

1 May 1990



Ian Finlay, of Beyond 2000 fame, 'launching' the Centre at the University



Mr Mel Ward, of Telecom (second left), with Lord Mayor Frank Arkell (left), Professor Ian Chubb, Deputy Vice-Chancellor (second right) and Mr Rod Oxley, Town Clerk (right)

Software solutions centre on campus

Launching marks new era in information technology

Telecom's high-tech Customised Software Solutions Centre in the Illawarra Technology Centre was 'launched' on Thursday April 19 by Ian Finlay of *Beyond 2000* fame in his role as master of ceremonies. The new centre is the first R&D facility of its kind to open in Australia and the occasion puts the giant organisation on the start line of far-reaching change.

By designing specialised telecommunications software to suit specific corporate needs, the centre will be entirely 'customer driven'.

Using Telecom's up-to-the-second information technology the CSSC will work

'...this may not be the last software development that we set up in close relationship with an Australian university, but it is the first, it is the trail blazer ...'

hand in hand with its customers to provide tailor-made telecommunications products. It is believed that as the new technology comes on stream CSSC will rapidly adapt information systems to put business in Australia at the leading edge in telecommunications equipment.

A demonstration set up for the opening

utilised some of the latest information technology available to illustrate some of the applications the CSSC can design and develop for corporate clients.

CSSC will act as a centre for National (Physical) Database administration.

Speaking at the ceremony, Mr Mel Ward, Managing Director of Telecom Australia, said, *inter alia*: 'The setting up of Telecom's first on-campus software development centre is an interesting collaboration between a progressive university and a progressive government business enterprise.

It is a kind of collaboration we may well see more and more of at the intersection of two important sectors of Australian society: the tertiary education sector and the telecommunications industry.

Both are vital to the future of the country: both are in a state of considerable growth and restructuring, stimulated by federal government policies that seek to improve Australia's ability to earn more income, at home and abroad, through the development of a range of value-added products and series built upon high levels of Australian intellectual skills.

Telecom's long-standing commitment to research, development and local manufacture is well known - we spend more on research and development here in

please turn to page 2

Looking at Australian manufacturing

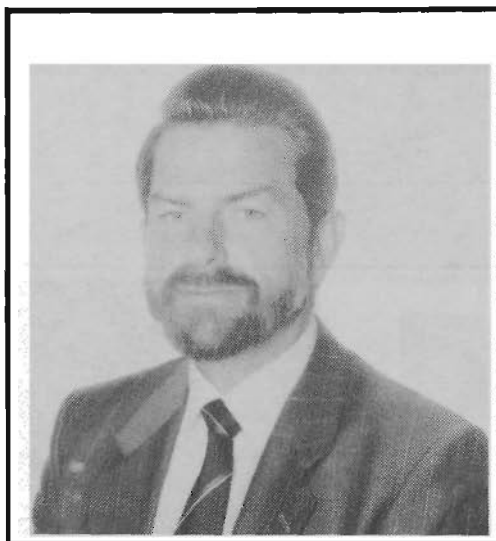
International conference to be held at Wollongong

THE FIFTH International Conference on Manufacturing Engineering, 1990, will be held at The University of Wollongong from July 11 to 13.

It will be a forum for examination and appraisal of the state of manufacturing industry in Australia, at which about 100 papers will be presented by international experts and industrial leaders.

The technical sessions will be supplemented by technical tours, an exhibition, two days of short courses before the conference, a ladies' program and a demonstration of CIM/FMS technology organised by CAMIA, the University's Key Centre for Advanced Manufacturing and Industrial Automation.

The technical tours will include visits to BHP Steel, Slab and Plate Products, BHP Steel, Sheet and Coil Products, MM Metals, David Brown Gear Industries Ltd, Keystone Valves and MHG Plastic In-



Professor Guenter Arndt

dustries Pty Ltd. The short courses will deal with such manufacturing concepts as CIM, Robotics, Lasers, TQM/PIQS, JIT, Multi-skilling and Ergonomics.

The conference will be hosted by Professor G. Arndt, Foundation Professor of Manufacturing Engineering in the University's Department of Mechanical Engineering and Director of CAMIA.

Professor Arndt completed a five year turning and fitting apprenticeship and after further study had two years' industrial experience before entering a distinguished academic career spanning 26 years, with research, industry cooperation, teaching and administrative experience in all aspects of manufacturing engineering at university, technical college and continuing-education levels. His major accomplishments have been the setting up of manufacturing engineering courses and laboratories at Swinburne, Auckland and now Wollongong; and research work in ultra-high-speed machining. Professor Arndt now specialises in advanced manufacturing technology and Japanese quality techniques.

Software solutions ...

from page 2

Australia than any other Australian business, in the private or public sector. Perhaps not so well known is our support for research at Australian universities, currently running at a level of about \$8 million a year, or the support we provide from our product development fund for good ideas from small Australian firms, with an annual budget of \$5 million.

'Our support for university-based re-



Tom Dangthanh, director of CSSC Telecom with Neil Watson, Telecom Country Division

searched by our own employees, on campus.

'Two years ago, Telecom reorganised into several customer divisions.

'New network technologies such as the ISDN, and new 'intelligent network' technologies permit a considerable amount of customising, or tailoring, of the network service to meet the needs of different industries, different companies and, ultimately, different individuals.'

Mr Ward concluded, 'Today's event is important not only to Telecom and to The University of Wollongong, but also to the broader Australian community. It may not be the last software development centre that we set up in close relationship to an Australian university, but it is the first, the trail blazer, whose progress we will monitor carefully.'

Professor Ian Chubb, Deputy Vice-Chancellor, said that the University supported without reservation a major R&D community with a focus of advanced intelligent network services of world significance. The University had a role to play on the world stage and to compete with the best there is. The Australian economy would benefit from the intellectual skills generated from the centre.

So far 20 people have been employed; and expansion on the figure is planned.

Campus News is published weekly on Tuesday during the academic year — with breaks at Easter and Queen's Birthday 'long weekends'

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Deadline for copy is noon on Monday of the week before that of publication

Material for publication should be left in the *Campus News* tray in Planning and Marketing Branch, Administration Building

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search includes the funding of several significant centres of applied research at half a dozen Australian universities. But this is the first time that we have decided to set up a product development centre,

General Notices

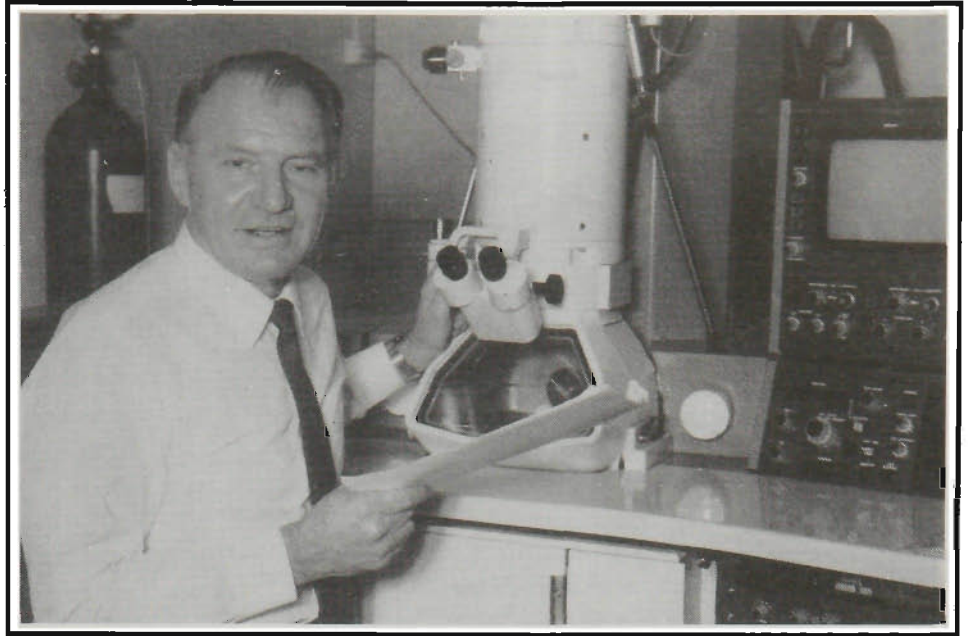
Paeon of praise from Engineering professor

IT IS A GREAT HONOUR to be a professor of the University of Wollongong. Why? There are many good reasons.

The University of Wollongong is a dynamic and progressive university and an exciting place to work and study in.

It is a university which leads the world in many areas of research and in the application of new knowledge for the benefit of people. Examples that immediately come to mind include intelligent materials, transport policy analysis, bulk solids handling, technology and social change, slope stability, spinabifida research and microwave pyrometallurgy. The last is of particular interest to me as it opens up new horizons in metal extraction and mineral processing. I can assure you, The University of Wollongong is number one in the world in this research. I know. In the past two years I have searched the world for any signs that may prove it otherwise but have found none.

As a professor of The University of Wollongong I especially look forward to continuing my teaching and research in that order: students always come before anything else and this is not just my belief



Professor Nick Standish

but is the stated policy of this university. Full marks! So this is yet another attribute of The University of Wollongong which has helped establish the reputation of this university locally, interstate and overseas, that it cares very much about its students.

I wish I were a University of Wollongong student now preparing for a career in the real world and having this extra edge over other students elsewhere.

Professor Nick Standish

Appointed Professor of the University by the University Council in April

cost of their tuition and associated overheads.

To teach them, we recruit our 430 academic staff in international competition. No occupation requires higher formal qualifications.

And they are indeed of top international standing, having qualified and taught at the world's most prestigious universities, including Al Hikma Jesuit, Arizona, Auckland, Baltimore, Berlin, Birmingham, Bradford, Braunschweig, Bristol, British Columbia, Brunei, Buenos Aires, California, Cambridge, Canterbury, Cape Town, Cardiff, Cheng Kung, Colorado, Cracow, Dundee, East Anglia, Edinburgh, Florida, Frankfurt, Harvard, Hawaii, Heriot-Watt, Johns Hopkins, Karlsruhe, Keele, London, Madrid, Manchester, Massey, McGill, McMaster, Moscow, Natal, New Hampshire, North Carolina, Norwich, Oxford, Pennsylvania State, Prague, San Francisco, South Pacific, Strathclyde, Sussex, Tehran, The Hague, Tianjin, Trondheim, Vidyod, Waikato, Warwick, Washington State, Wellington, Wittwasserstrand, Yale, York, and every Australian university.

Students of The University of Wollongong can obtain degrees and diplomas at every level, that is, Associate Diploma, Diploma, Bachelor Degree, Bachelor Degree with Honours, Graduate Diploma, Master's Degree, Master's Degree with Honours and Doctorate.

What areas do we cover? Professional qualifications are available in accountancy, dietetics, engineering (civil, computing, electrical manufacturing, materi-

Setting the standard for progress

Questions and answers about the University

THE UNIVERSITY of Wollongong is Wollongong's biggest locally controlled business, directly worth \$1.25 million a week to the Illawarra. And that's not counting the money brought into the region by the 50 per cent of students who come here for their higher education from outside the region, nor the money that would be drained from the region if we had no university - nor the multiplier effect as university expenditure passes through local businesses, effectively trebling profits.

The University's income was \$62,731,035 in 1989. Our expenditure was \$60,967,295, mostly in Wollongong.

But our value to the Illawarra cannot be measured in money alone. The University also brings prestige. And our pio-

neering work in state-of-the-art research in many technical fields attracts industry into the area.

What is this money-making, money-creating institution?

First and foremost, The University of Wollongong teaches. In 1989 we had 8071 students (nearly 30 per cent more than the ANU in Canberra) - 4458 male and 3613 female. This year we have more.

One in three of our graduates is bilingual.

About half our students come from the Illawarra and South Coast and the rest from Sydney, other parts of New South Wales, other States (mostly Victoria and the A.C.T.) and overseas.

About 700 of our overseas students pay their own way entirely, including the full

continued on page 4



Dr Martin Brand and Mr Patrice Couture with bearded dragons

Two bearded international visitors examine our bearded dragons

THE TWO HUMANS in the picture have come to Wollongong from separate parts of the northern hemisphere to do research with Associate Professor Tony Hulbert on some of our native reptile species. This research on the evolution of endothermy (warm bloodedness) is part of the *Australian Flora and Fauna Research Programme* at the University. Dr Martin Brand from the Biochemistry Department of Cambridge University is spending the first part of this year on study leave and Mr Patrice Couture is starting his PhD at Wollongong after completing his MSc at Laval University in Quebec, Canada.

Both were attracted to Wollongong by the international reputation that Associate Professor Hulbert and his students' work on the evolution of warm-bloodedness has achieved. This work has shown that the cells of warm-blooded mammals are 'leakier' than those of their cold-blooded reptilian ancestors and that a significant portion of this energy (or food) consumed by mammals is used to counteract this leakiness. In an analogous way, a bilge pump can be used to keep a leaky boat afloat. Dr Brand, who is an international expert on biological energy transformations, has recently shown that the

mitochondria of mammalian cells (sometimes referred to as the 'power-houses' of the cell) are also very leaky, and has come to Australia to examine the relative 'leakiness' of reptilian mitochondria.

Dr Brand said that, 'Australia is a great place to do this sort of work. It is like a nature park compared to Europe. I was especially impressed with the outback of western NSW and the abundance of a diverse fauna. It is very important that you study the biology of your native flora and fauna, not only for its intrinsic worth but also because, by comparison, it can often tell us a considerable amount about ourselves. Tony Hulbert's work has attracted some considerable interest internationally because of this aspect. My time in Wollongong has been very enjoyable; the University is energetic and the campus is very attractive'.

Patrice Couture will also be examining metabolism and will be attempting to understand the cellular basis for the different levels of metabolism in different sized animals. As described by Patrice, 'The cells of a mouse have a metabolic intensity that is seven times that of humans and about 13 times that of a cow. We have some ideas as to why that might be so, and I will be testing these ideas in both mammals and reptiles. It is quite exciting because the work has the potential to elucidate, for the first time, the basic mechanism that determines how big an animal will be.'

ITC Management Program

Situational leadership workshop

May 30, 8.30 am to 5 pm
Presented by: Louise Meyrick
Course Director: Graham Frost, ITC
Uniadvise Ltd, Cost: \$195

Innovative management program

May 7 and 8 and May 14 and 15, or June 12 and 13 and June 19 and 20, 8 am to 3 pm
Cost: \$290

Matching organizational and employee development needs

A one-day workshop to be held on May 25 at the Chamber of Manufactures, Market Point, corner Market and Young Streets, Wollongong. Organised by ITC Uniadvise Limited, Cost: \$240

Train the trainer

May 23 to 25 (manufacturing);
June 26 to 28 (commerce/retail)
Cost: \$300

For further information tel. (042) 26 8888.

Setting the standard for progress *from page 3*

als, mechanical, and mining), journalism, law, nursing, and teaching (primary and secondary).

General areas taught are: Australian Studies, Biology, Business Systems, Chemistry, Computing, Creative Arts, Drama, Economics, English Language, English Literature, French, Geography, Geology, History, Human Movement, Indonesian, Information Technology,

Italian, Japanese, Legal Studies, Logic, Marketing, Mathematics, Multicultural Studies, Music, Nutrition, Peace and War Studies, Philosophy, Physical Education, Physics, Politics, Psychology, Public Health, Science and Technology Studies, Sociology, Spanish and Statistics.

The University of Wollongong sets the standard for progress and achievement in the Illawarra.

News from Council

AT ITS APRIL MEETING the University Council resolved on the following issues:

1. *Release of Examination Marks:* With effect from Autumn Session 1990, both the marks and grades for all subjects (other than postgraduate thesis subjects) will be declared and released on official examination result notices but grades only printed on academic transcripts.
2. *Research Foundations:* Guidelines for the establishment of Research Foundations were approved. (Details available from Peter Wood, Academic Services).
3. *Info Tech:* The membership of the Information Technology and Communication Advisory Committee was endorsed and the Committee formally attached to the Faculty of Informatics.
4. *Wollongong Conservatorium of Music:* Council accepted funding supplementation offered by the NSW Ministry of Education but noted that it would review this issue when the Academic Senate had considered proposed restructuring for the Conservatorium and when the proposed Conservatorium role in providing music education in regional schools had been investigated.
5. *Professorship:* Council approved the appointment of Associate Professor Nick Standish as a Professor of the University.

Calling up the future

from the Bulletin's special report on telecommunications of April 17

AN ENCOURAGING STEP is the emergence of the University of Wollongong as a centre for telecommunications expertise, research, development and training. Nortel has put a lab in the university's beach-side Illawarra Technology Centre, as has Telecom. OTC has also promised it will use Wollongong for extensive R&D following its success in winning the NSW government communications contract through its majority-owned Telepower subsidiary.

There is a sniff of the wild blue yonder in the research work being carried out in the southern NSW campus. Telecom, for instance, is trying to develop an intelligent telephone network that will mean one day each of us has a personal phone

University Day – May 7



Professor Clem Lloyd

UNIVERSITY DAY commemorates the constitution of the Wollongong University College on 8 May 1961 and it is now celebrated on the Monday nearest to that date.

The details of the Day's activities

were reported in the April 10 issue of *Campus News*. The daytime program includes sporting competitions, the Mt Keira Summit Run, the Creative Arts student jazz band at the Union and a two-hour performance of Shakespeare's *All's Well That Ends Well* in the Forum near Administration (beginning at noon). There will also be a day-long student art exhibition in the Long Gallery.

The evening program begins at 6 pm in the Music Auditorium. It will include musical items and presentations of the 25 Year Staff Awards and the Ethel Hayton Trophy. The University Day Public Lecture will follow. This year Professor Clement Lloyd, Foundation Professor of Journalism at the University, will deliver an address topically entitled *Elections, Politicians and Journalists*. A wine-and-cheese supper will then be served in the Long Gallery.

Anyone wishing to attend the public lecture in the evening is asked to ring Antoinette Mattaranz (042) 27 0933 before Wednesday, May 2.

number that follows us around. When a call comes through, the network will track us down and pass the call to us, wherever we are. Nortel is working on what it calls 'frontier stuff' in telecommunications software.

Also, *HUB*, an information technology magazine has featured a two-page article on The University of Wollongong 'attracting millions of information research dollars, which may change the face of the city'. Copy available from Gillian Curtis, tel. 27 0926.

Youth Endeavour Awards

THE ST GEORGE Building Society recently introduced the Youth Endeavour Awards in which quarterly prizes are awarded to young Illawarra residents in five categories of endeavour. At the end of the year the quarterly prizewinners in each field will be contenders for the annual prize. The five fields are:

- Academia
- Business
- Community service

Disabled sports

Visual or performing arts

Paul Morris, who completed his first class honours degree in Mathematics in 1989, will be awarded a University Medal at the May graduation ceremony. Paul was nominated for the award by Professor David Griffiths, Head, Department of Mathematics, and was successful. The inaugural wards were made on April 10 at the St George Building Society's Illawarra office.

ITC Uniadvice Limited

Courses/Conferences

Short Course on *Flood Hydrology for Detention Basins*, June 12 - 15, at The University of Wollongong; numbers 30 to 40.

First Australasian Native Orchid Conference and Show, September 27 - 30, at The University of Wollongong; numbers 200 plus.

For information contact Margaret Prendergast, (042) 27 0076.

Books and Reading

THE AUSTRALIAN ECONOMY

Dudley Jackson (Macmillan)

DUDLEY JACKSON'S *The Australian Economy* (Macmillan, 1989) is the first textbook to provide a comprehensive and systematic explanation of the Australian economy through the two main Australian Bureau of Statistics publications *The Australian National Accounts*, *National Income and Expenditure*, and *Balance of Payments Australia*.

The associated *Australian Economy Workbook* (Macmillan, 1990) provides a comprehensive set of 218 exercises and answers, the exercises being set at intervals throughout the text so that each exercise and answer may be used to test and develop the student's understanding of the preceding textbook material.

The aim of the textbook is to equip students to handle data in macroeconomic analysis and to understand the meaning of that data. Throughout, the book is based on the philosophy that, to understand economics, students must be able to appreciate economic theory in the light of economic statistics and also interpret economic statistics within the framework of economic theory. Theory and data go together.

Traditionally, the teaching of economics has, in the author's view, given too much attention to theory and too little to economic data. Furthermore, in the case of a technical subject like economics where the official government statisticians have steadily improved the quantity and quality of data published, it is not enough to give students pre-digested, extracted snippets of data to illustrate the theory being explained. It is essential that the student be required to develop a working knowledge of the original statistical publications themselves.

This means that a textbook must not only explain economic theory in the context of economic data but must also provide a systematic guide to the relevant official statistical publications. Accordingly, a textbook on economics must be written for a particular economy, in the sense of being centred on that economy's statistics and statistical publications.

So far, Australian economics students have mostly had to make do with textbooks written for or derived from other economies. This has had two unfortunate

effects: first, students' understanding of basic theory has been imperfect because of lack of familiar data to illustrate the theory; and second, students' knowledge of Australian economic statistics and statistical publications has been very limited. It is the author's hope that *The Australian Economy* will remedy this state of affairs.

NATIONAL UNIFICATION AND ECONOMIC DEVELOPMENT IN VIETNAM

Melanie Beresford (Macmillan)

HISTORY LECTURER Melanie Beresford has just published a second book on Vietnam. Her first, published in 1988, received an award in the USA by *Choice* magazine which caters to librarians.

The new book, *National Unification and Economic Development in Vietnam* (Macmillan, 1989), arrived in Australian bookshops last month. Its central theme is that Vietnam has within its borders two essentially different socio-economic systems: capitalism and socialism. With some experience in handling this difficult situation, Vietnam, a large country of 65 million people, may have lessons, negative as well as positive, for other countries facing a similar contradiction, for example Germany, Korea and China (with its plans to unite with capitalist Hong Kong, Macao and Taiwan).

The author argues that for national development to proceed successfully, it should be handled in a way that will not generate a 'Balkanisation' of provinces such as occurred in Yugoslavia, or a widening rather than narrowing of income differentials as development plans are implemented.

Seminar on history, myth and fiction

JAMES WIELAND'S book *The Ensphering Mind: history, myth and fictions in six post-colonial poets* is to be the subject of a seminar on history, myth and fiction to be held at the Footscray Institute of Technology on May 4.

The seminar will be sponsored by the Department of Humanities and the Footscray Foundation for Australian Studies.

Dr Wieland, an Associate Professor in the Department of English, will give the keynote address, in which he will discuss his book and implications for future research in the area.

Research Funds

The sources of research funds given below are available to members of academic staff. Further information, including application forms, may be obtained from Kim Roser (ext. 3201). Intending applicants are reminded that all research applications must be forwarded through the Office of Postgraduate Studies.

Scholarships, Fellowships and Prizes

Australian Academy of Forensic Science Sir Harry Gibbs Prize

Submissions are being called for the Sir Harry Gibbs Prize to be awarded annually for the successful submission of a paper or a thesis on a forensic science topic.

The value of the prize is \$5,000 for the winning entry.

The University closing date is September 28.

The Friends

Forthcoming events

Monday May 7

University Day Address and presentation of the Ethel Hayton Trophy

Awarded to the individual who, or group which, has contributed most to the development of University/community relations in 1989.

Nominations for the 1989 award include Mr Glen Moore, for his work in setting up the Science Centre; Professor Howard Worner, for his research using microwave technology; Ms Tracey McDonald and the Department of Nursing, for their organisation of Senior Citizens' Day; and Professor Leon Kane-Maguire, and the Open Day Committee for their organisation of the 1989 Open Day.

Friday 18 May

The Annual General Meeting of the Friends of the University of Wollongong Ltd will be held on Friday May 18 at 5 pm in the University Union Board Room (first floor).

All members of the Friends (and there are over 1100) are welcome to attend. The agenda, accounts and annual report have recently been sent to all members.



Staff Roundup

25 Years Service Awards

IN 1988 the University presented inaugural awards to staff members who had completed 25 years service.

These awards will again be presented in 1990, in recognition of the contributions made by the recipients both in the present and the past.

Associate Professor Colm Kiernan, Associate Professor David Anderson, Doctor Jim Campbell, Professor Ken McLean and Mrs Jane Cook have all been invited to receive their awards on University Day in conjunction with the presentation of other University awards. The combined service of these five people is over 125 years.

To date 20 employees have satisfied the requirements for this award, many of them still actively contributing to the University.

Superannuation

Attention administrative staff

A REPRESENTATIVE from the State Authorities Superannuation Board will visit the University on Tuesday May 22 to speak to prospective and current members who have questions about superannuation.

The talk will be held in meeting room 303 from 9 to 9.30 am.

Contact Barbara Smith, ext. 3930 with any queries.

Centre for
Staff
Development

The Supervisor and on-the-job training

a workshop presented by Shirley Jorgensen, Staff Development

May 15 and 22

One and a half days (9 am to 4 pm; 9 am to 12.30 pm)

Costly, time-wasting errors made by new

recruits can be avoided and new members of staff can start to work quickly and efficiently when the pitfalls of trial and error learning-on-the job are avoided.

This workshop will help managers and supervisors to develop the training and instructional skills which can be used to increase the effectiveness of their employees. It will help them to improve the efficiency of their departments while experiencing the satisfaction of helping someone move smoothly into a new job.

Participants will be required to prepare a training session suitable for a new employee in their work area. Areas covered by the workshop will include: when to train, instructional techniques, motivation for learning, organisational blocks to job training and overcoming the resistance to training.

Those interested in attending should contact the Centre for Staff Development before May 7. Inquires to Shirley Jorgensen, ext. 3946.

What's on

Big fish eat little fish

artwork on the environment

The Long Gallery only to May 20

Monday to Friday 9.30 am to 4 pm

Sundays 1.30 pm to 4 pm

BIG FISH EAT LITTLE FISH, an art exhibition on the environment, will be open only until May 20. Admission is free; all works are by the University's Bachelor of Creative Arts students of visual arts. They present an exhibition of work which concentrates solely on one of the most topical political issues of today: the environment.

The environment is a global issue which effects every individual, and is thus a relevant focus for the art of this exhibition.

The preview was officially opened by Professor Jim Falk, Head of Science and Technology Studies, Wollongong University, on April 27.

Further information from Jenny Fullerton 27 0996.

Joanne Burns presents

THIS WEEK'S Art of Lunch program (Music Auditorium, Thursday May 3 12.35 to 1.25 pm) is organised by Joanne Burns, writer-in-residence at the School of Creative Arts. Joanne is a Sydney-based writer who has had a number of works

published including *Adrenalin Flicknife*, *Ventriloquy* and *blowing bubbles in the 7th lane*. She has also been published in a number of collections of poetry, prose poems and short fiction. In 1985 Joanne was a member of the fourth Australian Poets' Reading Tour of North America. In 1988, the title piece of her most recent book, *blowing bubbles in the 7th lane*, was produced as a radio play by the ABC.

During her residency Joanne Burns has read from her work in the Art of Lunch program and has conducted sessions in performance poetry with First Year creative writing students. This week's Art of Lunch program will include short readings by a number of students attending the prose fiction class and from classes with whom Joanne has worked during her residency. She will also read briefly from her own work.

the art of lunch

Thursday 12.35 - 1.25 pm during Session Music Auditorium, School of Creative Arts, University of Wollongong

Entry to Auditorium through Performance Space Foyer.

May 3

Writer-in-residence Joanne Burns joins writing students for a joint presentation of readings.

May 10

The SCAW Ensemble conducted by Andrew Ford in a workshop presentation of pieces by Julia Akerholt, David Chisholm and other student composers.

May 17

Creative writing lecturer Ron Pretty reads from new works written during his recent sojourns in the United States and Europe.

May 24

Relax to some show numbers presented by Music Theatre students.

May 31

Dutch sculptor and performance artist José Aerts presents *How Low Can You Go?!*

June 6

Direct from the Adelaide Festival of Arts! our favourite fringe-dwellers *Short Back and Sides*

Enquiries: 042-27 0987 or 042-29 7518

Parking: enter by Western Entrance, Northfields Avenue; Admission: free; Design: Richard Hook; Convenor: Wayne Dixon

Have you tried the shuttle yet?

IT'S A GREAT new weekday service linking the University's residences with the main campus. The service has been started for the convenience of students and staff. BUT the service is on trial: it must pay its way, and must be well used if it is to continue to operate.

There are three categories of bus pass: daily (a book of ten vouchers) sold for \$4.50 a book; weekly passes for \$3 each and monthly passes for \$12 each; they may be purchased from the Halls of Residence and the Cashier's Office in the Administration Building.

Catch a shuttle today.



Going your way? The service is on trial and must be well used if it is to continue

Timetable

Departs	Arrives		University
	Campus Weerona East	L. House	(Printery car park)
a.m.			
7.50			8.00
	8.05	8.12	8.20
8.45			9.00
	9.05	9.12	9.20
9.45			10.00
	10.05	10.12	10.20
10.45			11.00
	11.05	11.12	11.20
11.45			12.00
p.m.			
3.50	4.10	4.17	4.25
4.55			5.05
	5.10	5.17	5.25
5.50			6.10

Departs	Arrives		University
	(Printery car park)	L. House Weerona	Campus East
a.m.			
8.25			8.40
9.25			9.40
10.25			10.40
11.25			11.40
p.m.			
4.35			4.50
5.35			5.50
Northfields Ave			
p.m.			
6.35	6.45	6.55	7.15
7.35	7.45	7.55	8.15
8.35	8.45	8.55	9.15
9.45	9.55	10.05	10.15

The service will operate this Session to June 29 and in the Spring Session from July 16 to September 23 and October 8 to December 2

Seminars

Department of Accountancy

Seminars are held in room 2001, in the Department of Accountancy, The Social Sciences Building, at 11 am. Anyone who is interested is cordially welcome. Inquiries to Hai Yap Teoh, Seminar Convener, telephone 27 0625. Friday May 4: Mr Abey Ariyadasa, *The effect of inflation on the development of accounting thought*

Friday May 11: Professor N. McIntosh, Queen's University, Canada, *Management accounting as a disciplinary practice (a focalvain analysis)*

Department of Biology

Seminars are held from 12.30 to 1.30 pm in Building 35, Lecture Theatre G19, on Tuesdays.

May 8: Professor Jack Putz, Department of Botany, University of Florida, USA, *Tropical rainforest ecology*

Department of Chemistry

Seminars, except where indicated, are held on Fridays in room 18/206 at 11.30 am.

May 11: Graham Johnson, CSIRO Division of Coal Technology, *Photochemical smog*

Department of Economics

Seminars are held on Thursdays, from 11.30 am

to 12.30 pm in room 19.1056.

May 3: Charles Harvie, The University of Wollongong, *Macroeconomic consequences arising from temporary oil production: a UK experience*

May 10: Raja Junankar, Australian National University, *Long-term unemployment in Australia*

Department of Electrical and Computer Engineering

Monday May 7, 12.35 to 1.25 pm in room 35G45: Mr A. Perkis, *Application of a low bit rate speech codec to a satellite channel*

School of Learning Studies

Seminars are held on Wednesdays at 12.30 pm in room 21.104

May 2: Noeline Kyle, Ted Booth, Jan James and Gay Tapp, *You can influence student aspirations: an account of the first year of the Secondary Schools 'Link' Program*

Enquiries to Bill Winsor, Co-ordinator, School of Learning Studies, ext. 3963

Department of Materials Engineering

Seminars to be held jointly with the Wollongong University Student Chapter of the Metallurgical Society on Tuesdays from 4.30 to 5.30 pm in room 1.134 (unless otherwise specified).

May 8: Prof. K. Entwistle (Manchester University, UK), *Deformation of ceramics*

Enquiries to Associate Professor D. Dunne tel. 27 0014.

Department of Mechanical Engineering

(Note: The University charges a parking fee of \$1 for parking within the University grounds).

Thursday May 3, Building 8 seminar room at 1.30 pm: Dr P.R. Gibson, Senior Lecturer, Department of Mechanical Engineering, *Quality in manufacturing*

Enquiries to W.K. Soh, ext. 3059.

Department of Public Health and Nutrition

Seminars are held in 5.G03 between 12.30 and 1.30 pm on the dates given. Anyone who is interested is cordially invited.

Tuesday May 1: Dr Jenny Porteous *Nutrition knowledge, attitudes and practice of NSW GPs*

Enquiries to Ms Linda Tapsell, Lecturer, Department of Public Health and Nutrition tel. (042) 27 0152 or ext. 3152.

Department of Psychology

Staff and postgraduate series

Seminars are held on Tuesdays from 12.30 to 1.30 pm in the Department of Psychology, room 19/1056.

May 1: Professor William Lovegrove, Department of Psychology, The University of Wollongong, *Some remedial implications for dyslexia from a visual deficit perspective*

May 8: Dr Mark Anshel, Department of Human Movement Science, The University of Wollongong, *Coping with acute stress*

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