Minister Advocates Changes in Teacher Education

The Minister for Education, Mrs Virginia Chadwick, is counting on the co-operation of Universities in NSW to ensure that teacher education lecturers spend at least one term in the classroom every five years.

"I am concerned that some institutions in New South Wales have lecturers training teachers who have not taught in a classroom since 1967," Mrs Chadwick said.

Mrs Chadwick fore-shadowed two other changes to teacher training in New South Wales while delivering the Macarthur Lecture at the University of Western Sydney on November 6.

From 1994, students will have to study 2-Unit Mathematics and 2-Unit English at HSC level if they want to be employed by the NSW Department of School Education.

And the Minister wants to see more specific recognition of the competencies achieved by students during their teacher training courses.

"I want to employ a greater understanding of the skills undertaken by trainee teachers, rather than a list of subjects undertaken," she said.

While the Department's employment standards are clearly within its control, Mrs Chadwick acknowledged that Universities are autonomous. She said, however, that she was hopeful they would co-operate with the initiative to send teachers back to the classroom.

The Department was willing to remove any barriers to enable teacher educators to gain classroom experience through an exchange program with teacher education institutions.

"We have a wealth of highly qualified classroom teachers, people who have completed their study to Masters and PhD level, who would welcome the opportunity to impart their knowledge and experience to teacher trainees.

"We would similarly welcome the secondment of lecturers back into the classroom, in exchange, so that they can reacquaint themselves with the school and students of today."

The rationale behind the Minister's proposals lies in a study by Professor Turney, of Sydney University, which found that fewer than 20 per cent of teacher educators had any classroom experience in the past decade and fewer than 50 per cent had taught in a classroom since 1973.

Mrs Chadwick said the new directions she was announcing had been compiled after a year of consultation with relevant interest groups following the publication of Professor Turney's research.

Although Mrs Chadwick's title is Minister for School Education, she is also the Minister with responsibilities for the nine public universities in New South Wales, and appoints four members of the Council of this University.

She is a graduate of Newcastle University and a former secondary teacher in Newcastle.

Newcastle Ranked Sixth in APRA Industry Awards

Newcastle's success in attracting seven Australian Postgraduate Research Awards (APRA) Industry Awards for 1992 places it sixth among Australia's universities in gaining industry funding for research projects under this significant scheme.

Newcastle was successful with 87 per cent of its applications for APRA Industry awards, well above the national average of 66 per cent.

Sponsors of awards include two local organisations, the Hunter Water Board and the Scientific Services Group of the Electricity Commission of NSW.

Awards have been made to the following projects:

- On-line condition assessment in power plants, supervised by Professor D.J. hill, within the Centre for Industrial Control Science (sponsored by the Scientific Services Group of the Electricity Commission of NSW).
- Novel biomolecular-profiling technologies for the early detection of freshwater pollution, supervised by Dr R.H. Dunstan, within the Biomedical Research Group (sponsored by the Hunter Water Board).
- Investigation of blending and mixing in bulk materials handling and process systems, supervised by Professor A.W. Roberts, within the Institute for Bulk Materials Handling Research (sponsored by Merz Australia Pty Ltd).
- Treatment methods to control the fouling of furnaces fired with coal, supervised by Professor T.F. Wall, Department of Physics (sponsored by CMTEK Pty Ltd).

In This Issue

New Disease Research System - Page 3
Move to new Chancellery - Page 4
Architecture 5 Exhibition - Page 7
Drought in the Hunter - Pages 8-9
Around the Campus - Page 13
Nursing Course Approved

A conversion course, allowing Diplomates in Health Science (Nursing) or Applied Science (Nursing) to qualify for the new award of Bachelor of Nursing has been approved by Academic Senate.

The course will require registered nurses who already hold the diploma to spend one year in part-time study, and acquire 40 credit points by studying Discipline of Nursing 2, Nursing 3D and Discipline of Nursing 3.

The Dean of Nursing, Associate Professor Lyn Forritt, told Senate the Bachelor of Nursing differed from the Diploma course by exploring in greater depth the theoretical discipline of nursing.

The subjects in the conversion course covered this area, she said.

Some members of Senate expressed misgivings about a one-year part-time course, with 40 credit points, intended to give Diplomates the additional depth required in a Degree course, when the traditional conversion had required a year's full-time study for 80 credit points.

Professor Forritt pointed out that most conversion courses took a student from the three-year diploma to a four-year degree; to meet various funding and registration requirements, the Bachelor of Nursing had been designed as a three-year course, the same length as the existing diploma courses.

The conversion course also had the support of the Faculty, she said.

A majority of Senate supported the introduction of the course, although several voted against approval. The Deputy Vice-Chancellor (Development), Dr Huxley, asked that he be recorded as opposing the proposal.

The conversion course to enable registered nurses who trained in hospitals to qualify for the Bachelor degree will require study of 150 credit points. Council had already approved that standing of 90 credit points be given for nurses registered in Australia.

Postgraduate Courses on Fee Basis

Academic Senate has approved the offering of several postgraduate courses in the Centre for Clinical Epidemiology and Biostatistics on a Distance Learning basis for Australian students, on payment of full fees.

These will be the first degree courses offered by the University to Australian students on a full-fee basis.

The Master of Medical Science and Master of Medical Statistics are research degrees, with components of coursework. As with the Graduate Diploma courses in Epidemiology, Medical Statistics and Health Social Science, they are existing programs designed for professional upgrading or extension.

All five meet the DEET guidelines for courses on which fees may be charged.

After considering a wide range of factors, the Planning and Resources Committee recommended fees which would increase to full by 1995. All students taking the courses by distance learning will pay the same fees each year, regardless of the year of their initial enrolment.

For 1992, the fee will be $700 per 10 credit points.

The Chaplains invite all Staff to an END-OF-SEMESTER LUNCH on Thursday 21st November 1991 in the Chaplaincy Centre any time between 12.00 and 2.00pm

RSVP: Phone 5571
New disease research system

A new approach to the use of immunocytochemistry in medical research, being developed in the Faculty of Medicine, is expected to lead to a better understanding of the causes of some diseases.

Installation of a cryo-ultramicrotomy system worth $161,000 in the laboratory of Dr John Heath, in the Medical Sciences Building, has alleviated a major problem which faces researchers who use immunocytochemistry.

The cryo-ultramicrotomy system was paid for by an anonymous donor. The Research Committee of the Faculty of Medicine selected Dr Heath as the recipient of the donation after the committee had considered a number of applications for grants for research equipment.

The cryo-ultramicrotomy technique enables researchers to overcome a major technical limitation on the effectiveness of immunocytochemistry when combined with an electron microscope.

Dr Heath, a member of the University's Neuroscience Group, explains that immunocytochemistry permits a specific molecule to be located and visualised at the cellular, or sub-cellular, level of microscopy.

In essence, the technique requires an antibody to develop against an antigenic site on the molecule.

Dr Heath says a "visual label" - a coloured or fluorescent dye or a micro-gold particle - is attached to the antibody, thus binding the antibody to the antigen and revealing the molecule's location.

"Not surprisingly, immunocytochemistry has enabled major advances to be made in our understanding of disease processes and the function and development of cells and tissues," he says.

He mentions as examples multiple sclerosis, other demyelinating diseases of the nervous system, Alzheimer's Disease and Parkinson's Disease, which affect nerve cells of the brain, muscle disorders, such as muscular dystrophy, disorders affecting the lungs and kidneys and the study of cells and tissues affected by cancer.

Dr Heath explains that the use of electron microscopy in immunocytochemistry is highly desirable, because, through the high magnification and resolution achieved by the technique, the location of the molecule can be pinpointed accurately at the subcellular level.

"Thus, it can be determined whether the molecule is present in one, or both, of two closely adjacent cells, or two closely opposed, but functionally distinct, membrane systems.

"The synthesis and processing of the molecule within the cell can be followed and the nature and location of organelles involved in storage and secretion can be determined.

"By using markers of different sizes, the interrelationship of different specific molecules can be followed in developing and mature cells and the response of these cells to disease can be monitored directly.

Dr Heath points out that the technical limitation on immunocytochemistry at the electron microscopy level stems from the need to expose the tissue to more reactive aldehydes, especially glutaraldehyde, in order to preserve it.

As a result, he says, the natural antigenicity of the tissue is reduced, and often completely lost. Thus, antigen-antibody binding is reduced, resulting in misleading reduction, or absence of localisation, in the tissue.

For this reason, the interpretations of many previous studies have remained controversial, or, at least, incomplete.

By contrast, Dr Heath says, cryo-ultramicrotomy preserves the tissue structure by snap-freezing it in liquid nitrogen.

The antigenicity of the tissue is protected and the sensitivity of the crucial antigen-antibody reaction is increased, thereby strengthening the quality and interpretation of experimental results.

The immunocytochemical procedure is undertaken directly on the thin sections of tissue (70 nanometres thick - one millimetre equals one million nanometres) that are generated by the cryo-ultramicrotome, which operates at a temperature of approximately minus 100 degrees C.

"The sections of tissue are examined directly by transmission electron microscopy, using minute particles of gold - as little as one nanometre in diameter - as the visual marker of the site of the antigen-antibody reaction."

He says the equipment package includes a cryo-preparation unit, which ensures that the rate of freezing of the tissue is optimal. This is important, so that the formation of ice crystals can be minimised, thus improving the quality of the thin sections of tissue, as well as the ultrastructural integrity of the tissue.

Dr Heath, referring to the work in progress which uses the cryo-ultramicrotomy system, says included are experimental studies of the interactions of Schwann cells and macrophages during Wallerian degeneration of myelinated peripheral nerve, the post-translational processing of the placental hormone Corticotrophin Releasing Hormone and molecules involved in neuronal maturation.

Drs Gerald Little, Minjie Lin, Kate Jones, Lynne Hartley and Assoc Professors Roger Smith and John Rostos are also involved in the work.
The Chancellery: Ready to Go!

The University has sent a message of congratulations to the builders (Leighton Contractors Pty. Ltd.) and architects (Rodd Hay Craig) for The Chancellery. The building has been completed on time and within budget. All those concerned with this fine project for the University - Buildings and Grounds Unit, Property Services Branch, the University Architect and the many other staff - are to be congratulated for their efforts.

Everyone concerned is entitled to be pleased with the outcome. It has not been an easy time, as normal tensions associated with aspirations for more or better space have competed with the unavoidable restraints of budgets. Nevertheless, the University is proud of this centrepiece building which now graces the geographic centre of the campus.

Staff movement into the building began in the week commencing November 4, with Admissions and Enrolment staff of the Student Division pioneering the way. They, along with others, during November and December, will have to compete with drills, hammers and bobcats as the final building work is completed and the landscape treatment is undertaken (at the time of writing the latter was out to tender).

The building incorporates the concept of modified open plan for administrative staff which provides for greater flexibility and creates a modern office environment. No doubt there will be stresses and strains as staff move into this new working environment, but these will hopefully be resolved before the commencement of the 1992 academic year.

As soon as staff have vacated the McMullin Building, work will commence on the conversion of some of the former administrative space to seminar rooms, to underwrite the 1992 Timetable. The Accommodation Committee has in hand the total arrangements for vacated space in the McMullin Building; it is anticipated that the Faculty of Law and the Department of Community Programmes will be the main occupants of this space.

Because the DEET grant for the Chancellery building was much less than the University requested, $6M rather than 9M, it has not been possible to move all of the Central Administration into the Chancellery building. Purchasing Section and Accounts Payable will remain in McMullin and Examinations and Postgraduate & Scholarships Sections will remain in the Hunter Building.

Further detailed information about the various moves will be circulated in the near future.

The University has pressed the cause of the 'missing $3M' and argued strongly for Stage 2 as its equal Number One project for 1994 (along with the Central Coast campus). Success in this application will enable us to fully integrate the Central Administration in the Chancellery building and provide further space for academic/teaching purposes.

The opening of the new building will be celebrated by a suitable occasion in the new year.

The Convocation Shop

In the Concourse of the Hunter Building
University of Newcastle

- University Mementos - Plaques - Paper Weights - Sketchbooks of the Campus -
- Commemorative Plates - Spoons - Key Rings - Stationery - Cards -
- Exciting New Range of Orrefors - Style Crystal Glasses - Exotic Pot Pourri -
- Folk Art -

Christmas Gift Range Arriving Soon

Telephone (049) 216464
Koorilink - An Initiative to Assist Aboriginal Families

A special presentation ceremony at the University has marked the successful completion of a training course by the first group of volunteers to successfully undertake a program to assist the Aboriginal community in bridging the gap between the school and home and to improve educational opportunities of their children.

Nine volunteers completed a 10-week training course under the Koorilink Program and were presented with their certificates from Mum Shirl, one of the Aboriginal community's well-known identities who devotes much of her time to the social well-being of her people.

The presentations were held at the Wollotuka Aboriginal Education Centre, the recipients being Veronika Bailey, Maxine Crossley, Lynda Falconer, Pat Froude, Colleen Hazlewood, Leonie Jack, Barbara Meister, Josie Nean and Leonie Whitton.

Koorilink is an initiative of the Hunter Caravan Project which is based at the University and has drawn on the experience and knowledge of an existing scheme which was established as a pilot program earlier this year in the western suburbs of Lake Macquarie and in the Coalfields area.

The scheme, known as Homelink, has been designed to link mobile families more closely to their schools and communities and has been operating successfully since it started in March. The scheme has assisted children living in caravan parks, rental accommodation, government housing or without family support.

One of the Co-ordinators of Homelink, Linda Ireland, said that Koorilink was an extension of the Homelink scheme and that volunteers would be able to provide information, friendship and support.

"The nine volunteers also will be able to assist Aboriginal families to understand the school community and how to relate to it positively," said Linda.

"The group has successfully completed a training course which included topics such as legal, financial and housing support for Aboriginal families, communication skills, the school system and other issues which will be of assistance to them in helping Aboriginal families."

Koorilink was established and directed by the Aboriginal community through a management committee. The 'linking' to schools is through the Hunter Caravan Project and a major feature is that the program is being devised in a manner to encourage the Aboriginal community to identify its own needs and to use the program to meet those needs.

The volunteers will help Aboriginal families who may need or wish to improve communication with their high school in the western Lake Macquarie area.

Linda said Koorilink has been enthusiastically greeted by the local Aboriginal community and that it was hoped a full-time co-ordinator could be appointed next year.

"We've had good support from a number of Aboriginal agencies as they realise retention rates of Aboriginal students in senior high school is significantly lower than the State average for non-Aboriginal people," Linda added.

"Many Aboriginal children are underachieving in the high school system and Aboriginal parents are often reluctant to visit the high school which their son or daughter is attending. There is obviously a need for greater exchange of information between the schools and homes than currently occurs to enable both parties to better understand each other.

"What we have with the Koorilink program is an opportunity to provide support with the added advantage of using trusted people from within the Aboriginal community and being able to reach many more families through a network of support from volunteers."

---

**Vacation Scholarships 1991/1992 Department of Chemical Engineering**

Two scholarships are available for students with a good academic record to conduct short research projects over a period of 10 weeks approximately, between December 1991 and February 1992.

The scholarships are intended for students who have completed the third year of an undergraduate program in chemical engineering, industrial chemistry or mineral processing. One project will involve numerical solution of a set of simple differential equations, and the other will be experimental in nature.

The value of each scholarship is $5,000 tax free. Accommodation may be arranged in a university hall of residence on campus.

The department is active in research into the flotation of minerals and wastewaters, especially relating to the production of fine bubbles, and methods for promoting the flotation of fine particles.

Applications including an academic career summary to date, should be made in writing to Professor G.J. Jameson, Department of Chemical Engineering, University of Newcastle, NSW 2308, by November 22, 1991. Enquiries may be made direct to Professor Jameson on (049) 21 6181.
University Art Collection Christmas Cards

It's much later than you think!
Send a University Christmas card

Yes, it is later than you think!
You can buy artistic Christmas cards.

The Art Advisory Committee has six cards picturing items in the University's art collection.

Specifically, the colour plates used to illustrate the Christmas cards are:

Tom Thompson's *Mattara Parade*,
Margaret Olley's *Interior*,
Walter Preston's *Newcastle*,
Hunter's River, 1820 and Black Swans...
View of Reed's Mistake, 1820,
Francis Celdan's *Chaplin One* (Gestural),
and Stanislaus Rapotec's *Hermes*.

The cards have been printed on fine quality paper and make beautiful and unusual greeting cards for Christmas.

Selling for $2 each, and $1.50 each in batches of 10, the cards can be bought from Ms Virginia Birt, Ext 6663, and Ms Christa Moch, Ext 5113.
The future of Australian architecture took centre stage when 'Architecture 5' went on display at the University recently.

'Architecture 5' is the name which was given to the end-of-year exhibition by final year Bachelor of Architecture students which included large scale urban developments, small regional art galleries and a wide range of other architectural projects. Selected works by final year students in the Bachelor of Science Architecture were also on display.

The exhibition, the work of 25 students, was officially opened by the Deputy Vice-Chancellor (Administration), Mr Lance Hennessy at the Hunter Technology Centre.

Exhibition organiser, David Stafford, said that 'Architecture 5' presented models and drawings from the design elective in the course.

"It was interesting to not only see urban landscapes and regional art galleries but also a prison, a metropolitan television and radio broadcast studios, laboratories, hotels, a TAFE college, newspaper publishing facilities and city council chambers," David said.

"An exhibition such as this is important to the students as it allows them to display their designs and thoughts and is an example of where architectural trends may be going in the future," he said.

He said the students, some of whom have already found employment, will be looking to their careers which could be with architectural firms, local government bodies, self employment, multi-disciplinary building project teams, overseas opportunities or studying for a higher degree, an area which contains some possibilities because of the relatively small number of architects who have gone on to further study.

TAFE college, newspaper publishing facilities and city council chambers, "David said.

"An exhibition such as this is important to the students as it allows them to display their designs and thoughts and is an example of where architectural trends may be going in the future," he said.

He said the students, some of whom have already found employment, will be looking to their careers which could be with architectural firms, local government bodies, self employment, multi-disciplinary building project teams, overseas opportunities or studying for a higher degree, an area which contains some possibilities because of the relatively small number of architects who have gone on to further study.

Architecture Biennale Visits Newcastle

The University's Faculty of Architecture recently hosted the 1991/92 BHP Architecture Biennale Exhibition which has been touring Australia.

The exhibition, which brings together outstanding creative works by students from all 15 Schools of Architecture in Australia, was opened by the Vice President of the NSW Chapter of the Royal Australian Institute of Architects, Mr Ken Maher.

BHP, the sponsor of the exhibition, was represented by the Public Affairs Officer of BHP Coated Products Division, Mr Adrian Begg.

Students, Simon Grimes, of the University of Technology, Sydney, and Darren Campbell, of the University of NSW, were awarded prizes at the opening. Eight students from The University of Newcastle submitted projects for the Biennale.

Acting Head of the Department of Architecture, Mr Lindsay Johnston, said the Biennale has become a major event that encourages design excellence among architecture students and presents a challenge in architectural presentation.

"It is very useful for students at each university to see the work of fellow students at other institutions and has the overall effect of fostering high standards of design," Mr Johnston said.

"Criticism of the exhibition, which suggests that winners are selected on the basis of 'visual seduction' rather than depth and integrity, may be to some extent justified, but the overall benefit of the scheme far outweighs these reservations," he said.
Drought Conditions - Some Facts & Figures

The sound of rain on the roof is almost forgotten in the Hunter.

The lack of rainfall is causing consternation to the region's and the nation's farmers, primary producers and industry alike, not to mention the very real danger of bushfires threatening homes and lives. If this year shapes up the way it looks like going, it will be a record year for lack of rainfall, in other words: drought.

One person who knows more about the weather patterns and predictions than most is Martin Babakhan, the Senior Meteorological Officer for the Bureau of Meteorology based at Williamtown Air Base.

Martin is also a part-time lecturer for the University's Aviation course, his knowledge and teaching of aviation meteorology forming a vital component of the course.

When BULLETIN approached Martin for his views on the drought that has now widened to nearly two-thirds of the State he supplied a wealth of information that put the situation into perspective and provides some interesting facts.

Sixty five percent of the State is now drought-declared; the rain that has fallen is described as 'patchy, light and insignificant': that this is happening during spring is real cause for concern.

Martin says indications are that 1991 may be the year of least rainfall and the fewest days of rain. Rainfall observations at Williamtown since 1942 can be broken down as in figure 1.

"Current indications are that this could be the worst year of drought experienced in the Hunter Region," Martin said. "Our predictions show that we are now approaching what is known as an 'El Niño/Southern Oscillation Episode' which results in rainfall deficiencies in Queensland and northeastern New South Wales."

"Winter 1991 has seen the development of an El Niño/Southern Oscillation episode with some precursor effects emerging as early as autumn. The Southern Oscillation Index (SOI) shows persisting negative values for seven months with four of those months having significantly negative indices," he said. He said that, on seasonal timescales and from season to season, the most important influence on large scale weather patterns over eastern Australia is the El Niño/Southern Oscillation. The Southern Oscillation is a major fluctuation in the tropical atmospheric circulation across the Pacific Ocean. In the historical record, most major negative excursions of the SOI have been accompanied by significant drought areas in eastern Australia. By contrast, positive excursions have generally resulted in widespread above average rainfalls.

Martin said the outlook for the remainder of the year indicates the continuation of existing dry conditions with a spread of affected areas into Victoria during late spring. "It appears that there may be a return to normal rainfall sometime from January to April, 1992, with February and March the most likely break months," he said.

**About El Niño**

Traditionally, El Niño was the name given to warming of coastal waters off Peru around Christmas (hence El Niño - the boy child). Occasionally the warming is exceptionally strong and ruins the anchovy harvest for the local fishermen. Flooding rains hit the coastal margin. These occasional extremes (once every five to nine years) are now called El Niño episodes.

In contrast to the warming of the eastern Pacific, sea surface temperatures in the far western tropical Pacific (including the seas around northern Australia) tend to be cooler than average during an El Niño event.

The Southern Oscillation is the major air pressure shift between Asia and eastern Pacific regions and is often coupled with El Niño because of the strong linking of the peaks of intensity and lifecycles of the major events. The Southern Oscillation could alternatively be described as a see-saw of the atmospheric pressure. When the surface pressure is abnormally high over the Indian Ocean it is usually low over the South Pacific and vice versa.

The strength of the Southern Oscillation is measured by an index of pressure difference between

---

**FIGURE 1**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rainfall in mm.</th>
<th>No. of days rain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>949 mm</td>
<td>143</td>
</tr>
<tr>
<td>1956</td>
<td>1345 mm</td>
<td>Not recorded</td>
</tr>
<tr>
<td>1957</td>
<td>705 mm</td>
<td>Not recorded</td>
</tr>
<tr>
<td>1979</td>
<td>786 mm</td>
<td>112</td>
</tr>
<tr>
<td>1980</td>
<td>541 mm</td>
<td>96</td>
</tr>
<tr>
<td>1990</td>
<td>1738 mm</td>
<td>160</td>
</tr>
<tr>
<td>1991 (to 21/10)</td>
<td>482 mm</td>
<td>77</td>
</tr>
</tbody>
</table>

**FIGURE 2**

<table>
<thead>
<tr>
<th>Year Type</th>
<th>Annual Average Southern Oscillation Index (SOI)</th>
<th>Percentage of Eastern Australia Receiving Significantly Below Average Rain</th>
<th>Percentage of Eastern Australia Receiving Significantly Above Average Rain</th>
</tr>
</thead>
<tbody>
<tr>
<td>El Niño</td>
<td>below - 10</td>
<td>63%</td>
<td>6%</td>
</tr>
<tr>
<td>Average</td>
<td>- 10 to + 10</td>
<td>25%</td>
<td>27%</td>
</tr>
<tr>
<td>La Niña</td>
<td>above + 10</td>
<td>3%</td>
<td>71%</td>
</tr>
</tbody>
</table>
Tahiti and Darwin. When the index is positive, the trade winds blow strongly across the Pacific feeding moisture into the monsoons of Asia and Australia. When the index is negative, trade winds are weak or even reversed. The monsoons are deprived of their energy source and rainfall is much below average over the Western Pacific rim.

El Niño is linked to negative phases of the Southern Oscillation and therefore to periods of drought over eastern Australia.

When the waters of the eastern equatorial Pacific are abnormally cold, the opposite of El Niño, La Niña occurs. La Niña episodes (positive phases of the Southern Oscillation) are characterised over eastern Australia by more frequent and heavier rain periods, occasionally with severe flooding.

For eastern Australia generally, the table in figure 2 shows the percentage area affected by rainfall deficits or surpluses in El Niño or La Niña years.

El Niño and the Southern Oscillation, or ENSO, are now known to be components of a broader set of inter-related processes in the atmosphere and the ocean. They appear to have their origins in the tropics but can result in unusual weather and climate conditions over remote regions of the globe, for example, the 1982/83 drought over eastern Australia.

It is now generally accepted that the normal difference in sea surface temperature across the Pacific Ocean (cool in the east and warm in the west) gives rise to a great thermally driven atmospheric circulation cell in the plane of the equator. Dry air sinks over the cool waters of the eastern Pacific and flows westward across the equatorial belt as part of the trade wind system.

The trade winds are warmed and moistened as they flow over the progressively warmer waters of the western Pacific Ocean. The moisture is released as rain in the intense weather disturbances of the tropics to the north of Australia, with some also feeding into other weather systems originating in higher latitudes.
University Libraries Honoured

The University's Auchmuty and Huxley Libraries were honoured by the National Library of Australia at a ceremony held at the State Library of New South Wales.

Deputy Technical Services Librarian (Monographs), Giles Martin, and Acting Assistant University Librarian (Technical Services), Robyn Emanuel, accepted certificates from the Director-General of the National Library, Warren Horton, at a reception attended by more than a hundred representatives of the state's major libraries.

The reception was held to celebrate the tenth birthday of the Australian bibliographic network (ABN), a co-operative network which is administered by the National Library and which has over 1,100 Australian libraries as members.

In presenting the certificates, Mr Horton thanked the Auchmuty and Huxley libraries for their 10 years of contribution to ABN whose services include shared cataloguing and location information for interlibrary loans.

Sacred Earth

An exhibition by Rosemaree Wills at WATT SPACE. From Thursday, November 14 until Monday, December 2.

"Of the many puzzles posed by pre-history, probably the most curious is the fact that people without any means of leaving the ground created works of gigantic dimension which can only be seen or at least rightly appreciated from above".

In her paintings exhibited in SACRED EARTH, Rosemaree Wills uses these sacred images, these symbols drawn on an ancient land and combines them with the rich colours of the dry harsh Australian landscape.

WATT SPACE
11 Watt Street, Newcastle.
Gallery Hours - 12 noon to 6 pm Thursday to Monday.

The gallery is funded by the University of Newcastle Union and the School of Art, Design and Architecture.

Jessie Litchfield Award for Literature 1991

The Jessie Litchfield prize which commemorates a pioneer of the Northern Territory, is awarded annually to a new or unknown writer who is considered on the basis of the entry to be capable of making a lasting contribution to Australian literature. Preference is given for works dealing with life in the Northern Territory.

The prize for 1991 is $1,200.

The Award is open to all literary forms: novels, historical works, plays, collections of essays, short stories or poetry etc.

Entries may consist of published work.

For conditions of entry contact:
The Registrar, Jessie Litchfield Award, Northern Territory University, Post Office Box 40146 Casuarina, NT 0811
Telephone (089) 46 6035

Entries must be lodged with the Registrar by January 31, 1992.

DIARY NOTE

1992 Schools Visit Day
Thursday, July 2, 1992

The University will be hosting the 1992 Schools Visit Day on Thursday, July 2. This event is held annually to allow senior high school students to visit the campus, find out about courses and generally find out as much as they can about University life. About 5,000 Year 12 students are expected to attend next year.

The program of activities for 1992 will include introductory lectures on some disciplines, talks on course content and admission procedures and visits to laboratories, workshops and libraries.

The Prospective Student Liaison Officer, Ms Julie Swain, will be co-ordinating the day.

Save Five Dollars

By joining the Newcastle Cycleways Movement, Inc. before the membership rates go up next month.

NCM's efforts led to the provision of the superb cycleway alongside Highway 23 which will open for use early next year.

As an NCM member you will have a voice in gaining safer cycling facilities, get a free subscription to the "Australian Cyclist" magazine and NCM's "Cyc-Ed Out" newsletter, obtain discounts at the better bike shops, and more.

Single membership for a year is $15 and family membership $20 only until the end of November. To receive an enrolment form, just drop a slip of paper with your name, department/section and the magic letters N C M in an internal envelope addressed to Colin Keay, Physics Department.

Support Safer Cycling
1992 NH & MRC GRANTS UPDATE

Following is a complete list of NH & MRC Grants for 1992. Some of the details were not available in time for publication in the last BULLETIN issue.

New Project Grants

Dr S Bunn and Associate P R Dunkley
The Role of Inositol (1,4,5) Trisphosphate in the Adrenal Chromaffin Cell, $43,060

Professor G F Burns and Dr J S Gani
Analysis of an Integrin Accessory Molecule, gp88, $55,900

Professor G F Burns and Dr M V Agrez
Identification of an Alternative Ligand for the Vitronectin Receptor, $61,951

Professor V J Carr and Mr T J Lewin
Visual Information Processing in Schizophrenia: A Feature-Integration Approach, $32,601

Professor D Finlay
Perceptual and Cognitive Processing in Control and Brain-damaged Subjects, $31,704

Professor J F Forbes, Dr M Byrne, Dr J Collins, Assoc. Professor Coates and Dr R Snyder
Clinical Trials for Prevention and Treatment of Breast Cancer, $95,280

Assoc. Professor J A P Rostas and Dr J Heath
Molecular Mechanisms of Neuronal Maturation: A Model of Synaptic Plasticity, $93,284

Dr A Sim, Assoc. Professor P R Dunkley and Assoc. Professor J A P Rostas
The Regulation of Protein Phosphatases in the Brain, $58,284

Assoc. Professor R Smith
Placental Corticotrophin-Releasing Hormone, $95,716

Professor W A W Walters and Professor A L A Boura
Human Placental Oxygen in High Blood Pressure of Pregnancy, $44,159

Equipment Grant

Dr J A Heath, Dr C E Offer and The University of Newcastle
Transmission Electron Microscope: EDS X-Ray System: Cold Specimen Holder, $44,000

Priming Project Grant

Dr P L Hazell
The Role of Mental Effort in Attention-Deficit Hyperactivity Disorder, $36,819

Special Initiative Area Grants

Dr Afsaf Girgis, Dr S Redman, Professor R W Sanson-Fisher and Assoc. Professor A L A Reid
Evaluation of Health Record Booklets in Changing Preventive Behaviours, $55,265

Dr D A Henry and Dr R S Nairra
Acute Renal Impairment and Cardiac Failure with Non-Steroidal Anti-Inflammatory Drugs: A Community Study, $65,660

Continuing Project Grants

Dr M V Agrez
Characterisation of the Interaction between Colonic Epithelium and Fibroblasts, $35,082

Professor G F Burns and Professor R C Burton
Structural and Functional Characterisation of a Novel Integrin Beta Subunit, $116,941

Assoc. Professor L A Chahl
Effect of Morphine on Substance P Neurons in the Central Nervous System, $50,151

Professor R L Clancy & Dr A W Cripps
Determinants of Infection in Subjects with Chronic Bronchitis, $72,043

Dr A W Cripps
Haemophilus Influenzae: Dissection of the Antibody Response, $59,620

Assoc. Professor P R Dunkley
Calmodulin Kinases: Roles in Hormone and Neurotransmitter Release, $48,859

Professor J F Forbes, Dr M Byrne, Dr J Collins and Assoc. Professor A S Coates
Clinical Trials of Adjuvant Therapy in Node Positive Breast Cancer, $71,867

Dr P G Gibson and Dr L G Olson
The Role of Airway Inflammatory Cells, Adhesion Proteins and Cytokines in Asthma, $47,554

Assoc. Professor A J Husband and M L Dunkley
Helper Cells, Cytokines and Mucosal Immune Regulation, $58,481

Assoc. Professor A J Husband and Professor M G King
Behavioural Conditioning of Immunity: An Animal Model, $52,006

Dr J A Kennardy and Dr A White
Psychological Factors in the Onset of Panic Attacks, $17,855

Dr L G Olson and Professor N A Saunders
Mechanical Properties of the Upper Airway in Man, $42,189

Dr A W Quail
Carotid Chemoreflex Control of Regional Coronary Conductance, $47,554

Dr Y C Smart and Professor R C Burton
Functional and Structural Analysis of an Antigen on Natural Cytotoxic Cells, $76,430

Dr D F Van Helden and Dr D A Powis
Receptor Mechanisms in Vascular Smooth Muscle, $66,481

Professor S W White
Studies on the Thoracic Circulations: Control of Bronchial and Coronary Conductance, $64,693

Continuing Special Initiative Grant

Dr S Redman, Professor W A W Walters, Dr M J Schofield and Professor R W Sanson-Fisher
Patient Participation in Treatment Decisions for Menstrual Symptoms, $52,751

Public Health Grant

Professor G Vimpani, Dr R L Henry and Dr P Gibson
The Greater Newcastle Asthma Schools Prevention Program (GASP), $71,104

R Douglas Wright Fellowship Award

Dr S Bunn
Medical Postgraduate Scholarship

Dr M McLean
by Marea Mitchell

Three Men and a Baby Grand:


KNOCK, KNOCK. No answer.

KNOCK, KNOCK! "Come back tomorrow, we're supporting the strike."

It's an interesting thought that Actors' Equity's support of the general strike meant that on the planned opening night of "Three Men etc." there would have been very few theatrical performances in the state of New South Wales. It also contributed to the fact that the official opening night of the HVTC's final production for the year took place in front of a virtually full house, as the first and second night houses were combined.

This aforementioned full house would have to have been one of the most supportive groups of people to confront a first night performance, and at times it seems as if Jonathan Biggins in particular only had to appear on stage to have the audience in fits of laughter.

Presumably the problem is not wanting to let go of a good thing, and indeed, if the opening night was anything to go by, our "Three Men etc." would be unwise to do so. Clearly they were providing what the audience wanted. It if works, why knock it?

Certainly, the HVTC's final performance at the Playhouse for the year seem set to be successful ones, and in complete contrast to "Southern Steel", another excellent production albeit of a rather disappointing play, which preceded it. In 1991, the HVTC again provided a varied program which gave everyone something in particular to enjoy, whether it was Headbutt, Twelfth Night, Southern Steel or Three Men and a Baby Grand. Marea Mitchell.

BULLER

Student Exchange
Buffalo State University,
New York, USA

The University of Newcastle and Buffalo State University together offer the opportunity for student exchange between the two campuses. Students from any campus of the University of Newcastle are invited to join the program for one or two semesters of study, accredited on the approval of University of Newcastle faculties, at Buffalo in upstate New York.

Currently there are four University of Newcastle students at Buffalo and three Buffalo students, resident at International House and Evatt House in Newcastle.

The exchange is normally on a “one-for-one” basis at the undergraduate level (second, third or fourth year). Study programs, once accredited by your Dean/Head of Department, will attract credit to University of Newcastle degrees.

This is a wonderful opportunity to meet new people, exchange ideas and become familiar with a different academic lifestyle.

The Exchange deadline for Semester 1, 1992 (January start) is rapidly approaching. If you are interested, please be in touch with Julie Becker, Bowman Building, Ext. 6566 either by mail or phone as soon as possible.

BACS and Beyond

An exhibition of work from final year students in the Bachelor of Arts (Communication Studies) will be on display this week at the Newcastle Regional Museum.

The exhibition which will be officially opened on Wednesday, November 20, will feature displays of graphics, video, sound and radio, photography and writing and will remain on display until Sunday, November 24.

Hours of the exhibition are 10am till 5pm.
The curtain came down on an art course which has been offered in Newcastle for the past 12 years when Creative Arts and Crafts students at the University held their graduating exhibition last week.

The Associate Diploma in Creative Arts and Crafts gained accreditation in 1979 and has provided high quality education in the visual arts for many people unable to make the commitment to a degree course but still working to undertake a demanding and rewarding challenge.

Fifteen students exhibited work in the exhibition which was officially opened by the Acting Director of the School of Art, Design and Architecture, Mr Peter Singleton.

Graduates this year have studied in the areas of painting and drawing, fibre art, photography, video and ceramics.

The Associate Diploma was offered off-campus in Muswellbrook in 1986 to give people in the Upper Hunter the opportunity that normally could not be afforded them because of distance. The University has decided not to offer the course after this year as students will now enrol in a Bachelor of Arts (Visual Arts) course.

Graduating Exhibition of Postgraduate Students in Art, 1991

"ANICCA"
This exhibition featured a selection from visual material produced in the specialist studio areas of Painting, Ceramics, Fibre Art/Textiles, and Plant & Wildlife Illustration.

The level of commitment demonstrated by the students was reflected in the high standard of work presented and it is anticipated they will continue their professional practice and make significant contributions in the future to the cultural growth of the Newcastle area and further afield.

Each student exhibited a number of works ranging over the six areas of specialisation.

The exhibition featured strong representation of three-dimensional works from the areas of Sculpture, Fibre Art/Textiles and Ceramics. The two dimensional areas ranged over varying aspects of Painting and Printmaking.

DARYL BRAITHWAITE
CONCERT TICKETS
ON SALE FROM
THE CIVIC THEATRE

TO AID THE TRUST FUND FOR STUDENTS WITH DISABILITIES

Cafeteria Supervisor Retires

Pictured at the opening of the exhibition are (from left to right) Claudia Futey, Linda Head, Jonina Angelozzi, Peter Singleton, Jen Spruce and Aldona O'Brien.

Pictured on her last day at work is Pat Harris, Supervisor of the Cafeteria in the Hunter Building. Pat was well known to staff and students alike, having worked in this capacity for many years. Coping with the demanding job of keeping a busy cafeteria humming was no mean feat. We all wish you well in your retirement Pat!
Advertisements

Wanted to Rent
Three bedroom furnished
house, close to beach or
University for visiting
American professor and family.
Early January to late June,
1992. Price range required
$180 to $200 per week.
Please telephone Ext. 6566.

Wanted to Buy
A full-size cello in good
condition. Please telephone
Ext. 5435 or 43 4083.

To Let
Two bedroom furnished
townhouse for rent from
December 1991 to January
1992. Close to Sydney
University and to city centre.
Security parking. $250 per
week. Please telephone
Stephen Smith on (02) 517
1240.

For Sale
Large rotating clothes line
(old iron type) Best offer.
Holden, 6 cylinder O-ringed
head with big valves. $320 or
near offer.
Also stage 3 head with big
valves. $200 or near offer.
Please telephone 54 8498
after 6 pm.

For Sale
Mitsubishi L300 Family
Wagon. 8 Seater. Good Engine
(recently rebuilt) All systems
are green! Car Bra. Rego 12/
91. Well looked after LOO940
A steal at $3900 ono Tele
phone Ext 6460 or 616491
AH

For Sale
1986 Red Toyota Seca (grey
velour interior) with twin cam
F1 mag wheels, stereo cas
sette player (plus many other
extras). Mechanically A1 and
is registered until August '92.
$11,800 or near offer. Please
telephone Extension 5204 or
51 6743 (after hours).

For Sale
Mazda MX5 (Red). As new
and in perfect condition. 1990
model, low mileage. For
further details, please tele
phone Kay at Special Educa
tion Centre on Ext. 6284.

Accommodation Available
Female, non smoker, wanted
to share fully furnished house
in Jesmond. Sunny
room, quiet location, five minutes
drive to both University and
John Hunter Hospital. Rent
$60 per week plus share
expenses, no bond.
Please telephone 54 8498
after 6 pm.

Letter to the Editor

Dear Editor,

I don't know how much
money was spent by our
impoverished
University on
the design and production of
the latest corporate letterhead.
I imagine it was a substantial
sum and I assert that this
could have been far better
spent elsewhere. This would
be my view even if the new
design and layout was better
and the end product more
useful than the previous
letterhead, which
I consider it
is not, for the following
reasons.

The new letterhead has
the
University crest and title
top dead centre. Any addi
tional departmental informa
tion, names or telephone
numbers thus have to be
inserted to the left or right
which unbalances the header.
Other positions for this
essential information also
make the final letter aestheti
cally unpleasing as I have
found. Secondly, the brave
new font and the layout of the
words "The University of
Newcastle" have produced an
optical illusion that makes the
new letterhead look badly
printed, to my eyes the word
"Newcastle" falls off to the
right. Finally the grey ink
does not photocopy well
which makes circular leners,
in which this
University specialises, look most unpro
fessional.

I wish that I still had a
stack of the old letterhead
with crest to the left so that
my letters at least look nice,
even if they read badly.

Yours in considerable
irritation directed at those
who sanctioned this wasteful
"improvement".

David A. Povis,
Associate Professor in Human
Physiology.
Research Grants for 1991

Information on the following grants is available from the Office for Research - Telephone 21 5305

Closing Date

+ Fulbright - Australian - American Educational Foundation November 20, 1991
For study, research, lecturing in the USA (Senior)
+ Japan Foundation Grant Programs November 20, 1991
Various programs for Japanese studies.
+ Australian Telecommunications & Electronics Research Board (ATERB) November 21, 1991
Research Project Grants
+ Australian Academy of Science November 22, 1991
Scientific exchanges with China - 1992/93
+ Dairy Research & Development Corporation November 22, 1991
New and continuing grants and contracts
+ Grape & Wine Research Council November 22, 1991
Preliminary proposals for research grants.
+ Department of Health, Housing & Community Services November 25, 1991
General Practice Evaluation Program
Project grants and seeding grants
Research and development relating to the chicken meat industry in 1992/93
Research grants in the areas of: nutrition and disease; pollination and pesticides; bee breeding; resource management and the value of the industry.
+ Coopers & Lybrand Accounting Education & Research Fund December 16, 1991
Research projects in an accounting-related area. Preference for projects that lead to a post-graduate degree and deal with current and topical problems.
+ Egg Industry Research & Development Councils December 16, 1991
Research grants, fellowships and studentships
+ Canadian Studies Program January 21, 1992
Faculty Enrichment Award Program (FEP)
+ Australian/Greek Travel Awards February 4, 1992
Training or study in Greece for persons established in the professions, primary and secondary industry, education, business, public service or the arts.
+ Criminology Research Council February 4, 1992 June 2, 1992 October 6, 1992
Support for research projects which are likely to produce results of relevance for the prevention and control of crime throughout Australia.
+ Egg Industry Research & Development Council March 10, 1992
Travel/Conference Applications
+ Chicken Meat Research & Development Council March 10, 1991
Travel/Conference application

FELLOWSHIPS AND CONFERENCES
+ Canadian Studies Program International Fellowships November 22, 1991
For doctoral graduates in the natural sciences or engineering for up to two years.
+ Robert S McNamara Fellowships Program December 10, 1991
To support postgraduate research in areas of economic development
+ Chicken Meat Research & Development Council No Closing Date
Junior Research Fellowships Awards
+ The Institution of Engineers Australia International Conference Support Scheme No Closing Date
Support for selected international scientific, technological or engineering conferences.
+ National Campaign Against Drug Abust No Closing Date
+ DTAC Access to Major Research Facilities Program No Closing Date
To facilitate travel to major research facilities overseas. Apply at least seven weeks before date of intended travel.
+ Education and Training Foundation No Closing Date
+ BHP Community Trust No Closing Date
+ RADGAC Department of Community Services & Health No Closing Date
Medical research and targeted research areas.
+ Research Management Committee Travel Grants No Closing Date
+ Research Management Committee Research Visitors No Closing Date
+ Wellcome-Ramaciotti Research Travel Grants No Closing Date

Further information and relevant application forms are available from the Office for Research - telephone 21 5305.
The University of Newcastle, the University Union & Rock City Promotions presents

Don't Hold Back

DARYL BRAITHWAITE

DECEMBER 11 & 12, 1991
At the Civic Theatre
TICKETS: Telephone (049) 291977

$2 from every ticket sold will help provide a benefit fund for the purchase of motorised wheelchairs, braille computers and money for the day-to-day needs of students with disabilities.

News from the Conservatorium

Thursday, November 14 and November 21
From 10 am to 3 pm (Recitals)
6 pm (Concert)
Each day there will be recitals presented by senior students of the Faculty and Conservatorium of Music and at 6 pm the students will play a concerto with the Conservatorium Orchestra.

Recitals - Thursday, November 14
11 am Daniel Dries (Organ)
12 noon Catherine Dixon (Piano)
2 pm Anissa Pereira (Piano)
3 pm Karen Ruprecht (Piano)

Concerts - Thursday, November 14 - 6 pm
Catherine Dixon (Piano)
Anissa Pereira (Piano)
Karen Ruprecht (Piano)

News from the Conservatorium

Thursday, November 28 - 1.10 pm
"Just Brass"
An exciting Novocastrian group with a brilliant sound.
Saturday, December 1 - 3.30 pm and 7 pm
"Christmas at the Con"
Our annual celebration of this happy season, special artists, choir singing beautiful motets, audience participation in carol singing, Santa Claus and lots more. A champagne celebration.

Wednesday, December 18 - 6 pm
Matthew Lee (Cello)
Catherine Davis (Piano)
Two gifted Australian artists, playing music by Schumann, Schelthorpe, Bach and Brahms.
Catherine is a Lecturer in Piano at the Conservatorium and Matthew hails from Sydney.

Stop Press

The Hunter Region Branch of the United Nations Association of Australia, NSW, will be celebrating Human Rights Day on Thursday, December 12.

The Chancellor of the University, Justice Elizabeth Evatt will address guests at a special lecture in the main Lecture Theatre of the David Maddison Building, cnr Watt and King Streets, Newcastle.

There will be a dinner held afterwards at the Taj Indian Restaurant in Darby Street. $15 members, $20 non-members

RSVP Dr Romesh Amar (telephone 693205) or Mr Tom Jones (telephone 432444).

The well-known Newcastle radio personality, Mrs Majorie Biggins, will be honoured by the University of Newcastle’s graduate body, Convocation, with an award for outstanding “innovation or creativity.”

The Newton-John Award given annually to honour Professor Brin Newton-John is made on the criteria of the originality, lasting value, aesthetic value or benefit to the community of the candidate’s work.

Mrs Biggins has made a significant contribution to the artistic and cultural life of the Hunter Region over many years.

The BULLETIN

The BULLETIN is the main organ of communication inside the University of Newcastle.

Published on a formality basis, the newspaper disseminates campus news not only to staff and students of the University but also to graduates, community leaders and members of the media.

Copies are also supplied to students of the University Conservatorium of Music and at the Central Coast Campus.

The BULLETIN is produced by the Information and Public Relations Unit using PageMaker, Corel Draw and Wordperfect applications.

Letters and articles are welcomed. Letters to the Editor (no less than 300 words) should be submitted to the University Public Relations Unit.

The BULLETIN is being edited by Dr. John Fanshawe. Please contact: Dr. John Armstrong or Mrs Linda Armstrong on Extensions 6437 or 6440.