Number 20, 1994

UNIVERSITY OF WOLLONGONG

Wednesday, 17 August

CAMPUS NEWS

Research funding grants favour Wollongong

The Federal Government has announced research funding under the Research Infrastructure Block Grants Program and the Research Quantum Allocation for 1995/96.

The University of Wollongong was one of only eight universities to improve its position in both schemes in an environment where many major institutions have suffered.

A new, broader formula for the allocation of funds is in operation which largely accounts for Wollongong's success. It takes into account the number of competitive research grants awarded, the extent of industry-funded research, the number of postgraduate students and the number of research publications.

The Minister for Employment, Education and Training, Simon Crean said that for the first time the funds were allocated to universities in a way that more accurately reflected their current research performance.

Pro-Vice-Chancellor (Research) Professor Bill Lovegrove said: 'A major contributing factor to our success is the dedication of the staff and the high quality academics that we have been able to recruit.'

The new funding will be phased in across the system to reduce the impact on those universities that had not maintained their research performance.

Under the Research Quantum, Wollongong will receive $3,231,000 in 1995 rising to $3,370,000 in 1996.

Under the Block Grants scheme, Wollongong will receive $414,000 in 1995 and $484,000 in1996.

Students who received University of Wollongong and Illawarra Technology Corporation Scholarships under the Study Abroad Program (from left): Sandra Volk, Adam Tooth, Simone Williams, Ross Jenkins and Catherine Blake

Students bound for USA and Sweden

The University of Wollongong and Illawarra Technology Corporation Scholarships for Spring Session were awarded to outstanding students who have been selected to take part in the Study Abroad Program.

The minimum requirement for an award is a credit average, although most students awarded scholarships are at least distinction-average students.

Director of the International Office, Eric Meadows, said he was very pleased to present the scholarships to this group. He encouraged them to take up opportuni-

Continued page two

Significant first for Centre for Natural Resources Law

Professor Martin Tsamenyi has been awarded the Annual Research Grant offered by the Australian Mining and Petroleum Law Association (AMPLA).

He wins the award for his project 'Trends in Environmental Law Making: Implications for the Mining, Petroleum and Energy Industries in Australia'.

The award will be presented at the AMPLA Conference in Perth next month. It is extremly prestigious, and represents a significant first for the Centre for Natural Resources Law and Policy.

Help wanted to organise children's Christmas party

The Children's Christmas Party Committee is in desperate need of new members to join the committee and helpers for their activities.

The Christmas Party for children of staff has been a popular event for many years and is one of the special traditions at the University.

A meeting will be held on today (17 August) at 12.30pm in the Staff Social Club Room in the Union Building.

Please attend or contact the Chairman, Lionel Ransley at the Printery if you would like to help.

October Graduation

Three Graduation ceremonies have been set as follows for October 1994:

Thursday 6 October 9.45am, Faculty of Commerce.

Thursday 6 October 2.30pm, Faculties of Health and Behavioural Science, Informatics and Science.

Friday 7 October 9.45am, Faculties of Arts, Creative Arts, Education, Law and Engineering.

Inquiries: Kim Roser, ext. 4136.

Students bound for USA and Sweden

From front page

ties to travel and mix with other families.

'They are putting a central part of their education into extending study into a different culture, and possibly a different language which provides challenges for each student,' he said.

Cathy Blake wanted to go on exchange to get a different outlook on her study. Her course (MInfoTech) is a relatively new area and the US is very up-to-date in this field.

She is also excited about being a full-time student for a change as she normally studies part-time at Wollongong while working as a BHP cadet.

Third year Computer Science student, Sandra Volk, said friends and family encouraged her to experience a different culture and country.

The subjects she will be studying in her two sessions at UC–Riverside are parallel to the ones offered here, but she will also have the opportunity to study a range of other valuable subjects.

Adam Tooth, a fourth year BCom-LLB student, has never travelled overseas and decided that exchange would be the only opportunity in the near future as he hopes to get straight into work when he finishes his study.

He chose Miami for the warm climate and the lifestyle.

Another BHP cadet, Simone Williams, is going to Indiana and looks forward to a year of full-time study and the experience of living in an American university college as 'a way of life'. The Business School at Indiana is also one of the top in the US.

This group includes the first exchange students to go to the University of California campuses at Riverside and Irvine.

Students receiving scholarships at the ceremony were: Ross Jenkins (Uppsala, Sweden) BScience (Human Movement); Simone Williams (Indiana, USA) BCommerce; Catherine Blake (Irvine, California) MInfoTech; Sandra Volk (Riverside, California) BCompSc; Adam Tooth (Miami, USA) BCom-LLB.

Absent (some have already left to their overseas destinations): Anne Mitchell (Kansas, USA) BNursing; Sandra Tomasi (Nebraska, USA) BCommerce; Alan Gomez (Nebraska, USA) BCommerce; Lynn Garlick (North Carolina, Chapel Hill USA) MA(Journalism); Penny Zyla (Miami, USA), BCommerce; Gulbagh Sandhu (Miami, USA) BCommerce.

UNIVERSITY OF WOLLONGONG

Alumni Association

Invites
Graduates and Former Staff
from 1980 to 1983

TO A REUNION

on Open Day, Sunday, 28 August 1994

- Campus tours
- Talks and video
- BBQ lunch
- Open Day activities

Come back and see how the campus has changed and catch up with old friends too.

For further information please contact:

Alumni Office, University of Wollongong,
Northfields Avenue Wollongong NSW 2522
Phone: (042) 213249 Fax: (042) 214299

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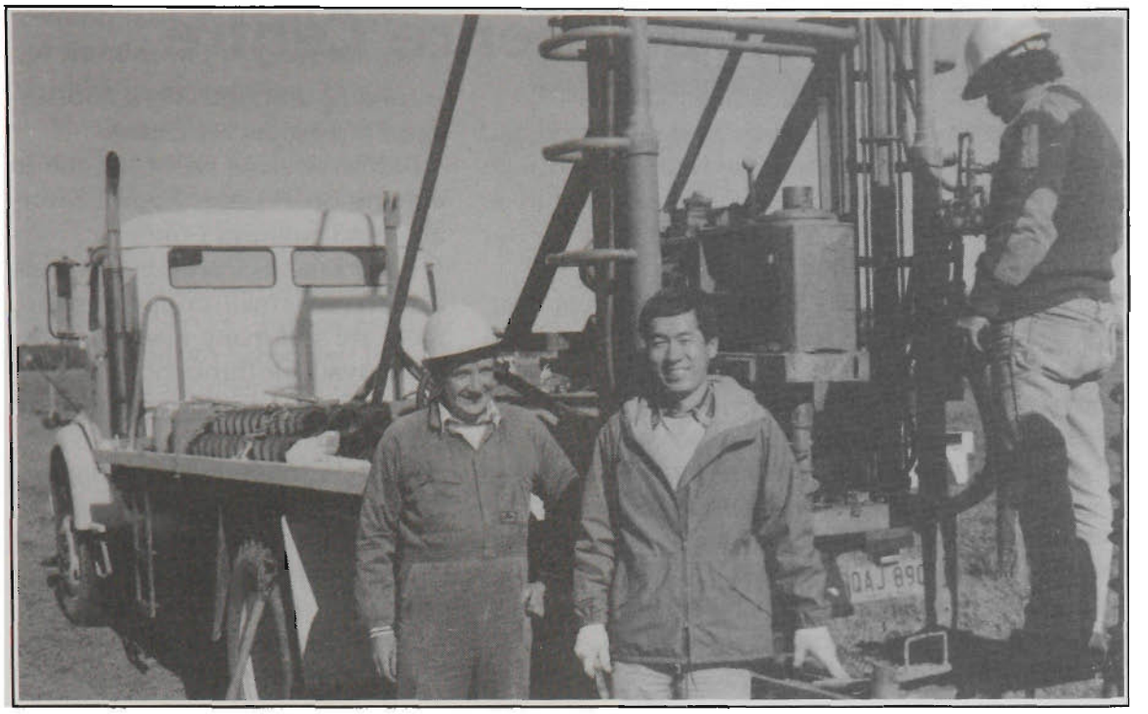
UNIVERSITY OF WOLLONGONG OPEN DAY SUNDAY 28 AUGUST



Colin Woodroffe, Masatoma Umitsu and Geoff Black examining the stratigraphy of the estuarine plains of the Shoalhaven River.

Japanese collaboration with South Coast estuaries

Associate Professor Masatoma Umitsu, from the Department of Geography Nagoya University, is visiting the Department of Geography at the University of Wollongong.

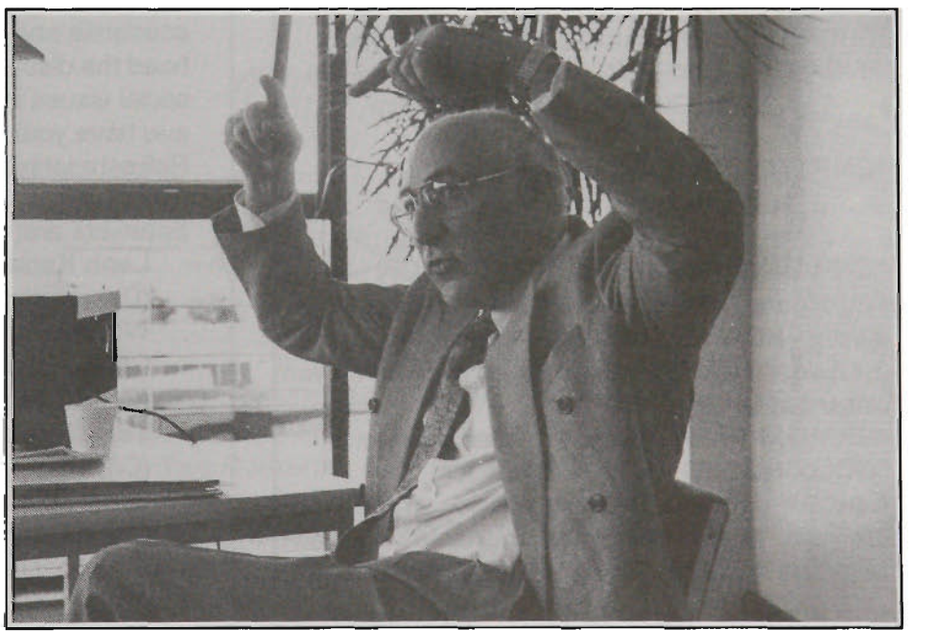
His visit is supported by the Australian Academy of Science and the Japanese Society for the Promotion of Science.

Professor Umitsu is working with Associate Professor Colin Woodroffe on the evolution of estuaries in the Minnamurra and Shoalhaven rivers. He has successfully extracted and identified diatoms from several cores.

Using the drilling rigs that the Quaternary Environmental Change Research Program operates, it has been possible to examine sediments from the depths of up to 25m, and it may prove possible to unravel complex environmental changes in these active estuarine environments based on their diatom flora.

Professor Umitsu has just published a book (in Japanese) entitled 'Late Quaternary Environment and Landform Evolution of Riverine Coastal Lowlands'.

UK teacher education moving away from universities



Professor of Education and Director of Teacher Education at the University of Manchester, UK, Professor David Reid, (pictured) could have been talking about some demonic force at work.

He gave a seminar in the Faculty of Education while he was in Australia as the keynote speaker at the Australian Teacher Education Association in Brisbane.

His topic was the revolution in teacher education in the UK where the trend has been underway since 1993 to relocate teacher education from universities to schools.

Professor Reid discussed the ramifications of this policy and how the system was adjusting to it – especially questions such as quality control, consistency and the complete reversal from teacher education students receiving the theory during their university studies then going into schools to apply it, to first being exposed to teaching practice then having a limited time in university to discover the theoretical underpinning to their school experiences.

UNIVERSITY OF WOLLONGONG OPEN DAY SUNDAY 28 AUGUST

Travelling exhibition at Science Centre

The Science Centre's newest travelling exhibition, Mitey Science, is on display at the centre until September 30.

Developed specifically for 3-8 year-old children and their adult supervisors by The Investigator Science and Technology Centre in Adelaide, the exhibition aims to make science and technology accessible for younger children through interactive exhibits and cooperative play.

Sponsored by the Commonwealth Bank, Mitey Science has 25 interactives and the Mitey Quarry, a large exhibit that requires a group of children to work together to form a production line.

Topics such as sight, sound and our environment are explored, with as much emphasis as possible on relating these topics back to our own bodies.

Mitey Science has been 'On Tour' since March 1993, visiting all Science Centres throughout Australia. The tour closes in Perth in June 1995.

The previous success of this exhibition in other centres has already been reflected in Wollongong.

The centre runs seven school sessions per week. All available school sessions for the period have been fully booked since mid-July.

The Science Centre is looking at increasing the number of school sessions during the exhibition.

Public sessions will continue to operate on Fridays 7-9pm, Saturdays and Sundays 1-5pm.

While Mitey Science occupies most of the centre's main exhibition room, there are still many interesting exhibits available throughout the centre for visitors not accompanied by 'Mitey Scientists'.

For those interested in astronomy, the planetarium will continue as normal, and telescopes are available for viewing every Friday night at the centre.

For further information contact the Science Centre on 215 591.

University of Wollongong
CONSERVATORIUM OF MUSIC

***1995 SCHOLARSHIPS**

Applications for the following scholarships at the Conservatorium are now being invited:
*Dr. Harry Maldon Memorial-$800; *Frank Hutchens Memorial-$200; *Bessie Foskett Memorial-$800; *Noel Lamerton Memorial-$400; *University General-$800; *Parsons Encouragement Award-$400.
*BHP STEEL Orchestral Scholarships - $800
FINALISTS CONCERT - 15th September 1994
7.30pm Gleniffer Brae Auditorium

***BHP YOUTH ORCHESTRA**

Auditions for membership invited

***CHILDHOOD MUSIC EDUCATION**

Wollongong, Kiama, Berry (Graham Park)
Apply NOW for 1995. Applications close 2.12.94. Talk to staff; see demonstration classes at OPEN DAYS:
*GRAHAM PARK - Sept.4 - 10am-4.30pm
*WOLLONGONG - Nov.6 - 10am-3pm
Note: A part-time teaching position in the CME program at Berry will be available in 1995. Enquiries to Karen Unicomb, ph. (042) 28.1122.

*ENQUIRIES: (042) 28.1122; (042) 21.3533

CONSERVATORIUM OF MUSIC
♫ Sounds Great ♫

The Royal Australian Chemical Institute presents

Chemistry: Cure or Curse?

THE GREAT DEBATE

A group of leading people from industry, academia and environmental organisations will head the discussion. What are the burning social issues in chemistry today ? Come along and have your say. It should be a great night. Refreshments provided

Speakers are:
Leon Kane-Maguire
(Department of Chemistry, University of Wollongong)
Chris Harris
(Greenpeace)
Tom Friedel
(Ciba-Geigy)
John Schuster
(Department of Science and Technology Studies, University of Wollongong)

Tuesday, 23 August,
Union Function Centre 4
University of Wollongong
5pm. Debate starts 5.30pm

UNIVERSITY OF WOLLONGONG OPEN DAY **SUNDAY 28 AUGUST**

Staff News

Promotions and Confirmation of Continuing Appointments - End-of-year meeting 1994

Members of the academic staff wishing to submit an application for confirmation of a continuing appointment and/or for promotion to be considered at the end-of-year meeting this year must lodge their application with Personnel Services Branch not later than Thursday 1 September 1994.

Relevant documents may be located on the File Server as follows:

- Criteria and Procedures for Confirmation of Conversion to a Continuing Appointment. Under Public Information; Staff Matters; Academic Staff; Policies/Procedures/Info; Doc A Div2 - Conversion.
- Criteria and Procedures for Promotion to Lecturer, Senior Lecturer or Associate Professor. Under Public Information; Staff Matters; Academic Staff; Policies/Procedures/Info; Doc A Div3 - Conversion.
- Application Form. Under Public Information; Staff Matters; Academic Staff; Pro-Formae/Forms; Application for Conv/Prom.
- Position Classification Standards. Under Public Information; Staff Matters; Academic Staff; Conditions documents; Teaching & Research or Research only; Position Class'n Standards; relevant level.

Intending applicants are strongly advised to read the above documents thoroughly, discuss their intention with their Head of Department and advise Jill Jones in the Centre of Staff Development as early as possible of details of teaching evaluations required.

Applicants should also provide their referees with sufficient data to enable them to write their report.

Please contact Robyn Weekes on 3267 if you require further information.

Study Leave First Session 1995 (Autumn Session)

Members of the academic staff wishing to submit an application for Study Leave to commence at the beginning of First Session 1995 (Autumn Session) should have their applications with Personnel Services Branch by Wednesday 31 August 1994.

Please note that applications need to be processed through the Head of the Academic Unit and Dean of Faculty.

The application form and conditions document are contained on the File Server under Public Information; Staff Matters; Academic Staff; Pro-Formae/Forms; Study Leave; Applications. Applications should be typed.

Please contact your Personnel Team members if you require further information.

ACADEMIC STAFF - Closing Dates

Promotion/Confirmation of Continuing Appointments	1 September
Study Leave	31 August

UNIVERSITY OF WOLLONGONG OPEN DAY SUNDAY 28 AUGUST

Real-time computing – new challenge

The discipline of computing science is relatively new and is continuing to change rapidly, and at a rate unmatched by other areas.

These two factors, newness and rate of change, make computing science both difficult to define clearly, and challenging to work within.

Underlying the rate of change is a continual increase in the capability of all aspects of the technologies underpinning computing science such as sensing, communication, processing and storage.

The reverse side of this increase is a lowering of cost so that, progressively, new applications become viable.

Once viable each individual application moves from a unique status to a commodity status over a period of years.

Thirty years ago the purchase of a computer to run financial systems for an organisation was a board decision.

The same systems now run on personal computers and even though personnel and software development costs are relatively unchanged, the cost for a financial system has been dramatically reduced.

This is due to the amortisation of development costs over a large number of purchasers of personal computers.

A large number in this context means tens of thousands. Dartmouth College in the USA placed an order for 12,000 Apple Macintosh PCs in 1984.

The most technically demanding applications are continually being derived, and one of those 10 years ago was the National Census.

For Australia, a very rough estimate is that it took three years to acquire, process and distribute some 1011 characters (bytes) of Census information [100,000 million bytes] using the largest commercial systems available. This is equivalent to some 30 million pages of text.

Some of the current set of most demanding applications involve handling satellite-based information for such uses as meteorology, agriculture and general earth studies.

These applications require that each day some 1012 bytes are scaled to a common framework, communicated, processed and stored.

If such an application is compared to the 1000 days for 10^{11} bytes of the Census application it shows that 10,000 times the performance has been reached in all the technologies noted above over the 10 years.

These figures are very rough, but show that computing science is changing at a rate that has not been matched in other disciplines.

One major aspect of this rate of change is the shrinking time frames for new applications.

In the satellite-based applications as compared to the Census, the processing time has shrunk from years to less than one day, and this shrinkage is now common for most applications.

In designing computer systems, there used to be a clear distinction between systems for handling physical processes, such as the returns from radar scanners, and general processing.

At Wollongong the challenge has been tackled by closely integrating teaching and research

The first class were termed real-time, meaning that processing had to be completed within, for example, one revolution of the radar scanner.

This class is now termed hard real-time, with systems that have less stringent requirements being called, inevitably, soft real-time.

In this second class are database inquiry systems that must respond in a small number of seconds, and monitoring systems where the changes monitored change slowly, such as the flow in an oil refinery pipeline.

These monitoring systems are often complex and challenging. An example is the system for cutting steel from a continuous casting plant into slabs.

Cutting is done with gas torches and needs to be done when the slab is as hot as possible, to save time and energy. If the slab is too hot then the centre will flow out like toothpaste after cutting, ruining the slab.

Monitoring the cast, stopping it cooling unevenly and calculating, using multiple sensors, when to cut is a real-time process that requires significant processing power and the use of artificial intelligence techniques. It is one of the applications that is truly complex while looking simple.

Radar processing, steel work monitoring and satellite processing all have their own time dimension, from hard to soft real-time.

Of these applications, satellite processing requires visualisation of the original data in a form that scientists can view rapidly.

The requirement comes from the recognition that it is anomalies in the visual patterns that are of most interest, and that the only way to detect an anomaly efficiently is visually.

The ozone hole, locally severe storms, air turbulence around cars, shapes of molecules, and even irregular boiling in soup preparation are all anomalies that have required such visualisation.

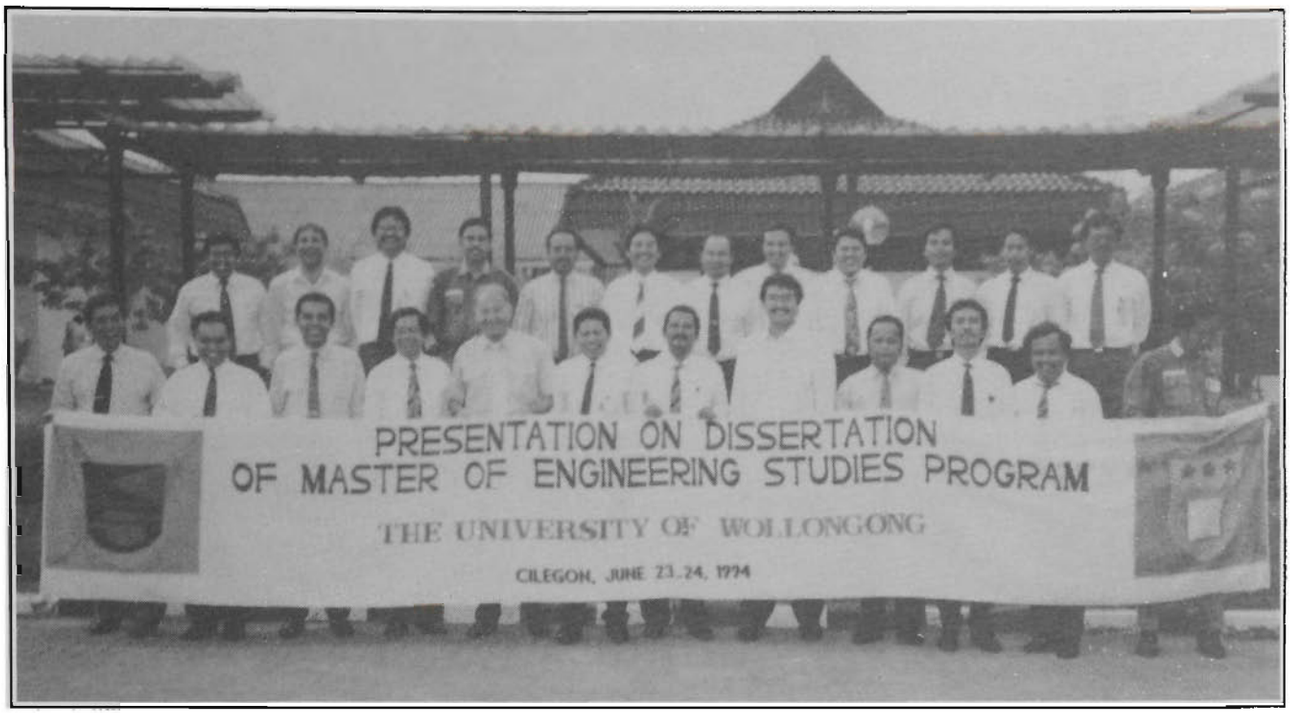
It is this combination of a human's powers of perception allied to very powerful computer and communication systems that is driving computer science.

This drive is one reason why teaching and researching computer sciences is so demanding, but at the same time is so challenging and exciting.

A particular challenge is maintaining the relevance of the teaching and research, no easy matter since universities are notoriously poorly funded, at least from the universities' viewpoint.

At the University of Wollongong's Department of Computer Science this challenge has been tackled by closely integrating the teaching and research, and through the ongoing support by a range of industrial organisations.

This means that we can produce graduates, both postgraduates and undergraduates, that can both command excellent jobs, and can continue to develop their skill base as the industry changes.



First students from Indonesian campus

The first group of students studying at the University of Wollongong's Cilegon Campus in West Java, Indonesia, have completed a two-year part-time Master of Engineering studies degree.

These students are part of a group of 100 engineering students who are employees of PT Krakatau Steel Company.

Wollongong staff members involved in the course are Professor Nick Standish, the Resident Professor at the Cilegon Campus, and Associate Professor Tara Chandra.

'94 Information Technology Spring School

The Department of Information and Communication Technology (IACT) will hold the inaugural 1994 Australian Information Technology Spring School from 5-7 October.

The school will include talks from high-profile speakers, 'hands-on' workshops and site tours of technology in action.

The 'hands-on' workshops will provide students with an opportunity to use the Internet.

The Internet is a computer network that links us to people and information resources throughout the world.

Students will explore several services and the Internet including bulletin board services, electronic mail and information retrieval programs like Gopher and Mosaic which will assist them in 'tunneling through the Net'.

A live video-conferencing session and electronic mail exchange with students in Oregon, USA will also take place.

Site tours to the Wollongong City Council IT department and the local Telecom exchange to view the optic fibre installations are an integral part of the three-day schedule.

A tour of the telecommunications laboratory in the Department of Electrical and Computer Engineering will also be featured.

Each day students will talk with IT specialists and participate in 'hands-on' workshops.

The key-note speaker will be Director of Expertise Australia and the Chair of the NSW Information Industries Advisory Council, Ms Megan Cornelius.

Other guest speakers will include: Professor of Telecommunications, Garry Anido; Mr Stewart Fist (a leading telecommunications and technology journalist with Australian Communications); Dr Don Lambarton (Senior Research Fellow, Australian National University); Ms Helen Meredith (Communications Editor, Financial Review); Mr Julian Day (President, Australian Information Technology Society and Managing Director, Life Cycle Technologies); and Ms Jane Innes (Lecturer, Faculty of Law, University of Wollongong).

Topics covered will include: multi-media issues; a history of telecommunications; the Information Super Highway; the challenges in current software development; and information technology and social change.

On the last day of the 1994 Australian Information Technology Spring School, a participant will receive a cheque for $200 from the Department of Information and Communication Technology.

As well, their school will receive an Apple computer (Macintosh LC III 4MB/80HD with a Colour Plus monitor, ClarisWorks v2, keyboard and mouse: RRP is $2295) which has been donated by Campus Personal Computing, at the University of Wollongong.

UNIVERSITY OF WOLLONGONG OPEN DAY SUNDAY 28 AUGUST

What's On

General

Until 19 August: SRC Blue Stocking Week.

28 August: University Open Day.

30 August-3 September: Union Week.

4 September: Graham Park, Shoalhaven, Open Day.

15 September: Postgraduate Research Student Open Day, Union Function Centre.

Dr John D'Arcy May, 1994 Ethel Hayton Fellow in Religious, Spiritual and Contemplative Studies, presents a seminar program to accompany his lecture series. The program, called **'The Ethics of Multiculturalism: Conflict and Peace in an Inter-religious Ethos'**, will run on Tuesdays from 4.30-6.30pm in Tutorial Room, level 3, Bld 11.203. The remaining dates are: 23 August, Engaged Buddhism: Thailand in Transition; 30 August, Post-modernism: The Decline of the West? Enquiries: David Muscio, phone (042) 21 3073.

Human Research Ethics Committee. Agenda Deadline Dates: 12 October, 9 November, 7 December. Meeting dates: 23 August, 25 October, 22 November, 20 December.

Key Centre for Mines courses: 27 September: **Disposal and Utilisation of Mine Waste**; 7-11 November: Modelling, Planning and Evaluation of Resources on a Personal Computer; Inquiries: Professor Naj Aziz, phone 21 3449, or Sue Wade, phone 21 3057.

Cell and Molecular evening seminar series run by the Department of Biological Sciences. 22 August: Prof Tony Basten (Director, Centenary Institute, Sydney University) The Beckman seminar on Self-Tolerance and Autoimmunity. 19 September: Dr Jim Chin (Elizabeth Macarthur Ag. Inst. Camden, NSW Dept. Agriculture) The Gibco seminar on Mucosal Immunology. 10 October: Dr Brad Walsh (Centre for Immunology, St Vincent's Hosp., Sydney) The BioRad seminar on Macrophage Activation & 2D-Electrophoresis. 17 October: Prof Barry Rolfe (Research Centre for Biological Sciences, ANU) The AMRAD/Pharmacia seminar on Plant Biotechnology. 24 October: Prof Peter Reeves (Dept. of Microbiology, University of Sydney) The Bresatec seminar on Prokaryote Evolution. *Held at 7.30pm in Building 35, Room 105.* Enquiries: Phone (042) 213 013, Fax (042) 214 135.

City of Wollongong Symphony Orchestra Concerts

26 November: 'Judy Glen's Spaghetti Opera'. Conductor: JWD, Judy Glen, soprano-comedienne. A comedy of arias interspersed with short pieces from the 'classical favourites' repertoire.

At IMB Theatre, IPAC, at 8pm. Adults $20, concession $17, family of four $64, student rush $10.

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

Long Gallery

Until 21 August: TAFE/Artist Books Exhibition.

25 August-18 September: Turkish Exhibition, student/community.

22 September-12 October: Postgraduate Show, Leonard Smith, Catherine Kay.

16 October-6 November: Bronzes, Ken Stone, Lynn Brunet.

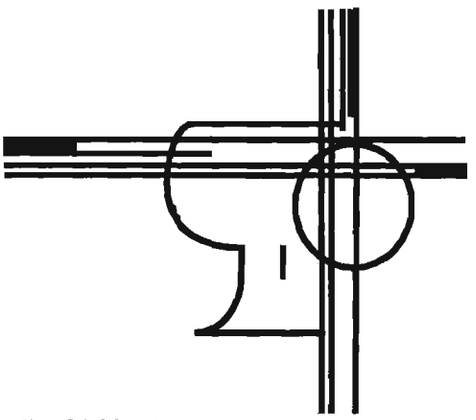
14 November-7 December: BCA Graduating Exhibition.

For further information contact Elizabeth Jeneid at the Faculty of Creative Arts, phone (042) 21 3048.

The Anglican Chaplaincy at the University of Wollongong

A service of
HOLY COMMUNION
&
EXPOSITION

WEDNESDAY 12.35 - 1.15
Chaplaincy office, Union Bldg
(opp. The Cutting Crew)



Expositions on the Epistle to the Philippians

A service of Holy Communion with an exposition of Scripture (20 min) will take place each week on campus. It will normally be led by Canon Raymond Heslehurst, Rector of Keiraville and a member of the University Council. The intention will be to explore both at an intellectual and symbolic level the claim of Christ on the life of the University and its individual members.
The service will follow an Anglican form but all are welcome and all communicant members of christian churches are welcome at the Lord's Table.

For further information contact either Dr Ann Young (Geography), Canon Raymond Heslehurst (259526) or the Anglican Chaplain, Stephen Edwards (ext 3534). These people may be reached on E-mail.

Stop Press

UNIVERSITY OF WOLLONGONG OPEN DAY **SUNDAY 28 AUGUST**