

CAMPUS NEWS

Rewards for Wollongong for research into robots and intelligent materials

The University of Wollongong has performed exceptionally well in the Targeted Institutional Link Program (TILP) which is funded by the Federal Government to stimulate research and development programs being undertaken with institutions in the Asia-Pacific region.

The University won two of the 13 grants awarded across the nation from 60 submissions.

Professor Gordon Wallace and Dr Anthony Hodgson from the Department of Chemistry have been awarded \$175,000 for the development of Intelligent Membranes with researchers at Sophia University in Japan.

Professor Fergus O'Brien and Dr Phillip McKerrow will receive \$165,000 for the development of Intelligent Autonomous systems with re-

searchers at the University of Tsukuba also in Japan, including Dr Alex Zelinsky, who is at Tsukuba University on leave from the University of Wollongong.

The Intelligent Membranes project involves the development of membranes whose transport properties can be controlled by the application of electrical stimuli or can be self-regu-

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Community demonstrates its support for Conservatorium

More than 500 people turned up for a candlelight vigil in the grounds of Gleniffer Brae on 27 April to show their concern at a proposal in a draft Wollongong City Council plan to relocate the Conservatorium of Music from the beautiful sandstone Manor House to a soil-testing laboratory nearby.

This support was reinforced on the following Sunday when 700 people

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Adele Lamb and Peta Paramore from Kanahooka High receive the package for the school from Chairman of the Lake Illawarra Authority, Doug Prosser.

The Lake Illawarra Authority and the Faculty of Education at the University of Wollongong recently held a presentation and demonstration of a CD ROM package titled 'Investigating Lake Illuka'.

This is an interactive multimedia package developed by the Faculty of Education to assist in the teaching of concepts in ecology to HSC Biology students.

Much of the data is based upon studies conducted on Lake Illawarra.

This package has received international acclaim. High school students

Lake Illawarra Authority's presentation to 22 high schools

will ultimately be responsible for the future of the lake and this outstanding educational package with its emphasis on interaction between student and data will give them a firm foundation on which to base their attitudes to the lake and its environment.

The Lake Illawarra Authority has made a decision to purchase and distribute this educational software to 22

local schools as a means of increasing awareness about what individuals can do to stem further deterioration of Lake Illawarra.

While the Authority is restoring degradation in the lake basin, lasting improvements will only be possible if most of the community understands the impact of day-to-day activities within the catchment.

Support for Conservatorium

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attended a 'Coffee, Croissants and Concert' breakfast.

The Manor House at Gleniffer Brae is leased by the University from Wollongong City Council.

It has been the home of the Conservatorium since 1978.

The Council has plans to use it as a tourist attraction and reception venue.

There will be a special meeting of Council to discuss the responses to the draft plan on 31 May. Anyone interested may attend.

Rewards for robot and intelligent materials research

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lating by integrated sensing — for example a material could be changed from being porous to non-porous with the flick of a switch.

Membranes with these properties have far-reaching applications in chemical processing, biotechnological processing (cell culture) and biomedical developments. A patent has been lodged in the USA.

The researchers working in Intelligent Autonomous Systems are tackling the problem of autonomous

mobility. It is difficult to build a mobile robot that can achieve autonomous mobility, with even minimal competence, for any length of time.

Mobile robots already on the market are limited by inadequate perception of the environment, poor navigation and the inability to co-operate with other robots and humans.

The program's goal is to develop robots with better sensing systems, multiple co-ordination, conflict resolution and better navigation.

Festival of Creative Arts 3-18 June

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Wollongong's new biotechnology lab draws compliments



Associate Professor Ross Lilley (Department of Biological Sciences); Professor Rob Whelan (Head, Department of Biological Sciences); Professor Murray Wilson (Dean Faculty of Science), with the Director of Research and Development, Biotechnology Australia Pty Ltd, Professor Neil Willetts, in the new biotechnology laboratory

The official opening of the University's biotechnology laboratory was held recently.

Director of Research and Development, Biotechnology Australia Pty Ltd, Professor Neil Willetts, addressed the gathering and discussed the development of biotechnology in Australia.

In spite of the disadvantages felt by a small country in developing and commercialising biotechnological processes, he felt that there were areas where Australia was up with the

best and some where we were leading the way.

He said that there was 'an enormous choice of jobs available to those who have studied biotechnology'.

Dr Willetts inspected the laboratory with guests from the University and the community and described it as a 'beautiful lab, well equipped and students are going to enjoy being there'.

He was also impressed by the enthusiasm of the staff, the multi-disciplinary cooperation with the

Department of Chemistry and, in spite of scarce resources, that the University was able to establish the laboratory in such a short time.

Biotechnology at Wollongong focuses on the rapidly developing areas of nucleic acid, protein and monoclonal antibody technologies, especially as they relate to humans.

The laboratory has been established to accommodate the increasing number of biotechnology honours (fourth year) and masters students at the University.

Visit by members of Fijian Ministry of Education

Four representatives from the Fijian Ministry of Education began a 10-day visit to the Illawarra region on Wednesday 4 May.

Those involved in the visit are:

Principal, Natabua High School, Lautoka, Mr Bir Singh; Senior Education Officer, Ministry of Education, Western, Lautoka, Mr Ayappan Raman; Head Teacher, Jasper Williams Primary School, Lautoka, Mrs Narieta Naivalacava;

and Head of Department, Ba Provincial High School, Lautoka, Mrs Viniana Kunabuli.

Since 1982, University of Wollongong Faculty of Education students have made eight visits to Fiji to gain overseas teaching experience, as part of their professional development.

The initial visit to Fiji was organised by a former lecturer at the University of South Pacific, Suva, Dr Ted Booth.

On each visit, the Ministry of Education has approved and facilitated the Fijian practicum, and organised valuable orientation programs.

Such overseas teaching experiences have provided students with extensive professional and cultural benefits.

In an era when teaching is an international profession, this pre-service opportunity has proved invaluable for the students involved.

In 1994, the Dean of the Faculty of Education, Associate Professor John Patterson, instituted the Fijian Fellowship to strengthen the links between the University of Wollongong and the Fijian Ministry of Education.

The four Fijian representatives in this inaugural visit have all been vitally involved in previous Faculty of Education visits to Fiji.

During their stay, the visitors will be billeted by Faculty of Education staff members, Mr Pat Farrar and Ms Roz Westbrook.

The group is involved in Faculty of Education seminars and are providing an orientation program for the 1994 Fijian practice teaching group.

An important aspect of the visit has been liaison with the Department of School Education including visits to a range of schools in the Illawarra region and the Australian Capital Territory.

CELL & MOLECULAR EVENING SEMINAR SERIES



University of Wollongong Department of Biological Sciences

Held on Monday evenings commencing at 7.30pm in the Department of Biological Sciences, University of Wollongong, Building 35, Room 105.

- May 2: **Dr Kirk Rockett** (Cell Biology, John Curtin School of Medical Research, ANU) The Calbiochem seminar on Nitric Oxide
- May 9: **Dr Greg Rice** (Royal Women's Hospital, Melbourne) The Selby seminar on Human Parturition
- May 23: **Dr Ian Ramshaw** (Cell Biology, John Curtin School of Medical Research, ANU) The Promega seminar on Cytokines and Virus Infection
- May 30: **Dr Donna Cohen** (Cell Biology, John Curtin School of Medical Research, ANU) The Integrated Sciences seminar on Transcriptional Regulation
- June 6: **Dr Hal Hatch** (CSIRO Division of Plant Industry, ACT) The Novex seminar on C4 Plant Photosynthesis
- July 18: **Dr Emma Whitelaw** (Dept. Biochemistry, University of Sydney) Seminar on Transcription of Human Globin genes
- July 25: **Prof Kevin Lafferty** (Director, John Curtin School of Medical Research, ANU) The Lab Supply seminar: Title to be advised
- Aug 22: **Prof Tony Basten** (Director, Centenary Institute, Sydney University) The Beckman seminar on Self-Tolerance and Autoimmunity
- Sept 19: **Dr Jim Chin** (Elizabeth Macarthur Ag. Inst. Camden, NSW Dept. Agriculture) The Gibco seminar on Mucosal Immunology
- Oct 10: **Dr Brad Walsh** (Centre for Immunology, St Vincent's Hosp., Sydney) The BioRad seminar on Macrophage Activation & 2D-Electrophoresis
- Oct 17: **Prof Barry Rolfe** (Research Centre for Biological Sciences, ANU) The AMRAD/Pharmacia seminar on Plant Biotechnology
- Oct 24: **Prof Peter Reeves** (Dept. of Microbiology, University of Sydney) The Bresatec seminar on Prokaryote Evolution

For further details contact: A/Prof Ted Steele, A/Prof Ross Lilley, Dr Mark Walker, Dr Mark Baker, Dr Mark Wilson or Ms Julie-Ann Green.
Ph: 042-213 013, Fax: 042-214 135.



NEW STRATEGIC PLAN FOR ITC



• *The Board of ITC, from left, Ms Odette Gourley, Mr Jim Langridge (Managing Director), Mr George Maltby (Chairman), Mr Bob Williams, Dr Chris Beare, Dr Brian Hickman, Dr Brian Gillett, Professor Ken McKinnon (Vice-Chancellor), and Mr Paul Jeans*

A progress report on the strategic plan for 1994-1997 was presented to the Board of ITC at its meeting on 28 April 1994. Development of the plan, facilitated by an external consultant, together with the Executive Committee and other senior staff, has included one three-day residential and three one-day workshops. The final report will be presented to the Board on 30 June 1994.

As part of the process, the core business of ITC is being redefined to focus on two main areas of expertise: Education Services, and Technology Applications. The evolution of a corporate-wide sales and marketing strategy is an essential component of the plan. Ms Kathy Jones has already been appointed as Executive Manager, Sales and Marketing, to implement this aspect, with a number of task forces working on associated issues such as pricing policy, bid process and project management.

It is anticipated that the final plan will radically re-shape the way ITC will do business over the next three years.

ITC HELPS F J WALKER ACHIEVE McDONALD'S WORLD STANDARD

The Advanced Technologies Division of ITC, in conjunction with F J Walker Foods and the Meat Research Corporation, has developed an automated inspection and packing system for hamburger patties.

The Blacktown (Sydney) plant of F J Walker produces up to two million patties a day, supplying McDonald's in Australia, as well as Japan and Hong Kong. The plant has recently been made the Reference Supplier of beef patties to McDonald's. As a result, Walker's patties will be used as the physical reference sample for all plants manufacturing beef patties for McDonald's world wide.

The new inspection and packing system will assist F J Walker to maintain this high standard. A world first, the system has been developed over the last three years, and uses machine vision technology to inspect patties for conformance to strict dimensional

specifications. This part of the system has been operational for over six months, and allows individual defective patties to be rejected from the production line.

The prototype machine for the packing stage of the project is currently being commissioned and will be completed shortly. When completed, ITC plans to licence the technology to a large equipment supplier to enable exploitation of opportunities with McDonald's suppliers world wide.

In a recent development, ITC has been awarded a contract by F J Walker to supply and install a robot system for palletising the packed meat patty cartons. This will complete the automation of this area of the plant, and assist F J Walker to maintain its position of excellence with McDonald's.

Further information:
Paul Blackwell (042) 268988.

MARINE LAW COURSE FOR INDONESIA

Following an invitation to tender, ITC has been awarded a contract by OTO Bappenas (Overseas Training Office, National Development Planning Agency, Government of Indonesia), to conduct a short course in Marine Law. The course, which will be presented to some twenty participants, all mid-career public servants with law qualifications, will be presented in Wollongong over ten weeks, commencing on 4 July 1994.

Designed specifically for OTO-Bappenas to reflect the current and future maritime interests of Indonesia, the course is divided into two broad parts. The first will deal with the law of the sea rules, and their continuing relevance to Indonesia, while the second will concentrate on maritime law,

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with particular emphasis on shipping. Protection of the marine environment will also be an issue for discussion. The course will include a program of field visits to relevant organisations and sites, to ensure that the participants are exposed to practical considerations.

Working with the Faculty of Law within the University of Wollongong, ITC has combined resources from three of its divisions to provide this course. The Centre for Maritime Policy will provide the course curriculum expertise and the course delivery; English language tuition and support, accommodation and social event arrangements will be coordinated by the Wollongong English Language Centre; and project management will be the responsibility of Training and Education.

Further information:

Nicole Paton (042) 268884

WORKSHOPS IN APPLIED PSYCHOANALYTIC STUDIES

The Department of Psychology within the University of Wollongong is sponsoring a new program of ten high quality workshops applying psychoanalytical ideas to a range of topics in the area of mental health. As each workshop is an independent unit, intending participants are free to attend only those workshops which are of particular interest. Two workshops were presented in April, with the remaining eight to be presented throughout 1994.

Appropriate for practitioners, tertiary students, health industry workers, and professionals in the community services industry, the workshops combine theory, clinical presentations and examples and, in some cases, video material. There is also opportunity in appropriate workshops for participants to present material from their own clinical work, observations or reading.

Workshop leaders include psychoanalysts and psychologists in private practice, the public health system, and academic staff of the University of Wollongong.

The program is administered by ITC, with the workshops being held either in Wollongong or in the University Centre in Sydney.

Further information:

Nicole Paton (042) 268884

DEPARTURE OF PETER BENIUK

Peter Beniuk, Company Secretary and General Manager Commercial, was farewelled in early March. Since joining ITC in November 1990, Peter had been an integral part of the executive team.

ERICSSON R&D CONTINUES

At an Ericsson and Vodafone media conference, held in March 1994 to announce funding for Mobile Telephone research and development, Ericsson announced the continuation of funding of two projects currently being undertaken by the Centre for Information Technology Research (CITR).

Supervised by Gary Anido, Professor of Telecommunications Engineering within the University of Wollongong, the two projects represent the type of research that is particularly attractive to both telecommunications equipment vendors and carriers, as it allows the carriers to achieve cost savings and efficiencies in the provision of their network services which, in turn, reduces the cost to the end-users.

The first project concentrates on optimising the performance of the telephone switching systems which are at the heart of the mobile and other telecommunications networks, and the second concerns the impact of mobility on both the signalling network and the switches.

Further information:

Hugh Bradlow (042) 268919

DEET ACCREDITED TRAINING FOR YOUTH PROGRAM

ITC was recently awarded a contract to train a group of Wollongong youth under the Department of Employment Education and Training (DEET) Accredited Training for Youth Program. As part of the training, the participants will undertake the ITC Training and Education VETAB-accredited Certificate in Manufacturing program. Presented over a twenty week period, commencing on 28 March 1994, the program includes two sessions of one week each for work experience. The work experience component is an important part of the course, as it helps students relate their classroom experience to actual on-the-job practices and techniques.

Participants who successfully complete the VETAB-accredited program will be awarded a Certificate in Manufacturing. Augmenting the Certificate program are preparatory modules designed to enhance the chances of participants in gaining employment, and post-course support for participants will be focused on job placement.

Further information:

Nicole Paton (042) 268884

NEW COURSE IN MATERIALS WELDING AND JOINING

For the first time, engineers in Australia have the opportunity to obtain qualifications equivalent to those of internationally recognised European Welding Engineers. New Postgraduate Diploma and Master of Engineering Studies programs, available through the University of Wollongong, provide engineers in fabrication and manufacturing the opportunity to access international best practice.

The courses are sponsored by the Cooperative Research Centre for Materials Welding and Joining, which is located at two nodes in Wollongong and Adelaide. The CRC core partners - the University of Wollongong and the University of Adelaide - will provide the coursework program, starting in 1994 and 1995, at the respective nodes.

There are 16 modules in the Diploma course and 18 in the Masters course. Each module is taught in an intensive 5 day block, so that participants can plan their year around the modules and undertake activities related to the course back in the workplace. The modules can be studied part time, fulltime, or as single units as part of the continuing education process.

The Graduate Diploma and Masters degree program for 1994 will be presented in four thematically grouped stages, with each stage consisting of four one-week modules. Additional material will be scheduled for the Masters course.

Stage One: April 11 to May 6 - Welding Processes and Equipment

Stage Two: June 6 to July 1 - Materials and their Behaviour during Welding

Stage Three: August 1 to August 26 - Construction and Design

Stage Four: October 10 to November 4 - Fabrication and Applications Engineering

The program is being administered by ITC, and all enquiries regarding the program, course fees and administration should be directed to ITC Training and Education.

Further information: Nicole Paton (042) 268884

CENTRE FOR MARITIME POLICY COMMENCES ACTIVITIES

The Centre for Maritime Policy (CMP) commenced operations in January, when the Manager, Sam Bateman, joined the staff of ITC. A joint venture of ITC and the University of Wollongong, the CMP is jointly directed by Professor Ted Wolfers of the University's Department of History and Politics, and Associate Professor Ross Robinson, Director of the Centre for Transport Policy Analysis.

Early achievements include a successful application for funding assistance under the Australia and Asia Institutional Linkages Program, administered by the Department of Foreign Affairs and Trade (DFAT). This assistance will cover the costs of two workshops to be held later this year.

The aim of the first workshop will be to establish linkages between the CMP and the Southeast Asian Program in Ocean Law, Policy and Management (SEAPOL) based in Bangkok. To be held in Wollongong, 9-10 September, it will bring together representatives from SEAPOL with Australian participants to address national and international legal regimes covering coastal and maritime zone planning and management. With the imminent declaration of Australia's two hundred nautical mile Exclusive Economic Zone, and the entry into force later this year of the United Nations Convention on the Law of the Sea, the subjects to be covered at the workshop will be topical.

The second workshop will be held in Kuala Lumpur later in 1994. Directed towards building a link between the CMP and the Malaysian Institute of Maritime Affairs, the theme will be 'Regional Maritime Cooperation', and focus on potentially valuable areas of cooperation. These will include the safety and security of shipping, marine environmental protection, marine scientific research and responses to marine emergencies.

The endorsement of these two workshops by the DFAT is positive recognition of the growing importance of maritime affairs, both to Australia and the regions around us. The CMP hopes to contribute to a more coordinated and comprehensive approach to maritime affairs and oceans management policy in Australia, and to lift the profile of Australia's skills and expertise overseas. An example of this is the success of ITC's tender to present a ten week program in Marine Law to twenty students from the Indonesian Government (see 'Marine Law Course for Indonesia').

Another major objective for the CMP is the establishment of a postgraduate program in

Maritime Policy, which will be available in 1995, and the development of short courses in related fields.

In mid-March, the inaugural Navy Fellow at the CMP, Commander Dick Sherwood RAN, travelled to Turkey to deliver a paper at an

international seminar on Maritime Confidence and Security Building Measures in the Middle East. Commander Sherwood, whose paper dealt with the Asia-Pacific experience, is at the CMP until August, when he will take up a posting in command of one of the new, large Landing Ships being acquired by the Royal Australian Navy from the United States Navy.

Further information:
Sam Bateman (042) 213683



• Pictured from left, Commodore Sam Bateman, Professor Ken McKinnon and Associate Professor Ross Robinson

MARITIME POLICY SHORT COURSES

In August 1994, the Centre for Maritime Policy, in conjunction with the Faculty of Law within the University of Wollongong, is conducting a program of intensive short courses on Maritime Policy:

- Law of the Sea, 15-16 August: an introductory course to provide an understanding of the principles;
- Exclusive Economic Zone Management, 17-19 August: will provide a more detailed understanding of the legal principles, and rights and obligations of countries in respect of the EEZ;
- Maritime Enforcement - Coastal State Powers and Responsibilities, 22-26 August: designed to promote a thorough understanding of the powers and responsibilities of a coastal state in the various maritime zones, i.e. territorial sea, contiguous zone, EEZ, continental shelf and high seas.

The program, to be presented on the campus

of the University of Wollongong, has been designed to meet the requirements for a 'structured training program' as provided under the Training Guarantee (Administration) Act 1990.

Further information:
Sam Bateman (042) 213683

MARITIME POLICY SEMINARS ON NATIONAL OCEANS POLICY

Two seminars on national oceans policy will be held in May 1994 under the joint sponsorship of the RAN Maritime Studies Program and the Centre for Maritime Policy. The first, 'Oceans Management Policy - The Strategic Dimension', will be held in Canberra on Friday 27 May, and the second, 'Protecting and Managing the Offshore Estate' will be held in Sydney on Tuesday 31 May.

Further information:
Sam Bateman (042) 213683

SERVICES MARKETING AND SERVICE QUALITY COURSE

Companies increasingly face fierce competition to maintain and increase market share. To counter this, many companies are focusing on service as their competitive edge factor, and are attempting to raise their service quality to a level which makes a significant difference in the buying decision process of customers.

In a very successful 10-week evening training program which commenced in Wollongong in March, participants were introduced to the concepts of services marketing, and the provision of service quality. Presented on Wednesday evenings to minimise work disruptions, topics covered included: the differences between products and services; the foundations of services marketing; internal marketing and employee empowerment; service quality and customer satisfaction; managing expectations; and positioning services for competitive advantage.

The lecturers all have significant business and services marketing experience, and are members of the Services Marketing Unit in the Department of Management within the University of Wollongong.

Administered by ITC, the course will be presented in Sydney in the second half of 1994, and again in Wollongong in the first half of 1995.

Further information:

Nicole Paton (042) 268884

TRAINING FOR ANSTO

ITC Training and Education recently commenced a series of one and two day seminars, entitled "Technical Report Writing", for scientific staff at the Australian Nuclear Science and Technology Organisation (ANSTO). Three one-day seminars and two two-day seminars are scheduled for this year, with a follow-up likely for 1995. The seminars, which have been well received by the attendees, are conducted by Dr Peter Pockley.

Lay staff will also benefit from additional training when they attend two workshops on "Communication Skills", to be presented by Clem Gorman from the Department of Creative Arts within the University of Wollongong.

Further information:

Neil MacIntyre (02) 370 6650

RESEARCH CONSULTANCY IN BANGLADESH

Dr Ted Booth of the Faculty of Education is currently undertaking a four month research consultancy in Bangladesh, funded by the Asian Development Bank. Selected by W D Scott International through ITC, Dr Booth is working on the Primary Education Infrastructure Project for the Ministry of Education.

Dr Booth's responsibility is to collaborate with CDRB-Eduplus, the local consulting

MORE HONOURS FOR HOWARD WORNER

Professor Howard Worner, Scientific Adviser to ITC, and founder of the Microwave Applications Research Centre, has been honoured with three more awards this year to add to his impressive collection.

On 15 March, at an international conference in Sydney, he received an Honorary Fellowship of the Australian Institute of Energy. He was awarded an Honorary Doctor of Science from Latrobe University on 8 April, and the Ian Wark Medal and Lectureship of the Australian Academy of Science will be awarded to him in Sydney on 6 July. The latter is an especial honour, as it is the first time that the medal has been awarded outside the CSIRO.

company, and to supervise six research projects over the period of the consultancy. The projects include a study on the opportunity cost of primary school dropouts, rescheduling the school year to increase class contact hours, ways of mobilising domestic resources for primary education, a review of primary school curriculum scheduling, the effectiveness of satellite primary schools, and strategies to more effectively involve local communities in primary education.

Further information:

Ann Webb (042) 268952



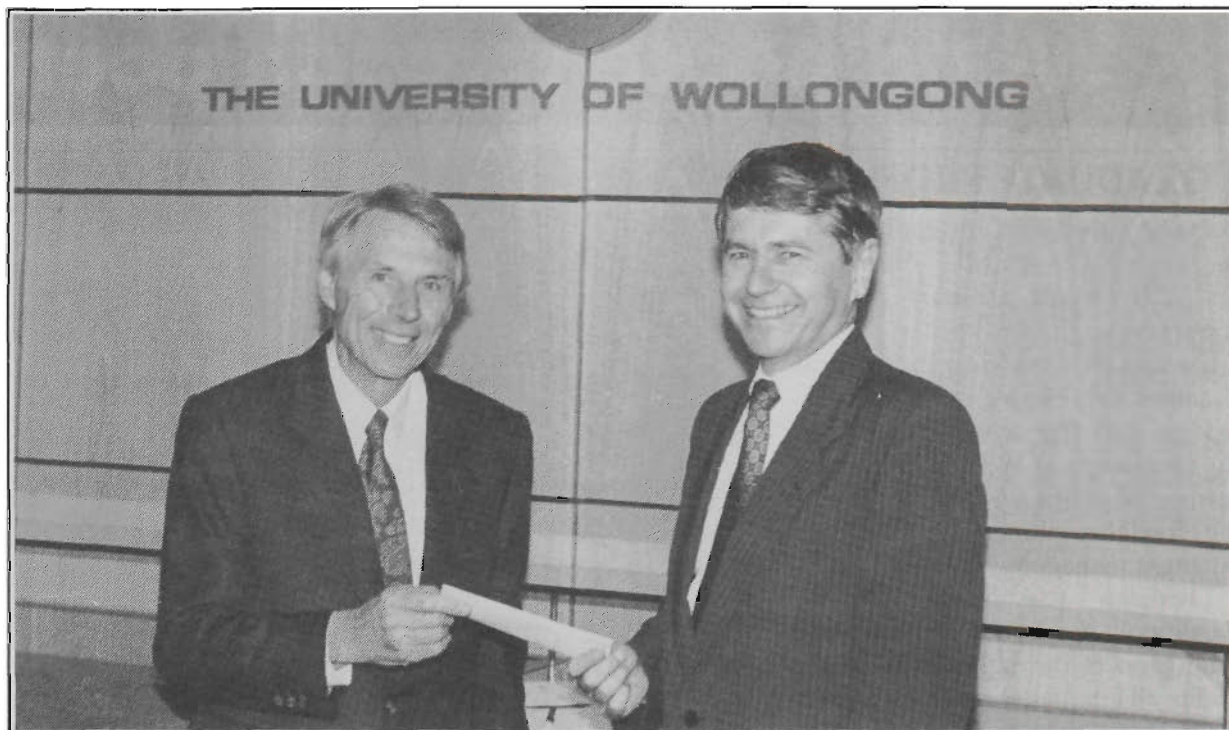
The Illawarra Technology Corporation Limited

The Research & Development Company of the University of Wollongong A.C.N. 002 882 064

Northfields Avenue Wollongong NSW; Locked Bag 8812, South Coast Mail Centre NSW 2521
Telephone: (042) 268999, Facsimile (042) 268807

Editor, ITC News: Ann Webb (042) 268952

Chairman of the Board of IMB, Mr David Waters, presents the first instalment to the Acting Vice-Chancellor, Professor Gerard Sutton



Major Illawarra organisation joins forces with the University

The Illawarra Mutual Building Society has entered into a cooperative relationship with the University which brings together two premier Illawarra organisations.

The IMB has presented the University with its first cheque for membership of the University Foundation at Trustee level.

The funds will be used by the Uni-

versity's Communications Centre for the development of multi-media materials.

Earlier this year the IMB opened a branch on the University Campus, bringing their facilities within convenient reach of staff and students.



Prize for transport energy efficiency

Associate Professor Philip Laird (pictured) of the Department of Mathematics has won a national paper prize by the National Transport Committee of the Institution of Engineers, Australia.

The competition was sponsored by the consulting engineering firm, Ove Arup and Partners.

The prize and an Institution Medal were for a paper judged the best entry.

The paper, titled 'Increasing Energy Efficiency in Australian Land Freight Transport', in part reported on the Land Freight Transport Energy Project completed in 1993 by Dr Laird for the Energy Research and Development Corporation.

This study could only have been done with the help and cooperation of many people and organisations.

These include the project's research assistant, Ms Gabriella Adorni-Bracessi, part-time staff and consultant to the project, road and rail authorities, the Centre for Resource and Environment Studies at the Australian National University, the Bureau of Transport and Communication Economics in Canberra and the Department of Mechanical Engineering at the University of Wollongong.



The paper examined the progress made in Australia in improving energy efficiency in both road and rail freight, and recommended upgrading of the mainline interstate rail track in Eastern Australia 'to the standards of between Adelaide and Perth with easy grades and no tight curves for Fast Freight Train operations'.

Rail electrification was also considered along with the pricing of road and rail freight.

'While it is pleasing to see some grade and curve easing of interstate mainline track north of Grafton, a start is yet to be

made on the track between Sydney and Albury,' the paper said.

'This stands in marked contrast to the progress being made by Queensland where 80km of their main north line is being upgraded to easy grades and no curve tighter than 2.2km.'

The paper is due to appear with other competition papers in a special issue of the Civil Transactions of the Institute. Research in this area is continuing with the support of the Faculty of Informatics and the Environment Research Institute.

World peace through poetry

GRADUATE PROFILE

Poet and novelist Alison Rice has conceived and compiled the Young Poets' Earthbook as part of her commitment to world peace.

Ms Rice, who holds a Bachelor of Creative Arts degree in English Literature and Creative Writing from the University of Wollongong, has a history of script writing, copywriting, freelance photo-journalism and business management.

Through the Young Poets' Earthbook she hopes to encourage young poets throughout the world and in all languages to search for and write about creative and positive solutions to world peace.

The intent of the book is to inspire works of poetry with themes ensuring the survival and prosperity of life on earth.

A competition closing 26 June to gather work for the book is open to young people between the ages of 13 to 19 and will result in a compilation of songs, messages, poetry, art and dance.

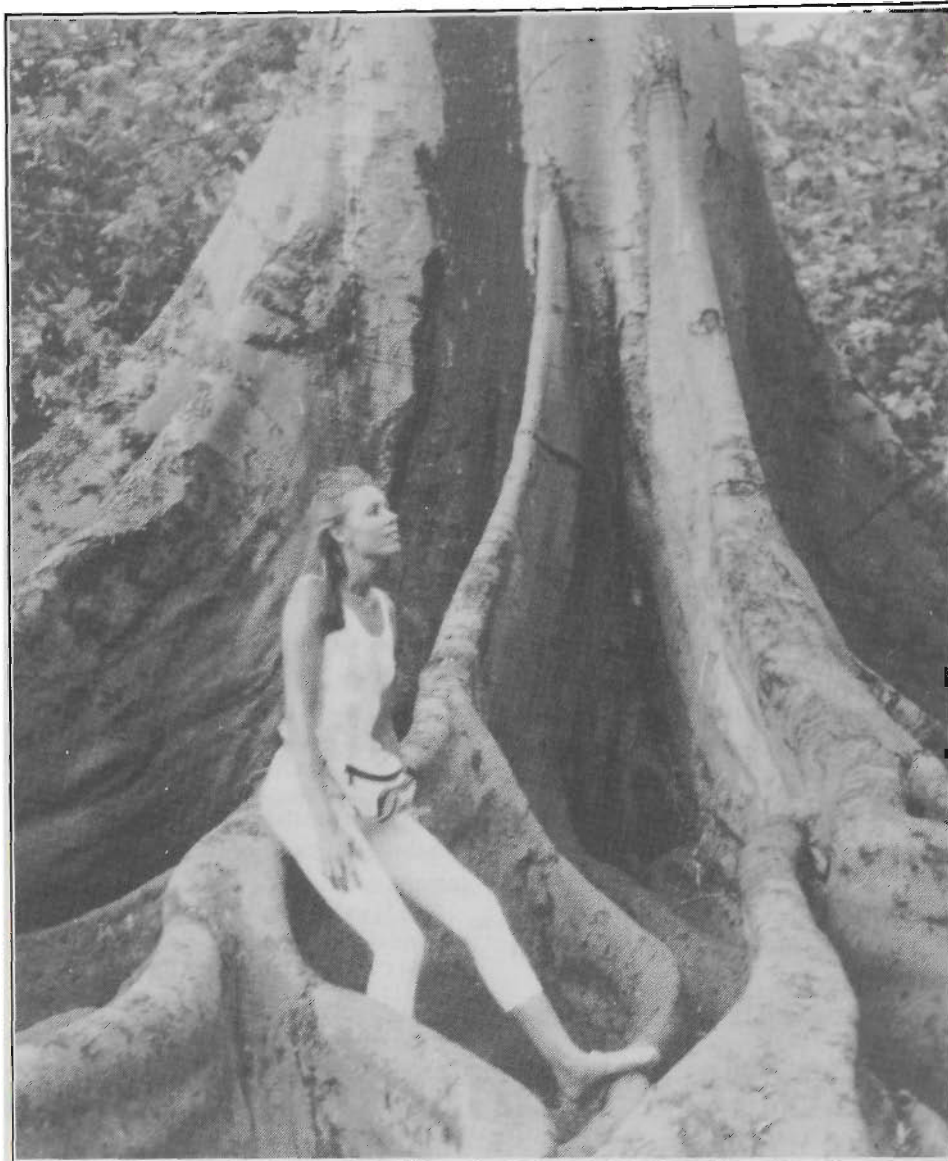
Themes for various age groups include Respecting Native Peoples, Protecting our Kindred Spirits: Plants and Animals, Healing Mother Ocean Earth, and Dancing and Singing for World Peace.

Ms Rice has also gathered the creative talents of international artists she believes are active caretakers of the planet.

This includes works by top international artists such as Peter Gabriel, Yothu Yindi, Def FX, Paul Mercurio, Archie Roach, Not Drowning Waving, Angry Anderson, Things of Stone and Wood, Germaine Acogny (Senegalese dancer from France), cinematographer Ross Isaacs and Mt Everest climber Brigitte Muir, as well as Faculty of Creative Arts Associate Lecturer Merlinda Bobis.

Czech illustrator Drahos Zak is responsible for the innovative cover design and rich illustrations.

Peter Garrett and Mandaway Yunupingu were approached to write the foreword for the book because of the strong messages in their music.



Alison Rice

Included in the Young Poet's Earthbook is a manuscript written by Ms Rice that is a guide to poetry.

It discusses what poetry does and how it can be used by people to deliver important messages.

Ms Rice is executive director of The Delphi Project coordinating the competition. The project is dedicated to excellence and integrity in all its creative endeavours.

Ms Rice said: 'The project's future direction is toward expanding environmental education and arts programs, and offering financial assistance to promote more sustainable and peaceful ways of living on the earth.'

Ms Rice also recently completed her first novel 'Delphi', which is due for release in 1995.

The Earthbook project aims to raise funds for the Creative Arts Program in the Royal Alexandra Hospital for Children.

A percentage of each entry fee plus 5 per cent royalty from each book will be donated to the program. Entry forms are available from Angus and Robertson book stores Australia-wide.

All entrants receive a certificate of recognition and seven of the most inspiring poets will win a place on The Oceania Project's fifth whale and dolphin expedition to Hervey Bay, Queensland.

One poet from each age group will spend six days on a 40 metre sailing ship which came to Australia in 1988 with the Bicentennial First Fleet re-enactment voyage.

Festival of Creative Arts 3-18 June

Phone (042) 21 4214 for a brochure

Mining Department short course attracts industrialists

Water is normally considered a blessing to humanity but to the mining engineer water can be a curse.

Water interferes with mine production and safety, and creates uncomfortable working conditions underground.

Increased costs are inherent in the problem, both in monetary and environmental terms.

The Department of Civil and Mining Engineering at Wollongong University presented a one-week course from 18-22 April, assisting people in the mining industry to deal with this important problem.

The course, titled Mine Water-Origin, Inflow, Prediction and Control, dealt with all aspects of water as it affects mining operations.

The importance of hydro-geological and hydrological factors related to the ingress of water into the operation were considered, including prediction methods and control techniques.

The course also addressed surface water pollution which

often occurs in remedying mine water problems.

The course director, Head of the Department of Civil and Mining Engineering at University of Wollongong, Professor R N Singh, said that an important feature of the course was that the presenters came from both academia and industry, drawing on a wealth of practical and theoretical experience.

An added feature was that participation in the course could be used for accreditation as part of the Graduate Diploma/Master of Mine Management courses offered by the Key Centre for Mines, he said.

The Key Centre for Mines is jointly run within the mining departments at University of Wollongong and University of NSW with a brief to foster mining education for industry personnel.

27-28 May
NSW STATE AITEA CONFERENCE
- (QUALITY)
Date for papers: Closed
Registration date: Closed
Contact: Peter Wood (042) 21 3943

27 May
THE CENTRE FOR MARITIME
POLICY SEMINAR, OCEANS
MANAGEMENT POLICY - THE
STRATEGIC DIMENSION
Location: Canberra
Contact: Sam Bateman (042) 21 3224

28-29 May
AUSTRALIAN ASSOCIATION OF
GERONTOLOGY RURAL
CONFERENCE EDUCATION AND
AGING, RELOCATION, CASE MIX
FINDINGS
Registration date: 16 May
Contact: Irene Stein (042) 21 3766

31 May
THE CENTRE FOR MARITIME
POLICY SEMINAR, PROTECTING
AND MANAGING THE
OFFSHORE ESTATE
Location: Sydney
Contact: Dick Sherwood (042) 21 3225

1-2 July
SELF, LIFE AND WRITING: POST-
COLONIAL PERSPECTIVES
Organised by the New Literatures
Research Centre, Department of
English. Papers include discussion of
Witi Ihimaera, Patrick White, Sally

University of Wollongong Conferences

Morgan, Rosa Praed, Michael
Ondaatje, Elizabeth Jolley.
Plenary address by Professor Sidonie
Smith. For registration forms phone
(042) 21 3226.
Contact: Dr Paul Sharrad
(042) 21 3705

3-8 July
RACI DIVISION OF ORGANIC
CHEMISTRY
14TH NATIONAL CONFERENCE
Date for papers: Closed
Registration: 10 June with late fee
Contact: Prof John B Bremner
(042) 21 4256

3-6 July
ACCOUNTING ASSOCIATION OF
AUSTRALIAN & NEW ZEALAND
ANNUAL CONFERENCE
AAANZ Pacioli - 500 YEARS ON
Date for papers: Closed
Registration: April / May
Contact: Janet Moore (042) 21 4005

8 July
ENGINEERING & THE
ENVIRONMENT
Contact: Judy Gordon (042) 21 4086

27 September-1 October
29th ANNUAL AUSTRALIAN

PSYCHOLOGICAL SOCIETY
CONFERENCE
Date for papers: Closed
Registration: up to the starting date
Contact: Dr Jeff Wragg (042) 21 3652/
Pro-Vice Chancellor Bill Lovegrove
(042) 21 4070.

1-3 October (Long weekend)
AUSTRALASIAN POLITICAL
STUDIES ASSOCIATION
CONFERENCE
Contact: Dr Anthony Ashbolt
(042) 21 3675

October
ENVIRONMENTAL GEOLOGY
SHORT COURSE
Contact: Dr Bryan Chenhall
(042) 21 3805

9-10 November
PARALLEL COMPUTING AND
TRANSPUTERS
Date for papers: July
Registration: November
Contact: Fazel Naghdy (042) 21 3398

28 November-1 December
ASIA CRYPT '94
Date for papers: 18 July
Registration: 1 October
Contact: Prof J Seberry (042) 21 4327

5-7 December
PROTECTING THE FUTURE - ESD
IN ACTION
Date for abstracts: July 15
Contact: Dr Siva Sivakumar
(042) 21 3055

Festival of Creative Arts 3-18 June Phone (042) 21 4214 for a brochure

General

- 12 May: Special lecture series given by staff from the French Embassy, 3.30pm, Monsieur Francis Etienne, Cultural Counsellor, La France et la Communauté Européenne.
- 19 May: Special lecture series given by staff from the French Embassy, 3.30pm, Monsieur Philippe Baude, French Ambassador, La politique étrangère de la France de 1958 à nos jours. Note: Lectures will be in French but there will be questions in English.
- 24 May: Women's Issues Group meeting at 7.30pm in the Function Room of the Union Building. The program is: Cookie Lloyd, Indonesia — Planters Wives to Ex-Patriots; and Sue Gilroy, Famous Women in Opera. All are welcome — you do not have to be a member. Cost: Members \$2.50, non-members \$3.50. Parking is available in the multi-storey car park. Level D is the most convenient. Enquiries: Moira Bowman, phone (042) 84 3741.
- 15-19 August: University Union Blue Stocking Week.
- 28 August: University Open Day.
- 30 August-3 September: Union Week.
- 4 September: Graham Park, Shoalhaven, Open Day.
- The Illawarra Committee for Overseas Students (ICOS) has announced its calendar of events for this year. The events are: May 14: Kiama and Minnamurra Falls. May 29: The Blue Mountains. July 23 and August 6: Snowy Mountains one-day trip \$25 (coach only).
- Human Research Ethics Committee. Agenda Deadline Dates: 11 May, 13 July, 10 August, 12 October, 9 November, 7 December. Meeting Dates: 24 May, 26 July, 23 August, 25 October, 22 November, 20 December.

Campus News is published weekly on Wednesdays. Send material, preferably by Microsoft Mail or on disk, to Gillian Curtis (042) 21 3027 by noon on Monday of the week before that of publication. *Campus News* has a circulation of 3000. It is distributed on campus to staff and students. 1000 are mailed to the community and overseas including schools in Illawarra, southern Sydney and Canberra; local, Sydney and Canberra media; Friends of the University; business representatives; MPs and numerous individual requests.

What's On

Key Centre for Mines courses: 15-16 June: Longwall Technology Transfer Workshop; 18-19 July: Mining Law; 20-22 July: Land Tenure and the Mining Industry; 27 September: Disposal and Utilisation of Mine Waste; 7-11 November: Modelling, Planning and Evaluation of Resources on a Personal Computer; 14-18 November: Environmental Geology. Inquiries: Professor Naj Aziz, phone 21 3449, or Sue Wade, phone 21 3057.

DEPARTMENT OF BUSINESS SYSTEMS SEMINAR

'Semiotics of Organisations'
Monday 16th May, 1994
Function Centre Room 1
12.30-1.30pm

*Ronald Stamper
University of Twente,
Netherlands*

ABSTRACT

Organisations only exist by virtue of human ability to use signs in order to signal their intentions to one another and to record and remember complex configurations of events and relationships. Semiotics or the Doctrine of Signs might be expected to provide a window onto organisational issues that suits our current concern with information resources. Signs are always physical tokens, that we use to construct, maintain and use our social world, including our organisations. The signs have to function effectively on four other levels besides the physical and social. They have to be reliable (empirics), structured (syntactics), meaningful (semantics), used with intention by responsible agents (pragmatics) in order to have a desired social effect. These aspects of semiotics can be applied to most problems of organisation and information systems, as least as a basic check-list of issues to consider.

The Art of Lunch

A series of one-hour performances in the Music Auditorium (University Building 24.G01) on Thursdays at 12.30 during session. Admission: Free

- 12 May: Some new music from the recently formed flute ensemble Eclectix, directed by ex-student and well-known flautist Emma Knott.
- 19 May: Third Year Music Performance students present selected pieces from their 'in-preparation' recital programs
- 26 May: Visiting writers from the National Book Council Writers' Tour present a program of readings
- 2 and 9 June: Details of these performances are not finalised.

Artists' Talks

Wednesdays 12.30-1.30pm. Music Auditorium. Admission free.

Long Gallery

- 13 May-29 May: Leonie Molloy curates 'Dissonance 94' Ceramics by Peter Wilson, Sung-Sook Hwang. Opening date: May 13 or 15 (tba).
- 5 June-26 June: Environment Show - Penny Harris & Ian Gentle curator (part of Creative Arts Festival).
- 1 July-24 July: Naidoc Show, curator Trish Woods.
- 29 July-21 Aug: TAFE/ Artist Books Exhibition.
- 25 Aug-18 Sept: Turkish Exhibition, student/community.
- 22 Sept-12 Oct: Postgraduate Show, Leonard Smith, Julianne McCue, Catherine Kay.
- 16 Oct-6 Nov: Bronzes, Ken Stone, Lynn Brunet, John Telford.
- 14 Nov-7 Dec: BCA Graduating Exhibition.
- For further information please contact Elizabeth Jeneid at the Faculty of Creative Arts, phone (042) 21 3048.

Stop Press

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