The Honourable David Paul Landa, LL.B., M.L.C., Minister for Education,

In accordance with section 34 of the University of Wollongong Act 1972, the Council of the University has the honour to present to you the Annual Report of the proceedings of the University for the period 1st January to 31st December, 1979.

Acting Chancellor

Vice-Chancellor
# TABLE OF CONTENTS

## VICE-CHANCELLOR'S STATEMENT

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory Statement</td>
<td>1</td>
</tr>
<tr>
<td>The Council</td>
<td>2</td>
</tr>
<tr>
<td>The Academic Senate</td>
<td>3</td>
</tr>
<tr>
<td>Academic Activities</td>
<td>3</td>
</tr>
<tr>
<td>Enrolments</td>
<td>4</td>
</tr>
<tr>
<td>Building Programme and Site Development</td>
<td>4</td>
</tr>
<tr>
<td>Conclusion</td>
<td>5</td>
</tr>
</tbody>
</table>

## UNIVERSITY FACILITIES AND SERVICES

<table>
<thead>
<tr>
<th>Facility</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Library</td>
<td>6</td>
</tr>
<tr>
<td>Computer Centre</td>
<td>6</td>
</tr>
<tr>
<td>Union</td>
<td>7</td>
</tr>
<tr>
<td>Sports Association</td>
<td>8</td>
</tr>
<tr>
<td>Counselling Centre</td>
<td>8</td>
</tr>
</tbody>
</table>

## STUDENT ACTIVITIES - 1979

<table>
<thead>
<tr>
<th>Council</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students' Representative Council</td>
<td>9</td>
</tr>
</tbody>
</table>

## STAFF AND STUDENT STATISTICS

<table>
<thead>
<tr>
<th>Category</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appointments, Resignations and Promotions</td>
<td>10</td>
</tr>
<tr>
<td>Full-time Staff</td>
<td>11</td>
</tr>
<tr>
<td>Enrolments</td>
<td>13</td>
</tr>
</tbody>
</table>

## DEGREES CONFERRED

<table>
<thead>
<tr>
<th>Degree</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

## ACADEMIC ACTIVITIES - 1979

### Faculty Reports

- Faculty of Engineering                              | 21   |
- Faculty of Humanities                                | 27   |
- Faculty of Mathematics                               | 33   |
- Faculty of Science                                   | 36   |
- Faculty of Social Sciences                           | 42   |

### Research Interests and Publications

- Faculty of Engineering                              | 45   |
- Faculty of Humanities                                | 50   |
- Faculty of Mathematics                               | 55   |
- Faculty of Science                                   | 59   |
- Faculty of Social Sciences                           | 66   |

## FINANCIAL STATEMENT

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>75</td>
</tr>
</tbody>
</table>

## GRANTS AND DONATIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>79</td>
</tr>
</tbody>
</table>
Vice-Chancellor's Statement

The year 1979 was one of intensive review for the University of Wollongong. Our Annual Report for 1978 reported the initiation of procedures for internal review and planning; application of these procedures was accelerated when we began to consider the implications for our future in the recommendations of the Report of the Committee of Inquiry into Education and Training (The "Williams" Report) which was published in March, 1979.

During February and March the Registrar, the Development Officer, and myself visited the University's academic departments and discussed with staff members their departmental objectives for the period to 1984 and the means by which such objectives might best be achieved. Departments were invited to supplement discussions by submitting formal "Forward Plans" for consideration by the Vice-Chancellor's Planning Committee as it mapped out guidelines for the University's development in the early 1980's.

The principal recommendations of the Williams' Report bearing upon tertiary education in Wollongong were those urging co-operation and the rationalisation of facilities between neighbouring educational institutions. Before 1979, a number of "joint working parties" had been established comprising staff of the University, the Wollongong Institute of Education, and Wollongong T.A.F.E. Following publication of the Williams' Report, the oversight and co-ordination of these working parties became the major concern of a new body - the Illawarra Regional Advisory Council on Tertiary Education (I.R.A.C.T.E.). This Council, with a membership of senior staff of the three neighbouring educational institutions in Wollongong, meets 3-4 times per year to discuss matters of mutual interest.

Perhaps the University's main achievement in its first five years has been the development of the teaching curriculum so that our twenty-one departments now present a full range of programmes in the natural, applied and social sciences, as well as in mathematics and the humanities. Following the successful consolidation of the teaching programme, it was decided, during 1979, to devote attention to the needs of prospective and enrolled students, the state of research within the University and the University's relationship with the surrounding Illawarra region. Three specialist working parties were established to inquire into these three areas and each is charged with reviewing current activities; identifying areas for change or innovation and recommending on ways and means of achieving objectives. The working parties' reports are to be submitted in mid-1980.

Predictably, the departmental Forward Plan papers referred to above, together with departmental reports for the year 1979, record difficulties resulting from financial constraints. However, the University's continuing ability to attract staff of high calibre and the record of our research projects in commanding both national and international attention provide evidence of the standards achieved early in the development of Australia's eighteenth university. Our planning and review activities are designed to ensure that these high standards are maintained.
The Council

Throughout 1979 members of the University's Council continued to take an active interest in academic developments within the University, and in the strengthening of links between 'town and gown'. Council agendas during the year also included many matters relating to site and building improvement, and financial arrangements for the remainder of the 1979-81 triennium.

At its meeting of 4th May, Council noted with great regret the death of Emeritus Professor Austin Keane. Professor Keane had been appointed to the Chair of Mathematics at Wollongong in 1964, and had given invaluable administrative leadership to the University College as it approached autonomy in 1975. From April, 1974 to December, 1977 Professor Keane served as Deputy Vice-Chancellor. Council placed on record its gratitude for the contribution of Professor Keane to the University and its students, and extended its condolences to the members of the Keane family.

The Council met seven times during the year and, as at 31st December, 1979 its membership comprised:

Ex Officio: The Hon. Justice R. M. Hope, Chancellor
Emeritus Professor L. M. Birt, Vice-Chancellor

Elected by the Legislative Council: The Hon. P. F. Watkins

Elected by the Legislative Assembly: The Hon. L. B. Kelly

Appointed by the Minister for Education: Mr. C. Denley
Mr. B. S. Gillett
Sir Richard Kirby
Professor P. D. Rousch

Elected by the Students of the University: Mr. M. Robinson
Mr. M. McCarthy

Elected by Convocation: Dr. E. Beale
Mr. J. Dombroski
Mr. W. E. Parnell

Elected by the Full-time Academic Staff of the University: Associate Professor J. S. Hagan
Professor A. D. Brown
Professor J. L. C. Chipman
Professor R. B. Leal
Elected by the Full-time General Staff of the University
Ms. E. A. Hilton

Elected by the Members of Council
Dr. E. A. Kernohan
Mr. J. R. Lysaght
Dr. P. Mowbray

The Academic Senate

The Academic Senate continued in its role as supreme academic advisory body to the Council of the University. At its thirteen meetings during 1979 Senate considered a variety of issues affecting staff and students, including regular items such as new subject and course proposals, study leave reports, and the annual reports of academic departments. During the year Senate also provided material for the University's response to the Williams' Report, and for the submission to the National Inquiry into Teacher Education.

Academic Activities

The flexibility for adaptation within our teaching programme was demonstrated by a number of developments during 1979. Several new courses emerged from the University's existing offerings: a separate Bachelor of Mathematics degree, and postgraduate diploma courses in Management Studies, Sociology and Intercultural (Migrant) Education were introduced. The work of a number of our departments was made easier by the extension of the Social Sciences building and the creation of an Educational Resources Unit to assist teaching methods and to co-ordinate supply and usage of audio-visual equipment.

Two senior appointments to the academic staff of the University were made in 1979. Dr. J. R. Blake, formerly of the C.S.I.R.O. was appointed to the Chair of Mathematics, and Dr. Linda L. Viney of Macquarie University was appointed to the position of Associate Professor and Chairman of the Department of Psychology.

A list of the 1979 publications of members of the University's staff is included later in this Report. One highly successful publication has been Dr. Ian McLaine's Ministry of Morale, selected by A. J. P. Taylor, writing in The Observer, as one of the 'Books of the Year'.

With regard to research funding for members of the academic staff during the past year, special mention should be made of the grants totalling $421,370 awarded by the National Energy Research Development and Demonstration Council to the team of researchers led by Professor Alan Cook of the University's Department of Geology. This particular funding, which continues until mid-1982, will enable the researchers to investigate aspects of oil shale as an alternative fuel; coal carbonisation; and various stress factors in mining.

On Thursday, 10th May and Friday, 11th May three graduation ceremonies were held in the University Union Hall. A total of 342 degrees were conferred at the ceremonies. The University was privileged to have three notable occasional speakers at these ceremonies; they were
the Governor General, Sir Zelman Cowan; the Chancellor of the University of Sydney, Sir Herman Black; and the Chairman of the Tertiary Education Commission, Professor Peter Karmel.

University Day, the anniversary of the first meeting of the Chancellor's Council, was celebrated on Friday, 10th August. An evening lecture was given by Professor (now Sir) Bruce Williams, Chairman of the Committee of Inquiry into Education and Training, who discussed those aspects of the Committee's Report concerned with regional education. A Schools' Day was held on Friday, 20th July, and was attended by 500 Year 12 school students who visited many of the University's academic departments and heard lectures by staff members.

As part of the University's liaison work with schools, the Department of Computing Science organised a successful one-week summer school in Computing Science for Year 11 students and a number of secondary school teachers. The Department of European Languages also attracted 400 high school students of French and Italian to an Open Day within the Department.

Enrolments

Although enrolments for 1979 were at a slightly lower level than had been anticipated, the total enrolment figure of 2,813 was 60 higher than for 1978. The number of new enrolments was 938. EFTS stood at 2,160.

Building Programme and Site Development

Approval to commence building Social Science Stage II at an estimated cost of $2,383,000 (June 1978 prices) was received in December 1978, with $1,030,000 provided for expenditure in 1979.

Design work on the North Wing, 3 storeys, of 2262m² usable floor area had been commenced in anticipation of approval, and this enabled tenders to be called in December, 1978, and the successful builder to take possession of the site in January, 1979. A second wing, also of 3 storeys, and 1483m² usable floor area, was included in the project funding. The builder first occupied the site in July 1979, and it is planned to complete this wing in June 1980.

Although these wings add 14% to the total usable floor area of all University buildings, the Science and Engineering Departments are still comparatively disadvantaged. The Science II project, designed to provide space for Biology and Geology and release space to the Engineering Departments remains the University's top priority for capital works.

Due to the deferrment of the Science II project, construction in 1979 (and again in 1980) and of the Administration Building for several years, it has been necessary to use some of the 1979 grant for Minor Works and Site Works to modify space in buildings to enable them to be utilised more effectively.
In December 1979 the University accepted an offer from the Y.M.C.A. to take over the management and freehold ownership of International House, which provides student residential accommodation, on condition that it also take over the existing liabilities of the House. This transfer becomes effective from 1st January, 1980.

The principal needs of the building and site development programme in the immediate future are approval to the Science II building, and adequate minor and site works funding to allow continuing adaptation of existing facilities to meet changing needs and complete development of site services and landscaping for the existing buildings.

Conclusion

As our reports for each of the past five years indicate, the rate of expansion envisaged when we became a University in 1975 dwindled to lesser dimensions during that very year when funding for education was restricted. Developments during our first five years have, therefore, been achieved on the basis of year by year planning. However, largely as a result of the return to triennial recurrent funding for tertiary education and our internal review of activities the pattern of the University's progress in the 1980's has already been charted to a considerable extent. As our goals are now in view, rather than in formulation, we are confident that the 1980's will be synonymous with the further enhancement of our teaching and research programmes.
UNIVERSITY LIBRARY

During 1979 the Library's organisation was restructured into five functional areas or Divisions, as follows:
- University Librarian's Division
- Information Services Division
- Resources Division
- Cataloguing Division
- Archives Division.

At the same time it was necessary to rename positions, those involved being Associate Librarian (formerly Technical Services Librarian), Information Services Librarian (formerly Reference Librarian), and Resources Librarian (formerly Acquisition Librarian). The new structure has more effectively identified the roles of Divisions within the Library.

Collection growth during 1979 was again significant and, excluding non-book materials, 24,320 bound volumes were added. Of these, 15,149 were monographs, and 9,171 serial volumes processed by the Resources Division.

Throughout the past year the Archives Division increased its responsibility toward University records and began a review of its collection policies. An informal panel of academic staff and other users has been established to provide recommendations on future archival activities. The main problem experienced by the Archives Division is that of shortage of suitable repository space.

Co-operation with Macquarie University on a joint cataloguing system was resumed in the second half of the year. Regular meetings were held between cataloguing and data processing staffs of the institution.

The catalogue on Microfiche (COM) was regularly updated in 1979. It is expected that all records will be on COM by the end of 1981.

Statistics for 1979 reflect increases in circulation of monographs and serials, and in interlibrary loan to and from the Library.

Library staff remained actively involved in a range of external organisations and committees concerned with improved provision of libraries and information services.

THE COMPUTER CENTRE

Overall throughput of the Computer Centre increased markedly in the latter half of 1979 giving a total dollars value of $2,500,000 for 138,000 runs during the year. This represents an increase of over 40% on the previous year's throughput. The main reasons for the increase in 1979 were: (a) a greater number of terminals available for students, and (b) the installation of the second disc sub-system.

In the main, research, technical assistant and academic staff work was processed in unattended hours. The Science and Engineering Faculties combined have been the most frequent users, accounting for 50% of total usage.
THE COMPUTER CENTRE (Cont'd.)

The Computer Centre has achieved a stable operating system in WOLFE (Wollongong Front End), which resides in either the Perkin-Elmer's 8/16E or 7/16, front-ending to the Univac 1106. The date input features of WOLFE provide a readily accessible, high response key-to-disc system used extensively by the University Administration Data Processing Unit, Finance Office, Library systems, Health Commission and the Computer Centre. As a front-end to the Univac 1106, WOLFE offers interactive programming capabilities via a number of terminal clusters about the campus, to students and staff involved in a diversity of applications.

Wollongong City Council, Huntley Colliery, Health Commission and the Local Government Employees Medical and Hospital Benefits Club constitute those external users with direct on-line access to the Univac mainframe. Each have terminals connected by Telecom line to the communications multiplexor. In addition, both the Wollongong Institute of Education and Goulburn College of Advanced Education use either of two "dial-up" lines available.

Local schools, Wollongong and Shellharbour Libraries, Telecom and other infrequent users utilise the batch facilities provided by the Computer Centre.

Wollongong City Council remains the largest and most frequent of the external users, accessing Computer Centre resources to process such systems applications as Rates, Payroll, Effluent Removal, Electoral Roll and Stores Inventory.

Eleven full-time personnel, two part-time card punch operators and a ceiling level of 8 computer trainees comprise the staffing complement of the Computer Centre. Throughout 1979, the computer trainee staffing level reached no greater than seven largely due to the success of the scheme in that "graduates" were quickly absorbed into the workforce having completed eighteen months' training.

THE UNION

All students and staff of the University and the Union are members of the Union. The affairs of the Union are controlled by a Board of Management and in day to day matters, by the Secretary-Manager. There are fourteen full-time staff employed servicing the Union and Sports Association. In addition, part-time and casual staff are employed in the shop, catering and cleaning section.

There are twelve clubs affiliated to the Union which cover a wide range of activities: Camera Club, Debating Society, Drama Society, Film Group, French Club, Geological Society, Geographical Society, Historical Society, IL Circolo Italiano, Metallurgical Society, Musical Society and the Parents' Club.

The extensions to the Bar and Bistro opened in 1979. These areas were completely refurnished and redecorated. The newly installed airconditioning units were welcomed by staff and customers alike. During 1979 the area under the Bar/Bistro extensions was filled in to provide extra working areas in the kitchen and a dry goods and pot store. Towards
THE UNION (Cont'd.)

the end of the year work started on the colonnade round the Union Hall and this will be completed early in 1980.

There has been an increase in the use of the Union facilities in 1979 and it is hoped that in 1980 this trend will continue.

THE SPORTS ASSOCIATION

In 1979 there were twenty constituent clubs of the Sports Association which members can join and in which they can participate. These clubs cover most sporting activities as shown in the list below:

Australian National Football  Rugby Union
Badminton                Sailing
Basketball               Ski
Cricket                  Soccer
Hang Glide               Squash
Hockey (Men's)           Surf Riders
Hockey (Women's)         Table Tennis
Judo                     Tae Kwon Do
Motor Cycle              Tennis
Outdoors                 Volleyball

The clubs compete in local competitions as well as annual intervarsities at universities throughout Australia.

The Sports Association aims to provide physical recreational facilities for individuals and groups. It provides financial support to its constituent clubs to cover the association fees, playing equipment, facility hire and intervarsity subsidies, as well as general sporting fields and association equipment.

The general facilities available are a Sports Pavilion (with licensed bar), four squash courts (two with glass observation walls), a sauna and varied sporting fields. Work started on an indoor sports centre adjacent to the pavilion towards the end of the year and it is hoped that this will be in use for first session 1980.

THE COUNSELLING CENTRE

During 1979 the University's two full-time Counsellors continued a programme of individual counselling, and group programmes incorporating both developmental and preventative services.

The Counselling Centre continued to oversee the Student Accommodation and Student Employment Services, both of which were extensively patronised by students.

The University's Medical Service also operates from the Counselling Centre and is serviced by interested local general practitioners. A total of 425 persons consulted the Medical Service's personnel during 1979, while 116 availed themselves of the Family Planning Clinic.
9.

THE STUDENTS' REPRESENTATIVE COUNCIL

The principal changes effected by the S.R.C. in 1979 were changes to its constitution. These amendments covered such sections as election dates, provision for conscientious objection to payment of fees, and an increase in fees from $14 to $17.

The alteration of the election date to October was considered necessary to instil a form of continuity in the S.R.C. Membership is now decided by veteran students who are at least informed as to S.R.C. functions.

Affiliation with The Australian Union of Students was a major issue in 1979. The spate of secessions was not regarded by the Wollongong student body as good enough reason for it to secede, it being felt that as a small campus Wollongong needs to be a member of the national Union.

Socially, 1979 was an unfortunate year for the S.R.C. Financial losses at nearly all functions were mainly due to the specialised type of entertainment provided, and lack of publicity. Efforts are in hand to ensure that the shortcomings do not re-occur.

Regrettably, the funding of affiliated clubs and societies was curtailed in second session. However, many of the S.R.C's budgetary difficulties have been untangled largely as a result of employment of a new firm of accountants.

During 1979 the former President of the S.R.C. was dismissed from his position due to alleged mismanagement of some aspects of the S.R.C. business. This particular episode highlighted two basic problems of S.R.C. management, viz. inexperience, and the fact that all positions are undertaken on a voluntary basis. Students involved in S.R.C. business find that their studies become hampered, and that they receive little support from the general student population. After one year on the S.R.C. many students are not inclined to stand again.

It is hoped that in 1980 a review of a number of 1979's experiences will lead to an improvement in the educational, social, and cultural activities available to Wollongong students.
### APPOINTMENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. L. Ricci</td>
<td>Lecturer</td>
<td>European Languages</td>
</tr>
<tr>
<td>Dr. T. R. Grant</td>
<td>Lecturer</td>
<td>History and Philosophy of Science</td>
</tr>
<tr>
<td>Mr. G. W. Price</td>
<td>Lecturer</td>
<td>Sociology</td>
</tr>
<tr>
<td>Mr. M. Donaldson</td>
<td>Senior Tutor</td>
<td>Sociology</td>
</tr>
<tr>
<td>Dr. A. Jakubowicz</td>
<td>Senior Lecturer</td>
<td>Philosophy</td>
</tr>
<tr>
<td>Dr. J. C. Bishop</td>
<td>Lecturer</td>
<td>Economics</td>
</tr>
<tr>
<td>Mr. B. A. Crozier</td>
<td>Tutor</td>
<td>History</td>
</tr>
<tr>
<td>Dr. J. D. MacKenzie</td>
<td>Senior Tutor</td>
<td>Philosophy</td>
</tr>
<tr>
<td>Mr. D. J. Johnstone</td>
<td>Tutor</td>
<td>Accountancy</td>
</tr>
<tr>
<td>Mr. D. G. Cornford</td>
<td>Tutor</td>
<td>Psychology</td>
</tr>
<tr>
<td>Dr. E. A. Bryant</td>
<td>Tutor</td>
<td>Geography</td>
</tr>
<tr>
<td>Mr. J. M. de Wet</td>
<td>Lecturer</td>
<td>Sociology</td>
</tr>
<tr>
<td>Mrs. A. L. Porter</td>
<td>Lecturer</td>
<td>Economics</td>
</tr>
<tr>
<td>Mr. H. R. Clarke</td>
<td>Lecturer</td>
<td>European Languages</td>
</tr>
<tr>
<td>Dr. G. J. Ianziti</td>
<td>Lecturer</td>
<td>Biology</td>
</tr>
<tr>
<td>Dr. D. R. Murray</td>
<td>Professor</td>
<td>History and Philosophy of Science</td>
</tr>
<tr>
<td>Professor R. D. Johnston</td>
<td>Lecturer</td>
<td>Education</td>
</tr>
<tr>
<td>Mr. A. W. McHoul</td>
<td>Lecturer</td>
<td>General Studies</td>
</tr>
<tr>
<td>Mr. R. A. Markey</td>
<td>Lecturer</td>
<td>Psychology</td>
</tr>
<tr>
<td>Dr. M. E. Hyland</td>
<td>Lecturer</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Dr. P. T. Crisp</td>
<td>Lecturer</td>
<td>Geography</td>
</tr>
<tr>
<td>Dr. E. A. Bryant</td>
<td>Lecturer</td>
<td>Accountancy</td>
</tr>
<tr>
<td>Mr. J. G. Jackson</td>
<td>Lecturer</td>
<td>Geography</td>
</tr>
<tr>
<td>Dr. H. W. Faulkner</td>
<td>Lecturer</td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td>Dr. F. B. Howard</td>
<td>Lecturer</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Professor J. R. Blake</td>
<td>Lecturer</td>
<td>Computing Science</td>
</tr>
<tr>
<td>Dr. A. Salvadori</td>
<td>Lecturer</td>
<td></td>
</tr>
</tbody>
</table>

### RESIGNATIONS

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miss P. J. Henderson</td>
<td>Tutor</td>
<td>Geography</td>
</tr>
<tr>
<td>Miss A. Mackie</td>
<td>Lecturer</td>
<td>European Languages</td>
</tr>
<tr>
<td>Mr. B. J. Collins</td>
<td>Tutor</td>
<td>Metallurgy</td>
</tr>
<tr>
<td>Mrs. A. Arnold</td>
<td>Lecturer</td>
<td>Psychology</td>
</tr>
<tr>
<td>Mr. I. Howden</td>
<td>Tutor</td>
<td>Sociology</td>
</tr>
<tr>
<td>Miss C. McWaide</td>
<td>Lecturer</td>
<td>Accountancy</td>
</tr>
<tr>
<td>Dr. I. G. Eliot</td>
<td>Lecturer</td>
<td>Geography</td>
</tr>
<tr>
<td>Mr. D. G. Fiebig</td>
<td>Lecturer</td>
<td>Economics</td>
</tr>
<tr>
<td>Dr. O. D. Donald</td>
<td>Lecturer</td>
<td>Geography</td>
</tr>
<tr>
<td>Mr. H. R. Clarke</td>
<td>Lecturer</td>
<td>Economics</td>
</tr>
<tr>
<td>Mr. M. E. Hyland</td>
<td>Lecturer</td>
<td>Psychology</td>
</tr>
</tbody>
</table>

### PROMOTIONS

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Position</th>
<th>Previous Appointment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. R.N. Chowdhury</td>
<td>Civil Engineering</td>
<td>Reader</td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td>Dr. V. J. Cincotta</td>
<td>European Languages</td>
<td>Senior Lecturer</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Dr. E. Dayal</td>
<td>Geography</td>
<td>Senior Lecturer</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Dr. R. V. Nilsen</td>
<td>Mathematics</td>
<td>Senior Lecturer</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Dr. G.W. Trott</td>
<td>Electrical Engineering</td>
<td>Senior Lecturer</td>
<td>Lecturer</td>
</tr>
</tbody>
</table>
UNIVERSITY STATISTICS

Full-time staff as at 30th April, 1979

<table>
<thead>
<tr>
<th>DESIGNATION</th>
<th>MALES</th>
<th>FEMALES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Teaching-and-research staff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor</td>
<td>18</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Associate Professor, reader</td>
<td>17</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Senior Lecturer</td>
<td>40</td>
<td>3</td>
<td>43</td>
</tr>
<tr>
<td>Lecturer</td>
<td>62</td>
<td>10</td>
<td>72</td>
</tr>
<tr>
<td>Senior demonstrator, Senior tutor</td>
<td>11</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Demonstrator, tutor, teaching fellow</td>
<td>11.5</td>
<td>7.5</td>
<td>19</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>159.5</td>
<td>21.5</td>
<td>181</td>
</tr>
<tr>
<td><strong>Research only Staff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professorial Fellow, Reader, Senior Fellow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fellow, Senior Research Fellow, Research Fellow</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Junior Research Staff</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>7</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td><strong>Non-academic Administrative Staff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting Academic Activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Technical Staff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Officer</td>
<td>8</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Technical Assistant</td>
<td>46</td>
<td>15</td>
<td>61</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>54</td>
<td>19</td>
<td>73</td>
</tr>
<tr>
<td><strong>Library Staff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>7</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>32</td>
<td>40</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>15</td>
<td>37</td>
<td>62</td>
</tr>
<tr>
<td><strong>Administrative Staff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chief Administrative Officer</td>
<td>5</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Senior Administrative Officer</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Administrative Officer</td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Administrative Assistant</td>
<td>9</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Clerk, Typist, etc.</td>
<td>14</td>
<td>30.6</td>
<td>44.6</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>34</td>
<td>33.6</td>
<td>67.6</td>
</tr>
<tr>
<td>DESIGNATION</td>
<td>MALES</td>
<td>FEMALES</td>
<td>TOTAL</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Building Planning and Maintenance Staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Tradesmen</td>
<td>13</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>21</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>Other Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent Operations</td>
<td>8</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>TOTAL STAFF</td>
<td>337.5</td>
<td>186.1</td>
<td>523.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching-and-research Staff</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty of General Studies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty of Humanities</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Faculty of Engineering</td>
<td>4</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Faculty of Mathematics</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Faculty of Science</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Faculty of Social Science</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>TOTAL TEACHING-AND-RESEARCH</td>
<td>18</td>
<td>19</td>
<td>37</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research only Staff</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Chemistry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Physics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Electrical Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Civil Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department History</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>
Enrolments to 30th April, 1979.

<table>
<thead>
<tr>
<th>Course</th>
<th>Full-time</th>
<th>Part-time</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ph.D. Course</strong></td>
<td>40</td>
<td>39</td>
<td>79</td>
</tr>
<tr>
<td><strong>Master degree courses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Research</td>
<td>10</td>
<td>44</td>
<td>54</td>
</tr>
<tr>
<td>- Course</td>
<td>20</td>
<td>38</td>
<td>58</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>70</td>
<td>121</td>
<td>191</td>
</tr>
<tr>
<td><strong>Bachelor Degree Courses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Arts</strong></td>
<td>579</td>
<td>477</td>
<td>1056</td>
</tr>
<tr>
<td><strong>Commerce</strong></td>
<td>207</td>
<td>205</td>
<td>412</td>
</tr>
<tr>
<td><strong>Engineering</strong></td>
<td>244</td>
<td>163</td>
<td>407</td>
</tr>
<tr>
<td><strong>Metallurgy</strong></td>
<td>6</td>
<td>84</td>
<td>90</td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>176</td>
<td>106</td>
<td>282</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>84</td>
<td>66</td>
<td>150</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>1296</td>
<td>1101</td>
<td>2397</td>
</tr>
<tr>
<td><strong>Non-degree Courses</strong></td>
<td>1</td>
<td>55</td>
<td>56</td>
</tr>
<tr>
<td><strong>TOTAL UNDERGRADUATES</strong></td>
<td>1297</td>
<td>1156</td>
<td>2453</td>
</tr>
<tr>
<td><strong>Other Courses:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-graduate Bachelor</td>
<td>0</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Post-graduate Diploma</td>
<td>79</td>
<td>38</td>
<td>117</td>
</tr>
<tr>
<td>Masters preliminary/qualifying</td>
<td>9</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>88</td>
<td>81</td>
<td>169</td>
</tr>
<tr>
<td><strong>TOTAL ENROLMENTS AT THE UNIVERSITY</strong></td>
<td>1455</td>
<td>1357</td>
<td>2813</td>
</tr>
</tbody>
</table>
DEGREES CONFERRED

The following candidates were admitted to University of Wollongong degrees by the Chancellor of Graduation Ceremonies held on Thursday, 10th May, and Friday, 11th May, 1979.

Bachelor of Arts

Paul Aarons
Melanie Jane Adie
John Arthur Akhurst
Geoffrey Karl Aldis, BSc.(Med)Syd.
Ian Appleby
Glynis Jean Arber
Bernadette Mary Askew
Lutz Paul Barz
David Ambrose Lambert Beswick
Keith Martin Binns
James Dewar Black
Norma Maie Blundell
David Robert Brewer
Catherine Brodie
Richard Warwick Buckland
Anita Mary Bunn
Glynis Evelyn Burden
Sharon Audrey Caldwell
Brian Eric Cantor
Maria Caridi
Susan Lillian Carroll
Andrew Christensen
Vivianne Thelma Clark
John James Clarke
Patricia Ione Clarke
Glenn Robert Collins
Barry William Cooper
Allan Frank Dal Santo
Vicky Davis
Julie Marie Dawson
Roger Geoffrey Dawson
Raymond John Dehon
Steven Dragutinovich
Sherrie Lynn Escobar
Peter Michael Evans
Graham William Fitzpatrick
Mary-Ellen Fulford
Merilyn Anne Gabriel
Nadia Ghirardello
David John Gore
Catherine Mae Grantham
Janet Elizabeth Green
Louise Christine Gumb
John Henry Hambly
John Alfred Hawes
John Peter Heininger
Kevin Thomas Helme
Graham Elliott Hill
Andrew George Hilton
Dee Hilton
Joy Holland
Keith Andrew Hopkins
Peter Joseph Houweling
Sylvia Kathleen Howard
Garry John Ison
William Edward Jardine
Katalin Natalia Johnson
James Arthur Reginald Johnston
Steven Gibson Henry Johnston
David James Johnstone
Audrey Mary Jones
Christine Jones
Lorna Grace Kaer
Alan John Kendal
Joan Louise Kiernan
Gregory John King
Lillyan Kolevska
Christine Joyce Land
Anthony Scott Lee
Peter Wayne Macdonald
Jane Mahoney
Helen Ruth Handl
Philip Walter Mann
Kym Anthony Marchant
Peter Alan McGovern
Joyce Florence McIver
Josephine Molino
Carmel Anne Mowbray
James Ian Muir
Roger Philip Murray
Bachelor of Arts Graduates (Cont'd.)

Bob Natalenko, BA N.S.W., BA(Hons)
Paul Nicholas
Brian Liddell Nutt
Christine Mary Panok
Carolyn Anne Perry
Cheryl Ann Perry
Carolyn Jean Purcell
Jerry Timothy Reilly
Jeffrey Leigh Rogers
Jill Stephanie Rosser
Joan Schmidt
Bryan Thomas Schofield
Christine Elizabeth Sheedy
Anthony John Sherlock
David Kenneth Short
Maysie Hall Simes
Catherine Winifred Smith
Jennifer Louise Smith
Pamela Helen Smith
Anthony Thomas Spinks
Rosemary Ann Steward
Margit Jean Stocker
Julie Stubbs
Vivienne Margaret Szakacs

Sam Tadros
Cheryl Daphne Talbot
William Taylor
Robert William Thomas
Nora Lyn Thomas
Phyllis Joan Tibbs
Geoffrey Francis Till
Jonathan Paul Torpy
Donald Keith Townsend
Eduard Uitterlinden, BA DipEd Macq.
Maria Joanna Vandenbrink
Lynne Christine Wallace
Marion Lily Fletcher Walsh
Lawrence George Wells
Alfred Ernst Werner
Judith Anne Wheway
David Whitelaw
Gregory Jon Williams
Heather Ann Williamson
Margaret Williamson
Judy-Lee Wills
Leanne Wilson
John Peter Wren
Ann Ayton Young

Bachelor of Arts - Honours

Michael Charles Askew, BA - (Honours Class II, Division 1)
Allen Richard Barlow, BA - (Honours Class I)
Gregory Michael Barter (Honours Class II, Division 1)
Murray Richard Blacket, BA DipEd - (Honours Class II, Division 1)
John Bywater, BA - (Honours Class I)
Joseph Lenehan Davis, BA - (Honours Class II, Division 1)
Janette Elaine Everest, BA - (Honours Class II, Division 2)
Maurine Ann Gan, BSc N.S.W., DipEd N.E. - (Honours Class I & University Medal)
Jill Hiddlestone, BA - (Honours Class II, Division 1)
Marilyn Janet Hughes, BA Tae. - (Honours Class II, Division 1)
Carol Diane Kiernan, BA - (Honours Class II, Division 1)
Inga Lazzarotto, BA - (Honours Class II, Division 1)
Lilybeth Margaret Mayhew (Honours Class II, Division 2)
Jean Nancy McLeod, BA - (Honours Class II, Division 1)
Brian Gerard O'Neill, BA - (Honours Class III)
Sandra Joy Phillips, BA - (Honours Class III)
Joan Elliott Pickering (Honours Class II, Division 2)
Gillian Frances Rogers, BA - (Honours Class II, Division 1)
Jacqueline Carmel Sloan, BA - (Honours Class II, Division 1)
Carmen Strauh (Honours Class II, Division 1)
Ana Maria Tych, BA - (Honours Class II, Division 2)
Mary Vellar, BA - (Honours Class II, Division 1)
David Andrew De Berigny Wall (Honours Class II, Division 1)
Doctor of Philosophy

Colin Timothy Symes, BEd S’ton.
Thesis: "Towards a Structural Epistemology of a Discipline."

Bachelor of Commerce

Ronald John Asquith
Mervyn Leslie Boatswain
Glenn Gordon Bott (With Merit)
Robert Ross Brownlow
Stephen Peter Chatterton
Martin Robert Chenery
Vitalino Paul Clemente
Philip Alexander Clulow
Peter Anthony Curtis
Iliya Dimitrovski
Hugh Archibald Douglas
John Dunning
Robert Hillis Page Elvy, BSc (Eng) N.S.W. - (With Merit)
Antonio Federici
Nickolas George Fessas
Michael David Hosie
Denise Norma Kelton (With Merit)
Brian Edward Kinsella (With Merit)
Anthony Charles Kos
Barbara Kyriakopoulos
Wayne Eric Mathews (With Merit)
Alfons Alois Mazurowski

Bruce McKenzie
Blagoja Mitrevski
Rodney Ewan Moore
Michael Edward Owens
Laura Therese Populin
Keith John Robertson
Ralph Willi Ernst Rossteuscher
Jim Russell
John William Seedhouse
Geoffrey Maxwell Smith (With Merit)
Douglas John Soden
Allan Francis Spinks
Gerald James Sullivan
Svetlana Sztyk (With Merit)
Peter Anthony Taranto (With Merit)
Karl Sarin-Sanderson Taylor
Wayne Glenn Temby
Alan Tweddle
Alexander Walter George Waddell (With Merit)
Edward Joe Zahra (With Merit)
Benedetto George Zappia
Alex Zeme (With Merit)

Bachelor of Commerce - Honours

Colin William Ah Tong, BCom N.S.W., DipEd - (Honours Class II, Division 2)
Sandra Joy Eccles, BCom - (Honours Class I)
Lewis Raymond Hawke, BCom - (Honours Class II, Division 1)
Roslyn Thompson, BCom - (Honours Class II, Division 2)

Bachelor of Engineering

Civil Engineering
Anthony John Andrews

Electrical Engineering
Peter John Armitt

Gerald John Giggacher
Errol Glasby Burton
Bachelor of Engineering (Cont'd.)

Mechanical Engineering

Robert Edward Donald Hinch
Peter James Johnson
Stephen Paul Kelly
Joseph Manfrin
Warren John McPherson
Gregory John Murphy

Mining Engineering

David Paul Cameron

Bachelor of Science (Engineering)

Civil Engineering

Gary John Chapman (With Merit)
Vincent Noel Gooley

Electrical Engineering

Thomas Martin Bergner (With Merit)
Geoffrey Lewis Burling, BSc (Eng) N.S.W. - (With Merit)
Michael Alexander Churches
Robert James Clayton (With Merit)
Raymond Clegg

Bachelor of Engineering - Honours

Civil Engineering

Con Docos (Honours Class II, Division 2)
Peter Alex Groch (Honours Class II, Division 2)
Brian Arthur Kelly (Honours Class I & University Medal)
Peter Louis Kinsella (Honours Class II, Division 2)
Michael Perdicaris (Honours Class III)

Electrical Engineering

Alan Leslie Barrett (Honours Class I)
Carlo Luigi Colella (Honours Class III)
John Warde Graham (Honours Class I)
Hendrik Karl Pohl (Honours Class II, Division 2)
Philip Anthony Scheul (Honours Class II, Division 2)

Mechanical Engineering

Shane Anthony Collinge (Honours Class II, Division 1)
Bruce Edward Fowler (Honours Class II, Division 2)
Barry Thomas Grant (Honours Class II, Division 2)
David John Hinde (Honours Class II, Division 2)
Paul Gregory Roberts (Honours Class II, Division 2)
James Geoffrey Smith (Honours Class III)
Bachelor of Metallurgy
Gary David Bull
Alan Douglas Chaperlin
Ian John Dickson
Peter Douglas Edwards
Stephen William Howes
Nicholas Ivan Kilpatrick
Frank John Kungl
Thomas Michael Matthias
Alexander George Mazik
Graham Douglas Solomon

Bachelor of Metallurgy - Honours
Neil Warren Blake (Honours Class II, Division 2)

Master of Engineering
Richard Eric Hall, BSc (Tech) N.S.W.
Robert John Henson, BSc (Eng) N.S.W.

Phillip John McKerrow, BE N.S.W.
Thesis: "Control of Coating Mass on a Continuous Hot Dip Galvanising Line."

Arfan Salem Nehme, BSc (Eng) N.S.W.

Bachelor of Science
Ian Ronald Almond
Mark Anderson
Jerry Andrew Bellach
Christopher Timmothy Blackley
Robert John Bower
Eileen Ann Caddle
Anne Elizabeth Cassidy
Jane Caulton
Barry John Christiansen
Joanne Maree Collison
Kevin Cross
Gregory Bruce Davis
James David Dawson
Christopher Graham Dileva
Rodney Paul Doyle
John Holger Eklund
Paul Lewis Else
Gordon Trevor Foyster
Robert Glen
Harry Grabowski
Glenn Hilton Hart
Wendy Ruth Hesling
Larry Alan Hick
Merin Ann Kemp
William Drinnan Kemp
Michael Robert Leggett
Bernard Vincent McNerney
Paula Louise Mitchelson
Jerry Murtin
Ross Stewart Nealon
Rhonda Lyn Neaves
Denis John O'Hara
Terry Raymond Ogle
Glyn David Phillips
Len Phillips
Joseph Pini
Rocco Pasquale Polidoro
Geoffrey Peter Pratt
Vandana Ramakrishna
Manfred Friedrich Wilhelm Rentz
Michael John Ryan
Ulrich Erich Senff
James Eric Slijar
Peter John Stanley, BSc (Tech) N.S.W.
James Harold Sturgiss
Gary Tominez
Endre Istvan Varga
Romona Bernadette Werakso
Bachelor of Science - Honours

Henry John Walter Baumeister (Honours Class II, Division 1)
Susan Hannah Hickey, BSc - (Honours Class II, Division 2)
Adrian Cornelius Hutton, BA N.E. - (Honours Class I)
Paul Didacus Larkin - (Honours Class II, Division 1)
Alexander Iowa Lee - (Honours Class II, Division 1)
Gregory Paul MacRae - (Honours Class II, Division 1)
Robert Anthony Regtop, BSc - (Honours Class I)
Gregory Jon Smith - (Honours Class I)

Master of Science

Albertus Ario Abdipranoto, BSc Wls.

David Anthony Carter, BSc N.S.W.
Liwan Hemanthi Fernando, BSc S.lanka
Gregory Kemp Whymark, BSc Q'ld.

Doctor of Philosophy

Barry John Allen, BSc MSc Melb.

Bachelor of Education

Mark Joseph Askew, BA N.S.W., Dip Ed
Stephen Robert Belsham, BA York(U.K.)
David Augustus Besson, BA N.S.W.
Margaret Yuen Hung Chan, BA Syd., DipEd M.I.E.
Graeme Trevor Collinson-Smith, BA BSc DipEd N.E.

Elizabeth Joan Facer, BA Syd., DipEd N.S.W.
Brian Ferry, BA Macq.
David Bryce Henderson
Ksana Natalenko
Geoffrey John Robinson, BSc DipEd N.S.W.

UNIVERSITY OF WOLLONGONG DIPLOMATES.

The Diploma in Accountancy was awarded to the following candidate:
Peter Melville Mowbray, BE N.S.W., BCom

The Diploma in Education was awarded to the following candidates:

Barry David Anderson, BSc
Stephen John Armstrong, BSc
Gregory Kenneth Atfield, BA
Martin Richard Gordon Barkl, BSc
Patricia Barnaba, BA
Ronald David Bennett, BSc N.S.W.
Keith Martin Binns, BA

Philip Francis Brown, BA
Pauline Ann Bull, BA
Glynis Evelyn Burden, BA
Deborah Cairns, BA N'cle.(N.S.W.)
Janette Maree Chapman, BA
Margaret Robyn Chapman, BA
Alexander Malcolm Chesher, BSc N.S.W.
Diploma in Education (Cont'd)

Mark James Christianson, BA N.S.W.
Peter Alexander Cowan, BSc
Stephen Gary Davies, BSc
Debra Ann Donaldson, BA
Robert Anthony Dowdell, BSc (Hons)
Stephen Hugh Evans, BA
Bernhard Alfred Fischer, BA
Giovanna Forte, BA
Anne Leonie Francis, BA
Dennis John Frost, BSc (Hons)
Diane Gates, BA
Kerry Elizabeth Goonan, BA
Katrina Marie Griffiths, BA
Janice Salena Hales, BA Q’ld.
Peter Denis Hall, BSc
Kerry Ann Mary Hampson, BA
Cheryle Anne Harris, BA
Denise Joanne Harris, BA
Brian James Ireland, BSc
Desmond Arthur Jamieson, BA (Hons)
Annette Francis Jones, BA
Michelle Anne Kent, BA
Helena Anna Kowalczyk, BA
Glynis Brenda Lanyon, BA
Jennifer Anne Lanyon, BA
Mark Alexander Mackenzie, BSc Syd.
Sue Maree Martin, BSc Syd.
Peter Miklos Martyn, BA
Nancie Cawley Melvin, BA
Joanne Miles, BA
Lesley Ann Munro, BSc
Richard Michael Nau, BSc

Karin Carol Neil, BA
Bernadette Ellen Norris, BSc
Sandra Jacqueline Paul, BA N.S.W.
Narissa Lynne Phelps, BA
Keith William Phipps, BA
Victoria Ruth Potter, BA
Paul Stephen Quinn, BA
Gary Lisle Raftery, BA
Peter James Michael Ridley, BA N.S.W.
Walter Russell, BA Syd.
Rosalyn Elizabeth Ryall, BA
Denise Margaret Schultz, BA
Gavino Sechi, BSc
Bruce James Sinclair, BSc
Douglas Charles Smith, BA
Rosalind Kay Struthers, BSc
Ross Ian Tanswell, BSc
Ian George Taylor, BSc A.N.U.
Rosemarie Timar, BA
Louis Edward Tome, BSc
Kole Trajcevski, BSc
Kevin Edward Turnbull, BA
Dip Tertiary Ed N.E.
Timothy Paul Turnbull, BA
Anna Justine Vallario, BA
Helen Pretoria Van De Ven, BA
Zafirios Dimitrios Voulalas, BSc
Cheryl Ann Wadwell, BSc
Graeme Campbell Wells, BSc
Kerry William Withers, BA (Hons)
Alan Leslie Wolfe, BSc
Marlies Zechner, BA

The Diploma in Mathematics was awarded to the following candidate:

Rodney Arthur Coleshill, BSc DipEd N.S.W.
ACADEMIC ACTIVITIES - 1979

FACULTY OF ENGINEERING

Department of Civil Engineering

General

Courses and subjects offered by the Department in 1979 continued to be supervised by the Advisory Committees for Civil Engineering and Mining Engineering. Membership of these committees is comprised of a member of the academic staff of the department, staff of other University departments, and representatives of industry.

During 1979 Dr. Y. C. Loo was elected a member of Sigma Xi, the Scientific Research Society (U.S.A.). Dr. D. Pearson-Kirk acted as a Technical Adviser and Research Co-ordinator to the Commission of Enquiry into the N.S.W. Road Freight Industry.

Student Performance

Students undertaking degree courses in civil and mining engineering are required to pass 54 subjects during the course. Student progress is therefore dependent on passing by subject and not by year. For total enrolments in all subjects in 1978 the following pass rates were obtained:

<table>
<thead>
<tr>
<th>Enrolments</th>
<th>Passes</th>
<th>Passrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering</td>
<td>1154 (58 subjects)</td>
<td>992</td>
</tr>
<tr>
<td>Mining Engineering</td>
<td>121 (18 subjects)</td>
<td>82</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1275</td>
<td>1074</td>
</tr>
</tbody>
</table>

N.B. Mining Engineering enrolments mainly relate to the third and fourth years of the course as the early years are largely common with the Civil Engineering course.

Facilities and Equipment

Major equipment purchased during the year included the following:

- Mechanical testing equipment
- Terrestrial universal camera
- Road research laboratory equipment
- Electronic equipment
- Environmental wind tunnel equipment
- General laboratory equipment.

Research Theses Being Undertaking Within the Department

Ph.D.

Five Ph.D. theses were undertaken, in the areas of soil and rock mechanics, structural analysis, and transportation.
M.E. -

Sixteen research theses (15-28 credit points theses, 1-8 credit point theses) were undertaken in the areas of hydraulics and hydrology, concrete technology, transportation, construction materials, mining.

B.E. (Hons.) -

Fourteen B.E. (Hons.) theses were undertaken in the areas of structural analysis, hydrology, coastal engineering, concrete technology, transportation engineering, mining ventilation, photogrammetry.

Department of Electrical Engineering

General

Associate Professor W. H. Charlton was Acting Chairman of the Department throughout the year whilst Professor Smith took study leave. The latter spent approximately 4½ months visiting universities and research institutions in Europe, the United Kingdom, North America, Japan and Hong Kong. The remainder of the time was spent in the research laboratories at Wollongong.

The chief concern of the Department with regard to its teaching programme is that lack of funds limits the number of specialist lectures that can be contributed by practising engineers from industry.

A Year 10 Kiama High School student spent one week during November, 1979, in the Department of Electrical Engineering as a participant in the N.S.W. Department of Education's Work Experience Programme for High School students. The venture appeared to be successful from the point of view of both the student and the Department.

Student Performance

Nine students completed the requirements for the degree of Bachelor of Engineering in Electrical Engineering during 1979. Of these nine students, one student gained Honours Class 1, and four students gained Honours Class 2, Division ii.

Facilities and Equipment

It is extremely frustrating and disappointing that the development of two projects for which approval was given and funds allocated has been insignificant after almost two years. These comments relate to work involving the Radio Telescope, and the acquisition of solar energy equipment.

Problems of space are critical. The work of the Department's Professional Officers and postgraduate students is severely hampered by unavailability of work benches in suitable quiet locations. Also, because of the expense involved much deteriorating equipment cannot be suitable replaced.
Research Theses

Ph.D. -
"An Approach to the practical design of sub-optimal control systems."
"Single frame cascade induction machines: analysis and design."
"Permanent magnet synchronous machines."
"Identification and experimental design of distributed parameter systems."

M.E. -
"Glider control and supervisory equipment."
"Power transistor switching devices."
"Fault identification in electronic systems."
"A computer controlled infra-red sensing system."
"Motor speed through a microprocessor controlled thyristor converter."
"Electrical characteristics of a pilot scale electrostatic precipitator."
"Photographic measurements of stratospheric aerosols."
"Computer analysis of large-scale non-linear networks."
"To investigate intelligent computer colour graphics."
"Digital analysis of electronic networks for reliability studies."
"Modulation of polyphase inverters."
"Iron losses in inverter fed induction machines."

B.E. -
Seven major thesis reports for final year students were completed during the year.

Department of Mechanical Engineering

General
Although there were no changes in course structure the Department recognised the problem of graduating practising engineers without adequate computing experience and introduced the subject 'Special Topics in Mechanical Engineering 1' dealing with mechanical engineering applications of computers.

The Bulk Solids Research Group within the Department continued to undertake consultancies and contract research on behalf of industry. Dr. P. C. Arnold was appointed to the Standards Association of Australia Committee ME/43 Bulk Handling Equipment and also invited to attend the August meeting of the Structures Panel, Australian Welding Research Association for consideration of Bin Structures.
Student Performance

The overall calibre of newly-enrolling students who finished their secondary education in the previous year continued to improve. The average H.S.C. aggregate mark for the 1979 intake was 350.

Facilities and Equipment

The Department's real-time data acquisition facility was established in the Engineering Building, and includes graphics/VDU terminals interfaced to either the department's Perkin-Elmer 8/16E or the University's Univac 1106 computer. An additional Tektronix 4010 and a Microbee VDU were added to the cluster. A further air-conditioning unit was installed.

The following equipment was purchased in 1979:

- Beehive VDU
- Airflow Devel. MK6 Manometer
- Thiess Static Manometer
- 2 Kelvinator air conditioners
- 2 Linear Recorders
- Typewriter
- Texas terminal
- Tektronix 4010
- Ballistic printer
- Dunstant Hydraulic Unit
- Auto Transmission Analyser
- VF - 1B Precision Integrator
- B and K level recorder
- Regent Pump
- Portable Salinity - temperature bridge
- Aluminium boat and trailer
- 35 H.P. outboard motor
- NOX Recorder

Research Theses Being Undertaken Within the Department

Ph.D. -

"Control of large scale systems."
"Flow rate of simple bulk solids from mass flow bins."
"The optimum design of spur and helical gears to BS 436."
"Development of numerical technique for two-dimensional fluid flow with flexible boundary."

M.E. -

"Dust collection in the refractories industry."
"Performance of vibratory bin activators."
"The selection and use of sound measuring equipment in industry."
"Design of diffusers for ocean disposal of industrial waste."
"The application of finite element analysis to problems of multi-dimensional heat conduction with non-linear boundary conditions."
"Factors affecting the recovery of benzine from coke ovens gas."

B.E. -

Twenty-one final year B.E. theses were completed.

Department of Metallurgy

General

In previous reports we have expressed concern at the decline of enrolments in metallurgy departments throughout the country. It is therefore particularly pleasing that there was an upturn in the metals industry during 1979 and it is anticipated that this will lead to improved enrolments in 1980. It needs to be emphasised, however, that enrolments at Wollongong have been quite favourable in comparison with metallurgy departments in Australia as a whole. The average number of metallurgists graduating from Wollongong over the years 1965-1978 was 14.6; this may be compared with the figure of 9.9 metallurgy graduates averaged over the seven years 1969-1975 for twelve other universities and colleges.

The research and postgraduate activities of the Department are not as buoyant as we would wish. Our research projects are chosen to reflect both the interests of members of staff and the concerns of local industry and interested research establishments. Since the onset of the recession in the metallurgical industry, together with a decline in the activities of various Government research establishments, our postgraduate numbers have progressively declined. More seriously the present climate is such that part-time students are less motivated to gain further qualifications than in the recent past. Good graduates now unhesitatingly accept employment which is readily offered.

Facilities and Equipment

The equipment allocation for 1979 made it possible for the Department to purchase an Hitachi S450 Scanning Electron Microscope costing $31,550. This acquisition fills a serious gap in the facilities of the Department, and it is anticipated that the equipment will be much used by other University departments.

Research Theses Being Undertaken Within the Department

Ph.D. -


"Structure Development in Eutectic Alloys."

"Effect of Rapid Thermal Cycling on Structure and Properties of Low-Carbon Steels."

M.Sc. -

"Mechanical Behaviour of Sheet Metals."

"Electron Microscope Study of Ferrous Alloys."

"A Metallographic Study of Some Aspect of Metal Joining."
"Modelling of Metallurgical Processes."
"Fluid Flow in Sinter Beds."
"The Formation of Austenite."
"The Structure and Properties of Metallic Coatings on Steel."
"The Mechanical Behaviour of Copper Alloys."
FACULTY OF HUMANITIES

Department of English

General

Major changes were introduced into the English Literature curriculum at 200- and 300-level. These were undertaken to enable students to study English Literature in chronological order, beginning with courses in sixteenth and seventeenth century literature at 300-level. It is aimed in 1980 to restructure the 400-level courses so that students studying at honours level may proceed to a study of twentieth century literature.

The major course development at first year level has been the introduction of ENGL 106 Introduction to Drama Studies. A new language course ENGL 105 Introduction to English Language Studies C, was also introduced.

The introduction of drama studies has led to increasing involvement by members of the Department in community activity in the performing arts, and the Department is exploring further this area of development.

Writer-in Residence

On the initiative of Professor Southall, the English writer Mr. Barry Hines was a guest of the Department for three months during 1979. While at Wollongong Mr. Hines made a substantial contribution to the Introduction to Drama course. Mr. Hines conducted a number of writers' workshops to help students with their own creative writing. Mr. Hines also lectured to a number of groups in Wollongong outside the University, as well as participating in the Adelaide International Film Festival, and giving a lecture for the University of Sydney's Department of Education.

Student Performance

The pass-rates in English subjects are high. Among those who are listed as failing on the result sheets are a number of students who had clearly withdrawn from subjects without giving any formal notification of having done so.

Facilities and Equipment

The Department continued to suffer from lack of office space and teaching areas in 1979, but new quarters in the Social Science Building will be occupied in 1980.

The following equipment was purchased during the year:

- Sankyo Sound 600 Projector (8mm)
- Fujica E 55 Editor/Viewer
- Hanimex 3 CL Tripod
- Fujica Tape Splicer (8mm) and Extra Tape x 5
- Hanimex 34.7025 (9) Group Listening Set
- 2 Office Mobiles
- IBM Electric Typewriter
- Microfiche Reader
- Gestetner Duplicating Machine
- VCR 2 Telecine Chain (Sony)
- 2 A/V Trolleys.
Research Theses Being Undertaken Within the Department

Ph.D. -
"The 'Self Concept' in the Poetry of W. C. Williams, Sylvia Plath, and Robert Lowell."

M.A. -
"Attitudes to Nature in Modern Australian Fiction."
"Disraeli's Scope as a Novelist."
"Some Aspects of the Poetry of Sir Thomas Wyatt."
"The Image of the Perfect Place in Utopian Fiction."

B.A. (Hons.) -
"Georgian Poetry: A Reappraisal."
"Jane Austen: 'Ordination' as a Theme in Mansfield Park."

Department of European Languages

General

Four new subjects were introduced in 1979: French IV Honours, Italian IIIA, Italian IIIB, Foreign Language component of the Diploma course in Intercultural (Migrant) Education.

Student numbers in the Department continued to rise in 1979. Growing community interest in the learning of foreign languages suggests that this upward trend will persist for the foreseeable future.

The Department continues to place strong emphasis on liaison with the general community and with schools. The Dante Alighieri Society and the Alliance Francaise have as their chairmen members of the Department and the Department lends aid to these organisations as far as its means allow. A most successful School Day, which attracted over 400 high school students of French and Italian, was held in September. The Department's principal concern at present is its inability, with the present level of staffing, to offer Italian honours, despite student demand.

Student Performance

Pass rates are very high as the Department follows a policy of continuous assessment so that indolent or incapable students tend to withdraw rather than fail at the end of the course. A high standard has been achieved in the first French Honours class.

Research Theses Being Undertaken Within the Department

Ph.D. -
"Attitudes to eastern religions in 18th century French literature."
B.A. (Hons.) -
Myth and anachronism in 20th century French theatre.
Eluard and Poulenc.
Les Mamelles de Tiresias of Apollinaire.

Department of History

General
The main feature of 1979 was a sharp drop in enrolments in the Department's first year course: from 140 (on a completed course base) in 1978, to 75 in 1979. In second year courses the drop was from 129 to 91. At third year level the intake remained steady at about 95, while in fourth year it increased from 11 to 12.

The Department is particularly proud to report the very considerable success of Dr. Ian McLaine's book Ministry of Morale, published during 1979, and named by A. J. P. Taylor in The Observer as one of the 'Books of the Year'.

During 1979 there were no major changes in course structure but approval was given for the introduction of an additional first year course: HIST 103 Italian History 1856-1970. Also worthy of comment is the introduction at 300-level of a one session course in Theory and Method of History. This course attracted 16 students. The pass rate was 93.8%.

Student Performance
Pass rates remained at 86% in first year, increased to 94% and 100% in our two most popular second level courses, Australian History, and Religion and Society in Britain from the Reformation. More generally, of 18 courses offered in 1979, 8 achieved a 100% pass rate. Of 6 fourth year honours students, two gained first class honours, while the remainder were given grades of 2,1.

Research Theses Being Undertaken Within the Department

Ph.D. -
"The Historian as Moralist. Edward Gibbon and The Decline and Fall of the Roman Empire."
"Aspects of Urban Growth in Wollongong, 1900-1970."
"The Labour Movement in Wollongong, 1890-1928."

M.A. -
"Women in Australian Politics."
"The Edwardine Prayerbooks as Instruments of Uniformity."
"A Study of the Trade Union Movement in N.S.W. During the Great Depression."
"Redundant Women in the Promised Land: Middle Class Women's Immigration to Australia, 1861-1901."
"Religious Attitudes in Australian Literature in the 1890s."

B.A. (Hons.) -
"Edmund Burke and the Concept of Party."
"The New South Wales Trade Union Movement and Conscription, 1890-1916."
"In the Laboratory of the Revolution: V. A. Antonov-Ovsenko in Paris, August 1914-May 1917: A Chapter of Biography."
"The Relationship between Dr. Michael Kelly, Archbishop of Sydney, and the two conscription referendum campaigns of 1916 and 1917 respectively."
"The Establishment of Diplomatic Relations Between Australia and the Soviet Union."
"Failure of a Mission? Ivan Maisky and the Search for an Anglo-Soviet Alliance, 1932-1939."

Department of History and Philosophy of Science

General
Professor Ron Johnston of the University of Manchester took up the Foundation Chair in the Department in July, 1979. During 1979 Professor Johnston was also elected Vice-President of the Australasian Academy for the History and Philosophy of Science, a member of the Academy of Science National Committee for the History and Philosophy of Science, a member of the International Council for Science Policy Studies, and Australian representative to the OECD investigation of 'The Function of Research in Universities'.

During 1979 the Department has directed considerable effort into increasing the awareness and understanding of History and Philosophy of Science within the University.

The structure of courses within H.P.S. is in the process of radical revision and a major publicity campaign has been initiated outside the University, particularly in schools.

Student Performance
The Department had a total enrolment of 134 students, 87 full-time and 47 part-time. The pass rate was 85.8%, consisting of 1 High Distinction, 21 Distinctions, 39 Credits, and 54 Passes.

Research Theses Being Undertaken With the Department
Ph.D. -
Models of scientific change
Honours -

Cause, principle, and unity in the context of the development of Renaissance thought.

Mathematics and science in the early Royal Society.

Department Of Philosophy

General

An increasingly important feature of Departmental activity has been involvement by staff members in teaching courses in conjunction with other departments, and to groups outside the University. Professor Chipman and Dr. Bishop contributed to the General Studies programme in Religious Studies and World of Language respectively. Professor Chipman also gave lectures regularly for the Faculty of Law in the University of Sydney in Jurisprudence and Logic in the Service of Law. A number of members of the Department have been involved in the regional programme of the Workers' Educational Association.

Student Performance

The Department provided for 138 full-time enrolments and 66 part-time enrolments in its subjects. The total enrolment figure of 204 is a decline of 67 from 1978's undergraduate enrolment figure of 271. The decline was most dramatic in 100-level subjects where the enrolments were down 72 from the 1978 level. There were three principal causes of the decline. The first two factors related to internal matters, and the Department has taken steps to correct them. The external factor was that the Department was, to some extent, affected by the general slackening in the demand for Arts subjects. This slackening, which seems likely to continue, appears to be linked to public recognition of the oversupply of teachers. If this is the cause, Philosophy will not be hit as hard as those departments which have traditionally catered for aspiring school teachers. The Department has approached the problem by increasing our involvement in activities such as those mentioned above, to raise public consciousness of the practical value of Philosophy.

Although enrolments declined, particularly among full-time students, the pass-rate for this group as a whole rose from 78.7% in 1978 to 82.3% in 1979, which tends to confirm the widely held view that the decline in enrolments is a decline in demand from weaker or 'high risk' students. Part-time students continued to do less well than full-time students; indeed the gap between their success rates widened considerably in 1979.

Research Theses Being Undertaken Within the Department

Ph.D. -

"Kemp Smith's Account of Kant's Transcendental Deduction."

Luigi Pirandello's anticipations of existentialism.

"The Nature of War Crimes and Principles of Their Moral Evaluation."
An investigation of the imagination from the point of view of both the aesthetician and the philosphical psychologist.

Honours -

"Hume's Account of the Mind."
"F. H. Bradley on Truth."
FACULTY OF MATHEMATICS

Department of Computing Science

General

The Department of Computing Science was formed on 1st January, 1979, with the separation of the Computing Science section from the Department of Mathematics. Already the Department has a number of successes to report.

In collaboration with the Regional Office of the Department of Education the Department organised a one week summer school in computing science for Year 11 high school students. Forty-two students and three teachers were selected to participate in the school which centred around a series of lectures given by members of the Department on basic concepts of programming and hands-on laboratory sessions in the computing science laboratory and with the department's microcomputers. It is hoped that another such school will be held in 1980.

Already the work of the Department's Professional Officer, Mr. Richard Miller, on the portability of operating system has won world-wide recognition. Mr. Miller has transported the UNIX operating system (written by Bell Laboratories for PDP-11 computers) to all 32-bit Perkin Elmer computers. The transported system has been used by our computing science laboratory since July, 1977. It has been an outstanding success in reliability as well as in the range of facilities offered. Operating systems have been moved from computer to computer by others but they were simple small systems written especially to illustrate portability of software systems. To the Department's knowledge, this is the first production-scale system that has been successfully transported to another computer where it compares more than favourably with the system provided by the manufacturers of that computer. The Department is leasing Richard Miller's version of UNIX to other users and in 1979 software leases were signed with the following institutions:

- University of California, Irvine
- Universitat Kaiserslautern
- Nepean College
- Naval Postgraduate School, Monterey, California
- University of Texas at Austin
- University of Washington

In our first year of operation as a separate department our only negative experiences have concerned staffing and facilities. Due to the unavailability of suitable candidates for lectureships, our academic staff carried a double teaching load for the whole year.

Facilities and Equipment

Severe overcrowding in the computing science laboratory was recognised late in 1979 and space allocated to the Department was increased to 451 square metres - a space that still requires enlargement.
The sudden and unexpected increase in student load from 35 EFTS in 1978 to 55 EFTS in 1979 caused a severe pressure on the resources of the computing science laboratory. This was recognised by the Resources Committee and with an extended equipment grant we were able to extend the 7/32 computer by

- 128k bytes of memory to 318k bytes
- floating point firmware
- 2 additional 10M byte disk drives
- 10 Volker-Craig VDU terminals.

These microcomputer systems were purchased from departmental equipment funds:

- Heathkit H-11 microcomputer (LSI -1)
- Terak microcomputer (LSI -11)
- SMAKY microcomputer/terminal

Research Theses Being Undertaken Within the Department

Ph.D. -

- Portability of operating systems software
- Performance of Portable Operating Systems

Honours -

- An Operating System for a Microcomputer.

Department of Mathematics

General

From 1st January, 1979, the Department of Mathematics split to form the Department of Mathematics and the new Department of Computing Science. The two departments constitute the Faculty of Mathematics. Students taking major and coherent studies in Mathematics and/or Computing Science may now take out a B.Math. degree.

It is with great regret that we record the death in March, 1979, of Emeritus Professor Austin Keane. Professor Keane was appointed to the Foundation Chair of Mathematics at Wollongong in 1964, and is also remembered by the University for the administrative leadership which he gave during his time at Wollongong.

On 1st November, 1979, Professor J. R. Blake took up his appointment to the Chair of Mathematics.

Facilities and Equipment

During the year the Department was able to purchase one Apple II microprocessor.

Research Theses Being Undertaken Within the Department

Ph.D. -

- Numerical solutions of 3 Reactor Kinetic Equations
- Application of Energy Dependent Potentials
- A Problem in Sequential Analysis
An Examination of the Properties of Continuous Relations
Solution of Sparse Matrix Eigenvalue Problems Arising in
the Application of the Finite Element Method.
Non Classical Diffusion
Random Walk Models
Mean Value Properties and Differential Equations
Some Results in Neighbourhood Lattices
Some Aspects of Population Dynamics
Boundary Effects of Shelf Waves
Application of the Finite Element Method to the Design of Gas
Slider Bearings.

M.Sc. -

Applications of Transfinite Numbers and Infinitesimals to
Measure Theory.
FACULTY OF SCIENCE

Department of Biology

Facilities and Equipment

No additional space was acquired and difficulty was experienced in accommodating students in class laboratories.

The following major items of equipment were purchased in 1979:

- Ice machine
- 8 x Microscopes
- Nomarski optics for a research microscope
- Sorvall RC5B centrifuge
- LKB electrofocussing apparatus
- Balance
- LKB Uvicord (U.V. column effluent monitor)
- 2 x Physiographs
- "Microfuge"
- 3 x Physiological stimulators and transducers
- Computer
- Radiometer titrator
- Oxygen meter.

Research Theses Being Undertaken Within the Department

Ph.D. -

Osmoregulation in xertolerant and non-tolerant yeasts.
Effects of pollution on larval settlement and community structure of sessile invertebrates.

M.Sc. -

Antibiotic production of marine chromobacteria.
Numberical taxonomy of dermatophyte yeasts.

Honours -

A study of standard metabolism and metabolic capacity in a reptile and a mammal.
A Comparison of strategies for adaptation to cold between a eutherian and marsupial mammal of similar size.
A role of inorganic phosphate in the regulation of photosynthesis.
Feeding ecology of adult and juvenile platypus in the Jerrabatagulla Creek.
Hydrogen sulphide production by the marine alga, Dunaliella tertiolecta.
Department Of Chemistry

General

During 1979 members of the Department remained active in research, and in exchanges with colleagues both in Australia and overseas.

Facilities and Equipment

All rooms and laboratories were fully occupied in 1979. The following items of equipment were purchased:

- 3 pH meters
- Heated vacuum dessicator
- Thermocouple pressure gauge
- Photographic equipment
- 5-figure balance
- TG/DSC Thermalanalysis apparatus
- Digital Thermometer
- Flat plate electrophoresis apparatus
- Bucchi glass tube oven
- Millipore sampling manifold
- AB12 Injector for TOC
- Qion Microprocessor ionalyser
- Colour CRT control board
- (Real time clock
- (Cartridge disc system for NOVA computer
- Kelvinator refrigerator
- Replacement flange and bellows for Mass Spectrometer
- New board for T.I. Terminal
- High volume air sampler
- Line printer for general use
- Colour TV for graphics terminal
- New probes for oscilloscope

Research Theses Being Undertaken Within the Department

Ph.D.

- "The Magnetic and Chemical Behaviour of Some Polynuclear Methoxide Complexes of Tervalent Iron with Bidentate Oxygenous Ligands."
- "The Application of Gas Chromotography and Mass Spectrometry to the Study of Human Diseases: - The Identification and Quantitation of the Urinary Volatiles associated with a number of Genetic Defects."
- "Voltammetric Analysis of groups 5 and 6 trace elements in copper."
- "The use of Stable Isotopes in the in vivo study of Metabolic Disorders."
- "Ring closure reactions of substituted Aminomethylarenes."
- "Chemical Studies on the use of peroxides for the treatment of Industrial Wastewater."
- "Substituent Effects on the Thermodynamic Functions of Ionisation of Phenols."
- "The Use of CI-MS for the Study of Genetic Defects - The Analysis in Amniotic Diagnosis of Heritable Disorders in High Risk Pregnancies."
"In the area of Synthesis of Drugs."

**M.Sc. -**

"Role of the Solvent Upon the Thermodynamics of acid dissociation of acids."

"An investigation of environmental effects of dredging in Lake Illawarra."

"The analysis of free fatty acids in biological fluids by HPLC."

"Determination of Serum Zinc Levels in Normals and Patients Suffering from Myocardial Infraction and Deep Vein Thrombosis."

"Significance of Urinary Hippuric Acid Determination as an Index of Aromatic Solvent Exposure."

"Development of a Computerised Magnetic Mass Spectrometer System."

"The Determination of Steric Purity of Asymmetric Compounds by Gas Chromatography and Mass Spectrometry."

**B.Sc. -**

"A mechanistic study of the flocculation of montmorillonite suspensions."

"Towards a guarantee of Artefact-free Computer Modelling of the Structure and Properties of small Molecules."

"The Isolation and GC/MS Analysis of urinary Organic Acids in the Study of Diseases and Metabolism."

"Peptide Sequence Analysis - The Identification of the Components of Dipeptide Mixtures."

"The Synthesis of Acyglycines and B-keto adipic acid and their use as reference compounds for metabolic profiling by GCMS."

---

**Department of Geology**

**General**

The Department continued to offer subjects leading to the B.Sc. (Pass and Honours) and the pass B.A. Study towards the degrees of M.Sc. and Ph.D. by thesis continued to form a major activity of the Department. Servicing subjects for Engineering courses continued to be important.

A postgraduate Diploma in Coal Geology was approved during the year. The course will be taught jointly with the University of Newcastle and will be offered for the first time in mid-1980.

The research work of staff and research students resulted in the award of three substantial grants from the National Energy Research Development and Demonstration Council. Notwithstanding difficulties of space and staffing a high standard of teaching has been maintained and members of the Department have continued with research of high world standing.
Facilities and Equipment

The Department remains short of space. Postgraduate accommodation is particularly unsatisfactory, while restricted laboratory and office space has hindered the prosecution of N.E.R.D.D.C. funded research. Specimen storage facilities are also inadequate.

Blue/U.V. fluorescent facilities were developed during the year. A Quantimet Image Analyser was ordered for delivery in October but will not be delivered until March/April 1980. The microscope for this equipment was installed.

Drafting facilities were improved.

Utilisation of major research facilities was as follows:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>XRD Unit (University facility)</td>
<td>474.8</td>
</tr>
<tr>
<td>MPV1 photometer</td>
<td>1452</td>
</tr>
<tr>
<td>MPV2 photometer/fluorescence microscope</td>
<td>1333</td>
</tr>
</tbody>
</table>

Research Theses Being Undertaken Within the Department

Ph.D. -

- Geochemistry of recent sediments in Lake Illawarra.
- The geology of oil shales.
- Studies in coal measure sedimentation.
- Volcanic rocks in Central Western New South Wales.
- Aspects of sedimentology of coal measure sequences.
- Studies in coal bearing sequences in New Zealand.
- A study of a base metal ore deposit in the Mt. Isa region.
- Igneous rocks of the southern Sydney basin.
- Field relations and laboratory studies of industrial clays of New South Wales.
- Late Silurian to early Devonian faunas of central Victoria.
- Thermal regimes in Australian sedimentary basins.
- Geological controls of coal accumulation, Moranbah region, Queensland.
- Petrological and Petrophysical study of Potential Hydrocarbon Storage Reservoirs in Permo-Triassic Sandstone Bodies in the Sydney Basin.
- Low grade metamorphism in sedimentary sequences.
- Relationship between coals and associated hydrocarbon source rocks.

M.Sc. -

- The geology of the Capertree valley.
- Magnetism in rocks.
- The geology of the Ardrossan dolomite and its development as a refractory in the steel industry.
A study of coal rank variation in the south central Sydney basin, New South Wales.

Honours -
A study of the Bald Hill Claystone.

Department of Physics

General
Several new subjects were introduced in 1979 mainly to provide a variety of equally acceptable sets of subjects of 24 credit points as substantial and coherent studies at the 300-level. These subjects were built up from sections of existing subjects. In addition, a new subject, PHYS 324 was introduced which was interdisciplinary between physics and chemistry, incorporating the 300-level statistical mechanics offered by the two departments.

Student Enrolments and Performance
The total EFTS of the department was 71, which was essentially the same as for 1977 and 1978. The total number of students enrolled in PHYS 251/GENE 220 was 97, a significant increase over the number enrolled in 1978.

A particularly disturbing aspect of the enrolment was in the distribution of science majors amongst the science and mathematics departments. Only approximately 30% of all science majors had enrolled in 100-level physics, whereas 80-90% had enrolled in either chemistry or biology. In addition approximately 55% of the new science majors had enrolled in mathematics. This trend was new in 1979. In 1978, about the same percentage of science majors, i.e. approximately 80-90% had enrolled in biology, chemistry and physics. The origin of this decline in enrolments of science majors in physics appears to stem from lack of high school science teachers with training in physics. This has left the teaching of this subject to high school teachers with very little interest and few skills in teaching the subject, particularly in handling the hardware associated with demonstrations and laboratories in physics. This phenomenon has been discussed at several meetings of the N.S.W. Branch of the Australian Institute of Physics. It is interesting to note that almost twice as many science majors enrolled in mathematics as in physics, whereas in the past it has been traditional for mathematics and physics to go hand-in-hand.

Facilities and Equipment
One of the most important changes in facilities during the year was the addition of several hardware and software items to the Departmental computer facility. These permit increased interaction between the research projects and the computer. Data can now be collected from seven different sources while the Nova 3 is now capable of performing fast Fourier transforms of up to 6000 data points.

Major equipment was purchased in the following areas: general use ($3300); second year teaching laboratories including astronomy and "Concepts" ($8000); third year teaching laboratory ($2000); astronomy research ($2600); infrared research ($1000); luminescence research ($28000); spectroscopy ($2200).
In addition to equipment purchased, a significant part of the workshop time was invested in the design and construction of equipment. This involved the manufacture of, or modifications to, highly specialised stainless steel cryostats for operation at liquid helium temperatures, the manufacture of specialised mounts for optical components and chambers for several infrared spectrometers, design and preliminary construction of a photometer facility for the 18" telescope.

Research Theses Being Undertaken Within the Department

Ph.D.

"Study of Neutron Capture in Reactor-Structural Materials."

"Piezospectroscopy of Neutral Copper and Zinc Impurities in Germanium."

"Neutron Emission from Fission Fragments."

"The Energy Spectrum of Neutrons in a Pulsed Fast Assembly."

M.Sc.

"The Measurement of Fission Neutron Spectrum of 252Cf and to Determine the Average Neutron Energy."

"An Infrared Wavelength Modulation Spectrometer for the Study of Impurity Spectra of Semiconductors."

"Scattering of Light by Solids."

"A Survey of Infrared Astronomical Objects."

"A Study of Some Infrared Detectors."

"A Tracking System for the University of Wollongong 18 Inch Telescope."
FACULTY OF SOCIAL SCIENCES

Department of Accountancy

General
A number of the Department's staff members are active in local branches of professional societies.

Student Performance
As reported in 1978 student performance is frequently adversely affected by the factors of travel from Sydney each day, and the need for remedial work in English expression. Pass rates in subjects offered by the Department in 1979 ranged from 68.1% to 100%.

Facilities and Equipment
The Accounting Laboratory continues to develop, and provides a much-needed back-up service, particularly for first year students.

Research Theses Being Undertaken Within the Department
M.A. -
"Administrative Law - The Disciplinary Powers of Universities and the Role of Visitors."

M.Com. -

Department of Economics

General
The Department contributed to the development of courses in Science, Technology and Social Progress; Women in Society, and Multicultural Studies. New subjects were organised in Industrial Relations.

Members of the Department continued to participate in a range of regional, State and Commonwealth economic studies. Regional statistical studies, regional input-output analysis, studies of the steel industry, and continuing work on the economics of education, were included.

Student Performance
Enrolments continued at a high level, and in general high standards of student performance were associated with a high pass rate, particularly in final year pass and honours subjects. A study of examination statistics and particularly the incidence in some subjects of a high failure rate were initiated.

Facilities and Equipment
Activities continued to run into limitations of space pending completion of the Social Sciences II Building. Improvements in equipment were effected in the following areas: microfiche reader, library catalogue, research collection, computer terminals.
Research Theses Being Undertaken Within the Department

Ph.D. -

The Investment Decision in Changing Industrial Conditions.
Impact of Education of Agricultural Conditions.
Decentralisation in Australia.
The Investment Decision in Electricity Generation.

M.Com. -

Is VAT the Solution to Australia's indirect tax anomalies?
Poverty in Australia with particular reference to the role of education as an anti-poverty strategy.

Department of Education

Facilities and Equipment

Space problems continued as previously.

Student Performance

Pass rates ranged from 66.7% to 100%.

Research Theses Being Undertaken Within the Department

M.Ed. -

Case study of an Illawarra progressive school.
An analysis of curriculum approach in a Mathematics department of a Wollongong Catholic school.
A case study of extra-Departmental sports oriented courses in the Illawarra region.
A case study of an Illawarra primary school.
Seven B.Ed. special topics were also supervised.

Department of Geography

General

During 1979 the Department carried out a substantial restructuring of the programme of undergraduate subjects in both human and physical geography.

A major commission from a south coast shire was brought to completion and well received by both the Council concerned and the Residents and Ratepayers' Association. An effective working relationship was cemented with the Planning and Environment Commission leading to the full funding of a postgraduate student in the Department.
Equipment

The following items of equipment were acquired during the year:

- Earth Auger
- Sedigraph
- Direct Reading Current Meter
- Motorised Post Hole Digger
- Force Displacement Transducer
- Dissolved Oxygen Meter and Probe

Research Theses Being Undertaken Within the Department

Ph.D. -
"Upland Swamps on the Hawkesbury Sand Plateau."

M.A. -
"Soil Nutrients and other Environmental Factors Controlling the Distribution of Rainforest in the Illawarra."
"Organisation of Agriculture in Pakistan."
"Environmental Impact of Sand Mining in the Illawarra."
"Indo-Fijian Migrant Labour in New Zealand."

Department of Psychology

General

Although at various stages of 1979 the Department was functioning without a full complement of teaching staff, its contribution to the University and the Illawarra community was maintained at a high level.

Student Performance

Although student performance at 100-level was marginally lower than in previous years, results in later year subjects was as good or better than in the past.

Facilities and Equipment

Shortage of space continued to cause problems, particularly for the work of Professional Officers.

The physiology laboratory was further equipped with a direct line for computer analysis of physiological data. Equipment acquired during the year included a Neurology 4-channel physiological recording system, a Datagraphic Datamate 80, Polaroid camera for use with oscilloscope and a Sony colour TV Receiver/Monitor.

Research Theses Being Undertaken Within the Department

Ph.D. -
Gestalt therapy.

M.A. -
Stress and performance in management positions.
RESEARCH INTERESTS AND PUBLICATIONS

FACULTY OF ENGINEERING

Department of Civil Engineering

Research Interests and Major Topics of Investigation

- Flood hydrograph computer modelling.
- Flood frequency studies for N.S.W. streams.
- Urban drainage design.
- Erosion of sediment from catchment surfaces and its transport in streams.
- Recording of climatological data.
- Development of earthquake energy absorbers for bridges.
- Effects of cracking on the rigidities of concrete multicellular bridge decks.
- Reliability approach in geotechnical stability.
- New concepts and methods in slope analysis.
- Progressive action in geotechnical problems.
- The effect of heavy commercial vehicles on road pavements.
- Safety and environmental problems associated with road traffic.
- Studies of the microstructure of cementitious pastes.
- Fatigue properties of ferrocement.
- Workability of concretes containing slag aggregates.
- Fracture mechanics concepts applied to slag concretes.
- Ventilation in mines.
- Simulation of mining operations.

Refereed Publications


Conference Papers


Other Papers


Department of Electrical Engineering

Research Interests and Major Topics of Investigation

Electrostatic Precipitators of Particulate Solids.
System Modelling and Optimisation.
Computer-aided System analysis and Reliability.
Energy Conversion.
Digital Systems; Interfacing Techniques and Microprocessors.
Microwave Systems.
Refereed Publications


Conference Papers


Department of Mechanical Engineering

Research Interests and Major Topics of Investigation

Control and Computing.
Environmental Engineering.
Mechanical Engineering Design.
Hydrodynamics.
Liquefaction of coal.

Refereed Publications


Conference Papers


Other Papers

Department of Metallurgy

Research Interests and Major Topics of Investigation

Metallographic studies of structural changes in industrially important materials, and the association between structure and useful properties. Particular studies of martensitic transformations and recrystallisation.

Fluid flow in packed beds with particular emphasis on velocity distribution and contact efficiency.

Process modelling of industrially important metallurgical processes.

Solidification of alloys.

Mechanical behaviour of ductile sheet metals.

Mechanical testing with computer control.

Deformation and fracture at elevated temperatures.

Refereed Publications


Conference Papers


FACULTY OF HUMANITIES

Department of English

Research Interests and Major Topics of Investigation

- Personal Relationships in Old English Poetry.
- Warfare in Old English Poetry.
- Art and Nature in Sixteenth and Seventeenth Century Literature.
- The Pathology of Shakespeare's Plays.
- The Metaphysical Poets.
- Critical Thought in the Seventeenth and Eighteenth Centuries.
- James Joyce.
- Contemporary Post-Colonial Literatures.
- Popular Song Lyrics as a Medium of Communication.
- Applications of Computer Technology to Language Research

Refereed Publications


Reviews


Department of European Languages

Research Interests and Major Topics of Investigation

French -

- 19th and 20th Century French novel.
- Myth in literature.
- Linguistics applied to the teaching of French as a second language.
- Intonation analysis.
- Audio-visual methods in the teaching of French.
- 18th Century history of ideas.
- Indianism in France.
- 20th Century novel and civilization.
- Surrealism, cinema, eroticism.
- French regionalism.

Italian -

- Federico de Roberto and the "Secondo Ottocento".
- Poetry, music and theatre in Italy.
- Italian-American theatre.
Methods and materials for teaching Italian at the secondary and tertiary level.
Italian Renaissance Humanism.
Fifteenth century historiography.
Politics and literature.

Refereed Publications

V.J. Cincotta. Federico de Roberto tra narratore e commediografo - dalle lettere all'amico Sabatino Lopez. (Catania, 1979).


Department of History

Research Interests and Major Topics of Investigation

The Korean War.
A Biography of David Low, the Political Cartoonist.
'Growing Up in the Illawarra' (social and education history).
The Modern Missionary Movement.
Decline of the Liberal Party in Britain, 1886-1914.
Mt. Kembla Mine Disaster, 1902.
History of the A.C.T.U.
Monograph (commissioned) on the contribution of Tunku Abdul Rahman to modern Malaysian politics.
Monograph on cultural determinants of institutions and decision-making in the colonial Philippines.
Total assessment of colonial (mainly Australian) administration in Papua New Guinea, 1881-1963.
Biography of Dr. Daniel Mannix, Archbishop of Melbourne.
Translating and editing of 4-volume 'Zapiskii o Grazhdanskoii Voine' by V.A. Antonov-Ovseenko.
Political Career of A.A. Ioffe, 1883-1927.

Publications


Refereed Publications


Conference Papers


Department of History and Philosophy of Science

Research Interests and Major Topics of Investigation

Theory and practice of national policy-making for science and technology.
The impact of changing patterns of organisation and control of science.
The direction, transfer, assessment and control of technology.
The social effects of technology.
Revision of Ph.D. thesis of "Embryology and Evolution in the Nineteenth Century" for publication by Cambridge University Press.
Sir John Herschel's philosophy of science.
Early nineteenth century philosophy of science.
Theory generation as exemplified by nineteenth century theories of inheritance.
The science of genetics and its revolutionary impact in the twentieth century.
Mutagens and risk assessment.
The nature of models in the social sciences.
Accounts of the explanatory function of models in physical science.
The role of philosophy of science in science teaching at both secondary and tertiary levels.

Refereed Publications


Conference and Other Papers


Department of Philosophy

Research Interests and Major Topics of Investigation

Attempts to identify and defend a philosophical basis for a free enterprise society.
Logic of judicial decision making.
Relationship between logic and rhetoric in legal argument.
Separation of theoretical and practical reasoning.
Philosophy of culture.
Political theory and political philosophy.
Reference, the philosophy of language, and the philosophy of science.
Responsibility, in relation to the concept of praiseworthiness and blameworthiness and to praise and blame.
Development of adequate validity testing procedure for some systems of modal theories of meaning for modal language.
Different types of probability statements - effecting different concepts of probability.
Philosophical psychology.
The relation of dialogue and logic.

Refereed Publications


Cincotta, M. "Textbooks and their Influence on Sex-Role Stereotype Formation", Babel (Journal of the Australian Federation of Modern Language Teachers' Association), xiv: 3 (1978), 24-29.


Conference and Other Papers

Beran, H. "Authority and Consent", Dialectic (Journal of the University of Newcastle Philosophy Club), xvi (1979), 1-14.


Chipman, L. "Legal Reasoning", Proceedings of the Ninth World Congress on Philosophy of Law and Social Philosophy. (Basel, Switzerland, August 27 to September 1, 1979), 1-16.
FACULTY OF MATHEMATICS

Department of Computing Science

Research Interests and Major Topics of Investigation

Portability of Operating Systems.
Algorithms for Text Searching Clustering Theory.
Interactive Language SIGMA.

Refereed Publications


Conference Paper


Department of Mathematics

Research Interests and Major Topics of Investigation

Applied Mathematics -
Propagation of Waves in a Variable Density Region.
Examination of numerical methods for finding the complex zeros of equations of the form f(z) = z, where f(z) is a composite function.
Solution of ordinary and partial differential equations in a series of Chebyshev Polynomials.
Stability of laminar flow.
Decision Sciences -
Control Theory: Stochastic control and computational problems.
Jockeying in a Heterogeneous Server System.
New Pattern Matching algorithms.
Queueing Theory.
Mathematics in Education.
Population Dynamics.
Mathematics of Aesthetics.

Pure Mathematics -
Analysis and Differential Equations: Mean periodic functions in several variables, multidimensional integral equations, exponential polynomials, and functional equations.
Differential equations and Moment sequences: factorisation of differential operators.
Application of illative combinatory logic.

Refereed Publications


Other Papers

Clarke, D.J. "Wallaga Lake - It's condition, use, and development potential", University of Wollongong, Department of Mathematics.

Preprint Series


Blake, J.R. "The 'impulse' due to a vapour bubble near a boundary". No. 17/79.

Bunder, M.W. "Predicate calculus of arbitrary high finite order". No. 2/79.

Bunder, M.W. "A one axiom set theory based on higher order predicate calculus". No. 3/79.

Bunder, M.W. "Set theory in predicate calculus with equality". No.8/79.

Bunder, M.W. "A new definition of division in quotients of Euclidean rings". No. 11/79.

Bunder, M.W. "Paraconsistent and combinatory logics". No. 13/79.

Bunder, M.W. "Some definitions of negation leading to paraconsistent logics". No. 14/79.

Bunder, M.W. "A note on quantified significance logics". No. 15/79.

Bunder, M.W. "A new hierarchy of paraconsistent logics". No. 16/79.

Horner, T.S. "Recurrence relations for the coefficients in Chebyshev series solutions of ordinary differential equations". No. 5/79.

Laird, P.G. "A class of entire mean periodic functions of several complex variables". No. 9/79.


FACULTY OF SCIENCE

Department of Biology

Research Interests and Major Topics of Investigation

Animal Physiology -
Studies in the evolution of "warm bloodedness".
Thyroid function and the effects of thyroid hormones in vertebrates.

Microbial Physiology -
Studies in the physiology of xerotolerance (tolerance of low water potential).
Mechanisms of osmoregulation under extreme conditions.
The state of water in halophilic bacteria.

Plant Biochemistry and Physiology -
Regulation and metabolite fluxes in isolated chloroplasts. Lysozomal enzymes of developing pea seeds. Enzymes of nitrogen metabolism in developing pea seeds.

Ecology -
Physiological/ecological studies of platypus in the upper Shoalhaven River.

Insect Behaviour -
Development of a computer-based system for studying the migratory behaviour of field crickets.

Refereed Publications


Conference Papers


Department of Chemistry

Research Interests and Major Topics of Investigation

Development and applications of computer-controlled scientific instruments.
Development and use of computer-based mass spectral data libraries.
Theoretical Study of Intermolecular Forces: The explanation of He/He and H₂/H₂ collision phenomena.
Study of the nature of chemical bonding involving metals.
Quantum Theoretical Study of potential high energy molecular lasers, including the design and development of new electronic structure computation programmes.
Application of the generalised finite element method to the study of vibrational motion in molecules - joint work with Mathematics Department. Design, development and testing of programmed computer assisted instruction in Introductory Chemistry - Joint work with Education Department.
Analysis of atmospheric aerosol particles in the Wollongong-Port Kembla region.
Development of new methods for the analysis of aldehydes and ketones in industrial environments and in photochemical smog.
Organic geochemistry of Lake Illawarra.
Chemical characterisation of Australian shale oils and examination of environmental problems associated with oil shale mining.
In the field of environmental chemistry, investigations were carried out on trace analysis, heavy metal transport, flocculation of clays and oxidative treatment of phenolic wastewaters.
Work on the isolation and structure determination of natural products likely to possess pharmacological activity.
Synthesis of new drugs in the area of neoplastic in psychopharmacological activity.
Solvent effects in acid dissociation processes.
Thermal studies of alloys and inorganic compounds.
The application of GC-MS to the diagnosis and study of genetic diseases.
Quantitative amino acid analysis by mass spectrometry. The determination of steric purity of amines and amino acids by gas chromatography and mass spectrometry.
Variable temperature magneto-chemistry of polynuclear transition metal complexes.
Synthesis and investigation of transition metal complexes as models of biologically important sites.

Refereed Publications


Conference Papers


Department of Geology

Research Interests and Major Topics of Investigation

Coal geology and coal petrographic studies on both coal seams and rocks containing carbonaceous matter.
Coal carbonization.
Petrology of low rank oil shales.
Stress determination from the measurement of reflectance on oriented vitrinite.
Thermal regimes in Australian sedimentary basins with particular reference to oil exploration.
Cambro-Ordovician trilobites of New Zealand.
Ordovician to Devonian stratigraphy of the Capertee High, New South Wales.
Sedimentological investigation of the Pertnjara Group, Amadeus Basin.
Sediment dispersal patterns and clay mineralogy in Lake Illawarra.
Palaeomagnetic studies of the Sydney Basin, New South Wales.
Thermal properties and thermal evolution of the Sydney Basin, New South Wales.
Palaeomagnetic studies of the River Valley area, Ontario, Canada.
Geophysical survey of the University of Wollongong campus and drilling of a borehole on campus.
Textural, mineralogical and petrological studies of gneisses from Broken Hill.
Geochemical and petrographic studies on igneous and sedimentary rocks of the South Coast.
The geology of the Bungonia area.

Refereed Publications


Conference Papers


Department of Physics

Research Interests and Major Topics of Investigation

- Astronomy.
- Musical Acoustics.
- Nuclear Physics.
- Solid State Physics.
- Spectroscopy.

Refereed Publications.


FACULTY OF SOCIAL SCIENCES

Department of Accountancy

Research Interests and Major Topics of Investigation

Australian company financial reporting.
Extractive industry accounting.
Financial accounting theory.
Partnership basis of tax assessment for certain companies.
Interfirm comparisons for small businesses.
Review of Australian administrative law.

Refereed Publications


Conference Papers


Department of Economics

Research Interests and Major Topics of Investigation

Mechanisation of sugar production in Barbados.
Trade Union Responses to Regional Technological Impact.
The Locational Decision in the Soviet Union.
The Effect of taxation on the relative costs of labour and capital in Australia.
Regional economic development.
Input-Output Analysis applied to (a) the Illawarra Region and (b) Fiji.
Economics of the Building industry.
Economics of the Australian Fishing Industry.
Romanticism and Economic Thought in the 19th Century.
Economic Aspects of Federal, State & Local Government relationships.
Economics of Migration.
The Economy under flexible exchange rates.
The relationship between money and income in Australia.
Common Economic Knowledge and Economic Development.

Refereed Publications


Conference Papers


Department of Education

Research Interests and Major Topics of Investigation

A History of Australian immigrants.
A History of Sydney Church of England Grammar School.
Emerging Adolescents.
Middle School Curriculum Theory and Development.
Interest Centred Instruction.
Instructional Design.
Planning the K-14 Curriculum.
Innovations in Curriculum Theory.
Social Science Education.
Economics of Education.
Accountability in Education.
Improvement in Teacher Training Designs.
An enquiry into the roles and functions of universities in professional education (joint project with Kelvin Grove C.A.E. and University of New England).
Preparation of a manual of instructional design.
Comparative Education.

Refereed Publications


P.R. de Lacey. "Differentiation ecology and Australian society", In de Lacey, P.R., and Poole, M.E. (eds). Mosaic or melting pot (see below).


P.R. de Lacey & P. Rich. "Young Australian Newcomers: a study of some behavioural resources of immigrant children in Wollongong", in de Lacey, P.R. and Poole, M.E. (eds). Mosaic or melting pot (see above).

J.M. Jones, & P.R. de Lacey. Natives and newcomers: mutual attitudes. In de Lacey, P.R. and Poole, M.E. (eds). Mosaic or melting pot (see above).


Book Reviews


Conference and Other Papers

D.M. Cavanagh. Submission to State and Federal Committee of Inquiry into Teacher Education and Training (contribution to Departmental submission - July 1979).

D.M. Cavanagh. Submission to State and Federal Committee of Inquiry into Teacher Education and Training for the Committee of Senior Departmental/Faculty staff responsible for Teacher Education in NSW universities. (March 1979: Chairman - Professor R. Laura).

D.M. Cavanagh. Submission to the Primary Teachers Registration Board on Developing Models for Teacher Training, (8 October 1979).


Department of Geography

Research Interests and Major Topics of Investigation

Behaviour of sand and sediments in beach face currents as a factor in the erosion and build up of beaches. These issues have considerable significance for shoreline agencies.

Variations between areas in the level of agricultural productivity, particularly in the Indian sub-continent, and its importance in economic development.

Social and demographic factors in urban and regional development and planning.

Modelling of port systems, the impact of port modernisation in South and South east Asia, and the application of this knowledge to the planning of new port developments.

Environmental problems of long-term changes in the coastal, near coastal and highland areas of southeastern N.S.W.

Refereed Publications

Externally Refereed -

Bryant, E. "Edge Wave and Sediment Sorting Relationships on Beach Foreshores, Breaker Bay", Search, 10: 12, (1979), 442-444.


Internally Refereed -


Conference Paper


Department of Psychology

Research Interests and Major Topics of Investigation

Community psychology: the effectiveness of crisis intervention with seriously ill or injured hospitalised persons and their relatives. Evidence of psychopathology in a local government census district (Warilla).

Interpersonal approach to expectancy effects in psychological experiments.

Problem solving and communication in industry.
Organisation development.
Safety: Accident reporting and accident prevention.
Drug addiction and rehabilitation.
Environmental impact on children.
Early childhood education.
Personality characteristics of motor vehicle drivers.
Gestalt theory and therapy.
Mental imagery.
Psychological and nutritional factors influencing the dynamics of gonadotrophin secretion in the female rat.
Interval feeding in laboratory animals.
Group processes ESP and psi.
The relationship between Piaget's theory of cognition development and Kelly's Personal Construct theory.
Psychophysiology of autonomic nervous system.
Classical and instrumental autonomic conditioning.
Autonomic components of the orienting reaction.
Cardiac indices of stress.
Coronary-prone behaviour patterns.
Individual differences in intergroup discrimination.
The contribution of contemporary psychology to an evaluation and understanding of the life and work of Leonardo da Vinci.
The use of display units and computer technology in the preservation and scoring of multi-factor "Q" sorts.
Asthma and biofeedback.
Behaviour modification of eating disorders.
Extension of achievement motivation theory.
Academic performance of first year University students.
Feminism and psychology.
Lifespan development.

Refereed Publications


Other Papers


Department of Sociology

Research Interests and Major Topics of Investigation


Refereed Publications


Donaldson, M. "Foreign Control of the Papua New Guinea Economy: Responses of the National Bourgeoisie and the State". Prepared for the Minister of National Planning and Development, Government of PNG; Tabled in Cabinet March 6, 1979.


Conference and Other Papers


### RECURRENT FUNDS

#### 1979 RECURRENT INCOME AND EXPENDITURE

<table>
<thead>
<tr>
<th>1978 COMPARISONS</th>
<th>SOURCE OF INCOME</th>
<th>AMOUNT</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>9,915,000</td>
<td>Australian Government Grants</td>
<td>11,686,000</td>
<td>99.66</td>
</tr>
<tr>
<td>24,061</td>
<td>Other General Income</td>
<td>39,136</td>
<td>0.34</td>
</tr>
<tr>
<td><strong>9,939,061</strong></td>
<td></td>
<td><strong>11,725,136</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1978 COMPARISONS</th>
<th>EXPENDITURE HEADINGS</th>
<th>AMOUNT</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,348,305</td>
<td>Salaries and Staff Charges</td>
<td>9,397,148</td>
<td>80.29</td>
</tr>
<tr>
<td>1,346,709</td>
<td>Maintenance Expenses</td>
<td>1,698,230</td>
<td>14.50</td>
</tr>
<tr>
<td>311,680</td>
<td>Furniture &amp; Library Books</td>
<td>608,545</td>
<td>5.21</td>
</tr>
<tr>
<td><strong>10,006,694</strong></td>
<td></td>
<td><strong>11,703,923</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

#### AGGREGATE FUNDS

During 1979 income received from all sources totalled $14,049,368 while aggregate expenditure amounted to $15,218,359.

Aggregate income was received from the following sources:

<table>
<thead>
<tr>
<th>1978 COMPARISONS</th>
<th>SOURCE OF INCOME</th>
<th>AMOUNT</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>9,915,000</td>
<td>Australian Government Grant</td>
<td>11,686,000</td>
<td>-</td>
</tr>
<tr>
<td>218,000</td>
<td>Recurrent</td>
<td>212,000</td>
<td>-</td>
</tr>
<tr>
<td>687,000</td>
<td>Building Projects</td>
<td>675,000</td>
<td>-</td>
</tr>
<tr>
<td>66,000</td>
<td>Equipment</td>
<td>71,000</td>
<td>-</td>
</tr>
<tr>
<td><strong>10,886,000</strong></td>
<td>Special Research</td>
<td><strong>12,644,000</strong></td>
<td><strong>89.99</strong></td>
</tr>
<tr>
<td>1978 COMPARISONS</td>
<td>SOURCE OF INCOME</td>
<td>AMOUNT</td>
<td>%</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------</td>
<td>---------</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td>Special Purpose Funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research</td>
<td>430,027</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scholarships, Prizes, etc.</td>
<td>7,205</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>929,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,366,232</td>
<td>9.72</td>
</tr>
<tr>
<td></td>
<td>Other General Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recurrent</td>
<td>39,136</td>
<td>0.29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14,049,368</td>
<td>100.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1978 COMPARISONS</th>
<th>EXPENDITURE HEADINGS</th>
<th>AMOUNT</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Salaries and Staff Charges</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recurrent</td>
<td>9,397,148</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Special Research</td>
<td>53,188</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Special Purpose - Research</td>
<td>158,099</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Special Purposes - Other</td>
<td>53,466</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9,661,901</td>
<td>63.48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1978 COMPARISONS</th>
<th>EXPENDITURE HEADINGS</th>
<th>AMOUNT</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New Buildings (Including Sites)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grants for Building Projects etc.</td>
<td>1,824,224</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Under States Grants (Tertiary Education Assistance) Acts</td>
<td>281,931</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Special Purposes - Other</td>
<td>369,618</td>
<td>13.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2,106,155</td>
<td></td>
</tr>
<tr>
<td>1978 COMPARISONS</td>
<td>EXPENDITURE HEADINGS</td>
<td>AMOUNT</td>
<td>%</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>Maintenance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,346,709</td>
<td>Recurrent</td>
<td>1,698,230</td>
<td>-</td>
</tr>
<tr>
<td>14,514</td>
<td>Special Research</td>
<td>16,165</td>
<td>-</td>
</tr>
<tr>
<td>57,755</td>
<td>Special Purposes - Research</td>
<td>72,047</td>
<td>-</td>
</tr>
<tr>
<td>164,517</td>
<td>Special Purposes - Other</td>
<td>185,817</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1,972,259</strong></td>
<td><strong>12.95</strong></td>
</tr>
<tr>
<td></td>
<td>Equipment, Furniture &amp; Library Books</td>
<td></td>
<td></td>
</tr>
<tr>
<td>311,680</td>
<td>Recurrent</td>
<td>608,545</td>
<td>-</td>
</tr>
<tr>
<td>167</td>
<td>Special Research</td>
<td>1,647</td>
<td>-</td>
</tr>
<tr>
<td>639,306</td>
<td>Grants for Equipment</td>
<td>722,694</td>
<td>-</td>
</tr>
<tr>
<td>12,945</td>
<td>Special Purposes - Research</td>
<td>69,416</td>
<td>-</td>
</tr>
<tr>
<td>81,476</td>
<td>Special Purposes - Other</td>
<td>75,742</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1,478,044</strong></td>
<td><strong>9.74</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>15,218,359</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
## aggregate fund balances

<table>
<thead>
<tr>
<th>Funds</th>
<th>Amount</th>
<th>DR/CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent Funds</td>
<td>117,533</td>
<td>DR</td>
</tr>
<tr>
<td>Grants for Building Projects States Grant (Tertiary Education Assistance) Act 1979</td>
<td>582,224</td>
<td>DR</td>
</tr>
<tr>
<td>Special Purpose Funds (Research)</td>
<td>200,738</td>
<td></td>
</tr>
<tr>
<td>Special Purpose Funds (Scholarships, Bursaries, Prizes, etc.)</td>
<td>11,399</td>
<td></td>
</tr>
<tr>
<td>Special Purpose Funds (Other Purposes)</td>
<td>1,369,326</td>
<td></td>
</tr>
<tr>
<td>Australian Research Grants Committee Projects</td>
<td>16,802</td>
<td></td>
</tr>
<tr>
<td>Sundry Suspense Accounts</td>
<td>9,160</td>
<td></td>
</tr>
<tr>
<td>Sundry Creditors</td>
<td>593,911</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,556,950</td>
<td></td>
</tr>
</tbody>
</table>
SPECIAL PURPOSE FUNDS

Advanced Study Institute of Molecular Physics and Quantum Chemistry
- Conference Account
- I.B.M. Donation
- Department of Science Donation

Australia Council

Australian Accounting Research Foundation

Australian Council of Trade Unions

Australian Institute of Management

Bourke Pre-School Research and Support

Bulk Solids Handling

Department of Health (Australian)

Department of Education (NSW)

Development of a Regional Data Bank

Digital Electronics

Economic and Financial Research Fund

Electrical Research Board

Environmental Research Donation

Geology Fuel Research

Geology and Petrophysics Research

J. L. Morris Research Fund

National Health and Medical Research Council

Seminar/Workshop - Chemistry

Writer in Residence

Aspects of Financial Reporting Practices of Australian Companies

History of the A.C.T.U.

Donation for Books

Education

Mechanical Engineering

Counselling of Patients

Cringila Evaluation Project

Vice-Chancellors Unit

Quad R.G.A. Project

Australian Company Financial Reporting

History of the A.C.T.U.

Electrostatic Precipitation

Pneumatic Transport of Solids

Electric Vehicles Research

Control of Large Scale Systems

Geography

Geology

Geology

Psychology

Application of GC-MS and Related Techniques to the study of inborn errors of Metabolism - 1979

The influence of the Thyroid Hormones on Membrane Lipids

Compilation of the History of the A.C.T.U.

Psychology

Biology

Purchase of Books

Port Kembla Project

Sand Mining Research

Accountancy

Chemistry

Civil Engineering

Mathematics

Metallurgy
SUNDARY DONATIONS (OTHER)

Wollongong City Council

Australian Research Grants Committee
SPECIAL PURPOSE FUNDS (Cont.)

Australian Research Grants Committee (Cont.)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermodynamic Studies of Solute Retention and Solute Fluxes in Micro-organisms</td>
<td>$6,855</td>
</tr>
</tbody>
</table>

SPECIAL PURPOSE FUNDS - OTHER

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Appeal Fund</td>
<td>$45</td>
</tr>
<tr>
<td>Wollongong University Appeal Fund</td>
<td>$215</td>
</tr>
</tbody>
</table>

DONATIONS FOR SCHOLARSHIPS, BURSARIES, PRIZES, ETC.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampol Award for Graduate Students</td>
<td>$4,000</td>
</tr>
<tr>
<td>Peter Beckman Memorial Prizes in Physical Chemistry Fund</td>
<td>$43</td>
</tr>
<tr>
<td>The Biology Prize</td>
<td>$605</td>
</tr>
<tr>
<td>Darryl Condon Memorial Prize Fund</td>
<td>$21</td>
</tr>
<tr>
<td>Foundation Prize in Geology</td>
<td>$66</td>
</tr>
<tr>
<td>Mathematics Prize Fund</td>
<td>$150</td>
</tr>
<tr>
<td>A. A. Parish Memorial Travel Fellowship</td>
<td>$949</td>
</tr>
<tr>
<td>A. J. &amp; J. Waters Geology Prize</td>
<td>$165</td>
</tr>
<tr>
<td>Wollongong University Prize Fund</td>
<td>$20</td>
</tr>
<tr>
<td>Commonwealth Bank</td>
<td>$30</td>
</tr>
<tr>
<td>John Lysaght Pty. Ltd.</td>
<td>$25</td>
</tr>
<tr>
<td>Metal Manufacturers</td>
<td>$40</td>
</tr>
<tr>
<td>G. W. Daniels Prize</td>
<td>$150</td>
</tr>
<tr>
<td>Institute of Mining and Metallurgy</td>
<td>$50</td>
</tr>
<tr>
<td>Australian Federation of University Women</td>
<td>$300</td>
</tr>
<tr>
<td>Western Mining Company</td>
<td>$10</td>
</tr>
<tr>
<td>Marhory Brown</td>
<td>$90</td>
</tr>
<tr>
<td>Ausburn - Prize</td>
<td>$100</td>
</tr>
<tr>
<td>Department of Education</td>
<td>$150</td>
</tr>
<tr>
<td>A.P.S.</td>
<td>$261</td>
</tr>
<tr>
<td>Australian Society of Accountants</td>
<td>$50</td>
</tr>
<tr>
<td>Boden Books (Maths)</td>
<td>$150</td>
</tr>
<tr>
<td>Italian Opera Prize</td>
<td>$50</td>
</tr>
</tbody>
</table>