system that excludes particles larger than 0.1 micrometres in diameter. Such clean air is required to analyse ultra-trace levels of materials.

Principal items of equipment include a stable-isotope mass spectrometer, an ion chromatograph, and a stripping voltameter which can measure down to parts-per-trillion levels.

Another piece of equipment is the first of its kind in Australia - a time-of-flight inductively-coupled-plasma mass spectrometer, one of fewer than 10 such instruments in the world.

The installation of all this equipment will establish the Faculty of Science as nationally pre-eminent in the field of mass-spectrometry. As a result, research investigating such areas as past environments and climate, minerals exploration, and aboriginal history will all receive a valuable boost.

The new laboratories will be used by a number of research organisations around the country including the CSIRO, the Australian Nuclear Science and Technology Organisation, and the Australian National University.

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

In a healthy eye the lens is colourless, but in the eye of a cataract sufferer the lens discolours to yellow, brown, and even black, causing blindness.

Our understanding of the process has been poor, but it appears that the key lies in the body's own antioxidant defences. These compounds protect the lens proteins from damage caused by the accumulated effects of exposure to energetic molecules called free radicals. Antioxidants such as glutathione are crucial to our defences.

Glutathione is produced in the outer layers of the lens and then diffuses through into the inner layers, where it can mop up damaging compounds. As the normal lens ages, a barrier to this movement appears to develop, thus exposing the inner lens to attack.

This latest research may lead to drug prevention, rather than the intrusive operations which in the USA alone cost $3 billion annually.

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

Cataract, the clouding of the eye's lens, is very common in the elderly and is the leading cause of blindness around the world.

But this could change in the light of work by Associate Professor Roger Truscott and researcher Matthew Sweeney, both of the Department of Chemistry, who have found evidence of a barrier to the body's natural defences against cataract.

They have shown that even in old age our body makes sufficient antioxidants to prevent cataract, but as we age a barrier develops, preventing these defence compounds from getting where they are needed.

Levels of protective antioxidants are high in the young eye, but decrease with age.
Concern for our environment is concern for that most important part of our lives — our future.

Their first experience of this was the drive from Sydney to Wollongong past the expanse of the Royal National Park, and then, arriving at Bay before construction and transplanted elsewhere on the bay floor as part of a new 35 hectare bed of seagrass, an important food source for marine biota.

In Canberra the envoys visited the Australian National Botanic Gardens where Environment Australia’s Director of Visitor Services, Murray Fagg, briefed them on the role of the Commonwealth in environmental management.

They were also given the opportunity to discuss issues such as the sustainable management of forests and the rehabilitation of native vegetation with experts in these fields.

Professor Morrison was happy with the achievements of the visit, saying that he hoped the program continued.

"It provides a good opportunity for the envoys to learn from each other and to see a completely new environmental situation.

"It also enables our students to interact with people from different backgrounds and cultures, which hopefully will result in some long-term linkages between people from different countries.

"This is very good for environmental management."

This fact was not lost on a group of young environment envoys from Asia who visited Australia at the end of 1998.

The 12 young envoys from Brunei, Malaysia, Hong Kong, Vietnam, Thailand and Singapore, spent nine days studying the unique environmental challenges and solutions found in Australia. Visiting industrial complexes, national parks and the Homebush Olympic site, the team was able to identify the type of issues which will dominate public and private concern in the next millennium.

A unique partnership was behind the trip, representing a joint venture between the United Nations Environment Program (UNEP), Environment Australia, QANTAS, and the University of Wollongong.

The Young Environment Envoys Program was primarily concerned with identifying future leaders in environmental protection and sustainable management of natural resources in Asia and Australia. But it also provided an opportunity for young people from across Asia to make contacts in Australia and exchange ideas and experiences that may affect us all.

Hosting the group during their stay in Australia was the Environment Research Institute at the University of Wollongong. Professor John Morrison, Director of the Institute, said the program was all about broadening the horizons of the young envoys.

The accommodation at Campus East, the sight of two bins in every room. At Campus East, everyone sorts their own rubbish into recyclables.

On their first full day in Australia, the envoys were taken to Homebush to see why Sydney 2000 calls itself the green Olympics, and then on to the remediation site at Bicentennial Park.

Asian media travelled with the group throughout their stay in Australia, and the Bangkok Post covered the trip in some detail. As reported in the Post, the landfill areas, the wastewater treatment, rainwater catchment, gardens, train station and ferry terminal at the Olympic site are all designed as if the future of sport hinges upon the existence of a clean and sustainable natural environment.

The group also visited Kingsford Smith Airport to learn about the construction of the third runway. Eighteen hectares of seagrass was removed from the floor of Botany Bay.

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Development fund takes technology from lab to loungeroom

What do a multimedia package for teachers, electricity supply quality and polymer processing facilities have in common? They are all University of Wollongong projects which have reached commercialisation with help from the University's Technology Development Fund (TDF).

Over the past several years, TDF fund manager, the Illawarra Technology Corporation (ITC), has brought a number of projects to market, and is always seeking researchers to come forward with projects they believe have commercial viability.

The TDF was first set up with the aim of bringing developed technology to the market, but it quickly became apparent that more help was needed in the development stage.

"The first time we went through the technology assessment process, we were left with no suitable projects. So we realised that we needed to go back one step and get involved in actually developing the technologies," explained TDF board member, and managing director of ITC, Jim Langridge.

To get any innovation to market there are three broad phases. The first is the research phase, conducted by academics with funds from a wide range of sources. The second is the development of that technology to a marketable product, with the third phase being its commercialisation.

The TDF is not involved in research, but oversees the development and commercialisation of products such as the multimedia tool MediaPlant created by the University's Interactive Multimedia Learning Laboratory (IMLL).

IMLL director, Associate Professor Barry Harper, and ITC deputy chairman, Dr Brian Hickman have recently been to the US for negotiations with a major publisher, marking the success of yet another TDF project.

The procedure for taking a technology out of the lab and getting it to market is complex and involves an iterative, multi stage process.

Step one concerns identification and relies on an ongoing technology audit, as well as researchers, who are best placed to understand their work and its potential, coming forward for help in making the leap out of the lab. The technology or project is assessed and, if suitable, is then put through a series of loops considering such issues as intellectual property rights and confidentiality. Out of this, a proposal is put to the technology assessment committee.

If the committee gives the go ahead a business plan is produced, including market research and funding solutions. The TDF board then makes the ultimate decision whether to go to market or not.

According to Jim Langridge, research funds on the average project amount to only 15% of the total cost of its commercialisation. The next stage, development, is the real "valley of death" where substantial funds have to be applied at a time when nothing is coming back in. This is the point at which a body such as the TDF has to step in.

One way funds are generated is by finding a commercial partner. Private corporations benefit in this relationship by taking advantage of the latest research to develop and market leading technologies. Researchers reap the benefit of commercial experience in the market.

Another way to fund development and commercialisation is the involvement of venture capital. Supporting the development of new technology is what venture capital firms do, so the TDF is able to bring such firms together with University of Wollongong researchers.

TDF funding is recommended to the ITC board by the Technical Assessment Committee (TAC) under the chairmanship of Mr George Maltby, who is also chairman of ITC.

Apart from the IMLL project, the TAC has allocated funds to the School of Electrical, Computer, and Telecommunications Engineering, for the commercial support of a Power Quality Centre in conjunction with Integral Energy.

Head of the school, Professor Chris Cook says that pollution of the mains power supply is a growing problem as modern computer equipment introduces undesirable signals that spread through the grid.

This problem, says Professor Cook, required considerable research and expertise to identify and understand. TDF funds are now being used to develop a commercial service for testing power supplies.

The TDF has also been integral to the establishment of a polymer processing facility within the Intelligent Polymer Research Institute (IPRD), allowing large-scale production of processable conducting polymers.

Since its founding in 1995, The TDF has funded over a dozen projects. Besides significant polymer and multimedia developments, support has been given to the EnvironMent waste treatment process, a wool bale treatment process, a laser probe, and a number of smaller technology projects.

The TDF is a significant supporter of the innovative research which takes place at the University of Wollongong. With the help of ITC and TDF today's innovation can become tomorrow's useful technology.

For further information contact Jim Langridge on (02) 4221 3212 or by email on Jim_Langridge@uow.edu.au

Stuart Waters
A Flexible option for study at Wollongong University College

Wollongong University College was the first private college established by a University in Australia.

From its beginnings in 1988 as a place to learn the English language, WUC has expanded to the point where it now provides an extensive range of study options for over 600 international and domestic students. The key word at WUC is flexibility.

Traditionally, the only way into university was to sit the HSC. But in the light of growing concern about the inability of the HSC to cater for all student needs, WUC is able to provide an alternative to suit everyone.

WUC operates as a gateway faculty for the University, forming a vital link between school and tertiary education. But students don’t need the HSC. WUC has programs which cater for those who have completed Year 11 as well as Year 12.

The advantage of the WUC entry program is that it allows students who have the ability and desire to fast track their degree and get into the workforce long before their contemporaries. Being a recognised program, it also allows for entry into other universities around the country and around the world.

Another feature of the WUC program is flexibility of entry date. Students can leave the old school term behind and start at WUC in March, July or November.

For those who have completed the HSC but don’t have the marks to get into university WUC offers a number of Advanced Diplomas. Satisfactory completion of one of these ensures entry into the University with advanced standing.

For some time, WUC has been a major gateway for the University’s international students, having provided around 30% of current international enrolments. These days an increasing number of domestic students are realising the advantages of the alternative path to tertiary studies.

Being a private college all courses are full-fee paying, with the average costing around $3,000 per semester. A flexible instalment plan helps to remove the financial barrier to further education. For their money, students can expect to receive excellent tuition in a modern, well-equipped learning environment.

National Recruitment Manager, Canio Fierravanti, says the courses are carefully designed.

“We offer a rigorous education which prepares students thoroughly for the successful completion of a university degree,” he says.

“WUC provides an adult learning environment which helps students to fast track their way to a university degree.”

For today’s school students, the Wollongong University College is offering a whole new range of opportunities.

For further information please contact Wollongong UniAdvice on 1800 680 320 or by email on uniadvice@uow.edu.au

Stuart Waters
Superconductivity is one of those ideas which seems to define the future of technology in one word. At the University of Wollongong, the idea is being given substance in a research institute at the very top of its field.

In research, as in all things, the proof is in the eating, and when it comes to graduate placements the Institute for Superconducting and Electronic Materials (ISEM) stands at the top of its field.

According to the Director of the ISEM, Professor Shi Xue Dou, graduating honours and PhD students of ISEM have become valuable members of prestigious institutions around the world. This is an indication of the respect in which the ISEM is held by the international research community.

“We have had, over the past 10 years, more than 30 postgraduate students, 20 fourth year honours students and 20 postdoctoral and visiting fellows through the Institute,” says Professor Dou.

Graduates of ISEM are also employed in major research institutions around the world including Los Alamos and Brookhaven National Laboratories in the US, Texas A&M, Nordic Superconductor, Denmark, and a host of others.

Managing Principal of Ove Arup & Partners, Mr David Singleton, said that the Fellowship was beneficial both to the practice and to the graduates.

“For the winners, the opportunity to work overseas, learn different techniques, build networks and develop relationships is invaluable to their career,” Mr Singleton said.

For a small research institute, the list

UNIQUE SCHOLARSHIP CELEBRATES 15 YEARS

The opportunity to work overseas with one of the world's leading engineering practices, has led to 15 years of a successful scholarship program for engineering students.

The Arup Fellowship, offered by Ove Arup & Partners to graduating engineering students, was started in Brisbane, and has now been adopted by Arup offices all over Australia, as well as in Ireland and the United States. It is the only scholarship of its kind in Australia.

Engineering students in their final year of study are invited to apply for the Fellowship each May, with State finalists and the national winners selected by July.

Last year's Arup Fellowship national winners, Nicole Thai (civil engineering) from Vanuatu and Jonathan Dalton (building services) from Canberra were both offered jobs with Ove Arup and Partners after completing their studies. Jonathan is currently working in Arup's Sydney office, while Nicole is working in the Melbourne office of Ove Arup & Partners. They start their two year London work experience in September, which will also include a training program and a study tour.

Jonathan, 22, who overcame cancer while at high school, and went on to achieve excellent academic results, was completing his thesis for a Bachelor of Engineering (Mechanical) at the University of Wollongong, when he won the Arup Fellowship.

“It's an incredible opportunity,” he said. “The UK is much further advanced than Australia in terms of building services, so I am sure I will learn a lot.”

“Just the experience of attending the interviews for the Fellowship gave me a much better understanding of building services.”

Applications for the Year 2000 Arup Fellowship are being invited now and anyone interested in applying should
of graduate destinations constitutes a proud record, but it is by no means the only way to measure quality research and development.

Professor Dou says other indicators of the ISEM's strength include its success in winning grants, its long record of industry collaboration, and a substantial network of international links.

"Our Australian Research Council (ARC) grants have gone up every year, and in 1998 we actually had 10 individual successful grants, $2.1 million worth," says Professor Dou. "This amounts to 20% of the total ARC funding coming to the University."

ARC grants are peer reviewed and are therefore an important measure of reputation.

Alongside the ISEM's success in placing graduates is its long term collaboration with industry. An excellent example of this, according to Professor Dou, is the 12 year association with Port Kembla based firm Metal Manufactures.

"These collaborations work well for both parties," he says. "Industry can't afford to do the cutting edge research which may not bear fruit for a decade or more. This is where university based research groups such as ours can help. We stay abreast of developments across the academic world, while someone like MM can spend the money on developing the commercial applications."

"Few companies have the vision to look beyond the next two or three years. What we at ISEM can do is provide our creative people with the freedom to be creative, while our industry links work towards the product. This is a combination of basic science excellence and industry input which works to the strength of both parties."

In the US $200 million is spent annually on superconductor research. The ISEM at the University of Wollongong spends about 1% of this figure. Yet by focusing on areas of expertise, Professor Dou and colleagues are achieving world-class results.

"By working to our strengths, and targeting our research carefully, we can aim to be among the top three centres internationally in any area we pursue."

"If the Government continues to support research in this field we will remain a global leader, and the University of Wollongong will become the high temperature superconducting centre of Australia; the Silicon Valley of superconducting."

By Stuart Waters

contact the Ove Arup & Partners head office in either Queensland, New South Wales, Victoria or Western Australia, or visit their web-site at http://www.arup.com.au

"outreach" as part of my "mission" as Dean. We are trying to make the Arts Faculty a more welcoming place to new students, including many international students, and I am personally committed to building stronger links with schools, the community and business in the region and to keeping in touch with our graduates.

Our current students have told us that they are keen to meet, interact and network with the Faculty's graduates; it gives them a greater sense of reality, sometimes security, regarding their career opportunities, even life choices. Both students and staff of the Faculty would like to have a greater involvement with our Alumni.

I hope that you, our graduates, share that view, and would also see a benefit in a closer association with the Faculty. We are certainly keen on making you welcome in the Faculty, including you in functions and activities, and possibly setting up a focus
group or an Arts network.

People have told me that Arts graduates are difficult to contact. With your help I would like to prove this wrong. Christine Novotny in the Modern Languages Program is collecting details of our graduates - what you have done since Graduation and how you see your Arts degree in relation to what you are doing now. Please send her a brief profile, a simple note, or give her a call on 02-42213676.

Now that you have met me on paper, I look forward to meeting you in person.

Regards,

Professor Anne Pauwels,
Dean, Faculty of Arts.
Two brothers and a sister, Philip (I), Glen and Renee Smede, all graduated with teaching degrees on the same day.

Honours Bachelor of Engineering graduate, and University Medal winner, Mark Hughes, is congratulated by his parents, Ron and Wendy. Mark was the first UOW engineering graduate to score 100% in his final year's thesis.

Stephen Gower was awarded a PhD at the Faculty of Informatics ceremony on 12 May. His wife, Deirdre, is pictured alongside him (with daughter, Elizabeth, standing in front and on the far right is Deirdre's mother and Alumni Bookshop Convener, Marjory Macdonald. Also pictured is Stephen's parents, Robert and Nell, his sister, Deanne (holding her daughter, Alexandria; and in the far right back corner is Deanne's husband, Craig Heidrich who is the Chairman of UOW's Business School Committee.
Megan Ryan met Samuel Johansson when she travelled to Sweden under the University's study abroad exchange program. Samuel consequently came to Wollongong as an exchange student, and both have now graduated with Graduate Diplomas of Education.

Ester German and family celebrate her graduation with a PhD from the Faculty of Health and Behavioral Sciences. Ester spent three years studying the details of post-natal depression, and found women with a history of depression and anxiety were more at risk.

Local TV presenter and double UOW graduate, Mary Franks, was honoured at the Faculty of Commerce Dean's Award night in April. Ms Franks, B.A.(Eng. Lit.) and M.Com. (Marketing) was awarded the 1998 Commerce Alumni Award which goes to a graduate of the Faculty with proven qualities of leadership, community spirit, innovation and personal success. Pictured with Ms Franks is Dean of the Faculty of Commerce, Professor Gill Palmer.

Also on the night, the House With No Steps Bev Lawson Memorial scholarship was awarded to 1st yr B.Com. student Mazin Matar. The award, in memory of Commerce graduate and former Assistant Commissioner of Police Bev Lawson, is valued at $1,000 a year for three years, and is given to those who face certain physical challenges in addition to the usual challenges presented by university study. Pictured with Mazim are (l-r) Ros Westbrook from the Faculty of Education, Professor Gill Palmer, and Coleen McDonal, of The House With No Steps.

In 1999 the Alumni Association for the first time held a function in Bangkok for the University's Thai Alumni. Graduates were welcomed to the assembly by the Director of International Programs at the University, Professor Rob Castle. Pictured are the organisers of the function, Lea Sublett and Ms Dusuda Nunta, flanked by the two MCs of the dinner.

Australia's first Aboriginal Clinical Psychologist, Robyn Craigie, is congratulated by the Chancellor of the University, Mike Codd.
Social Snaps

Alumni Association President Bob Frizell (left) with Vice President Kathleen Lacurto and Secretary Harry Alla

Members of the Honorary Chapter enjoying themselves at the post AGM function

Guest speaker at the 1999 AGM, Dr Terry Burke (right) with the Vice-Chancellor, Professor Gerard Sutton and Alumni Association President, Bob Frizell

Past President of the Alumni Association, Ruth Proctor, with members of the Campus Chapter

Alumni Executive Officer, Lea Sublett, chats to (l-r) Juliet Richardson, Rita Tibbits, Belinda Schuster and Commerce Chapter President, Wendy Raikes at the Commerce Alumni Dinner in February.

Alumni Association Executive Officer, Lea Sublett (centre), talking with two Commerce graduates.

Members of the Engineering Chapter with Getaway's Geoff Watson at a recent Engineering Alumni dinner.
PHOTO  L.to R. Christopher Peters (foreground)Dennis Marks, Gray Watson, Christine Howell, Bernie York, Yvonne Moffitt, Bruce Bailey, Bronwyn Dove, John Clifton, Bill Silvester and others (obscured)at one of the regular reunions of the education class of ’68

Calling Education
Class of 1968
by Lenore Armour President
Education Chapter

Since graduating from the former Wollongong Teachers College in 1968, a group of Education graduates have been meeting in the school holidays. Originally it was just a few blokes who lived in the same Wollongong house who started the regular reunions. Then after a big back to WTC reunion in 1994 it grew to include a much larger group.

Bernie York has always been the unofficial president of this unofficial chapter. Known affectionately as the Pres, Bernie has been responsible for keeping this group of alumni in touch with each other via a newsletter which was sent out across the state at the end of each term. The Pres-o-mail has been through many changes over the years. The hand written spirit fordigraph stencil was followed by the gestetner version and then the photocopied sheet. A brief 22 year hiatus followed and then the idea of regular meetings was rekindled. What was recommenced as a quick ring around on the phone soon led to the word processed printed copy, the faxed Pres-O-Fax and now the Pres-E-Mail.

And just as the mode of communication has changed so too have the people. Grey hair (and no hair) abounds at these get-togethers. The functions are characterised by a ‘guess the mystery guest’ slot (or who did you used to be?) and a Rock Trivia quiz (from the late sixties, early seventies of course).

The class of 1968 meets four times a year. Members of the collegial group also welcome lecturers of this period and graduates from the 1967 class. Why not join us at 6pm at 789 George St., Sydney (near Her Majesty’s Theatre) and near the corner of Quay St., for pre dinner drinks at the Crystal Palace Hotel and afterwards at a nearby restaurant?

Let Bernie York know on Phone 02 9558 3978 or bernieyork@hotmail.com - You could be Mystery Guest

Dates for 1999
Monday 5 July
Monday 27 September
Monday 20 December

Outlook 17
GRADUATE RECEPTIONS

The Alumni Association has held a variety of graduate functions in Australia and internationally this year. Alumni activities give graduates the opportunity to network with other graduates, and remember their university days.

THAILAND

In January, graduate Ms Dusada Nunta arranged the first University of Wollongong Alumni Assembly held in Bangkok. Over 120 graduates attended this dinner at the Central Plaza Hotel, and the second Assembly will be held in February 2000.

TAIWAN

In March, Vice-Chancellor, Professor Gerard Sutton and Alumni Executive Officer, Lea Sublett hosted an alumni dinner at the Hilton Hotel, Taipei attended by 65 graduates. Other Wollongong University representatives at this dinner included Professor Rob Castle, Director of International Programs, Professor Sharon Bell, Dean Faculty of Creative Arts and Dr Peter Shepherd, International Representative.

WOLLONGONG

The University of Wollongong UniCentre is the venue for the Alumni Association's breakfast on Wednesday 16 June.

Hong Kong

Professor Gerard Sutton, Professor Rob Castle and Lea Sublett, met with the University of Wollongong's Hong Kong Alumni Chapter in March. The Chapter will host an alumni dinner in October.

Shanghai

In March Professor Gerard Sutton, Professor Rob Castle and Lea Sublett, met with graduates in Shanghai with a view to establishing a University of Wollongong Alumni Chapter in China.

Melbourne

Graduate Mr Michael Halls and Lea Sublett hosted a cocktail reception in Melbourne at the All Seasons Premier Swanston Hotel in April.

Advertisers

If you would like to advertise in this magazine, please contact the Alumni office.

Phone: (02) 4221 3169
or Fax: (02) 4221 4809
(Advertising rates can be provided.)
Teaching, travelling and learning with the Silvesters

It is no surprise to find Wollongong Alumni Robin (nee Curtis) and Bill Silvester working in the United Arab Emirates at Dubai. This adventurous couple thrive on diversity. Since graduating from Wollongong Teachers College in 1968 they have led active exciting lives.

“I think we just like a challenge,” Bill said at a recent reunion with Education Chapter members in Sydney “and besides, Robin grew up moving regularly as her parents were teachers in country NSW, so we get the itch to try something different every so often.”

Before they moved to Dubai in 1998 Robin was teaching at Parameadows School for Special Purposes in Wollongong and Bill was Assistant Principal at Bulli. Alumni at those schools will recall the emphasis both Robin and Bill placed on fitness. Robin regularly walked for kilometres and Bill trained for months before tackling the historic Kakoda trail in New Guinea.

“Dubai is a great place. We have access to all the amenities we would have at home. Our apartment has a pool, sauna and gym and we are close to restaurants and food courts. The tourism trade is growing. Everyone gets around by taxi because petrol is cheap. Imagine a coastal strip of palatial hotels like the Queensland Gold Coast only with sand on the inland side.”

Bill in particular is acknowledged by the Alumni Association in Wollongong as instrumental in updating the Education Chapter data base prior to a teachers college reunion in 1993. The University of Wollongong has had a campus in Dubai for some time so Bill and Robin are well placed as interest for the creation of a chapter grows.

Lenore Armour

Angelos Kaisidis-Rodafinos
PhD (Psych) 1994

Dr Angelos Kaisidis-Rodafinos holds a Doctoral (PhD) degree from the Department of Psychology, University of Wollongong (1994). He completed his Masters (MSc) degree in “Sport Psychology” at Ithaca College, NY, USA and his Bachelors at the Aristotle University of Thessaloniki in Sports Sciences and Physical Education.

Since 1994 Dr. Rodafinos has developed and offered a number of seminars to managers, employees, and administrative staff in business organisations and educational institutions. His themes include motivation and success, developing a positive mental attitude, performance appraisal, building self-confidence, goal setting, effective supervising, team building and cohesion, cognitive-behavioural strategies for stress management, etc. Dr Rodafinos has also worked as a Psychology Consultant / Trainer for managers and employees of several companies in marketing and other fields.

Today he is Assistant Professor in Psychology at the American College (a small liberal arts college accredited by the NEASC) and Lecturer at City College (affiliated institution of Sheffield University, UK), both located in Thessaloniki, a northern Greece city with a population of one million. He also runs the counselling centers for both Colleges, and teaches as a guest lecturer at the Aristotle University and at the Technological Institution of Thessaloniki. His research interests include coping with stress in sports, and academic achievement.

If you plan to visit Thessaloniki make sure you give him a call to show you around. (Students may wish to contact him to arrange an exchange for a semester of studies at the colleges where he teaches.)

E-mail1: arodafin@ac.anatolia.edu.gr
E-mail2: rodafinos@city.academic.gr

Outlook 19
For many students in their final year, having a clear understanding of the nature and demands of a particular career is difficult to achieve. Without practical working experiences in a related role there will often be uncertainty as to whether one is heading toward the right career. As well, there are many subtleties to be learnt in relation to the most effective way to seek work in desired roles and industries.

In response to these kinds of issues, the university Careers Service, in association with the Alumni Office, is piloting a Mentor Program in Spring semester this year.

The program will target final year students from the Faculties of Arts, Science, and Health & Behavioural Science, as we have found that many students from these areas have difficulty in making the connections between their university study and desirable work options. Depending upon the success of this pilot, we hope to offer the program to students from other faculties in the future.

The Mentoring Program will place interested students with an Alumni of the university who is working in a role related to the student's future career options. The program is not designed to place people in work related roles, but to place the student in contact with someone who is working in an area that they have identified as a possible career starting point.

The nature of contact between the mentor and mentee (the student) will depend upon the circumstances of the two, however it is likely that it will involve any or all of the following: contact in person in the workplace or outside of the workplace; via phone; or via email.

Both parties will be provided with information regarding the expectations and responsibilities involved with being in a mentor program. A Careers Service staff member will be available for ongoing contact/feedback for both parties throughout the program.

Should you be interested in participating, it is planned to seek expressions of interest from students before the end of semester. For further details, keep an eye on our website, or pop into the Careers Service.

Lee Youwen graduated from the University of Wollongong in 1994 after undertaking a one-year Master of Arts in Cultural Studies. It was the first trip abroad for this daughter of Beijing, and enabled Youwen to return to her native city and teach Australian culture.

But now she's back at Wollongong with a clear mission. Her task is to watch Australian movies.

As a teacher at Beijing's Australian Studies Centre, Youwen had been running courses in Australian culture for a number of years before deciding that a course in Australian film was necessary. Having obtained a Fellowship with the Australia China Council for a project entitled Australian Cinema in a Multicultural Context, Youwen is currently immersed in research, frequenting theatres and video shops wherever she goes.

While this sounds like the sort of research we would all like to do, Youwen warns that after a while "it stops being fun".

The main problem, she has found, is that her theory is not as strong as it might be.

"Without knowing all the theory, I just end up watching films," says Youwen matter-of-factly.

So there is only one thing to do — a crash course in film theory — which involves a lot of reading and much less sitting in darkened theatres.

Youwen was very happy to return to the University of Wollongong, having become familiar with the campus and the town in 1994.

"It is a very beautiful campus," she
Young Composer, and Creative Arts Graduate Paul Stanhope, has won the 1999 Sir Charles Mackerras/Australia-Britain Society Music Scholarship.

Paul, 29, graduated from the University of Wollongong with a Master of Arts in Music (Musicology and Composition), and has since lectured on campus. He recently submitted a PhD in Musical Composition at the University of Sydney.

Paul has won numerous awards and was a finalist in the 1997/98 ABC Classic FM Young Composer's Award.

With the scholarship Paul intends to study at the Guildhall School of Music and Drama in London, and to spend one month in Prague in the Czech Republic. This will enable him to "get new ideas about music and to be in a place that is vibrant, energetic, and at the heart of major cultural centres".

Open to young Australian composers, conductors and repetiteurs, the scholarship provides the opportunity to study in the UK for a period of up to six months.

"I would say it is the most beautiful campus I have seen".

And for a student of cultural studies, Wollongong was perhaps the perfect city to live in.

"Wollongong is a nice place, but I think it is not very well known in Australia or elsewhere. In Beijing once I read that Wollongong was a small village south of Sydney.

"But it is a nice town and I never felt like a foreigner. Everyone has different colour skin and different shaped noses, but they all speak English and no one is like an immigrant."

Before Youwen came to study at Wollongong in 1994, she had not been out of China. Her knowledge of Australia consisted of convicts, kangaroos and koalas.

"But it wasn't hard to get into life here," says Youwen.

"The main difference was in the way I was treated by the teachers. In China I will tell my students to start an assignment because there are only four weeks to go. Then I will tell them there is one week to go and three days to go. I will also go to each one of them and help them with their work.

"When I started in Wollongong I was given an assignment schedule for the session and that was it. I missed my first assignment deadline because I wasn't told I had to do it. Students here are expected to be much more independent.

"Sometimes with my students in China I will go through the readings almost word for word with them but here it is very different.

"When I tried to be like that with my students in China, I told them they could come and see me at any time, but they didn't. They expect me to go to them and help them with their work. It is a lot of work for the teachers."

For this student of Australian culture, Pauline Hanson is no threat. But it was an event much closer to home which raised the issue of race and Australian culture for Youwen.

"There was a shooting in Wollongong which happened to take place outside a Vietnamese restaurant. All the media emphasised the Vietnamese angle, even though the incident had nothing to do with this. It is the only time in this country I have felt like a foreigner."

When Youwen returns to Beijing she hopes to be able to teach Chinese students about Australia and its cinematic representations of race and culture. She will also be able to tell them what is the best Australian movie.

"The first time I saw Picnic at Hanging Rock I thought it was boring. But now, having seen it four times, I think it is a very good film."

Outlook 21
The alumni are comprised of three main groups:

1. Graduates and diplomates of the University of Wollongong and its antecedent institutions (i.e. Wollongong University College, Wollongong Teachers' College and Wollongong Institute of Education)

2. Former staff of the University and its antecedent institutions

3. 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 networking opportunities, as well as a way to stay in touch with colleagues and old friends. It also enables you to remain involved with the University of Wollongong.

The Alumni Office organises networking events, reunions and assists graduates with the formation of alumni chapter committees. The alumni magazine, Outlook, is mailed twice a year to all alumni free of charge.

As the University's reputation increases in Australia and internationally, the value of your own qualification also increases.

Why should, and how can, I join?

As a graduate of the University of Wollongong you are automatically a member of the Alumni Association and, provided you keep the Alumni Office updated with your address changes you will receive Outlook in January and June each year.

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:

- Competitive pricing on computer equipment purchased through the IT Shop on campus
- Special accommodation rates at Medina Serviced Apartments in Sydney, Canberra and Melbourne
- Reduced rates on car rental with
- Reduced rates on travel insurance and group travel and waiving of departure tax for all international air tickets purchased through STA Travel on campus
- Cheap campus Library access
- Discount at the UniCentre Bookshop on campus
- Reduced rates at alumni functions
- Reduced rates on graduation plaques

What does it cost to become a Financial Member?

Subscription rates are $25 per annum or $95 for a five year period. You can choose to become a member of one of the chapters which are faculty or regionally based.

In March the Alumni Association held its function at the Taipei Hilton. The dinner, attended by 65 Taiwanese graduates, was hosted by the Vice-Chancellor, Professor Gerard Sutton. Also pictured are the Director of International Programs, Professor Rob Castle, the Dean of the Faculty of Creative Arts, Professor Sharon Bell, and Dr Peter Shepherd, until recently the University's representative in Taiwan.
# 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 4809

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 (36). For any items over $15 to be sent overseas, please add $5 for postage.

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PROFESSIONAL DEVELOPMENT BREAKFAST SEMINAR

MAXIMISE PEOPLE, PROFIT AND POTENTIAL THROUGH WORKING SMARTER

Presented by Glenn Capelli

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• the four keys to achieving individual and organisational “smartness”
• the new model of intelligence
• how to engage your full capability as a thinking individual and organisation.

About the presenter

Glenn Capelli is a leader in providing thinking and learning strategies for CEOs and organisations facing fast paced, changing times. An international board member of the International Alliance for Learning and Director of the True Learning Centre, Glenn is also co-author of Maximising Your Learning Potential - a Handbook for Lifelong Learners and presenter of a regular program on Australian ABC radio. Glen’s work has featured in over one dozen countries and his special training style is internationally renowned for its impact, relevance and use of exciting, practical methods. He is a firm believer that the competitive edge is all about thinking and learning differently. “Smarter”.

Breakfast & Seminar $25 per person (payable in advance)

Wednesday, 16 June 1999 7:30am - 9am
Function Rooms 1 & 2, Conference & Function Centre
Level 1, UniCentre, Building 11 University of Wollongong

Parking
Available in the multi-storey carpark, accessible via second entrance on Northfields Avenue

RSVP: Tuesday, 15 June 1999
Phone: the Alumni Office on 4221 3169 for details