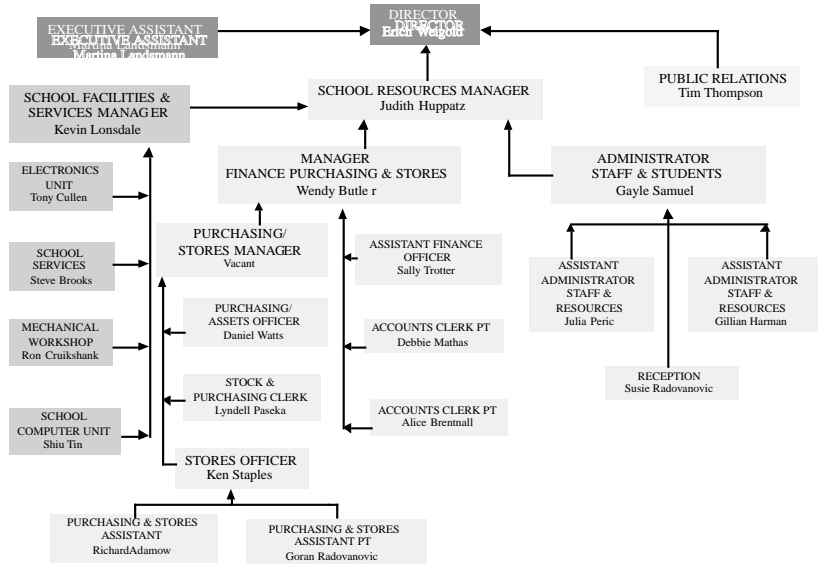




RSPHYSE CENTRAL ADMINISTRATION & SCHOOL FACILITIES STRUCTURE



Brenda Newham, the Schools assistant Staff and Students Administrator, died this year after a long illness. Her cheerful disposition will be sadly missed.

ADMINISTRATIVE STAFF

School Resources Manager
Judith Huppatz

Executive Assistant to the Director
Martina Landsmann

Administrator, Staff & Students
Gayle Samuel

Assistant Administrator Staff & Resources
Julia Peric

Assistant Administrator Staff & Students
Brenda Newham (until 10 April)
Gillian Harman (from 17 August)

Manager Finance, Purchasing & Stores
Wendy Butler

Assistant Finance Officer
Sally Trotter

Accounts Clerk
Alice Brentnall (part-time; from 1 August)
Debbie Mathas (part-time; from 1 August)

Purchasing Stores Manager
Bev Carling (until 27 October)

Purchasing/Assets Officer
Daniel Watts (from 30 October)

Stock Ordering/Purchasing Clerk
Lyndell Paseka (from 9 November)

Head Storeman
Ken Staples

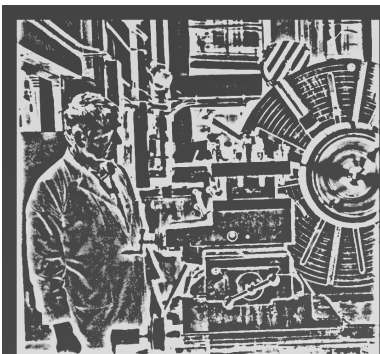
Stores Staff
Richard Adamow
David Sutherland (until 31 August)
Goran Radovanovic (part-time; from 23 December)

Policy and Public Relations
Tim Thompson
Marilyn Holloway (until 10 November)

Reception
Susie Radovanovic

School Librarian
Annette Styles

Technical Support



The outstanding research as detailed in the earlier part of this annual report has been achieved with the help of a dedicated, highly skilled and persistent technical support team. The brief report below can only provide a glimpse of what makes this group such an outstanding contributor to the research output.

Cryogenics

As foreshadowed in last year's report new plumbing has been installed to obviate the need for the transportation of liquid nitrogen to maintain the helium compressor supply. In addition, John Bottega's (LPC) perseverance in carrying out modifications and maintenance to the plant to improve reliability has now come to fruition. The helium installation now supplies liquid helium to LPC, NP, AMPL and EME.

Electricians

This small team of George McEwan and Bruce Johnson has had another productive year:

- completing new electrical installations for the Electron Beam and Ion Implanter Laboratories
- upgrading the air compressor with the installation of a new electronic control system and a Programmable Logic Controller
- undertaking a large number of maintenance and repair jobs throughout the School.

Electronics Unit

The Electronics Unit is a team of multi-skilled staff servicing researchers' needs by developing and maintaining experimental electronic equipment used in the School's research program. Much of the work involves adapting current and emerging technologies into prototype electronic equipment. Fault diagnosis and repair of the School's diverse research equipment is a key aspect of the Unit's role. The Unit also loans general-purpose electronic instrumentation and advises on equipment purchases, measurement/control techniques and technologies.

An example of the work undertaken by this Unit was the integration of the new Metal Organic Chemical Vapour Deposition (MOCVD) reactor in the Electronic Materials Engineering (EME) department. This work commenced late in 1999 in response to EME's plan to install a new reactor requiring an overhaul of the existing alarm system. One person in the Unit volunteered for the lead role of developing strategies to achieve the desired outcome of a fully functioning reactor by the end of April. The project involved the purchase of new equipment, considerable rewiring of existing equipment and development of new software to control the alarm process. The short time-scale meant most of the team would need to contribute to achieve the goal.

Based on prior knowledge of the limitations in the existing equipment, an innovative solution to monitoring hydrogen levels in the laboratory expanded the Unit's role in this project but saved considerable funds. Much of the design was done by one individual but in close consultation with others in the Unit, the EME installation crew and the manufacturers of the new reactor. The software aspects of the project involved considerable learning, much of which was undertaken outside normal work hours but was also aided by access to a software consultant hired to tutor the Unit in LabVIEW techniques.

The construction and installation phases of this project proved considerable; with the virtual rewiring of the entire laboratory which involved all Unit members at various stages. Testing went smoothly with very little design flaws, although several modifications were required to resolve design changes to the new reactor.



Dr Tom Rhymes

The alarm system was ready in advance of the planned reactor commissioning in May. Over the following months the documentation was completed and several modifications were undertaken to enhance the performance and overcome teething problems in the reactor's operation. This was a project that benefited from a committed team effort consuming around 1300 man-hours but providing EME with a world-class toxic and flammable gas control and safety monitoring system.

The most significant event for our team in 2000 was the devastating loss of Tom Rhymes who died suddenly in October. Tom was our leader, our mentor, our inspiration, and our friend. Technical support in this School was dealt a severe blow with his passing. We miss him greatly!

Mechanical Workshop

The research efforts of the School this year have been furthered by the completion of some 250 jobs by the mechanical workshop team. These ranged from individual parts to large assemblies.

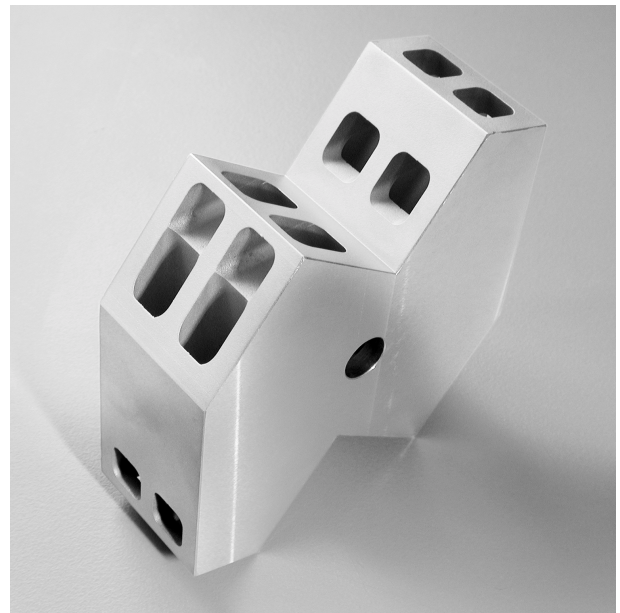
Among the more interesting projects has been some outstanding craftsmanship by Miro Peric, Peter East and Gary Picker on Toroidal Analysers for AMPL. One of these is to be installed at the University of Western Australia.

Another major project has been a Molecular Radical Beam Apparatus, which is a joint project between this school and Flinders University. This project has involved many of the workshop team, but in particular, Tony Barling who did some excellent machining on titanium hemispheres for the Electron Gun, Steve Holgate who produced many of the analyser parts, and Chris Buchanan who also contributed to this project.

Andy Sullivan, using our new CNC Wire Electric Discharge Machine, has produced some complex wirecutting on a wavelength separator for Laser Matter Interaction, also Toroidal Field Correction Rings for AMPL and copper resonator parts for Nuclear Physics.

Russell Battison, who did a great job in extending the CNC lathe to its limits, machined parabolic mirror segments from a large billet of aluminium. These were used in the Far Infra-Red Scanning Interferometer for the H-1 National Plasma Fusion Facility.

Numerous assemblies have been made for the Nuclear Physics Fusion Product Separator (SOLITAIRE). Tom McGuinness has had a key role with this project, producing the main chambers and some of the other parts. Rob McGregor and Alex Mesics have also made excellent contributions to this project.



School workshop staff, the late Tom Rhymes (left), Ron Cruikshank and Andy Sullivan with the computer controlled wire cutter (bottom) and an example of what it can do in capable hands (top)

The University of Melbourne required some fine ultra-high vacuum welding to critical bellows assemblies. Owen Kershaw, who has a justifiably high reputation for his welding skills, was able to contribute. Owen also undertook some critical welding for A.S.I. earlier in the year, as well as most of the welding for the School.

Ben Danaher has been providing support to Applied Maths, in the areas of design, set-up and manufacturing.

Overall the mechanical workshop team, throughout the year, has again provided invaluable support to the School's research programs.

School Computer Unit (SCU)

This year started with a smooth and uneventful Y2K transition. Throughout the year, SCU continued to provide support on Unix, PC and Macintosh systems as well as the network services in the School.

There was a significant increase of number of Linux workstations around the School. These demanded an increased level of support from the staff of SCU. Other major projects carried out by SCU included:

- migration of network subnets in the School
- assisting implementation of ESP software in School administration
- development of a project/flextime database for School Facilities & Services Groups

Improvement to the School's IT facilities included:

- new colour printer
- the upgrade of the Macintosh and PC facilities
- upgrade of data backup facilities
- improvement on the School network

STAFF

School Facilities and Services Manager

Tom Rhymes, BSc Texas, PhD (until October)

Computer Unit

Shiu Tin, BSc Hong Kong, PhD

Julie Dalco, BA

James Irwin, BIT UCan

Electronics Unit

Tony Cullen (Head)

Engineer

David Kelly, BSc BE Syd, MEngSc NSW

Technical Staff

David Anderson

Michael Blacksell

Dennis Gibson

Huan Tran

Trainee Technical Officers

Michelle Harnos

Fiona Shaw (until June)

Administration

Dean Larkman

Marianna Milin

Mechanical Workshop

Ron Cruikshank (Manager)

Technical Staff

Tony Barling

Ben Danaher

Peter East

Owen Kershaw

Tom McGuinness

Alex Mesics

Miro Peric

Gary Picker

Andrew Sullivan

Apprentices

Russell Battisson

Christopher Buchanan

Stephen Holgate

Robert McGregor

School Services Staff

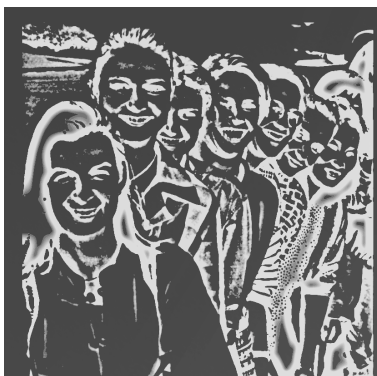
Steve Brooks

Bruce Johnson

Anthony Mackey

George McEwan

Equal Employment Opportunity Issues



Professor Jeffrey Harris is the School's representative on the University's Equity and Diversity Group. The role of this group is to initiate and provide a means for the implementation of policies and practices in the local work areas.

The School's Career Development Group (listed under Standing Committees in this section), convened by Professor Harris, has as its terms of reference the fostering and support of junior academic staff with a particular mandate to assist junior academic women. In December 2000 the Faculty Board approved a School Mentoring Policy.

Objectives of the Gender Equity Plan:

With respect to the Objectives of the University's Gender Equity Plan, the School is taking the following actions:

Objective – All areas to have informed initial point of contact for equity issues:

The Director has appointed Professor Jeffrey Harris as his nominee on equity issues and he is assisted by Mrs Judith Huppertz and Mrs Gayle Samuel from the School Business Office. The School's Career Development Group recommended and Faculty Board approved that Professor Harris and Mrs Samuel should be the contact for School staff requiring advice on gender equity matters and Dr Neil Manson the contact for students.

Objective – Recognition of gender equity achievement in staff appointments by including in selection criteria for academic and general staff positions involving supervision duties, achievements in EO:

The School includes in all advertisements for both general and academic staff positions the appropriate essential EO selection criteria. The Chair of selection committees has the responsibility to ensure that EO criteria are properly addressed at interview.

Objective – All staff having substantial human resources duties to serve as role models of EO practice:

The Manager of the Equity and Diversity Unit addressed the School's Faculty Board on gender equity responsibilities in 1999. It is our intention to follow this up with a similar session for other staff with supervisory responsibilities.

Objective – Recognition of gender equity achievement in staff performance assessments:

The University has recently changed the conditions of appointment for academic staff to include mutual agreement on goals and objectives for performance. The School is implementing this policy in conjunction with a mentoring program, as part of its Gender Equity Policy.

Objective – Make specific provision for pastoral care and committee activities in promotion and selection procedures:

To date, this objective has been achieved by the monitoring of job descriptions to ensure as broad a selection of candidates as possible. This is evidenced by the appointment of four female academics during 1998 and another three in 1999. It is envisaged that the School's Gender Equity Policy will also address this objective.

Objective – Develop departmental workload distribution practices for academic staff to give due weight to contact hours relating to pastoral care and student advisory services:

Faculty Board has determined that the School should take advantage of the possibility of offering part time hours to staff who are required to assist in home duties.

In addition to the above mandated strategies the School undertook the following elective strategies:

Strategy – Establish a broadly based gender equity advisory group to raise the awareness of gender equity issues:

The School established a Career Development Group in 1997 convened by Professor Harris to fulfil this strategy. The Committee has since been meeting and reporting its recommendations to Faculty Board.

Strategy – Introduce a mentoring scheme focussed on the needs of women staff members:

The School still has very few women who are members of academic staff. However the number is steadily growing as more and more women are undertaking higher degrees in the physical sciences. For example, six of the School's 16 present level A appointees are women. We are currently developing a Mentoring Policy focussing on junior academic staff and plan to actively support these appointees in progressing into more senior academic positions.

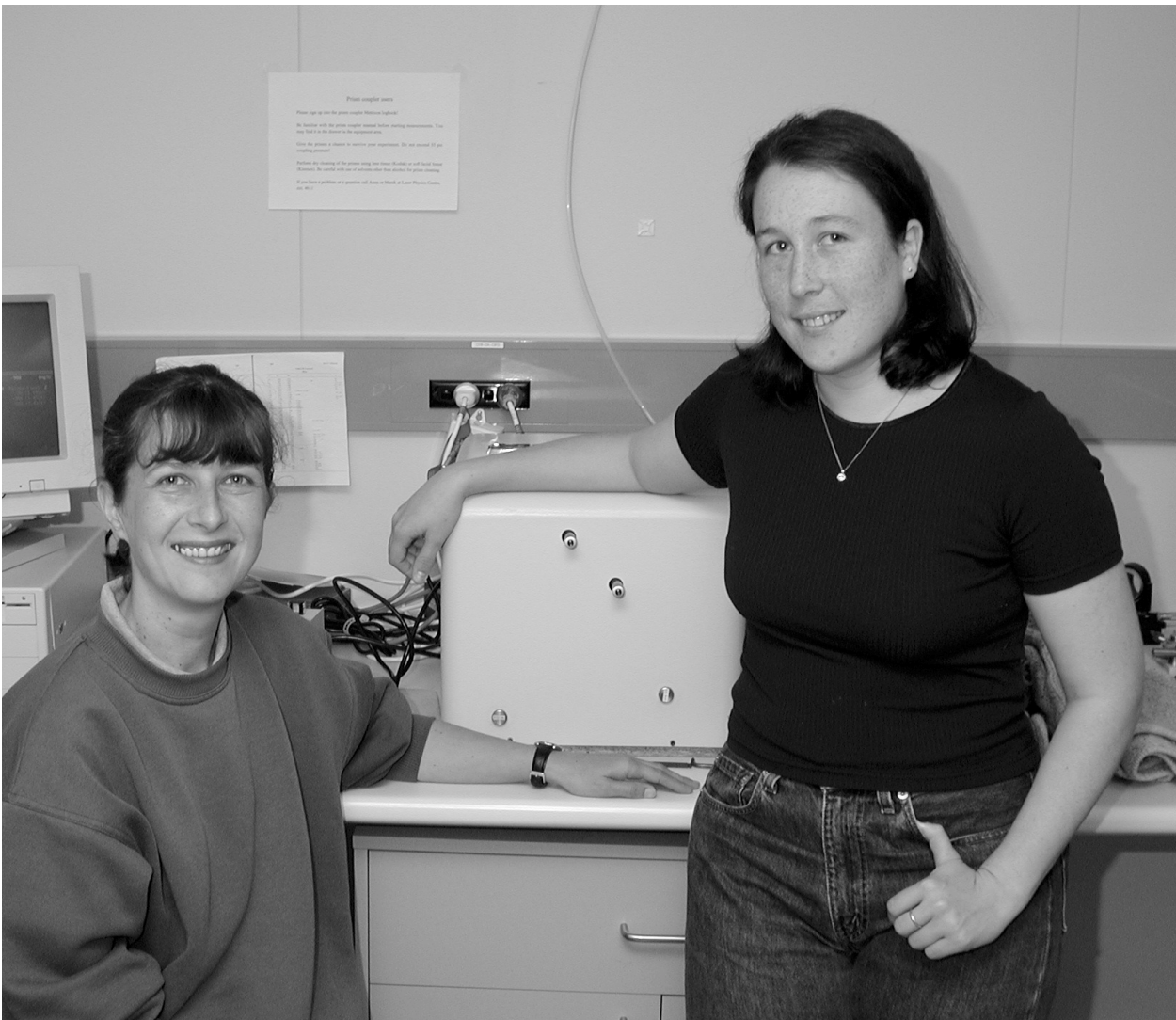
Strategy – Promote opportunities for professional development and/or training for all staff:

Ms Anita Smith was selected as the candidate for sponsorship by the Equity & Diversity Unit to attend the 8th International Women in Leadership Conference in Perth in 1999. In addition the School has taken affirmative action in recognising the outstanding performance of one of its female Technical Trainee Officers by offering her a standard appointment at the conclusion of her training.

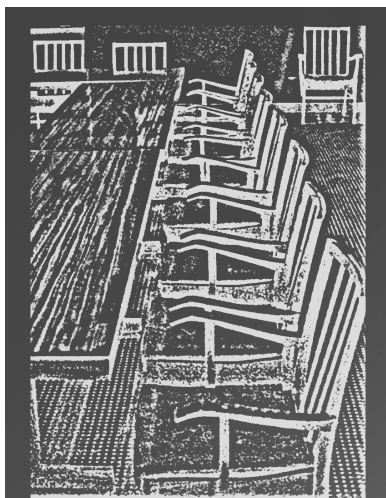
Report on changes to staffing and committee profiles. Gender balance on committees in the School continues to be a problem as a result of a lack of women in senior academic positions, particularly in science. However, the School has included at least one woman on each of its committees during 2000.

Report on management of sexual harassment matters. No issues arose during the year.

Report on Equity & Diversity Certificates. No certificates were received during the year.



Snjezana Tomljenovic-Hanic (left) and Ruth Jarvis in the optical diagnostics laboratory



School Advisory Board

In the past, the role of the School Advisory Board has been to assist the School to identify strategic priorities and advise the Director on the appointment of continuing academic staff. In 1997 Faculty Board endorsed the current terms of reference. They agreed that an important role for external members of the School Advisory Board was to lobby on behalf of the School, within the public and private sectors, and to advise on factors in the external environment which impact on the School. It was therefore deemed appropriate to appoint more than one industry representative. Several other changes to the composition of the Board were also agreed at that time. The Board met on 3 November. Departmental Heads reported on individual Strategic Plans. Sitting members are:

Professor Erich Weigold, Director, RSPHysSE (Chair)
 Professor Frank Jackson, Director, Institute of Advanced Studies, ANU
 Professor Robert Watts, Chief Scientist, Broken Hill Propriety Limited, Melbourne
 Professor John Pilbrow, Head, Department of Physics, Monash University
 Dr Scott Rashleigh, Managing Director, ADC (AOFR) Pty Ltd
 Professor Don Melrose, Special Research Centre for Theoretical Astrophysics, School of Physics, University of Sydney
 Professor Hans Bachor, Head, Department of Physics, Faculty of Science, ANU
 Professor Jim Williams, Associate Director (Resources) RSPHysSE
 Professor Jeff Harris, Head, Plasma Research Laboratory, RSPHysSE

Faculty Board

Together with meetings of Heads of Departments, Faculty Board is the principal mechanism for advising the Director on a regular basis. It reports to the Board of the Institute of Advanced Studies. The Board spends a significant proportion of its time on issues affecting the environment in which the School operates — especially funding and the impact of industrial and other legislation — rather than on strictly academic issues. Membership is

Professor Erich Weigold (Chair)
 Professor Rod Boswell (Chair of Faculty)
 Professor Jim Williams, Associate Director (Resources)
 Dr Neil Manson, Associate Director (Students)

Heads of Departments

Professor Stephen Hyde AM
 Professor Stephen Buckman AMPL (Dr B Lewis, Acting Head from September)
 Professor Chennupati Jagadish EME
 Professor Barry Luther-Davies LPC
 Professor George Dracoulis NP
 Professor John Mitchell OSC
 Professor Jeffrey Harris PRL
 Professor Robert Dewar TP

Postgraduate Student Representative
 Ms Elena Wilson (until September)
 Mr Ian McCulloch (from September)

Elected by Faculty

Dr David Hinde (until August)
 Professor Vladimir Bazhanov (from September)
 Dr Nanda Dasgupta (from September)
 Dr Brenton Lewis (rep. of Faculty on BIAS; until August)
 Dr Robert Elliman (rep. of Faculty on BIAS; from September)

By Invitation — non voting (continuing)
 Dr Tom Rhymes (until October)
 Mrs Judith Huppatz
 Ms Marilyn Holloway (until November)
Secretary - Mrs Gayle Samuel

Faculty

The Faculty of the School consists of all academic staff, including long-term visitors, and postgraduate students. Faculty functions as a means for informing academic staff on activities within the School.

Professor R.W. Boswell (Chair)
Secretary - Mrs Gayle Samuel

Heads of Departments

Heads of departments meetings with the Director continued to be held throughout 2000 and, where appropriate, senior administrative staff attended. Aspects of the School's budget and strategic planning dominated the meetings. Because of the School's requirements for major items of equipment, consideration of bids to the ARC Research Infrastructure (RIEF) and the University Major Equipment Committee were again given high priority plus issues concerning the Institute Planning Committee grants and the Vice-Chancellor's Plan for Growth Fund.

Professor Erich Weigold (Chair)

Professor Jim Williams, Associate Director (Resources)

Heads of Departments/Centres

Advisory Groups

At the beginning of 1998 the Director established a number of internal groups to offer advice regarding major School activities and functions to optimise the academic functions of the School. Together with the Heads of Department meetings, they prove extremely effective in formulating a cohesive approach to School management.

Academic Staffing Advisory Group

Professor Stephen Buckman (Acting Chair until August)
 Professor George Dracoulis (Acting Chair from September)
 Professor Stephen Hyde
 Professor Bob Dewar
 Professor Chennupati Jagadish
 Professor Jeffrey Harris (from August)
Secretary – Mrs Gayle Samuel

Budget Strategy Advisory Group

Professor Erich Weigold (Chair)
 Professor Jim Williams
 Professor Jeffrey Harris
 Mrs Judith Huppatz

External Earnings Strategy Advisory Group

Professor Jim Williams (Chair)
 Professor Barry Luther-Davies
 Professor Barry Ninham
 Professor Rod Boswell
 Dr Keith Fifield

Major Equipment Advisory Group

Professor Stephen Buckman (Chair)
 Professor Barry Luther-Davies
 Dr Robert Elliman
 Professor John Love
 Dr Tom Rhymes (until October)

General Staff & Facilities Advisory Group

Professor Jim Williams (Chair until March)
 Professor Stephen Buckman (Chair from April to August)
 Dr Keith Fifield (from August)
 Dr Tom Rhymes (until October)
 Ms Judith Huppatz
 Dr David Weisser, (Chair, Technical Liaison Group)
 Dr Robert Elliman (until August)
Secretary: Ms Marilyn Holloway (until November)
 Mrs Gayle Samuel (from November)

Research Directions & Policy Advisory Group

Professor Erich Weigold (Chair)
 Professor Rodney Baxter
 Professor George Dracoulis
 Professor Barry Luther-Davies
 Professor Stephen Hyde
 Professor Jim Williams

Student Advisory Group

Dr Neil Manson (Chair) and Convenor, Graduate Program
 Dr Aidan Byrne
 Professor Chennupati Jagadish

Review of Applied Mathematics

Professor Erich Weigold (Chair)
 Professor Denis Weaire, Trinity College
 Dr Lincoln Paterson, Senior Principal Research Scientist and Program Manager, CSIRO Petroleum
 Professor Dominique Langevin, University Paris Sud
 Professor Denis Evans, Dean, RSC

Review of Department of Theoretical Physics

Professor Erich Weigold (Chair)
 Professor Neil Ashcroft, Horace White Professor of Physics, Cornell University
 Professor Reiner Dreizler, University of Frankfurt
 Professor Jaan Oitmaa, University of New South Wales
 Professor Halina Rubinsztein-Dunlop, University of Queensland
 Professor Denis Evans, Dean, RSC

Other School Committees (alphabetically)

Career Development Group

Professor Jeffrey Harris (Chair)
 Dr Kenneth Baldwin
 Dr Mahananda Dasgupta
 Dr Jenny Wong Leung
 Mrs Helen Hawes
 Mrs Judith Huppatz
 Dr Neil Manson
Secretary - Mrs Gayle Samuel

Colloquium Committee

Dr Yuri Kivshar (Chair)
 Professor Robert Crompton

Dr Rob Elliman
Professor Neville Fletcher
Dr Rowena Ball
Dr Miklos Gulacsi
Dr Tim Senden
Secretary - Ms Martina Landsmann

Computing Policy Advisory Committee

Dr Boyd Blackwell (Chair)
Dr Stephen Gibson
Professor Stjepan Marcelja
Professor Chennupati Jagadish (until March)
Dr Hark Hoe Tan (from March)
Dr Darran Edmundson (until May)
Dr Elena Ostrovskaya (from June)
Dr Gordon Foote
Mr Ian McCulloch
Dr Marek Samoc
Executive members:
Mrs Judith Huppatz
Dr Thomas Rhymes (until October)
Mr Kevin Lonsdale (from November)
Dr Shiu Tin

Library Advisory Committee

Ms Rosalind Goodwin (Library) (Chair)
Dr Adrian Ankiewicz
Dr Serdar Kuyucak
Dr Brenton Lewis
Dr Tim Axlerod
Dr Kenneth Baldwin
Dr Hugo Christenson
Dr Rob Elliman
Dr Michael Shats
Ms Sevilay Esat (Library)
Mr Paul McNamara (Library)
Ms Jeanette Regan (Library)
Dr Craig Savage (The Faculties)

Local Area Classification Advisory Group

Mrs Judith Huppatz (Chair)
Dr John Howard
Dr Kenneth Baldwin
Dr Keith Fifield
Professor John Love
Mrs Gayle Samuel
Mr Alan Cooper
Mr Ian McRae
Mr Clint Davies
Mr Tom Halstead
Mrs Laura Walmsley
Mr Kevin Lonsdale
Ms Anita Smith
Mr Ron Cruikshank
Mr Graeme Cornish
Ms Julie Dalco

Local Area Staff Consultative Committee

The Committee membership is currently under review and will reconvene during 2001.

Fixed-Term Academic Appointments Committee

Core members

Professor Erich Weigold, Director (Chair)
Dr Nanda Dasgupta
Professor Bob Dewar
Professor George Dracoulis
Professor Jeffrey Harris

Occupational Health & Safety Committee

Mr Clint Davies (Chair)
Mr Kevin Lonsdale
Mr Ian McRae
Dr John Martin
Mr Alan Cooper
Dr Nanda Dasgupta
Dr Tom Rhymes (until October 2000)

Public Relations Committee

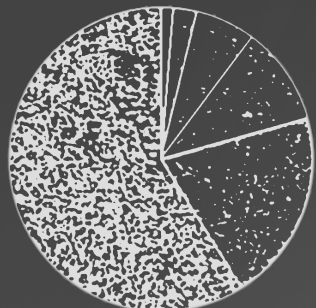
Dr Neil Manson (Chair)
Professor Rod Boswell
Dr Aidan Byrne
Dr Stephen Gibson
Dr Miklos Gulacsi
Ms Marilyn Holloway
Professor Chennupati Jagadish
Professor John Love
Dr Tim Senden
Dr Tim Thompson
Professor Jim Williams
Secretary - Ms Laura Walmsley

Promotions Committee

Professor Erich Weigold, Director (Chair)
Professor Stephen Hyde
Professor Barry Luther-Davies
Professor Chennupati Jagadish
Dr Frances Shannon
Secretary - Ms Gayle Samuel

Technical Resource Advisory Committee

Dr David Weisser (Chair)
Mr Stephen Brooks
Mr Ron Cruikshank
Mr Tony Cullen
Mr Tom Halstead
Dr Maarten Hoogerland
Mrs Judith Huppatz
Mr Anthony Hyde
Mr George McEwan
Mr Ian McRae
Dr Tom Rhymes (until October)
Mr John Wach



Staff Statistics

Academic Staff:

Standard Appointments		29.2
Fixed Term (including renewable)		19.5
ARC Fellows:		21.0
<i>ARC Postdoctoral Fellows</i>	9	
<i>ARC Fellows</i>	7	
<i>Queen Elizabeth II Fellows</i>	3	
<i>International Research Fellows</i>	2	
Adjunct Appointments		2
<i>Total female academics</i>	8	

TOTAL Academic Staff 71.7

TOTAL School Visiting Fellows: 95

General and Technical Staff: &

Based in departments		48
Based in School central areas [†]		48
<i>Total female general staff</i>	37	

TOTAL General and Technical Staff: & 96

Postgraduate Student Statistics

TOTAL Postgraduate Students: 70*

Total female students 27

PhD Degrees Awarded: 8

MSc Degrees Awarded: 1

* includes completing students

Academic as compiled for BIAS 2000

& General staff as compiled for the RTB

† figures do not include Librarian