New welding process developed by Mechanical Engineering

A new welding process researched by Dr Elias Siores from the Department of Mechanical Engineering in 1989 has led to the pioneering development of a novel technique for joining materials using microwave energy.

The work led to a prototype development capable of joining a range of polymer materials.

Once the concept was fully proven in 1990 further development work began in 1991 to automate the process.

This was successfully completed with a doctorate student Mr Duarte DoRego.

Since then R&D work undertaken concentrated on assessing the technique's potential in joining metals of relatively small thicknesses as well as its potential in joining ceramic materials.

The benefits of using this technique include effectiveness in bond quality and process efficiency.

The latter is seen in the light of low equipment capital, production and maintenance costs associated with the newly developed process.

In addition, and with further developments in place, it is believed the process will offer capabilities equivalent to those of lasers welding.

From 1993 on these developments by Dr Siores and his team will form part of the recently established Co-operative Research Centre (CRC) for Material Joining.

They will be carried out in collaboration with Dr D. Bradhurst from the Microwave Applications Research Centre (MARC) which is part of the Resources Division of the Illawarra Technology Corporation Limited.

The Department of Mechanical Engineering has been particularly supportive throughout the years by providing the necessary funding for this R&D project.
During September the Office Services Section will not open until 8.30am each day. This will mean that car pool users will have to collect car keys the afternoon before if 8.30am is too late for departure.

To celebrate 10 years of action on Non English-Speaking Background women's issues, the Immigrant Women's Speakout Association is holding a conference on October 16-17 at the Ashfield Town Hall.

The conference will examine the achievements of NESB women in the last decade and develop an agenda for NESB women's issues to the turn of the century.

Dr Ellie Vasta (Sociology), and Caroline Alcorso, previously a research fellow from the Centre for Multicultural Studies, will be among the speakers at the conference.

For further information contact Dimitria Groutsis, (02) 646 1170.

Brief News

Applications are invited for University funding for new grants and renewal of grants in the following categories: University Programs/Groups/Development Groups; University Project Grants; University Small Grants (up to $500).

Closing date for applications is 9 October, 1992.

Application forms and guidelines are available on the Admin Server in the Research Folder, under Public Information, or from the Research Office.

Further information is also available from the Research Office.

The staff fitness program timetable is:

Mondays: 12.10-12.40pm circuit; 12.45-1.15pm powerwalk.
Tuesdays: 12.05-12.40pm low impact aerobics.
Wednesdays: 12.10-12.40pm circuit; 12.45-1.15pm powerwalk.

Fridays: 1.30-2pm powerwalk.

The cost is $5 per week and a personal program consultation is available.

If you are a member of the program the above classes are free, plus access to the gym is free on weekdays.

For more information contact Nicole at the Recreation and Sports Association Centre, ext. 3361.

The Recreation and Sports Association has put together the largest team of any of the Eastern Australian universities to compete in the Australian University Summer Games in Perth from 28 September to 2 October.

The Wollongong squad will include men's and women's water polo and badminton teams, swimmers, an athlete (an 800m and 1500m specialist), a cricket team and a women's tennis team.

They are looking for an 'official song' for the University that can be played at the opening and awards presentations — any suggestions?

Details of October 1992 Graduation ceremonies

The October Graduation Ceremonies will be held on 8 and 9 October in the Sports Hall.

The details are:

Thursday 8 October - 2.30 pm
Education, Engineering, Health & Behavioural Sciences, Informatics and Science. Speaker: To be advised.

Friday 9 October - 10.30 am
Arts, Commerce and Law. Speaker: Mr Moosa Baqer, President and Chief Executive Officer of Best Enterprises (a computer-based solutions company), and former Director-General of Industry and Commerce in Oman.

Note that entry to each ceremony is by ticket only.

Invitations to academic staff to attend and participate in the academic procession will be distributed shortly.

Staff are advised that parking restrictions will apply in some University carparks on Graduation days, especially the carpark adjacent to the Printery.

Inquiries in relation to Graduation may be directed to Trevor Cuthbertson, ext. 3928 or Olena Cullen, ext. 4136.
Garbage can reveal some interesting insights into our own society, as first-year geography students discovered recently.

Each of the 300 first-year geography students were asked to classify and weigh the contents of their own household garbage cans as part of their practicals concerning the Human Environment.

The total results from each of the practical classes indicated that the average weight of garbage produced by each individual in one week is 2.34 kg.

By the end of this year, each individual will have produced, on average 121.68 kg.

If this figure is used to calculate the weight of garbage produced in Wollongong, in Sydney, and in Australia within this year, the respective results are 28,704 tonnes, 430,612 tonnes and 2,068,560 tonnes.

Knowledge of the composition of the garbage is essential if improvements in the role of the individual in the management of garbage is to be achieved. From the sample of 300 students' household refuse, percentages of different materials in garbage cans were calculated, as represented by the schematic diagram.

Reducing the total volume of garbage can only occur if each individual becomes more responsible in the management of their trash.

Three resource management practices have become popularised by which this objective can be achieved: reducing garbage; purchasing products with less packaging, garbage recycling; such as glass, metals, plastics and paper, and reusing garbage, through composting and refilling empty containers.

Organic material was the single largest source of garbage, 32 per cent by weight; followed by paper, 18 per cent; plastic, 17 per cent; and then glass, 15 per cent.

These results indicate that greater emphasis must be placed on the role of individuals in composting, to reduce the organic component of garbage.

Moreover, the environmental importance of the recycling of paper, plastic and glass must be emphasised, as well the opportunity to participate in the recycling process must be provided by local authorities.

With hands-on knowledge of their trash, first-year geography students at the University of Wollongong have become personally aware of their garbage.

No longer will the garbage be something that has to be put out once a week for collection.

Instead it has become a symbol of affluence.

Organic, paper, glass and metal resources are dumped because society evaluates them as worthless.

Prolific waste of resources in Australia, and all other advanced industrial nations, is a reflection of our passive, consuming, and convenience society.

This is an ironic situation, given both a world with a finite resource base and an Australian economy in recession.
Computer security expertise arrives

Professor Jennifer Seberry has taken up the position of Professor of Computer Science in the Faculty of Informatics. While Professor of Computer Science at the University College, Australian Defence Force Academy in Canberra, Professor Seberry set up a Cryptography and Computer Security Group which was the nucleus for the Centre for Computer Security Research incorporating the Centre for Communications Security Research.

Professor Seberry started reading in Cryptology and Data Security in about 1981 and has taught 10 classes in the area averaging 65 in a third year class and 20 in a fourth year class. She has supervised 15 Honours theses in the area (10 of whom obtained First Class Honours).

She has had five successful PhD students working on such topics as Security of Statistical Databases; Active Intruder Detection: Some Aspects of Computer Security and User Authentication; Analysis of the DES and the Design of the LOKI Encryption Scheme; Applications of Cryptography for the Security of Database and Distributed Database Systems; Speech Signal Analysis and Investigations in Cryptography and Constructing Orthogonal Matrices and some Cryptographic Techniques.

Professor Seberry is a Fellow of the Australian Computer Society, a Fellow of the Institute of Mathematics and Its Applications and a Fellow of the Institute for Combinatorics and its Applications. She is a member and elected director of the International Association for Cryptologic Research, a member of the Association for Computing Machinery and a member of the Institute for Electrical and Electronic Engineers.

Professor Seberry has spoken on her research in Cryptography at international and local conferences and written more than 20 joint papers in the area. She has spoken on her research extensively throughout the world.

While she directed the Centre for Computer and Communications Security Research it built a secure WAN for the University of NSW campus using the LOKI encryption algorithms and secure protocols developed within her group.

Another centre member received a prize for a paper he wrote on Smart Cards.


Especially interested in Authentication and Computer Security, Professor Seberry and her colleagues have recently received considerable media attention for their ATERB financed research into anti-hacking systems or User Unique Identification.

One member of the centre received the Young Australian of the Year Award for NSW for his work on this project.

Professor Seberry has consulted for Telecom, Neology, the Commonwealth Bank, Hilti AG, Datamatic, Freehill, Hollingdale and Page of Sydney, Greenwoods and Freehills of Sydney, Bartier, Perry and Purcell of Sydney, Bowdens of Brisbane, the National Australia Bank, The State Bank of NSW, the State Bank of South Australia Integrated Research Pty Ltd, Microtel Inc, Transcrypt International Inc, Universal Systems Inc and Industrial Controls Inc.

THIRD AUSTRALIAN CONFERENCE ON INFORMATION SYSTEMS
ISOP ’92
HOSTED BY
DEPARTMENT OF BUSINESS SYSTEMS
UNIVERSITY OF WOLLONGONG
5-8 October 1992

The conference brings together more than 70 expert speakers presenting highly relevant research findings on the effect of computer technology on a wide range of business organisations.

The conference has attracted many leading experts from around the world.

These include: Professor Ron Stamper (Netherlands), Dr T William Olla (UK), Professor F Bergeron (Canada), Professor R Hirschheim (USA), Professor P Naergaard (Denmark), Professor G Rossi (Argentina), Dr N Pliskin (Israel) and Dr J livari (Finland).

Several key areas will be examined at the conference, including:

• Information Systems and Organisational Change
• The use of Computer Technology in Interorganisational Communication
• Strategic Planning for Information Systems
• The Management Function in Information Systems
• Tools and Technologies of Information Systems

Together with these key areas, the conference committee, in conjunction with the Faculty of Law, has brought together several leading Australian experts who will be discussing Information Systems and the Law.

This facet of the conference will not only be discussing the legal aspects of information systems but will actually be announcing new technologies designed to be used both in the courtroom and legal aid offices.

Registration Fee $350
Daily Fee $140

All enquiries should be directed to Rob MacGregor (042 21 3758) or Gaye Herbert (042 21 3958), or e-mail cathy@wampyr.cc.uow.edu.au.
Noted

Maori writer visits

Maori writer, academic and ex-diplomat, Witi Ihimaera, was recently a visiting fellow with the New Literatures Research Centre at the University of Wollongong courtesy of the Australia-New Zealand Foundation.

Mr Ihimaera is the first Maori to have a book of fiction published and has since published six books and an anthology of Maori writing.

His work has been the subject of films and an opera. He is working on two film scripts and a six-volume anthology of Maori literary expression.

He has held diplomatic positions in Canberra and New York, and writes and teaches at the University of Auckland.

To mark the visit and series of talks the New Literatures Research Centre of the Department of English hosted a lunch for Mr Ihimaera.

The lunch was attended by the New Zealand Consul General, Mr Paul Cotton, the Consulate’s Public Affairs Officer, Ms Sharyn Wilson, the Vice Chancellor, Professor Ken McKinnon, Mr Ihimaera’s daughter Olivia, and members of the Department of English including the co-ordinators of the Comparative Australian and New Zealand Literature Course, Associate Professor Dorothy Jones and Mr Graham Barwell.

Mr Cotton presented the centre with the first volume of The Dictionary of New Zealand Biography.

During the time Mr Ihimaera was with the Department of English he gave a Seminar on Maori Writing for the centre.

Mr Ihimaera also spoke to both the Comparative Australian/New Zealand classes and to students in Creative Writing and gave a reading at Harold Park Hotel in Sydney.

ITC sets up consultancy registry

Academic staff, are you interested in the possibility of participating in overseas and local consultancies?

The Illawarra Technology Corporation (ITC) is expanding its Consultant Database and, in addition to inviting interested members of academic staff to register, will shortly advertise in the national press inviting expressions of interest from external consultants.

The database is maintained within the office of the Managing Director, with access governed by a password security system.

ITC, as part of its mission, has a five-year plan to establish ITC as a force in aid-funded development projects (World Bank, Asian Development Bank, United Nations Development Program (UNDP), UNESCO, World Health Organisation, Australian International Development Assistance Bureau (AIDAB)), and in international consulting generally.

Approximately US$70 billion in projects is under active consideration by the major funding authorities and, in the 1990s, the World Bank has determined that 40 per cent of its projects (about US$18 billion) is to be directed to the education sector.

ITC is an accredited consulting organisation to the World Bank, the Asian Development Bank, UNDP and AIDAB, and receives advance information on projects, in addition to regular updates on the progress of projects in which it has an interest.

The information contained in the ITC Consultant Database enables the identification of projects appropriate to the pool of expertise. Potential consultants are contacted prior to an expression of interest being submitted for any project to ensure:

a) that the project is appropriate to the expertise of the consultant, and
b) that the consultant is willing to be included.

Involvement in a project is usually not immediate - e.g. Asian Development Bank projects could require consultants to be in-country within 12 months, whereas with World Bank projects, which have a cycle of about five years, it could be two years before the consultant is required.

There is great potential for ITC, on behalf of the University, to become involved in this sphere, and thereby support the internationalisation process being undertaken by the University.

If interested, contact Ann Webb (either by e-mail, or on ext. 5800) who will forward the necessary forms to you.
A survey carried out by Buildings and Grounds at the end of Autumn session indicates that teaching space around the University is still not being efficiently utilised.

As the following examples show there are opportunities to use the space to greater advantage, especially early mornings and Fridays.

The Pro Vice-Chancellor, Professor Lauchlan Chipman said that unless there is more even use of space there will continue to be unproductive disputes about claims on peak times.

'Timetable submissions for next year continue to show under-utilisation and where this occurs they will be referred back to the department,' he said.

'As well, consideration will have to be given to centralised programming of under-utilised departmental space.'

Any usage under 85 per cent might be considered a prima facie case to improve scheduling practices.

Copies of the full survey have been sent to Deans and Heads of Units.

<table>
<thead>
<tr>
<th>Common Teaching areas</th>
<th>8.30am -9.30pm</th>
<th>8.30am -8.30pm</th>
<th>8.30am -7.30pm</th>
<th>Average</th>
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<tbody>
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<td>MONDAY</td>
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<td>79%</td>
<td>84%</td>
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<tr>
<td>TUESDAY</td>
<td>69</td>
<td>74</td>
<td>80</td>
<td>74</td>
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<tr>
<td>WEDNESDAY</td>
<td>81</td>
<td>88</td>
<td>90</td>
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<td>THURSDAY</td>
<td>69</td>
<td>75</td>
<td>70</td>
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<tr>
<td>FRIDAY</td>
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<td>50</td>
<td>46</td>
</tr>
<tr>
<td>AVERAGE FOR WEEK</td>
<td>67</td>
<td>73</td>
<td>75</td>
<td>71</td>
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<tr>
<th>Total Faculty Teaching Space</th>
<th>8.30am -9.30pm</th>
<th>8.30am -8.30pm</th>
<th>8.30am -7.30pm</th>
<th>Average</th>
</tr>
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<tbody>
<tr>
<td>MONDAY</td>
<td>46%</td>
<td>48%</td>
<td>50%</td>
<td>48%</td>
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<tr>
<td>TUESDAY</td>
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<td>THURSDAY</td>
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<td>AVERAGE</td>
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</tr>
</tbody>
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**CONSERVATORIUM OF MUSIC**

**1993 SCHOLARSHIP AUDITIONS**

22-23 September, Gleniffer Brae

**Piano Scholarships**

Dr Harry Maldon Memorial Scholarship ...........................................$1000

Frank Hutchens Memorial Scholarship ...........................................$200

**String Scholarships**

Bessie Foskett Memorial Scholarship ...........................................$1300

**Special Scholarships**

Noel Lamerton Memorial Scholarship ...........................................$1000

Open to any form of study other than piano and strings. Note: This scholarship could be a shared award at the judge's discretion.

**Parson's Encouragement Award** .............................................$360

**BHP Developmental Scholarships**

Please obtain and lodge at the office the separate BHP Youth Orchestra Scholarship form. The scholarship awards will be announced towards the end of the year.

**Preliminary Auditions**

Tuesday, 22 September - General - Vocal, Wind, Brass, Guitar, Speech and Drama

Wednesday, 23 September - Piano & Strings

**Closing Date:** 7 September

**Scholarship Finalists' Concert:** Saturday, 26 September, 7.30 pm

Applications forms available from the Conservatorium Office

Enquiries, tel. 28-1122 or 21-3533

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**CONSERVATORIUM OF MUSIC**

**CHILDHOOD MUSIC**

**EDUCATION**

**EMPLOYMENT**

**OPPORTUNITY**

(Wollongong/Kiama 1993)

**WORKSHOP**

24th/25th October, 1992

The Wollongong Conservatorium of Music will conduct a Children's Music Education Program training workshop on 24-25 October. Practical lecture demonstrations will cover hands-on experience with a number of musical instruments.

**Desirable Qualifications:** A working knowledge of three or more instrumental studies; experience with class/group teaching.

All applicants will be interviewed prior to acceptance into the workshop. Applicants close 18 September.

Enquiries and application forms, contact Conservatorium of Music, tel. 28-1122
The University Centre has become the venue for many different activities as campus staff and the community become more aware of its potential.

In addition to the monthly thematic displays promoting courses of study, there are meetings, short courses, tutorials and weekend schools.

An increasing number of functions have centred around the high-tech communication facilities available.

August activities included:

**Opening of the Orana University - TAFE centre**

On 27 August, the Minister of Education, Ms Virginia Chadwick, officially opened the new Orana University-TAFE (OUT) Centre at Dubbo via a video-conference link at The University Centre.

OUT is a collaborative enterprise between TAFE, Charles Sturt University and The University of New England and brings increased access to tertiary education to students in western NSW.

It was the Minister's first visit to The University Centre and she was impressed with the concept and with the services offered to students contemplating or currently involved in tertiary education.

**Piano Master Class**

An example of one of these services was the opportunity for students and lecturers at Armidale to participate in a Master Class conducted at The University Centre by Professor Lev Vlasenko, Head of the Chair of Piano at the Moscow State Conservatoire, concert pianist and international adjudicator.

The video-conference link allowed UNE students and lecturers to benefit from the maestro's limited time in Sydney.

One of the Armidale lecturers commented: 'This is the type of opportunity we often miss on a country campus. It's been a wonderful experience.'

**UW Seminars on Developments in Technology Law**

A series of successful seminars on Recent Developments in Technology Law was held at The Centre in August.

The program was a joint initiative by the University of Wollongong and information technology lawyers, Gilbert and Tobin.

**Special rates at Northbeach**

The Northbeach Parkroyal is a contributing member of the University of Wollongong Foundation and as such offers accommodation at special rates.

These rates are only available to visitors staying at the Northbeach Parkroyal on University business and covered by a University Purchase Order.

The basic room rate of $90 per night entitles you to stay in a budget room for single or double occupancy including continental breakfast. The Hotel will also automatically upgrade this room to an Oceanview Room if available.

The Parkroyal Group as part of Southern Pacific Hotels Corporation also offers special corporate rates in all of its properties. This extends to all Parkroyal and Travelodge properties in Australia, New Zealand and the Pacific Region.

Contact Ross Meaker, ext. 3913, for more information if you want reservations at this special rate.

**1992 Young Achiever Award**

Open to persons under the age of 26 who have attained excellence in their chosen endeavour.


Nomination close 25 September. Nomination forms available from the Dean of Students, Josie Castle.

Sponsored by Capital TV, Canberra Milk, Medibank Private, Video Ezy, DEET, ACT Electricity and Elders.
The Changing idea of an Australian university: Humanities Research Centre, Australian National University colloquium to be held at Macquarie University 16 September. Further detail and registration form available from Planning and Marketing, ext. 3110.

Art of Lunch: 17 September, Music Centre, School of Creative Arts. Well-known author Louis Nowra will talk about his current work in the areas of fiction and non-fiction. 12.35-1.25pm.

School of Creative Arts Staff Exhibition. 18 September, Long Gallery, School of Creative Arts. Opening at 7pm by Vice Chancellor, Professor Ken McKinnon. Open to public until 18 October.

Graduating students' production. Steel Magnolias, 19-26 September. 8pm each day except Sunday 20 September. Matinees each Saturday at 5pm. Tel. (042) 214214 for bookings.

Upcoming Illawarra Committee for Overseas Students events are: 19 September, Canberra; 11 October, Harbour Cruise and Sydney Aquarium; 5 December, Australia's Wonderland. Tickets and details are available from the ICOS office in the Union Building next to the Careers and Appointments Service.

Australian Computer Conference on Information Systems hosted by the Department of Business Systems 5-8 October at the University of Wollongong. Enquiries to Gaye Herbert (042) 213958.

1992 Graduation Ceremony: 8-9 October.

Agenda deadlines for the 1992 Human Experimentation Ethics Committee meetings are: 24 October, 5 December. It will no longer be possible to table late items. Late applications will be held over until the next meeting. Contact Kim Roser, ext. 3079.

The Annual International Development Program National Conference on International Education is being held 27-29 October at the National Convention Centre, Canberra. The theme of the conference, International Education in the 1990s: Lifting the Barriers, is designed to address the necessity of developing strategies and taking action to lift the barriers to international education in Australia, effecting beneficial change and growth. For further information please contact Aurelia Balpe, International Development Program, Conference Secretariat, tel. (062) 858227.

Stop Press

Vice-Chancellor's meetings with students

The next meeting will be held at 12.30pm on Friday 18 September in the Union Board Room. Opportunity to discuss informally any matters of concern to students.

Please co-operate

Keep the Campus tidy

Users of the Campus are reminded that notices, posters, etc., must not be affixed to buildings, doors, windows, paths, posts and trees, etc. External poster bollards and internal notice boards are provided for this purpose. Notices and posters affixed to such places will be immediately removed and if this causes damage or is a difficult and time consuming procedure, the person or organisation represented on the notice or poster will be charged for the cost of removal and/or damage rectification.