



Dr Jacky Croke, Associate Professor Gerald Nanson and Geoff Black with the new drill rig

THE Quaternary Environmental Change Research Program in the Departments of Geography and Geology has purchased a drill rig using an Australian Research Council Grant valued at \$47,000 and \$15,000 of University funding.

The program is scheduled to begin in winter next year and will continue over the next three to four years.

Its continuing operation will be funded by the Australian Research Council and the University of Wollongong.

The main objective of the program will be to look at sea level and major climatic changes around the continent with a view to predicting future changes.

In order to achieve this objective, research will involve using the rig to drill:

- Estuaries in northern Australia to look for possible sea level rises that could be related to the greenhouse effect.

- Sand dunes in the deserts of central

Drill rig to help in environmental change

Australia in order to find evidence of patterns of climatic change and wetter periods over the last few tens of thousands of years.

- Lake shore lines around Lake Eyre looking for evidence of when the lake contained fresh water and was some tens of metres higher than it is at present.

- Coastal sand dunes in NSW to find evidence of tsunamis (tidal waves) which have destroyed a lot of coastal landforms in this region over the last few tens of thousands of years.

- River sediments in central and northern Australia for evidence of major flow regime and climate change in the arid heart of the continent.

This will mean that the rig will be operating all over Australia, including

Western Australia, over the next few years.

The techniques that will be used include laboratory analysis of the sediment that is found and dating that sediment using thermoluminescence.

This work will be conducted by members of the program.

In combination with thermoluminescence dating, this drilling rig will open up a whole new field of research into sea level and climate change in tropical and central Australia.

Those involved in this research are: Geoff Black, Associate Professor Ted Bryant, Dr Jacky Croke, Associate Professor Brian Jones, Associate Professor Gerald Nanson and Dr Colin Woodroffe.

PROFESSOR Michael Hough has been selected as an Australian Council for Educational Administration/BP Traveling Scholar for 1992.

The scholar travels around Australia addressing State or professional meetings on a nominated topic. Professor Hough will be speaking on 'Performance Appraisal in the Public Service Sector'.

Professor Hough is professor of Management Studies with responsibilities as Director of Professional and Continuing Education for the Faculty of Commerce.

THE University's Computer Literacy Policy requires all students who began an undergraduate course from 1989 onwards to have basic computer skills prior to graduating.

To assist those students whose course of study does not grant them exemption or who have not satisfactorily completed a computing subject at an approved institution or have verified work experience, ITS offers Beginners' Courses at the following times:

Macintosh: December 3 and 5, 9:30am-12:30pm. Building 22, Eastern Laboratory.

IBM-compatible: December 3 and 5, 9:30am-12:30pm. Building 43 (demountable) Lab A.

The course covers basic computer skills and elementary word processing, using Microsoft Word. Each course comprises six hours tuition (2 x 3hr sessions over 2 days) and includes a test. Cost is \$25.00 for University students.

For course reservations contact ITS Building 15, tel. (042) 213 816 or 213 850.

If you require clarification of the Computer Literacy Policy see Helen Carter, Building 15, Room G25, tel. (042) 213 849.

UNIVERSITY personnel are advised that the cashier's office will be open from 9.30 am to 4.30 pm on all normal working days with the exception of Tuesday December 24.

The office will close at noon on December 24.

All creditors' cheques must be collected before noon.

Uncollected casual salary cheques for the period ending December 20 will be posted on Monday December 23.

THE Children's Christmas Party will be held on Saturday

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Material for *Campus News* should be sent by Microsoft Mail to Gillian Curtis, or left, preferably, on a Macintosh-formatted floppy disk, or on hard copy in the *Campus News* tray in Planning and Marketing Branch, Administration Building.

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Brief News

November 30 from 11am on the field west of the Recreation and Sports Centre.

There will be plenty of entertainment, rides and surprises. The cost per child is \$8. The usual Christmas Hamper Raffle will be drawn on the day, but the organising committee needs donations to fill the hamper.

BURKHARD Schallock, a project leader in the prestigious Fraunhofer Institute for Design Technology and Production Control (IPK), will be at the University this month.

He is the co-ordinator of the European BRITE project and head of the Humanisation of Work project.

He will be available to talk on the major multi-institutional Humanisation of Work project in Germany 'Design Rules for Computer Integrated Manufacturing' undertaken from the point of view of improving qualifications and working life conditions through appropriate system design and implementation.

Contact Department of Science and Technology, ext. 3691.

Dr RICHARD Badham of the Department of Science and Technology Studies has received approval from the German Research and Technology Ministry and the Australian Department of Industry, Technology and Commerce (DITAC) for the definition phase of a collaborative Australian/German \$2-3 million project on 'smart manufacturing techniques'.

Dr Badham, who has been working on the organisation of this project for nearly a year, is the joint-head of the Australian project team.

The proposed project will involve from the German side: the ministry's Production Technologies Program, a team of German engineers and social scientists from Fraunhofer and other research and consultancy institutes, and three German manufacturing firms.

In Australia it will involve the DITAC International Branch and an application for funding from the Advanced Manufacturing Technology Fund, and a team of engineers and social scientists drawn from the University of Wollongong, CSIRO Division of Manufacturing Technology, the South Australian Centre for Manufacturing, and three to four firms.

Negotiations are presently underway with GM-H in Adelaide, Hoover Ltd, MM Cables Ltd, and Stubbies Ltd concerning their involvement in the project.

The aim of the project is to implement cell-based manufacturing 'islands' in three Australian firms, and develop both decentralised 'skill based' production scheduling software support and organisational techniques for the implementation and organisation of the islands. The project is an exercise in the interdisciplinary design and implementation of 'skill based' manufacturing systems in Australia drawing upon European research into 'production islands'.

The definition phase that has now been approved involves the funding of a mission to Germany early next year by a group made up of company representatives and members of the research team, where they will meet prospective German collaborating institutes and firms.

For further information on this project and related activities, contact Dr Richard Badham, ext. 3634 or fax (042) 213 452.

Friends' book sale

THE Friends of the University Graduates Group is holding an end-of-year discount sale at their Campus East Bookshop, Fairy Meadow (opposite the Science Centre), this Saturday and Sunday from 1-5pm.

Mixed study texts, fiction, sheet music and children's books will be available. Donations of unwanted material are also invited. The first sale for 1992 will be in February. Enquiries: 29 1951 or 62 1536.

Seminars

Centre for Advanced Manufacturing and Industrial Automation

November 27 and 28: Professor G. Arndt, Ross Kennedy, Rex Honey, *Total Productive Maintenance*.

December 2: Dr Des Tedford, *Industrial Ergonomics Today*.

December 3: Dr J.D. Tedford, *Project Planning and Control*.

December 4, 5 and 6: Professor G. Arndt, Dr P. Gibson, *Advanced Quality Techniques*.

December 10: Dr S. Ghahreman, Dr C. Gulati, *Introduction to Statistical Process Control*.

All of the seminars will take place at the Wollongong Surf Leisure Resort Conference Centre, Pioneer Road, Fairy Meadow starting at 9am.

Department of Biology

November 26: Dr Glenda Sullivan-Tailyour - to be announced

December 3: Associate Professor Rob Whelan - to be announced

Location: Lecture Theatre 35.G19 at 12.30pm - 1.30pm.

Department of Science and Technology Studies

STA Research Program Seminar

November 21: Burkhard Schallock (Dip. Ing. Fraunhofer IPK, Berlin), 'A Knowledge Based Scheduling System to Support Qualification and Decisionmaking on the Shopfloor: A European Case of Skill Based Automation'

The paper will present some of the results from a collaborative European BRITE project to develop a knowledge based shop floor scheduling system. The paper will be of interest to both engineers and social scientists interested in new technology and production.

12.30pm. Room 19.2006.

Australian Federation of University Women - NSW

Jamieson Awards

Applications are called for awards valued at \$100 each to outstanding female students completing final or honours years in any University within New South Wales. Awards are offered in all fields. The external closing date is February 3, 1992.

Harvard Club and RG Menzies Memorial Foundation

RG Menzies Scholarship to Harvard

Applications are invited for two scholarships to attend graduate school at Harvard. Candidates should have applied or be applying for a place at the graduate school of their choice at Harvard. Applicants must be Australian citizens. The external closing date is December 31.

Honeybee Research and Development Council

1992/93 Project Grants

Applications are called for projects relating to any area of interest and relevance to the Honeybee council. The University closing date is December 20.

Previously Advertised Closing Date

Previously Advertised	Closing Date
The British Council Travel Grants	Any Time
Australian Academy of Humanities (Publication Subsidies)	Any Time
Clive and Vera Ramaciotti Travel Grants	Any Time
Criminology Research Grants	Any Time
Japanese Science and Technology Awards	Any Time
National Teaching Company Scheme	Any Time

Due to the increased demand for this section, in future it will be available only to staff and present students. Anyone wishing to advertise must complete a form in Planning and Marketing, Administration Building. This advertisement will be run once. For a repeat it will be necessary to complete another form.

FOR SALE

B/v house, 4 br, one with en suite, large lounge, separate dining, dishwasher, burglar alarm, inground pool, double garage, northern suburbs. Close to train and beach. Uni bus 100 metres. \$175,000. Ext. 3377 (day) or tel. 85 2671 (evenings)

SHARE

Large 2br house in Woonona. Newly

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 Lyndal Manton (ext. 3201). Intending applicants are reminded that all research applications must be forwarded through the Graduate Office.

Grape and Wine R and D Projects 1992	November 22
General Practice Evaluation Program	November 22
Pig R and D Corp Project Awards 1992	November 22
ATERB Project Grants 1992	November 22
Netherlands Government Scholarships 1992	November 29
NSW Coal Preparation Scholarship 1992	November 30
Canadian International Postdoctoral Fellowship	December 1
Associate of Rhodes Scholars Postgraduate Scholarship	December 15
Coopers and Lybrand Accounting Grants	December 20
AINSE Postgraduate Research Awards 1992	December 20
BTR/FCO Oxford/Cambridge Scholarships	December 31
CBI Scholarship (Aust. Britain Society)	December 31
Aust/Greek Travel Awards 1992	January 31
Cotton R and D Project Awards 1992	January 31
SA Aust. Fed of Uni Women Bursaries 1992	February 29

Advertisements

renovated. Must be reliable and responsible non-smoker. Tel. Pam 84 6740.

WANTED TO RENT

Uni lecturer seeks room, preferably unfurnished, for two to three nights per week at appropriate rent. Week nights only, Tel 21 3615.

FOR SALE

Macintosh extended keyboard with editing and function keys (MAK-105). Works with Classic, LC, SE, II and Quadra (ADB interface). Price \$150. Colin Jones, Business systems, ext. 4035

■ The School of Creative Arts' third Year graduating exhibition is being held in the Long Gallery until December 1. The exhibition features drawings, fibre arts, paintings and printmaking. MCA submissions by Christine Kirkegard and Siobhan O'Gorman are also on show. The exhibition is open Monday to Friday from 9am-5pm and Sundays from 1.30-4pm.

■ The City of Wollongong Symphony Orchestra is holding its fourth and final subscription concert for 1991 at the IMB Theatre, Illawarra Performing Arts Centre, on November 23. Bass singer Keith Hempton and soprano Danielle Everett will perform arias and duets on stage, with some acting and costuming, in the roles of Figaro and Dr Bartolo, Cherubino and Susanna. Keith Hempton is Lecturer-in-Charge of the Wollongong Conservatorium. Danielle Everett is completing her Bachelor of Creative

What's On

Arts studies at the University of Wollongong.

■ Upcoming events for the Illawarra Committee for Overseas Students are: November 30: Australia Wonderland \$15 and \$10. Persons participating in ICOS activities are responsible for themselves in case of injury or accident. Tickets and details are available from the ICOS office in the Union Building next to the Careers and Appointments Service, Tuesday, Wednesday and Friday 9.30am-2pm. Tel. 21 3158 or ext. 3158.

■ An information session is to be conducted by Peter Wood, Manager of the Academic Services Branch, on 1993 ARC grants, at 9.30am on Friday November 29 in Building 14.

■ An audition for SPAT's production of *Twelfth Night*, which is being

performed at the University of Wollongong next April, will take place at the CWA Hall in Stanwell Park on Wednesday November 20 at 7.30pm. More information, contact Ed Hill, tel. 85 1192.

■ The Staff Fitness Program for this week is:

Wednesday: 12.30 pm Powerwalk, 1pm Circuit. Thursday 12.30 pm Powerwalk, 1pm Aerobics. Friday 12.30 pm Powerwalk, 1pm Circuit. The program after this week until Friday December 13 is: Mondays: 12pm Circuit, 12.30 pm Powerwalk. Tuesdays: 12pm Aerobics, 12.30 pm Powerwalk. Wednesdays: 12pm Aerobics, 12.30 pm Circuit. Thursdays: 12pm Aerobics, 12.30 pm Powerwalk. Fridays: 12pm Circuit, 12.30 pm Powerwalk.

On Monday December 16 at 12.30 pm, the Sports Lounge has been booked for a small gathering and some Christmas drinks.

Centre's expertise at Kuala Lumpur conference

THE rapid growth of ASEAN and north Asian ports, privatisation of Malaysian ports and the benefits of private sector control were issues discussed at a major port management conference held in Kuala Lumpur in September.

Director of the Centre for Transport Policy Analysis, Illawarra Technology Corporation, Dr Ross Robinson, attended the conference.

At the invitation of Lloyds of London Press, he discussed the extraordinarily rapid growth - in some instances up to 30 per cent annually - of some South-east Asian ports.

This growth had occurred as a result of rapid Asian economic and industrial development, changing global shipping trends and the emergence of hub ports and feeder shipping services and, as Dr Robinson indicated, would have significant implications for port investment by governments and associated land based infrastructure developments.

The Malaysian government was al-

ready committed to spending in excess of US\$3.5 billion on transport infrastructure during the next five years, much of which would be invested into ports.

In order to ease the burden on state finances and to ensure the most efficient management, privatisation of ports was actively being promoted.

The major hub of Port Klang, Dr Robinson noted, had already been privatised and the privatisation of the port of Penang was imminent.

Changes in global shipping patterns and the development of Asian hub feeder services would have considerable impact on Australian port and shipping requirements.

Australian ports would have to plan strategically in order to accommodate changing services.

It would possibly lead to real competition between Australian ports, Dr Robinson pointed out, as Adelaide, Fremantle or Brisbane, for example, sought to gain a greater share of the

feeder trade.

The conference, the first Asian Port Management Conference 'Privatisation, New Technology and Beyond' was organised by Lloyd's of London Press and attracted delegates from the World Bank of Washington as well as Australia, New Zealand, The Netherlands, Thailand and Hong Kong.

■ ANALYSIS of accident statistics over the last three years has identified the month of November as repeatedly having the highest incidence of accidents at the University.

Occupational Health and Safety Co-ordinator, Jeff Owers, cannot explain the reason for this high incidence.

"There is no particular trend for these accidents being evident," he said. "Perhaps it is the anticipation of the approaching Christmas season and the rush to complete the year's work or fatigue from a year's work completed.

"Whatever the cause, supervisors need to be particularly vigilant as this period arrives to ensure that safety always has first priority with the staff under their supervision."

Only two more editions of *Campus News* in 1991. The final *Campus News* for 1991 will be published on December 4. Deadline for the copy is Monday November 25.