

UNIVERSITY OF WOLLONGONG CAMPUS NEWS



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John Gorman, Tim Wellsmore, Tom Carter, Michael Wyatt and Greg Baldock with prize-winning cladding clamp

Clamp wins design award

A clamp to make the lifting and handling of corrugated iron easy, scooped the pool at the 22nd Creative Design Competition

The competition, run by the Department of Mechanical Engineering in conjunction with BHP Steel – Sheet and Coil Products Division, is in its 22nd year.

Fourteen design groups, made up of first year Mechanical Engineering and Chemical Engineering students, worked on various design problems throughout Spring Session for the 1992 competition.

Four groups qualified as finalists and presented their

designs on Friday 27 November at a public meeting at the University.

The projects were a swimming pool safety device, the Handi saw horse, a garden carry-all and the cladding clamp.

The cladding clamp won four out of five of the prizes:

The Peoples Choice; BHP Steel International - Sheet & Coil Products Division Award; The Department of Mechanical Engineering Perpetual Trophy; and The Institution of Engineers Australia, Illawarra Branch Award for Best Technical Presentation.

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The School of Creative Arts at the University of Wollongong has been informed that its New Poets Publishing Program has been supported by the Literature Board of the Australia Council

The program was established this year as a joint venture between the University's School of Creative Arts and Five Islands Press to give new poets Australia wide the opportunity to have their first book published.

Organiser of the program, Mr Ron Pretty from the School of Creative Arts, said that getting a first book published was often the most difficult hurdle for poets.

"This program would provide a

Brief News

confidence boost and give the successful poets a publication they could present to publishers when submitting subsequent work."

Under this program, six writers will have a first book of poetry produced.

Ten other promising writers will be invited to share a week long workshop in January at the University with the six chosen writers.

A National Board of Employment, Education and Training Report, *Higher Education, Achieving Quality* has been

lodged in the Library.

Has anyone been wondering what the rubber ducky moored across the lake near the Administration Building is for?

The motor is running permanently, but it isn't going anywhere.

Well, ponder no more. It's a device for restoring the clarity of the water.

Buildings and Grounds are trying it out. The makers claim its oxygenating powers will clear the water in a few weeks. If it is successful the University will purchase the unit, but it will not be a permanent fixture.

Once the water has improved it only has to run for a day or so now and then to maintain the water quality.



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Clamp wins design award

The swimming pool safety device won the Mechanical Engineering Society Award for Best Realisation of a Concept.

The judges for this year's competition were:

- Mrs J. Gordon, Promotions Officer, Institution of Engineers, Australia, Illawarra Branch.
- Professor T. Rozgonyi, Dean, Faculty of Engineering, University of Wollongong.
- Mr L. Woodland, Manager Director, Mechatricity Pty Ltd, Fairy Meadow.
- Mr J. Read, Senior Mechanical Engineer, BHP Steel, Sheet and Coil, Products Division.



ABOVE: Ben Braddock, Matthew Gregory, Peter Amos and William Chant with their All-Purpose Garden Carry-All

LEFT: Jennifer Green, chairperson of the group that designed the Handi Saw Horse



ITC News

The Illawarra Technology Corporation Limited

December 1992

ITC APPOINTS NEW CHAIRMAN

Mr George Maltby has been appointed Chairman of The Illawarra Technology Corporation Limited. A well-known telecommunications identity, Mr Maltby is a former Managing Director of OTC, and is also Chairman of the Australian Telecommunications Users' Group and a member of the new Telecommunications Industry Development Authority.

"We are involved not just in information technology research and training, but in a number of other areas as well, such as innovative work in environmental management, the commercial application of microwave technology, and on-site training for managers and shopfloor operatives in manufacturing industry", he said.



"Universities have a great contribution to make to Australia's industrial and commercial development", Mr Maltby said. "ITC is fully committed to that challenge. We provide a commercial focus to help industry gain cost-effective access to the University's research and development expertise.

Until his retirement from OTC in late 1988, Mr Maltby was Australia's top international telecommunications management executive. He has had extensive experience negotiating agreements and policies in the telecommunications industry and was closely involved in all of OTC's major international projects.

NEW BOARD FOR ITC

The Board of ITC has been restructured and, as noted elsewhere, Mr George Maltby has been appointed Chairman of the Board. At its meeting in October 1992, the Board noted with regret the resignation of the Vice-Chancellor and Principal of the University of Wollongong, Professor Ken McKinnon, as chairman of the Corporation. The Directors acknowledged the enormous debt the Corporation owes to Professor McKinnon for his outstanding contributions to its establishment and successful development, and are pleased that Professor McKinnon will remain as a Director.

The Directors also recognised the valuable contribution to the management of ITC by the following Directors who relinquished their positions during the previous twelve months: Professor Gerard Sutton, Professor Gerry Freed, Professor Ron Johnston, Associate Professor Max Lowrey, Mr Jim Pearce and Mr John Peedom.

The restructured Board comprises Mr Maltby, Professor McKinnon, Mr Chris Beare, Dr Brian Gillett, Dr Brian Hickman, Mr Grahame Parker, Mr Bob Williams and Mr Jim Langridge (Managing Director).

Wear Testing to Order

In a recent consultancy, contracted through the Consulting and Intellectual Property Unit (CIPU), a range of wear tests was conducted on metal and ceramic materials used in industrial valves at the Keystone Pacific plant in Nowra. The work was undertaken by Dr Masoud Samandi, a specialist in surface engineering and lecturer within the University's Department of Materials Engineering. Following discussions with Keystone Pacific, a wear testing machine was built to precise standards in order to carry out the required tests. The quality and precision of the first series of tests has so impressed the client that testing on other materials is also being undertaken.

The wear testing machine will remain within the Department of Materials Engineering, and will be available for similar test programs, as required.

Further information:
Peter McNamara (042) 268939

Certificate in Manufacturing

A training course designed specifically for production workers in the manufacturing sector was launched in mid-September at the NSW Chamber of Manufactures North Sydney office by the Australian Training School for Advanced Manufacturing (ATSAM). The Certificate in Manufacturing program was developed one year ago by ATSAM, and has been pilot tested successfully by two leading manufacturing companies, Johnson & Johnson Pacific at Botany, and Kimberly-Clark at Ingleburn.

The two year course offers a combination of Core modules such as Basic Maths and Science, Communications and Computer Literacy, together with an appropriate choice of Option Modules (for example, Flexible Manufacturing Systems and Just in Time). The program can be conducted on site, so that workers can proceed directly from factory floor to classroom. This method of delivery means that industry becomes more productive at the workshop level on a day-to-day basis.

The program can be designed for the specific needs of each organisation, and all courses meet the requirements of the Training Guarantee Act. The only requirement for entry into the program is a reasonable standard of English. If language is an obstacle, the Wollongong English Language Centre (WELC) can be introduced to help bridge the gap. This is particularly important in an industry with a high proportion of workers from non-English speaking countries.

The National Industry Extension Service (NIES) provided development money, and with input from unions, TAFE and the NSW Vocational and Education Training Accreditation Board (VETAB), the Certificate is accredited as a formal qualification to higher level training courses. An important aspect of the course is the consideration that is given to prior training.

The program has attracted considerable interest from industry, and a number of high profile companies are seeking to introduce the Certificate early in 1993. Additionally, interest has been shown by a number of high schools which are keen to run the Certificate under licence. Keira Technology High School intends to pilot the Certificate at Year 11 level in 1993.

Further information:

Gill Churchill (042) 268821

Certificate in Manufacturing at Kimberly-Clark

Kimberly-Clark Australia (Ingleburn Plant) of Huggies, VIP's and Snugglers disposable nappies fame, currently has two groups of employees undertaking The Certificate in Manufacturing.

The desire for self improvement, and a general commitment to remain in the manufacturing industry are the most common reasons cited

HONORARY FELLOW

Biological and Chemical Analytical Services (BACAS) Director, Trevor Lewis, was recently appointed an Honorary Fellow in the Department of Chemistry within the University of Wollongong. His responsibilities include delivering occasional lectures to undergraduate students in the Analytical/Environmental subjects within the Department, and co-supervision of research students working in areas closely related to the analytical services offered by BACAS. He is also eligible to apply, in collaboration with a fulltime member of the University staff, for intramural and external research grants.

Further information:

Trevor Lewis (042) 213428



by the 28 employees (14 males and 14 females) who are enrolled in the company-sponsored program.

A feature of the Kimberly-Clark course is the care that was taken to design the class attendance patterns in consultation with management, so that the needs of interested employees, but who were from different shifts, were taken into account. Each group attends class for the day, on alternate Tuesdays, and the two modules are run concurrently. Recognition of prior learning has been given for relevant training provided in-house by the company and at the Institute of Technology (formerly TAFE).

In addition to the Core modules, Kimberly-Clark is interested in developing factory-specific Options modules, so that even greater relevance to the workplace can be achieved.

Further information:

Gill Churchill (042) 268821

Door to Door Transport: Getting the Costs Down

In line with the world-wide trend, Australian transport operators now recognise that new approaches are needed for real reform and improvement in the transport industry. The move is away from each sector looking at its own discrete transport movements, towards all sectors investigating ways to provide an integrated door-to-door service.

To assist in this process, the Centre for Transport Policy Analysis (CTPA) recently organised a seminar on "Thinking Intermodally". Held at Sydney's Darling Harbour, it was attended by senior executives from the transport industry, port authorities, road and rail transport authorities, and other government agencies. "Seminars like today's are important", CTPA Director Dr Ross Robinson said. "We all talk very frankly to one another. No one of us can find the answers alone: the whole point is getting more shared understanding of each other's operations, more cooperation and trade-offs so everyone can benefit in the long run."

Further information:

Dr Ross Robinson (042) 213683

Impacts of Global Shipping Changes on Australia's Rural Industries

The Centre for Transport Policy Analysis (CTPA) has received a grant for \$110,000 from the Rural Industries Research and Development Corporation to fund research into the impacts of changes in global liner shipping on rural exports.

The Director of CTPA, Dr Ross Robinson, indicated that the container revolution of the 1970s and 1980s was associated with the rapid growth in the capital intensity of shipping - a high level of investment was incurred to introduce specialised container vessels and the necessary associated port infrastructure. These large investments led to larger vessels being employed where cargo volume permits. Over the same period, and particularly during the 1980s, competitive pressures led to attempts to achieve operating cost economies. In combination, these forces are creating new patterns of shipping services involving inter-continental, 'Round-the-World' or 'Pendulum' services, operated by larger container vessels.

Cost pressures have led shipping consortia operating such services to limit port calls to regional 'hubs' or 'load centres'. Regional feeder services link such centres with sub-regional hubs and these in turn distribute cargoes by local shipping or road/rail links, often over large distances. These developments are likely to have significant implications for Australian export movements generally, and for the large volumes of high-value rural exports such as fruit, wool, dairy products, meat and a range of other time-sensitive rural products.

The year-long study will investigate the potential reorganisation of cargo flows, and assess the cost dimensions of the likely changes.

Further information:

Dr Ross Robinson (042) 213683

BACAS moves to ITC

For three years, under a trial arrangement, the operations of Biological and Chemical Analytical Services (BACAS) have been undertaken within ITC. With the conclusion of that period on 31 December 1992, the Board of Directors has decided that BACAS should be permanently incorporated within the Resources Division of ITC, and Mr Trevor Lewis, Director of BACAS, appointed as part of the management team of ITC.

To reinforce and build upon the collaborative working relationship between BACAS and the Faculty of Science, a series of arrangements have been agreed which will see an expansion of the amount of testing and consulting work from the Faculty being marketed and managed through BACAS. The ability of BACAS to coordinate and focus the available resources will enhance the strength and credibility of the University as a provider of reliable services to industries within the region. It is believed that this will lead to an expanding role for BACAS, and the University, as a major testing and analytical resource in the Illawarra - with the potential to become the main comprehensive testing service provider for the region.

Further information:
Gill Churchill (042) 268821

Frameworks Literacy Teaching Programme takes off

Following the Australian launch of Frameworks in mid-September, University of Wollongong educationists Jan Turbill and Brian Cambourne have been leading 5-day teacher development workshops in Dubbo, Wagga and Coffs Harbour throughout October and November. At these workshops teachers learn to become Frameworks facilitators so that they can return to their schools to share the Frameworks expertise with other staff members.

Researched and developed in Australia by Jan, Brian and Andrea Butler, then piloted in schools throughout New York State, Frameworks has been a runaway success in the USA where it is now being used in 30 of the 52 States.

As project managers of the project, ITC Training and Education are looking forward to spreading the Frameworks message around Australia. To date ITC has represented Frameworks at Australia's largest language and literacy trade fair held last month at the Convention Centre in Melbourne, and enquiries have been received from the Queensland Department of Education and Catholic Education Offices in several states.

Further information:
Helen Robinson (042) 268884

LAUNCH OF ENVIRONMENT PROCESS

Details of the ENVIRONMENT Process, a smelting process utilising steelworks dust and sewage treatment plant sludge, were released on 12 November 1992 with a media launch in both Wollongong and Sydney. This was followed by a display at the Environmental Technology Fair in Wollongong on 15 November.

As the technology approaches commercialisation, ITC is focussing efforts on four key issues:

- public awareness and information dissemination,
- commercial evaluation and negotiations for

licences,

- technical and environmental validation, and
- discussions with government to modify fees for landfill disposal.

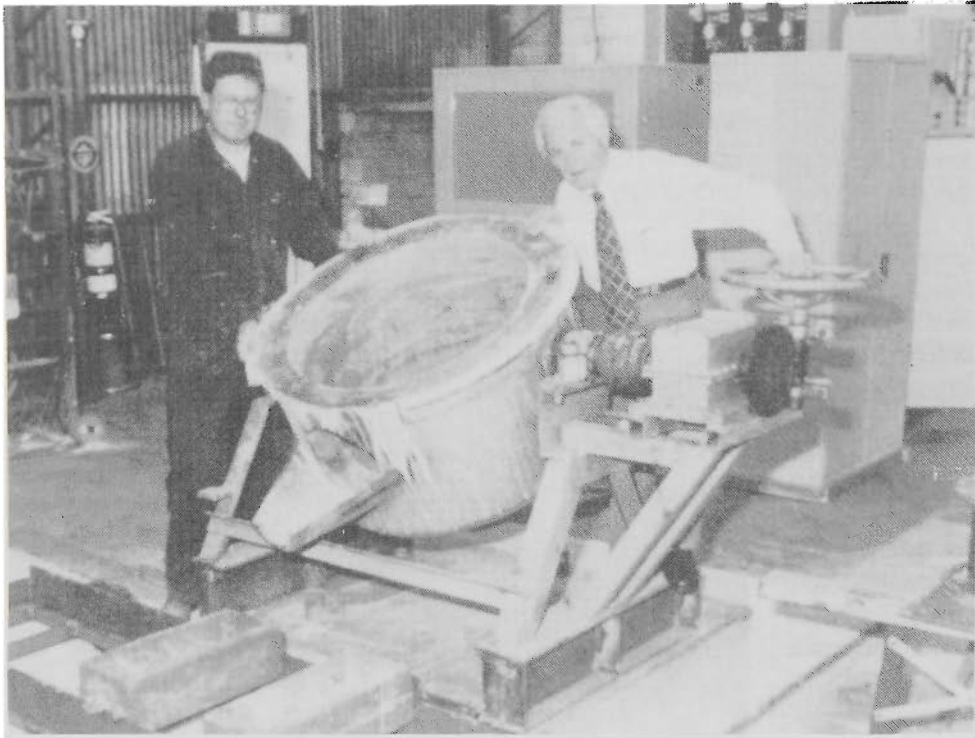
In each of these areas ITC will be working to ensure that the relevant parties are fully informed of the issues, and adequately briefed with the necessary information to make appropriate decisions. The process has just begun, and will be an ongoing role for ITC as this exciting waste recycling technology is commercialised.

Further information:
Gill Churchill (042) 268821



• Professor Howard Worner, the "father" of the ENVIRONMENT process, at the Wollongong launch

ENVIRONMENT



ITC's Len Reilly and Prof Howard Worner with the ENVIRONMENT furnace.

Turning wastes into valuable products

Expensive and dangerous disposal methods could be a thing of the past with new waste treatment technology developed by The Illawarra Technology Corporation Ltd.

The technology, known as the **ENVIRONMENT** or molten slag process, breaks new ground in the treatment and disposal of contaminated sewage and metal wastes. The **ENVIRONMENT** process:

- ┐ **Offers** clean, pollution-free processing of a range of wastes, such as heavy metals, plastics and other hydrocarbons;
- ┐ **Converts** wastes at extremely high temperatures, using smelting practices;
- ┐ **Recycles** wastes into saleable products such as cast iron alloys, granulated slag and metal oxides;

- ┐ **Replaces** environmentally unfriendly disposal methods like landfill;
- ┐ **Eliminates** the need for high temperature incineration and is superior in environmental impact, technical efficiency, commercial viability and community acceptability.

The **ENVIRONMENT** technology is now commercially viable. It offers an exciting future to industry worldwide - wherever metal contamination is a disposal problem.

And with further development already underway, this process developed by ITC will be able to handle many other hazardous wastes, such as heavy metals, dry cell batteries, syringes, plastics - even household garbage and tyres.

THE SAFE AND PRACTICAL DISPOSAL METHOD



The Illawarra Technology Corporation Ltd

The Process in Detail

The **EnvIRONment** process is a highly flexible waste processing and disposal technology which features zero residuals and maximises the value extracted from the waste components.

The key to the process is iron:

- ┐ **Iron-bearing dusts** are used as a co-processing material with other wastes, like sewage sludge.
- ┐ **Molten iron** in an electric arc furnace is the heat exchange medium which breaks down and converts wastes.
- ┐ **Cast iron** alloys are the main revenue-generating end-products.

How It Works

- (1) Steelworks dusts - a by-product of iron and steel manufacturing - can be used in the primary sedimentation tanks of conventional gravity sewage treatment plants. Dusts are mixed with suspended particles in the incoming sewage.

The heavy accumulation of iron dusts and sewage solids settle rapidly to the bottom of the primary tanks, and are removed for drying.
- (2) Solids from either sewage treatment plants or other waste sources are then blended with steelworks dust and fluxing agents, extruded, dried with heat from the furnace off-gases and fed into the top of the furnace, which operates at a temperature of around 1500 deg C.

There the blend is engulfed in the foaming slag layer forming on top of the molten iron. Wastes sink to the point where slag meets molten metal.
- (3) At this stage, metal oxides are reduced to metal and all organic components of the feed materials return to their basic elements. Inorganics move into the slag layer while iron and most heavy transition metals dissolve into the molten metal.
- (4) Volatile metals like zinc, lead and cadmium fume off through the slag, and are captured in the off-gas furnace systems.

Organic constituents are consumed, yielding water vapour and carbon monoxide, which converts to carbon dioxide. This generates extra heat, ensuring complete breakdown of organic components.

EnvIRONment's high thermal efficiency leads to:

- ┐ Substantial reductions in the size of the furnace required;
- ┐ Significant reduction in capital and operating costs;
- ┐ Greatly reduced volumes of gas produced.

Its molten iron bath maintains a stable heat level when large volumes of wastes are fed in, and there is no open flame to control. The energy transfer from liquid iron to wastes is much more efficient than high temperature incinerators, where energy transfer is between gases (flame) and wastes.

The critical liquid iron bath is continuously regenerated. It requires no modification for different types of waste, leaves no residual ash for disposal as landfill, and is suitable for the disposal of ash from combustion-based systems.

The process involves basic metal foundry industry practices. Existing furnaces can be modified and used to operate the smelting technology, under regulations for existing industrial land zoning.

Initial use of a foundry operation to convert and dispose of industrial wastes will provide the basis to develop applications into disposal of more hazardous wastes.



An ingot produced by the EnvIRONment process.

Who's Behind It

The **EnvIRONment** process has been developed through the co-operation of three organisations:

- ┐ **Pacific Power**, the principal generating authority for clean efficient energy in NSW.
- ┐ **The Water Board**, sole provider of water and sewage services to the greater Sydney region (Sydney, Blue Mountains, Illawarra).

- ┐ **The Illawarra Technology Corporation Ltd**, the research and development arm of the University of Wollongong.

Pacific Power and the Water Board are major New South Wales Government business enterprises committed to the development and utilisation of safe, effective and environmentally sensitive technologies for our society.

VISIT BY JOINT VENTURE PARTNER

ITC recently hosted a visit to Wollongong and Sydney by joint venture partner Moosa Baqer, CEO and President of Best Enterprises, in the Sultanate of Oman. The main reason for Mr Moosa's visit was the invitation of the University of Wollongong to present the Graduation Address at the ceremony held on 9 October 1992. The opportunity was also taken for Mr Moosa to meet with senior executives of the University, as well as to hold discussions with ITC management on projects of mutual interest.

• **Mr Moosa Baqer and Mr Jim Langridge, Managing Director of ITC, robed for the graduation ceremony**



Diff Seminar

Some 120 attendees enjoyed the often lively debate at the Seminar hosted by ITC on behalf of the Australian International Assistance Development Bureau (AIDAB) on 10 July 1992. The Seminar was opened by Hon John Kerin, Minister for Trade and Overseas Development, and achieved its purpose of providing an informed public debate on the developmental, trade creation and industry development impacts of the Development Import Finance Facility (DIFF) and its future. Speakers included Mr Russell Rollason, Executive Director of the Australian Council for Overseas Aid, Dr Peter McCawley, Executive Director of the Asian Development Bank and Mr David Peck of the Wilson Transformer Company, as well as representatives from government, industry and academia.

Strategic Planning for Ports

The Centre for Transport Policy Analysis recently completed the first two stages of a port strategic planning study commissioned by the MSB Hunter Ports Authority - 'Developing Strategic Options for Competitive Advantage: The Port of Newcastle', and a study of development options for the port of Port Kembla - 'Development Strategies and Options for Port Kembla'. Both studies involved identification of the trade and market basis of the competitive advantage and strategic options open to the ports.

The ports of Newcastle and Port Kembla, like many regional ports in Australia and elsewhere, 'suffer' from their location in the shadow of a major capital city port (in this case, Sydney). Changing patterns of shipping and new and fast road links are changing strategic advantages, however, and many offer some prospects for further development.

Further information:

Dr Ross Robinson (042) 213683

ITC Training and Education. A New Direction

The last six months have been a exciting period for ITC's Training and Education Division. An analysis of the marketplace and the skills of the staff has led the Division to refocus on customer service, marketing support and project management. This has meant a smaller staff but increased flexibility, as well as a commitment to professionalism in supporting the University in the delivery of its programs into the commercial marketplace.

As a result, rather than continue to offer a range of general computer training courses to the public in Sydney and Wollongong, Training and Education now offers courses which can be customised to suit the needs of clients, and which focus on the 'top end' of corporate training requirements.

The ITC Training and Education portfolio of courses includes Total Quality Management, Maintenance Management and Engineering, a variety of literacy programs, Middle Management Professional Training, and a range of computer training options. These products are being undertaken as project management support for University initiatives, such as specialist conference support, or as joint ventures with the University, and often include highly regarded software and training consultants.

ITC promotes a flexible approach to delivery mechanisms, in consultation with the University and its clients. For example, Total Quality Management courses are offered not only on a full fee-for-service basis at ITC's central Sydney business district premises, but in degree mode on site at the University, and also at the workplace of selected clients such as BHP and State Rail.

Further information:

Helen Robinson (042) 268884

AWA Contract Awarded to CITR

AWA, the country's largest Australian-owned electronics and communications company, has announced the award of an R&D contract worth more than \$300,000 to the Centre for Information Technology Research (CITR). Although CITR conducts research in conjunction with some of the largest telecommunications carriers and equipment suppliers in the world, this is its first substantial project with an Australian manufacturer.

The research will focus on high performance multi-media applications by developing a primary rate ISDN interface suitable for implementing frame relay protocols and the broadband cell switching technology - ATM. It is designed to expand the capability of AWANET, the company's Fibre Distributed Data Interface II (FDDI-II) multi-media switch, by providing high speed network interconnection.

Professor Gary Anido, Professor of Telecommunications Engineering at the University of Wollongong, will head the development team, liaising with AWA's group headed by the LAN Technical Director, Mr Ross Halgren.

Announcing the contract Mr John Dougall, Managing Director of AWA Limited, said "AWA views this project as the start of a long term, mutually beneficial relationship with one of Australia's leading telecommunications research bodies that will ensure the company maintains a competitive edge with its technology. CITR's rapid growth and close working relationship with AOTC is testimony of its skills and capabilities".

Further information:

Dr I Reinecke (042) 268918

Asian Development Bank Consultancy

ITC consultant Professor Ken Gannicott, Head of the Graduate School of Education within the University, has recently undertaken an Asian Development Bank (ADB) fact-finding mission in Cambodia in relation to the emergency training of teachers. Professor Gannicott's work will assist in identifying the requirements for a number of ADB projects for teacher-training in that country.

Further information:
Ann Webb (042) 268800

Award for ITC Chairman

The Australian Library and Information Association recently awarded the Redmond Barry Award to ITC Chairman, Mr George Maltby. The award is for Mr Maltby's "valuable contribution to the Australian library and information industry, with over 40 years of active involvement in providing Australia with highly efficient external communications".

The General Council of the Association may confer the award on any person who is not eligible to be a professional member of the association and who is not employed in a library, but who has rendered outstanding service to the promotion, theory or practice of library and information science.

The citation reads, in part: "George Maltby has demonstrated an unwavering commitment throughout his professional career to the value of information and to the improvement of information transfer in this country. The benefits reaped by Australian libraries and the profession prove that George Maltby's contribution well merits the Australian Library and Information Association's Redmond Barry Award".

NATA Registration

Biological and Chemical Analytical Services (BACAS) has just received registration in the field of Chemical Testing from the National Association of Testing Authorities (NATA), Australia's premier laboratory accreditation system. This registration covers a wide range of chemical tests in the area of environmental water analysis and covers some twenty-five important environmental parameters, plus eighteen metals by AAS. BACAS is now acknowledged as meeting the stringent NATA requirements in all aspects of quality control, methods standardisation and storage and retrieval of records.

Also underway is an application for registration for a number of tests in the microbiological area.

Further information:
Gill Churchill (042) 268821

VOICE CODING

The Consulting and Intellectual Property Unit (CIPU) is the vehicle for the commercialisation of the University's intellectual property. One example of this ongoing process is related to the development of voice coding technology, the conversion of voice signals into data which, traditionally, has been a US-based effort. Funded by a Generic Industry Research and Development (GIRD) Grant, the research group, which includes the Department of Electrical and Computer Engineering within the University of Wollongong, as well as Binary Engineering of Brookvale, NSW, and the University of New South Wales, has developed a commercially viable unit. The role of CIPU is to ensure, in consultation with all members of the group, that the intellectual property that has been developed is optimally utilised.

Further information:
Peter McNamara (042) 268939

• **Pictured is David Rowe, Department of Electrical and Computer Engineering, working on the leading edge voice coding technology.**



EXECUTIVE DEVELOPMENT PROGRAM

During the last five months the Centre for Transport Policy Analysis (CTPA) has taken its Executive Development Program offshore. The first of a number of training programs was held in Shah Alam (near Kuala Lumpur), Malaysia, in June. During the three day program, attended by port and transport operators and transport planners, the emergence of 'Intermodalism', the economic and efficiency benefits and legal constraints were some of the issues discussed at length.

This was followed by a very successful single day public conference on 'Intermodalism', attended by senior government officials, representatives from the national flag carrier, Malaysia International Shipping Corporation, and other shipping operators, and senior representatives from the national railways

and ports organisations.

More recently, in October, the Centre conducted a three day training program in Malaysia on behalf of the ASEAN Port Authorities Association - 'Challenges, Opportunities and Strategies in the Port Industry'. This program dealt with human resource development in ASEAN ports and was attended by senior personnel. ASEAN ports, unlike many ports in Australia, have been expanding very quickly over the last decade. Such development pressures have resulted in rapid adoption of new technologies, new operational and institutional practices and, in some cases, privatisation.

Further information:
Dr Sophia Everett (042) 213768



* **Pictured Dr Ross Robinson with the Deputy Director of the Brunei Department of Port, Pg HJ Hallid Mohammed, at the training program on Human Resource Development in ASEAN Ports**

Competition between New Zealand Ports

Over the last 3 or 4 years New Zealand ports, like many ports elsewhere, have undergone some form of privatisation. The shift from the public to the private sector has coincided with microeconomic reform on the waterfront and led to a more commercially oriented approach to port operations.

New Zealand has an abundance of ports and, in their new commercially oriented approach, each is seeking to gain competitive advantage and to increase trade flows.

The Centre for Transport Policy Analysis has been assisting the port of Wellington with this process, developing and applying an Intermodal Transport Pricing model to help the port gauge its competitive advantage, and to identify new and potential markets, as well as using it as a tool for negotiation with transport providers.

Further information:

Dr Glen D'Este (042) 213224

STOP PRESS

New Appointment

The Corporation welcomes Kathy Jones, whose appointment as Manager, Business Development, ITC Training and Education, was confirmed recently. Kathy has extensive marketing and project management experience which will add that competitive edge to the Corporation's continuing programs. Kathy may be contacted on (042) 26 8888 (Wollongong) or (02) 370 6650 (Sydney).

City Rail and Maintenance Management

City Rail Engineering and the University of Wollongong have tailored a Maintenance Management course to reduce City Rail maintenance costs and improve protection of its assets.

The joint project, which will meet City Rail's specific needs through a new training program, Maintenance Engineering and Management, is being managed by ITC. The program has been developed within the Faculty of Engineering by the Department of

Mechanical Engineering, and has been specifically tailored by the department to meet the needs of City Rail from the University's innovative new Postgraduate Diploma of Engineering (Maintenance Management) program. The two-year part-time course for 31 senior staff involved in engineering maintenance management will be delivered on site in Sydney.

The project was launched late in September at State Rail's Petersham Training College.

Further information:

Helen Robinson (042) 268884

ITC ANNUAL REPORT

The Annual Report of the Corporation for the financial year 1991-1992 will be released on 10 December 1992. Copies are available by contacting Kerri on (042) 268999.



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Dr Pam Scott, Manager Education Services CITR, Peter Amos, Manager from Advanced Network Products division of AOTC, overall first place in course, and Dr Ian Reinecke, Director CITR

Another group of Telecom managers graduated in November from the Centre for Information Technology's (CITR) sixth professional development course.

This time participants from Advanced Network Products scooped the pool of awards.

Several AOTC senior managers attended the presentation dinner held at the Northbeach Parkroyal and presented the awards and expressed their support for the program.

Peter Amos, a manager from the Advanced Network Products division of Telecom who obtained the highest overall score, told the gathering that this was the most useful course he had

Praise for course for Telecom managers

done in 28 years of working for Telecom.

Manager of Education Services at CITR, Dr Pam Scott, announced at the dinner the introduction of a follow-up

course.

This had been designed in response to requests from participants and managers at Telecom.

The stage two course will focus on total quality management and will begin in February along with the next intake for the existing stage one course.

Much of the success of the professional development program has been due to the contribution of members of the Faculty of Commerce, and especially the Management Department.

CITR is pleased that Muayyad Jabri will be joining his colleagues Paul Patterson and Robin Horne as part of the team for the stage two course.

TRAVELMATCH CAR POOL

Travelmatch Car Pool is an organisation that provides a matching service for individuals travelling to the same destination by car for a fee of \$25, payable when matched.

By sharing one vehicle, you can benefit financially and at the same time help the environment.

What is Car Pooling?

- Car pooling is an economical and environmental way of travelling.

Your benefits from Car Pooling:

- By sharing your car you can cut your petrol bill by half or more.
- Reduces expenses on car maintenance and running costs.
- Use your travel time saved to study.
- Improve parking and traffic around the University.

Other Benefits from Car Pooling

- Cars are a major contributor to air pollution. A reduction in car usage will significantly reduce air pollution.
- Conservation of our scarce crude oil reserves.
- Reduction in traffic congestion.
- Improvement in road safety

What to Do

If you are interested in the service this organisation provides contact Ross Meaker - Office Services, ext. 3193.

HOPE THEATRE

Bookings Ph 214214
Western Entrance Northfields Ave

8-11 Feb: **International Conference on Environmental Management – geo-water and engineering aspects.** This conference will be very useful to young professionals and experienced decision-makers in the civil, mining and environmental engineering industry. For further information contact Dr Siva Sivakumar, tel. (042) 21 3055.

LONG GALLERY

Enquiries 213996 Building 25
Opening hours Mon-Fri 9am-4pm. Sun 1.30-4pm. Visit the Gallery Shop

Until 13 Dec: **SCA Graduating Students Exhibition:** This year's graduating visual arts students found a focus at the temporary doner-kebab van located within the School of Creative Arts. Not only food and refreshments but the beginning of a movement in the tradition art movements begun in the cafes of Europe earlier this century. The area became a meeting place for the students as they munched on piles of donuts and kebabs, drank coffee, discussed art and life and their final graduating exhibition. As well as the *Abrakebabra* exhibition in the Long Gallery there will be an extensive exhibition of drawings by first year, second year and graduating students in the printmaking studio (not open on Sunday).

GENERAL

Call for presentations: Education for a Global So-

The University wishes to express its appreciation and gratitude for the support it has received from the following individuals and organisations.

Such contributions are an increasingly important part of the University's development and are greatly appreciated by staff and students.

- The Illawarra Branch of the Australasian Institution of Mining and Metallurgy is donating \$10,000 for the purchase of books related to civil and

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What's On

ciety. International conference 4-9 July 1993. The University of Western Australia. This conference will focus on the development of teacher training programs which provide teachers with a global perspective, a universal value orientation and competence in evaluating curriculum materials. any one who would like to participate write to Dr Majorie Tidman, PO Box 1044, Carnarvon WA 6701.

To all pool users: School swimming carnivals will be taking place on the following dates and times: Friday 11 December 9.30am-2.30pm and Monday 14 December 9.30am-2.30pm. During the above times there will be no lane space available for lap swimmers. Please check the brochure stand and noticeboards for further details regarding pool bookings. The pool will be closing on Saturday 19 December at 5pm and will be re-opening on Monday 11 January 1993 (weather permitting and pending retiling completion).

14 Dec: **Department of Business Systems Special seminar** Education and Training Needs of Computing Professionals in Australia, featuring Mr M Cassidy, MBE, Economic Analysis Branch, Department of Employment, Education and Training, at 10am, in the University Union.

STAFF

11 Dec: Deadline for nominations for **Vice-Chancellor's Award** for excellence in teaching. Forms from Personnel Services. Nominations should be submitted to Faculty Deans.

Benefaction and Endowment

environmental engineering. The first instalment of \$6000 has been received, with a second instalment of \$4000 to follow.

- **The Late Ethel Hayton.** The University has received \$16,380 from the estate of the late Ethel Hayton. The bequest came through the Friends of the University, of which Miss Hayton was a founding and life member. She was also a Fellow of the University, and worked for most of her life as a journalist, working at various times for the Wollongong office of News Ltd and The Illawarra Mercury.

The University is increasingly attracting significant benefactions and



The late Ethel Hayton

endowments which *Campus News* would like to acknowledge. Please send details to Gillian Curtis.